

SCHEDULE 3
DESIGN AND CONSTRUCTION SPECIFICATIONS

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SCHEDULE 3

DESIGN AND CONSTRUCTION SPECIFICATIONS

PART 1. INTERPRETATION

1.1 Interpretation

1.1.1 This Schedule is written as an output specification and defines what Project Co must achieve in the Design and Construction. Except as expressly stated otherwise, Project Co will carry out the Design and Construction as required and contemplated by each provision of this Schedule and its Appendices whether or not the provision is written as an obligation of Project Co or is stated in the imperative form.

1.1.2 Where “cost effective”, “appropriate”, “sufficient”, “minimize” and related and similar terms are used, they are to be construed and interpreted in terms of whether they are cost effective, appropriate, sufficient, minimizing, etc. from the perspective of a prudent public owner of a major public hospital Facility who balances capital costs against maintenance, operations, clinical efficiency sustainability, energy efficiency and other non-capital costs over the life of the Facility.

1.1.3 Unless expressly stated otherwise, each reference to a standard or code in this document will be deemed to mean the latest version of that standard or code as of the Financial Submission Date.

1.2 Acronym List

1.2.1 AAS – Aluminum Association Standards

1.2.2 AAMA – American Architectural Manufacturers Association

1.2.3 AECB – Atomic Energy Control Board

1.2.4 AFUE - Annual Fuel Utilization Efficiency

1.2.5 ANSI - American National Standards Institute

1.2.6 APEGS – Association of Professional Engineers and Geoscientists of Saskatchewan

1.2.7 ASHRAE - American Society of Heating, Refrigerating and Air-conditioning Engineers

1.2.8 ASME - American Society of Mechanical Engineers

1.2.9 ASPE - American Society of Plumbing Engineers

1.2.10 ASTM - American Society for Testing and Materials

1.2.11 AV / IT – Audio Visual / Information Technology

- 1.2.12 AWCC – Association of Wall and Ceiling Contractors
- 1.2.13 AWMA – Architectural Woodwork Manufacturers Association
- 1.2.14 AWWA – American Water Works Association
- 1.2.15 BICSI - Building Industry Consulting Service International
- 1.2.16 BMS - Building Management System
- 1.2.17 CATV – Community Access Television
- 1.2.18 CCD – Charge Couple Device
- 1.2.19 CCI/CRI – Canadian Carpet Institute/Canadian Rug Institute Program
- 1.2.20 CEC – Canadian Electrical Code
- 1.2.21 CFL – Compact Fluorescent Lamp
- 1.2.22 CIF – Common Intermediate Format
- 1.2.23 CISCA - Ceiling Interior Systems Construction Association
- 1.2.24 CaGBC – Canada Green Building Council
- 1.2.25 CMCA – Canadian Masonry Contractors Association
- 1.2.26 CMMS – Computerised Maintenance Management System
- 1.2.27 CNSC – Canadian Nuclear Safety Commission
- 1.2.28 CODEC – Coder/Decoder
- 1.2.29 CPTED - Crime Prevention Through Environmental Design
- 1.2.30 CPU – Central Processing Unit
- 1.2.31 CRI/IAQ – Canadian Rug Institute/Indoor Air Quality Program
- 1.2.32 CRT – Cathode Ray Tube
- 1.2.33 CRTC – Canadian Radio-television and Telecommunications Commission
- 1.2.34 CSA - Canadian Standards Association
- 1.2.35 CSDFMA – Canadian Steel Door and Frame Manufacturers Association
- 1.2.36 CSSBI – Canadian Sheet Steel Building Institute
- 1.2.37 DDC - Direct Digital Controls

- 1.2.38 DFO - Department of Fisheries and Oceans
- 1.2.39 DHI – Door and Hardware Institute
- 1.2.40 DID – Direct Inward Dialling
- 1.2.41 DISS - Diameter Index Safety System
- 1.2.42 DSSS – Direct Sequence Spread Spectrum
- 1.2.43 DVMS – Digital Video Management System
- 1.2.44 EF – Entrance Facility Room
- 1.2.45 EHR – Electronic Health Record
- 1.2.46 EIA/TIA – Electronics Industry Association/Telecommunications Industry Association
- 1.2.47 EMT – Electric Metallic Tubing
- 1.2.48 EPA – United States Environmental Protection Agency
- 1.2.49 ESS – Electronic Security Systems
- 1.2.50 ePDU - Electronic Power Distribution Unit
- 1.2.51 FACP – Fire Alarm Control Panel
- 1.2.52 FATO – Final Approach and Take-off Area
- 1.2.53 FM – Factory Mutual
- 1.2.54 FUS - Fire Underwriters Survey
- 1.2.55 GPS – Global Positioning Satellite
- 1.2.56 HAZMAT - Hazardous Materials
- 1.2.57 HEPA - High Efficiency Particulate Air
- 1.2.58 HOA – Hand/Off/Auto
- 1.2.59 HP – Horsepower
- 1.2.60 HRC – High Rupting Capacity (fuse type)
- 1.2.61 HVAC - Heating, Ventilating and Air-Conditioning
- 1.2.62 IDS / IPS – Intrusion Detection System / Intrusion Prevention System
- 1.2.63 IEEE - Institute of Electrical and Electronic Engineers

- 1.2.64 IGMAC – International Glazing Manufacturers Association of Canada
- 1.2.65 IP – Internet Protocol
- 1.2.66 IMIT – Information Management Information Technology
- 1.2.67 IPCR – Intensive Psychiatric Care Room
- 1.2.68 ITIL – Information Technology / Telecommunication
- 1.2.69 KW – Kilowatt
- 1.2.70 KWH – Kilowatt hours
- 1.2.71 KV – Kilovolt
- 1.2.72 KVA – Kilovolt Ampere
- 1.2.73 LAN – Local Area Network
- 1.2.74 LCD – Liquid Crystal Display
- 1.2.75 LED – Light Emitting Diode
- 1.2.76 LEED – Leadership in Energy and Environmental Design
- 1.2.77 Mb - Megabit
- 1.2.78 MCP – Motor Circuit Protector
- 1.2.79 MPI – Master Painters Institute
- 1.2.80 MSE – Mobility Service Engines
- 1.2.81 NBCC – National Building Code of Canada
- 1.2.82 NCRP – National council on Radiation Protection and Measurement
- 1.2.83 NEMA - National Electrical Standards Association
- 1.2.84 NFCA – National Floor Covering Association
- 1.2.85 NFPA - National Fire Protection Association
- 1.2.86 NS - Nurse Station
- 1.2.87 NTSC – National Television Standards Committee
- 1.2.88 NWWA – National Woodworkers Manufacturers Association
- 1.2.89 OFDM – Orthogonal Frequency Division Multiplexing

- 1.2.90 OS&Y - Open Stem and Yoke
- 1.2.91 PACS - Picture Archiving and Communication System
- 1.2.92 PBX – Private Branch Exchange
- 1.2.93 PC – Personal Computer
- 1.2.94 PDA – Personal Digital Assistant
- 1.2.95 PDU - Power Distribution Unit
- 1.2.96 PER – Primary (Communications) Equipment Room
- 1.2.97 PoE – Power Over Ethernet
- 1.2.98 PTZ – Pan Tilt Zoom
- 1.2.99 PVC – Polyvinyl Chloride
- 1.2.100 RFID – Radio Frequency Identification
- 1.2.101 RCDD – Registered Communications Distribution Designer
- 1.2.102 RTLS – Real Time Location System
- 1.2.103 SAA – Saskatchewan Association of Architects
- 1.2.104 SAGA - System of Approach Azimuthal Guidance
- 1.2.105 SALA – Saskatchewan Association of Landscape Architects
- 1.2.106 SES – Safety Engineering Society
- 1.2.107 SIP – Session Initiated Protocol
- 1.2.108 SLC – Security Level Classification
- 1.2.109 SMACNA – Sheet Metal and Air Conditioning National Contractors Association
- 1.2.110 SMDR – Station Message Detail Recording
- 1.2.111 SMI – Saskatchewan Masonry Institute
- 1.2.112 SNR – Signal to Noise Ratio
- 1.2.113 SQL – Structured Query Language
- 1.2.114 STC – Sound Transmission Coefficient
- 1.2.115 TCO – Total Cost of Ownership

- 1.2.116 TCP – Transmission Control Protocol
- 1.2.117 TDM – Time Division Multiplexing
- 1.2.118 THD -Total Harmonic Distortion
- 1.2.119 TIA – Telecommunications Industry Association
- 1.2.120 TLOF – Touchdown and Lift-off Area
- 1.2.121 TR – Telecommunications Room
- 1.2.122 TSASK – Technical Safety Authority of Saskatchewan
- 1.2.123 TSER - Telecommunications Service Entrance Room
- 1.2.124 TTMAC – Terrazzo and Tile Manufacturers Association of Canada
- 1.2.125 TVOC – Total Volatile Organic Compounds
- 1.2.126 TVSS Transient Voltage Surge Suppressor
- 1.2.127 UL - Underwriters' Laboratories
- 1.2.128 ULC - Underwriters' Laboratories of Canada
- 1.2.129 UPS – Uninterruptible Power Supply
- 1.2.130 USGBC – U.S. Green Building Council
- 1.2.131 V - Volt
- 1.2.132 VAR – Volt Ampere Reactive power
- 1.2.133 VFD - Variable Frequency Drive
- 1.2.134 VLAN – Virtual Local Area Network
- 1.2.135 VOC – Volatile Organic Compounds
- 1.2.136 VoIP – Voice Over Internet Protocol
- 1.2.137 WAN – Wide Area Network
- 1.2.138 WAP2 – Wireless Application Protocol 2
- 1.2.139 WLC – Wireless LAN Controllers
- 1.2.140 WMM – WiFi Multimedia

PART 2. GENERAL

2.1 Project Overview

2.1.1 The Facility will include:

- 2.1.1.1 the Main Building;
- 2.1.1.2 the Community Reintegration Units;
- 2.1.1.3 Regional Administration, which may be included within the Main Building or in a separate building;
- 2.1.1.4 an Energy Centre, which may be included within the Main Building or in a separate building;
- 2.1.1.5 outdoor recreation therapy and garden therapy spaces, including a Greenhouse;
- 2.1.1.6 services for a Sweat Lodge (the Sweat Lodge structure will be designed and constructed by others);
- 2.1.1.7 surface parking; and
- 2.1.1.8 associated works.

2.2 Clinical Specifications

2.2.1 Clinical Specifications for the Facility are set out in Appendix 3A [Clinical Specifications] (the “**Clinical Specifications**”).

2.2.2 Project Co will design and construct the Facility:

- 2.2.2.1 so that it accommodates all of the spaces, activities, functions, design features and adjacencies described in the Clinical Specifications; and
- 2.2.2.2 in accordance with the requirements of the Clinical Specifications, subject to any adjustments or refinements made in accordance with Appendix 2B [User Consultation and Design Review].

2.3 Main Building

2.3.1 The Main Building will include all of the functional components, rooms and spaces described in the Clinical Specifications, except:

- 2.3.1.1 the Energy Centre, Regional Administration (D4) and Building and Grounds (D1) may be included within the Main Building or may be located in separate buildings;

- 2.3.1.2 the following will not be included in the Main Building: Outdoor Spaces and Site (D2) Community Re-integration Units (D3) and the Sweat Lodge.

2.4 Community Reintegration Units (CRUs)

- 2.4.1 The Community Reintegration Units will be designed and constructed as a stand-alone building or buildings within the Site.

2.5 Regional Administration

- 2.5.1 Regional Administration may be designed and constructed either as an integrated component within the Building or as a stand-alone building.

2.6 Energy Centre

- 2.6.1 “**Energy Centre**” means the collection of rooms and exterior spaces housing the mechanical-HVAC, power distribution, telecommunications, plumbing and signal functions required for the Facility. The Energy Centre:

- 2.6.1.1 will be the location where all energy required by the Facility is either generated or distributed from utilities to the Facility;
- 2.6.1.2 may be designed as a stand-alone building or integrated into the Main Building; and
- 2.6.1.3 will provide energy capacity for the Facility, as well as provision to easily service the expansion of the Facility as described in Section 4.1.3 without disruption to ongoing operations.

2.7 Greenhouse

- 2.7.1 The Greenhouse will be designed as a stand-alone building outside the Threat Perimeter within the Site.
- 2.7.2 Design and construct the Greenhouse building structure, services and systems only. Furnishings, tools, gravel pathways, growing medium and shading devices will be provided by others.

2.8 Sweat Lodge

- 2.8.1 The Sweat Lodge will be designed and constructed by others as a stand-alone building within the Site.
- 2.8.2 Project Co will:
- 2.8.2.1 designate a location on the Site for the Sweat Lodge and related supply storage;

2.8.2.2 design and construct all water services required for the operation of the Sweat-Lodge; and

2.8.2.3 design and construct the Site as necessary to integrate the Sweat Lodge as part of the Site.

2.9 Additional Rooms and Spaces

2.9.1 Notwithstanding anything in the Clinical Specifications, Project Co 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 spaces as necessary for the operation and maintenance of the Facility and for Project Co to perform the Services in accordance with this Agreement.

2.10 Standards

2.10.1 Project Co will undertake the Design and Construction:

2.10.1.1 in accordance with the standards set out in this Schedule;

2.10.1.2 in accordance with the National Building Code of Canada, and all applicable Laws;

2.10.1.3 having regard for the concerns, needs and interests of:

2.10.1.3(1) all persons who will be Facility Users;

2.10.1.3(2) all Governmental Authorities; and

2.10.1.3(3) the community;

2.10.1.4 in accordance with Good Industry Practice; and

2.10.1.5 to the same standard that an experienced, prudent and knowledgeable long term owner of a high quality mental health care facility in North America operated publicly would employ.

2.10.2 If more than one of the above standards is applicable, the highest such standard will apply.

2.10.3 If Project Co wishes to make reference to a code or standard from a jurisdiction outside of Canada, then Project Co will demonstrate to the Authority's satisfaction that such code or standard meets or exceeds the requirements of this Schedule.

2.10.4 Without limiting Section 2.10.1 of this Schedule, Project Co will undertake the Design and Construction in compliance with all applicable standards, including the standards listed in Appendix 3B [Standards].

2.10.5 CSA Z8000-11: Canadian Health Care Facilities

- 2.10.6 CSA Z8000-11 complements the standards and codes specified in Schedule 3 by providing overarching design principles and referencing specific standards and codes that are appropriate for healthcare Facility design.
- 2.10.7 Project Co will:
- 2.10.7.1 refer to CSA Z8000-11 for design guidance to resolve issues not otherwise addressed in Schedule 3; and
 - 2.10.7.2 use as a guideline with:
 - 2.10.7.2(1) any minimum standards and codes referenced in CSA Z8000-11 (except for any minimum space requirements that may be required by those standards and codes); and
 - 2.10.7.2(2) section 7.8.8 (Accommodation of Bariatric Persons) of CSA Z8000-11.

2.11 Indicative Design

- 2.11.1 The Authority's architectural and engineering consultants undertook an indicative design for the Facility (the "**Indicative Design**"). The Indicative Design was based on a preliminary draft of the Clinical Specifications and also reflects preliminary consultations with potential Facility Users. Drawings describing the Indicative Design have been made available to Project Co. In addition, a "history and critique" of the Indicative Design has been made available to Project Co for reference.
- 2.11.2 Project Co may use the Indicative Design as a basis for its design, but the Authority makes no representation as to the accuracy or completeness of any aspect of the Indicative Design.
- 2.11.3 Project Co will be completely responsible for all aspects of the Design and Construction whether or not it uses all or any part of the Indicative Design, and Project Co will independently verify the accuracy of any information contained in or inferred from the Indicative Design if Project Co uses any of such information in its design.

PART 3. DESIGN GUIDELINES AND PRINCIPLES

3.1 Project Design Principles

- 3.1.1 Project Co will apply the design principles described in this Part 3 and the guiding principles as set out in the Clinical Specifications (collectively, the "**Project Design Principles**") in undertaking the Design.
- 3.1.2 In addition to the descriptions of these principles in this Part 3, specific requirements related to these principles are included in Parts 4 – 9 of this Schedule.
- 3.1.3 The Project Design Principles are integrated principles and Project Co will apply them on an integrated basis throughout the Design and Construction.

3.2 Master Planning

3.2.1 Project Co will design the Facility to:

- 3.2.1.1 have a strong presence and a distinctive architectural character, reflecting the Authority's values and for health objectives in the community;
- 3.2.1.2 support community access and include a visible main entry and lobby for the Main Building; and
- 3.2.1.3 reflect logical planning principles and demonstrate clarity of circulation systems.

3.2.2 Project Co will ensure all design decisions enhance the Site and its context.

3.3 Evidence Based Design

3.3.1 Project Co will apply Evidence Based Design methodologies in undertaking the Design.

3.3.2 "**Evidence Based Design**" means that decisions about the design of the Facility will be based on credible research, information derived from comparable projects, and information about Authority operations, in order to achieve the best possible outcomes. The goal of Evidence Based Design is to deliver measurable improvements (for example in the Authority's Client and workflow outcomes, productivity, economic performance, and customer satisfaction).

3.4 Lean Design

3.4.1 Project Co will design the Facility:

- 3.4.1.1 to facilitate the delivery of efficient and effective workflow and processes;
- 3.4.1.2 to eliminate waste, within both clinical and non-clinical service delivery processes;
- 3.4.1.3 to recognize the value to the Authority of Lean healthcare (or equivalent methodologies) in supporting the delivery of Authority activities, and accordingly allow the findings from such methodologies to play a key role in influencing design decisions;
- 3.4.1.4 to include ergonomic design features throughout all spaces that specifically facilitate the physical activities of staff and Clients, including, for example, appropriate millwork, lighting, lift devices, and Client assist or equipment manoeuvring space; and
- 3.4.1.5 to support innovative and collaborative methods of working, to help incorporate the Authority's new and emerging technologies, to respond to diverse work styles (such as hoteling and job-sharing), and to optimize flexibility and space utilization. A key element to the development of an

integrated workplace is the provision of physical environments that support varied workplace strategies. Accordingly, Project Co will design workplaces to:

- 3.4.1.5(1) include standardized spaces, systems furniture and casework where appropriate;
- 3.4.1.5(2) provide floor lay-outs that accommodate teams as well as individuals, and that support mobile employees who require flexibility and use portable technology; and
- 3.4.1.5(3) include co-location options, space saving strategies, and lay-outs and furniture that facilitate change.

3.5 Healing Environment

3.5.1 Project Co will design the Facility:

- 3.5.1.1 to promote a healing and wellness environment for Clients and their families. The environment will be welcoming for the community of users and provide non-clinical spaces to relax and de-stress;
- 3.5.1.2 to promote and enhance Patient Centred Care. **“Patient Centred Care”** is a standard of care that emphasizes the individual needs of each Client and treats them with respect and dignity, enabling them to participate integrally in their own care process within an environment that recognizes and respects the essential role of the Client’s family or supporters;
- 3.5.1.3 to provide an environment that supports excellence and innovation in the delivery of safe, high quality healthcare and where employees, physicians and others will be working together collaboratively in promoting health and wellness;
- 3.5.1.4 to include elements that have been proven to create a therapeutic and low stress environment;
- 3.5.1.5 to create a comfortable, functional environment for employees, physicians, Clients, Clients’ families and others, by including, as tools for creating an environment that will support Clients of all ages and their families:
 - 3.5.1.5(1) design elements that minimize noise, maximize natural light while providing light control, and use natural materials, colours and lighting colour ranges that are therapeutic;
 - 3.5.1.5(2) design elements that maximize connection to the outdoors, views of the exterior environment in all Private Client rooms, meeting rooms, staff lounges and similar locations;
 - 3.5.1.5(3) design elements that allow for maximum family interaction;

- 3.5.1.5(4) design features such as sound and music, color, pattern, air quality, nature;
 - 3.5.1.5(5) design features such as spaces and locations to display art that reflect First Nations and Métis cultures of Saskatchewan, community history and values, and incorporate the work of local artists.
 - 3.5.1.5(6) design features that are sensitive to regional population diversity including First Nations and Métis cultures;
- 3.5.1.6 to utilize views to create a visually pleasing environment, including:
- 3.5.1.6(1) maintaining existing views and encouraging new views where possible through the use of view corridors , the terracing of Building forms and the creation of appropriate public spaces;
 - 3.5.1.6(2) situating buildings to utilize “near views” of public spaces, natural and landscaped areas on-Site and off-Site as well as Site specific views; and
 - 3.5.1.6(3) minimizing negative visuals such as blocking views and creating unwanted sun shadows.

3.6 Elderly Friendly

- 3.6.1 Project Co will design the Facilities to create an elderly friendly environment. Project Co will comply with “Code Plus: Physical Design Components for an Elder Friendly Hospital, 2009”, which identifies design components that are known to create adverse effects on functional ability and safety in older adults, and additional physical design elements that go beyond industrial building codes and standards together with corresponding recommendations for elderly friendliness.

3.7 Standardization

- 3.7.1 Project Co will design the Facility:
- 3.7.1.1 to, wherever appropriate, apply standardization to reduce errors and improve quality of service delivery (for example to assist caregivers in quickly accessing rooms and equipment, Client treatment modules will contain a number of standard room types and room details, including controls and control locations); and
 - 3.7.1.2 so that rooms in the Facility that have the same function will be designed and constructed to be as similar as possible, subject to any different requirements set out in the Clinical Specifications.

3.8 Sustainability

3.8.1 In addition to the requirement to achieve LEED Silver Certification in accordance with the provisions in Schedule 2 [Design and Construction Protocols], Project Co will:

3.8.1.1 design the Facility using design methods, building materials, operational practices, energy and life cycle considerations that promote environmental quality, social benefits and economic vitality throughout the Construction and Operating Periods, including by minimizing the Authority's operating costs (for example in relation to utilities);

3.8.1.2 design the Facility:

3.8.1.2(1) to give priority to efficient use of resources, protection of health and indoor environmental quality;

3.8.1.2(2) to take advantage of efficiencies and innovations that may be possible through integration of systems to minimize operational costs for the Authority (for example in relation to utilities);

3.8.1.2(3) to take advantage of alternative sources of energy such as passive solar, and on site power generation and opportunities for recovering waste heat and the development of biomass cogeneration; and

3.8.1.2(4) to apply a total systems approach to minimize energy consumption and incorporate energy consumption management techniques that are targeted to stabilize and optimize energy flows.

3.8.2 Use the following standards and guidelines as references in undertaking the sustainable Design and Construction initiatives:

3.8.2.1 LEED Canada Reference Guide for Green Building Design and Construction:

3.8.2.2 The Green Guide for Health Care;

3.8.2.3 Green Globes – Environment Assessment for New Buildings;

3.8.2.4 BOMA (Building Owners and Managers Association) Go Green Program;

3.8.2.5 ASHRAE Green Healthcare Construction Guidance Statement;

3.8.2.6 Sustainable Healthcare Architecture – by Robin Guenther and Gail Vittori;

3.8.2.7 Canadian Building Green Hospitals Checklist – Canadian Coalition for Green Healthcare;

3.8.2.8 Natural Resources Canada Energy Innovators Initiative; and

3.8.2.9 Building Materials for the Environmental Hypersensitive, CMHC.

3.9 Technology

3.9.1 Project Co will design the Facility so that it utilizes technology to improve cost effectiveness, integrates services and achieves better health and security outcomes.

3.10 Adaptability, Flexibility and Expansion

3.10.1 Project Co will design the Facility:

3.10.1.1 to meet the needs of Clients, visitors, employees, physicians, volunteers, learners, researchers and teachers now and into the future;

3.10.1.2 to accommodate the rapid cycle of innovation and change to support development and implementation of new clinical and non-clinical work processes and technological changes;

3.10.1.3 to accommodate program, service, work and equipment changes with minimized utility infrastructure and Facility impacts, including down time;

3.10.1.4 to support future expansion of components, and capacity as a whole, including planning zones for growth, loose fit design to optimize functionality within a given floor area, and multi-use adaptable space;

3.10.1.5 with an infrastructure that incorporates excess systems capacity and includes systems and components that support future expansion with minimized disruption and allows for upgrades in Authority technology or technological progression; and

3.10.1.6 utilizing open planning principles to create flexible soft zones responsive to rapid change and growth by use of modular fit out.

3.11 Accessible Design

3.11.1 Project Co will incorporate the following philosophies in the Design to address barriers to equitable access to healthcare such as cultural diversity, physical capability and gender:

3.11.1.1 Equitable use – the Design will be easy to use by people with diverse abilities;

3.11.1.2 Flexibility in use – the Design will accommodate a wide range of individual preferences and abilities;

3.11.1.3 Simple and intuitive – the Design will be easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level;

- 3.11.1.4 Perceptible information – the Design will communicate necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities;
- 3.11.1.5 Tolerance for error – the Design will minimize hazards and the adverse consequences of accidental or unintended actions;
- 3.11.1.6 Low physical effort – the Design is capable of being used efficiently and comfortably and with a minimum of fatigue; and
- 3.11.1.7 Size and space for approach and use – the Design will provide appropriate size and space for approach, reach, manipulation, and use regardless of user’s body size, posture or mobility.

3.11.2 Respect for First Nations and Métis Cultural Values

- 3.11.2.1 Project Co will demonstrate respect for cultural values represented by First Nations and Métis groups of Saskatchewan throughout the development and design of the Facility.
- 3.11.2.2 Project Co will incorporate visible representations of First Nations and Métis cultures into the design of the Facility and Site.
- 3.11.2.3 Site landscaping will incorporate cultural elements such as wood sculptures, wood poles, and indigenous plants used for traditional healing.
- 3.11.2.4 Interior programmatic spaces will be sized and placed appropriately to allow for cultural activities as indicated in the Clinical Specifications.

3.11.3 Reference to Local History and Heritage

- 3.11.3.1 Project Co will design the Facility:
 - 3.11.3.1(1) in a manner that demonstrates respect for the local history and heritage, as applicable; and
 - 3.11.3.1(2) to include design elements and display opportunities that will identify, reinforce and educate visitors to the Facility of the unique history and heritage of the community.

PART 4. SITE DEVELOPMENT REQUIREMENTS

4.1 Master Site Plan

- 4.1.1 Project Co will develop and submit to the Authority a master site plan (“**Master Site Plan**”) for the Site, based on the master planning principles described in Section 3.2 and the Site development requirements described in this Section 4.1.

- 4.1.2 The Master Site Plan will illustrate the Site context and development opportunities to validate the Facility siting.
- 4.1.3 The Master Site Plan will contemplate future expansion at the Site. Project Co will locate the Main Building and Ancillary Buildings and design the Master Site Plans to allow for:
- 4.1.3.1 a minimum of 1380 m² (footprint size) building space expansion at the Site (plus all required parking for the expansion);
 - 4.1.3.2 a minimum of 25% volume expansion of the Energy Centre's energy generation capacity. This expansion space will be contiguous to the Energy Centre.
- 4.1.4 The Master Site Plan will:
- 4.1.4.1 ensure that each component of the Facility as described in Section 2.1 is an integrated part of the Site, facilitating the delivery of clinical and non-clinical support services (for example through efficient physical links and service connections between buildings), enhancing the ability of these to function in a cohesive manner;
 - 4.1.4.2 indicate the access provisions needed for replacing major components required for the Facility, as well as for adding major components at a future date;
 - 4.1.4.3 provide a Site servicing, parking and traffic master plan to accommodate the expansion capacity described in Section 4.1.3;
 - 4.1.4.4 indicate the expansion areas described in Section 4.1.3; and
 - 4.1.4.5 indicate the Threat Perimeter, Threat Perimeter Zone and Area of Interest Zone.
- 4.1.5 The Master Site Plan for the Facility will:
- 4.1.5.1 include direct and logical pedestrian connections between the interface pathways and the main buildings' entries.

4.2 Design and Site Development

4.2.1 General

- 4.2.1.1 Minimize the impact of Site development and Facility placement on adjacent neighbours and land uses. Preserve visual privacy and sunlight for adjacent properties and buildings.
- 4.2.1.2 Retain as many existing trees on the Site as possible to reduce the impact of the Facility on its neighbourhood context and to contribute to the natural healing environment for Clients, visitors and staff.

- 4.2.1.3 Minimize the adverse micro-climatic effects arising from the location and configuration of parking, walkways and buildings, including effects of entrance orientation on Client, staff and visitor comfort and safety. Provide smooth transitions between green space and public sidewalks.
- 4.2.1.4 Reinforce the physical relation of the structures with the major streets and create a legible site layout and pattern to foster a strong sense of place and identity and to ease increased vehicular and pedestrian movement into the Site.
- 4.2.1.5 Design for maximum access to the Facility. Provide separate and distinct passenger-side drop-off areas at each of the entrances to the Main Building and the CRU building(s).
- 4.2.1.6 Cover passenger-side drop-off areas at each of the entrances to the Main Building.
- 4.2.1.7 Mitigate the nearby noise from adjacent roadways through the use of exterior glazing and other acoustic screening.
- 4.2.1.8 Create meaningful open spaces for the benefit of Clients, visitors and staff which provide opportunities for recreation and contribute to a cohesive, healthy community; capitalize on opportunities for outdoor areas of respite and repose to aid in providing a healing environment.
- 4.2.1.9 Design landscape and circulation routes to have clear unobstructed views of surrounding areas for safety surveillance.
- 4.2.1.10 Common facilities and/or areas must be grouped so that each facility or area be automatically monitored by the constant presence of users of the facility.
- 4.2.1.11 Provide easy access to garbage and recycling bins, and contained such bins within roofed/walled enclosures, or screen them from public view.
- 4.2.1.12 Site the Facility so as to mitigate any possibility of security breaches, observation compromises, or contraband transfer.

4.2.2 Pedestrian and Vehicular

- 4.2.2.1 Create a high-quality, vibrant, pedestrian-friendly environment, including by tying the sidewalks and pathways to existing sidewalks and pathways adjacent to the Site.
- 4.2.2.2 Design for the functional separation of uninterrupted routes for emergency vehicles, visitors, staff and service vehicles, and to minimize public and service vehicle traffic interference with emergency vehicle access to the Site.

- 4.2.2.3 Integrate vehicular circulation with layout of pedestrian and bicycle zones throughout the Site to provide visible connections, promote safe travel, and to minimize conflict between vehicles and other modes of travel. Design the driveways to provide connections between the surrounding roads and the main entrances to the Facility. Design vehicular service entrances so that they are integrated into the building design with minimal visual impact.
- 4.2.2.4 Provide safe pedestrian crossings that are clearly designated using pavement markings and signage. In areas where a high volume of pedestrian crossings is expected, provide for changes in surface material (such as from asphalt to Portland cement, for example).
- 4.2.2.5 Create access for the mobility impaired (including people with baby strollers) by providing paths of travel with a minimum clear width of 1.5 m connecting all open space areas.
- 4.2.2.6 Provide pedestrian routes that are fully accessible by the disabled community. The primary pedestrian systems, public open space, walkways and entrances to the Facility must be universally accessible to the physically challenged and be elderly friendly. Design features which segregate circulation / areas / uses for people with disabilities from typical public usage are discouraged, except where required due to reasons of safety or due to space limitations.
- 4.2.2.7 Provide curb-cuts or curb let-downs in appropriate locations to facilitate convenient and direct access from the parking space(s) to the Main Building and CRU for people with disabilities. Align curb-cuts to pedestrian crossings.
- 4.2.2.8 Provide clear, direct pedestrian routes that are unimpeded by parked or moving vehicles.
- 4.2.2.9 Use traffic calming measures (e.g. curb bulges) to minimize roadway pavement width at pedestrian crosswalks.
- 4.2.2.10 Pedestrian routes within and to/from parking facilities must be clearly delineated and logical in terms of directness.
- 4.2.2.11 Provide paving and landscape treatments to further identify and enhance the pedestrian movement.
- 4.2.2.12 The pathway system will incorporate landscape treatments with trees and benches, lighting, and distinct paving where appropriate. The pathway system must also be wide enough for wheelchairs / scooters and will include a tactile strip for the visually impaired wherever possible.
- 4.2.2.13 All walkways and other paved areas must have positive drainage to shed rain water quickly with minimum side slope gradients of 2%.

- 4.2.2.14 Minor walkways must be at least 1.5 m wide.
- 4.2.2.15 Major walkways must be wide enough to allow for two people walking side by side and someone passing (i.e. minimum 2.5 m wide).
- 4.2.2.16 Provide lighting on all pathways, including pedestrian-scale lighting.

4.2.3 Public Realm and Open Space

- 4.2.3.1 Design and construct the Facility ensuring the legibility, quality and consistency of the overall treatment of the public realm, including public open space, pedestrian corridors and streets, to achieve the design objective for a unified and attractive built environment.
- 4.2.3.2 Provide a hierarchy of open spaces as follows:
 - 4.2.3.2(1) public open spaces;
 - 4.2.3.2(2) private open spaces; and
 - 4.2.3.2(3) secure open spaces.
- 4.2.3.3 Achieve segregation between different open spaces through landscape barriers such as hedges and planting.
- 4.2.3.4 Situate buildings so that they maximize the availability of sunlight in exterior and open spaces and areas of high pedestrian use. Maximize sunlight exposure for private and secure open spaces.

4.2.4 Community Noise Protection

- 4.2.4.1 Orientate all buildings on the Site so that the noise impact of emergency and service vehicles, and new traffic routes will be minimized.
- 4.2.4.2 Strategically locate and / or silence mechanical and electrical equipment, outside air intake and discharge openings and emergency generators' engine exhausts.
- 4.2.4.3 Ensure that electrical and mechanical noise levels in outdoor Client areas and public sidewalks do not exceed 60 dBA.

4.2.5 Site Wayfinding and Exterior Signage

- 4.2.5.1 Provide Site wayfinding and exterior signage in accordance with Appendix 3E [Wayfinding and Signage]
- 4.2.5.2 Provide a signage master-plan for approval by the Authority.
- 4.2.5.3 Arrange pedestrian pathways to ease wayfinding and create an amenable environment for pedestrians through the use of coordinated methods of

wayfinding which inform people of routes through the Sites to specific Buildings and entries or to the major street and transit nodes. Encourage pedestrians to avoid unsafe vehicle roads by providing well-signed alternative pedestrian routes. Utilize paving patterns which will easily be differentiated from vehicular paving by pedestrians where they cross vehicular traffic to access the emergency department and main entrance.

- 4.2.5.4 Provide visually connected pathways and integrated plazas to facilitate wayfinding.
- 4.2.5.5 Provide external directional signage that:
 - 4.2.5.5(1) clearly identifies the Facility and its components including the main entry, secure entry, Visitor Centre entry, Acute Client Care Services admissions entry, service entry, main entry drop off area, and public and staff parking;
 - 4.2.5.5(2) clearly indicates points of access for the public, parking areas and restrictions for various vehicle types and restrictions to 'after-hours' access; is well illuminated, backlit, reflective or high contrast and easily visible at night; and
 - 4.2.5.5(3) minimizes light spillage.
- 4.2.5.6 Wayfinding must start at the Site property line with freestanding illuminated exterior signage located at each prominent Site entry location. Supplement these entry signs with free standing signage structures located to give overall direction within the Site. These illuminated exterior signs must have an overall site plan and have some weather protection for standing viewers.
- 4.2.5.7 Locate site banner signs at strategic landscaped locations to advertise hospital events and fundraising campaigns. If using an electronic sign, insure sign is not located at a major entrance. The sign must be designed to avoid visual pollution and glare. It is not to replace the main entry sign or cause a distraction which might create a traffic accident.
- 4.2.5.8 Overall site parking signage is required to follow consistent design intent for the Site.
- 4.2.5.9 Provide all necessary exterior illuminated signage to direct traffic from the access streets. Design and construct such signage so that it is visible for drivers of vehicles to identify at a far enough distance so that they will safely slow down and follow the signage to enter the Facility and the parking areas.

4.2.6 Site Lighting

- 4.2.6.1 Provide lighting for public outdoor spaces and the adjacent private property to create an unobtrusive, human scale lighting concept, with a hierarchy of fixture types designed according to functional and security needs (including CPTED), and reflecting the hierarchy of pedestrian corridors.
 - 4.2.6.2 Provide site lighting, primarily from the perspective of deterrence and safety rather than surveillance. Sufficient perimeter lighting will be required to support the detection/identification and recording capabilities of the selected security camera system(s).Luminaires within 5 metres of grade will be vandal resistant.
 - 4.2.6.3 Lighting on pedestrian paths will illuminate not just the path but also the surrounding area adjacent to the path particularly en route to transit connections.
 - 4.2.6.4 To assist surveillance and monitoring by staff glare from lighting will be reduced by locating light sources where they do not shine directly at staff posts and monitoring areas.
 - 4.2.6.5 Provide lighting to facilitate ease and safety of pedestrian access to public transit.
 - 4.2.6.6 Lighting will be strategically placed as to not disrupt Client sleep.
- 4.2.7 Landscape
- 4.2.7.1 Provide landscape for the complete Site that contributes to a liveable, healthy and responsive community.
 - 4.2.7.2 Provide elements including secure outdoor and central courtyards, exterior rehabilitation areas, areas of refuge including covered seating, handrails along pathways and landscape features for the enjoyment of staff and visitors.
 - 4.2.7.3 Provide streetscape treatments (e.g. street trees, boulevards and sidewalks) to the guidelines and standards for the municipality having jurisdiction (as a minimum). Verify streetscape requirements with the local municipalities. Reinforce and enhance an image of the North Battleford, as applicable, through the preservation of mature vegetation.
 - 4.2.7.4 Provide landscape site plans for the complete Site. Landscape plans to be prepared by a SALA (Saskatchewan Association of Landscape Architects) registered landscape architect.
 - 4.2.7.5 Installation of the landscape to be supervised and approved by a SALA registered landscape architect.
 - 4.2.7.6 If a landscape irrigation system is provided:

4.2.7.6(1) the design must be supervised and approved by a SALA registered landscape architect;

4.2.7.6(2) the system must be reviewed by a certified irrigation designer and auditor; and

4.2.7.6(3) the system must be installed by a certified irrigation contractor.

4.2.7.7 Maximize the amount of landscape areas on the Site and minimize the amount of impervious surfaces to increase the natural absorption rate of storm water, targeting a goal of 25% of the Site to have soft landscape, including trees, shrubs, groundcover and grass.

4.2.7.8 Refer also to Section 8.2.

4.2.8 Site Safety Through Design

4.2.8.1 Public spaces will be distinguishable from private spaces. Design and locate symbolic barriers throughout the Site. Symbolic barriers will include landscaping (such as changes in paving, vegetation or grade) and/or architectural features (such as low walls, bollards and raised planters) rather than continuous solid fences or walls.

4.2.8.2 Design the exterior of the Site so that there are opportunities for people to easily view what is happening around them during the course of their everyday activities.

4.2.8.3 Eliminate entrapment spots. Incorporate barriers that permit visual access without loss of privacy such as glazing in lobby doors and stairwells.

4.2.8.4 Promote the “eyes on the street” concept by using windows, doors, and activity generators such as seating or fountains. Windows will be visible from the exterior and not hidden by vegetation or other items.

4.2.8.5 Incorporate CPTED principles in the design of all exterior areas of the Site.

4.3 Parking

4.3.1 Parking Stall Requirements

4.3.1.1 Project Co will provide 400 vehicle parking stalls as follows:

4.3.1.1(1) 200 stalls for physicians and staff;

4.3.1.1(2) 200 stalls for Clients and visitors;

4.3.1.1(3) at least 12 of the 400 parking stalls will be for disabled persons;

4.3.1.1(4) all parking stalls will include vehicle engine block heater electrical receptacles on a control system with cyclic timed receptacle zones to minimize associated electrical demand loading while maintaining engine starting temperatures;

4.3.1.2 in addition to the 400 parking stalls required above, provide dedicated areas for snow piling and snow removal.

4.3.2 Parking Stall Sizes

4.3.2.1 Parking stalls will comply with the following:

4.3.2.1(1) minimum parking stall dimensions will be 6.0 m x 2.8 m, provided that:

4.3.2.1(1)(a) pick up and drop off areas, minimum stall dimensions will be 6.0 m x 3.5 m; and

4.3.2.1(1)(b) minimum dimensions for handicap stalls will be 6.0m x 3.5m with a 1.5m access aisle beside each stall that is directly connected to an accessible path of travel (two stalls may share one access aisle); and

4.3.2.1(2) minimum drive aisle widths will be 7.6 m.

4.3.3 Parking Design Principles

4.3.3.1 The design and operation of surface parking will create convenient and safe usage.

4.3.3.2 Design and construct the surface parking in accordance with the following:

4.3.3.2(1) provide adequate provision for ingress and egress to all parking spaces to ensure ease of mobility, ample manoeuvring clearances, and safety of vehicles and pedestrians;

4.3.3.2(2) apply CPTED principles and the following principles:

4.3.3.2(2)(a) where surface parking is situated between a building and an adjacent public street, provide trees between the building setback line and the adjacent public street.

4.3.3.2(3) clearly mark all parking spaces as directed by the Authority;

4.3.3.2(4) set parking lot layouts in an orderly and logical design to minimize confusion and excessive internal circulation;

- 4.3.3.2(5) employee parking must not be located in visually remote areas of parking lots, behind blank walls, or within service or loading areas; and

4.3.3.3 Provide all parking lots with the following landscape requirements:

- 4.3.3.3(1) screen surface parking by plant material, and where surface parking is behind buildings, screen such surface parking from adjacent properties with landscape planting;
- 4.3.3.3(2) incorporate safety and security measures into the landscape design;
- 4.3.3.3(3) surface parking must contribute to the continuity of the street landscaping edge without compromising the safety and security of the public inside the lot and on the public street;
- 4.3.3.3(4) reduce the visual impacts of large surface parking lot areas by dividing the parking area into smaller parking lots defined at the boundaries by drive aisles, sidewalks, trees and landscape planting; plant shrubs and small trees to define circulation routes for pedestrians and vehicles; and
- 4.3.3.3(5) multiple surface parking lots must provide a direct pedestrian pathway system through the parking area to provide convenient and safe pedestrian access between building entrances, parked cars.

4.3.4 Bicycle Parking

- 4.3.4.1 Provide bicycle parking facilities that are at-grade, have uniform lighting and are safe and secure.
- 4.3.4.2 Provide at least 50 secured, long term bicycle parking stalls for employees. Such bicycle parking may be integrated into the Main Building located close to Main Building access points.
- 4.3.4.3 Provide unsecured, short-term bicycle parking in the form of bicycle racks located within 15 m of a principal entry to the Main Building. Such bicycle parking must be situated in well-lit locations, clearly visible from principal building entries and/or public roads.
- 4.3.4.4 Bicycle racks must be made of sturdy, theft-resistant material and be secured to the floor or ground. Design the bicycle racks so that they secure the bicycle frame, not the wheels, and allow both the frame and front wheel to be locked to the rack with a U-style lock.

4.4 Site Infrastructure

4.4.1 Project Co will provide, as necessary, adequate and reliable infrastructure and necessary municipal services to the Facility.

4.4.1.1 General

4.4.1.1(1) All works required for excavation, exposing, backfill and surface restoration of all proposed water, sanitary sewer and storm service connections, as well as the connection of each service to the municipal system, will be the responsibility of Project Co.

4.4.1.2 Potable Water – Off-Site

4.4.1.2(1) The Facility requires two separate water system connections, including metering and backflow prevention.

4.4.1.2(2) The Facility requires connection to the adjoining City-owned and operated municipal water storage reservoir, for on-line and emergency supply purposes.

4.4.1.2(3) The extent to which provision for on-Site pumping from the primary and secondary water connections will be required (to suit either domestic demand or fire-fighting demand, or both) and will be determined, in part, by the final building floor area and building height.

4.4.1.2(4) The City has provided flow test data for nearby fire hydrants, which flow test data has been made available to Project Co.

4.4.1.2(5) The primary connection point for municipal water will be an existing 18-inch PVC City water main running through the Site.

4.4.1.2(6) The secondary connection point will be a new connection to the existing water storage reservoir. The Authority will install a connection from the existing water storage reservoir up to the project limit boundary shown on Appendix 2G [Site Plan] in consultation with Project Co prior to commencement of the Construction, and Project Co will connect to this at the project limit boundary.

4.4.1.2(7) Project Co will ensure that City access to municipal fire hydrants is not encumbered at any time. All existing hydrants must remain active during the Construction. Temporary construction water will be provided by a new connection to the City's water system that is approved by the City.

4.4.1.3 Sanitary Sewer – Off- Site

- 4.4.1.3(1) The connection point for the sanitary sewer will be a force main to the existing municipal sewer. The Authority will install a connection from the existing municipal sewer up to the project limit boundary shown on Appendix 2G [Site Plan] in consultation with Project Co prior to commencement of the Construction, and Project Co will connect to this at the project limit boundary.
- 4.4.1.3(2) Project Co will be responsible to ensure that adequate sewer capacity exists in the downstream system for the new connection in accordance with City standards. The Authority retains the risk for an upgrade to the City's downstream system, if required, to meet City standards.
- 4.4.1.3(3) Sanitary sewer video surveillance inspections will be required upon installation.

4.4.1.4 Storm Drainage – Off- Site

- 4.4.1.4(1) Project Co must employ On-Site storm water management strategies which result in no net increase in peak storm water discharge rates up to the 1:100 year recurrence interval event. Project Co will design the Site so that expected drainage flow capacity and direction meet Provincial requirements.
- 4.4.1.4(2) Storm Sewer video surveillance inspections will be required upon installation.

4.4.2 On-Site Services Infrastructure

4.4.2.1 General

- 4.4.2.1(1) Design and construct all on-Site servicing to meet or exceed the design and quality requirements for the corresponding municipal off-Site services, and to meet the needs of the Facility.

4.4.2.2 Sanitary Sewers – On-Site

- 4.4.2.2(1) Provide sanitary sewers of a diameter, grade and depth to safely convey all effluent from the Facility.
- 4.4.2.2(2) Provide one or more lift stations, consisting of redundant grinder pumps, which discharge sanitary drainage from the Facility to the municipal sewer system via force main.

- 4.4.2.2(2)(a) The lift stations may be located within the Main Building or constructed in a separate building. If a separate building is constructed, then the building will be in the same architectural character as the rest of the Facility.

- 4.4.2.2(2)(b) The lift stations will be heated and ventilated according to applicable codes and standards.
- 4.4.2.2(3) The sanitary sewer system will include the pipes, manholes and all other required appurtenances to comply with applicable municipal and provincial standards.
 - 4.4.2.2(3)(a) Provincial standards are outlined in “The Guidelines of Sewage Works Design”, as published by the Water Security Agency.
 - 4.4.2.2(4) Sanitary sewer video surveillance inspections will be required upon installation.
- 4.4.2.3 Storm Sewers and Drainage – On-Site
 - 4.4.2.3(1) Provide storm sewers, storm sewer management strategies and drainage network (minor and major):
 - 4.4.2.3(1)(a) where “minor system” refers to a piped storm conveyance system and “major system” refers to the combination of piped systems, channels, retention or detention basins, roadways and overland flow routes;
 - 4.4.2.3(1)(b) which, at a minimum, satisfy “The Guidelines for Sewage Works Design”, as published by the Water Security Agency;
 - 4.4.2.3(1)(c) of a size, grade and depth to safely manage and convey all storm water on-Site to the receiving system;
 - 4.4.2.3(1)(d) which, at minimum, maintain the pre-Construction discharge rates after Service Commencement;
 - 4.4.2.3(1)(e) which, at a minimum, are capable of managing the difference in pre-Construction vs. post-Construction discharge rates and volumes;
 - 4.4.2.3(1)(f) which include storm water/oil and grit separation devices or other water quality treatment devices as required, capturing and treating runoff from all road and parking area surfaces;
 - 4.4.2.3(1)(g) which provide receive grit separation treatment for roof water run-off before it enters the piped on-Site conveyance network. Oil/water separation is not required for roof water; and

- 4.4.2.3(1)(h) where storm sewer video surveillance inspections will be required upon installation.
- 4.4.2.3(2) Storm water quality: Comply with the “Guidelines for Sewage Works Design”, as published by the Water Security Agency.
- 4.4.2.3(3) Project Co will ensure that neighbouring properties are protected from flooding and nuisance runoff issues and existing municipal system capacities are not exceeded.
- 4.4.2.3(4) Provide adequately sized water quality/sediment control components (i.e. bioswales) for the surface parking lots, before discharging to the on-Site retention systems, groundwater recharge facilities or the off-Site drainage system.
- 4.4.2.4 Watermain and Appurtenances – On-Site
- 4.4.2.4(1) Provide a water system of diameter, grade, and depth to safely meet demand and fire flow requirements.
- 4.4.2.4(2) The water system will include the pipes, valves, hydrants, fittings and all other required appurtenances to comply with applicable municipal and provincial standards. Applicable provincial standards are outlined in “A Guide to Waterworks Design”, as published by the Water Security Agency.
- 4.4.2.4(3) Provide two separate watermain systems at the Site (watermain and ancillary components) from the municipal/regional systems, each system capable of providing all required commercial/institutional demands and firefighting capacity and redundancy for the Facility. The extent to which provision for on-site pumping, from both primary and secondary offsite connection points, will be required (to suit either domestic demand or fire-fighting demand, or both) will be determined, in part, by the available system pressures, the final building floor area and building height.
- 4.4.2.4(4) Firefighting volumetric demands are to be calculated using the Fire Underwriters Survey (FUS) method, unless alternates are otherwise approved by the applicable Governmental Authorities.
- 4.4.2.4(5) If required to meet the FUS fire flow demands, Project Co will provide back-up, permanent fire-fighting equipment.
- 4.4.2.4(6) The watermain systems will include approved backflow preventers necessary to protect the municipal system and on-Site facilities from contaminants based on the hazard level of the Facility.

- 4.4.2.4(7) Provide a looped on-Site connection for the watermain.
- 4.4.2.4(8) Both water main services, from separate off-Site connection points, are to converge into a common mechanical room, wherein metering and splitting off of domestic and fire suppression flows will occur.
- 4.4.2.5 Road Works – On-Site
- 4.4.2.5(1) All on-Site road works will meet the requirements of the standards and guidelines of the Geometric Design Guide for Canadian Roads, as published by the Transportation Association of Canada.
- 4.4.2.5(2) Design and construct on-Site roadways, including the pavement, curbs and gutters, sidewalks, walkways, signage, pavement markings, and traffic calming devices, that are handicapped accessible and wheel-chair friendly, and provide safe passage between parking areas, loading areas, emergency vehicle areas and drop off areas without requiring the driver to enter the municipal roadway. The minimum roadway surface width will be 9.0 metres.
- 4.4.2.5(3) Design and construct permanent access to the Existing Hospital from the north through the existing roadway (Jersey Street) once the Facility is completed. Such permanent roadway must also reconnect to the south portion of the same existing roadway (Jersey Street).
- 4.4.2.5(4) Pavement structure will meet recommendations by a geotechnical engineer.
- 4.4.2.5(5) All roadways will accommodate fire truck access in accordance with the requirements of the respective municipality's fire department or by municipal bylaw requirements.
- 4.4.2.5(6) Design vehicle for loading access to be WB20. All other internal roadways must safely accommodate the typical fire truck in use by the respective municipal authorities.
- 4.4.2.5(7) Internal site truck movements will be designed such that loading bays are easily accessible, limiting the requirement for truck manoeuvring into and out of loading bay areas.
- 4.4.2.5(8) Use site surfacing materials which will meet intended use and minimize the 'heat island' effect, where possible.
- 4.4.2.5(9) Provisions for on-Site roadways may be required to account for snow removal machinery and methods in winter snowfall months.

4.4.2.6 Street Lighting – On-Site

- 4.4.2.6(1) Provide lighting for on-Site roadways, walkways and parking areas to ensure safe vehicle and pedestrian traffic with respect to collisions, personal safety, and building access/egress. Provide lighting sympathetic to any existing or future buildings at the Site, as well as all neighbouring properties.
- 4.4.2.6(2) Detailed on-Site lighting specifications are carried elsewhere, under electrical specifications section.

4.4.2.7 Electrical, Telecommunications, Gas Services

- 4.4.2.7(1) Provide adequate electrical, telecommunication and natural gas services to the Facility.
- 4.4.2.7(2) Provide two separate electrical services at the Site from the municipal/regional systems, each service capable of providing all required electrical demands and providing service redundancy for the Main Building and Energy Centre.

4.4.2.8 Snow Melting – On-Site

- 4.4.2.8(1) Provide electrical or hydronic snow melting systems and associated sensors and controls to suit local climatic conditions at the following areas:
 - 4.4.2.8(1)(a) All Buildings public and staff entrances with or without canopies;
 - 4.4.2.8(1)(b) the path from the Main Building to the Greenhouse;
 - 4.4.2.8(1)(c) paths to the Community Reintegration Units; and
 - 4.4.2.8(1)(d) aprons and manoeuvring areas and stairs at the loading dock.

PART 5. DESIGN REQUIREMENTS

5.1 Adaptability and Flexibility

5.1.1 Project Co will:

- 5.1.1.1 locate permanent building elements, such as stairs, elevators and duct shafts, to minimize constraints which inhibit changes to the Facility;
- 5.1.1.2 minimize interior columns for ease of planning and re-planning of care areas;

- 5.1.1.3 avoid interior shear walls whenever possible;
- 5.1.1.4 accommodate the vertical and horizontal distribution of electrical and mechanical services to allow maintenance and changes to occur with the least disruption to clinical service delivery;
- 5.1.1.5 provide access points to the Facility service systems in critical locations so that service disruption will be minimized; and
- 5.1.1.6 avoid cabling in the concrete slab. Provide a system or strategy to support equipment where cabling is imbedded into the slab, to allow for easy servicing to security stations and control rooms and medical equipment. Do not provide raised access flooring.

5.2 Expandability

5.2.1 Project Co will:

- 5.2.1.1 locate primary circulation corridors to allow for expansion without increasing the complexity of the circulation system as a whole; and
- 5.2.1.2 provide floor zoning that allows for expansion of programs or services, for example by locating administrative and other non-clinical 'soft' functions adjacent to clinical areas that are likely to need to expand.

5.3 Post Disaster Requirements

- 5.3.1 In undertaking the Design, Project Co will protect the life and safety of all Facility occupants and the need for continuing services following catastrophic events such as earthquakes, severe weather, epidemics, chemical spill, disruption to service utilities and internal events such as fire. Particular attention will be paid to the Main Building, generators, transformers and utility service connections.
- 5.3.2 For the Main Building (and Energy Centre, if an independent building) design and construct the building, their generators, transformers and service connection structures, structural components, non-structural components, anchorages, and equipment to post disaster standards in accordance with the National Building Code of Canada.
- 5.3.3 Design and construct essential services servicing the Facility including the electrical system, heating and cooling systems and distribution, and domestic water, to post disaster standards as defined in the National Building Code of Canada. Locate these services in utilities enclosures that meet post disaster standards as defined in the National Building Code of Canada.
- 5.3.4 Design and construct the Main Building, the Energy Centre (if designed as a separate building) and Regional Administration (if designed as a separate building) so that each is capable of meeting its functional requirements (lights, power, water, sewer, communication

systems, security systems, alarm and signal systems and HVAC) for a minimum period of 48 hours following a natural disaster or other incident.

- 5.3.5 Provide operable windows for the Facility to allow for natural ventilation in the event of mechanical ventilation failure during a post disaster event. Limit operable window openings as indicated in 6.9.2.7(1)(i) and as required by the National Building Code of Canada and provide anti-ligature hardware such that windows will only be opened by staff. Operable windows will not be allowed in spaces within the Secure Zone.
- 5.3.6 See Section 5.11.9 for mechanical post disaster requirements.
- 5.3.7 See Sections 5.12.1.1(2), and 5.12.1.2(11) for electrical post disaster requirements.
- 5.3.8 Design and construct the Facility to support a Project Co supplied and installed roof-top emergency communications antennae tower (the “**Communications Tower**”) including all structural supports and fasteners, all electrical, lighting, and lightning grounding requirements, and all enclosures, entrances, ducting, pathways, and cabling between the communications tower antennae locations and the EOC and BOSC communications equipment room and between the communications tower antennae and the Operations Security Centre. The Communications Tower will be sized to support all Authority emergency communications antennae plus capacity for an additional antennae of each type as required by the Authority.
- 5.3.9 Project Co will design and construct the Facility so that it includes space that will be used as an emergency operations centre (“**EOC**”) during an emergency and a backup operations security centre (“**BOSC**”).
- 5.3.10 The EOC will:
- 5.3.10.1 be located in a post-disaster structure;
 - 5.3.10.2 be connected to vital power, with 30% of EOC lighting and power outlets connected to UPS power, have telecommunication outlets supplied from two separate network rooms and have two separate dedicated SaskTel telephone (not through the VoIP telephone system) feeds that will support at least 12 SaskTel phone and satellite communications, as described below. These requirements also apply to any rooms adjacent to the EOC that may be used in the event of an emergency or disaster;
 - 5.3.10.3 include a communication area with a minimum of 10 seats, a locked supply storage area (complete with power and network capability), a communication equipment room capable of supporting the Communications Tower systems and equipment, a food preparation/storage area and at least two bathrooms, each with a shower;
 - 5.3.10.4 include in the communications area a suitable area and infrastructure for amateur radio operations that meet the following specifications:

- 5.3.10.4(1) supplied with UPS power;
- 5.3.10.4(2) minimum 32 channel programming capability;
- 5.3.10.4(3) 5 specialized satellite antennae on the Communications Tower for satellite communications (specific locations for these antennae will require consultation with communication specialists);
- 5.3.10.4(4) storage room for amateur radio equipment;
- 5.3.10.4(5) 2 power outlets and a telecommunications outlet in the radio room;
- 5.3.10.4(6) in addition to the 5 specialized satellite antennae, the following antennae are required (specific locations for these antennae will require consultation with communication specialists):
 - 5.3.10.4(6)(a) 1 commercial antenna;
 - 5.3.10.4(6)(b) 2 VHF antennae, consisting of 1 digital antenna and 1 voice antenna; and
 - 5.3.10.4(6)(c) 2 HF antennae, consisting of 1 digital antenna and 1 voice antenna;
- 5.3.10.5 be capable of supporting the emergency communication systems described in Section 5.3.9, including all required cabling, conduit paths and other infrastructure;
- 5.3.10.6 have six operator station areas, and each station will have:
 - 5.3.10.6(1) 2 telecommunication outlets;
 - 5.3.10.6(2) 2 SaskTel dedicated phone lines;
 - 5.3.10.6(3) satellite phone capability for each of the SaskTel dedicated phone lines, including the infrastructure for specialized antennae to the Communications Tower and a switching box/device that allows automatic switching from SaskTel dedicated phone line to satellite phone communications for all phones; and
 - 5.3.10.6(4) 2 power outlets;
- 5.3.10.7 have a multifunction printer/scanner/fax that has:
 - 5.3.10.7(1) a telecommunication outlet, with electrical outlet on vital power; and
 - 5.3.10.7(2) 2 fax lines (one for outgoing messages and one for incoming messages) that are both SaskTel dedicated lines (which are in addition to the SaskTel lines described in Section 5.3.10.6(2))

- 5.3.10.8 have throughout the EOC an additional 24 telecommunication outlets, 16 power outlets on vital power and 8 power outlets on UPS power (all of which are in addition to the telecommunication and power outlets described in Section 5.3.10.6); and
- 5.3.10.9 have teleconferencing and videoconferencing capability.
- 5.3.11 The BOSC will:
 - 5.3.11.1 be located in a post-disaster structure;
 - 5.3.11.2 be designed and constructed to the same standards as the OSC, and to have all of the same features and functionality as the OSC, except that the BOSC will have only one security workstation (as compared to the OSC, which will have two security workstations).
- 5.3.12 The design of the Facility will provide means of securely evacuating Clients, staff, visitors and contractors, while maintaining security and public safety.
- 5.3.13 Emergency Evacuation Plan – Provide an emergency evacuation plan for the Facility (an “**Emergency Evacuation Plan**”), based on the Facility’s location and functions and any requirements of applicable Governmental Authorities. The Emergency Evacuation Plan will establish a systematic method for the safe and orderly evacuation of an area or building in the event of a fire or other emergency. The design and construction of the Facility and the Emergency Evacuation Plan for the Facility will:
 - 5.3.13.1 establish evacuation routes acceptable to the Authority, acting reasonably, for all areas within the Facility;
 - 5.3.13.2 require that evacuation routes are posted in a location where all persons can view them;
 - 5.3.13.3 provide both primary and secondary evacuation routes for all areas that house Clients;
 - 5.3.13.4 ensure that all primary and secondary evacuation routes for Secure Clients remain within the Secure Perimeter at all times;
 - 5.3.13.5 ensure all primary and secondary evacuation routes lead Clients into a Client outdoor courtyard or other secure area; and
 - 5.3.13.6 ensure that primary evacuation routes maintain a degree of Client separation which is sufficient to ensure that there is no cross mix of Clients from Secure Client Care Services (B.1.2) with clients from Forensic Client Care Services (B.1.1) or with Non-Secure Clients.
- 5.3.14 No evacuation route (primary or secondary) will cross or enter into the Threat Perimeter Zone.

5.4 Architecture

5.4.1 Building Form and Character

5.4.1.1 General

- 5.4.1.1(1) To the extent possible, the Facility will harmonize with the existing topography and be conceived as an integral part of the natural environment.
- 5.4.1.1(2) The Main Building will capitalize on the existing slope of the Site in order to stack the program while maximizing on-grade access and minimizing overall building footprint, without compromising the overall key functional relationships of the building.
- 5.4.1.1(3) The Main Building will be orientated to maximize views to the river while responding appropriately to the environmental forces of sun, wind, and precipitation, taking into account the significant impact of prevailing winds during inclement weather events.
- 5.4.1.1(4) Daylighting and views will be provided throughout the design to assist way-finding and promote a therapeutic environment of well-being.
- 5.4.1.1(5) The campus environment created by the Main Building will not stop at its exterior walls, but rather will extend into the site itself, integrating with the site's infrastructure and landscape to create cohesive indoor/outdoor connectivity.
- 5.4.1.1(6) The massing of the Main Building will be articulated to break down its scale creating the look and feel of a campus, rather than a massive singular building.
- 5.4.1.1(7) While the overall disposition of the design will echo the linear spatiality of the prairie, the building will be articulated into distinct formal components.
- 5.4.1.1(8) The Main Building will feature an architectural vocabulary that speaks to the evolving future of behavioral health which seeks to normalize and de-stigmatize mental health, while, at the same time, responding to the physical, environmental and cultural context of Saskatchewan.
- 5.4.1.1(9) The pastoral quality of the site with the adjacent river and the vast horizon of the prairie will serve as visual cues that will inform the design aesthetic.

- 5.4.1.1(10) Exterior lighting will be designed to create a warm and inviting atmosphere while promoting safety and security, without creating an institutional ambiance. Use warm colour temperature fixtures (between 2800K and 3400K) in lieu of cool colour temperature fixtures (between 3500K and 500K).
- 5.4.1.1(11) Utilize glazing to optimize views and daylight penetration, and to reduce energy consumption. This will be done in a manner that maximizes access to daylight without compromising security or creating opportunities for elopement.
- 5.4.1.1(12) The design will be organized around multiple internal courtyards visually connected to major circulation spines, and partially covered or trellised to provide protection from adverse weather. However, the design of outdoor trellises or overhead covers will not create ligature risks for the Clients.
- 5.4.1.1(13) Outdoor spaces around the perimeter of building will be thoughtfully designed and integrate with the Site to provide well defined outdoor rooms and gardens protected from the elements.
- 5.4.1.1(14) If proposed, roof mounted mechanical / electrical equipment will be enclosed within a heated ventilated mechanical penthouse, and will be consistent in form, material, and detail with the rest of the Building.
- 5.4.1.1(15) The Main Building will not be comprised of more than two levels.
- 5.4.1.2 Exterior Building Materials and Colour
- 5.4.1.2(1) Exterior building materials will be durable and climatically appropriate and integrated with the Facility's natural context. Regional stone or masonry, rendered in the soft warm tones of the prairie, will be of primary consideration for building cladding. This will be combined with accent materials such as metal panel to accentuate the articulation of the building forms.
- 5.4.1.2(2) The following materials will not be used on the building exterior:
- 5.4.1.2(2)(a) stucco;
 - 5.4.1.2(2)(b) corrugated metal siding;
 - 5.4.1.2(2)(c) wood; or
 - 5.4.1.2(2)(d) red brick, similar to that used in the Existing Hospital.
- 5.4.1.2(3) Project Co will minimize the number of exterior cladding materials to reduce the number of envelope joint conditions.

5.4.1.3 Roofs

- 5.4.1.3(1) Roofs will be a combination of flat roof areas punctuated by distinct pitched metal roof forms that demark special interior spaces and provide opportunities to highlight entry points and circulation nodes while potentially introducing natural light through clerestory windows and light monitors.
- 5.4.1.3(2) Landscaped roofs and other “green” treatments of roof areas will be incorporated as appropriate to provide accessible therapeutic outdoor activity courtyards. To minimize opportunities for elopement, or the introduction of contraband, these spaces will not have direct access to grade. Outdoor activity spaces that are located at grade will require enclosures that prevent elopement possibilities and prevent the introduction of contraband from outside of the Secure Perimeter.
- 5.4.1.3(3) Where not landscaped, roof areas will be designed to be attractive when in view.
- 5.4.1.3(4) Provide stair access to all major roof areas larger than 100 m². Ladder access will only be allowed to smaller roof areas only.
- 5.4.1.3(5) Use of roof hatch accesses will be minimized.
- 5.4.1.3(6) If mechanical penthouses are used, provide elevator access to such penthouses.
- 5.4.1.3(7) Provide high parapets or guardrails to minimize the need for fall arrest anchors for operational staff. Locate at main roofs and other roof areas needing regular access for maintenance.

5.4.2 Building Configuration and Internal Circulation

5.4.2.1 Building Entrances

- 5.4.2.1(1) All direct entries into buildings from the exterior will be protected from snow and rain by canopies or building overhangs. Weather protection must be implemented where building entrances front a sidewalk or open space.
- 5.4.2.1(2) Snow fences will be provided on sloping roofs to prevent snow slides that endanger staff, Clients, and visitors at building ingress and egress points.
- 5.4.2.1(3) Ensure that areas protected from weather still receive daylight using appropriate measures such as increased height –to- depth proportions and the use of glass roof panels.

- 5.4.2.1(4) Orient building entrances away from direct prevailing winds. Provide wind protection at building entrances exposed to prevailing winds. Orient buildings generally to minimize wind induced by buildings. Provide wind mitigating measures and areas that are protected from the wind so as to extend the seasonal duration of outdoor activities for activities, convalescing or socializing.
- 5.4.2.1(5) Entrance vestibules will provide complete transparency from the exterior, from the interior immediately in front of the vestibule, and from inhabited spaces adjacent to at least one long side of the vestibule.
- 5.4.2.1(6) Entrance vestibules will be configured and sized in order to preserve the airlock effect for climate control. Ensure a minimum 5 metre distance between the sets of doors to allow wheelchairs ample room for manoeuvring into the vestibule. Provide a heated air curtain system over the exterior doors to control the temperature loss during winter months.
- 5.4.2.1(7) Use sliding doors at the main public entrance, except that where sliding doors are not feasible, use swinging doors. Use doors that will be activated by handicapped accessible push-button controls located on the inside and outside of both sets of doors or revolving doors with a swing door. Doors will be configured for push-pull manual operation in addition to automatic operation.
- 5.4.2.1(8) Entrance doors to Client care areas will be sufficiently wide to allow access for stretchers surrounded by medical staff.
- 5.4.2.1(9) Pedestrian interest and comfort at entries will be provided through specifically designed seating, signage, lighting and features that enhance a feeling of invitation, acceptance, normality and de-stigmatization.
- 5.4.2.1(10) Provide wheelchair alcoves visible and accessible to the main entry vestibules. Provide easy access to wheelchairs close to the main and visitor entrances.
- 5.4.2.1(11) If the Main Building has a large open entrance or atrium, the space must be acoustically treated to control excessive noise or sound reverberation that will prevent effective communications in the space or allow the spread of noise from the atrium to adjacent noise sensitive interior spaces and / or make spending time in the atrium uncomfortable.
- 5.4.2.1(12) Entryways and doors must be illuminated using light levels that are comfortable when entering and exiting.

5.4.2.2 Access

- 5.4.2.2(1) Project Co will design and construct the Facility to ensure that all Client-occupied spaces are designed for disabled access and assistance by nursing staff.

5.4.2.3 Exit Stairs

- 5.4.2.3(1) Locate exit stairs strategically for the convenience of staff moving between related clinical departments.
- 5.4.2.3(2) Locate exit stairs conveniently accessible from circulation routes.
- 5.4.2.3(3) Avoid stair locations that negatively impact future planning flexibility or constrain desirable views from Client care and staff work areas.
- 5.4.2.3(4) Provide day lighting and views from stairwells for orientation and amenity, and provide adequate lighting into stairwells for staff security at night.

5.4.2.4 Convenience Stairs

- 5.4.2.4(1) Include convenience stairs where appropriate, located strategically to reduce dependence on elevator use.
- 5.4.2.4(2) Provide convenience stairs at all elevator locations.

5.4.2.5 Corridors

- 5.4.2.5(1) Corridor widths will be a minimum of 2400 mm wide clear, except:
 - 5.4.2.5(1)(a) in office areas, corridors will be a minimum of 1500 mm wide; and
 - 5.4.2.5(1)(b) in major service supply corridors will be a minimum of 3000 mm wide.
- 5.4.2.5(2) Provide convenient, but secure, service access to the ceiling mechanical and electrical plenum above corridors. If ceiling tiles are used, provide the ceiling tile layout such that access to the plenum requiring a hooded area in the corridor below will not reduce the clear corridor to less than half its original width.
- 5.4.2.5(3) Ceiling tiles will not be allowed within the Secure Zone or in any private Client room or any IPCR.
- 5.4.2.5(4) Corridors will have recessed rest areas for Clients to promote mobility and activity; however, recessed areas will not be included within the Secure Zone.

5.4.3 Building Envelope

- 5.4.3.1 Utilize a building envelope professional (whose credentials as a building envelope professional are recognized by the Saskatchewan Association of Architects or the Association of Professional Engineers and Geoscientists of Saskatchewan) to review and certify building envelope design and construction.
- 5.4.3.2 Complete the Design and Construction so as to prevent the accumulation and stagnation of rain, snow, ice and dirt on the horizontal and vertical surfaces of the building envelope(s) appropriate for the climate the Facility is situated in.
- 5.4.3.3 Complete the Design and Construction so as to prevent both the ingress of exterior moisture and the trapping of condensation from infiltrating humid air within the envelope.
- 5.4.3.4 Design exterior walls in accordance with the 'rain-screen principle'.
- 5.4.3.5 Ensure that materials and systems of the wall and roof assemblies contribute to reducing heat gains and losses with minimal decline in performance over their expected lifespan.
- 5.4.3.6 Ensure continuity of the air barrier, vapour barrier, thermal barrier and rain barrier across the entire envelope. Continuity of these components will be maintained at all intersections, attachments, and appendices.
- 5.4.3.7 Design building envelope details to avoid thermal bridging.
- 5.4.3.8 Design the building envelope so that the inside of private Client rooms exposed to noise from hospital related equipment, delivery / loading bays, emergency intake areas, and busy road traffic areas are exposed to noise levels less than:
 - 5.4.3.8(1) NC 35-40 from steady sources of noise such as HVAC equipment and transformers; and
 - 5.4.3.8(2) NC 45 for noises associated with brief intermittent events such as road traffic events.

Extreme intermittent noise such as sirens will be excluded from the determination of noise levels.

5.4.4 Interior Walls and Partitions

- 5.4.4.1 Use interior walls and partition systems that provide acoustic separations as required for the specific functions to be carried out in the spaces affected, and in accordance with the requirements of Appendix 3C [Sound Transmission Ratings].

- 5.4.4.2 Design and select interior walls and partitions, partition systems and interior finishes to comply with the following criteria as may be relevant for the particular or specific functions enclosed:
- 5.4.4.2(1) cleaning, maintenance and infection prevention and control;
 - 5.4.4.2(2) permanence and durability including impact resistance; and
- 5.4.4.3 Provide fittings, attachments and internal bracing/backup as required to accommodate and support wall mounted equipment.
- 5.4.4.4 All interior partition walls to go from floor to underside of slab.
- 5.4.4.5 In areas where Clients will have access to, construct the wall to suit the purposes unique to those areas in compliance with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units.
- 5.4.4.6 As applicable, upper floor balconies will need to be fitted with full height guardrails (to underside of structure above) for occupant safety.

5.4.5 Ceilings

- 5.4.5.1 Ceiling systems will comprise a major component of the acoustic or sound attenuation function as required in the spaces in which they are installed and will comply with the requirements of Appendix 3C [Sound Transmission Ratings]
- 5.4.5.2 See Section 6.10.2.6.
- 5.4.5.3 Ceiling height will not be less than 3000 mm above the finished floor in all areas of the Main Building and Ancillary Buildings except for the following:
- 5.4.5.3(1) all private Client rooms will have a minimum ceiling height of 2700 mm;
 - 5.4.5.3(2) ceilings in rooms with equipment requiring specific clear heights will be based on specific equipment requirements;
 - 5.4.5.3(3) open ceilings in mechanical and electrical spaces in the Energy Centre and in Material Management;
 - 5.4.5.3(4) the public lobby will have a minimum ceiling height of 5000mm;
 - 5.4.5.3(5) the gymnasium will have a minimum ceiling height of 8000mm;
 - 5.4.5.3(6) workshops will have a minimum ceiling height of 6000mm; and
 - 5.4.5.3(7) IPCRs will have a minimum ceiling height of 3650mm.

- 5.4.5.4 Client lift gantry and tracks will be flush with ceiling.
- 5.4.5.5 Suspended structure located for overhead equipment will be located above finished ceiling.
- 5.4.5.6 In areas where Clients will have access, construct the ceiling to suit the purposes unique to those areas in compliance with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units.
- 5.4.5.7 Infection Control for Ceilings:
 - 5.4.5.7(1) Comply with CSA Z8000-11: Canadian Health Care Facilities.
 - 5.4.5.7(2) Provide smooth, solid surface, non-perforated and scrub-able ceilings in the following areas:
 - 5.4.5.7(2)(a) Health Care Clinic;
 - 5.4.5.7(2)(b) Pharmacy;
 - 5.4.5.7(2)(c) dispensary/medication;
 - 5.4.5.7(2)(d) tub rooms;
 - 5.4.5.7(2)(e) clean and soiled linen;
 - 5.4.5.7(2)(f) clean and soiled utility;
 - 5.4.5.7(2)(g) dietary;
 - 5.4.5.7(2)(h) servery; and
 - 5.4.5.7(2)(i) nutrition centre;
 - 5.4.5.7(2)(j) locker-rooms, washrooms and showers; and
 - 5.4.5.7(2)(k) holding rooms.

5.4.6 Floor Finishes

- 5.4.6.1 Project Co will provide flooring that is complementary and integral to the functional and aesthetic requirements of the interior space.
- 5.4.6.2 Project Co will select floor finishes to suit types and concentration of pedestrian and/or vehicular/wheel traffic to be anticipated.
- 5.4.6.3 Project Co will design and select floor finishes that comply with the following criteria:

- 5.4.6.3(1) ergonomic comfort, cleaning, maintenance and infection prevention and control including the frequency and quality of joints and also including ease of replacement if and when required;
 - 5.4.6.3(2) imperviousness to concentrations of moisture anticipated to be existing on the floors and for the duration of that moisture;
 - 5.4.6.3(3) permanence and durability and resistance to concentrated service traffic both pedestrian and vehicular;
 - 5.4.6.3(4) compatibility of patterns and textures with the requirements for pedestrian safety and elderly friendly design.
- 5.4.6.4 Non-slip flooring will be used in all wet areas including: entrance lobbies, food service areas, cleaning service areas, wash and change rooms, bathing areas, Client washrooms, laundry areas, Client laundry areas, clean utility room, soiled utility and housekeeping rooms.
- 5.4.6.5 Client shower floors and floors in Tub rooms will slope to drain and be flush-walk-in without ridges for water retention.
- 5.4.6.6 Infection Control for Floors:
- 5.4.6.6(1) Floors in Client care areas must be washable and able to withstand routine low level hospital disinfection
 - 5.4.6.6(2) Penetrations must be properly sealed.
 - 5.4.6.6(3) Floors in must be seamless, have homogeneous and heat welded seams.

5.4.7 Public Washrooms

- 5.4.7.1 Provide public washrooms on each floor level of the Main Building that is accessible to the public. Allow for one woman's, one men's, and one family style (accessible by either sex) washroom, at a minimum, on each floor level or as required to meet all applicable codes.

5.5 The Energy Centre

5.5.1 If the Energy Centre is proposed to be designed as a stand-alone structure on the Site:

- 5.5.1.1 locate it away from any existing residential areas surrounding the Site;
- 5.5.1.2 design and construct it to post disaster standards as described in Section 5.3;
- 5.5.1.3 blend it into the Site landscaping;

- 5.5.1.4 use non-combustible, robust cladding materials including concrete or concrete masonry units, but design the Energy Centre building in a manner which is consistent with the shape, materials and colors used for the main hospital building;
- 5.5.1.5 secure it against unauthorized access and design it in a manner which will prevent acts of vandalism and theft.
- 5.5.2 The Energy Centre will be located and configured to optimize operational continuity and avoid threats resulting from fire, flood, snow, windfall, seismic events and traffic.
- 5.5.3 Provide vehicular access for maintenance and delivery of alternative fuel source.
- 5.5.4 Configure the Energy Centre to enable a quick removal and replacement of critical equipment.
- 5.5.5 Minimize the exhaust from the Energy Centre, and locate and design the exhaust system (including with regard for prevailing winds) so that exhaust is not a nuisance to users of the Facility or to residents of off-Site properties.
- 5.5.6 Orient the intake louvers of the Energy Centre to face away from residential areas and other noise sensitive locations.
- 5.5.7 The exhaust noise from the diesel generators will have silencers and be directed upwards through an acoustically lined plenum space for discharge at roof level. The noise level immediately outside of the intake louver will not exceed 92 dBA.

5.6 Community Reintegration Units

- 5.6.1 General
 - 5.6.1.1 The CRUs will be included in one or more stand-alone buildings within the Site.
 - 5.6.1.2 Design the CRU(s) exterior appearance to be “residential” in character.
 - 5.6.1.3 The CRU(s) will be highly articulated to break down its (their) scale, utilizing such components as pitched roofs, glazing, canopy and shading systems.
 - 5.6.1.4 As applicable, roof top mechanical/electrical equipment will be screened and incorporated in architectural elements.
 - 5.6.1.5 Where retaining walls are necessary, they will be consistent in materials and quality to that of the whole Facility.
 - 5.6.1.6 Design the CRUs to be compatible with the exterior finishes, colours and character of the other buildings that comprise the Facility.

- 5.6.1.7 The CRUs will be of non-combustible construction and will include sprinkler systems throughout.

5.6.2 Exterior Design Features

5.6.2.1 Roof Design

- 5.6.2.1(1) Flat roofs are not permitted.

- 5.6.2.1(1)(a) The eave overhang should not be less than 450 mm. Overhangs above clerestory windows are not a requirement.

- 5.6.2.1(2) Chimneys and furnace flue pipes in prominent locations will be enclosed with siding or other feature materials. Decorative chimney caps are encouraged.

5.6.3 Exterior Building Materials and Colour

- 5.6.3.1 Exterior materials will include high quality finish materials with colour to reinforce entry areas, vertical circulation elements or significant areas in the CRUs.

- 5.6.3.2 Exterior materials will be high quality and durable. Exterior materials may include cement board, stone, or metal cladding, architectural concrete, clear glass and brick masonry. Red brick, similar to that used in the Existing Hospital, will not be permitted.

- 5.6.3.3 The front face of all CRUs will have a minimum of two different exterior cladding materials, one of which is an accent. Accent materials should be used to highlight entrances or as larger accent panels with or without windows.

- 5.6.3.4 When posts or columns are used, they will be built as an aesthetic feature in good proportions relative to the whole elevation.

- 5.6.3.5 Facade transparency and views into CRU activity areas will be provided, especially at grade levels; accordingly, use of mirrored or highly reflective glass will not be permitted. Views into CRU Client bedrooms from the exterior will not be permitted.

- 5.6.3.6 All gutters and downspouts will match or compliment the fascia, wall or trim colour.

- 5.6.3.7 Colour schemes will be consistent with all other buildings in the Facility. All materials will be considered, including the exterior finish, trim, roof, doors, windows and fencing.

5.6.4 Quality of Space/Interior Design

- 5.6.4.1 Maximize opportunities for the Clients to have a connection between indoor spaces and the outdoors through the introduction of natural light and views.
- 5.6.4.2 Maximize opportunities for resident empowerment through control of lighting, sound, décor (personalization) and daylight.
- 5.6.4.3 Employ materials and detail surfaces to absorb and minimize sound transmission.
- 5.6.4.4 Create a 'residential' feel by using elements such as colours, textures, design features, and proportions familiar to the common perception of residential environments.
- 5.6.4.5 All CRUs will have a minimum ceiling height of 2700mm above the finished floor and a minimum clear corridor width of 1500mm.

5.7 Regional Administration

- 5.7.1 If Regional Administration is designed as a stand-alone building it will:
 - 5.7.1.1 be compatible with the exterior finishes, colours and character of the other buildings that comprise the Facility;
 - 5.7.1.2 be designed and constructed with the same applicable specifications as the Main Building as described throughout this Schedule; and
 - 5.7.1.3 be of non-combustible construction and include sprinkler system throughout.

5.8 Interior Environment

- 5.8.1 Infection Control
 - 5.8.1.1 General
 - 5.8.1.1(1) Design the Main Building in compliance with all applicable infection control standards.
 - 5.8.1.1(2) Design the Main Building to mitigate and prevent, where possible, the spread of infection including via contaminated surfaces and airborne pathogens.
 - 5.8.1.1(3) Select appropriate materials and use simple detailing leading to quality workmanship and ease of accessibility for routine cleaning and maintenance.
 - 5.8.1.1(4) Design the Main Building to allow for ease of infection prevention and control in in future alterations, modifications and additions.

5.8.1.2 Sinks and Hand Hygiene Stations

- 5.8.1.2(1) Prepare a workflow pattern and risk assessment in collaboration with the Authority to address placement of hand wash sinks and alcohol-based hand rub dispensers.
- 5.8.1.2(2) Provide hand hygiene stations:
 - 5.8.1.2(2)(a) at all entrances to the Main Building so that visitors stop, take notice, and access them (stations will have at least four antiseptic hand rub dispensers mounted for convenient access for visitors); and
 - 5.8.1.2(2)(b) other rooms or areas as indicated in the Clinical Specifications.

5.8.1.3 Equipment & Storage

- 5.8.1.3(1) Provide storage shelves that are:
 - 5.8.1.3(1)(a) cleanable with Authority approved detergents and disinfectants;
 - 5.8.1.3(1)(b) not located under sinks; and
 - 5.8.1.3(1)(c) minimum 200 mm above the floor to permit routine cleaning;
- 5.8.1.3(2) If open shelving is provided for storage, the bottom shelf of such shelving will be a solid surface to prevent contamination from the floor.

5.8.1.4 See Section 5.4.5.7 for infection control for ceilings.

5.8.1.5 See Section 5.4.6.6 for infection control for floors.

5.8.1.6 Psychiatric Areas

- 5.8.1.6(1) Design the Intensive Psychiatric Care Rooms (IPCRs) to equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units.
- 5.8.1.6(2) Design all units to have a non-institutional feel and the ability to put a unit into lock-down (all doors are locked simultaneously and occupants movement is restricted) mode as necessary.
- 5.8.1.6(3) Provide a secure direct access to an exterior courtyard that meets the requirements of Section 8.2.2.

5.8.1.7 Pharmacy Areas

- 5.8.1.7(1) Design the Pharmacy areas in accordance with the requirements of USP 797 Guidebooks to Pharmaceutical Compounding – Sterile Preparations and the Canadian Society of Hospital Pharmacists Guidelines for the preparation of sterile products in pharmacies.

5.8.2 Ergonomic Design

5.8.2.1 Project Co will provide:

- 5.8.2.1(1) detailed design features, which expressly facilitate the physical activities of the staff and Clients to increase their safety, efficiency and general well-being, and assist in eliminating ergonomic risk factors;
- 5.8.2.1(2) ergonomic design, consistent with good industry practice, of all work spaces including millwork, furniture, lighting, and finishes to eliminate strain and injury to health care workers; and
- 5.8.2.1(3) adjustable work surfaces and shelves to allow for flexibility of use in nursing stations.

5.8.3 Colour

5.8.3.1 Project Co will:

- 5.8.3.1(1) select departmental color palettes appropriate for the emotional and psychological needs of Clients;
- 5.8.3.1(2) select color palettes that contribute to the creation of a healing environment which enhances the therapeutic processes and the client's recovery;
- 5.8.3.1(3) select distribution of ambient full-spectral color within typical staff and Client environments; and
- 5.8.3.1(4) avoid glare-creating finishes.

5.8.4 Art Works

- 5.8.4.1 The Authority intends to procure various art works for display within the Main Building and on the Site. Project Co will design the Facility to allow for the display of art work as follows:

- 5.8.4.1(1) in the interior allow for wall surfaces to display art;
- 5.8.4.1(2) in the exterior allow for sculptures to be placed at grade;

- 5.8.4.1(3) allow for the development of local community art projects to be included as part of project design;
- 5.8.4.1(4) provide specific corridors and display spaces for art; and
- 5.8.4.1(5) In all Secure Client areas art works will be fixed to the building with tamper-resistant screws.

5.8.4.2 Project Co will:

- 5.8.4.2(1) design the Facility to support the Authority's art program by providing and identifying for the Authority effective and appropriate locations for major and minor art works throughout the Facility;
- 5.8.4.2(2) coordinate the procurement and delivery (including timing of delivery), of art works with the Authority and install all art works procured by the Authority;
- 5.8.4.2(3) provide lighting to enhance the display of all art works; and
- 5.8.4.2(4) provide all necessary structural support, seismic restraint, vandal-proof mounting and other protective measures required for particular art works.

5.9 Wayfinding and Signage

5.9.1 In addition to the provisions in Appendix 3E [Wayfinding and Signage], Project Co will:

- 5.9.1.1 locate major destinations, such as department entrances, directly off of entry spaces and/or along primary circulation paths for easy access, make waiting areas as open as possible to circulation routes without requiring wayfinders to pass through waiting areas;
- 5.9.1.2 provide significant recognizable, easily named and identified elements in key and easily found locations that will become 'meeting points' for Non-Secure Clients and visitors; and
- 5.9.1.3 design public elevator and stair lobbies and public circulation routes to be distinct from service routes and other non-public routes.

5.9.2 Project Co will provide all signage required for the Facility including:

- 5.9.2.1 elevator floor directories at all elevator lobbies. They will include floor level listing of departments;
- 5.9.2.2 Administrative space signage with a pocket to insert specific information such as name of occupant. Room signage for utility rooms will be designed to be less evident than general room signage. Blade signs may be used to identify vending areas and waiting areas;

- 5.9.2.3 small door tags for all door frames;
- 5.9.2.4 in Non-Secure Client areas of the Main Building, private Client room signage and Client care department directories. Signs will incorporate art imagery, such as local scenery, to designate different departments and private Client rooms;
- 5.9.2.5 overhead directional signage, which must either be suspended from a ceiling or bulkhead or be mounted directly over doors. No directional signage will be incorporated into flooring; and
- 5.9.2.6 Project Co will propose and develop the building room number system in collaboration with the Authority. The building room number system will have, as a minimum:
 - 5.9.2.6(1) the building identification letters first followed by four or five digits, beginning with the first digit: 0 for basement rooms, 1 for ground floor, 2 for second floor, etc. on up the Building floors. Five digits may be required in a large Building due to the number of rooms on the floor, and if this is the case, the five digits will extend to all floors;
 - 5.9.2.6(2) elevators will follow the sequence: Elevator 1, Elevator 2 and Elevator 3;
 - 5.9.2.6(3) each room and any space with walls and a door require a unique identifier number. In addition any space such as a Client cubicle, alcove or recess of significant size must be numbered as a room. This identifies spaces for labelling of fire alarm, electrical and data outlets and for ongoing maintenance purposes;
 - 5.9.2.6(4) rooms are numbered in a manner that reflects normal movement through the Facility;
 - 5.9.2.6(5) labelling anticipates a person attempting to follow numbering along corridors in sequence;
 - 5.9.2.6(6) blocks of numbers are periodically skipped to allow for future expansion of the numbering system if rooms are added through renovations; and
 - 5.9.2.6(7) each room and space requires a unique number for service reasons. It is important that room numbers be determined early in design and maintained following occupancy. Follow the same numbering system on design and construction documentation for all disciplines (architectural, mechanical, electrical, etc.).
- 5.9.2.7 Donor Walls

- 5.9.2.7(1) Project Co will provide a space located in proximity to the main visitor entrance(s) of the Main Building where the Authority may construct a feature to recognize donors, and other supporters of the Facility.
- 5.9.2.7(2) Donor Wall signage must be incorporated in the Main Building lobby. The design will allow for changes to donors and additional donors to be added in an economical and convenient way.

5.10 Structural Design

5.10.1 Structural Design Principles

- 5.10.1.1 The structural engineer of record will be a Professional Engineer licensed in Saskatchewan and will have demonstrated experience in structural design of buildings similar in size and complexity to this Facility.
- 5.10.1.2 The structural design, including minimum design loads and general provisions and material specifications, will satisfy the more stringent requirements of the National Building Code of Canada, other applicable or referenced design standards, loading criteria required by equipment suppliers or construction technique and the principles detailed in this Section.
- 5.10.1.3 Carry out the Construction so that Construction-caused settlement of existing buildings and structures does not exceed 6 mm at any location.
- 5.10.1.4 The long term differential settlement in any structural bay will not exceed 20 mm.
- 5.10.1.5 Refer to Schedule 2 [Design and Construction Protocols] for requirements regarding vibration from Construction activities.

5.10.2 Design loads

- 5.10.2.1 Performance criteria
- 5.10.2.1(1) Use the following minimum specified floor design live loads except where the specific use and occupancy of a space requires a higher live load:
- 5.10.2.1(1)(a) main (ground) floor : 4.8 kPa (100 psf);
- 5.10.2.1(1)(b) upper floors 3.60 KPa (75 psf); and
- 5.10.2.1(1)(c) mechanical/electrical service rooms: 6.0 kPa (125 psf).
- 5.10.2.1(2) Design all suspended floors to accommodate concentrated loads from equipment, fixtures, and machinery, whether floor, wall, or

ceiling-mounted, including medical equipment and client lifting devices.

- 5.10.2.1(3) Design floors for a minimum superimposed specified dead load allowance of 1.0 kPa to allow for partitions, and 0.5 kPa on upper floors and roof levels to allow for ceilings and mechanical equipment (other than medical equipment).
- 5.10.2.1(4) Design roofs for a minimum net uplift wind load of 1.5kPa and for the minimum snow and rain loads, including snow drift loads, required by the National Building Code of Canada and referenced standards. Notwithstanding other requirements, design the roofs to accommodate concentrated loads from equipment, machinery and features, whether roof or ceiling-mounted, including medical equipment and client lifting devices.
- 5.10.2.1(5) Design roofs for the superimposed specified dead load of roofing materials, green roofs (if applicable), ceilings, mechanical equipment, but not less than 1.5 kPa (30 psf) to allow for future re-roofing alternatives.
- 5.10.2.1(6) Design floors and roofs above mechanical and electrical service rooms for a superimposed suspended equipment specified dead load of 2.0 kPa (40 psf) in addition to the minimum dead load allowances specified above.
- 5.10.2.1(7) Design floors for rooms designated for medical records storage or compact mobile shelving for a minimum 12.0 kPa (250 psf) specified live load.

5.10.3 Flexibility for Future Change

- 5.10.3.1 Design the floor structure to be able to accommodate one 130 mm diameter cored hole per structural bay at almost any location in the floor plate. The design for the concrete floors will assume at least one reinforcing bar is cut in each direction at each core location.
- 5.10.3.2 Design the floor structure with a minimum of one 150 mm diameter knock-out opening on two sides of each column for future use. The knock-out openings will be in addition to any openings required for current services; additionally the floor structure will be capable of having a minimum of six additional core holes (100 mm diameter) per bay without additional reinforcing.

5.10.4 Coordination

- 5.10.4.1 Coordinate the structural members with the architectural finishes to have adequate thickness, cover and reinforcing to satisfy the fire protection and durability requirements.
- 5.10.4.2 Coordinate all structural members with other disciplines to avoid utility interferences and to ensure adequate architectural headroom and clearances.
- 5.10.4.3 Coordinate structure with equipment requirements for slab depressions and cast-in hardware. Provide adequate depth of slab depressions to avoid the need for ramps.

5.10.5 Deflection limitations

- 5.10.5.1 Design the structure to meet the deflection limits of the National Building Code of Canada, and in accordance with the applicable materials design standards listed in this Schedule as a minimum and as appropriate for the non-structural components of the Facility. Notwithstanding the above, the deflection limit will not exceed the levels specified in this Section:
 - 5.10.5.1(1) for concrete floor or roof construction, the maximum deflection occurring after the installation of non-structural elements, including long-term creep deflection and live load deflection, will not exceed span/480 and total short and long-term deflection will not exceed span/360;
 - 5.10.5.1(2) for steel floor construction, the maximum live load deflection will not exceed span/480 with the total load deflection not exceeding span/360. The total load deflection is to include effects of shrinkage of concrete topping slabs;
 - 5.10.5.1(3) for steel roof construction, the maximum live load deflection will not exceed span/360 and the total load deflection will not exceed span/240;
 - 5.10.5.1(4) wind storey drift: Height/500; and
 - 5.10.5.1(5) seismic storey drift: Height/40.
- 5.10.5.2 In addition to the above design deflection limits, the structure must conform to specific deflection requirements for specialty equipment as recommended by the supplier or manufacturer of that equipment.
- 5.10.5.3 In addition to the above design deflection limits, the deformations of the structure under service loads must be compatible with the architectural finishes and cladding system.

5.10.6 Vibration limitations

- 5.10.6.1 Design the structural system to minimize the effects of floor vibration due to use, occupancy and equipment. Vibration is to be limited to acceptable levels for the use and occupancy of the floors.
- 5.10.6.2 Performance criteria
- 5.10.6.2(1) Select and design floor structural systems to have a vibration acceleration maximum limit of 0.5%g with a damping ratio of 0.02 when an excitation force of 0.29 kN is applied.
- 5.10.6.2(2) Machinery that could be a source of vibration is to be mounted using vibration isolation techniques.
- 5.10.6.2(3) In areas supporting sensitive equipment and occupancies, design the structure for the vibration limitations specified by the manufacturer of the specified equipment or required by the planned use and occupancy of the floor space. In-situ measurement verification of floor vibration characteristics is to be carried out where specified by the equipment manufacturer.
- 5.10.6.2(4) To verify compliance with the vibration requirements, an independent testing firm may be retained by the Authority. The testing firm will measure the vibration using instrumentation which may include transducers, accelerometers, signal-conditioning equipment, data recorders, and analysis systems. Measured vibration performance characteristics for the structure must meet the requirements set out in these specifications. The following table indicates acceptable vibration levels for various typical medical and non-medical Facility spaces:

Table 5.8.6 Vibration Limitations

Occupancy or Equipment Requirements	Vibrational Velocity (1)		Floor Stiffness $KFn^{(2)}$
	$\mu\text{in/s}$	$\mu\text{m/s}$	Kips/in-sec
Mechanical rooms on an unoccupied floor above or below an occupied floor	4000	100	Not Applicable
Office areas, waiting rooms and corridors	8000	200	250-1500
Mechanical Rooms on the same floor as an occupied area	1200	30	Not Applicable
Computer areas; Client care areas (daytime) – threshold of human perception	8000	200	500-3000

Occupancy or Equipment Requirements	Vibrational Velocity (1)		Floor Stiffness KFn ⁽²⁾
	µin/s	µm/s	Kips/in-sec
(1) Value of constant velocity regions measured in one-third octave bands of frequency range 8 to 100 Hz. Based on ASHRAE, AISC and ISO Criteria.			
(2) KFn depends on walker weight and gait. Ranges indicated reflect average to conservative designs. Average walker (150 lbs, 75 steps/min). Conservative walker (185lbs, 100 steps/min)			

5.10.7 Durability

- 5.10.7.1 Design the structure and structural components of the Main Building and Ancillary Buildings, including the secondary structure supporting cladding systems, to meet or exceed the requirements of CSA S478, Guideline on Durability in Buildings for a Long Life Category Design Service Life (50-99 years).
- 5.10.7.2 Design the structure and structural components of the Facility to minimize the effects of corrosion and deterioration due to the environment and use in accordance with the following:
- 5.10.7.2(1) provide adequate concrete crack control joints and expansion / contraction joints. Caulk exposed joints.
 - 5.10.7.2(2) provide high strength concrete mixes proportioned to CSA A23.1/A23.2 durability requirements for exposure class.
 - 5.10.7.2(3) reinforce concrete for crack control and repair exposed cracks.
 - 5.10.7.2(4) Chamfer all corners of exposed concrete.
 - 5.10.7.2(5) hot-dip galvanize or powder-coat exterior exposed steel.
 - 5.10.7.2(6) hot-dip galvanize embedded steel protection angles and skid plates for loading docks and garbage compactors.

5.10.8 Medical equipment supports

- 5.10.8.1 Design and provide for support/anchorage of all supplied equipment. Medical equipment will be supported, anchored, and braced to resist gravity, operational, and seismic loads in a manner appropriate for the functional and service requirements for the specific equipment.
- 5.10.8.2 The design for medical equipment supports, anchorage, and bracing will be carried out by a qualified professional engineer registered in the Province of Saskatchewan. Installations will be field reviewed by the design engineer.
- 5.10.8.3 Performance criteria

- 5.10.8.3(1) Design floor and roof assemblies to support the gravity and seismic loads for floor, wall, or ceiling-mounted medical equipment. Ensure that steel content of structural members is compatible with equipment which is sensitive to steel content of the surrounding structure.
- 5.10.8.3(2) Design the structure for the vibration limitations specified by the manufacturer of the specified equipment or required by the planned use and occupancy of the floor space. Carry out in-situ vibration testing when specified by the equipment manufacturer.
- 5.10.8.3(3) Where practical, design the supports for ceiling-mounted equipment, such as radiology gantries, to be universal so that the supports may be used for various types of equipment.
- 5.10.8.3(4) Drilled insert-type anchors for medical equipment supports and anchorage are to be rated by the insert manufacturer for seismic and cyclic loading applications.

5.10.9 Member Design Criteria

- 5.10.9.1 Design all floor and roof structural framing members to have sufficient strength and stability so that the factored member resistance is equal to or greater than the effects of the factored loads.
- 5.10.9.2 Design all floor and roof structural framing members to have sufficient stiffness so as to remain serviceable under the specified gravity loads.

5.11 Mechanical Systems Design

5.11.1 General - Project Co will provide mechanical systems that:

- 5.11.1.1 comply with the applicable sections of ASHRAE, ASPE, NFPA, all local, provincial, and national codes;
- 5.11.1.2 are designed to provide a healing, comfortable and productive environment for the Facility Users and meet the required environmental conditions for all equipment;
- 5.11.1.3 are located and designed to meet the requirements set out in Appendix 3C [Sound Transmission Ratings] from outdoor spaces / places of respite intended for staff / client use; and from adjacent properties surrounding the Site;
- 5.11.1.4 minimize impact on the natural and physical environment, through energy efficiency, optimization of resource use, and simplification of the systems;
- 5.11.1.5 are configured and located in such a way to minimize disruption to clinical areas to perform maintenance and repairs;

- 5.11.1.6 are developed to provide reliability of continual operation. Adequate standby capacity and redundancy will be included in system design;
- 5.11.1.7 are vibration isolated to minimize noise and vibration through the structure or other components of the Facility;
- 5.11.1.8 incorporate flexibility and adaptability for future expansion without major disruption or alteration to the Facility operations or infrastructure. All systems will be designed and sized to suit the consumption and discharge needs of the Facility at peak operational requirements, plus 25%:
 - 5.11.1.8(1) the ability to increase the flow or capacity as follows:
 - 5.11.1.8(2) branch piping and ducting will be sized to meet the requirements of current demand.
 - 5.11.1.8(3) air handling equipment, exhaust fans, and pumps will be sized for 10% additional capacity;
 - 5.11.1.8(4) provide designated space within the mechanical rooms for 25% additional future equipment;
 - 5.11.1.8(5) design the Energy Centre to allow for expansion of the mechanical infrastructure for convenient expansion of the Facility per Section 4.1.3;
 - 5.11.1.8(6) design piping, ductwork, heating/cooling coils, and air filters to meet the following minimum parameters:
 - 5.11.1.8(6)(a) hydronic pressure drop – maximum piping friction loss: 4 m/100m;
 - 5.11.1.8(6)(b) hydronic velocity – maximum velocity based on pipe manufacturer's recommendations;
 - 5.11.1.8(6)(c) supply and return ductwork will be sized within the ASHRAE Fundamentals upper and lower limits for duct air velocities and pressure drop. Duct velocity will be limited to achieve and acoustical design criteria of RC(N) 35;
 - 5.11.1.8(6)(d) Heating/ cooling coil face velocity – maximum velocity 2.5 m/s; and
 - 5.11.1.8(6)(e) Air filter face velocity – maximum velocity 2.5 m/s.
- 5.11.1.9 such that steam, water, glycol and other fluids used within mechanical systems are treated to prevent corrosion, algae growth, build-up of deposits, disease, bacteria and will prolong the equipment life.

- 5.11.2 All mechanical services installed within electrical, communication and UPS rooms will maintain a minimum clear height of 2000 mm above finished floor. Do not install any equipment requiring a water connection in the ceiling of these spaces. Do not route plumbing, drain pipes or hydronic distribution piping in the ceiling of these spaces.
- 5.11.3 Pipes, ducts and fittings will be insulated to conserve energy, prevent condensation, attenuate noise and prevent accidental burns.
- 5.11.4 Integrate requirements for energy incentive programs into the mechanical systems.
- 5.11.5 Coordinate with the electrical specification for all mechanical systems that must maintain operation during an expected or unexpected shut down of the Building's main electrical service. Where mechanical equipment and devices are required to be served by emergency power, provide UPS, or conditional power as per standards in Section 7.7.5
- 5.11.6 Coordinate all mechanical systems with requirements of all Equipment, and provide all connections required from mechanical systems. Make allowances within the mechanical systems' designs so all equipment will be removed or replaced without disrupting the operation of other equipment connected to the mechanical systems.
- 5.11.7 Mechanical systems for each component of the Facility may be stand-alone or connected to the Energy Centre.
- 5.11.8 All computer based systems required to operate or supervise mechanical systems will comply with the Authority's IMIT standards and policies identified in this Schedule including applicable Appendices.
- 5.11.9 Post-Disaster Design
- 5.11.9.1 For the Main Building and the Energy Centre (if a separate building), design all mechanical piping, equipment, and systems seismically in accordance with the requirements for post disaster buildings. Refer to Section 5.3.
 - 5.11.9.2 The following is a list of additional requirements that Project Co will comply with beyond the National Building Code of Canada minimum:
 - 5.11.9.2(1) The heating plant will have a minimum of two sources of energy, each designed for post disaster. The tanks for fuel stored on site will be designed to operate for a minimum of 48 hours.
 - 5.11.9.2(2) The fuel storage system will also have sufficient capacity to supply fuel to the emergency generators (per Division 26) for a minimum period of 96 hours at 100% load including spare capacity. If the heating plant and generators use the same fuel, the supplies will be stored in separate tanks per applicable regulations.

- 5.11.9.2(3) Each fuel storage system will be complete with a fuel polishing system to ensure the stored fuel remains clean and available for its intended use at any time.
- 5.11.9.2(4) Boilers and pumping equipment will have sufficient redundancy to ensure the Main Building continues to be operational after an event.
- 5.11.9.2(5) See Section 5.3 for additional information on the EOC.
- 5.11.9.2(6) Provide a sewage waste storage system with sufficient capacity to contain the entire Main Building's sewage based on the following sizing procedure. The storage tank will handle 100% the Main Building's domestic water volume calculated within the Main Building. This would assume 100% of the water will be drained into the holding tank before a pumper truck is required. Manual diverting valves will divert the sewage to the tank based on a sewage main break.
- 5.11.9.2(7) Provide connections on the exterior face of the Main Building as follows:
 - 5.11.9.2(7)(a) inlet connections for fire water system as required;
 - 5.11.9.2(7)(b) a sanitary sewer pump-out for connection to a sewage pump truck. The connection will connect to the sewage storage system;
 - 5.11.9.2(7)(c) except as otherwise set out in this Section all connections will be secure terminations (valved, capped and locked) to protect from tampering and vandalism; and
 - 5.11.9.2(7)(d) all connections will be located in service areas away from general circulation routes, and where they will be readily accessible by service vehicles.

5.12 Electrical Systems Design

- 5.12.1.1 Project Co will comply with the following design principles for electrical, communications and security systems.
 - 5.12.1.1(1) All electrical systems, materials and equipment will be of a type and quality intended for use in a health care and correctional facilities. Configure electrical systems to meet requirements of the identified program and Client care needs in an efficient manner, with optimal utilization of space, staff and equipment resources.

- 5.12.1.1(2) Provide electrical systems that: allow the Authority to deliver the program described in the Clinical Specifications; and provide redundancy, protection, continuity of service, serviceability of equipment; and a comfortable and safe working environment for Clients, visitors, and staff.
- 5.12.1.1(3) Implement the latest proven technologies in the design of the electrical systems and equipment.
- 5.12.1.1(4) Integrate systems where integration provides efficiency, operational and cost advantage.
- 5.12.1.1(5) All electrical, communication, security, medical and life safety systems will be fully compatible with existing Authority regional based systems. Provide all infrastructures, interfaces, modifications, programming, testing and commissioning to local and off-Site systems to ensure that there is seamless integration with remote facilities.
- 5.12.1.1(6) Regional IMIT standards include the following:
 - 5.12.1.1(6)(a) VoIP Telephone Service refer to Section 7.8.14;
 - 5.12.1.1(6)(b) Authority Network Electronics refer to Section 7.8.11;
 - 5.12.1.1(6)(c) Wireless Systems refer to Section 7.8.16;
 - 5.12.1.1(6)(d) LANSPAN is the SaskTel Service which connects all of the PNHRA systems to the Battleford Data Centre;
 - 5.12.1.1(6)(e) CNET is the provincial connection for corrections video court on the GoS MPLS;
 - 5.12.1.1(6)(f) Real-time Locating Service refer to Section 7.8.20;
 - 5.12.1.1(6)(g) Client Entertainment 7.8.23 Servers only required for Content Management of if they go IPTV solution
 - 5.12.1.1(6)(h) Client Education 7.8.24 Server required for Content Management;
 - 5.12.1.1(6)(i) Nurse Call System refer to Section 7.8.25 Servers;
 - 5.12.1.1(6)(j) Integration Engine refer to Section 7.8.26 Servers
 - 5.12.1.1(6)(k) Access Control System refer to Section 7.9.4 Servers – unless they want this a part of the regional solution;
 - 5.12.1.1(6)(l) Intrusion Detection refer to Section 7.9.6 Servers;

- 5.12.1.1(6)(m) Surveillance Cameras refer to Section 7.9.7 Servers and SAN for the DVMS;
 - 5.12.1.1(6)(n) Perimeter Security refer to Section 7.9.6 Servers;
 - 5.12.1.1(6)(o) Local network management servers may be required if they plan to put IT staff in the Facility.
- 5.12.1.1(7) Coordinate the design of network architectures and communication, security, clinical and Building systems functionality with the Authority's representatives. Refer to Appendix 3D(i) [Structured Telecommunications Cabling Systems], Appendix 3D(ii) [Wireless Infrastructure Standard], Appendix 3D(iii) [Wireless Data Communications Policy], Appendix 3D(iv) [Conference Room Design Standards], Appendix 3D(vii) [IMIT Systems Responsibility Matrix] and Appendix 3D(viii) [IMIT Systems Integration Matrix]. All computer based systems required to operate or supervise electrical, communications, security and buildings systems will comply with the Authority's IMIT standards and policies identified in this Schedule including Appendix 3D(viii) [IMIT Systems Integration Matrix].
- 5.12.1.1(8) All head-end/server equipment and applications will reside on the Authority's network equipment which resides in the Main Telecommunications Room, Workstations will be located as required for system operator use.
- 5.12.1.1(9) Incorporate into the design and construction the principle that change will be a constant and inevitable fact within the Facility. Utilize a combination of natural light, luminaries and controls to optimize daylight.
- 5.12.1.1(10) Provide lighting schemes that support staff activities and provide enhance safety for staff, Clients and visitors.
- 5.12.1.1(11) Design lighting with the objective of creating a comfortable working environment and an environment conducive to healing and recovery.
- 5.12.1.1(12) Include systems and equipment coordinated to provide synergy and reliable electrical performance for the various Facility functions.
- 5.12.1.2 Provide devices and systems to minimize the noise and vibrations of electrical equipment/ components (transformers, luminaries, cables etc.) to below an acceptable level as required in health care and correctional facilities.

- 5.12.1.2(1) Locate electrical rooms and power distribution equipment in order to minimize the distances for feeder runs, to provide easy access for equipment moves and to avoid interference with other services and equipment. Where electrical equipment is located below grade, provide protection against the risk of flooding.
- 5.12.1.2(2) Install electrical systems and equipment in a fixed and permanent manner, seismically restrained to meet post-disaster building standards in accordance with the latest version of the National Building Code of Canada.
- 5.12.1.2(3) Locate electrical equipment and feeder routes to minimise the risk to service continuity resulting from fire, flood, adverse weather, seismic events, construction activities and vandalism. Separate main normal electrical room and generator plant rooms with a fire rated partition as required by the national Building Code of Canada and physical separate to maximize reliability.
- 5.12.1.2(4) Incorporate energy management systems to minimize demand pressures on the Building systems and minimize the anticipated increase to energy costs.
- 5.12.1.2(5) Refer to Appendix 2C [Energy] regarding energy incentive programs. Integrate any requirements of those programs into the electrical systems.
- 5.12.1.2(6) Design each electrical service to with adequate capacity to accommodate a 25% increase in electrical demand.
- 5.12.1.2(7) Project Co will:
 - 5.12.1.2(7)(a) design and construct the entire electrical system with adequate spare capacity to accommodate an increase in electrical demand by 25%. Size the emergency power generators, main normal power transformers, feeders and 600V and 208V switchgear accordingly;
 - 5.12.1.2(7)(b) Provide adequate spare physical space in the main electrical room and configure the equipment provided to facilitate all electrical equipment in the main electrical room to be easily expanded by an additional 25% capacity without replacement, relocation or major shutdown of the existing equipment. A major shutdown is defined as a switchboard or transfer switch power outage extending beyond 4 hours, or a main transformer outage exceeding 12 hours;

- 5.12.1.2(7)(c) provide one complete set of spare power and controls raceways extending from the main electrical room generator bus / controls locations to a future generator pad adjacent to the proposed generators. Cap off these raceways. Raceways will be sized to accommodate a similar sized generator; and
- 5.12.1.2(7)(d) provide 25% spare capacity for switchgear and panelboards by means of spare adjustable trip circuit breakers. Exact sizing of these spare circuit breakers will be confirmed by the Authority during design.
- 5.12.1.2(8) Provide adequate physical space to facilitate the installation of new feeders which will utilise the spare electrical capacity. Installation of new feeders will have minimal impact on the Facility.
- 5.12.1.2(9) Plan installation of equipment to facilitate easy access to equipment which may require inspection or maintenance.
- 5.12.1.2(10) Provide electrical distribution schemes which are sized and configured to achieve service continuity in the event of equipment failure. Failure of any electrical equipment or feeder will not impair Facility operation or leave any Client treatment room or area of the Facility without at least one active light and one active receptacle.
- 5.12.1.2(11) Install electrical systems and equipment in a fixed and permanent manner, seismically restrained to meet post-disaster building standards in accordance with the latest version of the National Building Code of Canada.
- 5.12.1.2(12) The following equipment will be designed, certified and installed in accordance with the International Building Code (IBC) chapters 16 and 17 and tested in accordance with the shake table testing standard ICC-ES AC-156:
 - 5.12.1.2(12)(a) emergency power generators;
 - 5.12.1.2(12)(b) automatic transfer switch;
 - 5.12.1.2(12)(c) UPS systems;
 - 5.12.1.2(12)(d) main distribution boards;
 - 5.12.1.2(12)(e) utility transformers; and
 - 5.12.1.2(12)(f) distribution transformers 112.5kVA and larger.

- 5.12.1.2(13) Size and configure equipment to permit routine testing and servicing of power generation and distribution equipment with minimal loss of service continuity.
- 5.12.1.2(14) Design and construct all systems with protection, grounding, isolation and control to address the functional requirements where they are located.
- 5.12.1.2(15) Power throughout the Main Building and Ancillary Buildings will comprise of a combination of 347/600V and 120/208V for all power, lighting and equipment loads.
- 5.12.1.2(16) Provide services to the parking areas including power, lighting, wired and wireless data, cellular coverage, video surveillance, duress, fire alarm, public address, a parking stall numbering system, and a vehicle engine block power receptacle at each parking space.
- 5.12.1.2(17) All coverplates and faceplates accessible to Clients will be stainless steel affixed with tamperproof fasteners and will be of detention grade and quality.

5.13 Food Services

Project Co will design and construct the Main Building, including with sufficient space, equipment and infrastructure to accommodate the food services described in the Clinical Specifications and in compliance with Appendix 3F(i) [Food Services Specifications] and Appendix 3F(ii) [Food Services Equipment List].

5.14 Security Requirements

- 5.14.1 The Client population of the Facility ranges from low risk to high risk and consists of both males and females, therefore requiring multiple levels of security that is appropriate for the various Client classification and genders.
- 5.14.2 Even though the Client population of the Facility ranges from low risk to high risk, all Clients in this Facility will require varying levels of therapeutic interventions. Therefore, the Authority is seeking a design that will simultaneously promote both the safety and well-being of Secure and Non-Secure Clients and at the same time create a therapeutic environment that will provide innovative, Client-centered therapeutic interventions that will allow Clients to successfully re-integrate into society to become productive members of the community.
- 5.14.3 Because the Facility's primary purpose is therapeutic, Project Co will design and construct the Facility and its systems and security measures:
 - 5.14.3.1 to be unobtrusive, not interfere with the therapeutic processes and environment, and emphasize human interaction and effective operations

as the primary means of control rather than physical control and reaction, while ensuring proper security and safety for all;

- 5.14.3.2 to provide a level of security that is appropriate for both parts of the Facility – Secure and Non-Secure Client accommodations -- without compromising the therapeutic and healing aspects of the Site and Facility;
- 5.14.3.3 within the limits of the appropriate protocols and rules for the Non-Secure Clients, provide freedom of movement and allow full use of the amenities throughout the grounds without perceived monitoring by minimizing the visual presence of security elements. However, freedom of movement will not be allowed for any Client within the Threat Perimeter;
- 5.14.3.4 to create an inclusive and dignifying environment throughout the Facility and Site, while maintaining the safety for Clients, staff and visitors, meeting the requirements of the applicable Laws including the Mental Health Act and the Corrections Act;
- 5.14.3.5 to ensure the scope of visual surveillance around buildings is maximized and the provision of small alcoves (where Clients could conceal themselves) is minimized;
- 5.14.3.6 to comply with the following dynamic security criteria:
 - 5.14.3.6(1) Secure Client Care Services units will feature security stations in proximity to Nurse Stations but will be unobtrusive, while maintaining visibility to the Client room doors and Client activity spaces.
 - 5.14.3.6(2) in Secure Client Care Services units, the IPCRs will require a separate vestibule staffed by a registered psychiatric nurse. A separate security desk station will be staffed by security staff. An additional Nurse Station will be provided for the Secure Client Care Services unit.
 - 5.14.3.6(3) therapeutic programs will occur both within the Secure Client Care Services units, managed by case management staff, as well as in centralized program facilities, some of which will be shared with the Non-Secure Client programs (see Therapy Mall in (A2) and Therapy Mall-Shared (C3) sections of the Clinical Specifications);
 - 5.14.3.6(4) Clients will be assessed at admission and a care plan will be developed for them, taking into account that Client's will be required to participate in the creation of their own care and activities plans;
 - 5.14.3.6(5) both clinical staff and security staff will be knowledgeable about each Client's assessment, and any factors that may impact their behavior;

- 5.14.3.6(6) both clinical staff and security staff will work closely with Clients to engage them in constructive and responsible behavior, observing and assessing behaviors that are critical to maintaining a safe and therapeutic environment, documenting and sharing behavioral information with other staff and report any behavior that may jeopardize the safety or therapeutic advancement of any one within or outside of the Facility;
- 5.14.3.6(7) periodically, members of the security staff may escort Clients to programs taking places in the Shared Therapeutic areas of the building that are equipped with Security devices that allow for a flexible perimeter. These locations will be provided with access devices that allow the therapeutic spaces to be used separately by the non-secure and secure Clients and maintain the security of the flexible Perimeter Areas;
- 5.14.3.6(8) all circulation routes within the building must be secure and will be monitored by the Operations Security Centre using ESS systems (see Section 7.9.3).
- 5.14.3.7 include no ligature attachment points, no opportunity to hide contraband and no opportunity to disassemble building components to create weapons within Client accessible areas;
- 5.14.3.8 include materials and design details in each room or space in the Facility that resist Facility User Excessive Damage as required based on the intended use of the space;
- 5.14.3.9 to address, through the application of Crime Prevention Through Environmental Design (CPTED) principles of site planning, physical safety and security way-finding and legible connections between functional components;
- 5.14.3.10 support the application of innovative and emerging technologies relating to communications, security control and access, systems control and monitoring, and information storage and retrieval:
 - 5.14.3.10(1) systems infrastructure will be flexible with enough bandwidth to support new and evolving technologies as they gain acceptance. In all cases, state of the art technology will be required;
 - 5.14.3.10(2) technologies such as biometric identification and body scanning technologies may be employed in the future. Infrastructure will be designed in a manner that allows for this possibility;
 - 5.14.3.10(3) all external perimeter control, door controls, security and alarm systems for the Site and Facility as a whole will be monitored by staff stationed in the Operations Security Centre; and

5.14.3.10(4) all internal door controls, security and alarm systems for the Main Building and Ancillary Buildings will be monitored by staff stationed in the Operations Security Centre.

5.14.4 The Facility will include progressive zones of security as described in this Schedule. Security levels will increase as persons or vehicles move closer to the Secure Perimeter.

5.15 Site Security Perimeter and Zones

5.15.1 The Facility must have a secure perimeter to ensure public safety. Perimeter systems must appear as unobtrusive as possible, normalizing the environment and supporting the perception of the Facility as a proactive component of the wider community; and minimize impacts on the natural environment of this Site.

5.15.2 Site security for Secure Clients will be comprised of 2 boundaries (or layers) and 3 zones (or areas) as described in this Section. The Facility will be designed and constructed so that persons will not bypass a controlled point as they travel between boundaries and zones.

5.15.3 Provide the following security boundaries within the Site:

5.15.3.1 a secure perimeter (the “**Secure Perimeter**”) formed by the outer wall of the Secure Client portion of the Main Building and the internal walls separating the Secure Client and Non-Secure Client areas within the Main Building, as described in Section 5.15.6; and

5.15.3.2 a threat perimeter (the “**Threat Perimeter**”) defined by a soft boundary located a minimum of 9 metres and a maximum of 18 metres from the Secure Perimeter. This distance is to mitigate the potential for an individual to throw contraband into the Main Building.

5.15.4 The following zones will be defined by the Secure Perimeter and/or the Threat Perimeter:

5.15.4.1 The area contained within the Secure Perimeter is the “**Secure Zone**”.

5.15.4.2 The area between the Secure Perimeter and the Threat Perimeter is the “**Threat Perimeter Zone**”. The Threat Perimeter Zone is a zone within which unauthorized presence represents an active threat to operational and/or Facility security. This zone will be monitored by motion sensors and video cameras.

5.15.4.3 The area of the Site that is outside the Threat Perimeter Zone is the “**Area of Interest Zone**”. This is a large zone, where the Authority has an interest in detecting any unauthorized movement, objects and other activities that are associated with a potential threat to the Facility and/or operations. The area of interest will be monitored from the OSC with video cameras

5.15.5 To achieve the required degree of security:

5.15.5.1 the Security Perimeter must provide:

- 5.15.5.1(1) protection of the Clients and staff against intrusion from the exterior;
- 5.15.5.1(2) detection of attempted breeches of the perimeter;
- 5.15.5.1(3) identification and record of the source and location of attempted breeches; and
- 5.15.5.1(4) integration of the Client care units and other component areas within the Secure Perimeter, with appropriate separation as required by Client type; and

5.15.5.2 the Threat Perimeter must provide:

- 5.15.5.2(1) a recognizable demarcation of the boundaries of the Facility, and Site, provided through unobtrusive natural barrier system;
- 5.15.5.2(2) protection of the Clients and staff against intrusion from the exterior;
- 5.15.5.2(3) detection of attempted breeches of the perimeter;
- 5.15.5.2(4) identification and record of the source and location of attempted breeches;
- 5.15.5.2(5) minimization of the number of false alarms; and
- 5.15.5.2(6) proximity sensors, cameras, and site lighting which will be monitored by the Operations Security Centre.

5.15.6 The Secure Perimeter

- 5.15.6.1 The Secure Perimeter will be formed by the outer wall of the Secure Client portion of the Main Building and the internal walls separating the Secure Client and the Non-Secure Client areas within the Main Building. All of the Flexible Perimeter Areas will be located inside the Secure Perimeter except for Therapy Mall Shared (C3) which will be located outside the Secure Perimeter. The line of the Secure Perimeter will be both continuous and whole, both in plan and section. All walls, glazing and doors are of a type required for SLC 1 and SLC 2. While there is electronic security monitoring, detection and notification systems associated with this perimeter; its primary function is physical security through design and construction rather than one of detection. The Secure Perimeter is to be monitored, controlled and managed by the OSC in accordance with the requirements of Section 5.18 of this Schedule.

5.15.6.2 During the normal operation of the Facility, Secure Clients have no cause to be outside of the Secure Perimeter, other than by the legitimate admissions and discharge processes and excepting certain Clients who have been classified as open custody Clients. Open custody Clients will be permitted to enter and exit the Secure Perimeter under Secure staff supervision through a controlled client programs Sally Port. Clients who require services from the Therapy-Mall-Shared will be escorted by Secure Client staff to those activity areas.

5.15.6.3 To maintain control and integrity of the Facility security, the number of access points through the Secure Perimeter is highly controlled and restricted to the following:

- 5.15.6.3(1) admissions and discharge Sally Port (Client entry/exit);
- 5.15.6.3(2) services vestibule (supplies, materials entry/exit);
- 5.15.6.3(3) main visitor Secure Vestibule (single point of entry/exit for staff, visitors);
- 5.15.6.3(4) Client programs Sally Port (open custody Client and staff entry/exit); and
- 5.15.6.3(5) services/emergency vehicle Sally Port (provides vehicle access through the Secure Perimeter).

5.15.6.4 All controlled doors along the Secure Perimeter will be controlled by the OSC. Both sides of the doors will have:

- 5.15.6.4(1) electronic visual identification confirmation (via video surveillance cameras); and
- 5.15.6.4(2) 2-way audio communication (via intercom stations).

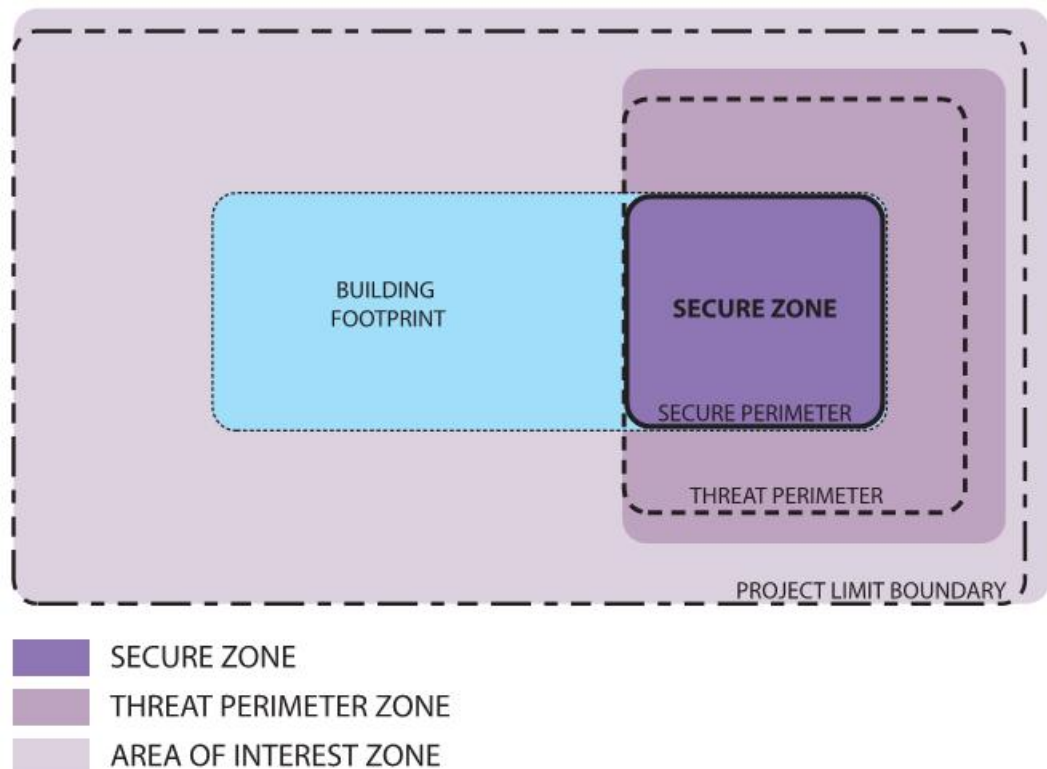
5.15.6.5 Additionally, the Client programs Sally Port will have a person trap system as described in Section 7.9.3 of this Schedule that will use electronic card identification, cameras and interlocks.

5.15.6.6 Enabling Technologies & Site Security

5.15.7 Perimeter detection devices and methodology differ by type, location and intention in accordance with their proximity to the Secure Perimeter. These systems will be sophisticated so as to provide little margin for error. The detection systems at this Facility will be highly specific, video surveillance and electronic detection interfaced and defaulted to human rather than automated response. Refer to Section 7.9.3 of this Schedule.

5.15.8 The Threat Perimeter

- 5.15.8.1 The Threat Perimeter will be defined by an encircling soft boundary. The boundary need not be of maximum security construction or type, as its primary function is to provide a demarcation line and keep persons a reasonable distance away from the Secure Perimeter. Persons on the exterior of the Building will not be able to approach or otherwise access any part of the Secure Perimeter without being detected by the perimeter intrusion detection system described in Section 7.9.3 of this Schedule.
- 5.15.8.2 The Threat Perimeter is to be equipped with a perimeter security system (sensors and cameras) as described in Section 7.9.3 of this Schedule, to ensure 100% coverage for surveillance, monitoring, detection, and notification from the Secure Perimeter extending outward to at least 2m beyond the Threat Perimeter (i.e. 2m into the Area of Interest Zone) and in accordance with the Facility Threat and Risk Assessment. The perimeter security system will aid the OSC staff to monitor and survey the Threat Perimeter Zone through electronic detection and notification; video surveillance; and lighting type, level and control.
- 5.15.8.3 Refer to the following indicative diagram showing the Secure Perimeter, Threat Perimeter and Security Zones.



5.16 Building Security

5.16.1 Security Level Classification (SLC)

- 5.16.1.1 Design and construct all rooms and spaces included in the Facility in accordance with the Security Level Classification (SLC) applicable to that room or space as set out in the Clinical Specifications. Refer to the Clinical Specifications for definitions of the Security Level Classifications.

5.16.2 Staffing

- 5.16.2.1 Refer to Attachment 1 [Staffing Model] to Appendix 3A [Clinical Specifications].

5.16.3 Electronic Security Systems

- 5.16.3.1 Include electronic security systems as described in Section 7.9.3 to assist staff in the supervision, control, and monitoring of Client and staff movement and activity within a high risk therapeutic environment. The electronic security system will be designed as a secondary system which supports the primary passive or structural security elements; and

- 5.16.3.2 use static security systems that will be responsive to the Security Level Classifications indicated for each room in the Clinical Specifications and will include:

- 5.16.3.2(1) perimeter detection and recording systems;

- 5.16.3.2(1)(a) video surveillance;

- 5.16.3.2(1)(b) door and window alarms;

- 5.16.3.2(2) a combination of alarms and radios for staff;

- 5.16.3.2(3) access control (through a programmable key-card system for staff);

- 5.16.3.2(4) video imaging and identification;

- 5.16.3.2(5) scanning systems for visitors and staff;

- 5.16.3.2(6) remote control locking/unlocking systems for doors;

- 5.16.3.2(7) goods inspection and verification;

- 5.16.3.2(8) Client tracking and counts; and

- 5.16.3.2(9) unobtrusive security measures to the extent possible.

5.16.4 Adjacencies

- 5.16.4.1 In the Secure Zone, where two or more rooms or spaces are required to be “adjacent” to one another, such rooms or spaces will be connected:

- 5.16.4.1(1)(a) by a common wall with access through a common doorway or common corridor; or
- 5.16.4.1(1)(b) by any combination of connected corridor(s), stairway(s) and elevator(s), provided that the aggregate walking distance between the entry doors of the respective rooms or spaces will not exceed 15m. For the purpose of this Section, the vertical travel distance of an elevator will be included in any calculation of “walking distance”.

5.16.5 Building Construction Systems

- 5.16.5.1 Static security measures will include security construction, barriers and monitoring devices.
- 5.16.5.2 Secure construction systems include the provision of walls, windows, doors, floors, roofs, and ceilings that resist penetration by physical force.
- 5.16.5.3 To enhance monitoring of clients, corridors without 2 directions and 2 means of exit will be avoided.

5.16.5.3(1) Window Systems

- 5.16.5.3(1)(a) Security windows will be required in all areas involving Client units and/or programmed activity areas for Clients. Security windows will be categorized according to Security Level Classification and their resistance to force.
- 5.16.5.3(1)(b) In Non-Secure Client units, windows will have a maximum operable window opening of 100mm in one direction. Security glazing is required.
- 5.16.5.3(1)(c) At the Secure Client units operable windows will not be used.
- 5.16.5.3(1)(d) Windows forming part of the Secure Perimeter will meet the following requirements:
 - (d).1 high security window framing as described in Section 6.9.2.8;
 - (d).2 high security glazing as described in Section 6.9.2.15; and
 - (d).3 Limiting distance: limiting dimensions to a maximum of 115mm x 1525mm.

5.16.5.3(2) Door and Hardware Systems

- 5.16.5.3(2)(a) Anti-ligature, tamper resistant security hardware will be consistent throughout the Facility for the Security Level Classifications indicated for each space in the Clinical Specifications. Ease of maintenance and consistency and predictability of use will be required.
- 5.16.5.3(2)(b) Detection features, such as alarms on doors, will monitor unauthorized entry and egress on all Facility entry and exit points. As noted above, monitoring of all access doors will be by the Operations Security Centre.
- 5.16.5.3(2)(c) Subject to applicable Law and the requirements of the applicable Governmental Authority, door operations will follow Appendix 3D(v) [Door Operation Matrix].
- 5.16.5.3(2)(d) Within the Client care units Client room doorways and other doors of rooms used by Clients will be directly visible from the nurse's station.

5.16.5.4 Security system cameras will be provided on both sides of Sally Port doors, Security Vestibule doors, ingress and egress doors and double egress doors, in addition to those referred to in 5.15.6.4.

5.17 Security Operations and Control

5.17.1 The Main Building will include the following centralized operations security functions:

- 5.17.1.1 the Operations Security Centre (OSC);
- 5.17.1.2 the Emergency Operations Centre (EOC); and
- 5.17.1.3 the Backup Operations Security Centre (BOSC).

5.17.2 The following are the requirements for these centralized operations security control posts:

5.17.2.1 Operations Security Centre (OSC) — functional component B.3.1 of the Clinical Specifications.

- 5.17.2.1(1) Authority staff in the OSC will control and monitor the Site including the Secure Perimeter and overall building security.
- 5.17.2.1(2) The OSC will be equipped to allow the monitoring of alarms (including building alarms), video surveillance, verification of entry and exit identification.
- 5.17.2.1(3) The OSC will have control of all:

- 5.17.2.1(3)(a) Secure Perimeter doors;

- 5.17.2.1(3)(b) Sally Ports and Secure Vestibules; and
 - 5.17.2.1(3)(c) interior doors.
 - 5.17.2.1(4) Authority staff in the OSC will manage identification confirmation of all persons entering or exiting through all doors to the Main Building, except for the main entrance during regular business hours.
 - 5.17.2.1(5) The OSC will include ESS displays and peripheral devices.
 - 5.17.2.1(6) Authority staff in the OSC, through the use of the ESS, will be able to identify and record all persons entering and exiting the Facility.
 - 5.17.2.1(7) The OSC will be located within the Secure Zone Perimeter. The OSC will be an SLC 1 space and entry and exit from the OSC will be through a Secure Vestibule.
- 5.17.2.2 Emergency Operations Centre (EOC)
- 5.17.2.2(1) The EOC will be activated during emergency events and crisis situations. Security staff, with the use of ESS equipment as described in Section 7.9.3 of this Schedule, will be able to monitor, assess and manage the situation, and control access throughout the Facility.
 - 5.17.2.2(2) The EOC will be comprised of incident command post functions and will be located in the Muster Room of the Staff Resources/ERT (Emergency Response Team) as described in the Section C-7 of the Clinical Specifications.
 - 5.17.2.2(3) The EOC will be equipped with a video wall that will be capable of displaying information as described in Section 7.9.3 of this Schedule.
 - 5.17.2.2(4) Enabling technologies within the EOC will provide the ability to:
 - 5.17.2.2(4)(a) display any video surveillance camera or group of cameras;
 - 5.17.2.2(4)(b) display cable television; view security alarm monitoring; and
 - 5.17.2.2(4)(c) voice communication (telephony and radio).
 - 5.17.2.2(5) A dedicated computer will be provided to manage the operations of the video wall.

- 5.17.2.2(6) The EOC will be equipped with laptop computer stations, white boards, clocks and telephones, so as to permit authorized security staff to effectively manage and control emergency incidents in all areas within the Facility.
 - 5.17.2.2(7) Upon activation of the EOC the Muster Room will become the EOC. Security will be enhanced to limit access into the EOC through the use of the ESS.
- 5.17.2.3 Backup Operations Security Centre (BOSC)
- 5.17.2.3(1) The BOSC will be immediately adjacent to the EOC in the Muster Room.
 - 5.17.2.3(2) The BOSC will be a highly secure room, requiring at least two levels of verification and authentication in order to gain access to this room
- 5.17.2.4 The BOSC will be a scaled-down version of the Operations Security Centre and will include the following provisions:
- 5.17.2.4(1) The BOSC is the Backup Operations Security Centre which duplicates functions of the OSC. The BOSC will only be activated by the EOC and may be necessary to effectively manage major incidents that have compromised the security or functionality of the OSC.
 - 5.17.2.4(2) Enabling technologies within the BOSC will provide access to all Client, staff and contractor data stored on the Authority's network.
- 5.17.2.5 In addition to the Operations Security Centre functions stated above, the operations of the Secure Client care areas are controlled by the Nurse Stations.
- 5.17.2.5(1) One Nurse Station will be centrally located within each Client care unit and will provide direct oversight of Client areas within the Client care unit and control all movement within the Units.
 - 5.17.2.5(2) Door access controls at the Security Vestibules in the Non-Secure and Secure Client care units will be managed by the Nurse Stations and the OSC.
- 5.17.2.6 ESS functionality will also be provided in the following areas and as further described in Section 7.9.3 of this Schedule:
- 5.17.2.6(1) Visitor Centre;
 - 5.17.2.6(2) Admissions and Discharge;

- 5.17.2.6(3) Health Care Clinic;
 - 5.17.2.6(4) Non-Secure and Secure Client care units;
 - 5.17.2.6(5) Client private rooms;
 - 5.17.2.6(6) outdoor activity and recreation areas;
 - 5.17.2.6(7) corridors;
 - 5.17.2.6(8) Client therapy and activity areas;
 - 5.17.2.6(9) Secure Perimeter;
 - 5.17.2.6(10) Threat Perimeter; and
 - 5.17.2.6(11) Sally Ports, Secure Vestibules, and secure access points.
- 5.17.2.7 The Reception Counter in the Visitor Centre will:
- 5.17.2.7(1) provide security measures and systems in an unobtrusive way in order that Reception be perceived as inviting, welcoming and non-threatening;
 - 5.17.2.7(2) provide the staff with the ability to manage and screen all visitors, handle all mail, and visit bookings to the Facility;
 - 5.17.2.7(3) act as the single point of entry and exit to the Facility for visitors;
 - 5.17.2.7(4) be supported and electronically supervised and controlled by the OSC;
 - 5.17.2.7(5) manage identification technology;
 - 5.17.2.7(6) provide communications routing and monitoring;
 - 5.17.2.7(7) monitor video surveillance in reception and visits areas; and
 - 5.17.2.7(8) schedule professional and video visit station.
- 5.17.2.8 The Visitor Staff Station will:
- 5.17.2.8(1) be equipped with a video visitation work station; and
 - 5.17.2.8(2) support monitoring of the visitation area and video visits between public and Clients.
- 5.17.2.9 Admissions and Discharge (A&D) Booking/Video Capture Station will be equipped with:

5.17.2.9(1) mobile and fixed ESS functions that enable the staff control of the movement of Clients within the area and between A&D and other adjacent areas within the Facility; and

5.17.2.9(2) large format video surveillance displays have access to the ESS including DVMS, video surveillance, door control of all Secure Client room door and doors within A&D, Client information and communications.

5.17.2.10 Admissions and Discharge (A&D) Security Post:

5.17.2.10(1) The A&D security post will include two touchdown stations to provide places for mobile security staff within the A&D to stand and use an Authority supplied computer, to connect to the Authority's data network, while still allowing the monitoring the Clients within A&D.

5.17.2.11 Health Care Clinic office work station will:

5.17.2.11(1) control Client movement within the Health Care Clinic including holding area and holding rooms during the hours that Clients attend the Clinic for consultations, treatments and health education;

5.17.2.11(2) be a small open workstation. The functionality of the post is similar to that of the A&D security post and will require similar fixed ESS functionality such as door control for exam and treatment rooms within the Health Care Clinic, DVMS for cameras within the Health Care Clinic and Client data; and

5.17.2.11(3) Control of doors in and out of the Health Care Clinic will be managed from a designated Nurse Station and the OSC through the use of the ESS.

5.17.2.12 Security work station on Secure Client care unit will:

5.17.2.12(1) be located within each Secure Client care unit; and

5.17.2.12(2) be in proximity to the nurse station.

5.18 Facility Access Control

5.18.1 The Facility will support the following access control procedures for staff, visitors, contractors and volunteers, and will be integrated with the ESS.

5.18.1.1 Access control will include Sally Ports, Secure Vestibules, secure access doors to Client care units and activity & therapeutic spaces & Client's private room doors as follows:

- 5.18.1.1(1) **“Sally Ports”** are spaces controlled by two or more secured doors to control movement through the Secure Perimeter. All Sally Ports will be controlled by the OSC utilizing the OSC (utilizing ESS). Sally Ports will be provided for all pedestrian movements and vehicular movements through the Secure Perimeter. Sally Ports will be the only entry / exit points through the Secure Perimeter; and
- 5.18.1.1(2) **“Secure Vestibules”** are spaces controlled by two or more secured doors used to control movement between operational areas within the Secure Zone and will be controlled by the ESS. Stairs may be incorporated into Secure Vestibules but may not be incorporated into Sally Ports.

5.18.1.2 Visitor Access

- 5.18.1.2(1) To gain access into the Facility all Secure Client visitors and Facility contractors will be required to enter via the Secure Visitor Centre lobby and will be processed in accordance with the Facility’s security policies and protocols.
- 5.18.1.2(2) Major Deliveries – All major deliveries report to the controlled delivery loading areas in a non-secure area of the Facility. Deliveries for the secure portion of the building will be received by security staff. This area is outside the Secure Perimeter and will be separate from the public and staff parking areas and monitored by the OSC utilizing ESS.

5.19 Movement Control

- 5.19.1 Project Co will provide direct and legible circulation systems as they are essential for the effective and secure movement of visitors, Client, staff and materials. Primary elements of the circulation systems include:
- 5.19.1.1 visitor circulation with a direct route, monitored from the parking to the Visitor’s Centre;
 - 5.19.1.2 materials/service circulation allowing for efficient and secure movement of equipment, supplies, food, food carts, (accompanied by maintenance and support staff); and
 - 5.19.1.3 staff & Client circulation: Sally Ports, Secure Vestibules, and secure access doors will utilize card access systems, escort protocols, and dynamic security.
- 5.19.2 There will be no separate circulation routes dedicated to the movement of staff and/or Clients in Secure Client areas unless specified otherwise. However, there will be some distinct staff-only zones (e.g., control and security posts). Separate staff and service

movement corridors may be provided for the Client care units to avoid conflicts with Client circulation on the units.

- 5.19.3 Circulation systems will encourage positive interaction between people, with communal interaction spaces allowing for both formal and informal interaction to encourage pro-social behavior and on- going communication between staff and Clients.
- 5.19.4 Circulation in some specific areas after defined hours in operational zones will not normally be permitted. Refer to the Clinical Specifications.
- 5.19.5 All access points will be monitored after hours by the OSC to control unauthorized movements.
- 5.19.6 RTLS system will be required to monitor Clients, staff, and access into authorized and non-authorized areas within the Main Building.
- 5.19.7 The circulation model for movement of Clients, visitors and staff between Client care units and other Functional Units will comply with the following:
 - 5.19.7.1 Circulation routes will be secure whenever they are used by Secure Clients;
 - 5.19.7.2 Circulation routes for Client movement will provide for continuous movement of Clients by minimizing wait times and opportunities for queuing and congestion..
 - 5.19.7.3 The circulation model will be efficient in terms of:
 - 5.19.7.3(1) space utilization;
 - 5.19.7.3(2) contributing to reasonable speed of movement, particularly in the context of emergency responses by staff from one Client Care Unit to another; and
 - 5.19.7.3(3) the consequential level of staffing required in the surveillance and control of Client movement.
 - 5.19.7.4 Facility circulation routes will:
 - 5.19.7.4(1) be direct and avoid circuitous paths so as to enable rapid staff response and functionality; and
 - 5.19.7.4(2) be configured so as to provide uninterrupted sight lines
 - 5.19.7.5 Circulation corridors providing movement between the following components of the Facility will have access to natural light:
 - 5.19.7.5(1) Admitting and Discharge;

- 5.19.7.5(2) Visitor Centre
 - 5.19.7.5(3) Administration;
 - 5.19.7.5(4) Health Care Clinic;
 - 5.19.7.5(5) Central Programs; and
 - 5.19.7.5(6) Client care units;
- 5.19.7.6 Where natural light is required in circulation corridors pursuant to this section such natural light will be provided as follows:
- 5.19.7.6(1) where the walls of a circulation corridor form part of an exterior wall, glazing panels, each with a minimum size of 115mm x 1525mm, will be provided at a minimum of every 6 meters along the length of the circulation corridor; and
 - 5.19.7.6(2) where the walls of a circulation corridor do not form part of an exterior wall, a non-artificial source of natural light with an intensity of at least 30 lux will be provided across an area of at least 5m² at least once every 20 meters along the length of the circulation corridor.
- 5.19.7.7 Entry and exit points from circulation corridors will be limited and structured to ensure positive identification.
- 5.19.7.8 The circulation model for the Facility will:
- 5.19.7.8(1) enable Client movements between authorized building components on an unescorted basis as allowed by Authority protocols and regulations, using technology for authentication and supervision;
 - 5.19.7.8(2) clearly identify and define all areas accessible to Clients;
 - 5.19.7.8(3) provide internal layouts, circulation and links between authorized building components that are clearly defined for way finding and orientation;
 - 5.19.7.8(4) provide clear direct movement patterns;
 - 5.19.7.8(5) minimize the use of corridors. Circuitous, maze-like corridor patterns are not permitted;
 - 5.19.7.8(6) without compromising security needs, minimize the number of control points (doors);
 - 5.19.7.8(7) reduce travel distance and time for emergency response; and

5.19.7.9 The following areas will be accessible to disabled persons:

5.19.7.9(1) All visitor areas of the Facility;

5.19.7.9(2) All Non-Secure Client administration, central services, food services and staff areas, all Secure Client staff areas, Client therapy, activity and recreation areas;

5.19.7.10 Accessible private Client rooms will be provided within each Client care unit in accordance with the Clinical Specifications. Any facility or provision in the Facility that is not accessible will be duplicated with an equivalent accessible facility or provision.

5.19.7.11 Provide elevators where necessary to ensure that areas are accessible to disabled persons to the greatest degree that is reasonable in the context of this type of facility. At a minimum provide one elevator within the Non-Secure Client area one in the Secure Client area and one in the entry area.

5.19.7.12 Under no circumstances will a disabled person be required to pass through the Secure Perimeter and return back through it solely to use an elevator.

5.19.8 Doors

5.19.8.1 Doors will be designed to promote a therapeutic appearance & atmosphere without compromising the integrity or detention level of the door.

5.19.8.2 Door placements will allow for a reasonable level of traffic flow without compromising containment security.

5.19.8.3 Access to the main entrance door will be controlled by the OSC and the reception desk.

5.19.8.4 Areas between doors must be able to accommodate emergency services (eg: stretcher/crash cart/multiple staff).

5.19.8.5 Sally Port/trap doors will be required at all access points to the Secure Perimeter.

5.19.8.6 Sally Port/trap doors will be required to access the OSC and the BOSC.

5.19.8.7 Client room doors will have the capacity to be electronically controlled (locked/unlocked) either individually or in groups.

5.19.8.8 Client room doors will have a breach design on the outside to allow access if the door is barricaded from the inside.

5.19.8.9 All freedom doors will be alarmed and or have Sally Port/trap function.

- 5.19.8.10 Depending on the function of the door, either door position switches, or lock position switches, or both will be required.
- 5.19.8.11 Depending on function, doors will have varying locking options including: electronically controlled, fob access, or key access.
- 5.19.8.12 All doors independent of their primary operation and control function will have manual override and back up key access.

PART 6. FACILITY CONSTRUCTION SUBGROUP SPECIFICATIONS

6.1 Existing Conditions (Division 2)

- 6.1.1 Refer to Schedule 2 [Design and Construction Protocols] regarding the Site Reports.

6.2 Concrete (Division 3)

6.2.1 Overriding Principles

- 6.2.1.1 Design and construct cast in place or precast concrete of appropriate properties for the intended use in accordance with the requirements of all applicable codes and specifications.
- 6.2.1.2 Design concrete for the applicable concrete exposure class and provide high sulphate resistant performance where applicable.
- 6.2.1.3 Maximize the fly ash and/or ground granulated blast furnace slag content of the mix consistent to ensure satisfactory concrete performance properties.

6.2.2 Quality Requirements

- 6.2.2.1 Inspect and test cast in place concrete and concrete materials through a CSA certified testing laboratory in accordance with CAN/CSA A23.1-09. Comply with CAN/CSA A23.2-09 for Non-Destructive Methods for Testing Concrete.
- 6.2.2.2 Ensure inspection and testing of precast concrete materials and workmanship by the precast concrete contractor as part of its quality control program in accordance with all applicable standards. Maintain plant records and ensure quality control as required by CSA A251 and in accordance with this Agreement.

6.2.3 Performance Criteria

- 6.2.3.1 Finish concrete floors with a smooth, dense, steel trowel finish with a Class F2 Flatness Classification in accordance with CAN/CSA A23.1/A23.2-09, except where more strict requirements are needed to suit the proposed

occupancy or equipment that will be located in the space. Do not use overlay toppings to level floors.

- 6.2.3.2 Repair cracks in concrete floors and walls to suit the floor finish and long-term serviceability requirements of the floor.
- 6.2.3.3 Water proof all foundation walls for below-grade occupied spaces and crawl spaces to prevent groundwater ingress. Use purpose-made water stops in construction joints. Install a perimeter draining system around the exterior of earth-retained foundations.
- 6.2.3.4 Comply with CAN/CSA A23.1/A23.2-09 to minimize honey combing or patching in exposed architectural concrete.
- 6.2.3.5 Provide architectural concrete for exposed concrete in areas used by staff, clients or public. Identify the proposed surface finishes intended for architectural concrete in each relevant Submittal.
- 6.2.3.6 Provide vapour barrier under slabs-on-grade in the form of continuous, cross-linked, minimum 10 mil sheets with a water vapor transmission rate of less than 0.008 perms.
- 6.2.3.7 See Section 6.5.2.4 for concrete topping on metal deck requirements.
- 6.2.3.8 Provide weeping tile as required to ensure proper drainage of the sub surface foundations and walls.
- 6.2.3.9 Where no applied finish is required, seal concrete surfaces to resist penetration and staining from food products, bodily fluids, cleaning compounds, etc. Apply and maintain sealers in accordance with manufacturer's recommendations.
- 6.2.3.10 Where floor drains are specified elsewhere in this Schedule, design and construct floors with minimum slope to drain of 2% (1:50) so as to prevent ponding of water or other fluids.

6.3 Masonry (Division 4)

6.3.1 Basic Requirements

- 6.3.1.1 Project Co may use masonry construction for:
 - 6.3.1.1(1) exterior walls and walls systems where permanence of finishes, both visually and functionally, and ease of maintenance are primary considerations in the exterior fabric of the buildings.
 - 6.3.1.1(2) interior walls and wall systems when priorities include permanence and maintenance, sound transmission control, fire resistance and separation requirements and security.

- 6.3.1.2 Ensure masonry wall assemblies are only installed by installers who are members in good standing with the Saskatchewan Masonry Institute.

6.3.2 Concrete Masonry Units

- 6.3.2.1 Project Co may use concrete unit masonry for;
 - 6.3.2.1(1) both independent exterior walls and in exterior wall systems as a structural backing to other finish materials or systems; and
 - 6.3.2.1(2) for interior applications as an integrally finished material, as a base for applied finish and as a structural backing to other finish systems.
- 6.3.2.2 Do not use unpainted concrete unit masonry as an exposed finish in clinical or public areas.
- 6.3.2.3 Where concrete unit masonry is used as the exposed finish, all exposed corners will have rounded or chamfered corners.
- 6.3.2.4 In SLC1, SLC 2, and SLC 3, construct walls as required by the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units or equivalent standards.
- 6.3.2.5 Ensure masonry design and construction comply with Canadian Masonry Contractors Association (CMCA) Masonry Practices Manual and all applicable standards.
- 6.3.2.6 In SLC 1 areas fill all concrete masonry units with grout to create a solid wall.

6.3.3 Brick Masonry

- 6.3.3.1 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.
- 6.3.3.2 Brick masonry below grade for exterior applications is not permitted.
- 6.3.3.3 Brick masonry in interior applications is to have integral finish and construction compatible with the Authority's infection prevention and control requirements.

6.4 Stone Masonry

- 6.4.1.1 Stone masonry may be used as a finish veneer to concrete walls or concrete masonry walls. Exterior wall systems in such applications will be a rain screen or cavity wall system.

- 6.4.1.2 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 or other mineral or organic defects.

6.5 Metals (Division 5)

6.5.1 Basic Requirements

- 6.5.1.1 Structural steel, steel deck, and cold-formed steel stud design and construction that meets or exceeds current Canadian standards and practices, as set out in this section, may be used for building elements and systems, where appropriate.

6.5.2 Performance Criteria

- 6.5.2.1 Design structural steel, steel deck, and cold-formed steel stud systems to comply with the deflection and vibration criteria outlined in Section 5.9.
- 6.5.2.2 Erection tolerances for steel construction will be in accordance with all applicable CAN/CSA standards.
- 6.5.2.3 For steel floor and roof construction, design for the effects of deflection of steel beams, joists, and girders due to the wet weight of concrete topping slabs. Vary the topping slab thickness as required to maintain floor levelness tolerances. Consider the additional concrete ponding weight in the design of the structure.
- 6.5.2.4 Design and construct concrete topping slabs on steel deck to control cracking and avoid random surface shrinkage cracking and radial cracking around re-entrant corners. Implement concrete construction and curing procedures to minimize cracking for concrete topping slabs on steel deck.
- 6.5.2.5 Provide wide rib profile steel floor/roof decking for ease of attachment of current and future services, equipment, and fixtures using drilled insert expansion anchors into the bottom of the deck ribs.
- 6.5.2.6 Provide steel floor/roof decking plus the concrete topping slab thickness assemblies that satisfy the requirements of a ULC-rated assembly meeting the National Building Code of Canada fire rating requirements. Do not use spray on or applied fireproofing material to achieve required floor deck fire rating.
- 6.5.2.7 Fire proof structural steel floor/roof framing and supporting members to meet the NATIONAL BUILDING CODE OF CANADA fire rating requirements.

6.5.3 Structural Steel and Steel Joists

6.5.3.1 Quality Requirements

- 6.5.3.1(1) Use a CSA certified testing laboratory to provide quality assurance testing and monitoring of workmanship using testing procedures specified in the CAN/CSA standards listed in Section 2.1 of this Schedule to verify soundness of representative shop and field welds.
- 6.5.3.1(2) All welding is to be performed by welders certified by the Canadian Welding bureau to the requirements of CAN/CSA W47.1. Project Co will provide certification that all welders comply with this requirement, if requested by Authority.
- 6.5.3.1(3) Conform to the Master Painters Institute (MPI) Standards for preparation and painting of Structural Steel components.

6.5.4 Load Bearing Steel Studs

6.5.4.1 Overriding Principles

- 6.5.4.1(1) Project Co may use load bearing steel studs as a component of the exterior wall systems to support exterior wall finishes and form an integral part of the perimeter envelope.
- 6.5.4.1(2) Load bearing steel studs may be part of the structural framing or may be independent of the principal structural system.

6.5.4.2 Quality Requirements

- 6.5.4.2(1) Design, detail and construct load bearing steel stud design and construction to comply with all applicable CAN/CSA standards.
- 6.5.4.2(2) Ensure all load bearing steel stud construction is designed by a professional engineer registered in the Province of Saskatchewan.
- 6.5.4.2(3) Ensure the steel stud manufacturer is certified in accordance with CSSBI Standard 30M-06 and all applicable CAN/CSA standards.
- 6.5.4.2(4) Conform to the Association of Wall and Ceiling Contractor's Specification Standards Manual (AWCC).

6.5.4.3 Performance Requirements

- 6.5.4.3(1) Limit maximum deflection under specified wind loads to $L/360$ ($L/720$ for masonry veneers), unless a smaller maximum deflection is specifically required due to wall finishes.
- 6.5.4.3(2) Design components to accommodate erection tolerances of the structure.

- 6.5.4.3(3) Design wind bearing stud end connections to accommodate floor/roof deflections and to ensure that studs are not loaded axially.
 - 6.5.4.3(4) Design steel studs to take into account the anchorage of other materials being supported including sub-girts supporting metal cladding and composite panels, soffit finishes and the provision of lateral support at window heads.
- 6.5.4.4 Corner Guards and Bumper Rails
- 6.5.4.4(1) Provide stainless steel corner guards in infection control sensitive areas.
 - 6.5.4.4(2) Provide heavy duty steel corner guards and bumper rails in utility areas, including:
 - 6.5.4.4(2)(a) the material management storage, loading dock and marwilling areas;
 - 6.5.4.4(2)(b) utility corridors with heavy utility cart and pallet jack traffic; and
 - 6.5.4.4(2)(c) utility shop areas.
- 6.5.4.5 Guardrails and Handrails
- 6.5.4.5(1) Provide guardrails of minimum diameter 40 mm and capable of resisting design loads.
 - 6.5.4.5(2) Design all guardrails and handrails to their usage classification and per applicable codes.
 - 6.5.4.5(3) Provide a durable painted finish for steel guardrails.
 - 6.5.4.5(4) Provide a manufactured pre-finish for stainless steel or aluminum guardrails.
 - 6.5.4.5(5) Provide safety glass for glazed decorative railings.
- 6.5.4.6 Outdoor Security Screen
- 6.5.4.6(1) Provide outdoor security screens that comply with the following requirements:
 - 6.5.4.6(1)(a) designed to prevent escape or unauthorized entry, including anti-dig features;

- 6.5.4.6(1)(b) designed to prevent contraband from entering the Facility;
- 6.5.4.6(1)(c) non-climbable.
- 6.5.4.6(1)(d) installed to withstand a minimum 115 km/hr wind load;
- 6.5.4.6(1)(e) installed to withstand a minimum 100 year snowload;
- 6.5.4.6(1)(f) installed to support point load of 1kN at any location within its boundary;
- 6.5.4.6(1)(g) have a Design Service Life of at least thirty years;
- 6.5.4.6(1)(h) are a minimum of 5000mm of height above finished floor at all courtyards for Secure Clients;
- 6.5.4.6(1)(i) are 1800mm of height above finished floor at courtyards for Non-Secure Client; and
- 6.5.4.6(1)(j) are 3600mm of height above finished floor at courtyards for Non-Secure Client located above the first storey.

6.5.4.6(2) Framing Materials:

- 6.5.4.6(2)(a) Provide structural support members that are Grade A hot-dipped galvanized Schedule 40 pipe conforming to ASTM F 1043 Group 1A.
- 6.5.4.6(2)(b) Provide Grade B Pipe conforming to ASTM F 1043 Group 1C with a minimum yield strength of 344.0 MPa.
- 6.5.4.6(2)(c) Provide interior pipe support for line posts that is 88.9 mm o.d., standard butt-weld Schedule 40 pipe, galvanized coating of 550g/m².
- 6.5.4.6(2)(d) Provide coatings in accordance with ASTM F 1043.
- 6.5.4.6(2)(e) If required for design, provide "C" posts conforming to ASTM F 1043 Group II with minimum yield strength of 413.7MP and with flat attaching bars to secure welded mesh to post. Brackets spaced 15 cm on center may be used for attaching welded mesh. Use a 10 cm diameter tubular post as terminus. Locate all posts, brackets and supports on the outside of the welded mesh (away from the building interior).
- 6.5.4.6(2)(f) Provide line, terminal and gate posts conforming to ASTM F 1043 Group 1A, 1C and 11.

- 6.5.4.6(2)(g) Provide top and bottom rails that are 40 mm diameter or "C" rails (1.625 mm x 1.25 mm x 0.80 mm wall thickness).
- 6.5.4.6(2)(h) Provide post tops of pressed steel or malleable iron, with a weather tight enclosure for tubular post. Weather tight enclosures are not required for "C" post.
- 6.5.4.6(2)(i) Provide ties of 9 gauge galvanized steel at a maximum of 60 cm on center (bottom rail tie spacing intervals not to exceed 30cm on center).
- 6.5.4.6(3) Screen Material – Non-Secure outdoor courtyards
 - 6.5.4.6(3)(a) Security glazing. Refer to Section 6.9.2.14.
- 6.5.4.6(4) Screen Material – Secure outdoor courtyards
 - 6.5.4.6(4)(a) Security glazing. Refer to Section 6.9.2.15.
 - 6.5.4.6(4)(b) Security mesh (at ceiling)
 - (a).1 Provide mesh that is a maximum of 9.5 mm x 9.5 mm diamond interwoven mesh with .148 galvanized core in compliance with ASTM A 853 Grade AISI 1006, with a minimum tensile strength of 70,000 PSI (485 MPa).
 - (a).2 Install a second layer of mesh with 3.125 mm x 3.125 mm maximum openings to prevent contraband from passing into the outdoor courtyard.
 - (a).3 Use mesh fabricated from low carbon steel wire and electronically control welded.

6.6 Wood, Plastics and Composites (including Millwork) (Division 6)

6.6.1 Basic Requirements

- 6.6.1.1 Use of wood and plastic products within the limitations of combustible content restrictions of the National Building Code of Canada for the specific occupancy classification of the building.
- 6.6.1.2 Do not use materials containing urea formaldehyde in the Facility.
- 6.6.1.3 Provide rough carpentry, wood backing materials, backing boards for mechanical rooms and electrical/communication rooms, roof sheathing, copings, cant strips, finish carpentry and architectural woodwork, including exterior fascia, cabinets, casework, frames, panelling, ceiling battens, trim,

installation of doors and hardware, and other wood-related products and applications as required:

- 6.6.1.3(1) to support functionality as set out in the Clinical Specifications or as required for operation of the Facility; and
- 6.6.1.3(2) for wood products exposed to view in finished interior and exterior installations.
- 6.6.1.4 Provide solid polymer fabricated or stainless steel surfacing for:
 - 6.6.1.4(1) all counters that incorporate integral sinks; and
 - 6.6.1.4(2) other areas as required to create surfaces that provide antiseptic or clean characteristics, will endure special or regular maintenance, and are resistant to caustic action of chemicals or agents used by the Authority.
- 6.6.1.5 Provide acrylic plastic products (or other products as requested by the Authority) for wall cladding, wall protection, corner protection, casework finishing, trims, ornamental elements, and other applications as required to achieve a quality of interior finish suitable for use by Clients and staff.
- 6.6.1.6 Propose to the Authority the locations and types of all handrails, bumper guards and wall protection for review by the Authority in accordance with Appendix 2B [User Consultation and Design Review].
- 6.6.1.7 Use pressure treated wood for any exterior exposed wood and wood in direct contact with concrete, masonry, and soil.

6.6.2 Wall Guards and Corner Guards, Handrails, Wall Protection, Door Edge and Door Frame Protection

- 6.6.2.1 General
 - 6.6.2.1(1) Use bumper guards, crash rails, handrails, and corner guards that:
 - 6.6.2.1(1)(a) are high impact-resistant extrusion conforming to ASTM D4226;
 - 6.6.2.1(1)(b) are stain-resistant to pen marks, paint and graffiti, able to withstand commercial cleaners without fading or staining and contain anti-microbial additives to retard mildew and bacterial growth.
- 6.6.2.2 Wall and corner guards
 - 6.6.2.2(1) Provide protection for walls and exposed wall corners at Client care areas, service areas, and other areas as required to prevent

damage due to impact from traffic such as stretchers, equipment and service vehicles.

- 6.6.2.2(2) Select materials appropriate to the amount and degree of impact anticipated.

6.6.2.3 Handrails

- 6.6.2.3(1) Provide handrails in all corridors and Client care areas of an appropriate type for Client support.
- 6.6.2.3(2) Select materials and shapes appropriate for Client support, with continuous uninterrupted supports.

6.6.2.4 Wall protection

- 6.6.2.4(1) Apply sheet wall protection to wall areas where the impact damage anticipated is of a larger area of wall than would be protected by bumper guards.
- 6.6.2.4(2) Provide wood wall bumper guards in high traffic pedestrian areas.
- 6.6.2.4(3) Provide wall splash back protection behind and surrounding hand sinks, scrub sinks and housekeeping sinks.
- 6.6.2.4(4) Apply sheet wall protection to faces of doors where impact damage is anticipated. Use sheet wall protection that complements the installation of door edge and frame protection.
- 6.6.2.4(5) Secure wall and corner guards to reinforcing and backing in the walls, such backing to be sufficient to withstand expected impact loads. Wall protection will be high impact and stain-resistant.

6.6.2.5 Door Edge and Door Frame Protection

- 6.6.2.5(1) Protect door edges and door frames in Client care areas from damage such as impact caused by the regular movement of stretchers and other wheeled vehicles.
- 6.6.2.5(2) Protect door edges and door frames in clinical and service areas from damage such as impact caused by regular and non-regular service vehicles.

6.6.3 Finish Carpentry, Millwork and Architectural Woodwork

- 6.6.3.1(1) Conform to AWMAC Quality Standards Manual for minimum "Custom Grade," and DHI standards for the design, fabrication, materials, installation, and workmanship of finish carpentry and architectural woodwork.

- 6.6.3.1(2) For millwork and cabinets, seal all wood surfaces and edges with plastic laminate for infection control.
- 6.6.3.1(3) Use adhesives that are non-toxic, non-solvent glue and comply with AWMA Quality Standards Manual, Canadian 'Eco-Logo' program and CaGBC standards.
- 6.6.3.1(4) Use marine-grade plywood substrate for countertops. Do not use fibreboard or particleboard.

6.7 Thermal and Moisture Protection (Division 7)

6.7.1 Basic Requirements

- 6.7.1.1 Design construction assemblies according to sound building envelope principles.
- 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 the ingress of moisture through foundation walls below grade, both subject and not subject to hydrostatic pressure.
- 6.7.1.4 Provide protection (such as insulation) to resist the transfer of heat through exterior walls and roofs to create comfortable, liveable interior environments.
- 6.7.1.5 Provide resistance to the propagation and spread of fire for exterior walls and interior walls designated as fire-resistance rated separations where appropriate.

6.7.2 Performance Criteria

6.7.2.1 Dampproofing

- 6.7.2.1(1) Do not use dampproofing as a means of prevention of moisture ingress.

6.7.2.2 Waterproofing

- 6.7.2.2(1) Provide waterproofing to prevent moisture ingress to basement and crawlspaces below grade.
- 6.7.2.2(2) Use membrane waterproofing to prevent water ingress over suspended slabs and decks and associated walls over habitable spaces where water collection is anticipated.

- 6.7.2.2(3) Use fluid-applied waterproofing for mechanical room floors.
 - 6.7.2.2(4) Provide waterproof membranes in exterior walls as part of the building envelope and integral with rain screen or cavity wall assemblies.
 - 6.7.2.2(5) Dam the floor under key mechanical equipment in the mechanical penthouse, mechanical rooms and mechanical shafts with a continuous curb and waterproofing to contain the water. Provide floor drains.
- 6.7.2.3 Vapour Barriers
- 6.7.2.3(1) Prevent water vapour transmission and condensation in wall assemblies, roofing assemblies, and under concrete slabs-on-grade within the building perimeter by means of a continuous vapour barrier membrane.
- 6.7.2.4 Air Barriers
- 6.7.2.4(1) Prevent air leakage caused by air pressure across the wall and roof assembly by means of air barrier assemblies.
 - 6.7.2.4(2) Provide air barrier assemblies that:
 - 6.7.2.4(2)(a) limit air exfiltration and infiltration through materials of the assembly, joints in the assembly, joints in components of the wall assembly, and junctions with other building elements including the roof; and
 - 6.7.2.4(2)(b) prevent air leakage caused by air pressure across the wall and roof assembly, including interruptions to the integrity of wall and roof systems such as junctions with dissimilar constructions.
- 6.7.2.5 Thermal Protection
- 6.7.2.5(1) Provide continuous rigid and semi-rigid thermal insulation as part of the building envelope to prevent the transfer of heat both from the interior to the exterior and vice versa, depending on seasonal conditions, and to resist the absorption of water.
 - 6.7.2.5(2) Use thermal protection materials of a type and quality that will provide consistent environmental quality to enclosed spaces.
 - 6.7.2.5(3) Use foamed plastic insulation that is CFC and HCFC free.
 - 6.7.2.5(4) Minimum insulation values will be:

6.7.2.5(4)(a) R20 (U-Value 0.05) for exterior walls; and

6.7.2.5(4)(b) R30 (U-Value 0.033) for roof areas

or higher as necessary to achieve targeted energy performance.

6.7.2.6 Roofing

6.7.2.6(1) Ensure that materials and workmanship conform to the Saskatchewan Roofing Contractors Association (SRCA) latest standards, as published in the Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual, and include a five (5) year guarantee.

6.7.2.6(2) Inspect quality of roofing as required by SRCA.

6.7.2.6(3) Comply with CRCA Roofing Specifications Manual "Acceptable Materials List," including the following:

6.7.2.6(3)(a) membrane for vegetated green roofs – use SBS modified membrane (two-ply system); and

6.7.2.6(3)(b) flexible membrane for reflective roofs – use elastomeric or thermoplastic (single-ply system), Energy Star compliant (highly reflective) and high emissivity membrane (of at least 0.9 when tested in accordance with ASTM 408).

6.7.2.6(4) Use foamed plastic insulation that is CFC- and HCFC-free.

6.7.2.6(5) Provide a complete horizontal barrier to weather and climate using one of the aforementioned roofing systems.

6.7.2.6(6) If a vegetated green roof is used, design the assembly so that the system dead load, measured according to ASTM D2397, when added to the weight of the roofing membrane system, does not exceed the maximum allowable dead load for the roof.

6.7.2.6(7) Include the following as part of the roofing systems:

6.7.2.6(7)(a) flashings and sheet metal;

6.7.2.6(7)(b) thermal insulation;

6.7.2.6(7)(c) assembly components for green roofs, if used;

6.7.2.6(7)(d) roofing specialties and accessories required for completion;

- 6.7.2.6(7)(e) interior access systems to roof areas;
 - 6.7.2.6(7)(f) protection from pedestrian traffic and solar radiation;
and
 - 6.7.2.6(7)(g) roof drainage, including overflow scuppers.
- 6.7.2.6(8) 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 flexible membrane subflashing continuously under the metal.
 - 6.7.2.6(9) Metal roofing systems, if used, will be complete with continuous waterproof membrane as part of the assembly and 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.
 - 6.7.2.6(10) In designing the Facility, including any roof systems, ensure that entrance ways are protected from sliding snow and ice and that there are no accumulations of snow and ice in roof valleys.
 - 6.7.2.6(11) Shingles are not permitted as a roofing material.
- 6.7.2.7 Fire and Smoke Protection
 - 6.7.2.8 Use spray-applied cementitious fireproofing if required to achieve a fire resistance rating, except in locations as referred to in Section 6.5.2.6.
 - 6.7.2.9 Use spray-applied cementitious fireproofing that conforms to standards of Warnock-Hersey (WH) Certification Listings.
 - 6.7.2.10 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.
 - 6.7.2.11 Apply protection around penetrations through vertical and horizontal fire-resistance rated separations.
 - 6.7.2.12 Use firestopping and smoke seal systems that consist of asbestos-free materials and systems, capable of maintaining an effective barrier against flame, smoke, and gases.
 - 6.7.2.13 Use firestopping that:
 - 6.7.2.13(1) is compatible with substrates;

- 6.7.2.13(2) allows for movement caused by thermal cycles; and
 - 6.7.2.13(3) prevents the transmission of vibrations from pipe, conduit or duct to structure and structure to pipe, conduit or duct.
 - 6.7.2.13(4) When more than one product is required for an assembly, use products that are compatible with one another and from the same manufacturer.
 - 6.7.2.13(5) Use fire stopping sealants and coatings that are silicone-based and guaranteed not to re-emulsify if subject to wetting or standing water. Do not use acrylic-based coatings and sealants.
 - 6.7.2.13(6) Ensure all firestopping is installed by an FM Global approved firestop contractor or an UL-qualified firestop contractor.
 - 6.7.2.13(7) Provide firestopping and smoke seal systems capable of maintaining an effective barrier against flame, smoke and gases when tested to CAN/ULC-S115 or ASTM E814 or UL 1479, acceptable to all applicable authorities having jurisdiction, and not exceeding opening sizes for which they are intended.
- 6.7.2.14 Sealants
- 6.7.2.14(1) Apply sealant materials to achieve:
 - 6.7.2.14(1)(a) seals to the building envelope systems and around openings in the building envelope systems as required to prevent water ingress;
 - 6.7.2.14(1)(b) seals around and over cavities in or behind surface elements to allow effective infection prevention and control (note that sealant around door frames must include joints at bottom of door frames between floor finish and frames);
 - 6.7.2.14(1)(c) sealed joints between dissimilar or similar materials to allow a smooth or even transitions; and
 - 6.7.2.14(1)(d) sealed expansion or controls joints in the building envelope systems or structural systems to allow movement.
 - 6.7.2.14(2) Do not use unsealed joints in clinical areas.
 - 6.7.2.14(3) For the exterior, use sealants to completely and continuously fill joints between dissimilar and/or similar materials.

- 6.7.2.14(4) For the interior, use sealants (at frames such as those at doors, windows and skylights) to completely fill joints between dissimilar materials using one component, acrylic emulsion, paintable type.
 - 6.7.2.14(5) Use silicone caulking that is mildew-resistant and impervious to water for caulking washroom plumbing fixtures.
 - 6.7.2.14(6) Use sealants with self-levelling properties for expansion and control joints in concrete floors using two-component epoxy urethane sealants.
 - 6.7.2.14(7) Use non-sag sealants for exterior vertical expansion and control joints in masonry or wall cladding.
 - 6.7.2.14(8) Use sealants that allow for minimum 25% movement in joint width.
 - 6.7.2.14(9) In corridors and other traffic areas used by equipment such as laundry carts, supply carts and material handling equipment, use traffic bearing type sealants suitable to support imposed load without deformation or failure.
- 6.7.2.15 Traffic Coatings
- 6.7.2.15(1) Provide traffic coating at the following locations:
 - 6.7.2.15(1)(a) loading docks; and
 - 6.7.2.15(1)(b) enclosed sally port/garage.
 - 6.7.2.15(2) Use traffic coating that complies with the following:
 - 6.7.2.15(2)(a) Primer: Multi-component, 100% solids, low VOC, low viscosity polyurethane primer or as recommended by manufacturer to suit substrate and site conditions.
 - 6.7.2.15(2)(b) Base and Intermediate Coats: Multi-component low VOC liquid urethane or epoxy elastomeric membrane forming part of manufacturer's vehicular traffic coating system.
 - 6.7.2.15(2)(c) Topcoat: Multi-component low VOC liquid urethane elastomeric membrane top coat forming part of manufacturer's vehicular traffic coating system; colour as selected by the Authority from manufacturer's full range, and meeting or exceeding the following specifications:
 - (c).1 Tensile Strength: ASTM D-638 at 9.1 MPa
 - (c).2 Elongation at Break: ASTM D-638 at 435%
 - (c).3 Tear Strength: ASTM D-624 at 38.2 KN/mm

- (c).4 Hardness: ASTM D-2240 at 80 Shore A
- (c).5 Abrasion Resistance wear course (CS-17 wheel, 1000g): ASTM D-4068 at Maximum Weight loss of 22 mg/1000 cycles
- (c).6 Fire Rating: ASTM CAN/ULC S102.2 at Class A
- (c).7 Water vapour Permeability: ASTM E-96 at 0.0013 ng/Pa•s•m, 0

6.7.2.16 Provide fluid applied integral flashings at all locations where a horizontal surface butts a vertical surface and at all deck projections. Apply the membrane over the prepared surfaces at a minimum thickness of 500 microns thick and extend the membrane a minimum of 10 cm on vertical and horizontal surfaces.

6.8 Cladding (Division 7)

6.8.1 Design and construct all exterior wall cladding systems for the buildings to incorporate the following:

- 6.8.1.1 a means to drain all accumulated water to the exterior of the building;
- 6.8.1.2 materials installed to shed precipitation;
- 6.8.1.3 a means of preventing moisture penetration through the exterior of the wall assembly;
- 6.8.1.4 flashings, drips or overhangs sufficient to deflect accumulated water away from the building face, at all:
 - 6.8.1.4(1) changes in plane;
 - 6.8.1.4(2) intersections of walls and roofs;
 - 6.8.1.4(3) changes in cladding material; and
 - 6.8.1.4(4) window and door heads or sills.

6.8.2 Ensure materials are accessible for maintenance purposes provided that, within Client occupied spaces, materials will not be removable without use of special tools.

6.8.3 In all exterior walls, use durable materials and secure materials in a fashion which, to the greatest extent practicable, resists Facility User Excessive Damage and ensures materials cannot be dislocated by Clients without use of special tools or otherwise used as a weapon.

- 6.8.3.1 Design claddings such that they are not climbable to access roof(s) or soffits.
- 6.8.3.2 Provide tamperproof claddings so that they cannot be disassembled or vandalized without use of special tools.

- 6.8.3.3 Design claddings to prevent concealment of contraband.
- 6.8.4 Refer to the following sections for descriptions of acceptable cladding materials:
 - 6.8.4.1 Section 6.2 Concrete & Precast Concrete
 - 6.8.4.2 Sections 6.3.2 Concrete Masonry Unit, 6.3.3, and 6.4 Concrete Masonry Unit, Brick & Stone Masonry
 - 6.8.4.3 Section 6.9.2.13 Glass & Glazing
 - 6.8.4.4 Section 6.8.5 Phenolic Panels
 - 6.8.4.5 Section 6.8.6 Metal or Composite Aluminum Cladding
 - 6.8.4.6 Section 6.9.2.6 Aluminum Windows and Curtain Walls.
- 6.8.5 Phenolic Panels
 - 6.8.5.1 Use panels of high density phenolic resin with acrylic resin finish.
 - 6.8.5.2 Acceptable phenolic panels include Trespa, Prodema, Fundermax or similar.
 - 6.8.5.3 Use phenolic panels that comply with all applicable CSA standards.
- 6.8.6 Metal or Composite Aluminum Cladding
 - 6.8.6.1 Metal Panel cladding will be integrated into aluminum curtain wall system or be a stand-alone system.
 - 6.8.6.2 Use metal panel with baked enamel finish. Use aluminum with prefinished aluminum or baked enamel finish.
 - 6.8.6.3 Maximum panel deviation (flatness) will be 3 mm in 1530 mm in any direction for assembled units (non-accumulative – no oil canning).
- 6.9 Openings (Division 8)**
 - 6.9.1 Basic Requirements
 - 6.9.1.1 Subject to any other glazing specifications set out in this Section 6.8, at minimum provide all exterior and interior glazing of tempered-laminated glass.
 - 6.9.1.2 Installation methods and locations for doors, frames and hardware to conform with the standards of the Door and Hardware Institute (DHI) for hospitals and detention facilities.

- 6.9.1.3 All door assemblies will comply with all applicable reference standards and codes.
- 6.9.1.4 Provide assemblies that resist local seismic conditions as a post-disaster building as defined in the National Building Code of Canada and that resist 1-in-100 year climatic events (with a safety factor).
- 6.9.1.5 Doors
 - 6.9.1.5(1) Size, fabricate and install doors to suit the intended function of spaces or rooms requiring acoustic or visual privacy, security, special HVAC requirements, fire-resistance rated separations or other closures.
 - 6.9.1.5(2) Size Requirements for Doors
 - 6.9.1.5(2)(a) Provide door openings of adequate width to suit the intended purpose of rooms on either side of the doors and allow the movement of people and equipment associated with those rooms.
 - 6.9.1.5(2)(b) No single door will have a width of less than 750mm.
 - 6.9.1.5(2)(c) Provide double doors into rooms where large pieces of equipment will be moved in or out during the lifetime of the building and where such equipment will not pass through a single 1200 mm wide opening.
 - 6.9.1.5(2)(d) Size door openings to suit bariatric Client requirements as identified in the Appendix 3A [Clinical Specifications]. The minimum door opening size will be 1500 mm clear. Doors must have a large leaf and a small leaf. Provide a viewing window in the large door leaf, with an integral blind in the window unit, operable from both sides.
 - 6.9.1.5(2)(e) Provide double doors into corridors and major rooms to ease access where Clients in beds or stretchers may be attended to or accompanied by a large number of medical staff and medical equipment.
 - 6.9.1.5(2)(f) Unless required otherwise, provide doors to Client care areas, including doors to washrooms and change room cubicles, with a minimum width of 900 mm.
 - 6.9.1.5(2)(g) Provide a minimum of 2150 mm high door or door leaf, unless specifically required for access to services or other purposes where height is restricted.

- 6.9.1.5(3) Acoustic Requirements for Doors: refer to Appendix 3C [Sound Transmission Ratings]. STC ratings of doors are to match that of the walls in which they are located.
- 6.9.1.5(4) Provide private Client rooms with hardware that allows the doors to stay in an open position and facilitates casual observance of Clients by the nursing staff.
- 6.9.1.5(5) For doors into or between major departments or activity areas through which cart and wheel chair traffic is anticipated on a routine basis, provide automatic activation by an electronic device or manual push button, located to allow emergency access without the necessity to stop movement. For all other doors through which cart, or frequent Client or staff traffic is anticipated on a routine basis, provide appropriate hardware or automatic activation that allows the doors to stay in an open position.
- 6.9.1.5(6) Apply door sizes and designs consistently to rooms of similar use, location, and configuration.
- 6.9.1.5(7) Avoid doors swinging into corridors in a manner that may obstruct traffic flow or reduce the corridor width, except doors to IPCRs, holding rooms or to spaces that are used infrequently and are not subject to occupancy, such as small closets.
- 6.9.1.5(8) Doors may swing into private Client washrooms, provided they allow for ease of Client use, both on their own and assisted by staff. Equip such doors with appropriate hardware to allow the door to be opened out into the room in an emergency situation. Alternatively “barn type” sliding doors may be used for Client washrooms.
- 6.9.1.5(9) Design and construct door assemblies, including frames, hinges, and associated hardware and components, to resist Facility User Excessive Damage to the greatest extent practicable, and to be easily maintainable and repairable.
- 6.9.1.5(10) Finish doors and frames with a suitable finish that prevents dirt and fingerprint accumulation, and will be easily cleaned and disinfected.
- 6.9.1.5(11) Be consistent with the extent of glazing in doors throughout the Facility and the size and quantity of sidelights, and balance these between the nature of observation required and the privacy requirements of the occupants of the room. Where possible and appropriate, provide glazing in an adjacent sidelight rather than within the door itself.
- 6.9.1.5(12) Provide glazing in doors and sidelights to allow Client observation and operational safety of the spaces they serve.

- 6.9.1.5(13) Provide integral blinds or coverings suitable and appropriate for the level of privacy and security intended and required.
 - 6.9.1.5(14) Provide doors and door frames with the capability to withstand the varying and high levels of humidity and impact that occur typically within hospitals, and in specific rooms within these facilities, and maintain their inherent aesthetic and functional capacities.
 - 6.9.1.5(15) Design frames and anchors for door, sidelights, interior and exterior windows in areas to which Clients will have access, and other areas as requested by the Authority, to withstand a heavy degree of impact while maintaining their aesthetic and functional capacities. Glazing of such components will be non-breakable and use hospital-type cut-away jambs.
 - 6.9.1.5(16) In areas where security is paramount, achieve safety and security with the appropriate location, configuration, materials, construction and detailing of doors and hardware as required by the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units or equivalent standards.
 - 6.9.1.5(17) Provide a restricted keyway system for all lock cylinders in the Facility. Obtain the restricted keyway system from the applicable lockset manufacturer(s) on behalf of, and in the name of, the Authority. The Authority will control the restricted keyway system such that all spare keys and key blanks must be ordered by an authorized representative of the Authority.
- 6.9.1.6 Exterior Windows
- 6.9.1.6(1) Size, configure, and adequately construct windows to suit rooms that require daylight, views and/or natural ventilation.
 - 6.9.1.6(2) Provide window framing systems that are thermally-broken and designed based on principles of pressure equalized rain screen.
 - 6.9.1.6(3) Provide operable windows (windows that may be opened and closed) in all rooms and spaces where acceptable for the functionality of the room or space, as described in the Appendix 3A [Clinical Specifications].
- 6.9.1.7 Interior Windows
- 6.9.1.7(1) Provide 'borrowed light' through interior windows to occupied rooms that do not have exterior windows. The intent is to borrow light from areas that have windows and consequently create a more comfortable and less closed-in atmosphere.

6.9.1.7(2) Provide 1000 mm wide interior windows in the following rooms:

6.9.1.7(2)(a) medical Client rooms, private Client rooms: provide a viewing window from the corridor or nursing station;

6.9.1.7(2)(b) secure vestibule from corridor to Client care unit.

6.9.1.7(3) Coordinate glazing heights with adjacent wall protection, handrails, and other accessories to achieve functional and aesthetic cohesiveness.

6.9.2 Performance Criteria

6.9.2.1 Hollow Metal Doors and Frames

6.9.2.1(1) Ensure materials and manufacture of metal doors comply with the requirements of the Canadian Steel Door and Frame Manufacturer's Association (CSDFMA).

6.9.2.1(2) Provide interior metal doors with flush face construction.

6.9.2.1(3) Provide exterior metal doors with:

6.9.2.1(3)(a) flush face construction;

6.9.2.1(3)(b) edge seams to correspond with door function and minimize maintenance needed; and

6.9.2.1(3)(c) prepared surfaces to receive finishes that resist corrosion from exposure to weather.

6.9.2.1(4) Provide pressed metal frames with:

6.9.2.1(4)(a) fully welded construction (knock-down type frames are not allowed);

6.9.2.1(4)(b) thermally-broken door frames for exterior door; and

6.9.2.1(4)(c) anchors to each jamb to suit wall type and receive the frame.

6.9.2.1(5) Door Glazing

6.9.2.1(5)(a) For exterior hollow metal door glazing, use sealed units with warm edge, in thermally-broken frames to prevent heat loss.

6.9.2.2 Security Doors - SLC 1, SLC 2, and SLC 3 Areas

6.9.2.2(1) In addition all applicable requirements in Section 6.10:

- 6.9.2.2(1)(a) Door assemblies, including frames, hinges and associated hardware and components, will be security Grade 2, as defined in the applicable ASTM standards. Sally Port door assemblies, including frames, hinges and associated hardware and components, will be steel and will be security Grade 1, as defined in the applicable ASTM standards.
- 6.9.2.2(1)(b) Load testing criteria of each security grade of door will be in accordance with the applicable paragraphs of ASTM F1450, Section 7 “Procedures”.
- 6.9.2.2(1)(c) Submit to the Authority evidence of compliance with ASTM F 1450, ASTM F 1592 and ASTM F 1758 for all SLC 1 door assemblies. Ensure all test reports are current within two (2) years of the date of installation.
- 6.9.2.2(1)(d) Provide products that meet each of the following ANSI/NAAMM 863-90 performance criteria using the provisions set out in Table 6.9.2.2:
- (d).1 Static Load Test – Under 14,000 lb (62,272N) load, maximum mid-span deflection will not exceed 0.58” (14.7mm) and after release of load, deformation will not exceed 0.10” (2.5mm);
 - (d).2 Rack Test – Under 7,500 lb (33,360N) corner load, maximum deflection will not exceed 3.5” (88.9mm) and there will be no buckling or failure of welds;
 - (d).3 Impact Load Test – After 400 impacts of 200 ft-lbs (271.2J) each on the door face, within 6” (150mm) of the lock bolt and 150 impacts within 6” (150mm) of each hinge, the door will remain closed and locked, the assembly will not be damaged to the extent that forcible egress will be obtained, the door will be capable of being unlocked with the key and the door will operate to provide egress; and
 - (d).4 Removable Glazing Stop Test – After 400 impacts of 200 ft-lbs (271.2J) each, the removable glass stops and steel plate will remain firmly in place so that removal of the plate will not be accomplished without removing the glazing screws and there will be no more than one (1) broken glazing screw in the assembly.

6.9.2.2(2) Door Glazing

- 6.9.2.2(a) Provide security glazing at all security doors and sidelights. Refer to Section 6.9.2.15
- 6.9.2.2(b) Glazing must not provide access to shards or bits allowing either raking laceration, weaponization or ingestion. Engineer the anchoring itself to withstand a high degree of impact.

Table 6.9.2.2 Security Grades and Test Load Requirements

Grade No	Door Face Sheet and Frame Thickness (mm) gage Minimum	Static Load Test B (N)	Rack Load Test C (N)	Impact Test A Impact Energy - 200 ft. Lbs (271.2 J)			ASTM Reference Standards
				Lock Impacts	Hinge Impacts	Glazing Impacts	
1	(2.3) 12	(62 272)	(33 360)	600	200	100	F1450, F1577, F1643, F1758, F1592
2	(2.3) 12	(62 272)	(33 360)	400	150	100	F1450, F1577, F1643, F1758, F1592
3	(1.7) 14	(48 939)	(24 470)	200	75	100	F1450, F1577, F1592
4	(1.7) 14	(48 939)	(24 470)	100	35	100	F1450, F1577, F1592

6.9.2.3 Wood Doors

- 6.9.2.3(1) Ensure all wood doors comply with all applicable standards, including the Quality Standards for Architectural Woodwork published by the Architectural Woodwork Manufacturer's Association of Canada (AWMAC).
- 6.9.2.3(2) Provide wood doors with hardware and finishes that suit the intended function and aesthetics of the building.
- 6.9.2.3(3) Construct, finish, and install wood doors to minimize the requirement for maintenance and resulting disruption to Facility operations.
- 6.9.2.3(4) Provide wood doors in flush design, Architectural Grade quality (as defined in the AWMAC standards referred to above), solid particleboard core.
- 6.9.2.3(5) Provide fire-resistance rated doors with a homogeneous incombustible mineral core and AWMAC Quality Standards Option 5 blocking.

- 6.9.2.3(6) Install finish hardware securely to resist loosening over time. Fasten to solid wood backing, except where hardware is designed to be through-bolted.
 - 6.9.2.3(7) Glue stiles, rails and faces to the core with Type II water-resistant adhesive to minimize de-lamination or disassembly as a result of moisture ingress.
 - 6.9.2.3(8) Use B-Grade hardwood veneer with AWMAC No. 3 edge, finish to suit the intended use.
 - 6.9.2.3(9) Do not use wood veneer-faced doors in critical care areas for reasons of cleanliness and infection prevention and control, unless suitably finished to mitigate such concerns.
 - 6.9.2.3(10) In locations requiring radiation protection, line doors with lead and label such doors with lead thickness.
- 6.9.2.4 Aluminum Entrances and Storefronts
- 6.9.2.4(1) Aluminum entrances and storefront framing and doors may form part of the exterior envelope of the buildings.
 - 6.9.2.4(2) Provide glazed interior partitions as appropriate to comply with the functions of the spaces as defined by the Appendix 3A [Clinical Specifications].
 - 6.9.2.4(3) Use aluminum doors within aluminum entrances and storefront.
 - 6.9.2.4(4) Use frames that are thermally-broken, flush glazed, aluminum sections, to accept insulating glass units.
 - 6.9.2.4(5) 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.
 - 6.9.2.4(6) Use aluminum swing entrance doors that are heavy-duty commercial or institutional grade that may be automatically operated, motion-detector controlled.
 - 6.9.2.4(7) Apply aluminum finish for exposed aluminum surfaces. Finish to be permanent and resistant to corrosion caused by weather exposure and climate.
- 6.9.2.5 Specialty Doors
- 6.9.2.5(1) Overhead Rolling Service Doors

- 6.9.2.5(1)(a) Restrain lateral movement of door curtain slats. Provide windlocks as required by door size or wind load requirements.
 - 6.9.2.5(1)(b) Provide interlocking flat slats, complete with bottom bar and contact type bottom astragal.
 - 6.9.2.5(1)(c) For manually operated doors, provide inside lift handle and locking bar or chain hoist. Motor operation may be provided on doors requiring constant usage. Chain operation will be by means of reduction gears and galvanized hand chain.
 - 6.9.2.5(1)(d) For fire doors, provide automatic closing device operated by fire door release device connected to fire alarm system.
 - 6.9.2.5(1)(e) Insulate overhead rolling service doors with a minimum insulation value of RSI-1.4 (R-8), and provide weather stripping / seals.
- 6.9.2.5(2) Overhead Rolling Grilles
- 6.9.2.5(2)(a) Provide grilles that allow visual access to secure areas.
 - 6.9.2.5(2)(b) Provide aluminum or steel guides that are: fabricated to withstand vertical and lateral loads; counterbalanced by helical torsion springs; and sound-deadened.
 - 6.9.2.5(2)(c) For manually operated closures, provide inside lift handle and locking bar or chain hoist. Provide motor operation on grilles requiring constant usage. Provide chain operation by means of reduction gears and heavy chrome plated hand chain.
- 6.9.2.5(3) Overhead Rolling Counter Shutters / Horizontal Sliding Grilles
- 6.9.2.5(3)(a) Provide shutter curtains fabricated with extruded aluminum, galvanized steel, or stainless steel interlocking flat slats, complete with guides of similar materials.
 - 6.9.2.5(3)(b) Provide closures that are manually operated and with locking capability.
- 6.9.2.5(4) Interior Aluminum Sliding Doors and Sidelights
- 6.9.2.5(4)(a) Provide interior glass sliding doors and sidelights without floor track.

6.9.2.5(4)(b) Provide interior sliding doors and interior glass sliding doors with break-out capability.

6.9.2.5(4)(c) Provide visual cues/glazing film in transparent glass panels as appropriate to prevent collisions.

6.9.2.5(5) Automatic Sliding Doors

6.9.2.5(5)(a) Automatic sliding doors complete with break-away capability for exiting may be installed at the main entrance of the Main Building, provided that the size and configuration of the entrance vestibule is designed such that both sets of doors will not be open at the same time.

6.9.2.5(5)(b) Ensure door equipment will accommodate medium to heavy pedestrian traffic and up to the following weights for active leaf doors: 100 kg for bi-part doors and 200 kg for single slide doors.

6.9.2.5(5)(c) Provide door operators, including the motion and presence detection system, that are capable of operating within the temperature ranges existing at the Facility Main Building and Ancillary Buildings and unaffected by ambient light or ultrasonic interference.

6.9.2.5(5)(d) Provide energy-saving devices to reduce conditioned air loss.

6.9.2.5(5)(e) Provide integration with access control system.

6.9.2.5(6) Automatic Swing Doors

6.9.2.5(6)(a) Use automatic swing doors for interior and exterior locations where appropriate, including the entrance vestibule, cross-corridor double-egress doors, entrances to departments and areas where equipment is frequently wheeled, and doors to exterior spaces that are required to be handicapped accessible.

6.9.2.5(6)(b) If used, provide directional motion sensor control device that are unaffected by ambient light or ultrasonic frequencies.

6.9.2.5(6)(c) Equip all in-swing doors that are required exits with an emergency breakaway switch that internally cuts power to the operator. No external power switch allowed.

6.9.2.5(6)(d) Implement longer hold-open times to accommodate the elderly and frail.

6.9.2.5(6)(e) Provide integration with access control system.

6.9.2.6 Aluminum Windows and Curtain Walls

6.9.2.6(1) Ensure aluminum windows and curtain walls comply with all applicable standards, including the Aluminum Association Standards (AAS) and the American Architectural Manufacturers Association (AAMA) field testing specifications.

6.9.2.6(2) Incorporate in aluminum windows and curtain walls a drained and vented system complete with air and vapour seal, allowing any water entering the framing/system and the glazing detail cavities to drain to the exterior and also allow air into the pressuring chamber.

6.9.2.6(3) Provide aluminum windows and curtain walls that incorporate a thermal-break.

6.9.2.6(4) For exposed aluminum surfaces, provide a finish that is permanent and resistant to corrosion resulting from weather exposure and climate.

6.9.2.6(5) Window wall framing relying on primary face seals is not allowed.

6.9.2.6(6) Ensure all aluminum framing systems, including skylights and clerestory will not exceed 0.3L/s/m² when tested in accordance with ASTM E283-04, at a pressure differential of 300Pa.

6.9.2.6(7) Greenhouse:

6.9.2.6(7)(a) When tested in accordance with ASTM E-283 air infiltration, ensure the exterior glazing will not exceed .06 CFM per square foot (.0003 m³ / s-m²) of fixed area, plus .3 CFM per foot of ventilator crack length at 6.24 PSF (75Pa).

6.9.2.6(7)(b) When tested in accordance with ASTM E-331, ensure there is no uncontrolled water penetration of the glazing system at a test pressure of 6.24 PSF.

6.9.2.6(7)(c) Ensure structural performance of the glazing system will not exceed a maximum deflection of 1/175 of span, and the allowable stress of the glazing system will provide a minimum safety factor of 1.65.

6.9.2.6(7)(d) All glazing in the Greenhouse will be Security Glazing. Refer to Section 6.9.2.14.

6.9.2.7 Security Windows - SLC 1, SLC 2, and SLC 3 areas

6.9.2.7(1) In addition to conform to all applicable requirements in Section 6.9:

- 6.9.2.7(1)(a) use mitred and corner-blocked frame construction for security windows;
- 6.9.2.7(1)(b) provide integral blind system behind security glazing as appropriate for the level of privacy and in accordance with the Appendix 3A [Clinical Specifications]. Refer to Section 6.13.3;
- 6.9.2.7(1)(c) provide, for security window sash:
 - (c).1 integral blinds behind security glazing; and
 - (c).2 side-hinged access with custodial locks.
- 6.9.2.7(1)(d) Comply with the New York State Office of Mental Health, Patient Safety Standards – Materials and Systems Guidelines.
- 6.9.2.7(1)(e) Comply with the forced entry testing requirements of Underwriters Laboratories UL 972 and the American Standards Testing Methods ASTM F1233 and F1915, detention glazing, classified as 15, 30, 60 and 90 minute categories.
- 6.9.2.7(1)(f) Uniform load structural test:
 - (f).1 Test unit at 1.5 x design wind pressure, both positive and negative, acting normal to plane of wall in accord with ASTM E330-02.
 - (f).2 Ensure there is no glass breakage, permanent damage to fasteners, hardware parts or damage to make permanent deformation of any main frame in excess of 0.2% of its span.
- 6.9.2.7(1)(g) Impact test performance: Ensure sash, frame, and glazing are capable of withstanding minimum of ten 2000 ft-lb. impact loads from 1 foot diameter impact object without breach, dislodging or breakage of the window frame, operating sash, window hardware and glass or glazing materials.
- 6.9.2.7(1)(h) Reinforcements and anchors: Provide additional anchoring and reinforcing as required to meet Client safety requirements.
- 6.9.2.7(1)(i) Operable windows:

- (i).1 Provide impact resistant security screens to prevent items being thrown from the Main Building.
- (i).2 Limit window opening to a maximum 100mm wide.

6.9.2.7(2) Project Co will explore alternative glazing products for exterior window applications such as smart glass and other similar products in lieu of integral blind systems and propose them accordingly. Refer to Section 3.9.

6.9.2.8 High Security Window framing

6.9.2.8(1) Ensure compliance with the following standards for windows forming part of the Secure Perimeter:

- 6.9.2.8(1)(a) Security Steel Performance Requirements Selection: ASTM A 627-03; the tool-resisting steel for security applications will meet ONE of the following:
 - (a).1 Grade No. 1, Composite T.R. Steel;
 - (a).2 Grade No. 2, Composite T.R. Steel; and
 - (a).3 Grade No. 3, Homogenous T.R. Steel;
- 6.9.2.8(1)(b) As defined in ASTM A 627-03, provide composite tool-resisting steel defined as a composite assembly;
- 6.9.2.8(1)(c) Deflection & Drop Weight Test: ASTM A 627-03; test 1" dia. round, tool-resisting steel by performing "Deflection Test" and "Drop Weight Test";
- 6.9.2.8(1)(d) Cutting Test: ASTM A 627-03; test 1" dia. round bars and 5/16" x 2 1/4" or 3/8" x 2 1/4" flat bars by performing a "Cutting Test". The minimum number of rod saws to be used to sever the bars will be ONE of the following:
 - (d).1 Grade No. 1; 1" dia. Round composite T.R. Steel: 144 Rod Saws Combined with 3/8" x 2 1/4" composite T.R. Steel flat bar: 72 Rod Saws;
 - (d).2 Grade No. 2; 1" dia. Round composite T.R. Steel: 72 Rod Saws Combined with 3/8" x 2 1/4" composite T.R. Steel flat bar: 36 Rod Saws; and
 - (d).3 Grade No. 3; 1" dia. Round homogenous T.R. Steel: 6 Rod Saws Combined with 5/16" x 2 1/4" homogenous T.R. Steel flat bar: 3 Rod Saws;
- 6.9.2.8(1)(e) Vision System Impact Test: ASTM F 1592-01; submit the window frame assembly to the impact test sequence 4 (only) for Grade No. 1, in Table 1 of ASTM F 1592-01.

Deliver 600 blows of 200 ft-lb impact energy in at least the frame corner and center of one muntin, for a minimum total of 1,200 blows; and

- 6.9.2.8(1)(f) Secure Frames: Provide reports and documentation of testing and performance in accordance with ASTM F 1450, Section 9, "Report", and in accordance with ASTM F 1592, Section 8, "Certification and Reports". Provide evidence of compliance with ASTM F 1450 and ASTM F 1592 to the Authority upon request. All test reports will be current within two (2) years and performed under the manufacturer's current organizational structure.
- 6.9.2.8(2) Provide aluminum framing systems that meet or exceed the following:
- 6.9.2.8(2)(a) ASTM E 330-02: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference;
- 6.9.2.8(2)(b) CAN/CGSB-12.20: Structural Design of Glass for Buildings; and
- 6.9.2.8(2)(c) Manufactured detention steel frame with the front portion of an extruded aluminum box frame mounted to a steel back frame for the glazing. The steel frame provides the security requirements and the aluminum frame provides the environmental enclosure.
- 6.9.2.8(3) Comply with the limiting dimensions as described in 5.16.5.3(1)(d).
- 6.9.2.9 Skylights and Clerestory
- 6.9.2.9(1) Skylights will comply with all applicable standards, including the Aluminum Association Standards (AAS), and the American Architectural Manufacturers Association (AAMA) field testing specifications.
- 6.9.2.9(2) Incorporate in skylights and clerestory windows a drained and vented system complete with air and vapour seal, allowing any water entering the framing/system and the glazing detail cavities to drain to the exterior and also allow air into the pressuring chamber.
- 6.9.2.9(3) Provide skylights and clerestory windows that incorporate a thermal-break.

- 6.9.2.9(4) Roof or skylight glazing may be provided where natural light is required in interior spaces to augment or complement interior ambient lighting.
 - 6.9.2.9(5) Provide skylights that are sealed double glazed in thermally-broken, internally drained rain screen type extruded aluminum frames. Plastic skylights are not to be used.
 - 6.9.2.9(6) For exposed aluminum surfaces, provide a finish that is permanent and resistant to corrosion resulting from weather exposure and climate.
 - 6.9.2.9(7) When roof or skylight glazing is used for providing natural light to interior spaces to augment or complement interior ambient lighting, skylight will be located at least 5.0m above the finished floor.
 - 6.9.2.9(8) When design provides for light through the roof, clerestory glazing is preferred over sloped glazing or skylights.
 - 6.9.2.9(9) Glazing slope will be 30° or greater.
 - 6.9.2.9(10) Ensure skylights, sloped glazing and clerestory windows are fully accessible for maintenance and cleaning from the interior and exterior of the buildings without disruption to their operations.
 - 6.9.2.9(11) Ensure air seal and water seal connections to curbs and walls will be fully accessible and will not be dependent on construction sequence.
 - 6.9.2.9(12) Provide drainage of water entering the glazing system to the exterior under all conditions.
 - 6.9.2.9(13) 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.
 - 6.9.2.9(14) Provide dry glazing.
- 6.9.2.10 Light Tubes
- 6.9.2.10(1) If light tubes are required for providing natural light to internal areas, provide a reflective light tube system that that will transmit the full range of natural light, ensuring a bright, clean and white light source.
 - 6.9.2.10(2) Provide a daylight dimmer to control the level of light.

- 6.9.2.10(3) Coordinate the light tube solution with the other components of the ceiling design, including the artificial lighting, to provide an integrated design solution.

6.9.2.11 Roof Hatches

- 6.9.2.11(1) Minimize use of roof hatch accesses per Section 5.4.1.3(5). If roof hatches are used to provide access to the roof for maintenance:
- 6.9.2.11(2) provide access ladders and ships ladders;
- 6.9.2.11(3) the minimum hatch size will be 762 mm x 762 mm;
- 6.9.2.11(4) door will be electrified; and
- 6.9.2.11(5) provide hardware that is lockable and will integrate with access control system.

6.9.2.12 Entrance Mat Wells

- 6.9.2.12(1) Provide a recessed, integrated mat well at all entrances with built in drainage.

6.9.2.13 Glass and Glazing

- 6.9.2.13(1) Ensure glass and glazing comply with all applicable standards, including the Insulating Glass Manufacturers Association of Canada (IGMAC) Guidelines and the equivalent standards to the Glazing Contractors Association of B.C. (GCA) Glazing Systems Specifications Manual.
- 6.9.2.13(2) Exterior and interior glass and glazing may be provided as integral components of the exterior envelope, interior partitions and screens, exterior and interior doors, handrail balustrades, skylights and decorative and ornamental glazing.
- 6.9.2.13(3) For the IPCRs, provide glass and glazing that meets the requirements of the British Columbia Ministry of Health Hospital-Based Psychiatric Emergency Services Standards or equivalent standard.
- 6.9.2.13(4) Use of wired glass is not permitted anywhere in the Facility. When glass is used in a fire rated partition Project Co will provide non-wired fire rated glass and meet all applicable standards and codes.
- 6.9.2.13(5) Provide glazing with excellent optical clarity and ease of maintenance over time.

- 6.9.2.13(6) Ensure glazing will withstand secondary threats, whether natural or man induced.
- 6.9.2.13(7) Ensure glazing will provide for a “fail safe” condition once attacked, and will provide a barrier to keep people from entering or exiting a space without the need for an immediate “board-up”.
- 6.9.2.13(8) Ensure glazing will not allow for:
 - 6.9.2.13(8)(a) excessive loss of the glazing on the rear or protected side; or
 - 6.9.2.13(8)(b) breach of the building envelope and resulting exposure of the protected side.
- 6.9.2.13(9) Interior glazing in hospital facilities is subject to possible frequent damage. Design the window sizes within the Main Building to a common standard size in order to reduce manufacturing costs and simplify the stocking of glazing material for replacement purposes.
- 6.9.2.13(10) Provide interior glass sliding doors and sliding and fixed panel(s) that are single glazed with 6 mm clear fully tempered-laminated glass.
- 6.9.2.14 Security Glazing – SLC 1, SLC 2 and SLC 3 areas
 - 6.9.2.14(1) In insulating glass units, locate security glazing on the side where impact will occur. If impact will occur from both sides, provide security glazing on both sides of the insulating glass unit.
 - 6.9.2.14(2) Heat strengthen laminated safety glass to CAN/CGSB 12.1-M90, Provide laminated glass consisting of two panes with clear interlayer and applied security film, minimum overall 10.3 mm thick.
 - 6.9.2.14(3) Ensure laminated glass products are fabricated free of foreign substances and air or glass pockets in autoclave with heat plus pressure.
 - 6.9.2.14(4) The following are characteristics of acceptable laminated security glazing products:
 - 6.9.2.14(4)(a) 10.3 mm laminate, consisting of the following:
 - (a).1 4mm heat strengthened glass.
 - (a).2 2.3 mm ionoplast interlayer.
 - (a).3 4mm heat strengthened glass.
 - (a).4 0.3 mm (0.012”) security anti-spall film.
 - 6.9.2.14(4)(b) Limit the dimensions of interior window glazing panels panel to a maximum of 900mm x 600mm or to a

maximum of 600mm x 900mm, with a minimum height of 300mm above finished floor to top of door frame height.

- 6.9.2.14(5) Provide security anti-spall film meeting the following requirements:
 - 6.9.2.14(5)(a) multi-ply applied film, in compliance with CPSC 16 CFR Category II (400 ft./lb.) and ANSI Z97.1-09 (GLF-2).
 - 6.9.2.14(5)(b) thickness: approximately 0.1524 mm (6 mil).

- 6.9.2.15 High Security Glazing – Secure Perimeter and Courtyards for Secure Clients
 - 6.9.2.15(1) Provide bullet resistant high security glazing in compliance with the following applicable standards:
 - 6.9.2.15(1)(a) ASTM C 1036-06
 - 6.9.2.15(1)(b) ASTM C 1349-04
 - 6.9.2.15(1)(c) UL 752 – level 4, and to withstand .30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber) with no spall and no penetration.

 - 6.9.2.15(2) Ensure bullet resistant security glazing is transparent to provide clear views from the courtyard to the exterior and from the exterior to the courtyard.

 - 6.9.2.15(3) Comply with the limiting dimensions as described in Section 5.16.5.3(1)(d).

- 6.9.2.16 Ensure non-wired fire rated glazing meets the following requirements:
 - 6.9.2.16(1) clear ceramic laminated, fire rated glass.

 - 6.9.2.16(2) impact Safety Resistance: ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II).

- 6.9.2.17 Ensure non-wired fire rated security glazing meets the following requirements:
 - 6.9.2.17(1) clear ceramic laminated, fire rated glass for use in impact safety-rated locations such as doors, transoms, and borrowed lites complete with 0.3 mm (0.012”) security anti-spall film.

 - 6.9.2.17(2) Impact Safety Resistance:

- 6.9.2.17(2)(a) Comply with the New York State Office of Mental Health, Patient Safety Standards – Materials and Systems Guidelines.
- 6.9.2.17(2)(b) Impact test performance: Glazing capable of withstanding minimum of ten 2000 ft-lb. impact loads from 1 foot diameter impact object without breach, dislodging or breakage of the glass or glazing materials.

6.9.2.18 Mirrors

- 6.9.2.18(1) For full wall unframed mirrors, use 6 mm thick minimum float glass backed with electrolytically-applied copper plating. Grind smooth and polish all edges.
- 6.9.2.18(2) For wall mounted posture mirrors, use framed type; one piece, stainless steel channel frame with a No. 1 quality, 6 mm thick float glass mirror backed with electrolytically applied copper plating. Back with galvanized steel.
- 6.9.2.18(3) In SCL 1 areas, no mirrors are allowed.
- 6.9.2.18(4) In SLC 2 and SLC 3 areas, ensure mirrors are unbreakable, do not use glass and are securely fastened to the wall. Mirrors will not distort the viewer's reflection.
- 6.9.2.18(5) In the IPCRs use one-way (two-way) mirrored glass that complies with CAN/CGSB-12.6; is 6 mm thick; and meets the criteria below, unless otherwise indicated:
 - 6.9.2.18(5)(a) Type 1 - Metallic coating applied to clear or tinted glass.
 - 6.9.2.18(5)(b) Class C - Tempered.
 - 6.9.2.18(5)(c) Form 1 - Float.

6.9.2.19 Detention Equipment

- 6.9.2.19(1) Coordinate the supply and installation of all detention equipment through a single detention equipment contractor, with the following qualifications:
 - 6.9.2.19(1)(a) a minimum of ten (10) years documented experience specifying and coordinating the installation of detention hardware, including security door assemblies; and
 - 6.9.2.19(1)(b) all of the following certifications, obtained from the DHI:
 - (b).1 Architectural Hardware Consultant (AHC);
 - (b).2 Certified Door Consultant (CDC); and

(b).3 Electrical Hardware Consultant (EHC).

- 6.9.2.19(2) Project Co may source the supply and installation of detention equipment through more than one source, provided that all products and installations are compatible and coordinated by the detention equipment contractor.
- 6.9.2.19(3) Ensure detention door assemblies conform to, and are tested in accordance with, the ASTM F standards listed below. Project Co will prepare and submit reports and documentation confirming testing and performance of all detention door assemblies in accordance with:
- 6.9.2.19(3)(a) ASTM F 1450: Test Methods for Hollow Metal Swinging Door Assemblies for Detention and Correctional Facilities, Section 9, "Report";
 - 6.9.2.19(3)(b) ASTM F 1592: Standard Test Methods for Detention Hollow Metal Vision Systems, Section 8, "Certification and Reports";
 - 6.9.2.19(3)(c) ASTM F 1577: Standard Test Methods for Detention Locks for Swinging Doors, Section 7, "Report"; and
 - 6.9.2.19(3)(d) ASTM F 1758 -05: Standard Test Methods for Detention Hinges Used on Detention-Grade Swinging Doors, Section 10 "Report".
- 6.9.2.20 Finish Hardware
- 6.9.2.20(1) Provide finish hardware that complies with all applicable standards, including the quality standards of the Door and Hardware Institute (DHI).
 - 6.9.2.20(2) 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).
 - 6.9.2.20(3) Integrate hardware with the security requirements and coordinate with electrical wiring and power requirements.
 - 6.9.2.20(4) See Appendix 3D(v) [Door Operations Matrix] for additional requirements.
 - 6.9.2.20(5) Where openings are designed for locked down scenarios and are not congruent with building code compliance and life safety, such as IPCR rooms, holding rooms and private Client rooms Project Co

will provide a code variance and obtain approval from the relevant Governmental Authority.

- 6.9.2.20(6) In fire alarm conditions where openings are required to become fail secure, Project Co will provide a code variance and obtain approval from the relevant Governmental Authority.
- 6.9.2.20(7) Project Co will also provide written procedures outlining specific rescue plans for those locations in the Facility that are designed for lock down scenarios or to be fail secure to the Authority and the local fire authorities.
- 6.9.2.20(8) Select finishes that will provide maximum longevity and preservation of the finish.
- 6.9.2.20(9) Provide, where applicable, ULC-listed hardware for the required fire rating.
- 6.9.2.20(10) Use heavy-duty commercial quality hardware with locksets and latchsets fully mortised type and lever handles of solid material.
- 6.9.2.20(11) For all doors with maglocks, provide a key override on both sides of the door.
- 6.9.2.20(12) For special areas identified through the user consultation process as described in Appendix 2B [User Consultation and Design Review], provide hardware to suit the purposes unique to those areas. Hardware in areas to which Clients will have access will comply with the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units or equivalent standards.
- 6.9.2.20(13) Ensure all hardware, including door strikes, are ligature resistant.
- 6.9.2.20(14) Security door assemblies - Provide access and egress hardware for security door assemblies to restrict and control movement through the Main Building. Ensure hardware provides no opportunity for tampering or abuse.
- 6.9.2.20(15) For security door assemblies, with the exception of secure Client room doors and holding room doors, include a detention grade concealed door closer. For non-secure door assemblies that have no special detention requirements, provide heavy-duty commercial grade hardware for doors and frames, that provide normal security and resistance to tampering or abuse.
- 6.9.2.20(16) Provide remote capable locking systems (pneumatic or electric) with connection to the ESS. Conform locksets for detention door

assemblies to Grade 2 standards, as defined in the applicable ASTM standards, with the exception of Sally Port doors, which will conform to Grade 1 standards, as defined in the applicable ASTM standards.

- 6.9.2.20(16)(a) Equip each Grade 2 lockset with a restricted keyway mogul high security cylinder that allows for manual locking and unlocking.
- 6.9.2.20(16)(b) Equip each Grade 1 lockset with a restricted paracentric high security cylinder that allows for manual locking and unlocking.
- 6.9.2.20(17) Test detention locksets in accordance with ASTM F 1577, Section 6 “Testing Methods”.
- 6.9.2.20(18) Prepare and submit reports and documentation of testing and performance in accordance with ASTM F 1577, Section 7 “Reports” for each type of detention lockset. All test reports will be current within two (2) years of the date of installation and all tests will be performed under the applicable manufacturer’s current organizational structure.
- 6.9.2.20(19) Ensure security doors and hardware selection for non-secure areas comply with the following in addition to those specified in Section 7.8.26.1 of this Schedule:
 - 6.9.2.20(19)(a) Door Locking:
 - (a).1 Door locking is activated remotely at the door, through the ESS; all detention locksets will be fail secure, deadbolted when in a closed position, and momentarily unlocked when activated by remote signal (unlock when lockset is energized); and
 - (a).2 Pneumatic or electric locking hardware is typically classified as detention hardware. Where the hardware classification is specified as commercial hardware and pneumatic or electric locking hardware is also specified, the hardware such as hinges may be of commercial quality.
- 6.9.2.20(20) Electronic Door Security – refer to Section 7.9.4 of this Schedule.
- 6.9.2.20(21) Keying
 - 6.9.2.20(21)(a) Supply and install ASSA key cylinders, or pre-approved cylinders of equivalent quality, 6 pin (factory pinned).

- 6.9.2.20(21)(b) Implement a 4-level system.
- 6.9.2.20(21)(c) Keying groups will be assigned by the Authority.
- 6.9.2.20(21)(d) New key fittings will be given to and controlled by the Authority.
- 6.9.2.20(21)(e) Develop a keying schedule in consultation with the Authority
- 6.9.2.20(21)(f) Turn over keys from factory to the Authority.
- 6.9.2.20(21)(g) Supply four (4) keys for each lock cylinder.

6.10 Finishes (Division 9)

6.10.1 Basic Requirements

- 6.10.1.1 Provide interior finishes that are capable of being easily cleaned throughout the Operating Period.
- 6.10.1.2 In areas where finishes and systems of installation will occur and water is anticipated to be present as part of cleaning or other procedures, allow water to collect and exit without causing damage to the finishes or substrate.
- 6.10.1.3 For areas in which wear is a concern, such as areas with anticipated pedestrian or wheeled traffic, use durable finish materials able to withstand damage and easily replaceable in sections if damage does occur.
- 6.10.1.4 Give priority to infection prevention and control in the selection of finishes where applicable as indicated in the Appendix 3A [Clinical Specifications]. Acoustic characteristics of finish materials will also be a priority consideration.
- 6.10.1.5 Select the appearance of finishes and colours to create and promote a natural healing environment, prevent glare, and minimize artificial lighting requirements.
- 6.10.1.6 Select materials to promote sustainability by, for instance, having low-emissivity or comprising of renewable resources.
- 6.10.1.7 Select finish materials that do not use known carcinogenic material or chemicals in their manufacture or disposal. Consult the Green Guide for Healthcare.
- 6.10.1.8 Select Finishes and material that will be durable to dissuade attack and damage and will be secured such that they will not be dislodged by Clients or other Persons without use of special tools. Finishes and materials in

SLC 1, SLC 2, and SLC 3 areas will be unbreakable to prevent use of pieces of materials as weapons or for creating areas of concealment.

6.10.2 Performance Criteria

6.10.2.1 Interior Wall Framing

- 6.10.2.1(1) Interior wall framing will comply with all applicable standards, including the Canadian Sheet Steel Building Institute Standards (CSSB1) and the equivalent standards to 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 gypsum wall board ceiling suspension systems.
- 6.10.2.1(2) System design and components will meet seismic restraint requirements for a post-disaster building where applicable.
- 6.10.2.1(3) Use prefabricated non-load bearing steel studs for interior partitions and furring with no axial load other than its own weight, the weight of attached finishes, and lateral loads of interior pressure differences and seismic loads.
- 6.10.2.1(4) Construct steel stud framing to accommodate electrical, plumbing and other services in the partition cavity, and to support fixtures, wall cabinets, medical equipment and other such wall-mounted items. Provide reinforcement and backing throughout.
- 6.10.2.1(5) Design systems 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.
- 6.10.2.1(6) Provide backing for wall and ceiling mounted equipment and furnishings, handrails, grab-bars, wall protection and other similar items. Identify areas for mounting artwork and other display items that would require backing and confirm with the Authority.
- 6.10.2.1(7) In SLC 1 and SLC 2 areas, construct steel stud framing with minimum 18-gauge studs spaced at maximum 400mm on the centre.
- 6.10.2.1(8) In SLC 3 areas, construct steel stud framing with minimum 20-gauge studs spaced at maximum 400mm on the centre.

6.10.2.2 Gypsum Wall Board

- 6.10.2.2(1) Gypsum wall board will comply with all applicable standards and the equivalent standards to the Association of Wall and Ceiling Contractors of B.C. (AWCC) Wall & Ceiling Specification Standards Manual.
- 6.10.2.2(2) Gypsum wall board will be no less than 16 mm in thickness.
- 6.10.2.2(3) Use cementitious backer board (tile backer board) behind ceramic wall tile in showers or other wet areas. Use glass mat water-resistant gypsum backing panels behind sinks.
- 6.10.2.2(4) Provide abuse-resistant gypsum wall board in corridors with heavy Client, cart or equipment traffic, to be located on the bottom 1200mm of the corridor wall, in order to increase resistance to abrasion, indentation and penetration of interior walls.
- 6.10.2.2(5) Use glass mat surfaced gypsum sheathing board wherever exterior gypsum sheathing is required at exterior walls.
- 6.10.2.2(6) Provide airborne sound insulation for gypsum wall board/steel stud assembly to close off air leaks and flanking paths by which noise will go around the assembly. Make assemblies airtight. Do not locate back to back recessed wall fixtures such as cabinets or electrical, telephone and television outlets, which perforate the gypsum wall board surface. In addition, carefully cut any opening for fixtures to the proper size and appropriately seal piping penetration. Seal conduit/duct/piping penetrations with tape and fill at the plenum barrier. Make the entire perimeter of a sound insulating assembly airtight to prevent sound flanking. Use an acoustic caulking compound or acoustical sealant to seal between the assembly and all dissimilar surfaces (including at window mullions) in accordance with the recommendations of an acoustic consultant.
- 6.10.2.2(7) At fire rated partitions, conform to ASTM C36 for type 'X' gypsum wall board.
- 6.10.2.2(8) For SLC 1, SLC 2 and SLC 3 areas where gypsum wall board is used, conform to Type 'X' requirements and the following additional requirements:
 - 6.10.2.2(8)(a) For Abuse Resistant Gypsum Wall board:
 - (a).1 ASTM C 36;
 - (a).2 Indentation Resistance to ASTM D 1037: 45 N for 16.0 mm board; and
 - (a).3 Impact Resistance to ASTM E 695: 838 mm for 16.0 mm board;

- 6.10.2.2(8)(b) For all Paperless, Moisture and Abuse Resistant Gypsum Wall board:
- (b).1 Flexural Strength, Parallel (ASTM C473, ASTM C1658);
 - (b).2 Flexural Strength, Perpendicular (ASTM C473, ASTM C1658);
 - (b).3 Nail Pull Resistance (ASTM C473, ASTM C1658);
 - (b).4 Humidified Deflection (ASTM C473, ASTM C1658): Not more than 3 mm;
 - (b).5 Hardness, Core, Edges, and Ends (ASTM C473, ASTM C1396, ASTM C1658): Not less than 15;
 - (b).6 Water Absorption (ASTM C630, ASTM C1396, ASTM C1658): Less than 5 percent of weight;
 - (b).7 Mold Resistance (ASTM D3273): 10, in a test as manufactured;
 - (b).8 Abuse Resistance (ASTM C1629):
 - (b).8.1 Surface Abrasion: Level 3;
 - (b).8.2 Surface Indentation: Level 1; and
 - (b).8.3 Soft-Body Impact: Level 1.
 - (b).8.4 Expansion control – provide control joints at a spacing of 8.0 m max in any direction.
- 6.10.2.2(8)(c) For Cementitious Board for Special Wall Coatings and Ceramic Tile Applications:
- (c).1 Rigid lightweight concrete board;
 - (c).2 Glass fibre reinforcing mesh each face;
 - (c).3 Thickness: 16 mm; and
 - (c).4 Dimensions: Largest practical sheets to minimize joints.
- 6.10.2.2(8)(d) For fasteners on all products and systems to be tamper resistant, ISO standard 10664.
- 6.10.2.2(8)(e) In SLC 1 and SLC 2, provide to the full extent of the wall face, on the side of the partition where the SLC applies:
- (e).1 one layer of 19mm fire retardant treated plywood between stud framing and exposed gypsum wall board layer, provided all applicable codes are met and the AHJ approval, or;
 - (e).2 add one layer of security grade abuse resistant gypsum wall board (i.e. with metal lath component) between stud framing and exposed gypsum wall board layer.

6.10.2.3 Ceramic Tilework

- 6.10.2.3(1) Ceramic tilework will comply with all applicable standards, including the Terrazzo Tile and Marble Association of Canada (TTMAC) Specification Guide 09300 Tile Installation Manual.
 - 6.10.2.3(2) In order to reduce opportunities for the spread of infection, avoid use of ceramic tile in interior applications at Client and other clinical areas, and if used limit to no more than 10% of such applications.
 - 6.10.2.3(3) For installations on wet and exterior surfaces, use floor tiles that have the following dynamic coefficients of friction (DCOF) as per ANSI A137.1 standard:
 - 6.10.2.3(3)(a) Level Surfaces: Not less than 0.42 for interior wet and dry conditions, and not less than 0.65 for exterior wet and dry conditions.
 - 6.10.2.3(3)(b) Stair Treads: Not less than 0.55 for interior wet and dry conditions, and not less than 0.65 for exterior wet and dry conditions.
 - 6.10.2.3(3)(c) Ramp Surfaces interior and exterior: Not less than 0.65 wet and dry conditions.
 - 6.10.2.3(4) For exterior installations, provide frost-resistant exterior tiles with a moisture absorption rating of 3.0% or less.
 - 6.10.2.3(5) Provide control joints and expansion joints in conformance with the recommendations of the TTMAC Tile Installation Manual.
 - 6.10.2.3(6) Provide a waterproof membrane under ceramic floor and wall tile in showers and other wet areas. The membrane will be trowel-applied, built-up, liquid-applied or sheet-applied.
 - 6.10.2.3(7) Provide crack isolation membranes to resist crack transmission from the substrate due to lateral movement; design for use in thin-set applications of tile over a cracked substrate. Use elastomeric sheets or trowel-applied materials suitable for subsequent bonding of ceramic tile.
 - 6.10.2.3(8) Set ceramic tile with latex modified mortar and grout with epoxy grout.
 - 6.10.2.3(9) Only use Ceramic Tilework in SLC 4 and public areas.
- 6.10.2.4 Ceilings
- 6.10.2.4(1) Ceiling reflectance will complement the lighting design.

- 6.10.2.4(2) Provide permanence and durability appropriate for the applicable Security Level Classification.
- 6.10.2.4(3) All ceiling systems and ceiling finishes will comply with the following:
 - 6.10.2.4(3)(a) fire and smoke separation and fire resistance ratings will conform to the requirements of the NBCC;
 - 6.10.2.4(3)(b) suspended ceilings will comply with seismic resistance as required by NBCC; and
 - 6.10.2.4(3)(c) equivalent standards to the Specification Standards Manual as published by the Association of Wall and Ceiling Contractors of BC (AWCC).
- 6.10.2.4(4) Acoustic Tile Ceilings
 - 6.10.2.4(4)(a) Acoustic ceiling tiles in metal suspension system will not be used in SLC 1, SLC, 2 and SLC 3.
 - 6.10.2.4(4)(b) Acoustic Panel: Non-directional, fissured pattern, Imperial dimension white ceiling panel, trim edge detail (square) to fit a standard 15/16" T-bar grid panel size.
 - 6.10.2.4(4)(c) Install acoustic ceiling tiles in the suspension system that comply with the requirements of Appendix 3C [Sound Transmission Ratings] and provide the levels of sound attenuation required to suit the intended function of the room.
 - 6.10.2.4(4)(d) All acoustic tile ceilings used in spaces which do not have special cleaning, maintenance or environmental needs (as in food preparation areas or high temperature / humidity areas) to have a Noise Reduction Co-efficient of 0.80 or greater.
 - 6.10.2.4(4)(e) Provide accessibility to the ceiling spaces where access is required to mechanical, electrical or other service systems.
 - 6.10.2.4(4)(f) Special surface-treated ceiling tiles, such as mylar, vinyl-faced or metal-faced tiles, may be used where maintenance and ease of cleaning are priorities as well as the accessibility and acoustic requirements.
 - 6.10.2.4(4)(g) Provide acoustic panels that are appropriate for the normal occupancy condition range of 18°C - 28°C 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.

6.10.2.4(4)(h) Use tiles with scratch-resistant surfaces in any area where lay-in ceiling panels frequently need to be removed for plenum access.

6.10.2.4(4)(i) For ceilings installed in food preparation areas, use acoustic panels capable of being cleaned without undue wear on the panel.

6.10.2.4(5) Hard Ceilings

6.10.2.4(5)(a) Construct hard ceilings of 16 mm gypsum wall board where fire rating is not required. In fire rated rooms the gypsum wall board must be fire rated and the assembly of the gypsum wall board(s) is to be determined by the rating required by the National Building Code of Canada. Finish hard ceilings as per the paint specifications outlined in Section 6.10.2.7. Provide hard ceilings for the following rooms:

- (a).1 kitchen and food preparation rooms, cart wash, pharmacy, Client clothing washing room, Client clothing drying room,
- (a).2 housekeeping and utility rooms;
- (a).3 washrooms and shower rooms;
- (a).4 clean supply rooms;
- (a).5 other areas where infection prevention and control may be an issue;

6.10.2.4(5)(b) Ceilings in Client accessible areas:

- (b).1 construct a hard secured ceiling system that is not accessible or able to be dismantled by Clients and is secured with concealed tamper resistant fasteners to prevent entry into the ceiling space or adjoining spaces by Clients. Clients will not be able to dismantle the ceiling without use of special tools.
- (b).2 Make voids above suspended ceiling systems inaccessible to Clients.
- (b).3 Do not permit exposed building services except where services are mounted at a minimum of 5200 mm above finished floor surfaces and stair landings and are otherwise unreachable by Clients using all reasonably available means.

- (b).4 In SLC 2 and SLC 3 areas, construct all ceilings of 16mm Type 'X' gypsum wall board conforming to ASTM C36.
- (b).5 In SLC 1 areas, construct all ceilings, in addition to the provisions in 6.10.2.4(8)(b).4, to conform with the provisions in 6.10.2.2(9).
- (b).6 In SLC 1, SLC 2, and SLC 3 areas, construct the ceiling in accordance with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units.

6.10.2.4(6) Access Panels

- 6.10.2.4(6)(a) Where hard ceilings are used, provide access panels to allow for mechanical and electrical servicing in the ceiling.
- 6.10.2.4(6)(b) Access panels are to be prefinished.
- 6.10.2.4(6)(c) In SLC 1 areas, Secure Client Private rooms and Secure Client washrooms access panels will not be permitted.

6.10.2.5 Flooring

6.10.2.5(1) All Rooms except Wet Rooms

- 6.10.2.5(1)(a) Use solid homogeneous sheet flooring, unless specified otherwise.
- 6.10.2.5(1)(b) Hot weld all joint seams.
- 6.10.2.5(1)(c) Use water soluble, low odour flooring adhesive.
- 6.10.2.5(1)(d) Where there is no existing product to butt against, finish edging finish with vinyl finishing strip as per manufacturers' specifications.
- 6.10.2.5(1)(e) Finish flooring with high speed buffing as per manufacturers' specification. Do not apply sealer or wax.
- 6.10.2.5(1)(f) A rubber wall cove base is to be installed in all areas with sheet flooring.

6.10.2.5(2) Wet Rooms

- 6.10.2.5(2)(a) Use slip-resistant solid sheet flooring in the following rooms:
 - (a).1 Tub Room;
 - (a).2 Soiled Utility Room;
 - (a).3 Soiled Linen Room;
 - (a).4 Client Laundry Room;
 - (a).5 Housekeeping Room;
 - (a).6 Dispensary/Medication Room;
 - (a).7 Servery Room;
 - (a).8 Staff Break/Locker Room;
 - (a).9 Kitchen;
 - (a).10 Kitchenette;
 - (a).11 Changing/Locker Room;
 - (a).12 Shower Room;
 - (a).13 Specimen Collection/Washroom
 - (a).14 IPCRs; and
 - (a).15 All Washrooms;
- 6.10.2.5(2)(b) Hot weld all joint seams.
- 6.10.2.5(2)(c) Provide rubber wall cove base.
- 6.10.2.5(2)(d) Use solvent based, low odour flooring adhesive.
- 6.10.2.5(2)(e) Hot weld new flooring to existing floor product.
- 6.10.2.5(2)(f) Finish flooring as per manufacturer's specification. Do not apply sealer or wax.
- 6.10.2.5(3) Stair Covering
 - 6.10.2.5(3)(a) Use one piece treads and sheet risers with carborundum strip or an alternate designed for the visually impaired (product approved in advance by the Authority).
 - 6.10.2.5(3)(b) Use water soluble, low odour adhesive.
- 6.10.2.5(4) Comply with all applicable standards, including the National Floor Covering Association (NFCA) Specification Standards Manual. US Federal Specification RR-T-650d.
- 6.10.2.5(5) Select flooring materials that are suitable for:
 - 6.10.2.5(5)(a) ease of cleaning and maintenance;
 - 6.10.2.5(5)(b) pedestrian and rolling traffic;
 - 6.10.2.5(5)(c) the acoustic requirements of the space;

- 6.10.2.5(5)(d) infection prevention and control; and
- 6.10.2.5(5)(e) the aesthetics of the Facility.
- 6.10.2.5(6) 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 flash covers. Match the height of the base with all other wall bases.
- 6.10.2.5(7) Use heavy-duty materials for flooring on which wheeled or service vehicle traffic is anticipated and to which wear and damage may result.
- 6.10.2.5(8) Use permanent, heavy-duty integral materials such as seamless epoxy quartz flooring for flooring in areas subject to moisture and heat over extended periods of time.
- 6.10.2.5(9) Use suitable flooring in Client and staff areas where cart traffic is expected or where cleaning on a regular basis is necessary.
- 6.10.2.5(10) Use water resistant and slip-resistant flooring in public, staff, and Client washrooms.
- 6.10.2.5(11) Use resilient tile products for flooring in service corridors and service areas.
- 6.10.2.5(12) Use anti-static flooring material for telecommunication rooms.
- 6.10.2.5(13) Provide flooring that will provide permanence and durability appropriate to the Security Level Classification and the specific function of each space as indicated in the Appendix 3A [Clinical Specifications].
- 6.10.2.5(14) Resilient Flooring
 - 6.10.2.5(14)(a) Choose products with exposed surface having anti-bacterial properties to prevent entry of gram-positive and gram-negative micro-organisms.
 - 6.10.2.5(14)(b) If used, provide slip-resistant sheet vinyl with a dynamic coefficient of friction (DCOF) no less than 0.42 per ANSI A137.1 standard on level surfaces and 0.65 on ramps.
 - 6.10.2.5(14)(c) Avoid the use of linoleum sheet flooring.
 - 6.10.2.5(14)(d) Hot weld all seam joints.
 - 6.10.2.5(14)(e) Use solvent based low odour flooring adhesive.

- 6.10.2.5(14)(f) Finish flooring with high speed buffing as per manufacturers specification.
- 6.10.2.5(14)(g) Provide tactile warning strips and stair nosings to assist the visually impaired.
- 6.10.2.5(14)(h) Use adhesive for resilient flooring that meets or exceeds the United States Environmental Protection Agency (EPA) Standards for acceptable VOC concentration and emission rates.

6.10.2.5(15) Gymnasium Flooring – Floating Wood Floor System

- 6.10.2.5(15)(a) Provide a floating wood sport flooring system with the following requirements:
 - (a).1 Strip Flooring: 19 mm x 56 mm, T & G, end matched, Northern Hard Maple, Grade as indicated above, MFMA grade marked. Kiln-dry so that at time of installation, wood has an average moisture content of 8% with a permitted range of 6% to 10% in individual pieces.
 - (a).2 Subfloor: Douglas Fir plywood, to meet CSA 0121, Select Sheathing Grade. 2 layers of 19mm T & G with lapped joints glued and screwed.
 - (a).3 Cushion Pads: Cork Rubber Composite 50 mm thick designed for 5mm deflection at 90 kg set on 600 mm centres.
 - (a).4 Vapour Barrier: 6 mil polyethylene to meet Type II requirements of CAN/CGSB- 51.34-M.
 - (a).5 Floor Finish: Water based polyurethane gymnasium floor sealer as recommended by flooring manufacturer.
 - (a).6 Game Lines: Best grade polyurethane traffic enamel, suitable for games lines.
 - (a).7 Expansion Joint Filler: Compressed rubber/cork strip, medium density, mildew-resistant, and with a resin binder.
 - (a).8 Threshold Plates: Extruded aluminum, AA A41 clear anodized of sufficient dimension to cover expansion space.
 - (a).9 Adhesive: Type as recommended by flooring manufacturer. High strength pick resistant adhesive conforming to ASTM C881 to be used for floating wood athletic flooring and bases in secure areas. Those adhesives as recommended by athletic wood flooring system

and base manufacturers which will produce good and permanent bond between subfloor and flooring, and between wall surface and base. Ensure that bases are securely adhered to wall substrates and meet safety concerns as required by this Project and the approval of the consultant.

6.10.2.5(15)(b) Provide rubber wall cove base.

6.10.2.5(16) Sports Resilient Flooring – Cardio/Weight Room

6.10.2.5(16)(a) Provide a resilient sport flooring surface suitable for the intended use of the space.

6.10.2.5(16)(b) Provide material that is 10 mm thick minimum for shock absorption.

6.10.2.5(16)(c) Choose products with exposed surface having anti-bacterial properties to prevent entry of gram-positive and gram-negative micro-organisms.

6.10.2.5(16)(d) Provide a dynamic coefficient of friction (DCOF) no less than 0.42 per the ANSI A137.1 standard on level surfaces.

6.10.2.5(16)(e) Hot weld all seam joints.

6.10.2.5(16)(f) Provide rubber wall cove base.

6.10.2.5(16)(g) Ensure that the Sports Resilient Flooring conforms to the following criteria:

- (g).1 Tensile strength: ASTM D412 to ≥ 300 psi.
- (g).2 Elongation at break: ASTM D412 to $\geq 100\%$
- (g).3 Hardness Shore A: ASTM D2240 to 75 ± 5 (wear layer), 70 ± 5 (backing)
- (g).4 Taber abrasion (H18 wheel, 1000g, 1000 cycles): ASTM D3389 to < 0.6 g loss
- (g).5 Critical radiant flux: ASTM E648 to ≥ 0.45 W/cm², class 1
- (g).6 Optical density of smoke: ASTM E662 to < 450
- (g).7 Chemical resistance: ASTM F925 compliant
- (g).8 Static load limit (tested at 250psi): ASTM F970 to ≤ 0.008 in
- (g).9 Resistance to heat: ASTM F1514 compliant
- (g).10 Colour light stability: ASTM F1515 compliant
- (g).11 Indoor air quality: CA 01350 compliant.

6.10.2.5(17) Seamless Quartz Epoxy Flooring

- 6.10.2.5(17)(a) Provide Seamless Quartz Epoxy flooring in the SLC Secure Client areas.
- 6.10.2.5(17)(b) Provide seamless epoxy flooring with 100% solids, zero VOC, solvent-free comprised of a two-component epoxy primer, a two-component epoxy resin and curing agent, coloured quartz aggregate broadcast into both primer and undercoat, and a high performance, UV-resistant two-component, clear epoxy sealer.
- 6.10.2.5(17)(c) Provide rubber wall cove base.
- 6.10.2.5(17)(d) Ensure a Dynamic coefficient of friction (DCOF) no less than 0.42 per the ANSI A137.1 standard.

6.10.2.5(18) Carpets and Carpet Tiles (insert sentence re rubber base)

- 6.10.2.5(18)(a) Only use of carpets and carpet tile in non-Client areas and non-wet areas, such as:
 - (a).1 single and multi occupancy offices;
 - (a).2 open office and administrative areas;
 - (a).3 conference and meeting rooms; and
 - (a).4 other similar administrative areas.
- 6.10.2.5(18)(b) Provide rubber wall cove base.

6.10.2.5(19) Concrete Stain:

- 6.10.2.5(19)(a) Contractors used to install/apply concrete stains will have minimum 10 years verified experience in the installation of concrete floor treatment finishes.
- 6.10.2.5(19)(b) Moisture: Ensure concrete substrate is within moisture limits prescribed by flooring manufacturer prior to applying.

6.10.2.6 Acoustic Treatment

- 6.10.2.6(1) Design and construct the Facility to comply with the minimum sound transmission ratings between spaces described in Appendix 3C [Sound Transmission Ratings].
- 6.10.2.6(2) In addition, provide acoustic treatment where sound attenuation, soundproofing or other sound control measures are necessary to create a healing environment for Clients and a safe and comfortable environment for staff and where confidentiality is required.

- 6.10.2.6(3) Sound control will include:
- 6.10.2.6(3)(a) attenuation of sound within public, Client and staff environments;
 - 6.10.2.6(3)(b) sound isolation between the exterior and interior spaces;
 - 6.10.2.6(3)(c) sound isolation between interior spaces within the building at both horizontal and vertical separations;
 - 6.10.2.6(3)(d) sound and vibration isolation of building service noises and sound isolation of building service rooms; and
- 6.10.2.6(4) 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.
- 6.10.2.6(5) Optimum sound isolation requires that the integrity of gypsum wall board partitions and ceilings (mass) never be violated by vent or grille cut-outs or by recessed cabinets, light fixtures, etc.
- 6.10.2.6(6) Where penetrations are necessary, minimize placing them back-to-back and next to each other. Stagger electrical boxes preferably by at least one stud space. Use mineral fibre insulation to seal joints around all cut-outs such as electrical, TV and telephone outlets, plumbing escutcheons, recessed cabinets, and bathtubs. Use non setting acoustical caulking to seal where the gaps are too small to insert mineral fibre insulation.
- 6.10.2.6(7) Minimize constructions such as ducts, rigid conduits, or 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 conduit.
- 6.10.2.6(8) 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.
- 6.10.2.6(9) Use acoustic screens, vibration isolators, and carefully selected exterior equipment to prevent exterior noise that neighbours may find offensive.

6.10.2.6(10) Acoustic Treatment requirements in SLC1, SLC 2, and SLC 3:

- 6.10.2.6(10)(a) Friable materials are not permitted;
- 6.10.2.6(10)(b) Acoustic panels that are framed are not permitted; and
- 6.10.2.6(10)(c) Thoroughly anchor material mounted on walls to the wall structure with concealed stainless steel tamper resistant fasteners such that they will not be compromised or removed without use of special tools;
- 6.10.2.6(10)(d) Acceptable Acoustic Wall Treatment Materials and Products:
 - (d).1 Composite wood fibre bonded with cement binders such as Tectum Panels.
 - (d).2 Semi rigid fibre glass with hardened edges and wrapped in an acoustic transparent vinyl fabric.

6.10.2.6(11) Acoustic treatment requirements in Video Court Rooms and all other rooms where video conferencing is required as indicated in the Appendix 3A [Clinical Specifications]:

- 6.10.2.6(11)(a) Project Co will comply with the acoustic requirements as described in 3F(iv)[Conference Room Design Standards].

6.10.2.7 Painting and Protective Coatings

- 6.10.2.7(1) Comply with LEED requirements for Low Emitting Materials Paints and Coatings. In particular:
 - 6.10.2.7(1)(a) architectural paints, coatings and primers: low voc.
 - 6.10.2.7(1)(b) anti-corrosive and anti-rust: low voc.
 - 6.10.2.7(1)(c) clear wood finishes, floor coatings, stains and shellacs: low VOC.
- 6.10.2.7(2) Walls, doors and shelving
 - 6.10.2.7(2)(a) Use eggshell or semi gloss for all walls, doors and painted shelving.
- 6.10.2.7(3) Door frames and metal doors
 - 6.10.2.7(3)(a) Use semi gloss for all door frames and metal doors.
- 6.10.2.7(4) Wood finish doors

- 6.10.2.7(4)(a) Use clear coat interior rub varnish for all wood finish doors.
- 6.10.2.7(5) Paint Grade Doors
 - 6.10.2.7(5)(a) Use semi gloss for all paint grade doors.
- 6.10.2.7(6) Ceilings
 - 6.10.2.7(6)(a) Use eggshell paint for all ceilings.
- 6.10.2.7(7) Floors, concrete
 - 6.10.2.7(7)(a) Use a 2-component (base component A, curing agent B).
 - 6.10.2.7(7)(b) Use a primer if part of coating system.
- 6.10.2.7(8) Paint painted Client care areas with a semi-gloss finish.
- 6.10.2.7(9) Conform to all applicable standards, including the material and workmanship requirements of Master Painters Institute (MPI) Architectural Painting Specification Manual.
- 6.10.2.7(10) Use exterior paints of a quality designed to protect substrate materials from weather and climate conditions.
- 6.10.2.7(11) 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.
- 6.10.2.7(12) Treat exterior masonry materials such as brick and concrete block with water-repellent coatings to prevent water ingress into or through the material.
- 6.10.2.7(13) Provide a special protective coating on exterior and interior materials that are subject to corrosion from exposure to moisture or other corrosive agents, and where painting is deemed to be insufficient protection. Materials requiring a special protective coating include exterior and interior structural, galvanized, and miscellaneous steel.
- 6.10.2.7(14) Use interior paint materials of a quality to withstand regular or repeated cleaning as the function of the area dictates.
- 6.10.2.7(15) Paint handrails, doors, and frames with a contrasting colour from walls in consideration of the visually impaired.
- 6.10.2.7(16) Do not use materials containing lead and mercury.

- 6.10.2.7(17) If seamless epoxy wall coatings are used, provide a two-component, high solids, zero or low VOC, solvent-free, epoxy glaze wall coating that is seamless and abrasion, chemical, and UV-resistant.

6.10.2.8 Vinyl Acrylic Wall Covering

- 6.10.2.8(1) If vinyl/acrylic wall covering is used, provide vinyl/acrylic high impact rigid sheet, nominal 10mm thickness with colour-matched vinyl/acrylic trim for joint/transitions.
- 6.10.2.8(2) Furnish complete packaged system containing all primers and adhesive. Use non water-based and non-hazardous primer and adhesive materials.

6.10.2.9 Dry Erase Wall Covering

- 6.10.2.9(1) Provide as required throughout the Facilities pigmented gloss vinyl wall covering presentation surfaces for dry erase markers, 0.61 kg/sq.m, non-woven backing.
- 6.10.2.9(2) Provide trim and other accessories including but not limited to wall covering trim of anodized aluminum, low profile trim, plastic marker dispensers, dry erase markers (set of 4 colours), low odour, and eraser, magnets, clearer, towels.

6.10.2.10 Padded Surfaces

- 6.10.2.10(1) Provide protective surface padding system for floors, walls, doors and frames for use in IPCRs.
- 6.10.2.10(2) Provide detention surface padding system which isolates Clients from hard surfaces within the room:
- 6.10.2.10(2)(a) Padded surface system will resist chipping and peeling;
 - 6.10.2.10(2)(b) Padded surface system will be easy to clean; and
 - 6.10.2.10(2)(c) Padded surface system will be water-repellent, impervious to oil, urine, salt and blood.
- 6.10.2.10(3) Door padding panels will be composed of a padded material system adhered to a 19mm thick fire resistant plywood backing board. OSB is not permitted.
- 6.10.2.10(4) Provide openings in door padding for glazed observation openings and food slots.
- 6.10.2.10(5) Quality Assurance and Quality Control:

- 6.10.2.10(5)(a) Applicator Qualifications: Application of protective surface padding will be performed by an applicator with a minimum of 5 years' experience in the successful fabrication and installation of detention surface padding system;
- 6.10.2.10(5)(b) Surface burning characteristics of detention surface padding system when tested in accordance with UL Standard 723 (ASTM E84) will be equal to or less than:
 - (b).1 Flame Spread Index 10;
 - (b).2 Fuel Contributed 10; and
 - (b).3 Smoke Developed 160,
- 6.10.2.10(5)(c) Compression Deflection (ASTM D 1056) 4 psi@ 25 % deflection;
- 6.10.2.10(5)(d) Acute Oral Toxicity Test - Non Toxic;
- 6.10.2.10(5)(e) Fungus Resistance (ASTM G-21-90) - 0 (Completely resistant); and
- 6.10.2.10(5)(f) CSS 12-100-1 Corner Test – Pass.

6.11 Specialties (Division 10)

6.11.1 Basic Requirements

- 6.11.1.1 Provide specialty products manufactured for the specific purposes intended, and installed in strict accordance with the manufacturer's directions.

6.11.2 Tackboards and Whiteboards

- 6.11.2.1 Provide, as required in the Equipment List:
 - 6.11.2.1(1) tackboard surfaces that allow pin penetration of the surface materials and have reasonable resistance to deterioration; and
 - 6.11.2.1(2) whiteboard surfaces that allow use of felt-type writing instruments and allow erasing and cleaning with minimal effort. Use porcelain ceramic on steel surface, magnetic, scratch and abrasion-resistant and have maximum contrast, glare control, and reflectivity.
- 6.11.2.2 Provide tackboards and whiteboards with extruded aluminum frames, accessory trays, map rails and map hooks.
- 6.11.2.3 Use non-toxic, water based lamination adhesive for tackboards and whiteboards.

6.11.3 Compartments and Cubicles

- 6.11.3.1 Provide compartments and cubicles including toilet partitions, change cubicles, shower partitions, and other compartments and cubicles requiring privacy and security.
- 6.11.3.2 Provide exposed surfaces that are permanent, water-resistant, corrosion-proof, and readily cleaned and maintained.
- 6.11.3.3 Secure partitions and standards to the floor or ceiling structure, and in a manner to resist lateral loading and impact.
- 6.11.3.4 For compartment/cubicle doors, use material matching the partitions and include permanent, purpose-made hardware. Design doors and hardware to provide barrier-free access.
- 6.11.3.5 Provide a mirror in all change compartments.

6.11.4 Toilet Partitions

- 6.11.4.1 Galvannealed sheet metal will conform to ASTM A653 with minimum ZF001 (A01) zinc coating. Finish in polyester, baked enamel or powder coating.
- 6.11.4.2 For stainless steel, use Type 304 conforming to ASTM A240 with No. 4 finish.
- 6.11.4.3 For plastic laminate, use Grade 10/HGS GP50 scuff-resistant, high pressure laminate, conforming to NEMA LD-3.
- 6.11.4.4 Avoid use of particleboard core partitions.
- 6.11.4.5 For fibre-reinforced plastic (fibreglass), use a moisture resistant grade.

6.11.5 Change Cubicle Partitions

- 6.11.5.1 Where not adjacent to showers, change cubicle partitions will comply with the above requirements for toilet partitions.

6.11.6 Shower Partitions

- 6.11.6.1 Use solid phenolic laminated thick stock, factory-laminated with decorative finish both faces of core and conforming to CAN3-A172 or NEMA LD3.

6.11.7 Metal Lockers

- 6.11.7.1 Provide individual and shared storage facilities in designated staff and Client areas in the Facility as described in the Appendix 3A [Clinical Specifications] and as appropriate for operation of the Main Building. Such

storage facilities may be metal lockers and metal locker systems of sizes, numbers, and groupings as determined in consultation with the Authority. Lockers will include a mix of full height, half size and purse lockers.

- 6.11.7.2 For sheet metal, use galvanized steel conforming to ASTM A653 with ZF001 (A01) zinc coating.
- 6.11.7.3 Lockers will be placed on minimum 150 mm high masonry bases finished with rubber wall cove bases.
- 6.11.7.4 Lockers will fit tightly below gypsum wall board bulkheads or be complete with sloped metal tops.
- 6.11.7.5 Finish steel surfaces with polyester baked enamel or powder coating.
- 6.11.7.6 All single, double, or multiple-tier metal lockers for staff use will have digital electronic locks, number plates and hanging hooks.

6.11.8 Storage Shelving Systems

- 6.11.8.1 Provide storage systems for materials in designated storage areas.
- 6.11.8.2 Adjustable shelving systems may be specifically manufactured for storage purposes, such as plywood or steel-slotted angle industrial shelving for bulk materials or plastic laminate-faced plywood for clean storage.
- 6.11.8.3 For mobile storage systems, provide a high-density system designed to make maximum use of available space by eliminating need for access aisle for each run of shelving. Install and brace systems to resist seismic loads. The mobile storage system will be either power assisted or will be easily operable without undue required strength by any person.

6.11.9 Washroom Accessories

- 6.11.9.1 Provide washroom accessories as specified in the Equipment List and this Schedule in all public, Client, and staff washrooms as required in accordance with the applicable high quality hospital standards. Determine the type, size, and number of accessories and placement on walls with regard for the numbers and categories of users, in consultation with the Authority.
- 6.11.9.2 Install washroom accessories to allow cleaning and maintenance of the accessory and surrounding wall area.
- 6.11.9.3 Ensure that acceptable products for SLC 1, SLC 2, and SLC 3 will comply with New York State Office of Mental Health, Patient Safety Standards – Materials and Systems Guidelines.

- 6.11.9.4 Do not use recessed dispensers (such as those for paper towels, soap and waste receptacle).
- 6.11.9.5 Use commercial grade accessories free from imperfections in manufacture and finish.
- 6.11.9.6 Use fittings with concealed fastening for security and discouragement of tampering.
- 6.11.9.7 Staff and public washroom accessories will include the following:
 - 6.11.9.7(1) soap dispensers;
 - 6.11.9.7(2) toilet paper dispensers;
 - 6.11.9.7(3) paper towel dispensers – “hands free” type;
 - 6.11.9.7(4) paper towel disposals;
 - 6.11.9.7(5) mirrors;
 - 6.11.9.7(6) barrier-free grab bars (with integral tactile grip finish);
 - 6.11.9.7(7) coat hooks;
 - 6.11.9.7(8) sanitary napkin dispensers;
 - 6.11.9.7(9) sanitary napkin disposals;
 - 6.11.9.7(10) baby change table; and
 - 6.11.9.7(11) utility shelf.
- 6.11.9.8 Client washroom accessories will include the following:
 - 6.11.9.8(1) soap dispensers;
 - 6.11.9.8(2) toilet paper dispensers;
 - 6.11.9.8(3) paper towel dispensers;
 - 6.11.9.8(4) paper towel disposals;
 - 6.11.9.8(5) mirrors;
 - 6.11.9.8(6) handicap grab bars (with integral tactile grip finish);
 - 6.11.9.8(7) coat hooks; and
 - 6.11.9.8(8) utility shelf.

6.11.9.9 Shower rooms or showers in washrooms will include the following accessories:

- 6.11.9.9(1) shower curtain and track or rod as appropriate;
- 6.11.9.9(2) handicap grab bars; and
- 6.11.9.9(3) fold-down shower seat.

6.11.10 Elevated Access Flooring

- 6.11.10.1 Provide an elevated access flooring system (“**Elevated Flooring**”) where appropriate, including in all server rooms and control rooms, and other rooms as appropriate and Reviewed by the Authority.
- 6.11.10.2 The Elevated Flooring assembly will consist of modular floor panels laid out on a grid system, supported by and secured to the under-structure. Panels will be supported by an adjustable pedestal base that positively located, engages and secures panels and that accommodates horizontal grid members as required.
- 6.11.10.3 The Elevated Flooring is to facilitate electrical, communication and computer service lines and mechanical ducting, and may service various areas as air supply or return plenums in the cavity portion below, provided that it fully accommodates the functional uses it serves above. The area below the Elevated Flooring may be a pressurized area.
- 6.11.10.4 Panels will be easily removable by one person with standard tools and a lifting device and will be interchangeable, except for cut-out panels. Cut-out panels will be interchangeable with solid panels.

6.11.11 Shower Curtains and Track

- 6.11.11.1 Provide shower curtains meeting the following requirements for all private Client washrooms:
 - 6.11.11.1(1) Curtain material compliant with NFPA-701 and CAN/ULC-S109, made of breathable fabric, with colour and style as approved by the Authority.
 - 6.11.11.1(2) Clips/carriers for the shower curtain will be “break-away” and release upon 10lbs of pressure.
 - 6.11.11.1(3) Mesh to be fire rated to comply with NFPA-701 and CAN/ULC-S109. Fabric, colour and style as approved by Authority.
- 6.11.11.2 Provide shower tracks meeting the following requirements for all private Client washrooms:

6.11.11.2(1) track will be recessed in the ceiling in one piece of extruded aluminum running from wall to wall and secured with tamper-proof screws; and

6.11.11.2(2) track is not permitted to “break-away”.

6.11.12 Folding Panel Partitions

6.11.12.1 Provide folding panel partitions with acoustic seal for subdividing the EOC into 3 separate meeting rooms in accordance with the Appendix 3A [Clinical Specifications].

6.11.12.2 Provide an access door in each folding panel partition to allow access from meeting room to meeting room.

6.11.13 Operable Partitions – Vertically Folding

6.11.13.1 Provide vertically folding partitions with the following requirements:

6.11.13.1(1) The folding partition will have a minimum sound rating of minimum STC 49 tested in accordance with ASTM E90-04 specification and as certified by a laboratory test carried out on a 4267 mm x 2743 mm (14' x 9') partition supplied and installed by the manufacturer. Upon request a copy of the test result will be submitted to the Consultant.

6.11.13.1(2) The design life of the folding partition will be 10,000 complete closed to opened to closed cycles.

6.11.13.1(3) Components and finishes will be tested in accordance with CAN-ULC S102, Class A.

6.11.13.1(4) The folding partition will be visibly flat and rigid in the down (closed) position.

6.11.13.1(5) There will be no exposed hinges, brackets, screws, and no part of the mechanical system will be visible when the folding partition is in the down (closed) position.

6.11.13.1(6) Panel edges will be right angled, with a minimum radius not more than 1.6 mm (1/16”).

6.11.13.1(7) Panels will be rectangular, nominally of the same size, unless requested otherwise by the architect.

6.11.13.1(8) Joints between panel, vertical and horizontal, will be no more than approximately 12.7 mm (1/2”) wide.

- 6.11.13.1(9) For folding partitions between 7315 mm (24'-0") and 10.67 m (35'-0") to the beam, the folding partition will stack in the up (open) position into a space no greater than 1650 mm (65") wide. The folding partition will have a stacking height ratio in the range of 1:5 to 1:10, depending on the height of the wall.
- 6.11.13.1(10) Each acoustical panel will be individually removable using only a screw driver. No special tools or equipment will be required. The removal of a single acoustical panel will not affect, dislocate or cause the removal of any adjacent panels or other acoustical panels.
- 6.11.13.1(11) The folding partition will be mechanically operable with a few of the acoustical panels removed from one, or both sides of the folding partition.
- 6.11.13.1(12) The folding partition will not weigh more than 39.1 kg/m² (8 lb/ft²), not including the lifting equipment and the architectural finish on the acoustical panels.
- 6.11.13.1(13) Factory assemble all components, assemblies and systems into the largest possible assemblies in order to minimize the amount of assembly on site.
- 6.11.13.1(14) Acoustic panels:
- 6.11.13.1(14)(a) Acoustical panels will be fabricated stiff in order to satisfy the rigid criteria when the folding partition is down (closed) and to ensure that there is no interference between panels when the wall is in motion.
 - 6.11.13.1(14)(b) Acoustical panels will be flat with no bowing, oil canning, warping, waviness or any other surface deformation and discontinuity.
 - 6.11.13.1(14)(c) Panel flamespread ratings: Class A flamespread rating of 25 or under in accordance with CAN/ULC-S102-03.
 - 6.11.13.1(14)(d) Finish; conforming to folding partition manufacturer's written requirements, to a maximum thickness of 3.2 mm (1/8") and maximum weight of finish material of 1/2 kg/m² (0.1 lb/ft²).
- 6.11.13.1(15) Folding mechanism:
- 6.11.13.1(15)(a) The hanging, folding and extension mechanism will be, as much as possible, made from structural grade

aluminum extrusions and structural shapes, in order to minimize the weight of the system.

- 6.11.13.1(15)(b) All wear surfaces, such as bushings, spacers, pins, discs, bearings, sleeves will be designed to function quietly and with minimum wear, over the cycle design life of the folding partition.
- 6.11.13.1(15)(c) The hangers, which fasten the lifting mechanism to the support steel, will be fabricated from steel and will be welded or bolted to the support steel supplied by others.

6.11.13.1(16) Lifting equipment:

- 6.11.13.1(16)(a) The lifting equipment will be sized properly so that it will open and close the wall effectively over the cycle design life of the wall, at the minimum design speed specified.
- 6.11.13.1(16)(b) The lifting mechanism will be designed to function smoothly, quietly and safely. Wherever possible, ball bearings will be used instead of bushings and wear surfaces. In no circumstance will chain or belt drive systems be acceptable.
- 6.11.13.1(16)(c) There will be a wire rope cable for every set of lifting mechanisms. This cable will be of 6 x 31 construction aircraft cable and will be made of galvanized steel. The diameter of the cables will be sized so that they will be able to hold the entire weight of the wall, with the appropriate safety factor.

6.11.13.1(17) Safety equipment:

- 6.11.13.1(17)(a) The folding partition will employ an electromagnetic type of brake which will activate firmly, without hesitation, when power is lost to the system. This brake will have a minimum retarding torque rating equal to 200% of the power drive full load torque. A manual break release lever is supplied on the motor.
- 6.11.13.1(17)(b) The folding partition will employ a dynamic brake, distinct and separate from the electromagnetic type brake, in order to lower the wall at a controlled speed of no more than approximately 150% of the normal down speed, in the case of a catastrophic failure in the power train. Alternately, the folding partition will employ a brake, distinct and separate from the electromagnetic type brake, in order to completely halt the downward

motion of the wall in the case of a catastrophic failure in the power train.

- 6.11.13.1(17)(c) The folding partition will employ electrical or other limit switches in order to stop the wall at its up and down travel limits.
- 6.11.13.1(17)(d) The folding partition will employ an over torque detector in order to sense a jam in the system and to act as an over travel limit in the up direction will the primary limit switch fail to act once the folding partition has reached the fully up (open) position. This over torque sensor will be mechanical, using the motor's torque arm in its over torque detection.
- 6.11.13.1(17)(e) The entire length of the bottom edge of the folding partition will be equipped with a continuous pressure sensing strip which will cut power to the lifting equipment and will activate the electromagnetic type brake, if the sensing edge comes in firm contact with an object, before the wall is in the full down (closed) position. The power will remain cut to the lifting equipment until the key switch has been released or the direction of the wall has been reversed and the obstruction is removed.

6.11.13.1(18) Operation:

- 6.11.13.1(18)(a) The folding partition will be opened and closed using a spring return, 3 position key switch. Turning the key from the "off" position will cause the wall to move in the designated direction "up" or "down". When hand pressure is removed, the wall will immediately stop. The folding partition will stop in a quick and positive fashion without coasting. Under normal conditions, it will be possible to partially open (or close) the wall, stop it and then reverse the operation. There will be 2 key switches per folding partition, on either side of the axis of the wall.
- 6.11.13.1(18)(b) From a fully open position, the wall will be able to go through its entire cycle of closing and/or opening without any manual intervention.
- 6.11.13.1(18)(c) When the folding partition is being lowered (closed) it will come automatically to rest once it has reached the fully down (closed) position.

- 6.11.13.1(18)(d) When the folding partition is being lifted (opened) it will come automatically to rest once it has reached the fully up (open) position
- 6.11.13.1(18)(e) The folding partition will automatically and acoustically seal against the flo or without the need for any manual intervention. The floor seals will leave a joint between the floor and the bottom acoustical panels of not more than approximately 51 mm (2").
- 6.11.13.1(18)(f) The folding partition will automatically and acoustically seal against the two end walls without the need of any manual intervention. The end seals will act in such a way as not to come into contact with the end walls while the folding partition is in motion. The end seals will leave a joint between the acoustical panels and the end walls of no more than approximately 25.4 mm (1"). Seals will not rub or brush against the end walls. Once the wall reaches the fully down position, the end seals will activate automatically. The key switch must be held for the duration of the operation.
- 6.11.13.1(18)(g) The folding partition will automatically and acoustically seal against the ceiling without any manual intervention. The top seals will leave a joint between the top acoustical panels and the ceiling of the pocket of not more than approximately 51 mm (2").
- 6.11.13.1(18)(h) The folding partition will open and close at a constant nominal speed of approximately 1.5. to 3 m/min (5 to 10 ft/min).
- 6.11.13.1(18)(i) When the folding partition is being lowered (closed), it will stop if the leading (bottom) edge comes into firm contact with any object between it and the floor. The regular operation of the wall will resume once the key switch has been released and the direction of the wall has been reversed and the obstruction removed.

6.11.14 Electric Fireplace

- 6.11.14.1 Provide manufactured electric fireplaces in the locations identified in the Appendix 3A [Clinical Specifications].
- 6.11.14.2 Fireplaces will have all components and accessories for a complete, functional unit listed to UL or WHI and will be front view, opening-sealed unit and non-venting, with a fire on/off switch, log set and log grates.

6.11.15 Mail Slots

- 6.11.15.1 Provide mail slots that are a minimum of 25mm wide, 350mm high and 400mm deep, in locations identified in the Appendix 3A [Clinical Specifications].

6.12 Equipment (Division 11)

6.12.1 Refer to Section 7 of Schedule 2 [Design and Construction Protocols] and Appendix 2D [Equipment and Furniture].

6.12.2 Equipment Supports

- 6.12.2.1 Provide equipment supports for equipment outlined in Appendix 2D [Equipment and Furniture], with proper backing and structural reinforcing as described in Section 5.3 Post Disaster Requirements.

6.12.3 Client Lifts

6.12.3.1 General. Project Co will design and construct the Main Building to include Client lifts at the room locations specified in the Clinical Specifications of the type, weight requirement and quantity specified in the Clinical Specifications. Refer to Appendix 2D [Equipment and Furniture] and the Equipment List for responsibilities related to Client lift motors, carry bars and chargers. Project Co will provide all equipment and components not specifically listed in the Equipment List as required to integrate the Client lift equipment into the Main Building, including tracks and docking stations for all Client lifts.

6.12.3.2 Non-Bariatric/Standard Client Lifts. Project Co will design and construct the Main Building to include non-bariatric Client lifts that have a Client load bearing capacity of 272 kg at the room locations indicated in the Clinical Specifications with a quantity shown in the column titled "standard". Project Co will design and construct all non-bariatric Client lift systems so that any traverses will be manual and will accommodate safe transfer of a Client by one Authority staff member.

6.12.3.3 Client Tub Rooms.

6.12.3.3(1) In all Client tub rooms, Project Co will provide backing and structural reinforcing in the ceiling to support the installation of Client lifts.

6.12.3.3(2) Project Co will design and construct all rooms identified in the Clinical Specifications as requiring Client lifts, to include a Client lift system that:

6.12.3.3(2)(a) is a ceiling-mounted X-Y gantry track lift system in the Client bedroom; and

6.12.3.3(2)(b) allows for Client pick up and care functions (turning, boosting, re-positioning, supporting/holding limbs) from all areas of the Client bedroom designed for Client use or access. The Client bedroom boom and gantry is to transfer to a single lift track to the en-suite washroom so as to enable Client use of the toilet, sink, shower and/or tub.

6.12.3.4 Project Co will design and construct an innovative lift system design for the Main Building that provides for effective transition points between the X-Y gantry tracks.

6.12.3.5 Project Co will design and construct the Main Building so that ceiling heights in all rooms containing Client lifts will accommodate Client mobility on lifts when using specialized ambulatory slings and carry bars; and so that a Client's lower limbs will clear the edge of bed/stretchers/tub during seated transfers.

6.12.3.6 Project Co will undertake final design of all Client lift systems in consultation with the Authority and Client lift equipment suppliers.

6.12.4 Window Washing Systems

6.12.4.1 Provide equipment or appropriate anchors to facilitate window washing.

6.12.5 Loading Dock Equipment

6.12.5.1 Provide a loading dock with the following:

6.12.5.1(1) docking bays for trucks, each with built in dock leveller;

6.12.5.1(2) waste compactor bays;

6.12.5.1(3) recycling bay; and

6.12.5.1(4) access stair and ramp access.

Refer to Appendix 3A [Clinical Specifications] for quantities of items described above.

6.12.5.2 The loading dock will be an external covered area, with a height of 4300mm overhead clearance.

6.12.5.3 Provide lighting over the loading dock to allow night time functionality.

6.12.5.4 The loading dock platform will be 1200mm higher than the truck bay.

6.12.5.5 Dock Bumpers.

- 6.12.5.5(1) Provide a dock bumper at each truck bay equipped with a built in dock leveller.

6.12.5.6 Dock Leveller

- 6.12.5.6(1) Provide pit style dock levellers, one per truck bay, in the loading dock area to facilitate deliveries as outlined in the Appendix 3A [Clinical Specifications] in the material management section;
- 6.12.5.6(2) The dock leveller is to be a hydraulic style lift system, equipped with a push button remote control;
- 6.12.5.6(3) Assume an operational maximum tilt of 10 degrees for the dock leveller, based on a 52" – 55" high truck bed; and
- 6.12.5.6(4) Provide each dock leveller with a minimum lifting capacity of 22,727 kg.

6.12.6 Scissor Lift

- 6.12.6.1 Provide a permanent, hydraulic style scissor lift at the Loading Dock as indicated in the Appendix 3A [Clinical Specifications].
- 6.12.6.2 The scissor lift will have the height extension required to reach any mezzanines as applicable.
- 6.12.6.3 Design the scissor lift to fit in the floor slab recess to ensure its platform is flush with the finished floor level.
- 6.12.6.4 The scissor lift will have the following features:
 - 6.12.6.4(1) a push button remote control;
 - 6.12.6.4(2) warning lights and sirens for use when the unit is in operation;
 - 6.12.6.4(3) a swing gate to allow easy access to the platform; and
 - 6.12.6.4(4) a built-in scale.
- 6.12.6.5 The scissor lift will be 1200mm x 2400mm with minimum lift capacity of 1000kg.

6.12.7 Psychiatric Bed

- 6.12.7.1 Provide a floor-mounted fixed bed engineered to withstand daily use in intensive healthcare and correctional environments as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.7.2 The bed will have the following features:

6.12.7.2(1) Maintenance free, fire retardant surface chemically resistant to bodily fluids and excrement, with raised lip at bed deck for fluid retainage;

6.12.7.2(2) 454 kg static load limit or greater; and

6.12.7.2(3) Rigid structural polyurethane foam fill.

6.12.7.3 The bed will be 2032mm x 1016mm x 394mm.

6.12.8 TV Bracket

6.12.8.1 Provide a wall-mounted fixed flat screen television bracket engineered to withstand daily use in intensive healthcare and correctional environments as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.8.2 The bracket will have the following features:

6.12.8.2(1) Holds TV sizes from 30 to 60”;

6.12.8.2(2) Adjustable tilt;

6.12.8.2(3) 59 Kg load limit or greater; and

6.12.8.2(4) CSA listed.

6.12.9 Narcotics Cabinet

6.12.9.1 Provide a wall-mounted narcotics cabinet engineered to withstand daily use in intensive healthcare and correctional environments as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.9.2 The cabinet will have the following features:

6.12.9.2(1) Heavy gauge stainless steel construction with continuous door hinge;

6.12.9.2(2) Cylinder lock and key for door; and

6.12.9.2(3) 2 adjustable shelves.

6.12.9.3 The cabinet will be 457mm x 229 mm x 686mm.

6.12.10 Dental Chair With Delivery System

6.12.10.1 Provide a dental chair with delivery system as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.10.2 The dental chair system will have the following features:

- 6.12.10.2(1) Four (4) position control block;
- 6.12.10.2(2) Two (2) brake handles;
- 6.12.10.2(3) Traditional style delivery system with left/right conversion and independently adjustable handpiece controllers;
- 6.12.10.2(4) Wet/dry foot control and touchpad control;
- 6.12.10.2(5) Dental chair lift height range of 343mm to 800mm, 30 degree side to side swivel, +62 to -12 degree recline range, and dual articulating back rest;
- 6.12.10.2(6) Intraoral light source;
- 6.12.10.2(7) Self-contained water bottle;
- 6.12.10.2(8) Operation on 115VAC; and
- 6.12.10.2(9) CSA listed.

6.12.11 Wall Mounted Glove Box Dispenser

6.12.11.1 Provide a wall mounted glove box dispenser as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.11.2 The glove box will have the following features:

- 6.12.11.2(1) Stainless steel construction; and
- 6.12.11.2(2) Holds one (1) box of exam gloves.

6.12.11.3 The glovebox dispenser will be 268mm x 95.25 mm x 102mm.

6.12.12 Wall Mounted Face Mask Dispenser

6.12.12.1 Provide a wall mounted face mask dispenser as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.12.2 The face mask dispenser will have the following features:

- 6.12.12.2(1) Steel construction with baked enamel finish; and
- 6.12.12.2(2) Holds one (1) box of face masks.

6.12.12.3 The mask dispenser will be 190.5mm x 1025 mm x 216mm.

6.12.13 Wall Mounted Ice Machine

6.12.13.1 Provide a wall mounted ice machine as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.13.2 The ice machine will have the following features:

6.12.13.2(1) Brushed stainless steel exterior;

6.12.13.2(2) Touchless dispensing of water and nugget ice;

6.12.13.2(3) 12 kg ice storage capacity;

6.12.13.2(4) Air-cooled operation;

6.12.13.2(5) 12 kg ice storage capacity; and

6.12.13.2(6) 120VAC operation, CSA listed.

6.12.13.3 The ice dispenser will be 660mm x 571mm x 1,041mm.

6.12.14 Ceiling Mounted Dental Light

6.12.14.1 Provide a ceiling mounted dental procedure light as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.14.2 The dental light will have the following features:

6.12.14.2(1) LED lights;

6.12.14.2(2) 5000 degree Kelvin color temperature;

6.12.14.2(3) Adjustable light intensities of 15K, 25K, and 30K lux;

6.12.14.2(4) Light power/intensity control either via wireless touchpad or unit mounted controls;

6.12.14.2(5) Drift-free positioning via light, yoke and arm assemblies; and

6.12.14.2(6) 120VAC operation, CSA listed.

6.12.15 Diagnostic Set

6.12.15.1 Provide a wall mounted diagnostic set inclusive of an oto/ophthalmoscope, thermometer, and specula dispenser as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.15.2 The diagnostic set will have the following features:

6.12.15.2(1) An oto/ophthalmoscope transformer and handles, with one each coaxial ophthalmoscope and diagnostic otoscope heads inclusive of anti-theft lock rings;

- 6.12.15.2(2) Specula dispenser for otoscope head;
- 6.12.15.2(3) Battery operated, electronic, intra-oral thermometer with integralprobe cover storage;
- 6.12.15.2(4) System components listed above mounted to a 864mm x 305mm wall board for wall mounting; and
- 6.12.15.2(5) Operation of oto/ophthalmoscope on 120VAC.

6.12.16 Wall Mounted Apron Rack

- 6.12.16.1 Provide a wall mounted x-ray apron rack as indicated in the Appendix 2D [Equipment and Furniture] equipment list.
- 6.12.16.2 The apron rack will have the following features:
 - 6.12.16.2(1) Heavy-duty aluminum construction with powder coat finish; and
 - 6.12.16.2(2) Hold two (2) x-ray aprons.
- 6.12.16.3 The apron rack will be 300mm x 76 mm.

6.12.17 Wall Mounted Rail

- 6.12.17.1 Provide a wall mounted rail as indicated on the Appendix 2D [Equipment and Furniture] equipment list.
- 6.12.17.2 The rail will have the following features:
 - 6.12.17.2(1) Reinforce polyurethathane construction; and
 - 6.12.17.2(2) Rated at 45.5 kg per 305mm.
- 6.12.17.3 The rail will be 1219mm x 152.4mm.

6.12.18 Wall Mounted Projection Screen

- 6.12.18.1 Provide a wall mounted projection screen as indicated on the Appendix 2D [Equipment and Furniture] equipment list.
- 6.12.18.2 The projection screen will have the following features:
 - 6.12.18.2(1) Flame retardant and mildew resistant screen;
 - 6.12.18.2(2) Screen size of 1524mm x 1524mm;
 - 6.12.18.2(3) Case and screen slat pull of steel with baked enamel finish;
 - 6.12.18.2(4) Vibration damped, lubed for life pover roller system;

6.12.18.2(5) Wall mounted configuration; and

6.12.18.2(6) 120 VAC operation, CSA or UL listing.

6.12.19 Dishwasher

6.12.19.1 Provide an ADA accessible undercounter dishwasher as indicated on the Appendix 2D equipment list.

6.12.19.2 The dishwasher will have the following features:

6.12.19.2(1) 5 –level wash design;

6.12.19.2(2) Control lockout;

6.12.19.2(3) Energy-saver cycles;

6.12.19.2(4) Rinse only cycle;

6.12.19.2(5) Sound insulated;

6.12.19.2(6) Height adjustable from 825.5mm to 899mm; and

6.12.19.2(7) 120 VAC operation, CSA or UL listing.

6.12.19.3 The dishwasher will be 610mm x 610 mm x 825.5mm (ADA Height).

6.12.20 Wall Mounted Intraoral Dental X-ray

6.12.20.1 Provide a wall mounted intraoral x-ray unit as indicated on the Appendix 2D [Equipment and Furniture] equipment list.

6.12.20.2 The x-ray system will have the following features:

6.12.20.2(1) Focal spot 0.4 per IEC 386;

6.12.20.2(2) Tube voltage selectable from 60kV to 70kV;

6.12.20.2(3) High frequency generator;

6.12.20.2(4) 7 ma tube current;

6.12.20.2(5) Selectable exposure time from 0.01 to 3.2 seconds;

6.12.20.2(6) Selectable detector media with adaptable exposure tables;

6.12.20.2(7) Selectable automatic sleep mode;

6.12.20.2(8) 2040mm maximum reach of support arms;

6.12.20.2(9) 330 degree tube head rotation; and

6.12.20.2(10) 120 VAC operation, CSA or UL listing.

6.13 Furnishings (Division 12)

6.13.1 Millwork, Casework, Clinical Systems Furniture and Systems Furniture

- 6.13.1.1 In addition to Project Co's obligation to provide Category B and E Equipment, Project Co will provide and install all millwork, casework, clinical systems furniture, systems furniture and accessories as required to support the programs and functions described in the Appendix 3A [Clinical Specifications] or as required to support the operation of the buildings.
- 6.13.1.2 Appendix 3G [Millwork, Casework and Systems Furniture] lists the locations in which millwork, casework, clinical systems furniture or systems furniture are required. Subject to Sections 6.13.1.5(1) and 6.13.1.6(1), Project Co may use millwork, casework, clinical systems or systems furniture interchangeably to satisfy the requirements of Appendix 3G [Millwork, Casework and Systems Furniture]. Project Co will submit an initial layout and configuration for review by the Authority.
- 6.13.1.3 Project Co, in consultation with the Authority and during the user consultation process described in Appendix 2B [User Consultation and Design Review], will establish which option (millwork, casework, clinical systems or systems furniture) best meets the Authority's functional needs for each space and will achieve the most appropriate level of flexibility, re-configurability, serviceability, and reusability between all areas of the Facility.
- 6.13.1.4 Millwork means custom fabricated wood or metal cabinetry and counter components and accessories that are installed with little or no modification. Millwork or casework may require mechanical, electrical power and data service connections.
- 6.13.1.5 Millwork or casework components will include but are not limited to work surfaces (such as counters and work benches) and storage (such as cabinetry, files, drawers, wardrobes and cabinets).
- 6.13.1.5(1) Project Co will provide the following as millwork:
- 6.13.1.5(1)(a) kitchen and pantry counters, upper and lower cabinets, drawers and shelving;
 - 6.13.1.5(1)(b) utility room counters, storage cabinetry and shelving;
 - 6.13.1.5(1)(c) Client room lockable wardrobes, including shelving, drawers, coat rods, counters and cabinets; locks will be digital electronic;

- 6.13.1.5(1)(d) workroom counters and storage;
- 6.13.1.5(1)(e) security kiosks; and
- 6.13.1.5(1)(f) vanity counters containing sinks.

6.13.1.6 Modular Casework means a composition of factory produced, quickly installed parts that are easily replaceable, reconfigurable and interchangeable. Casework will be rearranged to change configuration or to include additional modules as needed.

6.13.1.6(1) Project Co will provide the following as modular casework:

- 6.13.1.6(1)(a) pharmacy casework;
- 6.13.1.6(1)(b) medication room work surfaces, upper and lower cabinetry, shelving and storage components; and
- 6.13.1.6(1)(c) clinical, exam and treatment room counters, upper and lower cabinets, shelving and storage.

6.13.1.7 Clinical systems furniture means a factory produced, component system designed to be replaceable, reconfigurable, and interchangeable, and designed for specific use in health care facilities. Clinical furniture systems will be rearranged to change the configuration or to include additional modules and accessories as necessary. Clinical systems furniture requires electrical power and data service connections.

6.13.1.7(1) Without limitation, Project Co may use clinical systems furniture for the following:

- 6.13.1.7(1)(a) nursing workstations;
- 6.13.1.7(1)(b) charting alcoves;
- 6.13.1.7(1)(c) triage desk;
- 6.13.1.7(1)(d) unit clerk stations;
- 6.13.1.7(1)(e) team care stations;
- 6.13.1.7(1)(f) registration cubicles;
- 6.13.1.7(1)(g) adjustable height workstations;
- 6.13.1.7(1)(h) reception desks;
- 6.13.1.7(1)(i) information desks; and
- 6.13.1.7(1)(j) triage desks.

- 6.13.1.8 Project Co will provide all accessories, storage, cabinetry, upper and lower shelving, keyboard trays and counters necessary to facilitate efficient clinical operations.
- 6.13.1.9 Systems furniture means a composition of factory-produced wall mounted or partition components that are easily reconfigurable and interchangeable. Systems furniture is designed for office or commercial use and includes accessories and attachments which complete its functionality. Systems furniture requires electrical power and data service connections.
- 6.13.1.9(1) Without limitation, Project Co may use systems furniture for the following:
- 6.13.1.9(1)(a) office workstations including desks, shelving, cabinets, keyboards and accessories;
 - 6.13.1.9(1)(b) cubicle partitions;
 - 6.13.1.9(1)(c) reception desks;
 - 6.13.1.9(1)(d) information desks; and
 - 6.13.1.9(1)(e) work/study carrels.

6.13.2 Furniture

- 6.13.2.1 Furniture means loose or unattached items that can be rearranged to suit various activities and includes:
- 6.13.2.1(1) coffee tables and side tables;
 - 6.13.2.1(2) unattached seating (such as chairs and stools); and
 - 6.13.2.1(3) office desks.
- 6.13.2.2 All furniture and millwork supplied by Project Co will meet the following requirements:
- 6.13.2.2(1) Flexibility
- 6.13.2.2(1)(a) Products must offer modular solutions that will enable flexibility and Lean principles to be practiced. Furniture pieces will:
 - (a).1 allow for individualization;
 - (a).2 possess the ability to be used in different applications or flex easily for future use;
 - (a).3 use non-handed solutions that work in multiple configurations, when possible.

- 6.13.2.2(2) Durability
- 6.13.2.2(3) Activity, waiting, and dining room furniture will be engineered for high traffic use.
- 6.13.2.2(4) Client room furniture will be designed in conjunction with healthcare professionals and be tested to ensure durability and function.
- 6.13.2.2(5) Furniture will conform to the Upholstery Section under “Cleaning and Ease of Maintenance” for additional criteria related to durability.
- 6.13.2.2(6) Construction
 - 6.13.2.2(6)(a) The quality and make of the product (its construction, finish materials, and maintenance requirements) will be suitable for long term use and be designed for intense performance.
 - 6.13.2.2(6)(b) Products with replaceable components are preferred.
 - 6.13.2.2(6)(c) Wood furniture will be avoided in Private Client rooms, waiting rooms, unit offices, nurses’ stations, treatment rooms, holding rooms, staff rooms and conference rooms. Where utilized, wood pieces will be constructed of:
 - (c).1 Solid wood frames of kiln dried wood for added strength and long term durability.
 - (c).2 A frame capable of supporting varying weights and body types and offering ease and reassurance to both Clients and care providers.
 - (c).3 Plastic laminates will be used in place of real wood when a wood-look is desired.
- 6.13.2.2(7) Seating
 - 6.13.2.2(7)(a) In waiting room and Client seating, steel tube construction and spring-seat construction are preferred.
 - 6.13.2.2(7)(b) Seating with wall-saver legs or a wall-saver back design is preferred.
 - 6.13.2.2(7)(c) Seating products with arms will include polyurethane arm caps rather than upholstered arm caps.
 - 6.13.2.2(7)(d) See upholstered notes referenced throughout this document for information on upholstered seating products.

6.13.2.2(7)(e) See Section 6.13.2.2(11) and 6.13.2.2(14) for additional requirements.

6.13.2.2(8) Tables

6.13.2.2(8)(a) For durability in waiting rooms and high traffic areas, horizontal table surfaces of solid surface material tops or plastic laminate are preferred.

6.13.2.2(8)(b) Low VOC polyurethane sealed woods will be used on vertical surfaces if plastic laminate is not available.

6.13.2.2(8)(c) Edges will feature an ergonomic profile for user comfort and be of durable material composition and construction.

6.13.2.2(9) Workstations/Desks

6.13.2.2(9)(a) Refer to individual specifications for material composition and finish information.

6.13.2.2(9)(b) When installed, two adjoining end panels of work surfaces will be leveled so work surfaces sit at the same height.

6.13.2.2(9)(c) Tackboard, if specified with desk and/or workstation, between hutch and worktop, will span from work surface top to underside of overhead cabinetry leaving no visible gaps, while, at the same time, managing task light wires, if specified with assembly.

6.13.2.2(9)(d) Front edge of keyboard platform will be set back from front edge of work surface and/or table.

6.13.2.2(9)(e) Any “smart” or “hardwired” furniture will be fully coordinated for proper circuitry and any other building requirements.

6.13.2.2(10) Filing / Storage

6.13.2.2(10)(a) Filing is for letter filing, unless specified otherwise. In order to maximize filing capacity, files will be set up for side-to-side filing.

6.13.2.2(10)(b) During installation, the conversion parts of the files will be left in the file to allow for front-to-back / side-to-side conversion at a later time.

- 6.13.2.2(10)(c) Filing will be equipped with hanging frames at the time of installation.
- 6.13.2.2(10)(d) At a minimum, two-drawer files will include a counter-balance package as recommended by the product manufacturer.
- 6.13.2.2(10)(e) Lockable storage will be keyed as per the building keying system. Keying schedule to be determined with the Authority.

6.13.2.2(11) Cleaning and Ease of Maintenance

- 6.13.2.2(11)(a) The size, shape, and design of the furniture will allow easy access for cleaning.
- 6.13.2.2(11)(b) Materials, upholstery, and finishes will be capable of withstanding institutional grade detergents, cleaners, and disinfectants with no effect on the appearance, integrity, or life of the product. Selection will be based on the understanding of the principles of decontamination and maintenance requirements (able to withstand multiple applications of diluted disinfectants over time).
- 6.13.2.2(11)(c) Project Co will request that manufacturers provide detailed cleaning and disinfection guidelines prior to Project Co's purchase along with a thorough listing of which cleaning products will be used on their products. Project Co will review instructions to ensure they are clear and cleanable with Authority approved detergents and disinfectants.
- 6.13.2.2(11)(d) Other upholstered soft furnishings will have the following characteristics:
 - (d).1 Be seamless where possible or have double stitched seams located on the non-contact areas of the furniture or sealed.
 - (d).2 Limited pleating.
 - (d).3 Upholstered furniture in care areas will be covered with fabrics that are fluid-resistant, non-porous and will withstand cleaning with hospital grade disinfectants.
 - (d).4 Seating will have removable seat cushions for cleanability and/or "clean-out" spaces between the seat and back for lounge seating applications.

- (d).5 Seating will have removable upholstery covers for both the seat and back, if applicable. Attic stock of the removable upholstery covers will be ordered with the original purchase, in the amount of 5% of the total waiting room and Client room seating.
- (d).6 Have high-density foam cores with a moisture barrier and resistance to mold.

6.13.2.2(11)(e) Upholstery will:

- (e).1 be impermeable to water and quick-drying;
- (e).2 be anti-microbial, and/or have anti-microbial inhibitor technology;
- (e).3 have a good abrasion rating for high-use areas (with a minimum of 100,000 DR (ASTM D4157-02 Wyzenbeek Test Method);
- (e).4 have a high-rating for color-fastness, exceeding 40 hours (AATCC Method 16A);
- (e).5 be stain-resistant;
- (e).6 be latex-free;
- (e).7 have low volatile organic compounds;
- (e).8 contain no heavy metals;
- (e).9 have no halogenated flame retardant materials or perfluorinated chemicals;
- (e).10 have limited use of polyvinyl chloride, avoiding use of polyvinyl chloride where possible.

6.13.2.2(12) Infection Prevention and Control

- 6.13.2.2(12)(a) Organic finish substances (e.g. wood), which will be exposed to a liquid, and upholstered furnishings, will be avoided, or at least minimized, in areas where immunocompromised Clients are present.
- 6.13.2.2(12)(b) The use of impermeable upholstery (such as vinyl) is permitted in high-risk areas (high-risk applies to any areas specifically used by Clients, including Private Client rooms and waiting rooms) and any area where a healthcare worker goes after providing direct Client care (including nursing station, staff lounge, report area, conference rooms and office within Client care areas). Polyurethane fabrics are preferred, if they meet the requirements of the application.
- 6.13.2.2(12)(c) Durable, cleanable fabrics are appropriate in low risk areas. A low level of risk applies to any office areas

where staff members are not providing direct Client care, or return to after providing direct Client care.

6.13.2.2(13) Environmentally Sensitive

- 6.13.2.2(13)(a) Products will be GREENGUARD certified, and be designed to achieve reduced environment impact.
- 6.13.2.2(13)(b) If wood products are used, lumber will come from responsibly managed forests, with each piece utilized to its full capacity. Wood will have low formaldehyde emissions with little to no CFC's used in the production of the materials.
- 6.13.2.2(13)(c) Furnishings will follow the Lean principles outlined in Section 3.4 of this Schedule.

6.13.2.2(14) Comfort, Ergonomics, and Safety

- 6.13.2.2(14)(a) Waiting room furniture will be designed to promote comfort and long term durability.
- 6.13.2.2(14)(b) The product construction and design will avoid stress and fatigue to the Client.
- 6.13.2.2(14)(c) Seating will have the stability to assist the Client or visitor in entering and exiting the chair.
- 6.13.2.2(14)(d) All items of furniture (including tables) will be stable and will not move or tip over when touched by a person requiring support.
- 6.13.2.2(14)(e) Furniture will not constitute a hazard for persons who have visual limitations and will be usable by persons with varying abilities and disabilities.
- 6.13.2.2(14)(f) Products will accommodate and facilitate comfort and well-being.
- 6.13.2.2(14)(g) Back support will be provided on seating pieces, through the use of a high or mid back, to provide adequate back support to various populations.
- 6.13.2.2(14)(h) A minimum of 20% of seating will be designed to meet bariatric requirements of 600 lbs.
- 6.13.2.2(14)(i) Task seating will be ergonomically correct with respect to the seat height and pan depth. Seating will be height adjustable, with height adjustable lumbar support to

maintain correct body alignment, adjustable back rest tilt, adjustable seat pan depth, height, width, and swivel adjustable armrests. The seat pan will have a waterfall edge on the seat pan or a radius front seat cushion to avoid restriction of circulation to the lower legs. The overall dimensions will be appropriate for the vast majority of users.

- 6.13.2.2(14)(j) General meeting room seating will have a backrest recline function, be stackable, mobile, cleanable and durable.
- 6.13.2.2(14)(k) Boardroom seating will be height adjustable, feature a backrest recline function, be stackable, mobile, cleanable and durable.
- 6.13.2.2(14)(l) Waiting room seating will include armrests to aid sitting and standing and have a raised seat pan for hip and knee considerations.
- 6.13.2.2(14)(m) All Client areas will receive furniture that are not harmful or will not allow Clients to injure themselves or others. Security and safety are the main concern.

6.13.2.2(15) Office and Workstation Allocation Guidelines

- 6.13.2.2(15)(a) Single-user or Multi-user workstations for computer, reading, and writing:
 - (a).1 Height: Allow leg clearance and movement under the work surface and keyboard to be placed at elbow height for most users (27- 1/4 inches, 692mm).
 - (a).2 Depth: Allow room for keyboard, document holder between the keyboard and monitor and monitor positioned for comfortable viewing (30 inches, 760 mm). Additional depth may be required depending on the tasks completed at the workstation.
 - (a).3 Width: Accommodate keyboard and mouse, telephone, writing and reading areas (min. 27.6 inches, 700mm). Additional width depending on tasks completed at the workstation.
- 6.13.2.2(15)(b) Project Co will be responsible for verifying field measurements to ensure proper clearance for fitting items per the specifications and drawings.

6.13.2.2(16) Supplemental Standards and/or Guidelines:

- 6.13.2.2(16)(a) In addition to the above listed features, furnishings will be designed and specified in accordance with all appropriate ergonomic design principles and best design practices of the Authority. Products will also meet minimum criteria set out in National Building Code of Canada and in accordance with all applicable requirements of Saskatchewan Worker's Compensation Board.
- 6.13.2.2(16)(b) The Facility and its components must be accessible by people with different functional capacities including, children, the elderly, handicapped, and the disabled as defined in the National Building Code of Canada. Project Co will apply "Universal Design" principles in the design and planning to ensure the furnishings are usable by all people without the need for specialized design or adaptation. Counters, desks, and work surfaces in non-office areas will include wheelchair access for both Clients and the public.
- 6.13.2.2(16)(c) Products, including foam and upholstery, will be fire retardant to meet applicable building code requirements.

6.13.2.2(17) Furniture List and Specifications

- 6.13.2.2(17)(a) The furniture is described in the Equipment List in generic terms and by a furniture identification number. The quantity column demonstrates the number of identical items in a room. All room numbers, room names, and department names are the same or are derivatives of the Appendix 3A [Clinical Specifications].
- 6.13.2.2(17)(b) Furniture pieces and layouts will follow the accessibility principles of the Facilities as a whole. Refer to Accessible Design Section 3.11.

6.13.3 Window Coverings

6.13.3.1 Provide window coverings as follows:

- 6.13.3.1(1) all exterior windows are to receive shading devices providing privacy, sun and heat control, that are easy to clean and do not support or provide a surface that encourages spread of infectious disease (e.g. do not become electrostatically charged);
- 6.13.3.1(2) roller shades are preferred for use on exterior windows, except at SLC 1, SLC 2, and SLC 3 areas;

- 6.13.3.1(3) all interior windows to receive blinds where privacy may be a concern, as identified by the Authority; and
- 6.13.3.1(4) in Video Court Rooms and all other rooms where video conferencing is required as indicated in the Appendix 3A [Clinical Specifications] comply with the requirements as described in Appendix 3D(iv) [Conference Room Design Standards].
- 6.13.3.2 Window coverings will allow control of exterior light entering the room during daylight hours and provide privacy during daylight and non-daylight hours.
- 6.13.3.3 Where window coverings are required for black-out functions, provide materials, tracks, seals, and operation suited to that purpose.
- 6.13.3.4 Use window coverings manufactured from materials and mechanisms that minimize cleaning and maintenance operations and maximize infection prevention and control.
- 6.13.3.5 Horizontal venetian blinds are also discouraged other than for between-glass installation in SLC 1, SLC 2, and SLC 3 areas. Roller shades and vertical blinds are preferable.

6.13.4 Window Shade Systems

- 6.13.4.1 Use manual and motorized roller shades with one piece extruded aluminum roller tube, extruded vinyl fabric spline, aluminum profile hem bars.
- 6.13.4.2 Install recessed in ceiling pockets, facilitating easy removal and replacement. Use galvanized or zinc-plated steel mounting brackets and non-corrosive fasteners.
- 6.13.4.3 Use shading fabric of non PVC coated fibreglass yarn and that:
 - 6.13.4.3(1) is waterproof, washable, rot-proof, flame-resistant, fungal and bacteria-resistant, colourfast to light, glare-reducing, and able to control heat gain and provide external visibility;
 - 6.13.4.3(2) conforms to CAN/CBSB-4.162-M, "Hospital Textiles - Flammability Performance Requirements"; and
 - 6.13.4.3(3) is tested in accordance with ASHRAE Standard 74073 for shading coefficient, fungal resistance in accordance with ASTM G21, and bacterial resistance.
- 6.13.4.4 Audiovisual Light Blocking Shades: Fabricated from black-out shade panel material, designed to eliminate all visible light gaps when shades are fully closed.

- 6.13.4.5 Manual shade operation with continuous loop bead chain, clutch, cord tensioner and bracket lift operator.
- 6.13.4.6 Motorized operation utilizing in-tube motor drive, externally located control wheels and manual switch control.

6.13.5 Venetian-Type Blinds between Glazing

- 6.13.5.1 Provide integral blinds, manually operated, mounted between sealed glass unit and protective security glazing in SLC 1, SLC 2, and SLC 3 areas.
 - 6.13.5.1(1) Private Client room-medical: viewing window from corridor or nursing station outside;
- 6.13.5.2 Integral blinds will be operated by durable, anti-ligature operators with removable control knob.
- 6.13.5.3 Integral blinds will be capable of blocking exterior lighting that is bright enough to disturb sleep and block night time views from outdoors into the Client room.
- 6.13.5.4 Conceal blind raise-lower controls.
- 6.13.5.5 Blinds will consist of tempered aluminum alloy slats uniformly spaced and 100% interlaced between cross-ladders on at least one tape. Use tapes with no special end rails required to attach the suspension members from the window opening to the blind.
- 6.13.5.6 Use a hardware/window design that does not allow air movement from a room to adjacent rooms. Openings in the glazing plane are not allowed.
- 6.13.5.7 The operator will be a specially constructed, permanent magnet capable of moving the blind assembly from a closed position in one direction to a closed position in the opposite direction.

6.14 Special Construction (Division 13)

6.14.1 Radiation Protection

- 6.14.1.1 Comply with all applicable requirements of the National Council on Radiation Protection and Measurement (NCRP); and Radiation Safety Unit in Saskatchewan.
- 6.14.1.2 Provide radiation protection in walls, doors, floors, ceilings and windows as required and appropriate to protect staff and Clients from x-ray.
- 6.14.1.3 Provide radiation protection by incorporating lead sheet of appropriate weight and thickness into wall and door assemblies and leaded glass manufactured for radiation shielding purposes into window assemblies.

- 6.14.1.4 Radiation shielding will be 9.75 kg/m^2 , not less than 0.9 mm lead to 2.1 m above the floor level as a minimum.
- 6.14.1.5 For sheet lead, comply with ASTM B749 Standard Specification for Lead and Lead Alloy Strip, Sheet and Plate and meet or exceed Federal Specification QQL-201F Grade C.
- 6.14.1.6 For lead-lined gypsum wall board, comply with ASTM C36 or and ASTM C1396/1396M, Type X.
- 6.14.1.7 For lead glass, meet or exceed Federal Specification DD-G-451.
- 6.14.1.8 For cassette transfer cabinets, meet or exceed MIL-C-3673 (DM) Radiation shielded.
- 6.14.1.9 For radiation shielded doors, meet or exceed American National Standards Institute/ National Woodworkers Manufacturers Association (ANSI/NWMA) Industry Standard for wood doors and NCRP Report #49.
- 6.14.1.10 Fabricate radiation-shielded doors using a single layer of sheet lead with wood core laminated on each side of the lead. Bond cores using poured lead dowels at edges.
- 6.14.1.11 Fabricate radiation-shielded door frames with lead-lining.
- 6.14.1.12 Lead glass or lead louvers occurring in radiation shielded doors will be equivalent rated to sheet lead in doors.
- 6.14.1.13 For lead-laminated gypsum wall board, use a single unpierced sheet of lead.
- 6.14.1.14 For sheet lead applied directly to partition steel studs, provide a continuous and complete protective shield.
- 6.14.1.15 Provide radiation shielding barriers, mobile or fixed, modular and transparent barriers to protect medical personnel by providing a full body shield. Provide units with distortion-free, lead-plastic windows.

6.14.2 Cooler and Freezer Rooms

- 6.14.2.1 Provide walk-in cooler and freezer rooms, with freezer room floors recessed into the slab for "flush" walk-in.
- 6.14.2.2 Design room enclosure elements to accommodate movement in wall and structural movements without permanent distortion, damage to infills, racking of joints, breakage of seals, water penetration or glass breakage.
- 6.14.2.3 Design temperatures for cooler and freezer rooms will be as follows:

- 6.14.2.3(1) for cooler rooms: + 2°C to + 10°C;
- 6.14.2.3(2) for freezer rooms: -10°C to -25°C, with normal operation at + 4°C +/- ½°C;
- 6.14.2.4 Design floor, wall and ceiling panels to comply with ULC/ORD-C376 "Fire Growth of Foamed Plastic Insulated Building Panels in a Full-Scale Room Configuration".
- 6.14.2.5 Design floor, wall and ceiling panels with tongue and groove joints to achieve a maximum air leakage rate of 75 Pa°F 0.00 m³/h-m² and a water vapour permeance rate of 0.00 perms in accordance with ASTM E283 "Air Leakage Rate Testing" and ASTM E96" Water Vapour Permeance Rate Testing".
- 6.14.2.6 Design ceiling panels with internal reinforcing to provide a maximum deflection of 1/240 of span under uniform loading of 20 psf and to support refrigeration systems.
- 6.14.2.7 Design room assembly to permit replacement of components.
- 6.14.2.8 Allow for ceiling, piping, conduit and other interior dead loads imposed on the structure.
- 6.14.2.9 Provide components and accessories as follows:
 - 6.14.2.9(1) Floor, Wall and Ceiling Panels: fabricated from commercial grade galvanized steel conforming to ASTM A526M with zinc coating to ASTM A525M, designation Z275, and finished on exposed surfaces with manufacturer's standard baked white enamel.
 - 6.14.2.9(2) Panel Insulation: foamed-in-place polyurethane.
 - 6.14.2.9(3) Doors: 915 mm x 2115 mm of same panel construction as panels, with soft perimeter gaskets, manufacturer's standard pre-wired light switch, dial thermometer, heavy duty door closer, spring loaded and self-closing hinges, latch, pull handles, kickplate and threshold plate. Furnish freezer doors with anti-condensate heater, heated vent and pre-wired sill.
 - 6.14.2.9(4) Provide self-supporting steel shelving racks in cooler rooms.
 - 6.14.2.9(5) Refrigeration System: self-contained air cooled condensing units mounted on walk-in units, and forced-air evaporators mounted on interior of units. Capacities, air delivery and dimensions to manufacturer's design. The cooling units are to consist of minimum two separate units per room to provide full cooling capacity redundancy for servicing and maintenance.

- 6.14.2.9(6) Lighting: CSA approved vapourproof box with standard incandescent light fixture pre-wired to switch on door frame.
- 6.14.2.9(7) Alarms: Modulam MT, 1 local and remote to the BMS for each room.

6.15 Conveying Equipment (Division 14)

6.15.1 Basic Requirements

- 6.15.1.1 Project Co will provide an elevator study to demonstrate how it established the number, type and distribution of elevators required to meet the needs of the Main Building. Although the total number of elevators will be established by Project Co, as a minimum supply and install two elevators at the main entry, two elevators in the Secure Zone and two elevators in the Non-Secure client side of the Main Building to achieve redundant access means. Use good design practice taking into consideration infection prevention and efficient flow, while also addressing movement control requirements.
- 6.15.1.2 Project Co will design the elevator and systems to accommodate the Authority Activities in a manner which contributes to the overall efficiency and effectiveness of the hospital operations.
- 6.15.1.3 Project Co will design the elevator systems to ensure there is sufficient capacity to accommodate the wide range of user and functionality requirements, in a manner which satisfies expectations for safety, reliability, responsiveness, accessibility and operational efficiency.
- 6.15.1.4 Project Co will include provisions for persons with special mobility needs and other forms of disabilities, such as learning difficulties.
- 6.15.1.5 Project Co will ensure that elevators will support access provisions, for people and materials, to all functional areas. Elevator access to all building levels, including mechanical levels, will be provided by at least one elevator. Project Co will provide a security card reader inside the elevator for access to mechanical levels.
- 6.15.1.6 Project Co will ensure that any equipment provided will be non-proprietary and have a proven track record of at least five years field operation in Canada in similar environments and of similar configuration.
- 6.15.1.7 Project Co will provide durable elevator cab finishes (including stainless steel fronts as well as hand and bumper rails).
- 6.15.1.8 Project Co will provide emergency power operation of elevators such that all elevators are fed with emergency power and they are all capable of operating simultaneously. Project Co will coordinate with electrical design

and requirements to ensure that all single phase and 3-Phase power supplies are fed from the emergency power system.

- 6.15.1.9 Project Co will configure elevators used for support services with platforms to accommodate easy movement of material carts. Requirements for transport of heavy equipment will be accommodated by at least one service elevator in both the secure and non-secure areas, with elevators to be engineered for Class C3 loading based on a single piece load equivalent to the elevator's rated capacity.
- 6.15.1.10 Project Co must clearly demonstrate how elevators and controls will be configured to maintain a distinction and separation between public (Client and visitor) and non-public (staff, service, Client transfer) routes and uses.
- 6.15.1.11 Ensure that staff and clients in secure areas will not move into or through a non-secure zone to move vertically between secure functions and that staff and clients in non-secure zones will not move into or through a secure zone to move vertically between non-secure functions.
- 6.15.1.12 Locate service elevators to avoid crossing public circulation areas and to ensure service elevators will not be used by the public.

6.15.2 Performance Criteria

- 6.15.2.1 Project Co will provide elevators as required to meet the following performance requirements:
 - 6.15.2.1(1) Elevators will consist of machine room less (MRL) traction elevators with gearless machines or overhead traction with geared or gearless machines although in cases where vertical travel is less than 6000 mm Project Co. will be permitted to utilize holeless hydraulic equipment.
 - 6.15.2.1(2) Elevators will use twin-post jacks located on either side of the platform:
 - 6.15.2.1(3) Maximum system working pressure will not exceed 3400 kPa.
 - 6.15.2.1(4) Equipment will be rated for a minimum rated speed of 0.63 m/s.
 - 6.15.2.1(5) Service Elevator Cabs: Non-public elevators used to transport Clients will accommodate a bariatric bed with up to four staff.
- 6.15.2.2 Project Co will arrange the equipment such that there are no timers, dates, trip counters, or other counters that would shut down the equipment or change its operation.

6.15.3 Scope of Work

- 6.15.3.1 Provide all necessary components to make elevator systems fully operational and functional, whether or not specifically referenced in this Schedule.
- 6.15.3.2 Provide all permits, labour, materials, products, equipment, services and all else necessary for the design, manufacture, delivery, installation and services required for a complete and fully functioning elevator system.
- 6.15.3.3 Obtain and pay for design submission, registration, inspection and permit, as required (except for ownership and operating license), and make such tests as required by the Technical Safety Authority of Saskatchewan prior to licensing.
- 6.15.3.4 Codes
 - 6.15.3.4(1) Provide equipment and perform work in accordance with the B44 Safety Code for Elevators, active Bulletins issued by the Technical Safety Authority of Saskatchewan and any other code which may govern the installation.
- 6.15.3.5 Training
 - 6.15.3.5(1) At the completion of the job, provide a training session for the Authority consisting of a review of the documentation.
- 6.15.3.6 Programming
 - 6.15.3.6(1) Refer to Sections 7.1, 7.7.1 and 7.8.26.1 for requirements related to programming elevators to integrate with communication, networks, fire alarms and other systems in the Main Building.
- 6.15.3.7 Barrier-Free Access
 - 6.15.3.7(1) Arrange the controls and fixtures to meet barrier-free access requirements of the B44 Safety Code for Elevators Appendix E and any other code which may govern the installation.
- 6.15.3.8 Fixtures
 - 6.15.3.8(1) Unless indicated otherwise in these Schedule, provide a choice of fixtures from a third party supplier and the manufacturer's standard products.
 - 6.15.3.8(2) Provide buttons with LED illumination and stainless steel targets.
- 6.15.3.9 Operating Conditions

6.15.3.9(1) Provide equipment that will operate normally when the machine room and hoistway temperature is between 5 and 35 degrees Celsius.

6.15.3.9(2) Provide equipment that will operate normally when the power supply is within 10 percent of its rated voltage.

6.15.3.10 Seismic requirements

6.15.3.10(1) Comply with Section 8.4 (Elevator Safety Requirements For local Seismic Risk Zone) of the B44 Safety Code for Elevators and any other code which may govern the installation.

6.15.3.11 Maintainability

6.15.3.11(1) Arrange the equipment such that there are no timers, dates, trip counters, or other counters that would shut down the equipment or change its operation.

6.15.3.11(2) Elevator equipment Project Co provides under this specification will not contain proprietary features which limit the ability to engage a registered elevator maintenance contractor, other than the original manufacturer/installer, to provide routine maintenance services.

6.15.3.11(3) If specialized tools or software are required to perform routine maintenance services, provide such tools with the elevator equipment as permanent "on board" equipment, or as separate devices. Such tools or software will become the property of the Authority.

6.15.3.12 Equipment Summary

6.15.3.12(1) Passenger elevators adjacent to the main entry of the Main Building will, at a minimum, meet the requirements set out in the table below:

Passenger Elevators	
Number	Two (2) or more to suit the needs of the Main Building
Type	Passenger Elevators
Type of Machine	Geared or Gearless Overhead Traction or Machine Room Less (MRL)
Machine Room Location	Adjacent to hoistway at lowest landing served, although remote rooms up to 15 metres from hoistway are acceptable
Alternative Control Room Location	Overhead in case of overhead traction equipment
Drive	AC VVVF
Load (Capacity)	Min. 4000 lb. (1820 kg) to suit the performance requirements
Class of Loading	Passenger Classification and Class A General Freight Loading
Car Speed	Minimum of .76 m/s
Operation	Group Supervisory System; Full Selective Collective
Control	Microprocessor
Number of Stops	Provide service to all floors to suit the Main Building
Openings	Front openings only (DO NOT provide both front and rear openings)
Hoistway Size	To suit the equipment
Cab Inside Dimensions	Min. 7'-8" (2340) w x 5'-5" (1650) d
Hoistway Overhead Clearance	To suit the equipment
Pit Depth	To suit the equipment
Cab Height	9'-0" (2745)
Door Type	Centre Opening
Door Size	Min. 4'-0" (1220) wide x 7'-0" (2134) high
Car Operating Panel	Two (2) per car
Car Position Indicator	Two (2) per car
In-Car Riding Lanterns	None
Hall Buttons	Min one (1) riser for up to three (3) cars,
Hall Lanterns	At all Landings
Hall Position Indicators	at Main floor levels only

6.15.3.12(2) Service Elevators will at a minimum, meet the requirements set out in the table below:

Client Transfer/Service Elevators	
Number	Groups of 2 or more to suit the needs of the Main Building in both the Secure Zone and the Non-Secure Client portion of the Main Building
Type	Passenger / Service Elevator
Type of Machine	Geared or Gearless Overhead Traction or Machine Room Less (MRL)
Machine Room Location	Adjacent to hoistway to lowest landing served, although remote rooms up to 15 metres from hoistway are acceptable
Alternative Control Room Location	Overhead in case of overhead traction equipment
Drive	AC VVVF
Load (Capacity)	Min. 5000 lb. (2270kg)
Class of Loading	Class C3 loading to accommodate single piece load equivalent to rated capacity for a minimum of 1 elevator in each group.
Car Speed	0.76 m/s minimum
Operation	Group Supervisory System; Full Selective Collective
Control	Microprocessor
Number of Stops	Provide service to all floors to suit the Main Building. At least one (1) car will also service any interstitial or mechanical floor levels.
Openings	Front only or Front and Rear Openings to suit the Main Building
Hoistway Size	To suit the equipment
Cab Inside Dimensions	Min. 5' -8" (1727) w x 8'-6" (2590) d
Hoistway Overhead Clearance	To suit the equipment
Pit Depth	To suit the equipment
Cab Height	9'-0" (2745)
Door Type	Two Speed Side Opening
Door Size	4'-6" (1370) wide x 7'-0" (2135) high
Car Operating Panel	One (1) per car if front openings only or Two (2) per car if front and rear openings are used.
Car Position Indicator	One (1) per car if front openings only or Two (2) per car if front and rear openings are used.
In-Car Riding Lanterns	None
Hall Buttons	Min one (1) riser for up to three (3) cars
Hall Lanterns	At all Landings
Hall Position Indicators	at Main floor levels only

6.15.3.13 Machine Room Less (MRL) Elevator Equipment

- 6.15.3.13(1) Provide a gearless traction hoisting machine located within the hoistway.
- 6.15.3.13(2) Provide an automatic reset governor located in the hoistway that will be maintained from the car top. When the governor has tripped, arrange that it will be reset when the car is moved in the up direction and provide means to remotely activate the governor for testing purposes.
- 6.15.3.13(3) Provide an electronically released and monitored brake system, to permit momentary nudging of elevator within the hoistway under test or emergency conditions.
- 6.15.3.13(4) Provide a control room that allows full body access and permits maintenance and other work to be done with the control room door in the closed position, while maintaining minimum electrical and equipment clearances imposed by Code.
- 6.15.3.13(5) Locate control room adjacent to the elevator hoistway at the lowest landing served, although room can be remote from hoistway by up to 15 metres provided there are valid reasons why an adjacent room cannot be accommodated. Control rooms overtop of the hoistway are acceptable provided that access provisions are consistent with local codes and standards.

6.15.3.14 Elevator Machine and/or Control Room Equipment — All Elevators

- 6.15.3.14(1) Provide a non-proprietary elevator control system that is microprocessor-based with sophisticated group dispatching capability.
- 6.15.3.14(2) Provide a spring applied electric brake, held open by an electro-magnet actuated by the controller. Design the brake to automatically apply in event of interruption of power supply from any cause.
- 6.15.3.14(3) Provide sound and vibration isolation pads such that there is no direct contact between the machine and the building structure.
- 6.15.3.14(4) Provide an emergency brake to address prescribed requirements of the Code for ascending car overspeed speed protection and unintended car movement protection.
- 6.15.3.14(5) Provide a solid state drive complete with isolation transformers, filters (to meet IEEE Standard 519 for Special Applications), and isolation pads.

- 6.15.3.14(6) Provide a digital velocity encoder on the motor, giving feedback to the controller on motor speed and position.
 - 6.15.3.14(7) Provide a microprocessor based controller consisting of relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overload relays, power supplies, circuit boards, static drive units, wiring terminal strips, and related components all enclosed in a cabinet with hinged door panels.
- 6.15.3.15 Hoistway Equipment – All Elevators
- 6.15.3.15(1) Provide entrances consisting of doors, frames, sills, sight guards, door hangers, tracks, interlocks, door closers, gibs, and all other equipment required for a complete installation. Provide entrance doors and frames finished in brushed stainless steel.
 - 6.15.3.15(2) Provide standard 'T' section steel guide rails for the car (and counterweight). Install guide rails using brackets fastened to the building structure. Clamp the guide rails to the bracket with clips arranged to prevent any horizontal movement of the rail. Join the rail sections using steel backing plates.
 - 6.15.3.15(3) Provide hoist ropes/belts of sufficient size and number to lift the load and ensure proper wearing qualities. Provide either steel ropes consisting of at least six strands wound around a hemp core centre or Polyurethane coated belts with high-tensile-grade zinc-plated steel cords. Ensure that all the ropes for a particular elevator are from the same manufacturing run.
 - 6.15.3.15(4) Provide a counterweight to counterbalance the elevator for smooth and economical operation with cast iron or steel plate weights contained in a structural steel frame. Provide a counterweight equal to the weight of the elevator car plus between 40 and 50 percent of the rated capacity.
 - 6.15.3.15(5) Provide for the car (and counterweight) spring mounted roller guides located at the top and the bottom of the car (and counterweight frame).
 - 6.15.3.15(6) Provide fascias from each hall sill to the entrance header below. Include express zones. Extend the fascias into the pit and the overhead.
 - 6.15.3.15(7) Provide a car frame constructed of steel channels and a platform constructed of steel channels with a wood or metal sub-floor. Isolate the frame and platform from one another so that there is no metal to metal contact in order to prevent the transmission of noise and vibration. Mount the elevator cab shell on the platform in

alignment with the hoistway entrances. Isolate the cab from the car frame and platform.

- 6.15.3.15(8) Provide counterweight guarding consistent with requirements of the B44 Code where a counterweight is located between elevators.

6.15.3.16 Cab Equipment – All Elevators

- 6.15.3.16(1) For Public/Passenger Elevators provide factory Standard Cab Interior Finishes, Raised Plastic Laminate cab wall panels, Sectional Suspended Ceiling with LED Lighting, cab front & car door panels of Stainless Steel #4 Brushed Finish. 50 mm diameter stainless steel cylindrical handrails.
- 6.15.3.16(2) For service elevators provide Factory Standard Cab Interior Finishes, Rigidized Stainless Steel 5WL Cab Wall Panels, Sectional Suspended Ceiling with Fluorescent Lighting and Translucent Panel Diffusers, cab front & car door panels of Stainless Steel #4 Brushed Finish, 100 mm flat bar stainless steel handrails and 200 mm flat bar stainless steel bumper rails.
- 6.15.3.16(3) Provide three dimensional type Infrared light beam type door detector edges that reliably detect carts and wheelchairs of varying heights and finishes, including chrome. The depth of the infrared zone will be field adjustable.
- 6.15.3.16(4) Provide car doors, jambs, headers, hangers, tracks, door closers, gibs, electrical contacts and all other equipment required for a complete installation.
- 6.15.3.16(5) Provide swing return or applied faceplate car stations incorporating floor push buttons, door open and close buttons, an alarm button, and other fixtures required for normal operation. Provide for each floor button a call registered light and momentary audible tone. Provide a Firefighters' Emergency Operation panel. Provide below the car station a locked service cabinet containing devices other than those used for normal operation. Engrave the car station with the elevator capacity, identification number, government installation number, and other markings required by code.
- 6.15.3.16(6) For service elevators provide Door Hold Open Push Button in Car Operating Panels.
- 6.15.3.16(7) Provide a 110 V power outlet in each car in one of the Car Panels in a locked service cabinet

- 6.15.3.16(8) Provide a digital (dot matrix or segmented) car position indicator located above each car station with a minimum 50 mm (2") high display.
 - 6.15.3.16(9) Do not install any certificates or licences in the cab.
 - 6.15.3.16(10) Provide a voice announcer for each elevator with automatic verbal announcement of each floor at which the elevator stops. Provide a system that will handle a variety of other messages and indications as may be required by the Authority at a later date.
 - 6.15.3.16(11) Provide a two speed exhaust fan mounted in the cab top.
 - 6.15.3.16(12) Provide one set of cab protective pads for each group of elevators that cover all walls and the cab front return panel along with pad hooks. Provide pad hooks in each elevator.
 - 6.15.3.16(13) Provide a heavy duty closed loop door operator to open and close the car and hoistway doors simultaneously.
 - 6.15.3.16(14) Provide a hands-free two-way voice intercommunication / telephone system with a lobby rescue station and remote handset. Provide communication from each car enclosure to designated security station located in the Facility. Include communication stations in each machine room which as a minimum will permit two-way communication with all elevators. The two-way communication means within the car will include a means to verify operability of the telephone line consistent with requirements of the B44Code including engraving, audible, visual and reset means.
- 6.15.3.17 Hall Equipment – All Elevators
- 6.15.3.17(1) Provide hoistway access switches located in the entrance frame or in the hall door sight guard at the top and bottom landing for each elevator regardless of the elevator speed or floor to floor heights for the elevator. Provide unlocking devices for all lobby door panels at all landings
 - 6.15.3.17(2) Provide in each hall station illuminating up and down push buttons (at terminal floors, provide only one button) located with their centreline 1070 mm \pm 25 mm (42" \pm 1") above the floor.
 - 6.15.3.17(3) Provide an elevator monitoring & command interface (PC monitor) for monitoring and control of the elevators. Locate in each control or machine room or provide a centrally located system connected to all elevators as Reviewed by the Authority.

6.15.3.18 Electric Wiring – All Elevators

- 6.15.3.18(1) Provide copper wiring to connect the equipment.
- 6.15.3.18(2) Run the wire in metal conduit, duct or electrical metallic tubing.
- 6.15.3.18(3) Provide travelling cable between car stations and the controller in the machine and/or control room.
- 6.15.3.18(4) Provide at least eight (8) pair spare shielded wires and two (2) RG6 spare coaxial conductors in the travelling cable. This is in addition to the wiring required for the basic operation of the elevators.
- 6.15.3.18(5) Provide at least ten percent spare wires in each travelling cable.

6.15.3.19 Operational Features and General Requirements – All Elevators

- 6.15.3.19(1) All Public Passenger and Service Elevators will serve all floors except interstitial floors or mechanical levels that are accessed infrequently.
- 6.15.3.19(2) Provide Firefighter's Emergency Operations Phase I & II, including remote/duplicate keyed switches at building CACF where a CACF room is provided.
- 6.15.3.19(3) Provide Barrier Free Access in Accordance with Appendix "E" of latest B44 Elevator Safety Code including Voice Announcers.
- 6.15.3.19(4) Provide restricted access via electronic card access for any elevators which provide access to mechanical levels including the roof and other secure access that will not be accessible to the general public.
- 6.15.3.19(5) Provide for installation of security cameras in the elevators. Install and wire the security cameras provided by another trade. Provide the required wiring in the travelling cable run between the car top and the controller as well as power to the car top for the camera.
- 6.15.3.19(6) Provide equipment and labour for installation of a card reader security system on the inside of each cab. Provide card readers in every elevator lobby at the hall call location of all staff and service elevators. Each staff or service elevator requires authentication by card reader prior to calling a cab at the hall call station. Provide the required wiring between the card reader and the elevator security box in the machine room along elevator controller connections and circuits for the security system (including floor tracking).
- 6.15.3.19(7) Provide independent service.

- 6.15.3.19(8) Provide emergency power operation of the elevators such that all elevators are fed with emergency power and are capable of operating simultaneously.
 - 6.15.3.19(9) Provide means to call elevators that provide access to interstitial, mechanical levels, etc. that may not be served by all elevators in a group. This will be by a separate call button, keyed switch or electronic access card reader as reviewed by the authority.
 - 6.15.3.19(10) For all elevators provide Medical Emergency Service Operation (Code Blue) and Priority Service Operation with activation means at all floors served and in remote locations as specified in this Schedule. Provide code blue keyswitches in each cab and at each hall call location for elevator code-blue override.
 - 6.15.3.19(11) For all elevators providing access to Client care areas, the elevator will not operate when a Client Tracking / Wandering system tag is present in the elevator cab.
 - 6.15.3.19(12) Each elevator cab will be provided with a 802.11 wireless network access point to ensure full coverage of the Authority's wireless network. Provide all necessary wiring.
 - 6.15.3.19(13) Each elevator cab will be provided with a RTLS wireless network access point to ensure full coverage of the RTLS wireless network. Provide all necessary wiring.
- 6.15.3.20 Operating Performance
- 6.15.3.20(1) Levelling - Arrange that the car stops within 3 mm (1/8") of the floor level.
 - 6.15.3.20(2) Operating time - Adjust the equipment so that the operating time is 18.0 seconds or less (based on 4'6" wide two speed side opening doors and a speed of 150 fpm and travel of 4.5 m (14'-9")). Measure the operating time from the time that the doors begin to close until they are 3/4 open at the next floor.
 - 6.15.3.20(3) Ride quality - Arrange that the lateral acceleration (front to rear and side to side) measured during express runs is less than 150 mm/s/s (0.5 f/s/s) peak to peak.
 - 6.15.3.20(4) Adjust the door equipment so that the noise level is less than 62 decibels during a full door open and door close operation. Measure the noise levels using a sound level meter set to the "A" scale for a fast response.

- 6.15.3.20(5) Arrange the machine room equipment so that the noise level with the elevator running is less than 70 decibels. Measure the noise levels using a sound level meter set to the "A" scale for a fast response.

6.15.3.21 Wiring Diagrams and Manuals

- 6.15.3.21(1) Prior to substantial performance, supply to the Authority three sets of manuals which include information itemized below:

- 6.15.3.21(1)(a) Design Submission documents submitted to Regulatory Authority for permit
- 6.15.3.21(1)(b) Final Shop drawings
- 6.15.3.21(1)(c) Description of special features such as firefighters' emergency operation, independent service, emergency power operation, two-way voice communication, and security operation.
- 6.15.3.21(1)(d) As-builts wiring and schematic diagrams
- 6.15.3.21(1)(e) Schedule of recommended routine maintenance procedures, inclusive of a site specific Maintenance Control Program consistent with prescribed requirements of B44 Code.
- 6.15.3.21(1)(f) Description of diagnostics procedures, including complete Fault Code listing and troubleshooting instructions.

6.15.3.22 Trademarks

- 6.15.3.22(1) Arrange that no equipment visible to the public has any trademark, company name, or logo.

PART 7. FACILITIES SERVICES SUBGROUP SPECIFICATIONS

7.1 Mechanical Systems Design Principles

7.1.1 Refer to Section 5.11.

7.2 Fire Suppression (Division 21)

7.2.1 Fire Protection

7.2.1.1 Basic Requirements

- 7.2.1.1(1) Provide fire protection services as required and sized to suit the code requirements of the Facility.
- 7.2.1.1(2) Provide a sprinkler system and equipment that is designed for the applicable occupancy classification.
- 7.2.1.1(3) Provide a detector double check valve assembly on the sprinkler system take-off connection from the water supply. The assembly will be complete with OS&Y gate valves on both sides and tamper proof switches.
 - 7.2.1.1(3)(a) Incorporate redundancy in the installation to maintain uninterrupted building operation while cleaning, repairing, or replacing devices.
- 7.2.1.1(4) Provide a fire pump system if required to meet the fire pressure and flow requirements. Base the design on the lowest incoming pressure of the two water mains during peak summer operation.
- 7.2.1.1(5) Provide a fire pump, if required, with a transfer switch that is part of the fire pump controller. Mount the switch package in a separate mechanically attached enclosure that is approved by UL, ULC, FM and CSA and built to NFPA 20 standards for this application.
- 7.2.1.1(6) Provide dry type sprinkler heads and / or a dry type sprinkler system in areas that may be subject to freezing temperatures.
- 7.2.1.1(7) Ensure sprinkler heads in areas subject to vandalism are vandal proof. This includes areas where Clients may be present and unsupervised.
- 7.2.1.1(8) In areas where Clients may be present and unsupervised, provide anti-ligature sprinkler heads.
- 7.2.1.1(9) Provide fire extinguishers complete with recessed or fully recessed cabinets. Locate each fire extinguisher within the space it serves, and ensure it is of appropriate size and hazard classification for that space. Do not use water extinguishers or other limited types. Coordinate fire extinguisher locations with the local authority having jurisdiction during design.
- 7.2.1.1(10) Provide zone shut-off valves that are readily identifiable and accessible from the floor level, but not located in Client rooms. Locate zone valves within the zone served.
- 7.2.1.1(11) Provide fire department connections at a location that is approved by the local authority having jurisdiction.

7.2.1.1(12) Provide a gas based clean agent system for the Main Telecom Room.

7.2.1.2 Performance Criteria

7.2.1.2(1) Ensure all equipment is CSA or ULC approved.

7.2.1.2(2) Install equipment installation in compliance with manufacturers' requirements.

7.2.1.2(3) Ensure fire protection systems and equipment are installed, tested and certified by a qualified and licensed contractor who is regularly engaged in such installations.

7.3 Plumbing (Division 22)

7.3.1 Site Services

7.3.1.1 Basic Requirements

7.3.1.1(1) Provide water, fire protection, natural gas, sanitary, and storm services as required and sized to suit the usage needs of the Facility, plus the required additional capacity as per Section 4.1.3.

7.3.1.1(2) Water supply to the Building will be by a combined domestic water / fire protection service. Provide two separate services for redundancy, complete with a separate water meter on each service. Calculate and submit to the authority having jurisdiction the estimated maximum flow requirement for the domestic water supply.

7.3.1.1(3) Provide water inlet connections on the exterior of the Facility as per Section 5.11.9.2(7)(a). Provide a sanitary pump-out connection on the exterior of the Facility as per Section 5.11.9.2(7)(b).

7.3.1.1(4) Provide a strainer, water meter, two reduced pressure backflow preventers in parallel, filter, and independent shut-off valve on the main water supply to the Facility.

7.3.1.1(4)(a) Installation will incorporate redundancy to maintain uninterrupted building operation while cleaning, repairing, or replacing devices.

7.3.1.1(5) Provide subsurface drainage as required to alleviate water pressure exerted onto the bottom of foundations and/or floor slabs. Size and design subsurface drainage in accordance to the geotechnical conditions.

7.3.1.2 Performance Criteria

- 7.3.1.2(1) Ensure water delivered to the Facility meets the water quality requirements of all applicable standards, including CSA-A317.1 and the Drinking Water Protection Regulation. Provide filter systems capable of operating at high turbidity levels.
- 7.3.1.2(2) For any point of use filtration implemented, use stainless steel filter casings to minimize the occurrence of equipment failure and leaks.
- 7.3.1.2(3) Provide utilities-commission approved meters for domestic water and natural gas. Use the meters to accurately measure water flow and natural gas consumption in all flow conditions.
- 7.3.1.2(4) Ensure water and gas meter have remote access capability for connection to the BMS.
- 7.3.1.2(5) Ensure all piping is accessible. No in slab piping is permitted. No under slab piping is permitted except drains.

7.3.2 Domestic Hot Water Systems

7.3.2.1 Basic Requirements

- 7.3.2.1(1) Provide a domestic hot water system with sufficient capacity and recovery rate for the hot water requirements of the Facility, plus the required additional capacity as per Section 4.1.3.
- 7.3.2.1(2) Ensure the domestic hot water supply is of adequate temperature to serve the needs of the Facility. Provide automatic mixing valves where the supply temperature at the fixture is required to be less than the system temperature.
- 7.3.2.1(3) Locate thermostatic mixing valves serving plumbing fixtures as close as possible to the fixture it serves to minimize dead legs. Thermostatic mixing valves serving public washrooms may be located in the ceiling space above the fixture.
- 7.3.2.1(4) Design the domestic hot water system to prevent growth and spread of Legionella bacteria within the hot water generation plant, piping, fixtures, or any other component. Design methods may include heat-based control and/or active treatment systems; eliminating dead-leg piping; and minimizing uncirculated piping by connecting the circulation system as close as possible to fixtures.

7.3.2.2 Performance Criteria

- 7.3.2.2(1) Provide a hot water generating plant and hot water storage equipment to meet the requirements of CSA Z317.1.

- 7.3.2.2(2) Recirculate domestic hot water from the distribution system(s) back to the generating equipment.
- 7.3.2.2(3) Monitor hot water supply temperatures via the BMS and provide alarm outputs when the temperature exceeds or drops below the design setpoint range.

7.3.3 Plumbing Distribution Systems

7.3.3.1 Basic Requirements

- 7.3.3.1(1) Design the plumbing systems to avoid disruption to the operation of the Facility during maintenance or repairs and so that, as much as possible, rooms do not need to be entered when performing these functions. Locate all isolation, maintenance, balancing, and other service valves in the corridor ceiling spaces and ensure they are accessible. Refer to CSA Z317.2 for space Type definitions.
- 7.3.3.1(2) Distribute plumbing by means of risers to each floor area to a maximum of 25% of the total floor area. Provide isolation valves to each area.
- 7.3.3.1(3) Incorporate flexibility in the system designs to accommodate future alterations and allow for future expansion in accordance with Section 4.1.3.
- 7.3.3.1(4) Label all systems clearly, including painting and labelling of all pipes, ceiling identification dots, valve tagging, and emergency valve identification signage.
- 7.3.3.1(5) Design the water systems to ensure that water is supplied at the required pressures to all water outlets.
- 7.3.3.1(6) Provide a domestic water booster pumping system if required to meet water supply requirements. Base the design on the lowest incoming pressure of the two water mains during peak summer operation.
- 7.3.3.1(7) Provide durable materials to allow for 24 hour a day operation with minimal downtime. All ferrous, non-ferrous, CPVC and polypropylene pipe materials acceptable by the Plumbing Code for above ground potable water distribution systems are acceptable. Where copper pipe is used for potable water distribution systems, use Type-K copper pipe.
- 7.3.3.1(8) Design all systems to meet the infection control requirements of the Facility.

- 7.3.3.1(9) Provide natural gas and fuel gas piping for all uses within the Facility.
 - 7.3.3.1(10) Provide plumbing connections to all medical and food services equipment.
 - 7.3.3.1(11) Provide a water treatment system to provide softened water for the Facility. Project Co will conduct water testing and design equipment based upon the results of the water testing.
 - 7.3.3.1(12) Provide a chlorine injection system to maintain proper level of chlorine in the domestic water system. Project Co will conduct water testing and design equipment based upon the results of the water testing.
- 7.3.3.2 Ensure the domestic cold water and domestic hot water quality is within the required conditions of the applicable codes, standards, and manufacturer's recommendations for all equipment.
- 7.3.3.3 Performance Criteria
- 7.3.3.3(1) Insulate storm drainage, domestic water piping, cooling water and exposed p-traps throughout. Where piping and/or piping components are subject to freezing, provide insulation and thermostatically-controlled heat tracing. Ensure life-safety systems are not installed in locations subject to freezing.
 - 7.3.3.3(2) Provide flushing and disinfection of domestic water systems. Provide independent testing of piping systems once flushing and cleaning has been completed. Supply the testing reports to the Authority.
 - 7.3.3.3(3) Ensure all piping is accessible. No in slab piping is permitted. No under slab piping is permitted except drains.
 - 7.3.3.3(4) Provide isolation valves for all plumbing services and clearly identify the location of all valves. Locate valves at a minimum at each set of piping branches from the main distribution line, and at all locations where the branches serve group of rooms with similar uses. At Client Care Units provide isolation valves within the public area in an easily accessible area to allow access without the need for a ladder.
 - 7.3.3.3(5) Provide solenoid valves in the cold water and hot water supply to all Client accessible washrooms with a control system located at the team center.

7.3.4 Plumbing Fixtures

7.3.4.1 Basic Requirements

- 7.3.4.1(1) Provide fixtures as described in the Appendix 3A [Clinical Specifications] and as needed to comply with all applicable codes and regulations.
- 7.3.4.1(2) Provide all plumbing fixtures made of impervious, durable materials suitable for a hospital facility. Select fixtures with proven acceptable hospital performance from previous installations.
- 7.3.4.1(3) Consult with the Authority on the selection of fixtures, and give particular attention to performance relative to infection prevention and control.
- 7.3.4.1(4) Select all sink basin and faucet combinations to minimize the potential for splatter and contamination. Ensure the faucet does not discharge directly into the drain.
- 7.3.4.1(5) Provide anti-splash, anti-aerosolizing faucet fittings (i.e. laminar flow) that do not retain air. Provide gooseneck faucet fittings. Avoid low profile gooseneck faucet fittings.
- 7.3.4.1(6) Install sinks that are stand alone wall hung type or have bowls integrally formed into countertops. Drop in or under mount style countertop sinks will not be used.
- 7.3.4.1(7) Provide double or triple basin sinks where required.
- 7.3.4.1(8) Ensure sinks meet the requirements of CSA Z8000 including materials, size, construction, location, controls, backsplash, soap and lotion dispensers and accessibility.
- 7.3.4.1(9) Provide stainless steel combination lavatory / toilet security fixtures in areas where Clients may be present and unsupervised.
- 7.3.4.1(10) Provide barrier-free plumbing fixtures, fittings and where required and ensure they are suitable for use by bariatric users. Toilets in non-Client accessible public areas that are not designated specifically for bariatric users will be wall mounted.
- 7.3.4.1(11) Select toilets that will reduce the spread of infection. The bowl must be designed to accommodate the flow of the flush valve. Select toilet bowls that will not splash or spray water onto the toilet rim or anywhere outside the toilet bowl and are designed to minimize the aerosolization of the toilet contents.

- 7.3.4.1(12) Public toilets will consist of wall hung elongated bowls with an open front seat and electronic hands free flush valves with manual override.
- 7.3.4.1(13) Client toilets will consist of floor mounted, back outlet elongated bowls, an open front seat and concealed electronic flush valves.
- 7.3.4.1(14) Provide urinals that are wall-hung and low-consumption with electronic hands-free flush valve operation.
- 7.3.4.1(15) Provide washroom lavatory fixtures that are electronic hands-free type faucets with single temperature discharge that will be adjusted and set to the desired temperature, except as follows:
 - 7.3.4.1(15)(a) for Client washroom lavatory fixtures, provide an anti-ligature electronic faucet with a mixing valve located below the lavatory. Supply a vandal proof protective enclosure to enclose the lavatory drain, supplies and mixing valve.
- 7.3.4.1(16) For handwashing sinks or hand hygiene stations for team centers, Client care areas, examination rooms, food services, soiled utility rooms and other similar function rooms, provide electronic hands-free type faucets with gooseneck spouts and single temperature supply that will be adjusted and set to the desired temperature. Ensure basins are adequately sized for proper washing and scrubbing of hands.
- 7.3.4.1(17) For equipment cleaning sinks and other utility sinks, provide stainless steel sinks with blade handle faucets and gooseneck spout. Ensure that sinks are large and deep to accommodate proper washing of equipment and that materials and piping are suitable for the intended application of the sink.
- 7.3.4.1(18) Supply soiled utility rooms with a minimum of two wall mounted cleaning and disinfecting appliances for bedpan washing. Provide required plumbing services per manufacturer's recommendations. Provide eyewash stations at the handwashing sinks.
- 7.3.4.1(19) For pharmacy sinks in all areas including modular clean rooms and dispensary areas, provide a stainless steel sink with blade handle faucets and gooseneck spout. Stainless steel will be of an alloy suitable for the intended use. Provide eyewash stations at the sinks.
- 7.3.4.1(20) Provide showers with an electronically controlled pressure balanced and high temperature limit shower valves, and anti-ligature shower heads. Design shower bases to ensure that the

water is contained within the shower area. ADA accessible Client showers must be free of barriers with no lip between the washroom floor and shower. Install a floor drain at the drying area outside of each shower.

- 7.3.4.1(21) Provide suitable quantities of janitors' sinks, hose bibs, eye wash stations, drinking fountains with bottle fillers to provide sufficient service to the Facility.
 - 7.3.4.1(21)(a) Ensure eye wash stations are complete with a water receptor and drain piping or are of the swing out type located at sink.
 - 7.3.4.1(21)(b) Design emergency showers to supply tempered water within an acceptable timeframe in accordance with the occupational health and safety legislation.
 - 7.3.4.1(21)(c) Locate drinking fountains with bottle fillers in or near staff rooms, staff gyms and as outlined in the Appendix 3A [Clinical Specifications].
 - 7.3.4.1(21)(d) Locate eyewash stations in Vocational 01/Vocational 02, Pharmacy, and each Client Care Unit in the Staff Break Rooms.
- 7.3.4.1(22) Provide all appropriate services and connections to all equipment for Client care areas and all other areas. Provide all accessories as needed.
- 7.3.4.1(23) Client washrooms located in the unit where polydipsia Clients are housed will be vacuum type toilets.
- 7.3.4.2 Performance Criteria
 - 7.3.4.2(1) Ensure all electronic sensor activated fixtures meet the following requirements:
 - 7.3.4.2(1)(a) all sensors will be hardwired and served by the emergency power system so water is available during a power outage;
 - 7.3.4.2(1)(b) the duration of sensor faucet flow will be adjustable. All sensors will be able to operate for a minimum of 30 seconds without interruption of flow, to facilitate proper hand washing. Sensors will turn off automatically when hands are no longer in the sensor range; and

7.3.4.2(1)(c) the domestic hot water recirculation system will be connected to the fixture's hot water supply immediately next to the fixture shut-off at the wall.

7.3.4.2(2) Provide water hammer arresters at the cold water and hot water supply to each fixture or bank of fixtures served by a single branch.

7.3.4.2(3) Ensure fixtures with electronic flush valves also have a manual flush operator.

7.3.4.2(4) If system pressure exceeds the acceptable delivery pressure, then provide pressure reducing valves with 100% redundancy. Place the valves in accessible locations.

7.3.5 Plumbing Drainage and Venting Systems

7.3.5.1 Basic Requirements

7.3.5.1(1) Provide sanitary, storm, specialty drainage, and venting systems to avoid disruption to the operation of the Facility or interference with other services during operation and maintenance activities. Design the systems so that, as much as possible, Type I and Type II rooms do not need to be entered when performing these functions. Refer to CSA Z317.2 for space Type definitions.

7.3.5.1(2) Design all drainage systems such that the system connects to the site drainage services, utilizing gravity drainage wherever possible.

7.3.5.1(3) If pile foundations are used to support the structure, all underslab piping will be supported (hung) from the concrete slab above. Provide hangers and rods of sufficient strength and installed at intervals to carry the pipe and load and maintain the required slope. Ensure hangers and rods are corrosion resistant. Install light-weight fill above all piping that is supported (hung) from the concrete slab above.

7.3.5.1(4) Design pumping systems for subsurface, storm, or sanitary drainage with 100% redundancy (one redundant unit for each active unit) and supply related equipment with emergency power. Design the sump with twin compartments (separate chambers for settling and pumping) and size the sump to prevent short cycling of the pump. Provide engineered packaged system(s) complete with controls and alarms including high water level and pumps failure alarms. Provide local alarms annunciation with audible and visible alarms indication and remote connection via the BMS.

7.3.5.1(5) Provide drainage and venting piping and fittings of a material suitable for the expected effluent. This includes dialysis systems

and other specialty systems with acidic or high-temperature discharges. Drainage piping material may only be changed downstream at the following points where the hazardous property of the effluent is reduced so a different piping material is suitable:

- 7.3.5.1(5)(a) where the branch connects into a main drain line, such that the additional effluent flow dilutes the discharge; and
 - 7.3.5.1(5)(b) where a device is placed in-stream to reduce the hazard of the discharge, such as an acid neutralizer.
- 7.3.5.1(6) Provide floor drains in all mechanical rooms and other rooms where water spillage from equipment or operations is reasonably expected.
- 7.3.5.1(6)(a) Provide drains for all devices that may discharge water, including emergency showers and backflow prevention devices.
 - 7.3.5.1(6)(b) Install floor drains in Client care areas only as needed for the specific use of the room.
 - 7.3.5.1(6)(c) Ensure all equipment drain piping is terminated at floor drains with the proper air gap.
 - 7.3.5.1(6)(d) Size floor drains serving backflow preventers, sprinkler test points or other devices to accommodate the discharge flow rate of the device.
- 7.3.5.1(7) Provide interceptors and sediment buckets to grease, dirt and solids where necessary.
- 7.3.5.1(7)(a) Provide interceptors in accordance with the manufacturer's specifications.
 - 7.3.5.1(7)(b) Provide grease interceptors to serve all sinks and floor drains in Food Services and Ware Washing areas. Run an independent drainage system sloped at a minimum 2%. Locate interceptors outside of building for servicing.
- 7.3.5.1(8) Provide automatic trap primers at drains that are subject to losing the trap seal, including infrequently used fixtures and p-traps in negatively pressurized rooms. Locate trap primers in a location where they will easily be accessed, inspected, and repaired.
- 7.3.5.1(9) Provide liquid medical waste disposal system for Soiled Utility Rooms. Ensure units are powered by tap water and safely empty

canisters containing infectious liquid medical waste directly into the sanitary sewer with no pouring required.

- 7.3.5.1(10) Provide flushing rim type floor drains in all Mental Health / Psychiatry Secure Rooms.

7.3.6 Plumbing Systems – Greenhouse

- 7.3.6.1 Provide a 50mm domestic water supply, complete with check meter networked to the BMS and with backflow prevention. Provide interior hosebibbs located at 30 metre intervals and a 38mm valve and cap for connection to a future irrigation system, all supplied from the 50mm domestic water supply. Provide for area drainage of the concrete floor base slab. Provide area drains suitable for the application of gravel and plant growing medium environment without clogging.

7.4 Heating, Ventilating and Air Conditioning (Division 23)

7.4.1 Heating Plant:

- 7.4.1.1 Provide a heating plant to provide all necessary heating for the Facility and to meet the heating plant requirements of CSA Z317.2 for a Type A-2 HCF. Determine the design load and redundancy per the requirements of CSA Z317.2 and to ensure the heating plant has sufficient heating capacity to continue operations at all times of the year. Ensure no failure of any single boiler, pump, fan, variable frequency drive (VFD), or central system control valve will be able to prevent heating of the Facility to the required design conditions.
- 7.4.1.2 Apply energy recovery systems to offset plant heating requirements. Provide analysis of energy savings, life-cycle costing, and maintenance concerns.
- 7.4.1.3 Design the heating plant to sufficiently meet the maximum simultaneous Facility demand for all systems served by the heating plant, as well as to be capable of controlling and responding to periods of low usage.
- 7.4.1.4 Provide heat for all spaces to meet their full functional requirements following any disruption of the primary energy source.
- 7.4.1.5 Provide separate standalone steam generators for all steam uses within the Facility. Provide separate steam generation systems for humidification and process loads.
- 7.4.1.5(1) Ensure the feed water quality to steam generators is within the required conditions of the applicable codes, standards, and manufacturer's recommendations for both the generator and the

downstream equipment. Steam quality must be condensate free and minimum 97% saturated vapour.

7.4.1.5(2) Provide connections in the steam system near the point-of-use, which will be used to access the steam for quality measurement.

7.4.1.6 Provide fuel tanks of underground double-walled fiberglass type installed with sufficient depth below the frost line. Provide required tank monitoring systems, fill protection, and fuel polishing system. Install in accordance with Provincial standards.

7.4.2 Cooling Plant:

7.4.2.1 Design the cooling plant to meet the maximum simultaneous Facility demand for all systems served by the cooling plant, as well as to be capable of controlling and responding to periods of low usage. Provide a minimum of two chillers. Ensure no failure of any single chiller, pump, fan, VFD, air conditioner, cooling tower or condenser will be able to prevent:

7.4.2.1(1) air conditioning of the Main Telecom Room and Remote Telecom Rooms; or

7.4.2.1(2) cooling of at least 50% of capacity for all other spaces at peak cooling load.

7.4.2.2 Provide equipment for all necessary cooling, including the required redundancy in the cooling systems and cooling required by building systems in a post disaster event.

7.4.2.3 Provide 100% outdoor air for free cooling as the first means of space cooling.

7.4.2.4 Apply energy recovery systems to offset plant cooling requirements.

7.4.2.5 Provide chillers rated in accordance with ARI 550/590. No absorption chillers may be used.

7.4.2.6 Provide cooling towers with performance certified in accordance with CTI (Cooling Technology Institute) Standard STD-201. Provide a minimum of one cooling tower cell per chiller. Ensure cooling towers :

7.4.2.6(1) are located away from fresh air intakes; and

7.4.2.6(2) do not emit water vapours that interfere or could interfere with Facility operations.

7.4.2.7 Design and locate chillers and cooling towers so as not to have an adverse effect on mechanical systems.

- 7.4.2.8 Provide chillers and cooling towers for ease of operation, accessibility for maintenance, safety and appearance.
- 7.4.2.9 Install cooling plant in compliance with ASHRAE Guideline 12 for Minimizing the Risk of Legionellosis Associated with Building Water Systems.

7.4.3 Space Heating and Cooling

7.4.3.1 Basic Requirements

- 7.4.3.1(1) Provide all necessary space, ventilation and process heating for the Facility.
- 7.4.3.1(2) Ensure space heating capacity is sufficient to meet the required indoor design temperature per CSA-Z317.2-10.
- 7.4.3.1(3) Connect sources of heating that serve Type I and Type II spaces to the emergency power supply. Refer to CSA Z317.2 for space Type definitions.
- 7.4.3.1(4) Provide air curtains to all vestibules adjacent to the exterior to prevent cold drafts from entering the adjacent occupied space.
- 7.4.3.1(5) Design pumps to:
 - 7.4.3.1(5)(a) operate at the system fluid temperature without vapour binding and cavitation;
 - 7.4.3.1(5)(b) be non- overloading in parallel or individual operation;
 - 7.4.3.1(5)(c) operate within 25% of the midpoint of published maximum efficiency curve.
- 7.4.3.1(6) Ensure pump construction and installation will permit complete pump servicing without disrupting piping or motor connections.
- 7.4.3.1(7) Insulate all piping, equipment and accessories in accordance with all applicable standards as a minimum.
- 7.4.3.1(8) Provide seismic mitigation and building separation devices for all piping that crosses buildings and/or utility corridors.
- 7.4.3.1(9) Provide adequate expansion compensation for heating piping. Locate anchors and guides, design expansion compensation loops and select expansion compensation devices based on a thorough review of piping layout and engineered piping stress analysis.

- 7.4.3.1(10) Ensure that no air within the air conditioning system, outside of the central air handling equipment, drops below its dewpoint temperature.
 - 7.4.3.1(11) Once through cooling is not permitted for any process or service within the Facility.
 - 7.4.3.1(12) Provide continuously available chilled water or condenser water systems for all areas containing specialized medical equipment, walk in coolers, server rooms and electrical rooms for managing continuous internal heat gains. Cooling and heat rejection for these critical loads may be served by the central cooling plant provided the system incorporates redundancy per CSA Z317.2 requirements and is connected to the delayed vital electrical system. Design HVAC terminal components in conjunction with equipment location in order to mitigate unnecessary heat gain into the space.
- 7.4.3.2 Performance Criteria
- 7.4.3.2(1) Install piping in an orderly manner (aligned with structural elements and at right angles). Slope piping to permit complete drainage of the system. Make allowances in all pipe sizing to provide flexibility for future renovations in accordance with Section 4.1.3.
 - 7.4.3.2(2) Install equipment and piping with adequate service space, access panels and the ability to remove equipment for servicing or replacement. Locate services that require access for regular maintenance above non-critical spaces, such as corridors, to minimize or eliminate disruptions to the delivery of health care services.
 - 7.4.3.2(3) Equip all high points in piping with air removal devices such as air collection chambers and air vents. Do not locate automatic air vents above the ceilings of occupied spaces.
 - 7.4.3.2(4) Provide isolation valves, unions, and bypass piping to allow for equipment isolation and removal without unduly affecting the system operation or major drain down.
 - 7.4.3.2(5) Provide balancing valves, flow-measuring devices, temperature and pressure sensors throughout the system to facilitate system balancing.
 - 7.4.3.2(6) Ensure all piping is accessible. No under-slab piping is permitted. No in-slab piping is permitted except as follows:

- 7.4.3.2(6)(a) Piping embedded in concrete for radiant heating and/or cooling systems is permitted in areas that are not

expected to change in layout over the life span of the building.

7.4.4 Ventilation

7.4.4.1 Basic Requirements

- 7.4.4.1(1) Provide all necessary ventilation for the Facility.
- 7.4.4.1(2) Design the air handling equipment for the Facility to provide 100% outdoor air capability at all times of the year. Refer also to Section 7.4.4.1(9) of this Schedule.
- 7.4.4.1(3) The clinical support spaces, administration spaces, meeting spaces, and energy centre ventilation systems may be designed to ASHRAE Standard 170 for Health Care Facilities provided these spaces are not served from a common ventilation system serving the Client Care Units.
- 7.4.4.1(4) Provide HVAC systems that maintain appropriate pressure relationships between various areas of the buildings and provide necessary outdoor air quantity, air filtration, cleansing and exhaust to control the transmission of infection. Refer to applicable infection control standards and CSA Z317.2- for the relative pressurization and other minimum indoor air quality requirements for the Facility.
- 7.4.4.1(5) Provide HVAC systems with adequate backup capacity and equipment redundancy to ensure continuous Facility operations at all times.
- 7.4.4.1(6) Provide air handling units with sectional heating and cooling coils and manual isolation valves that will enable isolation and repairs to the damaged sections of coils without stoppage of the system.
- 7.4.4.1(7) Design and construct the Facility to comply with the requirements of CSA Z317.02 (Special requirements for heating, ventilation & air conditioning systems in health care facilities) for a Class A-2 HCF (Health Care Facility), except as follows:
 - 7.4.4.1(7)(a) at least two 12-bed clusters within the Acute Client Care Units will have interconnected air handling equipment to provide adequate redundancy. Ensure the redundancy for critical spaces being served will provide sufficient fresh air and filtration as outlined in CSA Z317.02; and
 - 7.4.4.1(7)(b) for all air handling equipment serving Client areas, implement multiple fans or a fan wall within a single air handling unit cabinet.

- 7.4.4.1(8) For private Client rooms requiring negative pressure, provide dampers of sufficient quality to ensure minimal leakage of airflow. Provide airflow sensor at damper to ensure isolation has been achieved, and provide pressure monitor at Nurse Station, monitored by BMS.
 - 7.4.4.1(9) Provide air filtration in accordance with all applicable standards. Ensure all HVAC systems will perform such that any indoor contaminants are maintained at less than 50% of their occupational exposure limits (OELs).
 - 7.4.4.1(10) Provide dedicated supply air with HEPA filters for spaces as required by applicable standards.
 - 7.4.4.1(11) Provide fans with Variable Frequency Drives (VFDs) for energy savings under part-load conditions. Select motor starters in accordance with Section 7.7.7.2.
 - 7.4.4.1(12) Provide factory-fabricated air handling equipment to ensure the highest construction standard.
 - 7.4.4.1(13) For Medical Gas Storage Rooms, provide ventilation systems in compliance with NFPA-99.
 - 7.4.4.1(14) Provide vandal-proof, anti-ligature HVAC equipment and devices in Client rooms and other areas where Clients may be present and unsupervised.
 - 7.4.4.1(15) Ensure the ventilation systems are designed to accommodate any additional ventilation supply needed for commercial spaces to maintain proper pressurization throughout the building. Provide sufficient make up air for all NFPA-96 commercial exhaust hood systems.
 - 7.4.4.1(16) Ensure the ventilation of residential dryers and range hoods exhaust air is ducted to the exterior. If the ducting exceeds the dryer's maximum allowable distance, provide an interlocked booster fan.
 - 7.4.4.1(17) Apply CSA-Z317.2-10 and ASHRAE Standard 170 for space pressurization and minimum air change rates. If the standards differ apply the most stringent requirement.
- 7.4.4.2 Performance Criteria
- 7.4.4.2(1) Provide Indoor Air Quality (IAQ) management plans to meet the project's IAQ requirements.

- 7.4.4.2(2) Incorporate a strategy to allow the installation and removal of major HVAC equipment such as fans without disrupting Facility operations.
- 7.4.4.2(3) Locate fans, common filters (e.g. HEPA), and other equipment in the central mechanical rooms. Allow for adequate clearance for service access.
- 7.4.4.2(4) Provide 100% redundancy for isolation room exhaust systems.
- 7.4.4.2(5) All equipment for exhaust systems located exterior to the building will be designed and constructed to withstand the exposure to outdoor conditions.
- 7.4.4.2(6) Provide fresh air intakes, cooling coil drain pans, air handling units, duct mounted humidifiers, ductwork, and all other interconnected components to prevent moisture or contaminants from collecting within the system. Provide sufficient access panels to allow for inspection and cleaning.
- 7.4.4.2(7) Locate fresh air intakes so as not to not entrain contaminants from outdoor sources, including existing exhaust points of adjacent buildings and the Sweat Lodge. Locate all intakes in areas that are not accessible by the public and are not near exhaust air outlets.
- 7.4.4.2(8) Ensure all supply, return, and exhaust air is fully ducted to the space being served. Ceiling area may not be used as return air plenums.
- 7.4.4.2(9) Insulate all ductwork to all applicable standards as a minimum.
- 7.4.4.2(10) Provide seismic mitigation and building separation devices for all ductwork that crossings buildings and/or utility corridors.
- 7.4.4.2(11) No in-slab or under slab ductwork is permitted.
- 7.4.4.2(12) Smudging activities:
 - 7.4.4.2(12)(a) Design spaces incorporating smudging activities to comply with LEED Canada, IEQ Prerequisite 2 “Environmental Tobacco Smoke (ETS), Option 2, Case 1.

7.4.5 Exhaust Systems

7.4.5.1 Basic Requirements

- 7.4.5.1(1) Design exhaust air discharges to ensure that there is no cross contamination with outdoor air intakes for any new or existing buildings on the Site.
- 7.4.5.1(2) Provide exhaust fans and locate them at the end of the exhaust ductwork systems. Ensure that the fans will be readily serviceable and are separated from spaces that house other mechanical equipment.
- 7.4.5.1(3) Integrate control of the exhaust systems with the ventilation supply air systems for spaces with differential pressure requirements from adjacent spaces.
- 7.4.5.1(4) Provide exhaust air systems suitable for special venting requirements as per CSA standards. Interlock these systems with associated supply air systems.
- 7.4.5.1(5) Provide dedicated exhaust systems for all spaces incorporating smudging activities.
- 7.4.5.1(6) Provide commercial-grade NFPA-96 exhaust hood systems where commercial cooking operations will occur. Interlock the hood(s) with a make-up air system to ensure that proper pressurization within the Main Building is maintained.
- 7.4.5.1(7) Provide complete central dust collection systems for vocational areas, sized to provide dust collection from woodworking equipment. Provide adequate make-up air if dust collection systems exhaust to the exterior. Install dust collection systems will be installed in compliance with NBCC and NFPA 664.
- 7.4.5.1(8) Provide exhaust systems at the emergency generators for radiator cooling and engine exhaust. Ensure exhaust termination points are located so flue gases are not entrained in air intakes, operable windows or any other building opening for the Main Building or adjacent buildings.
- 7.4.5.1(9) Make provisions in the building exterior for connections of portable negative pressurization ventilation units that will be used during future building renovations. Ensure these connection points will be available for use without adversely affecting the building envelope. Provide sufficient connection points at the building exterior so that all internal areas will be served by negative pressurization ventilation units.

7.4.5.2 Performance Criteria

- 7.4.5.2(1) Provide dedicated exhaust systems as required for medical equipment. Do not use portable systems.
- 7.4.5.2(2) Ensure all ductwork that exhausts humid air at or near saturation is constructed of welded stainless steel of a suitable alloy or of a material equally resilient to corrosion. Ensure all duct are sloped to drain points and are accessible for inspection and cleaning.

7.4.6 Metering Requirements for Energy Measurement and Verification

- 7.4.6.1 Provide meters on all services connecting to the building from an external infrastructure including natural gas service, domestic water and electrical service.
- 7.4.6.2 Provide all required meters, sensors, and trend logging equipment at end uses within the building to meet the energy monitoring requirements set out in Appendix 2C [Energy].
- 7.4.6.3 Connect all meters to the BMS to monitor, record, report and analyze energy consumption. Coordinate electrical metering and the energy management system with the requirements of Section 7.7.
- 7.4.6.4 Design metering intervals to be fifteen minutes or less.

7.4.7 Sound Attenuation and Vibration Isolation

- 7.4.7.1 Design all mechanical systems to prevent sound and vibration transmission between spaces, to prevent transmission from mechanical equipment to the spaces, and to minimize sound and vibration transmission to the outside of the Main Building and Ancillary Buildings. Provide sound attenuation to limit sound levels in accordance with Appendix 3C [Sound Transmission Ratings].
- 7.4.7.2 Provide systems with noise attenuation screening if the equipment or their exterior openings are located facing and within 200 meters of residential areas.
- 7.4.7.3 Provide vibration isolation devices on all equipment with rotating components.
- 7.4.7.4 Ensure all suspended equipment utilize spring isolators designed for the weight and vibration characteristics of the equipment.
- 7.4.7.5 Provide flexible connections to isolate mechanical equipment sound and vibration from ducting, piping and electrical wiring systems.
- 7.4.7.6 Ensure duct silencers meet or exceed the requirements of the ductwork for cleanliness and inspection.

7.4.7.7 Utilize fibre free internal insulation. Do not internally insulate supply ductwork.

7.4.8 Testing, Adjusting, Balancing (TAB) and Commissioning (Cx)

7.4.8.1 Without limiting Project Co's commissioning obligations under Section 12 (Commissioning and Operational Readiness) of Schedule 2 [Design and Construction Protocols], Project Co will:

- 7.4.8.1(1) perform TAB & Cx of all mechanical equipment;
- 7.4.8.1(2) configure the TAB & Cx plan so it will support a phased occupancy of the building, if required by construction conditions and approved by the Authority;
- 7.4.8.1(3) utilize a quality assurance system throughout the TAB & Cx process to ensure that TAB & Cx has been performed to all equipment and systems requiring TAB & Cx. Demonstrate the quality assurance system to the Authority prior to beginning TAB & Cx;
- 7.4.8.1(4) ensure any construction or installation errors are identified and remedied prior to the start of Cx functional testing;
- 7.4.8.1(5) perform follow-up TAB & Cx services during each season over the first year of the building's operation;
- 7.4.8.1(6) make all TAB & Cx reports available to the Authority. The reports will identify how much additional capacity is available for in all systems, as required by Section 4.1.3; and
- 7.4.8.1(7) retain complete records of all TAB and Cx data.

7.4.9 Greenhouse HVAC Systems

- 7.4.9.1 Provide HVAC system(s) for the Greenhouse to maintain a maximum interior temperature of 32 deg. C (90 deg F) and a minimum interior temperature of 10 deg C (50 deg F). Furnish and arrange automatic roof and sidewall vents to open out and work in sequence with the HVAC system(s) to control temperature and humidity. A dedicated humidification system will not be required. Zone the vents into 3 separate controlled areas. Provide easily removable screens for the vent openings. Ensure all regulated energy consumed by the Greenhouse is metered separately from the rest of the Facility and is networked to the BMS.
- 7.4.9.2 Provide evaporative cooler sized for 1.5 times the volume of the Greenhouse per minute.

- 7.4.9.3 Provide indoor temperature and relative humidity sensor for each controlled zone. Integrate the roof and sidewall ventilation and HVAC system for the Greenhouse with the BMS.

7.5 Reserved for Future Expansion (Division 24) – NOT USED

7.6 Integrated Automation (Division 25)

7.6.1 Controls

7.6.1.1 Basic Requirements

- 7.6.1.1(1) Provide a building management system (“**BMS**”) for the Facility that performs the following functions:

- 7.6.1.1(1)(a) automatically operates, monitors and manages the Facility’s systems to provide a high level of occupant comfort and maintains a healthy and productive environment without disruption to the delivery of Client treatment services;
- 7.6.1.1(1)(b) provides an internet based means of external monitoring by the Authority, including all associated hardware and software;
- 7.6.1.1(1)(c) interfaces with the Facility mechanical, electrical and communication systems and controls;
- 7.6.1.1(1)(d) meters, trends and archives all data related to the flow of services into and out of the Facility, including domestic water, gas and electricity, and takes into account seasonal variations in flow rate;
- 7.6.1.1(1)(e) annunciates building and equipment alarms, including fire alarm, security alarms, freezer alarms, medical equipment alarms, lighting, UPS, emergency power systems. switchgear alarms, temperature and humidity setpoint deviation alarm;
- 7.6.1.1(1)(f) monitors the status, temperature, humidity and alarms for equipment identified in consultation with the Authority, including freezers, coolers, labs and medical equipment;
- 7.6.1.1(1)(g) acquires and collates all data associated with energy measurement and verification as required by Section 7.4.6; and

- 7.6.1.1(1)(h) contains safeguards to prevent unauthorized external access.
- 7.6.1.1(2) Design the controls systems to allow monitoring and operation of the Facility from a BMS location in the Main Building, or from any location with appropriate security controls in place via an integrated Building Automation System over IP.
- 7.6.1.1(3) Ensure the BMS is a completely integrated (front-end and back-end) Native BacNET DDC system.
- 7.6.1.1(4) Ensure the BMS is non-proprietary and designed with open protocol.
- 7.6.1.1(5) Provide the BMS as a complete package from one manufacturer, not a composite system from several manufacturers. Proprietary systems may be integrated into the BMS provided there are sufficient control points between the two systems to monitor and operate the system as required by these specifications and to diagnose problems.
- 7.6.1.1(6) Ensure the BMS:
- 7.6.1.1(6)(a) will optimize the system performance under all operating conditions to minimize Facility energy usage;
 - 7.6.1.1(6)(b) will accommodate future technological changes and that the architecture of the BMS will permit expansion of the system for future renovations; and
 - 7.6.1.1(6)(c) is an independent system separate from the fire alarm and other control systems.
- 7.6.1.1(7) Provide airflow sensors at negative isolation dampers in ductwork and provide space pressure monitors to ensure that isolation has been achieved.
- 7.6.1.1(8) Provide sensors to monitor outdoor air volumes, space CO2 levels, and other levels as required.
- 7.6.1.1(9) Provide continuously-operating sensors between all spaces requiring differential pressurization to monitor that the required pressure differential is in place. In addition to BMS alarms, provide local audio and visual alarms at the room entrance and also at the local monitoring station if applicable.
- 7.6.1.1(10) Provide BMS complete with Automated Fault Detection, Diagnosis and Reporting (AFDDR) software. Configure and operate the

AFDDR software to ensure building systems remain continuously optimized and the need for fault diagnosis by the building operator is minimized. Ensure the AFDDR software will provide customizable web-accessible reports available to the Authority.

7.6.1.1(11) Provide a separate physical network and any required network equipment for the BMS.

7.6.1.1(12) Ensure all system critical server/head-end applications on which the BMS relies upon will reside on the Project Co's server equipment. Ensure all software systems, platforms and equipment comply with the Authority's standards and policies as described in this Schedule. Provide an interface to the Authority's network for alarm, notification, and other requirements as requested by the Authority.

7.6.2 Performance Criteria

7.6.2.1 Provide an independent control zone for each Client room. For type 3 spaces as defined in CSA Z317.2, base the zoning for HVAC systems on occupancy, room location, room orientation and room heating and cooling loads.

7.6.2.2 Zone floor areas to provide control of smoke in a fire situation. Zone floor areas to ensure infection control for each of the care team stations.

7.6.2.3 Provide space thermostats for each zone. Mercury-containing components will not be permitted.

7.6.2.3(1) Provide adjustable type recessed thermostats in all private Client rooms with temperature read out. Ensure the temperature range may be controlled by the BMS.

7.6.2.4 Provide local pressure control for each negative pressure room and anteroom. Provide a local annunciator panel located in the corridor outside each of these rooms.

7.6.2.5 Design all components to default to a safe position upon failure, and install all components to ensure reliable operation at any failure situation.

7.6.2.6 Design the BMS to monitor, control and indicate alarms, and to provide trending where applicable for all connected sensors and control points.

7.6.2.7 Connect the BMS to emergency power and UPS to ensure continued availability during utility power disruptions.

7.6.2.8 Design the BMS to monitor critical alarms for essential building and life safety systems. Critical alarms include:

- 7.6.2.8(1) fire alarm system for alarm, supervisory and trouble;
 - 7.6.2.8(2) all temperature alarms resulting from setpoint deviations;
 - 7.6.2.8(3) failure of any major HVAC or plumbing equipment;
 - 7.6.2.8(4) all alarms relating to the fire protection system; and
 - 7.6.2.8(5) all alarms related to the emergency power generators and transfer switch control system.
- 7.6.2.9 Include in the BMS documentation a detailed narrative description of the sequence of operation of each system.
- 7.6.2.10 Design user interface to be graphical in nature with animated graphics to indicate equipment operation. Graphics will be grouped in systems and in departments.
- 7.6.2.11 Connect the energy management system to the BMS.

7.7 Electrical (Division 26)

7.7.1 Wiring Methods, Materials and Devices

- 7.7.1.1 Basic Requirements
- 7.7.1.2 Use wiring methods, materials and devices that result in a safe, reliable and flexible electrical power, lighting control, communication, data and life safety system.
- 7.7.1.3 Install all wiring in a neat and secure manner so that it is protected from damage, is not in conflict with mechanical or architectural components and allows for future changes and additions.
- 7.7.1.4 Do not install conduit or wiring in floor slabs, except where it is impossible to supply the device from the ceiling, or specific approval has been granted by the Authority.
- 7.7.1.5 Route feeders to panelboards to the panelboard from the ceiling space above. Do not feed panelboards fed via the slab below, and do not 'daisy-chain' panelboards through floors.
- 7.7.1.6 Route Branch circuits from panelboards to a large pullbox located in the ceiling space immediately above the panelboard for distribution through the above-ceiling service space.
- 7.7.1.7 Colour-code the power receptacles as follows:
 - 7.7.1.7(1) Normal power – WHITE

- 7.7.1.7(2) Essential power – RED
 - 7.7.1.7(3) UPS power – GREY
 - 7.7.1.7(4) Housekeeping – BLACK
- 7.7.1.8 Identify all power receptacles with a panel and circuit number. Arrange colour of labelling in accordance with Authority colour coding standards as follows:
- 7.7.1.8(1) Vital power - RED with WHITE text
 - 7.7.1.8(2) Delayed vital power - BLUE with WHITE text
 - 7.7.1.8(3) Conditional power - YELLOW with BLACK text
 - 7.7.1.8(4) UPS - GREY with BLACK text
 - 7.7.1.8(5) Normal power - BLACK with WHITE
- 7.7.1.9 Project Co will obtain approval from the Authority of the proposed classification of all Client care areas in the Main Building per CSA Z32-09. The Authority will review these classifications and confirm the areas as basic, intermediate or critical care. Provide as a minimum the circuit and receptacle requirements identified in CSA Z32-09. Where this Schedule 3 identifies requirements beyond CSA Z32-09, comply with the requirements of this Schedule 3.
- 7.7.1.10 Performance Criteria
- 7.7.1.10(1) Utilize non-alloyed copper for all conductors and all conducting components of electrical equipment, which form part of a building's wiring systems. Minimum conductor size will be #12AWG. Aluminum conductors installed in conduits may be used for feeders larger than #6AWG.
 - 7.7.1.10(2) Ensure that all conductors #12 AWG and larger are stranded.
 - 7.7.1.10(3) Project Co may use Teck cable in mechanical plant rooms and service rooms for connection to mechanical equipment. Teck cable will be installed in perpendicular runs and will be neatly strapped to dedicated cable support systems or tray. Do not support armoured cabling from mechanical ducts, pipes or equipment. Where possible, Teck cable runs will be consolidated into common routes.
 - 7.7.1.10(4) Provide a dedicated neutral conductor for each branch circuit.
 - 7.7.1.10(5) Provide panel boards, feeders and branch circuiting with double neutral(s) capacity where significant non-linear load(s) are

anticipated. This includes open office and other areas with a medium to high density of personal computers.

- 7.7.1.10(6) Conceal all wiring and wiring support systems from public view except where approved by the Authority.
- 7.7.1.10(7) Separate all wiring for systems of different voltages and from different sources and do not run in common raceways. Maintain adequate shielding and separation between wiring for power and communication systems to prevent interference.
- 7.7.1.10(8) Provide hospital grade receptacles for all Client accessible areas. Receptacles in all other areas will be specification grade. Receptacles will be colour coded.
- 7.7.1.10(9) Utilize stainless steel cover plates for receptacles and switches. Provide tamperproof fasteners when accessible to Clients. Grouped receptacles and switches will have a single cover plate for the whole group.
- 7.7.1.10(10) Design each room in the Facility such that receptacles and data outlets are distributed throughout the room as required to support functionality and convenient use of equipment by Facility Users and in accordance with Good Industry Practice and as required by other provisions of the Agreement. Provide sufficient quantities of receptacles and data outlets:
 - 7.7.1.10(10)(a) to meet or exceed the requirements of these documents and CSA Z32-09 and ANSI/TIA/EIA-1179
 - 7.7.1.10(10)(b) to support all of the systems and equipment to be installed or used in the Facility, including any additional power outlets required by other provisions of this Agreement; and as required by Good Industry Practice to provide convenience, flexibility of use and operational support throughout the Facility.
- 7.7.1.10(11) Unless otherwise requested by the Authority or elsewhere in this specification, provide emergency power per CSA Z32 requirements.
- 7.7.1.10(12) Allow a maximum connection of six general use receptacles to one 15 amp circuit.
- 7.7.1.10(13) Provide one duplex convenience receptacle rated at 15A, 125V in all rooms. This is in addition to all other receptacles identified in this Schedule. All receptacles installed in Private Client rooms will be GFCI and AFCI protected.

- 7.7.1.10(14) Utilize NEMA 5-20R 15/20Amp style receptacles for printers and copiers. Provide 20A rated dedicated circuits for each printer and copier.
- 7.7.1.10(15) Utilize NEMA 5-20R 15/20Amp style receptacles for housekeeping staggered on alternate sides of the hallways spaced a maximum of 10 meters apart. Provide 20A rated dedicated circuits for each area, to a maximum of 6 receptacles per circuit.
- 7.7.1.10(16) Provide a minimum of one power outlet on each wall in all offices. In single occupancy offices, two outlets will be quadplexes located to serve the location of possible workstations, the other two will be convenience duplexes.
- 7.7.1.10(17) Provide a minimum of one 15Amp circuit per four open office workstations.
- 7.7.1.10(18) Provide a minimum of one 15Amp circuit per two single person enclosed offices.
- 7.7.1.10(19) In each multi-occupancy office provide a minimum of one quadplex receptacle for each desk or workstation and a minimum of one duplex receptacle spaced every 3 meters of open wall space.
- 7.7.1.10(20) Each Administration workstation will have a minimum of two duplex receptacles.
- 7.7.1.10(21) Provide a minimum of five duplex receptacles in each exam treatment room, two of which will be fed from vital power.
- 7.7.1.10(22) Provide a minimum of six duplex receptacles at each clean utility room, 50% of which will be fed from vital power and the remainder connected to conditional power.
- 7.7.1.10(23) In each care team station, provide one quadplex receptacle spaced 1 m on centre below work counters in knee space or above counter if no knee space is provided. 50% of these receptacles will be fed from vital power and the remainder connected to conditional power.
- 7.7.1.10(24) In each conference or meeting room provide a minimum of one duplex receptacle spaced every 2 meters of wall space and one duplex receptacle spaced a maximum every meter above work counters. In addition, provide receptacles for all dedicated equipment such as microwaves, coffee makers, refrigerators, etc. At all locations with overhead projectors provide 15Amp 120 volt receptacle located at ceiling and provide one 27 mm conduit and pullstring to floor and/or wall outlet for the video signal to the projector.

- 7.7.1.10(25) In each Client room, provide GFCI and AFCI protected duplex receptacles as follows:
- 7.7.1.10(25)(a) Two at the bed wall for general use - connect one of the receptacles to vital power.
 - 7.7.1.10(25)(b) One at the bed wall for dedicated electric bed use where applicable, for example at the designated medical bed in each Client Care Unit and all beds in the Extended Care Unit – connect to vital power.
 - 7.7.1.10(25)(c) One for the TV within the wardrobe cabinet to prevent ligature risk,
 - 7.7.1.10(25)(d) One openly accessible for general use.
 - 7.7.1.10(25)(e) One for the desk area.
 - 7.7.1.10(25)(f) For IPCR rooms only, one at the ceiling for TV camera – connect to vital power.
- 7.7.1.10(26) Provide a minimum of four duplex receptacles at each medication room, connect 50% of these receptacles to vital power.
- 7.7.1.10(27) Provide one duplex receptacle for every 35 square meters, or portion thereof, of service, housekeeping and storage space. A minimum of one duplex receptacle will be provided per room.
- 7.7.1.10(28) Provide special receptacles for fixed and moveable equipment as defined in the Equipment List.
- 7.7.1.10(29) Provide each workbench in the biomedical technical work area with one 50A, 208V outlet, plus two dedicated 15A, 120V circuits each of which serves a six outlet power bar. One of the 15A circuits will be delayed vital power.
- 7.7.1.10(30) Install approved fire stopping to maintain all fire separations and as required by local Governmental Authority.

7.7.2 Raceways

7.7.2.1 Basic Requirements

- 7.7.2.1(1) Provide raceways for all wiring and cabling to support, protect and organize all wiring and cabling systems. Raceway systems will not be accessible to Clients.

- 7.7.2.1(2) Design raceways to provide ease of access and install with capacity for expansion and change, consistent with the requirements of the equipment and systems that they serve.
- 7.7.2.1(3) Install all raceways in a neat and secure manner in such a way that they are protected from damage, are not in conflict with mechanical or architectural components and allow for future changes and additions.
- 7.7.2.1(4) Except as noted otherwise, install power wiring in EMT with steel couplings and connectors.
- 7.7.2.1(5) Install telecommunication outlet and building system wiring (unless otherwise required by applicable codes and standards) in EMT with steel couplings and connectors and/or cable trays. Install individual steel backboxes for all communication system devices. Conduits connecting to cable trays for communication system wiring will be mechanically connected, completed with grounding bushings.
- 7.7.2.1(6) EMT is to be surface mounted in mechanical and electrical equipment rooms and concealed in ceiling spaces and partition walls. In mechanical equipment rooms, do not use EMT below 2 meters. Do not encase EMT in concrete, unless such installation is permitted by code and is:
 - 7.7.2.1(6)(a) Reviewed by the Authority as being necessary to achieve a concealed installation in finished spaces such as exposed concrete stairwells.
- 7.7.2.1(7) If EMT conduit is encased in concrete, such conduit runs will:
 - 7.7.2.1(7)(a) be as short as possible; and
 - 7.7.2.1(7)(b) emerge from the concrete in the closest adjacent space above suspended ceilings.
- 7.7.2.1(8) Minimum EMT conduit size is 21 mm (3/4"), except that minimum EMT conduit size for each communication or data outlet is 27 mm (1") – see Div. 27 for minimum cabling requirements for a telecommunication or data outlet.
- 7.7.2.1(9) Use flexible conduit for all final connections to vibrating equipment, such as transformers and motors. Flexible PVC conduit (ENT) is not permitted.
- 7.7.2.1(10) Minimum flexible conduit size is 21 mm (3/4") and maximum length of any flexible conduit run is 1.5 metres.

- 7.7.2.1(11) Except as noted below, armoured cable (BX) may be used only for final connections from concealed junction boxes to lighting fixtures on suspended ceilings. The maximum length of any individual piece of armoured cable is 3.0 metres.
 - 7.7.2.1(12) Use rigid PVC conduits for the underground portion of services to lighting and power outlets located outside of a building. Use PVC for exposed conduits subject to washdown, such as the Greenhouse as approved by the Authority.
 - 7.7.2.1(13) Install individual bonding conductor in each conduit and/or raceway.
 - 7.7.2.1(14) Raceways will typically be concealed, however, surface raceways may be installed where required and approved by the Authority. Typical areas will include laboratory spaces, workbenches, nurse stations, and other areas where frequent changes in power and telecommunication outlets are likely.
 - 7.7.2.1(15) Armoured cable (BX) may be provided for modular pre-fabrication of non-clinical electrical systems. Modular wiring will consist of pre-cut flexible wiring which will terminate at an easily located and accessible junction box above the ceiling. The junction box will be located in an adjacent room within 3m (horizontally) of the prefabricated unit. Excess lengths of armoured cable will be neatly coiled up in the ceiling space to accommodate future changes. All wiring installed in walls will be vertical from device to ceiling space.
 - 7.7.2.1(16) Armoured cable (BX) may be provided for receptacles and light switches for non-clinical administrative areas. All installation of armoured cabling will be concealed and will originate from an easily located and accessible junction box mounted above the ceiling of the room it serves. This junction box will only serve one room, and will utilise conduit to home run its circuits back to a panelboard. Armoured cable may be daisy-chained within a single wall, but will not extend (i) around a corner, or (ii) horizontally beyond 10 metres of its vertical drop from the junction box. There will be no excess armoured cabling in the ceiling space and all wiring will be neatly strapped to the underside of slab, or onto dedicated wire management supports. Do not support armoured cabling from mechanical ducts, pipes or equipment, or suspended ceiling systems.
- 7.7.2.2 Design all power outlet and telecommunication outlet back boxes such that they are minimum 4" square welded steel type, equivalent to a Iberville 5200 series.

- 7.7.2.2(1) Provide cable trays for installation of all communication system wiring for data, telephone, public address and other such systems. Install cable trays from communication rooms and above all corridors. If cable trays pass through walls with fire resistance ratings, provide a non-removable ULC approved firestopping system similar to 'EZPath' raceway or 'Hilti Speedsleeve' of a quantity capable of accommodating the entire capacity of the cable tray. Use conduit for final drop from cable tray to field devices.
- 7.7.2.2(2) Provide aluminum or steel wire mesh cable trays with manufactured fittings. Provide continuous #6AWG minimum bare copper bonding wire which is connected by split bolt to each length of the cable tray. Provide bare copper bonding jumper between the cable tray and every associated conduit to ensure continuous bond between tray and low tension raceways.
- 7.7.2.2(2)(a) Bond and ground all conduits, cable trays, racks and other infrastructure as per CEC and TIA 607A to the associated building ground.
- 7.7.2.2(3) Identify all conduits, raceways, pull boxes, and junction boxes using painted colour bands. Colouring scheme will be determined by the Authority at a later date. Provide all power and communication systems with unique colours in accordance with the colouring scheme. Major colour to be 100 mm wide and minor colour to be 50 mm wide. Identify raceways with coloured bands (using either spray paint or coloured duct tape) at intervals of 6 m, 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 spray paint on the cover. Neatly identify the relevant system and circuit ID using permanent marker pen. Identify parallel conduit runs at common locations.
- 7.7.2.2(4) Indicate the location of conductors encased or embedded in concrete or masonry by conspicuous permanent markers set in the walls, floors, or ceilings. Markers will indicate each point at which buried conductors penetrate a wall. Markers will indicate encased or buried conductors every 10 meters and at each change in direction.
- 7.7.2.3 Performance Criteria
- 7.7.2.3(1) Construct separate raceways or barriered raceways to isolate systems of different voltages and prevent magnetic interference to low voltage system conductors.

- 7.7.2.3(2) Design and install raceways without sharp edges or tight bends so that cables will be pulled in or laid in and removed without damage to the cables.
- 7.7.2.3(3) Provide all cable trays with minimum 100% spare capacity for the installation of future cables. This requirement includes maintaining existing cabling while installing new cabling as required for life cycle replacement. If multiple raceways are required in a group, such as a duct bank or tray system interconnecting two or more major areas, provide matching empty raceway equal to a minimum of 50% of the capacity of the total installed group.
- 7.7.2.3(4) Provide 50% spare branch circuit raceways with fishwire to data rooms from all paneboards servicing room equipment loads.
- 7.7.2.3(5) Provide all duct banks with a minimum quantity of 50% spare conduits of the largest conduit size.
- 7.7.2.3(6) Install all conduits in finished areas within finished walls and above finished ceilings.
- 7.7.2.3(7) Where cable tray is not possible to install, another pathway method must be reviewed by the Authority for implementation.
- 7.7.2.3(8) Coordinate installation of cable tray to allow a minimum of 12 inches above, 6 inches in front, and 3 inches below of clearance from piping, conduits, ductwork, etc. Mount ceiling supports to ceiling structure directly or with 1/4", 3/8" or 1/2" threaded rod.
- 7.7.2.3(9) Provide miscellaneous accessories to protect cabling within the cable tray and entering / leaving the cable tray to maintain cable manufacturer's recommended bend radius and protect the cable from being damaged. Include waterfalls, cable spools, radius 90 degree bends, etc.

7.7.3 Electrical Utilities

7.7.3.1 Basic Requirements

- 7.7.3.1(1) Prepare load calculations identifying Facility power load to confirm sufficiency in power capacity of designed power distribution system. Coordinate with SaskPower to service the site with two independent 25kV Utility services. These services will be redundant and will be supplied from separate circuits. For added redundancy, the SaskPower on-site services will not share common physical routes into the primary service switchgear. Provide reliable incoming services on-Site that is protected from mechanical damage and vandalism.

- 7.7.3.1(2) Coordinate with local utility service provider and provide telephone, internet, fibre and cable TV services to site. Consult with the Authority and provide redundant fibre and copper services. Provide redundant service demarcation rooms and redundant service connections to the Main Telecom Room.
- 7.7.3.1(3) Design and construct the main electrical room to facilitate future expansion with minimal disruption to Facility operation and continuity. Construct the Facility with all necessary infrastructure including spare capacity, spare circuit breakers, physical expansion space, raceways stubbed out from the building footprint and capped off for easy future extension, pull-pits, sleeves, housekeeping pads, wiring, controls, distribution routes, and ventilation as necessary to accommodate the future system expansion.
- 7.7.3.2 Performance Criteria
- 7.7.3.2(1) Design the electrical systems and equipment to comply with the National Building Code of Canada requirements for a post-disaster building.
- 7.7.3.2(2) Design the electrical and communication utility services and electrical and communication rooms to be accessible to authorized personnel only. Route on-Site services underground in duct banks sloped away from the building and drained to the Site drainage system. Coordinate with the utilities transitioning of Off-Site overhead services to underground on-Site. Pull boxes (manholes) will have lockable hasps and will not be located in secure areas, on roadways, or in areas accessible to Clients. Provide security measures as required by the Authority including access controls, intrusion detection, and video surveillance.
- 7.7.3.2(3) Incorporate design features and practices to reduce arc flash hazards on electrical systems such that routine operations such as transfer switch operation, opening and closing distribution breakers, and inspection and maintenance activities will require (as defined in NFPA 70E) PPE Level 2. No activities will expose personnel to arc flash hazards which exceed the protection afforded by PPE Level 4.
- 7.7.3.2(4) Utilise technologies such as zone selective interlocking protection, limiting available fault current from transformers, maintenance mode settings of circuit breakers or providing remote control of switching and motorised racking devices.
- 7.7.3.2(5) Prepare and submit to the Authority a detailed arc flash study signed and sealed by a professional engineer registered in

Saskatchewan and provide equipment labelling indicating available energy levels and level of PPE required when servicing the equipment.

- 7.7.3.2(6) Provide a fully selective protection scheme for all of the circuit breakers on all essential system distribution equipment immediately downstream of the transfer switches, for both hydro and generator available fault currents. Additionally, all essential system circuit breakers will be fully selective for circuit breaker sizes 150A and larger.
- 7.7.3.2(7) Prepare and submit to the Authority a detailed distribution coordination study signed and sealed by a professional engineer registered in Saskatchewan.

7.7.4 Service Switchgear – Over 600 Volts

7.7.4.1 Basic Requirements

- 7.7.4.1(1) Provide metal clad electrical equipment for the primary service switchgear system for the Facility.
- 7.7.4.1(2) Utilize transmission and distribution equipment that are robust, reliable, easily operated and maintained.
- 7.7.4.1(3) Provide an indoor load break switch and motorized high voltage circuit breaker for each of the two incoming 25kV utility services. The circuit breakers will be configured as an open transition automatic transfer switch and will provide the capability of local manual and automatic transferring between services. The open transition service configuration will be subject to a SaskPower operating order. The operating order will define switching operations during planned and unplanned outages, key contacts, authorized personnel and specific nomenclature / sequences to support the switching orders. Provide all necessary arrangements to conform to SaskPower requirements.
- 7.7.4.1(4) Provide indoor high voltage circuit breakers and load break switches for each utility (normal) power transformer.
- 7.7.4.1(5) Provide one spare 25kV distribution circuit breaker adjacent to the main service transformer circuit breakers.
- 7.7.4.1(6) Provide a spare section in which a circuit breaker will be added for future medium voltage distribution of normal power. Provide a capped off duct bank stubbed out of the Main Building service location to facilitate future extension of 25kV power to a new

building or load on the Site. Coordinate the location of the spare duct bank with the Authority.

7.7.4.2 Performance Criteria

- 7.7.4.2(1) Provide main load break switches utilising HRC current limiting fuses.
- 7.7.4.2(2) Provide rackable 500 MVA rated metal-clad switchgear with vacuum circuit breakers, potential transformers, current transformers and metering sections.

7.7.5 Emergency Power

7.7.5.1 Basic Requirements

- 7.7.5.1(1) Provide emergency power generating plant comprising a minimum of two diesel powered generators. Generators will be located at grade level, preferably inside the Energy Centre. Generators will be capable of being installed and withdrawn from the building through the air discharge louvers with minimal deconstruction work being required.
- 7.7.5.1(2) If exterior generators are provided, locate the exterior generators at grade housed in secure, walk-in, illuminated and heated enclosures. Enclosures will be supervised for unauthorised intrusion.
- 7.7.5.1(3) Locate the generators to enable routine and emergency maintenance activities to be performed quickly and efficiently. Removal of the generators from the Site will be simple and will not require disassembly of the building or systems, nor special lifting equipment.
- 7.7.5.1(4) Do not place generators located where they are subject to damage from vandalism, falling objects or debris, road traffic, fire, flood or adverse weather conditions.
- 7.7.5.1(5) Generator sizing will include the electrical system 25% spare capacity per Section 5.12.1.2(7). Upon loss of one generator, the remaining generator(s) will be capable of supplying the total future vital and delayed vital power systems peak load. All generators will be of common size with each generator able to pick up the first step vital loads plus 25%. The electrical system expansion criteria identified in Section 5.12.1.2(7) pertains to load growth within the Facility. The provision for a future generator must allow for 25% Facility generator plant expansion with an identical generator size.

7.7.5.1(6) Additionally, a spare physical space requirement within the Energy Centre is identified in Section 4.1.3.2. This space is required to accommodate future additional electrical distribution equipment necessary to serve the future site expansion identified in Section 4.1.3. Project Co will provide suitable physical space, ducts etc. required to accommodate the future additional electrical distribution equipment, but no additional electrical capacity is required to be provided for this expansion.

7.7.5.2 Performance Criteria

7.7.5.2(1) Ensure that generators will be supplied by an established supplier of generators to healthcare facilities in Saskatchewan. The generator supplier will have a full service repair Facility within 8 hours travel time (by road and sea) to the Site. Ensure that generator spares will be routinely stocked within the Saskatchewan and will be available on Site within 24 hours.

7.7.5.2(2) Ensure that the generators will normally operate in parallel and provide features including bumpless (closed transition) testing mode transfer operation, load sharing and base loading. It will be possible to use the building load as a base load for annual load testing of the generators.

7.7.5.2(3) Design the generator plant to minimise noise emissions. Provide high grade exhaust mufflers and other sound attenuation means, as necessary, to achieve a maximum sound level of 72 dBA measured at 7 m from the Energy Centre in any horizontal plane.

7.7.5.2(4) Provide a generator exhaust system to discharge exhaust fumes in a manner that does not create an objectionable odour or noise issue to the Facility or neighbouring properties.

7.7.5.2(5) Provide a fuel system capable of supplying the maximum capacity of the emergency power plant at 100% load (including spare capacity) for a minimum of 96 hours.

7.7.5.2(6) Provide a dedicated load bank connection point for each generator which does not require the disconnection of existing cabling. The circuit breaker will automatically shunt trip the load bank upon loss of utility power to the Facility.

7.7.5.2(7) The essential electrical systems will include tie breakers from the main conditional distribution to each of the main vital and delayed vital distributions. Conditional power will be derived at 600V by means of selectable automatic or manually operated automatic transfer switch(es) connected between the generator bus and normal power distributions.

- 7.7.5.2(8) Implement redundancy such that if an automatic transfer switch system fails, there is a manual means to restore power to the essential loads in the Facility. All transfer switches will have double sided bypass capability. Transfer switch mechanism will be capable of being withdrawn for servicing while the switch is in bypass mode.
- 7.7.5.2(9) Transfer switches will be 4 pole, isolation bypass contactor type and will be listed to UL1066 and will not require upstream circuit breakers for protection of the transfer switch. Include a common transfer switch test function at the generator paralleling control system.
- 7.7.5.2(10) Essential power branches will serve essential loads as defined by CSA Z32-09 and as required to meet the Appendix 3A [Clinical Specifications], including:
- 7.7.5.2(10)(a) Vital branch loads:
- (a).1 Selected lighting and receptacles in:
 - (a).1.1 Emergency Operations Center (EOC)
 - (a).1.2 Energy Center
 - (a).2 Path of egress lighting including lighting at all building entrances which will include instant on technology.
 - (a).3 Exit signs.
 - (a).4 Stair and ramp lights.
 - (a).5 Receptacles and lights in mechanical and electrical equipment rooms.
 - (a).6 Medical gas alarm panels.
 - (a).7 Elevator cab and machine room lighting.
 - (a).8 Fire alarm system.
 - (a).9 Telecommunications systems.
 - (a).10 Public address systems.
 - (a).11 50% of receptacles and lights in all Client care rooms.
 - (a).12 50% of lights and receptacles in nurse's stations and care team stations.
 - (a).13 Private Client rooms – selected lighting, one general use receptacle at bed head side, and one electric bed receptacle.
 - (a).14 Selected lighting and one receptacle in ward treatment rooms
 - (a).15 Selected lighting and receptacles in generator room, maintenance shops, MEPT equipment rooms, and pharmacy dispensing and medi-prep areas.
 - (a).16 Smoke control systems.

- (a).17 Nurse call system power supplies.
- (a).18 Real Time Location Systems (RTLS)
- (a).19 Pharmacy dispensing areas.
- (a).20 Equipment indicated on Equipment List.
- (a).21 Security systems including ESS.
- (a).22 Medical fridges
- (a).23 All lighting and selected receptacles in:
 - (a).23.1 Academic and skill development education
 - (a).23.2 Wellness services
 - (a).23.3 Religious and counseling services
 - (a).23.4 Work/industry services

7.7.5.2(10)(b) Delayed vital branch loads:

- (b).1 Remainder of lighting in areas accessible to Clients.
- (b).2 Ventilation systems serving Client care rooms.
- (b).3 Elevators
- (b).4 Sump pumps and sewage ejector pumps.
- (b).5 Fire pump and jockey pump if provided. (via integral transfer switch).
- (b).6 Fume hoods.
- (b).7 Essential heating, ventilation and plumbing systems.
- (b).8 Radiology equipment as per Equipment List and Appendix 3A [Clinical Specifications].
- (b).9 Alarmed all freezers and refrigerators.
- (b).10 Automated dispensing cabinets for medication
- (b).11 Food services freezers and refrigerators
- (b).12 Retail services freezers and refrigerators.

7.7.5.2(10)(c) Conditional branch loads:

- (c).1 Per CSA Z32-09 Table 7
- (c).2 Food service equipment required to maintain food service during power outages
- (c).3 Air conditioning systems for Data Rooms
- (c).4 Air conditioning systems for Facility operations control and security & surveillance posts where equipment heat gain may result in temperatures above 30 degrees C.
- (c).5 Greenhouse
- (c).6 Vehicle engine block heater receptacles.
- (c).7 As required by other provisions of this Agreement.

7.7.5.2(11) The BMS will monitor and record emergency loads and provide alarms and systems status associated with the generator plant and transfer switch system.

7.7.5.2(12) All elevators within the Main Building will operate on emergency power.

7.7.6 Uninterruptible Power Supply (UPS) Systems

7.7.6.1 Basic Requirements

7.7.6.1(1) Provide UPS power for all areas, equipment and systems that require a continuous and uninterrupted source of power as per the requirements of this Schedule, Appendix 3D(i) [Structured Telecommunications Cabling Systems], the Appendix 3A [Clinical Specifications], the Appendix 2D [Equipment List], and for the following additional rooms, equipment and systems:

- 7.7.6.1(1)(a) Care Hubs, Care Team, Collaboration Centres - select lighting and receptacles;
- 7.7.6.1(1)(b) Switchboard;
- 7.7.6.1(1)(c) EOC – select lighting and receptacles;
- 7.7.6.1(1)(d) Energy Centre – select lighting and receptacles;
- 7.7.6.1(1)(e) all equipment and systems located in communications rooms (PER, TRs) including Equipment Racks as defined in 7.8.7.1(16);
- 7.7.6.1(1)(f) network equipment for the wired and wireless networks;
- 7.7.6.1(1)(g) wireless access points;
- 7.7.6.1(1)(h) wireless communications system;
- 7.7.6.1(1)(i) nurse call system;
- 7.7.6.1(1)(j) public address system;
- 7.7.6.1(1)(k) RTLS system;
- 7.7.6.1(1)(l) video surveillance system;
- 7.7.6.1(1)(m) Radio system;
- 7.7.6.1(1)(n) Client Tracking / Wandering system;
- 7.7.6.1(1)(o) Equipment and Asset Tracking system;

- 7.7.6.1(1)(p) Fire alarm system;
- 7.7.6.1(1)(q) Wireless Staff Communication System;
- 7.7.6.1(1)(r) Building Management System (BMS);
- 7.7.6.1(1)(s) Staff duress system;
- 7.7.6.1(1)(t) access control systems;
- 7.7.6.1(1)(u) intrusion detection and perimeter system;
- 7.7.6.1(1)(v) emergency power plant control system.
- 7.7.6.1(1)(w) Path of egress lighting.
- 7.7.6.1(1)(x) Exit signs.
- 7.7.6.1(1)(y) Stair and ramp lights.
- 7.7.6.1(1)(z) Minimum one unswitched luminaire in each mechanical, electrical, plumbing, or data room.
- 7.7.6.1(1)(aa) 25% of lighting in areas accessible to Clients other than Private Client rooms and including exterior courtyards which will include instant on technology.
- 7.7.6.1(1)(bb) 100% lighting in Medical Clinic
- 7.7.6.1(1)(cc) All security systems equipment including ESS.
- 7.7.6.1(1)(dd) All lighting, receptacles, and equipment at all staff and security workstations for monitoring, surveillance, and operations control of Client care areas, and all associated data rooms equipment and remote devices.
- 7.7.6.1(1)(ee) All data rooms will be fed with "A" and "B" panels from separate distribution systems (e.g. separate transfer switch and UPS).
- 7.7.6.1(1)(ff) Networked low voltage control system.
- 7.7.6.1(1)(gg) VoIP Telephone System
- 7.7.6.1(1)(hh) Voice Communication Systems
- 7.7.6.1(1)(ii) Distributed Antenna System (DAS)
- 7.7.6.1(2) Provide two centralised UPS systems, each configured as an N+1 arrangement. One UPS system will be located in the PER and the

other in the SER. Allow provision in each UPS room for space for supply and connection of a second UPS of equal size to allow future replacement of the first UPS unit with minimal UPS load disruption.

- 7.7.6.1(3) Do not provide small distributed, stand-alone UPS systems. All equipment will be supplied from the centralised UPS systems.
 - 7.7.6.1(4) Provide a UPS power sub-distribution system throughout the Facility. At a minimum provide one 42 circuit, 100 A, 120/208V UPS panelboard on Client block of the Facility. Provide additional panelboards as required to meet the requirements within this section. Each UPS panelboard will serve an area no greater than 1600m².
- 7.7.6.2 Performance Criteria
- 7.7.6.2(1) Ensure that the UPS system will be certified as suitable for post-disaster Facility.
 - 7.7.6.2(2) Connect UPS units to vital power.
 - 7.7.6.2(3) Ensure that each UPS system will have:
 - 7.7.6.2(3)(a) True dual conversion style complete with static bypass and wrap-around maintenance bypass switching to permit servicing of the UPS without power interruption. All UPS units will automatically transfer the load to and from the source supply without any interruption or disturbance of the supply to the loads. Minimum spare capacity will be 30% of calculated UPS load; and
 - 7.7.6.2(3)(b) two battery strings (fully redundant batteries), each with an individual battery monitoring system.
 - 7.7.6.2(4) Provide adequate batteries rated for a minimum of 30 minutes at full UPS capacity.
 - 7.7.6.2(5) Provide an audible warning in the Energy Centre, OSC, Switchboard, BOSC and PER to indicate that the UPS battery supply has less than ten minutes of power remaining. Provide adequate labelling.
 - 7.7.6.2(6) Provide monitoring of all alarm and trouble conditions of the UPS systems by the BMS. Include a countdown timer located in the OSC to display output alarm contacts triggered at 75%, 50%, and 25% battery life.

7.7.6.2(7) The UPS will be capable of providing adequate fault clearing current for a 100A circuit breaker without operation of the static bypass switch.

7.7.6.2(8) The UPS utilisation voltage will be 120V, however the UPS system may operate at 208V, 480V or 600V.

7.7.7 Distribution Equipment – 600 Volts and below

7.7.7.1 Basic Requirements

7.7.7.1(1) Provide electrical power transmission and distribution from the main sources of supply to meet all requirements of the Facility and the Appendix 3A [Clinical Specifications]. Provide electrical equipment to establish a building distribution voltage of 600V.

7.7.7.1(2) Provide two normal power main service transformers arrangements complete with a switching configuration so that if one service fails, the other service (by manual switching) will continue servicing all loads connected to the failed service. Size the main transformers and distribution system such that each transformer arrangement is capable of carrying the entire Facility load plus 25% spare capacity. Separate from generator plant components with fire-rated construction and separate physically to maximize reliability.

7.7.7.1(3) Provide rackable power circuit breakers for all circuit breakers upstream of the transfer switches. Provide motorized operators and local remote control on these circuit breakers to reduce the arc flash exposure hazard.

7.7.7.1(4) In accordance with Appendix 2C [Energy], separate the Facility electrical loads into 'metered electrical components' and 'non-metered electrical components'. Provide dedicated panelboards, motor control centres, distribution centres, feeders and circuit breakers as necessary to segregate the electrical loads and facilitate the metering requirements.

7.7.7.2 Performance Criteria

7.7.7.2(1) Protect the main electrical room and generator plant from ground water infiltration and separate them from each other and from plumbing and mechanical equipment. Provide raised housekeeping pads, drainage and sump pumps (on vital power) as required in electrical service areas to mitigate the risk of flooding. Design the electrical room and generator plant to be readily accessible, secure, well ventilated and free of corrosive or explosive fumes, gases or any flammable material. Establish routes clear of obstruction to and from the rooms which facilitate the

addition and removal of the largest current and future components located within the room.

- 7.7.7.2(2) Locate major electrical equipment to minimize run length of feeders and branch circuits, and locate within the Facility so as to provide a clean, dry, safe, accessible installation protected from unauthorized access.
- 7.7.7.2(3) Locate and design electrical equipment for ease of maintenance and with due regard for future expansion and renovation.
- 7.7.7.2(4) Provide all circuit breakers 150A and larger with electronic trips and LSI field adjustable settings.
- 7.7.7.2(5) Provide a ground fault protection scheme such that ground faults are selective between the transformer and generator main circuit breakers and the downstream breakers sized 200A and larger.
- 7.7.7.2(6) Install 120/208V dry type transformers for small equipment loads in electrical rooms on concrete pads or suspend from structure. Install transformers so that removal will be facilitated without removal of any other equipment or conduit serving the room, except for luminaires.
- 7.7.7.2(7) Ensure all transformers will have copper windings and be rated minimum K-13. Provide areas with significant non-linear loads with transformers with a higher K-rating.
- 7.7.7.2(8) Rate all distribution devices to handle available fault duty at line terminals. Perform and implement a short circuit and coordination study to ensure all protective devices provide selective coordination to ensure tripping of the downstream device nearest the fault and not a cascading effect to upstream devices. Implement measures based on the arc flash summary prepared pursuant to Section 7.7.3.2(5). All circuit breakers 150A and larger will be fully selective.
- 7.7.7.2(9) Design and install protection equipment so that the initial electrical installation, future additions and modifications will be fully coordinated to isolate only the faulty portion of the system.
- 7.7.7.2(10) 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 Facility. Provide shielding, isolation, grounding, bonding, harmonic filtration, or other means to prevent interference between systems or degradation of performance of an individual system.

- 7.7.7.2(11) Provide a networked digital metering system to monitor and record electrical loads and quality of power in the Facility.
- 7.7.7.2(12) Provide power factor correction equipment within the building to ensure the building power factor does not fall below the threshold established for SaskPower surcharge. Coordinate capacitors with adjustable frequency drives and other harmonic generating equipment to avoid resonance conditions.
- 7.7.7.2(13) Provide dedicated transformation equipment for diagnostic imaging equipment as required by the imaging equipment vendors.
- 7.7.7.2(14) Provide circuit breaker type panelboards fully rated to handle calculated fault current level. Series rating of breakers and panel boards is not acceptable.
- 7.7.7.2(15) Provide oversize neutral(s) for panel boards, feeders and branch circuiting where significant non-linear load(s) are anticipated, such as in open office and other areas with a high density of personal computers.
- 7.7.7.2(16) Construct flush mounted panel boards with two spare 53 mm conduits stubbed into an accessible location above the panel. Do not feed panelboard from below. All feeders must be routed down from the ceiling for top entry into the panelboard.
- 7.7.7.2(17) Provide electronic grade panel boards to serve electronic equipment susceptible to electrical transients.
- 7.7.7.2(18) Install panelboards on the same floor as the loads they serve. Per CSA Z8000-11, all panelboards will be located in electrical equipment rooms.
- 7.7.7.2(19) Do not daisy-chain the feeders to panelboard. All panelboard feeders must be dedicated.
- 7.7.7.2(20) Ensure that components of the electrical distribution systems in any public, clinical, administrative or staff area will have long life expectancy without perceptible deterioration and a good appearance. Design and install so as to permit easy and complete cleaning.
- 7.7.7.2(21) Provide individual enclosed motor starters for individual motors. Utilize motor control centers for groups of four or more motors that require individual motor starters.
- 7.7.7.2(22) Provide motor starters that will be combination of 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. HOA starters will include start/stop for Hand position. Include undervoltage and single phase dropout protection devices. Provide “power on” and “running” LED type indicators on each motor starter.

- 7.7.7.2(23) Provide combination starters for all motors 1/2 HP and larger that are not already controlled by adjustable frequency drive or include an integral control package. All motors of ½ HP or more will be 600 volt 3 phase.
- 7.7.7.2(24) Provide parallel type voltage transient / surge protection with dedicated disconnect for the main 600V and 120/208V switchgear loads and all other panels serving sensitive electrical loads including diagnostic equipment, lab equipment and adjustable frequency drives.
- 7.7.7.2(25) Ensure that the locations of receptacles will comply with the requirements for each program area as described in the Appendix 3A [Clinical Specifications].
- 7.7.7.2(26) Ensure that main switchboards and low voltage switchgear will include space for an additional 25% breaker capacity including a minimum of four spare circuit breakers (100A/3P, 200A/3P,300A/3P, 400A/3P).
- 7.7.7.2(27) Ensure that distribution panels will have space for 50% additional circuit breakers including a minimum of for spare circuit breakers (60A/3P, 100A/3P,150A/3P, 200A/3P).
- 7.7.7.2(28) Provide drip shield protection for all distribution panels, switchboards, and switchgear where located in a space that has a sprinkler.
- 7.7.7.2(29) Provide branch panelboards and feeders that will have space for an additional 25% breaker capacity including a minimum of 20% spare 15A/1 pole circuit breakers.
- 7.7.7.2(30) Provide circuit breakers supplying receptacles in Private Client rooms that will be AFCI style. Branch circuit will be connected to GFCI protection in service space by the rooms and then connected to receptacles within the rooms to provide AFCI and GFCI protection on all receptacles. AFCI circuit breakers will be compatible with GFCI receptacles.

- 7.7.7.2(31) Unless otherwise specified all receptacles requiring GFCI protection will have the GFCI protection incorporated into branch circuit breaker.
- 7.7.7.2(32) Branch panelboards will include quick-make and quick-break circuit breakers. All floor mounted distribution equipment will be placed on concrete housekeeping pads.

7.7.8 Metering

7.7.8.1 Basic Requirements

- 7.7.8.1(1) Supply networked digital metering to provide detailed information about power quality and power consumption at key points throughout the Facility. Key points include: motor control centres, panelboards feeding mechanical equipment and power consumed by elevators and dedicated plug-load panelboards. Integrate information from all meters on a common software platform residing on a dedicated electrical metering server.
- 7.7.8.1(2) In addition to the above, provide metering as necessary to support the energy calculations required by Appendix 2C [Energy]. Integrate this metering to the Site metering system and provide custom energy consumption reports as required by the Authority.
- 7.7.8.1(3) Implement a networked metering system with terminals for maintenance and plant administration, and data transfer to the BMS.
- 7.7.8.1(4) Connect electrical demand and consumption meters to the BMS.
- 7.7.8.1(5) Design the digital metering system to be accessible from any Authority networked computer using appropriate software.
- 7.7.8.1(6) Provide to the Authority five software licenses to enable access to the Facility metering system from remote Authority sites. These licences will enable the Authority to access real time data, peak demand data, and to produce custom reports on energy consumption at the Facility.
- 7.7.8.1(7) Provide metering which complies with Section 7.7.7.1(4). Provide monthly reports which summarise total electrical energy consumed by the regulated and non-regulated loads.
- 7.7.8.1(8) Include trend logging equipment sensors to comply with and fulfill energy measurement and verification requirements. Logged information will not be overwritten and will be archived.

- 7.7.8.1(9) Ensure that metering intervals will be 15 minutes or less.
- 7.7.8.1(10) All metering information and records will be accessible to Authority personnel upon request.

7.7.8.2 Performance Criteria

- 7.7.8.2(1) Include local metering displays at all distribution switchgear, switchboards, UPS output, generator plant, and transfer switch loads. Also include for services to diagnostic equipment.
- 7.7.8.2(2) Design the metering system network to store historical data and with the capability to generate user configurable electronic and printed real-time and trending reports on demand.
- 7.7.8.2(3) Support the metering system by a backup power source(s), which ensures operation when the metered circuit is de-energized. The metering system will not be dependent on power from the metered circuit for its operation.
- 7.7.8.2(4) The metering system will, at a minimum, provide the following information about each metered circuit: Phase-to-Phase Voltage (all phases), Line-to-Neutral Voltage (all phases), Phase Current (all phases and neutral), KW, KVA, Power Factor, KWH, VAR hours.
- 7.7.8.2(5) Utilize power quality type meters for monitoring harmonics and surges / sags. Provide power quality meters for monitoring harmonics on the normal, vital, delayed vital, conditional and UPS switchboards.

7.7.9 Grounding and Bonding

7.7.9.1 Basic Requirements

- 7.7.9.1(1) Provide grounding and bonding for all electrical equipment and systems in the Facility for the safety of people and for protection against damage to equipment or property in the case of a fault occurring in any of the equipment or systems. Install grounding and bonding as required by all applicable codes and EIA/TIA standards for communications and security equipment and systems.
- 7.7.9.1(2) Provide supplementary grounding per CSA Z32 in areas identified by the Authority as Client care areas and for all Client dwelling and clinical treatment areas in the Facility. Provide supplemental insulated bonding conductors with all feeders and branch circuits supplying security systems loads.

7.7.9.2 Performance Criteria

- 7.7.9.2(1) 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.
- 7.7.9.2(2) Provide solid system grounding including conductors and bussing.
- 7.7.9.2(3) Provide a minimum #12 copper bonding conductor in each and every conduit or raceway. Provide a #6 copper bonding conductor on each communications tray and ensure each section of the tray is securely bonded.
- 7.7.9.2(4) Bond all exposed non-current carrying components of communication, radio or television equipment in Client care areas to ground using a properly sized equipment bonding conductor. Uniquely identify each bonding conductor at each end.
- 7.7.9.2(5) Complete a lightning protection study for the Facility, such study to be done by a specialist in lightning protection work and to be signed and sealed by a professional engineer registered in Saskatchewan. Implement a lightning protection study on any risk value of 4 or higher, as defined by CAN/CSA B72. Provide lightning protection if required by study.

7.7.10 Seismic Requirements for Electrical Systems

7.7.10.1 Basic Requirements

- 7.7.10.1(1) Provide seismic restraint for all electrical equipment and components of electrical systems. Design the electrical systems and its associated equipment to comply with the National Building Code of Canada for a post-disaster Facility.
- 7.7.10.1(2) Provide seismic restraint systems and methods that facilitate ease of maintenance and ease of replacement and reconfiguration of electrical equipment and systems and other equipment and building components.
- 7.7.10.1(3) Provide seismic restraint systems and methods that coordinate with the Facility's architecture and finishes. Wherever practicable, conceal components of seismic restraints from public view. Where concealment is not practicable, provide systems that complement the Facility's architecture and finishes.

7.7.10.2 Performance Criteria

- 7.7.10.2(1) 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.
- 7.7.10.2(2) Use seismic restraint systems that are designed by a professional engineer, registered in Saskatchewan, 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 registered in Saskatchewan. Provide signed and sealed drawings as well as typewritten field reports from a professional seismic engineer, registered in Saskatchewan. 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.

7.7.11 Power Quality

7.7.11.1 Basic Requirements

- 7.7.11.1(1) Establish and maintain an overall power quality which assures suitable conditions for operation of all electrical and electronic equipment throughout the Facility.
- 7.7.11.1(2) Provide equipment and systems which assure that electrical equipment and systems will not be harmed or impaired either by external events or conditions, such as lightning and disturbances on the utility service, or by internal events or conditions generated within the Facility.
- 7.7.11.1(3) Meet or exceed relevant standards for power quality where deemed necessary by the Authority and IEEE.
- 7.7.11.1(4) Provide harmonic mitigation equipment, to ensure that power quality meets or exceeds recommendations in IEEE, including standard 519. For the purposes of measuring the harmonic distortion, the “Point of Common Coupling” will be any of the main transformers. As part of commissioning, confirm compliance to tables 10-2 and 10-3 of IEEE 519 by field measurements after building occupancy and under normal operating conditions.
- 7.7.11.1(5) Provide individual harmonic filters ahead of and coordinated with variable speed drive for every motor greater than 7.5 HP.

7.7.11.2 Performance Criteria

- 7.7.11.2(1) Provide equipment, such as filters, SPDs (surge protection devices), etc, specifically designed to control and remove all

adverse power quality conditions that could damage or impair function of sensitive electronic equipment used in the Facility. Install SPDs in location categories B and C and as per NFPA 780 standards. Adverse power quality conditions include voltage spikes, dips and droops, transients, harmonics, power factor and radio frequency interference.

- 7.7.11.2(2) Provide the ability to demonstrate to the Authority at any time that there are no potentially harmful power conditions present and that equipment intended to guard against such conditions is in proper working order.

7.7.12 Lighting

7.7.12.1 Basic Requirements

- 7.7.12.1(1) The lighting installed will meet the requirements of the Appendix 3A [Clinical Specifications]. Lighting systems will accommodate the needs of Facility staff, Clients and visitors, and will support the visual tasks being performed and the desired appearance of the space. Selection and location of all luminaires will be closely coordinated with the video surveillance system to avoid “wash-out” of video surveillance video images and to ensure proper illumination levels are maintained to permit video capture from the video surveillance system.
- 7.7.12.1(2) Provide complete lighting solutions which align with the requirements and recommendations of section 4 of IESNA-RP29-06. Illuminance levels and design criteria will be consistent with IESNA RP-29-06 tables 3A and 3B
- 7.7.12.1(3) Provide a networked low voltage lighting control system that will provide flexibility to adjust lighting to suit functions and activities and permit simple, integrated control of lighting. Controls will be easily operated and located in each area to suit the function of the space. Each room and area will have separate lighting control.
- 7.7.12.1(4) Lighting controls will comprise a significant part both of the energy management of the Facility and of the flexibility required to adjust lighting to suit functions and activities.
- 7.7.12.1(5) Utilize a combination of natural light, luminaires, and daylight harvesting controls to maximize energy savings.
- 7.7.12.1(6) Provide daylight sensors and luminaires to maximize daylight use throughout the Facility. Carefully coordinate this design with computer generated architectural daylight simulation models.

- 7.7.12.1(7) Provide video specific dedicated lighting for video conferencing, video visitation, and video courtrooms to facilitate visual quality of video transmission in accordance with IESNA Design Guideline DG-17-05.
- 7.7.12.1(8) Provide luminaires which are easily maintainable (accessible components, quick change capability).
- 7.7.12.1(9) In Client treatment areas, related Client care support and service spaces and anywhere the Authority would use chemical cleaning for infection control purposes, provide luminaires which minimise accumulation of dust and debris and support Authority's infection control policies and procedures. Provide and locate luminaires such that they are easily cleaned and of suitable construction to withstand chemical cleaning. The Authority Policies related to infection control will not apply to luminaries in administrative areas, non-Client care support spaces (stores, technical/service spaces, lobbies, cafeterias, stairwells etc.), public spaces, non-sterile corridors and the Facility exterior.
- 7.7.12.1(10) Place an electrically powered "X-ray In Use" sign outside any room in which fixed x-ray equipment is anticipated to be used. The sign will be connected to an internally illuminated switch inside the room label "X-ray". The switch will be interlocked with the x-ray equipment such that the equipment will not operate with the switch in the "off" position. Internal illumination of the switch will be on only when the "X-ray in Use" sign is illuminated.
- 7.7.12.1(11) Place a luminaire outside all Client washrooms, energised by a room occupancy sensor, to alert staff that the room is occupied – connect to vital power.
- 7.7.12.2 Performance Criteria
- 7.7.12.2(1) Provide luminaires that require minimal cleaning and permit practical and easy access and disassembly for authorized staff. All luminaires will be free of light leaks. Luminaires in secure and common Client areas will be of form to provide a friendly, inviting, welcoming, non-institutional ambiance feel while providing vandal and ligature resistant performance.
- 7.7.12.2(2) Specify luminaire construction based on the SLC of the areas, as defined in Appendix 3A [Clinical Specifications], into which the luminaires are being installed:
- 7.7.12.2(2)(a) SLC 1 – High abuse security grade.
- 7.7.12.2(2)(b) SLC 2 – High abuse security grade.

- 7.7.12.2(2)(c) SLC 3 – Vandal resistant grade.
- 7.7.12.2(2)(d) SLC 4 – Specification grade.
- 7.7.12.2(2)(e) Luminaires in the community reintegration units will be residential grade.
- 7.7.12.2(3) Ensure that Client room luminaires will have an internal night light relay which automatically turns on a red LED light when the room light switch is turned off. The night light will provide sufficient illumination for viewing Client activities while not disturbing their circadian sleep cycle.
- 7.7.12.2(4) Use LED lighting technology for all project luminaires. Where LED is not available, utilize high efficiency fluorescent lighting for interior illumination and metallic halide for exterior lighting. The use of compact fluorescent lighting for decorative purposes will be kept to a minimum. Use high efficiency electronic fluorescent linear T8 and T5 lamps when LED is not available. Do not use incandescent lighting unless otherwise indicated in this Schedule.
- 7.7.12.2(5) Utilize premium grade quality luminaires with emphasis on energy efficiency (69 lumens/watt minimum) and high color rendition (.80 color rendering index minimum for fluorescent fixtures and .70 for metal halide lamps). Where achieving the energy efficiency specified in this Section is not feasible due to functional constraints imposed by the task being performed by the luminaire, the luminaire will be exempt from the energy efficiency requirement. Examples of luminaires that are exempt from the energy efficiency requirement include:
 - 7.7.12.2(5)(a) wall sconces (used for night-time illumination);
 - 7.7.12.2(5)(b) medical procedure luminaires;
 - 7.7.12.2(5)(c) task lighting.
- 7.7.12.2(6) Ensure that lamps will have a colour temperature of 3500K.
- 7.7.12.2(7) Master-slave wiring of multiple luminaires from a single driver or ballast is not permitted.
- 7.7.12.2(8) Do not use exterior low pressure sodium, high pressure sodium, and mercury vapor lamps. Do not use incandescent lamps except for exterior HID (high intensity discharge) applications with quartz restrike lamps,
- 7.7.12.2(9) HID sources are not permitted for interior applications.

- 7.7.12.2(10) All exterior lighting will have a colour temperature of 4100K.
- 7.7.12.2(11) Exterior lighting including street lighting, pathway, building perimeter. Parking area lamp sources will be low glare LED type with full cut off photometrics.
- 7.7.12.2(12) When use of fluorescent luminaires is necessary, utilize program start electronic ballasts for fluorescent lamps with a THD of 10% and no more than 8% for third harmonic. Power factor will be .98 or greater and efficiency will be 90% or higher. Ballasts will be supplied by an established vendor with minimum 10 years history of serving the healthcare sector in North America, and manufactured in a Facility certified to ISO9002.
- 7.7.12.2(13) Minimize use of battery-operated unit emergency lighting. Battery-operated emergency lighting may be an acceptable alternative as a second level of emergency lighting in areas including Client areas, emergency power distribution rooms, and mechanical areas.
- 7.7.12.2(14) Utilize low glare, recessed indirect luminaires specifically design to eliminate indirect glare in treatment rooms, offices, reception areas, care team stations and other areas where computer terminals and similar screens are available.
- 7.7.12.2(15) Design lighting in corridors to limit glare to Clients being transported on stretchers.
- 7.7.12.2(16) Provide sconce lighting in Client bedroom area corridors for glare-free, low level, night time illumination.
- 7.7.12.2(17) Provide separate lighting control for each of the following areas within each Client bedroom:
 - 7.7.12.2(17)(a) Entry (locate control at entry);
 - 7.7.12.2(17)(b) Client Reading Light (locate control at bed head side);
 - 7.7.12.2(17)(c) Client Area (locate 3-way lighting control at entry/bed head side);
 - 7.7.12.2(17)(d) Desk Area (locate 3-way lighting control at entry/desk area); and
 - 7.7.12.2(17)(e) Night Lights (locate one switch at entry).
- 7.7.12.2(18) Provide two nightlights in private Client rooms, one in the room luminaire which is switched on when the room light is switched off and the other along the walkway between the Client bed and

washroom to prevent tripping hazards which is switched at the room entry.

- 7.7.12.2(19) Design lighting in technology conference rooms and video conferencing facilities to maximize viewing of monitors and screens and provide suitable illumination of people being viewed.
- 7.7.12.2(20) Provide special task lighting designed for the types of procedures conducted for rooms and areas where treatment is provided and rooms and areas where specialized analytical or diagnostic work is carried out.
- 7.7.12.2(21) Provide dimmable lighting in Radiology reading rooms and Snoezelen therapy room.
- 7.7.12.2(22) Provide ceiling mounted articulated lighting with dimmable controls in all procedure, exam and treatment rooms. Confirm lighting requirements with the Authority.
- 7.7.12.2(23) As architectural features, design lighting in main lobbies, waiting areas and the main entrance with high quality products aesthetically pleasing to the public and staff.
- 7.7.12.2(24) Utilize vandal resistant and dark sky compliant exterior luminaires.
- 7.7.12.2(25) Utilize LED type exit signs.
- 7.7.12.2(26) Utilize lighting controls that comprise of a networked low voltage relay switching system with programmed ON/OFF operation and local manual override capabilities for corridor lighting levels. Provide local control from care team stations and reception desks where applicable. Provide override controls from the main security control room.
- 7.7.12.2(27) Protect lighting controls from unauthorized operation when required to be located in areas accessible to the public.
- 7.7.12.2(28) Design all lighting in public and administration areas to be capable of being switched from a central location.
- 7.7.12.2(29) In open areas and common areas, zone and subdivide lighting to permit energy management and appropriate control and variation of light levels.
- 7.7.12.2(30) Provide local lighting control for each treatment room. Each room will have 2 or more levels of illumination in addition to the off position unless specified otherwise. Lighting will support the clinical functions being performed.

- 7.7.12.2(31) Integrate controls in technology conference rooms, videoconference rooms and meeting rooms with equipment controls and control stations in the room so as to permit the conference manager to vary the lighting as required for different activities. Provide a minimum of 2 levels of lighting control.
- 7.7.12.2(32) Provide manually operated lighting controls of a type, which will be completely cleaned and disinfected without requiring any disassembly, and which will not deteriorate or be otherwise adversely affected by frequent cleaning and disinfection.
- 7.7.12.2(33) Install specifically rated lighting controls for the application/condition in locations where they may be subjected to excessive moisture or to chemicals that might cause deterioration.
- 7.7.12.2(34) In rooms not accessible to Clients, utilize vacancy type (manual on/auto off) automatic sensors and daylight control systems to maintain light levels at appropriate levels based upon the occupancy of the room and the quantity of daylight. This will include dual technology vacancy sensors in offices, meeting rooms, restrooms, support spaces, and storage rooms and daylight control systems at perimeter rooms where daylight contribution is significant.
- 7.7.12.2(35) Provide a time clock, photocell and contactors with HOA switch for control of site lighting. Optionally control through the BMS system. Provide override control in the Security control room. Submit a control plan to the Authority for approval.
- 7.7.12.2(36) Interface the lighting control system with the BMS for the purpose of implementing energy management schemes.

7.7.13 Lighting Control

7.7.13.1 Networked Low Voltage Lighting Control System

7.7.13.1(1) Basic Requirements:

- 7.7.13.1(1)(a) Provide a lighting control system that will provide the ability to adjust lighting to suit functions and activities, reduce energy consumption and permit simple and integrated control of lighting both locally and remotely;
- 7.7.13.1(1)(b) Connect the lighting control system to the BMS and allow for OSC staff to override programmed settings, occupancy sensor, daylight sensor, or manual control events;

7.7.13.1(1)(c) Consult with the Authority when programming the lighting operation (controllability, zones, timing) of the Facility.

7.7.13.1(2) Performance requirements:

- 7.7.13.1(2)(a) Ensure that the Facility, including all buildings and on-site lighted areas, will have a networked low voltage lighting control system divided into buildings and logical zones and be subdivided to permit energy management and allow staff control of light levels for all interior and exterior lighting;
- 7.7.13.1(2)(b) Lighting systems will maximize the use of daylight and vacancy type sensors to maintain lighting levels and use the least amount of energy to provide the required illumination and in conformance with ASHRAE 90.1 energy use requirements. Consider special plant growth considerations in the design of the Greenhouse lighting and daylighting control;
- 7.7.13.1(2)(c) Provide all required communications and security units between the BMS control interface and the low voltage lighting controllers;
- 7.7.13.1(2)(d) Complete all lighting program scheduling through the BMS;
- 7.7.13.1(2)(e) Ensure that all lighting controls will be interfaced with the security system to permit manual on/off control (override) of interior and exterior lighting from the OSC and BOSC operator screens;
- 7.7.13.1(2)(f) Identify on/off status of lighting control zones and relays on the Security command operator screen;
- 7.7.13.1(2)(g) Provide OSC override for all exterior lighting zones and Client accessible interior lighting zones;
- 7.7.13.1(2)(h) Provide local controls for each Client wing at the associated staff workstation and security control areas. The master controls will be divided into logical zones to allow staff the flexibility to control lighting levels within the Client areas;
- 7.7.13.1(2)(i) All rooms will have local low voltage switching, unless specified otherwise within this Section;

- 7.7.13.1(2)(j) Provide time program control of Client care unit lighting to provide automatic night time shut-off. Provide manual override control in the OSC and Nurse Stations;
- 7.7.13.1(2)(k) Provide dimmable 100% -10% lighting in rooms that require adjustable illumination levels, including the following locations:
- (k).1 OSC;
 - (k).2 BOSC;
 - (k).3 Nurse Stations;
 - (k).4 conference rooms;
 - (k).5 meeting rooms;
 - (k).6 training rooms; and
 - (k).7 Video Court rooms;
- 7.7.13.1(2)(l) A minimum of one luminaire within each mechanical and electrical equipment room will be fed from a 24hr, un-switched "Vital UPS" branch circuit;
- 7.7.13.1(2)(m) Provide one night light per 100m² of office space. Corridors and stairwells will be provided with adequate 24hr, un-switched lighting to permit safe staff movement;
- 7.7.13.1(2)(n) Except for security, exit, emergency, and night lighting, circuit breakers will not be used to switch lighting circuits;
- 7.7.13.1(2)(o) All open areas will be provided with independent switching controls with a minimum of one switch per 90m²;
- 7.7.13.1(2)(p) Meeting rooms 16.7m² in size or greater will have separately switched dimmable low-level presentation luminance;
- 7.7.13.1(2)(q) With the exception of Client room luminaires within secure Client units, Isolation, and Admission & Discharge which will be controlled by the applicable staff workstation, security control rooms, all Client room luminaires will be controlled from a local low voltage high security grade momentary touch switch within the room;
- 7.7.13.1(2)(r) Provide unswitched 24hr lighting within all stairwells and corridors;

- 7.7.13.1(2)(s) All exterior luminaires will be switched from the building low voltage lighting control system via BMS programd time signals and photocell inputs to produce four channels of control as follows:
- (s).1 Channel 1 - Dusk to Dawn;
 - (s).2 Channel 2 - Dusk to Preset;
 - (s).3 Channel 3 – Preset to Preset; and
 - (s).4 Channel 4 - Preset to Dawn;
- 7.7.13.1(2)(t) The exterior lighting system zones and Client accessible interior lighting zones will have manual override control through a multi-gang low voltage switchbank located in the OSC. Include override controls divided into logical zones. Include the following zones as the minimum:
- (t).1 Perimeter/Perimeter Road Lighting (minimum 5 zones = north, west, south, east, all on);
 - (t).2 Admitting and Discharge Vehicular Secure Vestibule;
 - (t).3 Outdoor Recreation Courtyard;
 - (t).4 Parking Lot;
 - (t).5 Fire Access Routes;
 - (t).6 Site Entry Road;
 - (t).7 Pathway/Walkway lighting;
 - (t).8 Building entrance, including exterior stairs and ramps; and
 - (t).9 “ALL ON” single point control; and
- 7.7.13.1(2)(u) Lighting control will provide flexibility required to adjust lighting to minimal levels during predetermined night time hours to achieve Energy savings while maintaining required uniformity to provide and support video surveillance system functionality.

7.7.13.2 Energy Harvesting (Daylight Harvesting)

7.7.13.2(1) Basic Requirements

- 7.7.13.2(1)(a) Maximize the use of daylight to maintain lighting levels while reducing Energy consumption with a combination of natural light, luminaires and controls.

7.7.13.2(2) Performance Requirements:

- 7.7.13.2(2)(a) Provide photocell sensors to optimize Energy use and provide a stable illumination level utilizing natural and artificial light; and

- 7.7.13.2(2)(b) Where day lighting control is installed in Client accessible spaces, provide such spaces with separate lighting with a uniform minimum 50 lux of illumination throughout the space. Day lighting control sensors will not control this separate lighting. Provide for manual and time/mode controlled switches disabling the day lighting control.

7.7.13.3 Occupancy Sensors

7.7.13.3(1) Basic Requirements

- 7.7.13.3(1)(a) Use occupancy sensors (auto-on/auto-off) to automatically turn off lighting in areas that are unoccupied to reduce Energy consumption. Vacancy sensor (manual-on/auto-off) functionality will be a programming option and is preferred for energy efficiency.

7.7.13.3(2) Performance requirements

- 7.7.13.3(2)(a) Low voltage occupancy sensors will be capable of detecting presence, in the floor area to be controlled; and
- 7.7.13.3(2)(b) Where occupancy sensors are installed in Client accessible spaces, provide such spaces with separate lighting with a uniform minimum 50 lux of illumination throughout the space. Occupancy sensors will not control this separate lighting. Provide for manual and time/mode controlled switches disabling the occupancy sensors.

7.7.14 Mechanical Equipment Connections

7.7.14.1 Basic Requirements

- 7.7.14.1(1) 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.

7.7.14.2 Performance Criteria

- 7.7.14.2(1) Utilize institutional or industrial quality cables, connectors, conduit systems, fittings and hardware used to make connection to

mechanical equipment so as to provide for high levels of reliability, durability and ease of maintenance of the equipment.

- 7.7.14.2(2) Design connections made to motors and/or motor driven equipment or equipment with noticeable levels of vibration to accommodate the vibration.
- 7.7.14.2(3) Design connections to mechanical equipment to easily permit removal and replacement of the equipment.
- 7.7.14.2(4) Size motor control centres, main feeders to motor control centres, and mechanical distribution centres to accommodate the current mechanical equipment with an additional 50% spare capacity.
- 7.7.14.2(5) Utilize motor control centres when four 3-phase motors that require a starter are located within 50 m of each other.

7.7.15 Specialty Systems

7.7.15.1 Basic Requirements

- 7.7.15.1(1) Special electrical and communications systems are required in the Facility (as described in this Schedule) and form essential parts of the Facility. Provide power supply, specially conditioned power and communication conduits and other electrical operational support equipment to meet all requirements of these special electrical and electronic systems.

7.7.15.2 Performance Criteria

- 7.7.15.2(1) 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.
- 7.7.15.2(2) Provide connections to special equipment that easily permit removal and replacement of the equipment.

7.7.16 Power and Lighting – Greenhouse

- 7.7.16.1 Provide a power distribution system sized to assure full services for the Greenhouse. Connect the Greenhouse to a generator system “Conditional” branch power except for egress lighting and fire alarm system, which will be connected to the “Vital” branch.
- 7.7.16.2 Design the greenhouse lighting system to be comprised of general luminaires, energy efficient HID or LED task light fixtures and lighting required for growing flowers and vegetable bedding plants from seed.

7.7.16.3 Provide lightning and grounding protection for the Greenhouse.

7.7.17 Clock System

7.7.17.1 Basic Requirements

7.7.17.1(1) Provide a synchronized wireless clock system to assure accurate consistent time is available at key control and clinical spaces in the Facility.

7.7.17.1(2) Supply master time controllers and all clocks by a recognized industry leader with all components by the same manufacturer.

7.7.17.2 Performance Criteria

7.7.17.2(1) Install 24v wired analog type synchronized clocks that will receive correction signals from the master clock. Provide centralized power supplies and associated wiring. Provide wireless time correction.

7.7.17.2(2) Provide synchronized clocks minimum 300 mm in diameter with sweeping second hand and 24 hour numbering. Numbering will include hours 1-12 in large numbers on outer ring and hours 13-24 in smaller numbers on inner ring.

7.7.17.2(3) Locate synchronized analog clocks in areas including:

7.7.17.2(3)(a) each Client care area including treatment rooms, Private Client rooms, care stations, Client therapy rooms, interview/consult rooms, medication rooms, locker rooms, imaging rooms and corridors; and

7.7.17.2(3)(b) conference rooms, meeting rooms, care team stations, staff lounges, family rooms, reception desks and staff work rooms.

7.7.17.2(4) Provide digital clocks that will be synchronized that will receive correction signals from the master clock. Provide UPS power to these clocks.

7.7.17.2(5) Digital clocks will display numerical values for hours, minutes and seconds, and will have the capability of displaying 12 or 24 hour time format. Displays will be highly visible and legible from a minimum 10 metres away.

7.7.17.2(6) Provide local satellite transmitters to provide signals to all clocks in the Facility where required.

7.7.17.2(7) Connect all clocks power supply to emergency generator and UPS power.

7.8 Communications (Division 27)

7.8.1 Principles, Guidelines and Assumptions

7.8.1.1 The Authority is committed to delivering a safe, secure, therapeutic and welcoming environment to meet the needs of its Clients, families, community and providers by seamlessly integrating modern rehabilitative models of care with innovative technology that drive efficiencies in service delivery.

7.8.1.2 The IMIT systems will:

- 7.8.1.2(1) have the capability for the Authority's infrastructure to operate as a "single facility", share IMIT to the fullest extent where possible and allow for future accommodation of devices and uses over the network;
- 7.8.1.2(2) enable flexibility in the day-to-day operations of the Authority so that services will be adapted to differing Client populations/locations within the Facility based on existing and future needs;
- 7.8.1.2(3) foster collaboration and the integration of care/education/research through adaptable physical spaces and the capability to connect easily onto the Authority's network to share information;
- 7.8.1.2(4) improve Client safety and reduce errors by ensuring that staff will access the resources required to deliver the right care to the right Client at the right time;
- 7.8.1.2(5) promote a secure environment that allows security staff to know where staff and Clients are at all times and reliably supports the mobilization of resources to reduce risk or harm;
- 7.8.1.2(6) supports a therapeutic and engaging Client and family centered experience throughout the Facility;
- 7.8.1.2(7) support advancement towards an integrated, smarter Facility that continuously contributes to operational efficiencies through standardization, improved workflow and access to information; and
- 7.8.1.2(8) align with regional and Provincial standards of delivering mental health and corrections services.

7.8.1.3 The Authority uses the following regional information systems:

- 7.8.1.3(1) the primary electronic health record (eHR) software application package is Allscripts – Sunrise Clinical Manager;
- 7.8.1.3(2) the ADT is Momentum WinCIS;

- 7.8.1.3(3) the pharmacy system is Interactive Business System - WinPharm;
- 7.8.1.3(4) the regional health records charting is Med2020 – WinRecs; and
- 7.8.1.3(5) the dictation system is Nuance – Dictaphone and Dragon Naturally Speaking.

- 7.8.1.4 Most of the regional clinical systems will be hosted on Servers located at a remote data centre. Some applications may be hosted locally within the Facility. The local data centre, any applications/systems installed therein and the processes for maintenance of said systems are all subject to the Authority's defined standards/requirements outlined in this Schedule and related appendices.
- 7.8.1.5 The management of all the Authority's employees' and Clients' information is the responsibility of the Authority.
- 7.8.1.6 The IMIT systems will be Integrated and interoperable to facilitate workflows, create efficiencies and improve Client safety and security. The Integration Engine will form the integrations as outlined in Appendix 3D(viii) [IMIT System Integration Matrix].
- 7.8.1.7 Except as expressly stated otherwise Project Co will be responsible for designing and constructing all required Infrastructure, Servers and Software required to support the communication systems to be included within the Facility.

7.8.2 IMIT Systems Procurement

- 7.8.2.1 Refer to Section 4.15 of the Agreement regarding software licensing and support.
- 7.8.2.2 If a system procured for use in the Facility represents a net new addition to the overall Authority systems inventory, Project Co will ensure that any contract it enters into for that system includes provisions allowing use of the system to be expanded beyond the Facility to other Authority sites provided the associated increase of scope charges are paid.
- 7.8.2.3 Project Co will ensure that all contracts for the supply of IMIT systems and equipment:
 - 7.8.2.3(1) have a defined service level commitment that complies with the service level requirements set out in Appendix 3D(vii) [IMIT Systems Responsibility Matrix];
 - 7.8.2.3(2) have a privacy and security schedule that aligns with the Freedom of Information and Protection of Privacy Act (Saskatchewan), the Health Information Protection Act (Saskatchewan) and the Personal

Information Protection and Electronic Documents Act (Canada) as applicable; and

7.8.2.3(3) for systems and equipment to be maintained by the Authority, include the following at Project Co's cost and on terms reasonably satisfactory to the Authority:

7.8.2.3(3)(a) a warranty, extending from the later of the Service Commencement Date and the date of commissioning of the system and continuing for the duration specified in Appendix 3D(vii) [IMIT Systems Responsibility Matrix]; and

7.8.2.3(3)(b) support and maintenance services at the service level and for the duration specified in Appendix 3D(vii) [IMIT Systems Responsibility Matrix].

7.8.2.4 Applications, software modules and any related software installed, operated or used by Project Co must not interfere with the operation or performance of, or reduce the security or privacy of, any Authority applications or equipment.

7.8.2.5 Review and acceptance by the Authority is required prior to completion and acceptance of any IMIT system by Project Co.

7.8.2.6 Project Co will submit all documentation, custom programming and configuration of all IMIT systems to the Authority post commissioning of each IMIT system.

7.8.3 Basic Requirements

7.8.3.1 The IMIT systems will be self-monitoring and provide alerts via the Integration Engine.

7.8.3.2 Obtain final sign off by the Authority for the final design of all IMIT systems after the conclusion of Design and the user consultation process as described in Appendix 2B [User Consultation and Design Review], where expected system workflow, integration, requirements and expectations will be addressed.

7.8.3.3 Train the Authority's IT specialist(s) on configuration/setup and testing of the communication systems equipment as part of the equipment procurement.

7.8.3.4 Training will include classroom training, web training, hands on, on-site training or any combination as appropriate for the applicable system, along with user reference guides and take away handouts for Authority staff.

- 7.8.3.5 The communications systems in the Facility will be an extension of the Authority's communications systems, and must meet all of the Authority's standards at the time of procurement. Project Co will ensure that all new technology, systems, and equipment are fully compatible and seamlessly interfaced with the existing systems and equipment used by the Authority.
- 7.8.3.6 All applications used in the Facility for clinical purposes will be provided by the Authority. Project Co will provide all communication infrastructure necessary to support, interface, and integrate these systems.
- 7.8.3.7 The communications systems will be proven technology for use in facilities similar to the Facility.
- 7.8.3.8 All IMIT systems procured as part of the Facility will be extended from the Main Building to all Ancillary Buildings, including the Community Re-Integration Units.
- 7.8.3.9 All communications systems infrastructure and equipment provided by Project Co and not covered by existing Authority standards will be the latest proven version of the equipment at the time of procurement.
- 7.8.3.10 Communication systems utilized in the Facility consist of multiple tiers of technical infrastructure and services applied in support of both clinical and non-clinical Authority services.

7.8.4 IMIT Systems and Equipment Categorization and Responsibilities

- 7.8.4.1 The Construction Period and Operating Period responsibilities of the Authority and Project Co for each of the IMIT systems are outlined in Appendix 3D(vii) [IMIT Systems Responsibility Matrix]. This Schedule sets out requirements for information technology and information management systems on a system by system basis. The following definitions are used:

- 7.8.4.1(1) **"Infrastructure"** means everything required to support an IMIT system except for the required Software and Server(s);
- 7.8.4.1(2) **"Integrate"** and **"Integration"** mean the combining of software or hardware components or both into an overall system that must be able to physically connect via a standards based Interface to Authority systems if required to pass information, status, or extend system functionality;
- 7.8.4.1(3) **"Interface"** means the physical infrastructure, system components, software application development, configuration, messaging standards, commissioning and testing necessary to perform data interchange between separate systems. Interfacing of systems will be provided to achieve the integration of systems which supports the overall clinical, operational and technical functional

requirements. For each IMIT system required for the Facility, this Schedule sets out a non-exhaustive list of other systems with which the system must interface with in order to achieve the technical, performance and functional requirements specified within this Schedule for the purposes of integrating into a complete system;

- 7.8.4.1(4) **“Server”** means a computer that provides hosting services for one or more applications including also acting as a data repository. Servers typically have additional processing capacity, memory, and data storage availability than basic or home computers. These requests between clients and servers are usually transported via standard TCP/IP network connectivity. Examples of server roles within the Authority include: authentication servers, application hosting, data repository servers, web servers, utility servers, building operation and life safety servers.
- 7.8.4.1(5) **“Service Level”** means the service level requirements set out in Appendix 3D(vii) [IMIT Systems Responsibility Matrix].
- 7.8.4.1(6) **“Software”**: also known as applications, software’s role is to execute computer based instructions resulting in defined outputs supporting the Authority’s end user’s business and clinical workflow requirements including building control and life safety systems. Software is grouped into two general categories: application based software and operating system software (including operating and related utilities). Samples of application based software within the Authority include Sunrise Clinical Manager and Microsoft Office suites. Samples of operating systems and related software utilities include HP Unix, Redhat Linux, Microsoft Server, SCCM, SCOM and Symantec Backups and Antivirus systems.
- 7.8.4.1(7) **“System Lifecycle”** means the time periods from Service Commencement following which Project Co is required to renew or replace the applicable IMIT System and Equipment as set out in the “Refresh” column of Appendix 3D(vii) [IMIT Systems Responsibility Matrix].
- 7.8.4.2 A summary of responsibilities for IMIT systems and equipment, including categorization of responsibility for system components (including Software and Server), Infrastructure and Integration, and including Operating Period responsibilities is included in Appendix 3D(vii) [IMIT Systems Responsibility Matrix]. Refer also to Appendix 3D(viii) [IMIT Systems Integration Matrix].
- 7.8.4.3 Project Co will be responsible for integrating all IMIT systems and equipment in accordance with Good Industry Practice with the overall design of the Facility and will include such IMIT systems and equipment as

part of the design development process described in Section 4.2 of Schedule 2 [Design and Construction Protocols].

7.8.4.4 Application of Appendix 2D [Equipment and Furniture]:

7.8.4.4(1) Provide IMIT connections, service, support to equipment and systems identified in Appendix 2D [Equipment and Furniture]. Obtain approval from Authority for connection of equipment and systems identified in Appendix 2D [Equipment and Furniture] with the Authority.

7.8.4.4(2) Systems described in this Schedule may also have components and equipment that are listed on the Equipment List, to which Appendix 2D [Equipment and Furniture] applies.

7.8.5 IMIT Design and Construction Responsibility

7.8.5.1 System Design

7.8.5.1(1) Project Co will design all IMIT systems and equipment in conformance with the applicable industry telecommunications standards plus the Authority technical standards and integration, interfacing, performance and quality requirements as described in this Schedule and the Appendices to this Schedule. In the event of any conflict between standards, the more stringent requirement will apply.

7.8.5.1(2) All systems that will be Integrated with, or that Interface with the Authority's systems must be reviewed and approved by the Authority prior to development and implementation of the systems.

7.8.5.2 System Development/Implementation

7.8.5.2(1) For development and implementation of all systems that will be Integrated with, or that Interface with the Authority's systems, Project Co will comply with the Authority standards and protocols, as amended from time to time.

7.8.6 Telecommunications Infrastructure

7.8.6.1 Basic Requirements

7.8.6.1(1) Physical network design and installation by Project Co will have high availability and security that meets or exceeds the industry standard for use in and support of mental health hospital applications and Authority standards.

7.8.6.1(2) Provide the following network separation in the Facility:

- 7.8.6.1(2)(a) the Authority's network (data, voice, video, wireless);
 - 7.8.6.1(2)(b) Client monitoring systems;
 - 7.8.6.1(2)(c) the BMS;
 - 7.8.6.1(2)(d) nurse call system;
 - 7.8.6.1(2)(e) Client entertainment;
 - 7.8.6.1(2)(f) RTLS system;
 - 7.8.6.1(2)(g) Project Co equipment; and
 - 7.8.6.1(2)(h) Client telephone system.
- 7.8.6.1(3) Project Co will consult with the Authority and meet all of the Authority's policies and standards for all connections to the Authority's data, voice, video and wireless networks. The above list is indicative only and does not limit Project Co's obligation to provide all physical networks required for the Facility.
- 7.8.6.1(4) Provide systems which promote operational efficiency and integrate systems where this integration provides efficiency and operational and cost advantages.
- 7.8.6.1(5) The communications systems will accommodate all media types, including data, voice, video and wireless.
- 7.8.6.1(6) Train the Authority's IM/IT specialist(s) on configuration/setup and testing of the communication systems equipment in the Facility.
- 7.8.6.1(7) Design and install equipment and Infrastructure to remain operational during and after disasters.
- 7.8.6.1(8) Provide all necessary infrastructure, including power, pathways, conduits, grounding / bonding, spaces and structured cabling, to support the clinical program.
- 7.8.6.2 Performance Criteria
- 7.8.6.2(1) Provide infrastructure for the communications network as detailed in Appendix 3D(i) [Structured Telecommunications Cabling Systems].
 - 7.8.6.2(2) Use IP Protocol for data, voice and video network based equipment. Telephone equipment will be a mix of VoIP and analog equipment.

- 7.8.6.2(3) Provide IPV6 compatible network protocols.
 - 7.8.6.2(4) Maintain the manufacturer's warranties on all IMIT Systems Equipment and ensure that the warranties are transferable to the Authority. Transfer warranties to the Authority as requested by the Authority after installation.
 - 7.8.6.2(5) All communications systems equipment provided by Project Co will support all applications run by the Authority, which include WinCIS and Microsoft Office.
 - 7.8.6.2(6) All networked equipment provided by Project Co intended for integration with Authority networks/systems will include any adapters necessary to integrate with the Authority's IP based network.
 - 7.8.6.2(7) All IMIT systems must be reviewed by the Authority in accordance with Appendix 2B [User Consultation and Design Review].
- 7.8.6.3 Quality Requirements
- 7.8.6.3(1) Project Co will:
 - 7.8.6.3(1)(a) use the latest technology for transferring, securing, and storing information available at the date of procurement of the communications system for the Facility;
 - 7.8.6.3(1)(b) use equipment and materials that are certified and clearly sealed by CSA or ULC or other testing agency approved and accepted by the local inspection authorities; and
 - 7.8.6.3(1)(c) comply with all Appendices of this Schedule.
 - 7.8.6.3(2) In the event of a conflict between applicable industry standards, Authority standards or this Schedule, the more stringent standard will apply.

7.8.7 Site Utilities / Access Provider

- 7.8.7.1 Project Co will design the Facility in coordination with the Authority's access providers to provide telecommunications services to the Facility to support Authority and Project Co systems.
- 7.8.7.2 The communications systems that will be integrated or interoperate with Authority systems will be compatible with the systems of the Authority's service providers as of the date of installation of the systems and be designed to integrate with the service providers' equipment and, as

appropriate, to utilize the Authority's existing service agreements by extending them to the Facility.

- 7.8.7.3 Extend cabling from the service provider demarcation to the PER / Main Telecom Room. Provide all jumper cables and connectors as required.
- 7.8.7.4 Provide four 100mm (4") conduits below grade to the Utility service provider pole location. Provide duct banks and manholes.
- 7.8.7.5 Provide lightning protection for all copper cables entering / leaving the Facility.
- 7.8.7.6 Coordinate installation of service utilities with the service provider and the Authority. Provide fiber and copper cable quantities as required to support the Authority's and Project Co's systems. Provide separate service as required by the system and Authority requirements. Coordinate with the Authority to support the following services at a minimum:
 - 7.8.7.6(1) LANSPAN;
 - 7.8.7.6(2) CNet connection on GoS MPLS;
 - 7.8.7.6(3) cable TV;
 - 7.8.7.6(4) internet access;
 - 7.8.7.6(5) Facility telephone service;
 - 7.8.7.6(6) Client telephone service; and
 - 7.8.7.6(7) Distributed Antenna System (DAS).
- 7.8.7.7 Order utility services to support Project Co and Authority IMIT systems. Order multiple Internet Service Providers (ISPs) to support Project Co and Authority systems. Order multiple services and service types in order to support clinical and departmental systems within the Facility. Provide 25% additional capacity for adding services as needed in the future.

7.8.8 Telecommunication Equipment Rooms

7.8.8.1 Basic Requirements

- 7.8.8.1(1) Project Co will provide telecommunication equipment rooms to accommodate the telecommunications infrastructure and equipment in accordance with Schedule 3, Appendix 3D(i) [Structured Telecommunications Cabling Systems] and EIA/TIA standards.

- 7.8.8.1(2) “Telecommunication equipment room” includes the following room types: Telecommunications Service Entrance Room (TSER), Primary Equipment Room (PER) / Main Telecommunications Room, and Telecommunication Room (TR).
- 7.8.8.1(3) Ensure minimum design requirements for the telecommunication equipment rooms comply with EIA/TIA-1179. Provide and size telecommunication equipment rooms to accommodate the telecommunications requirements of the Facility, including all required equipment cabinets, cabling systems and all active and passive network equipment, devices and infrastructure. Provide capacity for 25% growth in Telecommunication Rooms.
- 7.8.8.1(4) Provide structured cabling between telecommunication equipment rooms as detailed in Appendix 3D(i) [Structured Telecommunications Cabling Systems].
- 7.8.8.1(5) Design telecommunication equipment rooms to provide sufficient redundant cooling capacity to permit all racks to be fully populated with a total load of 6KW of conditioned power per rack. Provide additional cooling to support Project Co equipment in TRs where sharing of space is allowed by the Authority.
- 7.8.8.1(6) Telecommunication equipment rooms must provide a minimum of 6kw of fully redundant power from both of the centralized UPS's to each cabinet.
- 7.8.8.1(7) Provide cable runway ladder tray on perimeter walls and extending over the data cabinets for routing cable. Provide 100% spare capacity.
- 7.8.8.1(8) Telecommunications Service Entrance Room refers to an entrance to a building for both public and private service cables including the entrance point of the building and continuing to the entrance room. The TSER accommodates the joining of inter and intra building telecommunications backbone facilities.
- 7.8.8.1(8)(a) Provide one TSER to accommodate the telecommunications services to the Facility.
- 7.8.8.1(8)(b) Locate TSER on an exterior wall in close proximity to the incoming service connections.
- 7.8.8.1(8)(c) Provide redundant pathways and connectivity to the PER / Main Telecom Room.
- 7.8.8.1(9) Primary Equipment Room (PER) / Main Telecommunications Rooms

- 7.8.8.1(9)(a) Design the PER to host, among other things, Authority network equipment, Authority VoIP systems, Authority security equipment, Authority servers and additional equipment as determined by the Authority. The PER will be designated as a ANSI/TIA-942 Tier Level 2 Data Center.
- 7.8.8.1(9)(b) No horizontal cabling to telecommunication outlets located outside of the PER will terminate in the PER.
- 7.8.8.1(9)(c) Equip the PER with a minimum of 15 equipment cabinets with the ability to add 6 in the future at 40 sq ft per rack or 840 sq ft of floor space for Authority equipment. Project Co may increase the size of room to accommodate Project Co equipment if reviewed and accepted by the Authority.
- 7.8.8.1(9)(d) With approval of the Authority, Project Co may co-locate Project Co supplied servers and equipment in the PER. Provide physical separation of Project Co equipment and cabinets from Authority equipment and cabinets with a secure fence that extends from the floor to the underside of deck and has a separate entrance from the Authority space. Project Co will not be allowed access to Authority equipment unless accompanied by the Authority's IMIT staff.
- 7.8.8.1(9)(e) Provide gas based fire suppression system within the PER / Main Telecom Room. Locate equipment on the Project Co side of the room.
- 7.8.8.1(9)(f) Provide redundant diverse pathways from the Main Telecom Room/PER to each of the remote TRs.
- 7.8.8.1(10) Telecommunications Room (TR)
- 7.8.8.1(10)(a) TRs will comprise enclosed architectural spaces throughout the Facility to house telecommunications equipment, provide horizontal cross connects and cable terminations. Refer to Appendix 3D(i) [Structured Telecommunications Cabling Systems].
- 7.8.8.1(10)(b) Ensure all horizontal and backbone communication cabling for a given floor or area terminates at a TR. A TR includes the equipment cabinets containing backbone and horizontal cabling and network electronics serving that area and floor.

- 7.8.8.1(10)(c) Locate TRs to serve only the floor on which they are located. Design TRs to provide easy access for equipment modifications and working space and to avoid interference with other services and systems.
- 7.8.8.1(10)(d) Locate TR's to minimize the distances for cable runs and so that no cable run will exceed 85m (280').
- 7.8.8.1(10)(e) Provide a minimum of 3 data cabinets per TR as required to support the cable terminations in that area with the ability to add an additional cabinet as needed.
- 7.8.8.1(10)(f) Project Co will share the TR with the Authority. Project Co will provide a fence extending from the floor to the underside of the deck with separate cable entrances. Provide lockable doors through separation with access control to allow the Authority to access both sides of the TR. Project Co will not be allowed to access Authority equipment unless accompanied by the Authority's IMIT staff.
- 7.8.8.1(10)(g) The TR rooms will support the Aruba 802.11a/b/g/n/ac wireless access points, Mitel Telephones and IP video surveillance cameras which require PoE / PoE plus functionality and standards based QoS (Quality of Service) traffic prioritization.
- 7.8.8.1(10)(h) Subject to compliance with the cable distance requirements of TIA 568-B, the maximum quantity of data drops per TR is 1,200. This quantity will be logically and physically separated into two distinct groups of up to 600 data drops in order to accommodate the Authority's labelling and cable management requirements. The Authority will review the layout and configuration of each TR.
- 7.8.8.1(10)(i) Provide CATV distribution amplifiers in a star configuration with the head end and incoming service connection located in the PER / Main Telecom Room. Provide two RG-11 quad shield coaxial cables home run between the head end distribution amplifier in the PER and each Telecom Room. Provide two RG-11 quad shield coaxial cables to the demarc in the TSER.
- (i).1 Provide splitters as required to distribute CATV signal to Telecommunication Rooms.

- (i).2 Provide an amplifier in the TR to amplify the signal from the PER / Main Telecom Room to the TV outlet.
 - (i).3 Terminate at the workstation with F-Connector.
 - (i).4 Provide connection to all TV locations throughout the Facility including private Client rooms, support space, entertainment distribution system and as identified by the Authority.
 - (i).5 Provide Homerun Quad shield RG-6 cabling to the TV outlet. Increase to RG-11 as required to maintain acceptable dB levels for signal transmission.
 - (i).6 Provide 25% spare capacity for the CATV system included distribution amplifiers, components and cabling.
- 7.8.8.1(10)(j) Connect end-use equipment to the TR layer 2 switch and a 10/100/1000 base T Ethernet 802.3 protocols run on Category 6 twisted pair plenum rated cable.
- 7.8.8.1(10)(k) All network ports with network devices attached will be activated. A small percentage of ports, to be used for portable equipment or on an as required basis, will be designated by the Authority as active.
- 7.8.8.1(10)(l) TRs will not have an accessible ceiling and will be open to the underside of the deck unless required to maintain the plenum rating of the Facility. If code permits, design the door to swing out 180 degrees and be lockable through access control system. If the door must swing in, design the room to accommodate the lost space necessitated by the door swinging in.
- 7.8.8.1(10)(m) Secure all Telecommunication Rooms and the PER with access controls (card reader, electric strike and door contacts).
- 7.8.8.1(10)(n) Use light color for wall, floor and ceiling finishes to enhance the lighting in the room.
- 7.8.8.1(10)(o) Provide full height walls to the underside of the deck. Where possible the TR ceiling will be higher than the corridor ceiling.
- 7.8.8.1(10)(p) Provide a drip tray below sprinklers located directly above data cabinets.

- 7.8.8.1(10)(q) In the PER and TRs provide additional quad outlets, on each wall served with a dedicated 15A, 20V circuit spaced at no more than 1800mm intervals around the perimeter walls. Provide sufficient receptacles to support wall mount systems plus two additional quad outlets. Consult with the Authority for any additional systems that may require power.
- 7.8.8.1(10)(r) Design the redundant HVAC systems serving the TRs and PER to maintain a temperature between 18-24 degree Celsius with a relative humidity between 30 and 55%. Design the HVAC system to maintain these requirements on 7x24 hour operation. Detailed heat loads will be calculated at time of design.

7.8.8.2 Equipment Cabinets

- 7.8.8.2(1) Except as noted otherwise, provide all cabinets with floor space per TIA standards. Provide seismic bracing for all equipment cabinets.
- 7.8.8.2(2) Where two or more cabinets are next to each other remove the inside panel to allow access to the adjacent cabinet.
- 7.8.8.2(3) Provide 1 meter clear access in front and behind data cabinets.
- 7.8.8.2(4) Provide 1m spacing between rows of cabinets. Provide 150mm (6") space between end of cabinet row and wall. Provide 1 m clear on the other end of row to allow access to the front and rear of the cabinet.
- 7.8.8.2(5) Ensure review by a structural engineer of all installations for certification as being seismically restrained in accordance with the requirements for a post disaster facility.
- 7.8.8.2(6) Provide lockable cabinets with access control card readers.
- 7.8.8.2(7) Each cabinet requires a minimum of 40 sq ft of floor space with a minimum distance of 4.5 ft from any electrical panel.
- 7.8.8.2(8) All cabinets must meet or exceed industry standard specifications with front and rear door locks, 42U in size, outside width of 36" with internal rack width of 19", depth of 39.7"
- 7.8.8.2(9) Mount all cabinets, unless otherwise specified, on seismic isolation bases. The platforms will be bolted together and seismically anchored.

- 7.8.8.2(10) Provide each cabinet with redundant PDUs (Power Distribution Units) connected to separate L15-30R-208V (3 phase) circuits, one fed from each of the separate redundant centralized UPSa. Each PDU will be capable of supporting C13, C14 and C19 power connections.
- 7.8.8.2(11) Provide Authority standard APC Net Shelter cabinets with multiple fans, vertical and horizontal wire management and grounding.
- 7.8.8.2(12) Provide space for additional Authority and Project Co systems including grounding and bonding, CATV distribution panels, radio system, and nurse call and other systems as determined by the Authority in conjunction with Project Co.

7.8.9 Structured Cabling

7.8.9.1 Basic requirements

- 7.8.9.1(1) Design, install and test all structured cabling in accordance with Appendix 3D(i) [Structured Telecommunications Cabling Systems].
- 7.8.9.1(2) The cabling infrastructure will be universal and support the networks and systems required in the Facility, including voice (VOIP and analog), data, video, RTLS, video surveillance, clinical, and security systems and to allow all forms of end-use equipment, including computers, telephones, video conferencing equipment and other digital end-use equipment as identified by the Authority, access to the various IT, telecommunication, and digital video networks.
- 7.8.9.1(3) Appendix 3D(i) [Structured Telecommunications Cabling Systems] identifies the structured cabling required by the Authority for its own networks. Project Co will provide any cabling required by Project Co to support its own networks in addition to that identified in Appendix 3D(i) [Structured Telecommunications Cabling Systems].
- 7.8.9.1(4) Project Co will cause:
 - 7.8.9.1(4)(a) the cabling infrastructure to be designed by an RCDD;
 - 7.8.9.1(4)(b) the RCDD to work with the Authority to complete the physical network design; and
 - 7.8.9.1(4)(c) the RCDD to provide, as necessary, a network plan which would include the following: all active network devices, non-Authority applications, all connecting End-Use Equipment and each separate network. Project Co will assist the Authority in the network plan by supplying

all necessary information to the Authority about their building network. The building network equipment is to match the network equipment specified by the Authority.

- 7.8.9.1(5) Project Co will provide preliminary conceptual drawings of proposed telecommunications outlet locations in advance of the first detailed room review meetings with the Authority.
- 7.8.9.1(6) As part of the design process described in Section 4.2 of Schedule 2 [Design and Construction Protocols], provide detailed plans including risers, rack layouts, telecommunication equipment layout, infrastructure, raceways, expansion space, elevations of telecommunication equipment room walls including layouts in each of the PER and TRs.
- 7.8.9.1(7) Create, in consultation with the Authority, an operational plan for the cable infrastructure, including a management strategy and resource requirements for maintenance.
- 7.8.9.1(8) Project Co will test all cable infrastructure in consultation with the Authority.
- 7.8.9.1(9) Provide and install a complete structured cabling solution for the Facility in accordance with Appendix 3D(i) [Structured Telecommunications Cabling Systems] and all applicable standards as detailed in Section 2.9.
- 7.8.9.1(10) Provide separate physical networks, in accordance with Good Industry Practice or equipment vendor specifications and in consultation with the Authority, as required for the telecommunications systems and equipment installed or used in the Facility. At a minimum, provide a separate physical network for each of the networks identified in Section 7.8.6.1(2).
- 7.8.9.1(11) In consultation with the Authority, design and provide physically diverse and redundant pathways between the PER and TRs.
- 7.8.9.1(12) Telecommunication Outlets and Data Drops
 - 7.8.9.1(12)(a) In this Schedule and the Appendices to this Schedule, the terms “telecommunication outlet”, “data outlet”, “work station outlet, and “communications outlet” are used interchangeably. Notwithstanding any standard referenced in this Schedule, all such outlets included in the Facility will:
 - (a).1 include a minimum of two data drops, with each “data drop” comprising a complete Category 6 structured cabling connection between the RJ45

- outlet jack and the port on the patch panel and connection on a network switch;
- (a).2 comply with all requirements set out in Appendix 3D(i) [Structured Telecommunications Cabling Systems];
 - (a).3 have a minimum conduit size as defined in Section 7.7.2.1(10) serving an outlet box as defined in Section 7.7.2.2;
 - (a).4 include a 4 port cover plate with RJ45 jacks as required to terminate the supplied cabling, plus blank filler plates on unused outlets; and
 - (a).5 use Category 6 termination technique. No differentiation will be made between data and voice cables.
- 7.8.9.1(12)(b) All horizontal cables will be terminated on Cat 6 patch panels termination hardware located in a TR. Provide harness cabling for each horizontal cable and connect through to the corresponding switch port.
- 7.8.9.1(12)(c) Provide a minimum of one unused data drop at each telecommunication outlet.
- 7.8.9.1(12)(d) Project Co will, in consultation with and as directed by the Authority, assign each room and space in the Facility a work area data drop density ("High", "Medium" or "Low") in accordance with the ANSI/TIA-1179 Healthcare Facility Telecommunications Cabling Standard Table 1. Notwithstanding the quantities defined in ANSI/TIA-1179, Project Co will provide a minimum quantity of data drops as defined below:
- (d).1 Low Density Work Area – per TIA 1179 Table 1;
 - (d).2 Medium Density Work Area - provide 11 data drops;
 - (d).3 High Density Work Area - provide 15 data drops.
- 7.8.9.1(12)(e) Project Co will provide additional data drops in excess of the minimum quantity required by Section 7.8.9.1(12)(d) as required:
- (e).1 to support all of the networks, systems and equipment (including the Equipment) to be installed or used in the Facility;
 - (e).2 to comply with any other provisions of this Agreement that require data drops;
 - (e).3 by Good Industry Practice to provide convenience, flexibility or use and operational support throughout the Facility; and

- (e).4 to ensure there is one unused data drop for each telecommunications outlet with the exception of wall mounted telephones, which do not require an unused data drop.
- 7.8.9.1(12)(f) Specific Requirements for data drops have been identified for Private Client rooms as follows:
 - (f).1 Head Wall - (4) Data Drops
 - (f).2 Footwall - (2) Data Drops
 - (f).3 TV Locations - (2) Data Drops, 1 Coaxial CATV drop.
- 7.8.9.1(12)(g) Project Co will design each room in the Facility such that data drops are distributed throughout the room as required to support clinical functionality and convenient use of equipment by Facility Users and in accordance with Good Industry Practice.
- 7.8.9.1(12)(h) Provide an additional 50 data drops to be terminated, installed and tested in locations as directed by the Authority.
- 7.8.9.1(13) Project Co will co-locate, at each telecommunications outlet location, an appropriate number of power outlets.
- 7.8.9.1(14) Terminate all cables in TRs in accordance with Section 7.7.1 of this Schedule and Appendix 3D(i) [Structured Telecommunications Cabling Systems].
- 7.8.9.1(15) Project Co will provide appropriate cabinets, UPS, power, cooling and connectivity in each of the PER and TRs.
- 7.8.9.1(16) All conduit pathways will have spare capacity of 100%. TR will have physical floor and wall space to accommodate such expansion. For each cross-connect wall, provide adequate space to accommodate 50% expansion on the same and adjacent wall.
- 7.8.9.1(17) Provide all ceiling spaces with have telecommunication outlets for wireless network access points, information display systems, and other ceiling mounted digital devices.
- 7.8.9.1(18) Follow the equipment and cabling labelling standards per Appendix 3D(i) [Structured Telecommunications Cabling Systems]. Confirm details with the Authority prior to labelling.
- 7.8.9.1(19) Provide floor telecommunications outlets and floor power to connect floor mounted self-registration systems, electronic

directional systems and Client education kiosks, Client telephone system devices, as reviewed by the Authority.

- 7.8.9.1(20) Provide a data outlet for all public phones, minimum 1 per lobby area per department in the Facility.
- 7.8.9.1(21) Run category 6 network cables (qty 12) between each communication room (PER to each TR).
- 7.8.9.1(22) Provide redundant fibre connections between the PER, Main Telecom Room and each TR. Fibre connections will be routed in separate diverse pathways.

7.8.10 Equipment Residing on the Network

7.8.10.1 Project Co's Equipment

- 7.8.10.1(1) Provide end-use equipment and communications equipment to provide a fully operational Facility network and that Project Co may require for its own use for the performance of its obligations under this Agreement ("**Project Co's End-Use Equipment**").
- 7.8.10.1(2) Do not connect any of Project Co's End-Use Equipment to the Authority's network, both wired and wireless.
- 7.8.10.1(3) Servers and related equipment for Project Co's End-Use Equipment will be located in the PER and TRs as allowed by the Authority.
- 7.8.10.1(4) Design the PER to have physically separate space for Project Co's equipment and servers from the Authority's equipment and servers and such that access is managed and audited by the security system.
- 7.8.10.1(5) Any wireless devices used by Project Co will not interfere with the Authority's wireless infrastructure or devices.

7.8.10.2 Authority's End-Use Equipment

- 7.8.10.2(1) The Authority will provide its own end-use equipment including:
 - 7.8.10.2(1)(a) computer, desktop;
 - 7.8.10.2(1)(b) computer, laptop;
 - 7.8.10.2(1)(c) tablet PCs;
 - 7.8.10.2(1)(d) printer laser, multifunction;

- 7.8.10.2(1)(e) photocopiers;
- 7.8.10.2(1)(f) facsimile machines, general: facsimile, multifunction;
- 7.8.10.2(1)(g) healthcare card readers;
- 7.8.10.2(1)(h) dictation microphones;
- 7.8.10.2(1)(i) scanner, barcode;
- 7.8.10.2(1)(j) printers, label;
- 7.8.10.2(1)(k) flat panel television in client rooms;
- 7.8.10.2(1)(l) handheld computer devices;
- 7.8.10.2(1)(m) monitor, blood glucose;
- 7.8.10.2(1)(n) bed, residential, single; bed, electric; bed, electric, bariatric;
- 7.8.10.2(1)(o) pump, infusion;
- 7.8.10.2(1)(p) multifunction communication devices; and
- 7.8.10.2(1)(q) telehealth clinical devices;

(collectively, the “**Authority Supplied End-Use Equipment**”).

7.8.10.2(2) Project Co will:

- 7.8.10.2(2)(a) include the installation of the Authority Supplied End-Use Equipment as part of the Move-in Schedule;
- 7.8.10.2(2)(b) assist the Authority to define locations for the Authority Supplied End-Use Equipment;
- 7.8.10.2(2)(c) provide adequate space, infrastructure, power, and wired network data outlets for the Authority Supplied End-Use Equipment; and
- 7.8.10.2(2)(d) provide jack number information (on the Authority’s cable information Excel spreadsheet) to the Authority to facilitate placement of the Authority Supplied End-Use Equipment.

7.8.11 Authority Network

7.8.11.1 Basic Requirements

7.8.11.1(1) For the Authority's network, the Authority will:

- 7.8.11.1(1)(a) provide Firewall and authentication servers to serve Authority networks located at the Battleford Data Center;
- 7.8.11.1(1)(b) provide programming and configuration of Authority network switches.
- 7.8.11.1(1)(c) provide interface to the Authority's wireless network and the Authority's VoIP telephone System; and
- 7.8.11.1(1)(d) be responsible for all network management licensing.

7.8.11.1(2) For the Authority's network, Project Co will:

- 7.8.11.1(2)(a) provide redundant HP Layer 3 Core switches with redundant power supplies and redundant fans in the PER / Main Telecom Room. Provide 10GB ports to accommodate redundant connections to each of the remote TRs.
- 7.8.11.1(2)(b) provide HP ProCurve network switches for installation in cabinets by Project Co;
- 7.8.11.1(2)(c) provide stackable 48 port, Layer 2, PoE Plus, 10/100/1000 switches with redundant power supplies and redundant 10Gb uplinks to the network core in the TRs for connection to Horizontal work area outlets. Provide sufficient quantity of switches to support all data cabling installed for the Facility to an active data switch port;
- 7.8.11.1(2)(d) provide 25% spare 10/100/1000 Layer 2 PoE plus switches.
- 7.8.11.1(2)(e) install all network switches and connect harness cabling and patch cords; and
- 7.8.11.1(2)(f) complete all physical network design and provide all structured cabling.

7.8.11.1(3) For all other networks required in the Facility, Project Co will:

- 7.8.11.1(3)(a) provide all required network equipment, including network switches;

- 7.8.11.1(3)(b) in consultation with the Authority, complete the logical network design and program and configure all network equipment and integration with Authority networks;
 - 7.8.11.1(3)(c) be responsible for all network management licensing;
 - 7.8.11.1(3)(d) locate network and other equipment in the PER or TRs as determined in consultation with the Authority; and
 - 7.8.11.1(3)(e) identify the requirements and interface systems / networks with the Authority's network through consultation with the Authority.
- 7.8.11.1(4) Project Co will be responsible for providing firewalls to serve Project Co networks.
 - 7.8.11.1(5) For all of the networks described above, Project Co will mount and connect all network switches, harness cables, and cross connect and test all network equipment and cable infrastructure per Appendix 3D(i) [Structured Telecommunications Cabling Systems] in consultation with the Authority.
 - 7.8.11.1(6) Project Co will provide and install harness cables for all network switches for all networks plus spare capacity, per Appendix 3D(i) [Structured Telecommunications Cabling Systems].
 - 7.8.11.1(7) Project Co will provide patch cords for all network switches for all networks, per Appendix 3D(i) [Structured Telecommunications Cabling Systems].
 - 7.8.11.1(8) Install all network equipment in accordance with all applicable IEEE and EIA/TIA standards, including the 802.1 and 802.3 standards.
 - 7.8.11.1(9) The Authority will provide and manage all firewalls, security and IDS/IPS systems for connections to the Authority's networks.
 - 7.8.11.1(10) Project Co is responsible to provide and manage all firewalls, security and IDS/IPS systems for connections to all networks in the Facility other than the Authority's network.
 - 7.8.11.1(11) Project Co will retain a manufacturer certified network engineer trained on the Authority's network electronics, HP Procurve.
 - 7.8.11.1(12) Provide HP ProCurve as the standard manufacturer for Project Co networks for the purpose of standardization, operational efficiencies, interface coordination throughout the facility.
 - 7.8.11.1(13) Incorporate redundancy and security in all network designs.

- 7.8.11.1(14) Project Co will comply with the requirements set out in Appendix 3D(ix) [Data Network Electronics]

7.8.12 Authority Servers

7.8.12.1 Basic Requirements

- 7.8.12.1(1) Authority servers will be installed in the PER by the Authority.
- 7.8.12.1(2) All servers will align with Authority policies and operational procedures with regards to security and operations.
- 7.8.12.1(3) Servers will meet minimum “*Lights out*” requirements where all servers will have remote access cards and data outlets for remote management and support.

7.8.12.2 Performance Criteria

- 7.8.12.2(1) Project Co will provide infrastructure to support each server with the required network and power redundancy by means of dual power supplies, dual NIC cards and a minimum of RAID 5 or superior storage technology installed in each server. Connect each power supply to separate redundant rack PDUs and connect each network card to separate distribution switches in the PER.
- 7.8.12.2(2) Project Co will provide the cable infrastructure to support each server.

7.8.13 Project Co Servers

7.8.13.1 Basic Requirements

- 7.8.13.1(1) All Servers must align with Authority policies and operational procedures with regards to security and operations in accordance with this Schedule and its Appendices. This includes aligning to the Authority operating system and hardware patching processes.
- 7.8.13.1(2) Servers must meet minimum “*Lights out*” requirements where all servers must have remote access cards and data outlets for remote management and support.
- 7.8.13.1(3) Provide Servers of the latest technology, as of the date of installation (Intel processor latest model or similar acceptable to the Authority) and that interface to the Ethernet network via a dual and redundant 1000Mb network interface card.
- 7.8.13.1(4) Ensure all Servers deployed align with the Authority’s standards for procuring equipment including hardware models, operating systems, software licenses, maintenance and contract agreements.

Maintain all agreements for the life cycle of the hardware and or application.

- 7.8.13.1(5) Ensure all Servers as well as the applications hosted on those servers are entered into the Authority's change management database system as configuration items and dependencies identified and linked. All changes, incidents, and problems relating to such servers and applications must be managed, monitored, and tracked using the Authority's change, incident, and problem management processes as defined within this Schedule and its Appendices.

7.8.13.2 Performance Criteria

- 7.8.13.2(1) Provide each server with network and power redundancy by means of dual power supplies and dual NIC cards installed in each server. Each power supply will be connected to separate redundant rack PDU'S and each network card would be connected in consultation with the Authority.
- 7.8.13.2(2) For all network attached Servers, install and manage:
- 7.8.13.2(2)(a) antivirus software that aligns with the Authority's antivirus policies; and
 - 7.8.13.2(2)(b) enterprise data backup and retention software that aligns with the Authority's backup and retention policies and procedures.
- 7.8.13.2(3) Hardware and software configuration of servers provided by Project Co must be reviewed by the Authority.
- 7.8.13.2(4) Servers for the technology and communication systems will be Microsoft compliant (version acceptable to the Authority) and will be from a common manufacturer.

7.8.14 Telephone Equipment

7.8.14.1 Basic Requirements

- 7.8.14.1(1) For the Authority's telephone network, the Authority will:
- 7.8.14.1(1)(a) provide a centralized Unified Messaging and Administration Platform manufactured by Mitel and located at the Battleford Data Center; and
 - 7.8.14.1(1)(b) configure and program the VoIP telephone system based on the end users needs, and Project Co will provide assistance as reasonably required.

- 7.8.14.1(2) For the Authority's VoIP system, Project Co will:
- 7.8.14.1(2)(a) design and construct the Facility including infrastructure per Appendix 3D(i) [Structured Telecommunications Cabling Systems] and Appendix 3d(vi) [VoIP Communication System] to support the Authority's VoIP system, Client telephone system and public telephone systems;
 - 7.8.14.1(2)(b) provide redundant Mitel VoIP Telephone Systems with redundant power supplies. Provide telephone types and install at locations identified by the Authority;
 - 7.8.14.1(2)(c) provide VoIP telephone system with analog voice gateways, software, licensing and VoIP and analog telephone handsets. Provide the same level of software utilized by the Authority;
 - 7.8.14.1(2)(d) not use the Authority phone system for its telecommunications needs. Project Co will provide its own telephone system to support its operations;
 - 7.8.14.1(2)(e) provide the licensing for all telephone devices, voicemail and unified messaging. Expand voicemail and unified messaging software installed offsite at the Authority's Battleford Data Center. Provide 10% spare licensing in addition to what is required to support the Facility;
 - 7.8.14.1(2)(f) provide power and data infrastructure for installation of the Client telephone system. Coordinate installation of the Client telephone system with the Authority's party existing provider, Synergy Inmate Phone Solutions; and
 - 7.8.14.1(2)(g) provide infrastructure for future installation in Client rooms. Provide additional infrastructure to support Client telephone system in shared common areas (minimum 3 devices per common area), Video Court Admissions and family visiting areas as required by the Authority.
- 7.8.14.1(3) Authority standard for VoIP / Unified messaging platform is Mitel
- 7.8.14.1(4) Provide Mitel as the standard manufacturer for the telephone system for the purpose of standardization, operational efficiencies, interface coordination throughout the Facility.
- 7.8.14.1(5) Retain a manufacturer certified VoIP system engineer trained on the Authority's VoIP telephone system, Mitel.

- 7.8.14.1(6) Have a public telephone company provide and install pay phones in consultation with the Authority, with location and quantity as determined by the Authority.
- 7.8.14.1(7) Order telephone services with local utility company for Authority VoIP System, Project Co VoIP system and auxiliary systems requiring telecommunications services. Provide redundant utility service to the Authority's communications systems.
- 7.8.14.1(8) Provide a dedicated data drop for each telephone device. A computer will not share a data drop with a telephone device.

7.8.15 Cellular Services

7.8.15.1 Basic Requirements

- 7.8.15.1(1) Project Co will provide infrastructure and equipment required to support a singular distributed antennae system that will universally support cellular service provider SaskTel.
- 7.8.15.1(2) Ensure that the system installed supports both cellular voice and data requirements and functions effectively in all areas of the Facility, including the basement and underground rooms.
- 7.8.15.1(3) Project Co will work with the Authority and the cellular service provider to transfer the contract to the Authority upon Service Commencement.
- 7.8.15.1(4) Provide equipment approved by SaskTel at time of installation. Current approved SaskTel DAS System is manufactured by Telcosat.

7.8.16 Wireless Networks

7.8.16.1 Basic Requirements

- 7.8.16.1(1) In consultation with the Authority, design and install a complete 802.11 wireless network solution for the Facility in accordance with Appendix 3D(ii) [Wireless Infrastructure Standard] and Appendix 3D(iii) [Wireless Data Communications Policy] to support the Authority wireless network throughout the Facility. The Authority currently utilizes a single wireless network that extends across all its regions. Project Co will not install any other 802.11 wireless network in the Facility without prior approval by the Authority.
- 7.8.16.1(2) The wireless network in the Facility will have sufficient wireless access points to support the Authority's systems and integration to Project Co provided systems.

- 7.8.16.1(3) Refer to Section 7.8.20.1(9) regarding use of the Authority's 802.11 wireless network by the RTLS system in the Facility. Design the wireless network to support RTLS throughout the Facility.
- 7.8.16.1(4) The Authority will:
- 7.8.16.1(4)(a) program and configure wireless access points and redundant wireless controllers provided and installed by Project Co, and Project Co will provide assistance as reasonably required; and
 - 7.8.16.1(4)(b) provide centralized authentication and security appliances or latest equivalent to support the Authority's wireless network within the Facility.
- 7.8.16.1(5) Project Co will:
- 7.8.16.1(5)(a) install all structured wiring and wireless access points, and test all cable infrastructure and wireless system devices for the wireless network in consultation with the Authority;
 - 7.8.16.1(5)(b) provide wireless infrastructure to service 802.11b (2.4Ghz DSSS), 802.11g (2.4Ghz OFDM), 802.11a (5Ghz OFDM), 802.11n Draft 2.0, or newer (5Ghz and 2.4Ghz MIMO), and 802.11ac release 2 wireless communications and data transfer requirements for access by wireless devices to data and voice services within the Facility and across the Authority, via the Authority WAN;
 - 7.8.16.1(5)(c) provide a complete structured cabling infrastructure that will allow the installation of the complete wireless network, including PoE wireless access points. Project Co will install telecommunication outlets and access points in consultation with the Authority in accordance with Appendix 3D(ii) [Wireless Infrastructure Standard];
 - 7.8.16.1(5)(d) test 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 802.11 standard including 802.11b, 802.11g, 802.11a and 5GHz 802.11n and 802.11ac wireless networks.
 - 7.8.16.1(5)(e) relocate wireless access points based on a physical Site survey after occupation of the Facility.

7.8.16.1(6) The wireless network will provide 100% coverage that meets the performance requirements, as described in Appendix 3D(ii) [Wireless Infrastructure Standard], throughout the Facility including elevator cabs, mechanical spaces, service areas, Facility exterior, stairwells, and parking lots.

7.8.16.1(7) Project Co will procure and install Wireless LAN Controllers, licensing, software and Wireless Access Points.

7.8.16.2 Performance Criteria

7.8.16.2(1) Work with the Authority in creating an operational plan for the wireless network complete with management strategy alerts notification and resource requirements for maintenance.

7.8.16.2(2) Retain a RCDD certified network engineer with expertise and experience in working with the Authority approved equipment to design the wireless network infrastructure.

7.8.16.2(3) Each wireless access point will have two Cat 6 data drops terminated at a telecommunication outlet installed in accordance with Appendix 3D(ii) [Wireless Infrastructure Standard].

7.8.16.2(4) Design the Facility including equipment locations (e.g., microwave ovens) that does not interfere beyond the noise floor and signal strength requirements (SNR) of the wireless network. The resulting RF environment in the Facility must be consistent with the strictest specifications of the wireless end-use equipment.

7.8.16.2(5) Provide a signal strength and bandwidth within the boundaries of the Facility to support Authority systems and RTLS. Provide exterior wireless signal strength and bandwidth for outdoor coverage to support the Authority's systems in accordance with Appendix 3D(ii) [Wireless Infrastructure Standard].

7.8.17 Wireless Staff Communication System

7.8.17.1 Basic Requirements

7.8.17.1(1) The Authority's wireless network will support a complete wireless staff to staff communication system.

7.8.17.1(2) The staff communication system will allow staff to initiate 2-way voice conversations from their staff communication system device to:

7.8.17.1(2)(a) other staff communication system devices; and

7.8.17.1(2)(b) VoIP telephone.

- 7.8.17.1(3) The staff communication system will allow staff to receive 2-way voice conversations into their staff communication system device from:
- 7.8.17.1(3)(a) other staff communication system devices;
 - 7.8.17.1(3)(b) VoIP telephone;
 - 7.8.17.1(3)(c) nurse call consoles;
 - 7.8.17.1(3)(d) Client stations;
 - 7.8.17.1(3)(e) staff/duty station; and
 - 7.8.17.1(3)(f) external telephone.
- 7.8.17.1(4) The system will align with the Authority's standard Vocera staff communication system and allow for the central management of devices and users via the existing Vocera administrative modules.
- 7.8.17.1(5) The system will also be capable of utilizing the regional standard Spectralink wireless phone system.
- 7.8.17.1(6) The system will be capable of being fully Integrated with existing Hospital Blackberry phones.
- 7.8.17.1(7) Project Co will provide include 500 wireless staff communication devices.
- 7.8.17.1(8) Project Co will ensure that all required systems integrate with the staff communication system. At the Authority's discretion, some of the system integration may be performed through the Authority's phone system.
- 7.8.17.1(9) Project Co may use a different system for its own communication such as portable radios. Any such devices or system must not interfere with the Authority's wireless communication devices or systems or other devices or systems.
- 7.8.17.1(10) The wireless staff communication system will function throughout 100% of the Facility, including elevator cabs, mechanical spaces, service areas, facility exterior, stairwells, parking lots and outdoor courtyards.
- 7.8.17.2 Quality Requirements
- 7.8.17.2(1) Comply with the requirements of Appendix 3F(ii) [Wireless Infrastructure Standard].

7.8.17.3 Performance Requirements

- 7.8.17.3(1) Provide adequate space and power outlets for wireless device charging stations inside each department, taking in to account that charging units with multiple devices may cause signal concentrations that impact active unit performance. Sufficient spread of units must be maintained for both charging and storage areas so as not to impact operational performance of active units.

7.8.18 Intercommunication System

7.8.18.1 Basic Requirements

- 7.8.18.1(1) Local intercom systems are required at locked entrance doors that delivery personnel or the public will need access through, and at doors provided with Access Controls as identified in Appendix 3D(v) [Door Operations Matrix].

7.8.18.2 Quality Requirements

- 7.8.18.2(1) The intercom systems will be manufactured by recognized industry leaders in the intercom business.

7.8.18.3 Performance Criteria

- 7.8.18.3(1) Provide a video intercom system at all entrance locations as identified in Appendix 3D(v) [Door Operations Matrix], in consultation with the Authority, and based on the Facility Threat and Risk Assessment.
- 7.8.18.3(2) Provide a video intercom door-station at the entrance to each Client department. Each Client department will have master stations at each collaboration station and care hub. Calls from the door-station will be broadcast to each master station simultaneously, and may be answered from any of these locations. Any master station will be capable of releasing the Client entrance door.
- 7.8.18.3(3) Determine the requirements for the provision of additional video intercom systems for all other areas in consultation with the Authority.
- 7.8.18.3(4) Door stations will be provided with the following:
 - 7.8.18.3(4)(a) full colour surveillance camera with ability to pan and tilt;
 - 7.8.18.3(4)(b) hands-free full duplex audio capability;
 - 7.8.18.3(4)(c) push-to-talk/call buttons; and

- 7.8.18.3(4)(d) vandal resistant and weatherproof where required.
- 7.8.18.3(5) Master stations will be provided with the following:
 - 7.8.18.3(5)(a) desk and wall mount capability;
 - 7.8.18.3(5)(b) full colour display screen with ability to control pan and tilt of door station;
 - 7.8.18.3(5)(c) hands-free full duplex audio capability; and
 - 7.8.18.3(5)(d) capability to release to the secure entry door.
- 7.8.18.3(6) Provide desk loud-speaking master station with handset at locations as determined in consultation with the Authority, including:
 - 7.8.18.3(6)(a) each imaging control room.
- 7.8.18.3(7) Provide flush wall loud-speaking master station without handset at locations including:
 - 7.8.18.3(7)(a) X-ray rooms.
- 7.8.18.3(8) Provide dedicated duplex voice intercom system between each IPCR and the local nurse station. Nurse station will have the capability of turning the volume off, or up, as required. Intercom will be hands free in the IPCR and will be ceiling mounted behind a guard.
- 7.8.18.3(9) Design and provide intercommunication system to include 25% growth after final commissioning has been completed.
- 7.8.18.3(10) Include 5 end user intercom devices for quick swap out.

7.8.19 Video Conferencing and Telehealth

7.8.19.1 Basic Requirements

- 7.8.19.1(1) All videoconferencing systems will interface with Authority's videoconferencing infrastructure and systems as identified in this section.
- 7.8.19.1(2) Provide the supporting infrastructure including power, telecommunication outlets, audio-video wiring, raceways, outlet boxes, structural requirements necessary to deliver the Telehealth requirements identified in Appendix 3A [Clinical Specifications].
- 7.8.19.1(3) Retain audio visual professionals with expertise and experience in the application, use and integration of audio/video conferencing

systems for the design, configuration and integration of the required videoconference rooms and systems.

7.8.19.1(4) Provide the supporting infrastructure including power, incoming services (C-Net services), communication drops and incoming services for the regional Video Court System.

7.8.19.1(5) Current regional standards for videoconferencing systems include Polycomm and Tanberg solutions.

7.8.19.1(6) The Authority will also use Saskatchewan Telehealth videoconferencing on mobile carts for clinical purposes. Project Co will ensure system compatibility for such use.

7.8.19.2 Quality Requirements

7.8.19.2(1) Comply with all applicable standards and codes, including the latest IP based video conferencing standards or the latest high speed common standard.

7.8.19.2(2) Audio quality will be comparable to voice quality found in typical PSTN voice networks. Video quality will be high definition (1080p) and synchronized with the audio content. Video conference systems will allow for adjustments of compression and audio and video quality to accommodate for bandwidth management.

7.8.19.3 Performance Criteria

7.8.19.3(1) Design and construct videoconference rooms and locate microphones, video cameras, video monitors, lighting systems and sound attenuation structures/materials to optimize the performance of the video conferencing systems.

7.8.19.3(2) Consult and identify requirements for network access with the Authority. Configure video conferencing systems in consultation with the Authority and adhere to the Authority security and quality of service requirements so not to negatively impact the Authority's network performance in any way.

7.8.20 Real Time Location System (RTLS)

7.8.20.1 Basic Requirements

7.8.20.1(1) In consultation with the Authority, design and install a complete RTLS solution for the Facility and Site that includes the following applications and systems:

7.8.20.1(1)(a) equipment and asset tracking;

- 7.8.20.1(1)(b) Client tracking;
 - 7.8.20.1(1)(c) staff location;
 - 7.8.20.1(1)(d) staff to Client interactions with automatic association to the eHR;
 - 7.8.20.1(1)(e) Client to medical device interactions with automatic associations to the eHR;
 - 7.8.20.1(1)(f) room utilization;
 - 7.8.20.1(1)(g) staff duress;
 - 7.8.20.1(1)(h) Client wandering;
 - 7.8.20.1(1)(i) staff presence within an Client room with automatic association to the nurse call system;
 - 7.8.20.1(1)(j) staff workflow analysis and reporting; and
 - 7.8.20.1(1)(k) compliance requirements.
- 7.8.20.1(2) RTLS will utilise a server and allow multiple work stations to access the system for supervision, control and reporting purposes. Each of the above applications and systems will have a dedicated customised monitoring and reporting interface for each of the following departments:
- 7.8.20.1(2)(a) security services;
 - 7.8.20.1(2)(b) logistics department (equipment depot);
 - 7.8.20.1(2)(c) infection control; and
 - 7.8.20.1(2)(d) all clinical departments.
- 7.8.20.1(3) Project Co will consult with the Authority to ensure that departmental tracking/dashboard displays in each department listed above are capable of displaying real-time location mapping of RTLS-tagged staff, Client and equipment.
- 7.8.20.1(4) Provide for staff work flow analysis to enable time-in-room tracking for staff and compliance with room/fire exit checks according to a frequency established by the Authority, including the appropriate PC based software to view information and create alerts and reports.

- 7.8.20.1(5) The RTLS system will have the capability to allow the Hospital Information system (HIS) to report from the RTLS system and pull data from the RTLS system for the purposes of reporting and analytics for items such as workflow optimization and time-in-use tracking. All data points within the RTLS system will be available for HIS access.
- 7.8.20.1(6) All data points within the RTLS system will be capable of being retained for the purposes of reporting for a minimum 30 days.
- 7.8.20.1(7) The RTLS equipment and asset location system will provide for asset utilisation, preventative maintenance and provide custom reports for such.
- 7.8.20.1(8) Provide the following quantities of active RTLS tags:
 - 7.8.20.1(8)(a) 300 Client tags;
 - 7.8.20.1(8)(b) 1000 staff tags, including panic/duress function;
 - 7.8.20.1(8)(c) 300 visitor tags, including panic/duress function; and
 - 7.8.20.1(8)(d) 200 equipment tags.
- 7.8.20.1(9) The Authority's existing 802.11 wireless network is designed to maximize use for voice and data (with emphasis on the staff to staff communication system). Project Co may use the Authority's wireless network for the RTLS system in the Facility, subject to the following conditions:
 - 7.8.20.1(9)(a) Project Co will not be permitted to add to, modify, reconfigure or tune the Authority's wireless network to facilitate use by the RTLS system; and
 - 7.8.20.1(9)(b) use of the wireless network by the RTLS system must not negatively impact the Authority's wireless network.
- 7.8.20.1(10) Provide a complete structured cabling infrastructure that will allow the installation of the complete RTLS network, including access points, exciters and/or ultrasonic receivers if applicable. Project Co will install telecommunication outlets and access points in consultation with the Authority.
- 7.8.20.1(11) Test all aspects of the RTLS network and provide heat maps for the Facility indicating the channel coverage, signal level, data rate and noise floor for the wireless network.

- 7.8.20.1(12) The RTLS system will provide 100% coverage throughout the Facility including elevator cabs, mechanical spaces, service areas, facility exterior, stairwells, parking lots and outdoor courtyards.

7.8.20.2 Quality Requirements

- 7.8.20.2(1) Provide an RTLS manufactured by a recognized industry leader in the RTLS business.
- 7.8.20.2(2) Tags must have a minimum of 12 months of battery life in a typical usage scenario.
- 7.8.20.2(3) Provide full calibration and recalibration of RTLS system for the Facility until the Authority approves the RTLS system.

7.8.20.3 Performance Criteria

- 7.8.20.3(1) The RTLS must provide the following functionality:
- 7.8.20.3(1)(a) tracking of Client, staff and equipment locations in all areas within the Facility to floor and room level;
 - 7.8.20.3(1)(b) all entry/exit locations to the Facility and each Department must have an RTLS array capable of determining direction of travel and be interfaced with the corresponding access control system such that a 'lock-down' of a door based on 'tag' credentials will be initiated automatically;
 - 7.8.20.3(1)(c) Client tags must be non-line of sight and must work when covered with bed sheets and shirt sleeves;
 - 7.8.20.3(1)(d) the RTLS system will provide absolute detection of tags within elevator cabs. Provide additional exciters in each elevator cab to ensure adequate accuracy;
 - 7.8.20.3(1)(e) alerting and reporting based on Client location, Client proximity to location, Client duration in location and Client proximity to other tagged items or persons;
 - 7.8.20.3(1)(f) each treatment/procedural area and Client room will be capable of associating a RTLS tagged medical device with a Client via the HIS when the device is brought to within 1.5m of an Client bed location;
 - 7.8.20.3(1)(g) each treatment/procedural area and Client room will be capable of associating a RTLS tagged staff member with a Client the HIS when the staff member is within 1.5m of an Client bed location;

- 7.8.20.3(1)(h) each treatment/procedural area and Client room will be capable of signalling to HIS that a RTLS tagged staff member is present within a treatment/procedural area or Client room;
- 7.8.20.3(1)(i) the RTLS will interface with the HIS and the nurse call system, and this interface will support the 'staff presence' functionality of the nurse call system and will provide automatic call acknowledgement when an RTLS tagged staff member is within 2 meters of the Client in treatment/procedural area or Client room;
- 7.8.20.3(1)(j) identifying equipment and asset location, Client location, staff location, and staff duress location within the Facility by floor, within a 3 m x 3 m or smaller area;
- 7.8.20.3(1)(k) reporting on tag and RTLS infrastructure health and availability;
- 7.8.20.3(1)(l) reporting on tag movement and tag location relative to other tag locations;
- 7.8.20.3(1)(m) reporting on tag button press and alerting based on button press;
- 7.8.20.3(1)(n) reporting on compliance to security rounds throughout the Facility and Site;
- 7.8.20.3(1)(o) tags must be submersible and cleanable within the Authority's infection control standards;
- 7.8.20.3(1)(p) tags must support configuration in "always on" mode;
- 7.8.20.3(1)(q) tags must be resistant to tampering and will immediately alarm if the tag is cut, damaged or modified or removed from from the Client or equipment without authorisation;
- 7.8.20.3(1)(r) tags must have a visual alerting option (LED or light on tag);
- 7.8.20.3(1)(s) tags must have multiple attachment options, including integration with Client wrist bands and staff ID badge lanyards; and
- 7.8.20.3(1)(t) integrate with HIS systems, using HIS system's interfacing to import/export Client information and location information; and

7.8.20.3(1)(u) integrate with the Client entertainment/education system for the purposes of displaying clinician information on the display based upon staff presence within a Client room.

7.8.20.3(2) Design the RTLS to include features that assist the Authority to achieve the highest possible tag recovery rate.

7.8.20.3(3) Design the RTLS to be Facility-wide including all buildings and courtyards with no 'Dead-Zones'.

7.8.20.3(4) Design and provide RTLS System that includes 25% growth after system commissioning has been completed.

7.8.20.3(5) Include 5% additional end-use devices, including controllers and exciters, to cover any difficult to reach areas.

7.8.21 Equipment and Asset Tracking

7.8.21.1 Basic Requirements

7.8.21.1(1) Provide an RTLS based equipment and asset tracking system, in accordance with Section 7.8.20 (Real Time Location System).

7.8.21.1(2) The equipment and asset tracking system will be capable of interfacing with a Computerised Maintenance Management System (CMMS), such as Maintenance Connection. The CMMS will be capable of interfacing with VFA Canada Corporations (VFA) capital asset facility assessment system as mandated by the Ministry of Health.

7.8.21.1(3) Provide a quantity of tags as outlined in section 7.8.20.1(8) Real Time Location System (RTLS).

7.8.21.2 Performance Criteria

7.8.21.2(1) The equipment and asset tracking system will be capable of locating and tracking a particular piece of equipment anywhere within the Facility and Site.

7.8.21.2(2) Project Co will consult with the Authority to ensure that departmental tracking/dashboard displays:

7.8.21.2(2)(a) are located as determined through the user consultation process as described in Appendix 2B [User Consultation and Design Review]; and

7.8.21.2(2)(b) are capable of displaying real-time location mapping of RTLS-tagged staff and equipment.

- 7.8.21.2(3) Project Co will provide a PC based application that will provide a presentation of equipment and assets by superimposing positional data on a Facility floor plan and providing asset tag based information.
- 7.8.21.2(4) Provide an RTLS based equipment and asset tracking system that:
- 7.8.21.2(4)(a) facilitates each treatment/procedural area and Client room to be capable of associating a RTLS tagged medical device with a Client via the HIS when the device is brought to within 1.5m of an Client bed location;
 - 7.8.21.2(4)(b) has the capacity to send an alarm signal if a particular piece of equipment or a Client pass through a door that leads to the exterior of the Facility;
 - 7.8.21.2(4)(c) provides alerting for RTLS tagged equipment and asset location based on:
 - (c).1 location within the Facility;
 - (c).2 movement within the Facility;
 - (c).3 quantity of devices or lack thereof within a given location/area in the Facility (for example a low number of wheelchairs or a large number of infusion pumps requiring cleaning);
 - (c).4 status of a tag (low battery, tag removal, tamper, failure); and
 - (c).5 activation of a tag push button.
 - 7.8.21.2(4)(d) upon the initiation of an alert the system will identify the location of the event and the particular piece of equipment;
 - 7.8.21.2(4)(e) includes, at all entry/exit locations to the Facility and at each Department, an RTLS array that is capable of determining direction of travel and will be interfaced with the corresponding access control system such that a 'lock-down' of a door based on 'tag' credentials will be initiated automatically;
 - 7.8.21.2(4)(f) annunciates on the Nurse Station; and
 - 7.8.21.2(4)(g) interfaces with the video surveillance system such that when RTLS-tagged equipment exits through a department or Main Building perimeter door, all local video surveillance cameras associated with the door are displayed at the Nurse Station and the Operations

Security Centre. Equipment and asset tracking tags will have a push button for request for service functionality.

- 7.8.21.2(5) Equipment and asset tracking tags will have a barcode label affixed for the purpose of interfacing the tag, and related equipment information, into the CMMS.

7.8.22 Client Tracking / Wandering

7.8.22.1 Basic Requirements

- 7.8.22.1(1) Provide an RTLS based Client tracking / wandering system, in accordance with Section 7.8.20 (Real Time Location System).
- 7.8.22.1(2) Clients may be provided with RTLS tags/bracelets, ID bands, badges or bracelets.
- 7.8.22.1(3) Provide a quantity of tags as outlined in Section 7.8.20.1(8) Real Time Location System (RTLS).

7.8.22.2 Performance Criteria

- 7.8.22.2(1) The Client tracking / wandering system will be capable of locating and tracking a Client anywhere within the Facility.
- 7.8.22.2(2) The system will incorporate latest encryption techniques to secure Client ID and location.
- 7.8.22.2(3) Project Co will coordinate with the Authority to ensure that departmental tracking/dashboard displays in Secure Client and Non-Secure Client areas of the Facility are capable of displaying real-time location mapping of RTLS-tagged staff.
- 7.8.22.2(4) Project Co will provide a PC based application that will provide a presentation of Client locations by superimposing positional data on a Facility floor plan and Site map and providing Client tag based information.
- 7.8.22.2(5) Provide an RTLS based Client tracking / wandering system that:
 - 7.8.22.2(5)(a) performs alerting and reporting based on Client location, Client proximity to location, Client duration in location and Client proximity to other tagged items or persons;
 - 7.8.22.2(5)(b) provides association of an RTLS tagged medical device with a tagged Client via the HIS when the device is brought to within 1.5m of an Client bed location;

- 7.8.22.2(5)(c) has the capacity to send an alarm signal if a particular piece of equipment or a Client pass through a door that leads to the exterior of the Facility;
 - 7.8.22.2(5)(d) provides alerting for RTLS tagged Clients based on:
 - (d).1 location within the Facility;
 - (d).2 movement within the Facility; and
 - (d).3 status of a tag (low battery, tag removal, tamper, failure); and
 - 7.8.22.2(5)(e) upon the initiation of an alert the system will identify the location of the event and the particular Client and annunciate on the local clinical department and protection services workstation and status boards.
- 7.8.22.2(6) Each department utilizing the Client tracking system will be provided with a wireless Client tracking tag test device that audibly and visually indicates on a pass / fail basis the functionality and battery life of the Client tracking tag. The testing device will be a closed loop device/station that allows for full functional testing without activating the Facility's Client tracking alarm system and will provide audit function as required.
- 7.8.22.2(7) At all entry/exit locations to the Facility and at each Department, provide an RTLS array that is capable of determining direction of travel and proximity to a secure door. This functionality will be interfaced with the corresponding access control system such that a 'lock-down' of a door will be initiated automatically.
- 7.8.22.2(8) The Client tracking / wandering system will interface with the video surveillance system such that when an RTLS-tagged Client exits through a Department or Facility perimeter door, all local video surveillance cameras associated with the door are displayed at the local security services workstation, the Operations Security Centre, and a local audible/visual alarm is activated at the point of exit. The event will also be transmitted to the staff communication system.
- 7.8.22.2(9) The Client tracking / wandering system will interface with all elevators such that these elevators will not operate when an unaccompanied tagged Client is present in the elevator cab. The elevator inhibit feature will not operate when the Client is accompanied by an authorised companion or staff tag.
- 7.8.22.2(10) Client tracking / wandering system tags will have a barcode label affixed for the purpose of positive Client identification and integration to the Authority's clinical systems.

7.8.23.1 Basic Requirements

- 7.8.23.1(1) The Client entertainment system will provide Client, visitor, and staff television and pay per view content. The system will be administered after Service Commencement by a third party provider under the direction of the Authority. It is anticipated that Hospitality Networks will be the third party provider.
- 7.8.23.1(2) Project Co will be responsible for providing the infrastructure, including power, cabling (1 Coax + 2 CAT6), amplifiers, splitters, and wall supports required to supply a fully operational system as specified in this document.
- 7.8.23.1(3) Project Co will be responsible for design and provision of the complete infrastructure, system, and interfaces necessary to support the system. Project Co will direct and procure services from the third party provider to supply a complete Client entertainment system other than associated equipment as categorized in Appendix 2D [Equipment and Furniture].
- 7.8.23.1(4) The Authority will procure and deliver the IP TV's and wall mount brackets for the TVs to Project Co. See Appendix 2D [Equipment and Furniture] for equipment categorization.
- 7.8.23.1(5) The Client entertainment system will consist of internet protocol based display units (Television). Refer to the Appendix 2D [Equipment and Furniture] for information regarding televisions.
- 7.8.23.1(6) The Client entertainment and education system will both utilize the same display and audio. User controls for these systems will not necessarily be the same.
- 7.8.23.1(7) The Client entertainment system will operate over physical networks other than the Authority's network.
- 7.8.23.1(8) Project Co will be responsible for the complete system design and installation including off-site connections, entrance services, demarcation and distribution.
- 7.8.23.1(9) The Client entertainment system in a smart hospital environment is a hub for interfacing technologies and systems. Incorporate in the planning, design and installation the multiple virtual and physical interfaces, and pathways that are required to support an integrated Client centric system. Physical pathways, interconnections, and interfacing are also required to support control of the Client entertainment/education system from the smart bed, and transmission of audio signals to the smart bed speakers.

7.8.23.1(10) Client entertainment outlets will be installed at:

7.8.23.1(10)(a) each Client bed location, Client care area, and each Client use area in all Client use and Client care areas/rooms/units of the Facility including: private Client room-medical; and

7.8.23.1(10)(b) each care team station, care hub, nurse station, staff lounge, waiting room, main entrance/lobby area (3 outlets), canteen (two outlets), and Emergency Operations Centre (three outlets).

7.8.23.1(11) At Client entertainment locations other than Client bed location Authority staff will control the channels/programming via remote control and will be able to change program channels or television inputs for access to Client entertainment programming.

7.8.23.1(12) At Client bed locations Clients will control content including channels, programming, volume via pillow speakers connected to the nurse call system.

7.8.23.1(13) At each Client location in all clinical areas, provide a Client entertainment outlet capable of receiving television programming, Client education resources, clinical applications and internet access.

7.8.23.2 Quality Requirements

7.8.23.2(1) The Client entertainment system will be manufactured by an industry leader and all components will be of that manufacturer.

7.8.23.3 Performance Criteria

7.8.23.3(1) A Client entertainment outlet consists of a quad-plex receptacle, one data outlet, and one coaxial cable. A Client entertainment outlet will serve a Client entertainment display, a Client education display, or a combined Client entertainment/education display. All cabling will be connected in the closest TR.

7.8.23.3(2) At each Client entertainment outlet location provide sufficient structural support and backing for a 55" display (TV) unit.

7.8.23.3(3) Arrange for the installation and connection of TV service including the complete backbone, horizontal and distribution connections throughout the Facility.

7.8.23.3(4) Include 5 additional Client entertainment system data drops for areas missed.

7.8.24 Client Education System

7.8.24.1 Basic Requirements

- 7.8.24.1(1) The Authority intends to provide the application services, programs and electronic educational material that will be displayed via the Authority's network on televisions, Client entertainment displays, video conferencing equipment, tracking dashboards, and personal computers.
- 7.8.24.1(2) Project Co will provide a content management system as described in this section, including all integration as required.
- 7.8.24.1(3) Project Co will be responsible for design and provision of the complete infrastructure, system and interfaces necessary to support the education system.
- 7.8.24.1(4) The Client entertainment and education system will both utilize the same display, audio and control features.
- 7.8.24.1(5) The Client education system will include a full IP based content management system that will be capable of sending and streaming Authority based information across the entire Facility via the IMIT systems.

7.8.24.2 Performance Criteria

- 7.8.24.2(1) At Client education locations other than Client bed locations, Authority staff will control the channels/programming via remote control and will be able to change program channels or television inputs for access to Client education programming.
- 7.8.24.2(2) At Client bed locations Clients will control content and volume via pillow speakers connected to the nurse call system.
- 7.8.24.2(3) Content management system will be integrated with the Client entertainment system so Authority content will be available at the point of Client care.
- 7.8.24.2(4) Content management system will be fully integrated with the Integration Engine for mass notification purposes.
- 7.8.24.2(5) The content management system will be used to control key information on digital displays and information boards throughout the Facility including the Client entertainment system.
- 7.8.24.2(6) These information boards will be used to present Client group schedules, staff information (events, training), tip of the day, safety topics.

- 7.8.24.2(7) Displays will be located in designated areas such as waiting rooms, the cafeteria and other public spaces so that staff and clients Can be informed of Facility information and upcoming events.
- 7.8.24.2(8) The Content management system will also support the Client education system by providing access to educational programming for Client and family audiences.
- 7.8.24.2(9) Alerts from codes or security breaches may be shown provided they are subtle and confidential (i.e. border colour change used to indicate an alert/alarm such as missing Client).
- 7.8.24.2(10) Information relevant to the Non-Secure Client and Secure Client programs will be controlled independently by the respective program and display their information separately within their respective spaces.
- 7.8.24.2(11) The content management system will include all software, hardware (servers and storage) and licensing so as to provide a complete, operational content management system.
- 7.8.24.2(12) Design the content management system to include 25% growth after system commissioning has been completed.

7.8.25 Nurse Call Systems

7.8.25.1 Basic Requirements

- 7.8.25.1(1) The nurse call system will utilize the latest proven technology used in facilities similar to the Facility.
- 7.8.25.1(2) The nurse call system in a smart hospital environment is a hub for interfacing technologies and systems. Incorporate in the planning, design and installation the multiple virtual and physical interfaces, and pathways that are required to support an integrated Client centric system. Pathways, interconnections, and interfacing are also required to control of the Client entertainment/education system from the smart bed (where applicable).
- 7.8.25.1(3) Prior to designing and installing the nurse call system and as required by the Authority, identify the technical capabilities of the nurse call system, hardware interface and integration requirements, system layout, and functionality in consultation with the Authority and the Authority's clinical staff.
- 7.8.25.1(4) Installation of the nurse call system will be to the satisfaction of the Authority including programming, configuration, interfacing, testing and commissioning of the system.

- 7.8.25.1(5) Train Authority staff on the nurse call system, training schedule to be determined in consultation with the Authority.
- 7.8.25.1(6) Provide a full feature audio and visual nurse call system with full duplex communications in any and all Client use and Client care areas/rooms/units of the Facility including: private Client room – medical and other locations for code white/panic alarm function.
- 7.8.25.1(7) The nurse call system will be:
 - 7.8.25.1(7)(a) the primary communication device for Clients to contact staff in each clinical use and Client care area; and
 - 7.8.25.1(7)(b) the primary communication device for Authority staff to alert other staff that they need assistance in a clinical use or Client care area.

7.8.25.2 Quality Requirements

- 7.8.25.2(1) Comply with all applicable standards, including UL1069, CSA C22.2 and CSA Z32-09.

7.8.25.3 Performance Criteria

- 7.8.25.3(1) In consultation with the Authority, Interface and Integrate the nurse call system with other systems.
- 7.8.25.3(2) Interface the nurse call system with other systems in a seamless manner to achieve the integrated functional requirements as determined in consultation with the Authority.
- 7.8.25.3(3) The nurse call system will fully interface with the HIS to enable bi-directional communications and transfer of all required data.
- 7.8.25.3(4) Integrate the nurse call system with the network and provide sufficient audio channels, in consultation with the Authority, for the requirements of the Facility.
- 7.8.25.3(5) Interface the nurse call system with the RTLS and the HIS such that the system is capable of signalling the presence of an individual staff member in a particular room via the dome light, staff console, or status board. Interface the RTLS to the nurse call system to enable automatic nurse call cancellation based on the staff presence within or entering a room.
- 7.8.25.3(6) The nurse call system will provide a full range of software applications as offered by the nurse call vendor's most current systems intended for use in large mental health facilities. The applications will include system administration and supervision,

staff assignment and messaging, staff tracking and presence, workload and workflow management and statistical reporting.

- 7.8.25.3(7) The nurse call system will have the capability to allow the HIS to report from the nurse call system and pull data from the nurse call system for the purposes of reporting and analytics for items such as workflow optimization. All data points within the nurse call system will be available for the HIS access.
- 7.8.25.3(8) All data points within the nurse call system will be capable of being retained for the purposes of reporting for a minimum 30 days.
- 7.8.25.3(9) Provide network separation of the nurse call system as per Section 7.8.6.1(2). Provide all network equipment for the nurse call system and integrate this network, in consultation with the Authority, with other Facility networks.
- 7.8.25.3(10) Utilize standard Category 6 (or greater based on standard in place at the time of procurement) cabling and connectors for nurse call cabling as applicable.
- 7.8.25.3(11) Install nurse call terminal cabinets in telecommunication rooms as reviewed by the Authority. All nurse call network horizontal runs to telecommunications rooms (TR) will be terminated in accordance with Appendix 3F(i) [Structured Telecommunications Cabling Systems].
- 7.8.25.3(12) The nurse call system will annunciate on the wireless staff communication system (staff communication device, wireless phone devices, PDA's or phones) for near instant alarm response as a secondary alerting system. The nurse call system will operate seamlessly with the wireless staff communication devices and allow two-way VoIP communication into all Client locations.
- 7.8.25.3(13) The nurse call system will utilize VoIP communications between all major components including staff consoles, Client stations, staff stations and all telephones and staff communication devices.
- 7.8.25.3(14) At a minimum, provide a staff console in each clinical nursing area including care team stations, care hubs, nurse stations, reception, and administrative.
- 7.8.25.3(15) Staff consoles will be colour, touch screen, user configurable, allow multiple screens, soft key enabled and hands-free full duplex capability with handset for private conversations.

- 7.8.25.3(16) Staff consoles will have the capability to redirect all calls to other staff consoles on a manual, automatically scheduled basis, call escalation, or console failure.
- 7.8.25.3(17) Client stations will be installed at each Client bed location, Client care area, and each Client use area as identified in Section 7.8.25.1(6)
- 7.8.25.3(18) In each private Client room-medical provide the following:
 - 7.8.25.3(18)(a) one Client station for each bed location; and
 - 7.8.25.3(18)(b) one bath station with audio and call button capability.
- 7.8.25.3(19) Client stations will be individually programmable to allow multiple call classification and priority levels. Client stations will be capable of connecting two alarm inputs. Provide the ability to disable any nurse call system input from any staff console.
- 7.8.25.3(20) Client stations located in psychiatric areas will have a suitable physical barrier or enclosure that enables staff to prohibit access to the Client station by a Client.
- 7.8.25.3(21) Where smart beds are planned the nurse call Client station will fully interface with the full range of smart bed call and audio functions.
- 7.8.25.3(22) The nurse call system will provide an interface such that the audio from the Client entertainment/education system will be connected and audible through the smart bed speakers.
- 7.8.25.3(23) The nurse call system will also provide an interface such that any smart bed is capable of controlling Client lighting at bed head side, and up/down control of the Client room electric blind.
- 7.8.25.3(24) The nurse call system will not have any cords included as part of the solution; only buttons will be acceptable.
- 7.8.25.3(25) Provide multi-call classification dome light (minimum 4 LEDs) to annunciate staff presence, or calls in all rooms with nurse call devices. Locate dome lights in a manner that allow Authority staff the best possible view from the outside of the room where the nurse call device is located. Provide zone lights at all corridor intersections to direct and lead staff from anywhere within or outside the unit to the origin of the call.
- 7.8.25.3(26) Provide a code blue system with code blue buttons at locations determined in consultation with the Authority including each area as identified in Section 7.8.25.1(6), all clinical use areas, Client care

areas, care team stations, care hubs, nurse stations, reception, administrative areas, Client therapy rooms, Client lounges, and private Client rooms. Provide a code blue system that is interfaced with the following systems: access control, Authority network, staff communication system, radio system, elevator controls, public address system.

- 7.8.25.3(27) Provide a code blue system that achieves the following sequence of operation:
- 7.8.25.3(27)(a) Upon a Code Blue button activation a priority call signal will be annunciated at the staff console, a pop-up message will also be displayed on all switchboard workstations that will indicate the precise origin of the code blue call.
 - 7.8.25.3(27)(b) Provide dome/zone lights at all corridor intersections elevator lobbies to direct and lead the code blue team from anywhere within or outside the unit to the origin of the code blue call.
 - 7.8.25.3(27)(c) A message will be automatically sent to all unit based staff communication and paging devices as directed and determined by the Authority.
 - 7.8.25.3(27)(d) Upon authentication of the code blue event by the unit clinical staff to the switchboard, a code blue signal will be manually initiated by the switchboard staff. The code blue signal will comprise a coded message on the public address system, and a text message which is sent to the code blue teams staff communication devices, and a pre-recorded message to be sent to the radio system.
 - 7.8.25.3(27)(e) Switchboard staff will also activate an elevator homing command by way of keyswitch at the switchboard location.
 - 7.8.25.3(27)(f) Switchboard will also activate a pushbutton which confirms to the access control system that the code blue event is genuine. The access control system determines the origin of the code blue call from the nurse call system. The access control system provides the code blue response team with an unrestricted route to the origin of the code blue call.
 - 7.8.25.3(27)(g) Each code blue team member will have the ability to recall any elevator from any elevator lobby by means of an elevator recall keyswitch. The code blue team will
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assume control of the elevator by means of a code blue keyswitch located inside each elevator cab.

7.8.25.3(27)(h) Upon cancellation of the code blue call at the Client station all systems will reset and resume normal operation.

7.8.25.3(28) Provide code white system as part of the nurse call system with code white buttons at locations determined in consultation with the Authority including: each area as identified in Section 7.8.25, all clinical use areas, Client care areas, care team stations, care hubs, nurse stations, reception, administrative, Client therapy rooms, Client lounges and private Client rooms. Provide a code white system that is interfaced with the following systems: access control, Authority network, staff communication system, radio system, elevator controls, public address system.

7.8.25.3(29) Provide adequate staff/duty stations for each nurse call system to ensure that tones are heard throughout each department. Provide the capability to mute at each staff/duty station.

7.8.25.3(30) Provide all end use devices for 5 additional Client rooms and 1 additional Nurse Station, including:

7.8.25.3(30)(a) Client stations;

7.8.25.3(30)(b) washroom stations;

7.8.25.3(30)(c) dome lights;

7.8.25.3(30)(d) staff stations;

7.8.25.3(30)(e) duty station.

7.8.25.3(31) Provide 1 additional station gateway and power switch.

7.8.26 Integration Engine

7.8.26.1 Provide an integration engine and framework that will be capable of sending and receiving critical data and information between all intelligent systems in the Facility and connecting via the WAN (the “**Integration Engine**”).

7.8.26.2 Project Co will provide training and support on the Integration Engine to the Authority staff.

7.8.26.3 Design the Integration Engine to meet or exceed the following requirements:

- 7.8.26.3(1) The Integration Engine will send notifications to all Facility communications systems for mass notification purposes with minimal delay in transmission.
- 7.8.26.3(2) Transmission of data will be secure, timely, redundant and will support the workflow efficiencies, Client information security and clinical information quality.
- 7.8.26.3(3) The Integration Engine will be built on a single common platform using existing industry standards and best practices and will communicate across the common data infrastructure.
- 7.8.26.3(4) All systems included in the Facility will integrate with other IMIT systems, including the Authority's systems, via the Integration Engine, as set out in Appendix 3D(viii) [IMIT Systems Integration Matrix].
- 7.8.26.3(5) The Integration Engine will provide communication and data transmission between the various HIS, IP based clinical, non-clinical and building systems and IP and non-IP based communication systems.
- 7.8.26.3(6) No single point of failure will interrupt the transmission of data and information throughout the Facility.
- 7.8.26.3(7) The Integration Engine will have full redundancy, fail-over, backups and downtime procedures in the event of an interruption in functionality.
- 7.8.26.3(8) The Integration Engine will be highly available, scalable and flexible including built-in 25% expandability in processing power and storage.
- 7.8.26.3(9) All hardware, software, licensing and professional services will be included to supply a fully operational Integration Engine upon Service Commencement.
- 7.8.26.3(10) Interfaces:
 - 7.8.26.3(10)(a) HL7. Health Level Seven (HL7) is an international standards development organization that has set several standards for clinical system to system messaging. Foreign systems looking to contribute or receive information from the eHR will utilize an HL7 V 2.4 (or the most recent version available) interface to do so.

7.8.26.3(11) The Integration Engine will act as the main messaging broker for all IMIT systems.

7.9 Electronic Safety and Security (Division 28)

7.9.1 General

7.9.1.1 Project Co will:

7.9.1.1(1) utilize CPTED (Crime Prevention Through Environmental Design) principles along with workplace safety and security considerations;

7.9.1.1(2) minimize the visibility of security devices in Client care areas to reinforce the therapeutic nature and residential qualities of treatment spaces. In interior and exterior public spaces such as lobbies, reception and waiting areas, rest areas, access and egress points, security devices may be visible. Design the Facility and all outdoor areas with Facility Users' safety and security in mind; and

7.9.1.1(3) ensure a safe environment for Facility Users by proper utilization of electronic access control, duress, video monitoring and intrusion detection systems.

7.9.1.2 All capabilities and functionalities specified in the Operations Security Centre will also be made available in other locations as specified in section 5.17.

7.9.1.3 Refer to Section 7.8.4 regarding categorization of IMIT systems and equipment. Refer also to the summary included in Appendix 3D(vii) [IMIT Systems Responsibility Matrix].

7.9.2 Fire Alarm System

7.9.2.1 Basic Requirements

7.9.2.1(1) Design and install the fire alarm system to meet the latest applicable versions of the following standards:

7.9.2.1(1)(a) NBCC

7.9.2.1(1)(b) CAN/ULC S524-06, Installation of Fire Alarm Systems

7.9.2.1(1)(c) CAN/ULC S525, Audible Signal Devices

7.9.2.1(1)(d) CAN/ULC S526, Visual Signal Devices

7.9.2.1(1)(e) CAN/ULC S528, Manual Stations for Fire Alarm Systems including accessories

- 7.9.2.1(1)(f) CAN/ULC S529, Smoke Detectors
 - 7.9.2.1(1)(g) CAN/ULC S536-04, Inspection and Testing of Fire Alarm Systems, and
 - 7.9.2.1(1)(h) CAN/ULC S537-04, Verification of Fire Alarm Systems.
- 7.9.2.1(2) Provide a fire alarm system for the Facility, including coverage of all buildings, for fire detection and signalling of alarms, trouble, and supervisory conditions while maintaining secure conditions for all Facility Users.
 - 7.9.2.1(3) Coordinate device types and locations to provide maximum coverage while minimizing opportunity for Facility User Excessive Damage.
 - 7.9.2.1(4) Ensure fire alarm system is of a type that failed devices will be rapidly replaced and programmed by building operations and do not require on site presence of a manufacturer's representative.
 - 7.9.2.1(5) Provide a complete two-stage, supervised, 24 VDC fire detection and alarm system that includes addressable, intelligent, automatic and manual initiation devices and audio/visual alarm devices with voice evacuation capabilities. Strategically zone the system devices by area and type of device for colour graphical menuing. Ensure alarm activation will be initiated by manual pull stations, smoke / heat detection and fire sprinkler water flow devices. Provide alarm indication consisting of visual and combination visual/audible devices.
 - 7.9.2.1(6) Design of the fire alarm system will include locating components in such a way that maintenance and testing will be performed with minimal interruption to the Client areas and to mitigate disruption to operations.
- 7.9.2.2 Performance Criteria
- 7.9.2.2(1) Install all fire alarm wiring in conduit. Provide fire rated cable where required by the National Building Code of Canada.
 - 7.9.2.2(2) Provide addressable smoke detectors of self correcting type to maintain consistent sensitivity.
 - 7.9.2.2(3) Incorporate all Facility addressable fire alarm devices, fire alarms and fire troubles on the Authority's network computers. Ensure that the Facility's fire alarm panel devices and internal trouble condition details print out on the Authority's network printers.

- 7.9.2.2(4) Provide two-stage manual pull stations at all exit doors and entrances to exit stairs as required.
- 7.9.2.2(5) Provide visual notification devices at all corridors, public spaces, staff and Client toilets and common use spaces.
- 7.9.2.2(6) Provide fire alarm speakers throughout the Facility. Speaker system will be available to announce alarm conditions and for use as emergency public address announcements. Provide a telephone interface to the fire alarm voice paging system from the main switchboard for general public address over the fire alarm speaker system. Pre-programmed messages will be transmitted over the public address system to annunciate origin of alarm. Any program sources on the public address system will be muted while alarm and emergency voice messages are transmitted.
- 7.9.2.2(7) Use combination audible alarm and visual notification devices where applicable.
- 7.9.2.2(8) Include control devices and connection to close fire and smoke doors on activation of alarm condition.
- 7.9.2.2(9) Incorporate smoke control systems with control fans and dampers.
- 7.9.2.2(10) Provide a class A addressable loop for all detection circuits. Provide isolation modules at each penetration of a fire wall within the fire alarm zone.
- 7.9.2.2(11) Fully integrate the fire alarm system with the sprinkler system, BMS, HVAC system, elevator controls, access control system, nurse call, and emergency generator plant. Provide a Graphic Command Centre (GCC) in the security centre with a duplicate on-line backup located as directed by the Authority. The GCCs will display fire alarm status and event. It will include integrated software to display and operate a fire alarm control panel, fire alarm colour graphics annunciator menuing, the building management system (BMS) for fan control, and an elevator status/control panel. The fire alarm annunciator will include alphanumeric display and graphic representation of the Facility including all zones.
- 7.9.2.2(12) Integrate the fire alarm system with the radio system to automatically broadcast voice messages to all security services radios. The voice message will relay the specific alarm message produced by the addressable fire alarm system. Provide all middleware and converters required to interface the radio system with the fire alarm system.

- 7.9.2.2(13) Include exterior speaker broadcast system to provide emergency broadcast coverage for all areas accessible to Facility Users other than when in a vehicle. Include zoning for all call and all other areas determined by the Authority based on the design of the Facility. The system will automatically broadcast messages with specific alarm messages. Provide all middleware and converters to interface the exterior speaker system with the fire alarm system.
- 7.9.2.2(14) Provide a graphic annunciator complete with:
- 7.9.2.2(14)(a) LCD display at the main reception area for the Facility, as required and approved by the local fire department; and
 - 7.9.2.2(14)(b) an LED matrix and vellum floorplan overlays to provide for simple future revisions to floorplans.
- 7.9.2.2(15) Provide LED type indicators for remote indication that a heat and/or smoke detector has been activated in a lockable room (located outside room adjacent to door), in an elevator shaft (located at elevator lobby ceiling) or duct sensors that are not readily visible (located on ceiling or at visible location nearest to sensor installation).
- 7.9.2.2(16) In consultation with the Authority, provide remote annunciators at key locations throughout the Facility. At a minimum, these will include nurse stations, maintenance workshops, Energy Centre and entries to all buildings for firefighter's use.
- 7.9.2.2(17) Ensure the GCCs will provide multi-level password hierarchy software accesses, high colour resolution, will display a graphical representation of the Facility and will indicate the general origin of the fire alarm, trouble, supervisory condition or system event. Supplemental 'drill-down' detailed maps of each building and fire compartment will allow staff to identify the exact location.
- 7.9.2.2(18) Design remote fire alarm panels (or control units) to operate in a stand-alone mode and transmit data using a multiplex data line connecting the entire Facility via a full complement of communication cable. Provide the fire alarm cable network with a redundant backbone taking different physical paths to enhance reliability of communication. A trouble status will annunciate at the main fire alarm panel if a partial break or fault occurs in the data link between any control panel and the main fire alarm panel. Locate the main fire control panel in the Facility's main electrical room.

- 7.9.2.2(19) Provide a fireman's handset from the fire alarm system to a location of the Authority's choosing, such that the fire alarm voice paging system is capable of performing as a public address system.
 - 7.9.2.2(20) Coordinate with the Authority to establish a secure backup of the fire alarm system event log.
 - 7.9.2.2(21) Provide a fully functional supervisory fire alarm computer workstation in maintenance department.
 - 7.9.2.2(22) Provide a printer with each fire alarm workstation to generate a hard copy of the system's event log.
 - 7.9.2.2(23) Provide gel electrolyte type batteries with overcharge protection for FACP and all transponders. Provide solid state battery charger(s) with capacity to recharge entire battery system in 4 hours. Ensure batteries will have enough capacity (with 25 percent spare time) to operate entire system (except magnetic door holders) in accordance with the National Building Code of Canada.
 - 7.9.2.2(24) Include transmission of alarm signal to remote emergency response centre as approved by the Authority.
- 7.9.2.3 Operational requirements:
- 7.9.2.3(1) Design the fire alarm system to incorporate the following operations to provide a safe environment for all Facility Users:
 - 7.9.2.3(1)(a) Stage 1:
 - (a).1 Silent stage 1 alarm throughout Facility.
 - (a).2 Audible signal at OSC, BOSC and Nurse Stations.
 - (a).3 Zone alarm on fire alarm graphic displays.
 - (a).4 The OSC will be able to cancel the alarm if investigation reveals false alarm within five minutes.
 - (a).5 Authorized third party (external) agency contracted by the Authority for monitoring of the fire alarm system.
 - 7.9.2.3(1)(b) Stage 2:
 - (b).1 A Stage 2 alarm may be initiated by any of the following:
 - (b).1.1 If first stage alarm has not been acknowledged after 5 minutes.
 - (b).1.2 Inserting a key in a key switch at a manual pull station.

- (b).1.3 Inserting a key in a key switch in a staff workstation.
- (b).1.4 Initiated from OSC or BOSC.
- (b).2 For stage 2 alarm, speakers will sound in a temporal pattern at 120 strokes per minute in the alarm zone.
- (b).3 Speakers will sound at 20 strokes per minute in all other zones.
- (b).4 If the alarm zone is in a Client wing, trigger an automatic 'Fire Unlock' of all Client room doors in the Client wing. All exit doors will remain locked.
- (b).5 If the alarm zone is in visiting area, trigger an automatic lock release of all secure visiting booth doors. All exit doors will remain locked.

7.9.2.3(2) Ensure smoke and heat detectors are individually field programmable and include multiple elements for earliest detection, and are individually adjustable for ambient environmental conditions. As smoke detectors are not permitted in the Client accessible areas, Project Co will be responsible for obtaining all necessary Code variances and equivalencies to delete smoke detectors from Client areas. Strategically locate smoke detection in non-Client areas such that maintenance and testing will be performed with minimal interruption to the Client areas.

7.9.2.3(3) Design the fire alarm system to monitor:

- 7.9.2.3(3)(a) solenoid valve positions of sprinkler system zones;
- 7.9.2.3(3)(b) all generators for run and trouble alarms; and
- 7.9.2.3(3)(c) any pre-action or dry agent fire suppression systems for trouble and alarms.

7.9.2.3(4) Synchronize the fire alarm system clock with the security systems and the synchronized clock system.

7.9.2.4 Integration

7.9.2.4(1) Ensure the fire alarm system may be monitored by the Authority's approved third party monitoring agency.

7.9.3 Electronic Security Systems

7.9.3.1 General

- 7.9.3.1(1) Design, provide and install a security system to meet the Authority's security programs within a healthcare and correctional facility environment.
- 7.9.3.1(2) Refer to security levels 1, 2, 3, and 4 outlined in Appendix 3A [Clinical Specifications].
- 7.9.3.1(3) Provide fully networked integrated security systems to protect Facility Users and property. As part of this security management program, at a minimum, provide: a video surveillance system to view and record events; an access control system to restrict access to secure areas to authorized personnel only and to support the safe operation of psychiatric facilities; and an intrusion alarm detection systems to detect and report unauthorized entry into protected spaces.
- 7.9.3.1(4) Develop the security design based on the Facility Threat and Risk Assessment.
- 7.9.3.1(5) Project Co will be responsible for the initial programming of proximity cards. Project Co will locate all security devices and provide monitoring and alarm annunciation requirements to the satisfaction of the Authority.
- 7.9.3.1(6) The Authority's security staff will monitor the security system from the Operations Security Centre. Project Co will be responsible for providing new monitors, PCs, hardware and software infrastructure and all electrical requirements.
- 7.9.3.1(7) Design all electronic security systems to reside on a dedicated security systems VLAN as part of the Authority's information technology infrastructure connected via the structured cabling system and network devices to allow the Authority the opportunity to review events and monitor the status of security systems from off-Site locations. The system will be fully accessible through the Authority's network.
- 7.9.3.1(8) Ensure electronic security systems are scalable to allow for future additions and interconnections of many devices and subsystems from different manufacturers.
- 7.9.3.1(9) Incorporate commercial off-the-shelf equipment and proven designs from manufacturers regularly engaged in the production of models and types of equipment used in the security industry. Ensure products are quality control tested and verified for the intended operation prior to installation in the Facility.

- 7.9.3.1(10) Ensure all materials, including hardware and software provided are fully compatible with the Authority's head-end systems and are new and the most current version or production model.
- 7.9.3.1(11) Ensure electronic security systems will maintain dependability and reliability under all operational environmental conditions, capable of 24 hours per day, seven days per week continuous operation.
- 7.9.3.1(12) Interconnect security systems to the fire alarm system and other systems as required by applicable codes and standards.
- 7.9.3.1(13) Arrange meetings with the Authority to develop the system design, interconnections and programming requirements to integrate with the Authority's security systems.
- 7.9.3.1(14) Train Authority staff on the use and operation of security systems and location of all security devices. Consult and schedule training with the Authority.
- 7.9.3.1(15) Ensure security systems infrastructure comply with the manufacturer's technical specifications and configuration requirements.
- 7.9.3.1(16) All electronic security systems will meet all Authority privacy standards pertaining to storage and operation of devices. Provide all necessary documentation and completed privacy impact assessment required to meet Authority privacy/confidentiality standards.
- 7.9.3.1(17) Provide intercom stations at the entrance of parking and loading docks.
- 7.9.3.1(18) Ensure that all areas of parking including stairwells are capable of being viewed with PTZ and fixed video surveillance in accordance with Section 7.9.7.2(7)(c). Coverage will be to a level that will allow facial identification.

7.9.4 Access Control

7.9.4.1 Basic Requirements

- 7.9.4.1(1) The Authority intends to maintain and manage a central access control head-end server and database for administration and programming of card access. This head-end system also provides administration of access control systems at various healthcare facilities under the Authority's jurisdiction throughout the region.

- 7.9.4.1(2) Provide an access control system that is an extension of the Authority's existing system. The access control system is to fully integrate with the existing S2 Enterprise Security System and utilize the existing database of users, groups and schedules. Integration will be such that any change to one system will effect and cause the same change on the other system with no additional input or action.
- 7.9.4.1(3) Provide a card access system and all required components for card reader identification, confirmation of access level and request for authentication functionality for controlled door operation.
- 7.9.4.1(4) The access control system will lock and unlock doors via time schedule and card readers utilizing proximity field effect technology to grant or restrict access to staff via a programmable classification system with sufficient capacity to handle at minimum employees down to the field panel level, and operate over a standard TCP / IP Ethernet network.
- 7.9.4.1(5) Refer to Appendix 3D(v) [Door Operation Matrix] for a schedule of doors required by the Authority, at a minimum, to be equipped with card access control.
- 7.9.4.1(6) Provide staff access through the ESS to the relevant card access system transaction to facilitate movement of staff, Secure Clients and Non-secure Clients throughout secure and non-secure program areas.
- 7.9.4.1(7) Equip all doors that require card access control with:
- 7.9.4.1(7)(a) door position contacts/monitors,
 - 7.9.4.1(7)(b) request to exit sensors, hardware, or pushbuttons,
 - 7.9.4.1(7)(c) electric strikes or magnetic locks,
 - 7.9.4.1(7)(d) proximity card readers,
 - 7.9.4.1(7)(e) interface relays,
 - 7.9.4.1(7)(f) power supplies, and
 - 7.9.4.1(7)(g) manual key backup.
- 7.9.4.1(8) Locking systems will be FAIL SECURE for the Secure Client side of the Facility and FAIL SAFE for the Non- Secure Client side of the Facility as a preference, or as required by code. Integrate the access control and monitoring system with the alarm interface unit

and event recorder to provide graphic display of door position status and operating interface for central locking/unlocking of doors.

- 7.9.4.1(9) Design the access control system to permit full control functionality from off-site and on-site workstations.
 - 7.9.4.1(10) Integrate the access control system with the video surveillance system such that when an alarm is initiated at an access controlled door all local video surveillance cameras associated with the door are displayed at the Operations Security Centre.
 - 7.9.4.1(11) In the security monitoring and control system, includes a touch-screen control station, system server, maintenance laptop and computer and printers. Provide programmable logic controller system hardware, software, and equipment cabinetry. Ensure systems include the following:
 - 7.9.4.1(11)(a) touch screen control stations including:
 - (a).1 touch-screen 32 inch LCD monitor;
 - (a).2 personal computer;
 - (a).3 UPS system; and
 - (a).4 Microsoft XP Professional operating;
 - 7.9.4.1(11)(b) Industrial grade programmable logic controllers including:
 - (b).1 CPU;
 - (b).2 power supply;
 - (b).3 input/output cards;
 - (b).4 mounting racks;
 - (b).5 communication/network cable;
 - (b).6 manufacturer's standard software configured for this project;
 - (b).7 wiring interface modules and interposing relays;
 - (b).8 DIN rails and terminal blocks; and
 - (b).9 UPS system.
 - 7.9.4.1(12) The access control system will integrate with the Client wandering system to prevent unauthorized egress.
 - 7.9.4.1(13) Interface requirements between the access control system and other systems are described in this section and in other sections identified in 7.9.4.3 (Interface Requirements).
- 7.9.4.2 Performance Criteria
- 7.9.4.2(1) Refer to Appendix 3D(v) [Door Operation Matrix] for the high level description of functional intent for doors that require access control.

- 7.9.4.2(2) Provide all access controlled doors with keyed hardware, on both sides of the door as required, to override all access controls and allow passage through the door in either direction.
- 7.9.4.2(3) Ensure all mag lock controlled doors can be manually unsecured by means of a key switch which directly interrupts power to the doormag(s). Provide a key override on each side of the door(s).
- 7.9.4.2(4) Equip all doors from the stairwells leading into the Facility with proximity card access control.
- 7.9.4.2(5) Design all IPCRs to require simultaneous operation of a local pushbutton and proximity card to enter the room. A single card reader inside the room will enable egress. Provide each IPCR with a remote release toggle switch and door locked/unlocked indicators at the local nurse station. Clearly label all switches and indicators to indicate their function.
- 7.9.4.2(6) Locate all access control panels / field controllers in TRs and connect access control panels / field controllers to UPS power.
- 7.9.4.2(7) Design all access control panels to have either integral battery backup for 2 hour continual operation and be connected to vital power, or be connected to UPS power. For access controls and door hardware components required on secure doors in the Facility which do not fail secure, provided battery backup for 60 minutes and UPS power. Determination of these battery backed secure doors will be made by the Authority during the design phase.
- 7.9.4.2(8) For all remote power supplies serving access control components and door hardware, provide battery backup for 4 hour continual operation and connection to vital power.
- 7.9.4.2(9) For each access controlled door and its associated electrical door hardware components, including door strikes, door mags and hold open devices, provide individually fused, battery-backed circuits. Ensure that individual power supply units will not serve more than 8 doors, or more than 1 department, or multiple floors of the building, or an area greater than 2000m².
- 7.9.4.2(10) All doors will have their hardware keyed to provide fail-safe mechanical override of the access control.
- 7.9.4.2(11) Design card access system to utilize a file server and allow multiple workstations to access this file server for control and annunciation purposes. Annunciate all alarms locally at Operations Security Centre.

- 7.9.4.2(12) Project Co will provide a user interface at the Operations Security Centre and Nurse Stations that will provide the following functionality:
- 7.9.4.2(12)(a) presentation of access control system alarm locations superimposed on a facility floor plan,
 - 7.9.4.2(12)(b) ability to configure and control each door or monitored point,
 - 7.9.4.2(12)(c) alarm handling, and
 - 7.9.4.2(12)(d) real-time indication of door/device status.
- 7.9.4.2(13) Integrate the access control system with code white emergency response procedures to provide unrestricted access through designated code travel routes. Design the system so that crash carts located within two metres of a secure door, other than a Sally Port door, will cause the secure door to automatically open during a code event only when accompanied with a valid staff RTLS badge. Secure doors will then close and secure once the code team is two metres or more beyond the secure door. Sally Port doors will not automatically lock or unlock.
- 7.9.4.2(14) Provide each access controlled door with the capability to emit an audible tone/alarm signal to annunciate door held open and door forced open. Ensure this tone is adjustable in volume and has a programmable option allowing the tone to be silenced or removed for door functionality as required on access or egress.
- 7.9.4.2(15) Design the access control system to function at the field controller level without connection to the PC Host or gateway. All field controllers will be connected by TCP/IP using the structured cabling.
- 7.9.4.2(16) Provide access control system capability to lock down departments or other areas in the event of an emergency or per an established schedule on a door by door basis or global command. Determine and program final access control system configuration in consultation with the Authority.
- 7.9.4.2(17) Design the access control system with dual technology (proximity and microchip) type readers and with the capability of reusing all existing cards presently used by the Authority. Ensure volume level of the tones emitted by the card reader is adjustable and suitable for quiet environments. Card readers must also have a silent operation capability.

- 7.9.4.2(18) Ensure the access control system is compatible with the Authority's existing systems to allow existing Authority cards to work on the access control system and allow new cards for the Facility to work on existing systems in the rest of the Authority's region. Provide base programming and coordination with the Authority.
- 7.9.4.2(19) Provide all necessary equipment, hardware, network infrastructure and programming as required to establish interconnectivity and seamless interface with the S2 Enterprise Security head-end equipment.
- 7.9.4.2(20) Provide 2000 blank HID Corporate iClass DH - Corporate 1000 35-bit proximity cards with smart technology for Authority staff. Consult with the Authority on card numbering sequence and format before ordering cards to ensure compatibility with existing cards and equipment.
- 7.9.4.2(21) Provide delayed egress operation and alarms at emergency exit doors; alarms to annunciate audibly locally and via the integrated access system. See Appendix 3D(v) [Door Operation Matrix].
- 7.9.4.2(22) Interconnect and interface all electronically controlled doors for remote "lock & unlock" capability through the access control system on a door-by-door or global command basis.
- 7.9.4.2(23) Provide clear signage indicating entry procedures. Consult with the Authority for appropriate and acceptable wording.
- 7.9.4.2(24) Ensure all security alarms are logged and archived. Design logging system to be capable of external archiving/backup in order to extend the event information storage duration.
- 7.9.4.2(25) Ensure access control system will provide canned reports and custom reporting capability as determined during consultation with the Authority.
- 7.9.4.2(26) Provide interconnection access to the applicable control and reporting platform to security workstations located in the security offices.
- 7.9.4.2(27) Provide a maintenance/administration workstation (MAW) PC complete with operating & application software, monitor, keyboard, mouse and interconnection to the security system. Locate MAW in PER data room, accessible to authorized personnel and Authority staff.
- 7.9.4.2(28) Determine, in consultation with the Authority and per Appendix 3D(v) [Door Operation Matrix], the location of access control doors

and door alarms within the Facility. Provide card readers, locking hardware, request-to-exit devices, door closers, door position/alarm contacts with all associated mechanical and electric hardware and field devices, including power supplies for a fully operational system.

- 7.9.4.2(29) In addition to Appendix 3D(v) [Door Operation Matrix] provide access control doors and door alarms for the following:
- 7.9.4.2(29)(a) Administration and cash offices;
 - 7.9.4.2(29)(b) Client unit main entrances;
 - 7.9.4.2(29)(c) medical records areas;
 - 7.9.4.2(29)(d) stairwells;
 - 7.9.4.2(29)(e) communication hubs;
 - 7.9.4.2(29)(f) staff / locker rooms, staff lounges, staff washrooms;
 - 7.9.4.2(29)(g) Emergency Operations Centre;
 - 7.9.4.2(29)(h) video conference rooms;
 - 7.9.4.2(29)(i) mechanical and electrical rooms;
 - 7.9.4.2(29)(j) computer rooms, PER, SER, TRs and equipment rooms;
 - 7.9.4.2(29)(k) perimeter entrances;
 - 7.9.4.2(29)(l) pharmacy, drug storage & medication rooms;
 - 7.9.4.2(29)(m) support spaces (, Stores, Logistics, Clean rooms/storage; etc);
 - 7.9.4.2(29)(n) building management rooms (boiler rooms, fan rooms, hazmat storage etc);
 - 7.9.4.2(29)(o) staff only corridors;
 - 7.9.4.2(29)(p) entrances to locker rooms;and staff lounges
 - 7.9.4.2(29)(q) all elevators (both hall call and inside the cab), with floor by floor control;
 - 7.9.4.2(29)(r) roof access;
 - 7.9.4.2(29)(s) stairwells;

7.9.4.2(29)(t) all IPCRs; and

7.9.4.2(29)(u) AV SaskTel Rooms.

7.9.4.2(30) Following consultation with the Authority, provide combination pin code/proximity card readers at all access and egress locations to and from all strictly controlled areas identified by the Authority, such as:

7.9.4.2(30)(a) Sally Ports;

7.9.4.2(30)(b) pharmacy;

7.9.4.2(30)(c) Operations Security Centre; and

7.9.4.2(30)(d) Backup Operations Security Centre.

7.9.4.2(31) Integrate combination pin code/proximity card readers into the Facility's access control platform (stand-alone, non-integrated pin pads are not acceptable).

7.9.4.2(32) Provide pan/tilt colour video intercom communications between the secure side of main entry doors and reception/care stations in departments and areas that are strictly controlled. Provide momentary remote pushbutton operation to release main entry doors when activated by staff or security staff. Integrate the video intercom system with the access control system as required.

7.9.4.2(33) All delayed-egress doors intended for emergency use only will be alarmed locally at the nurse's stations and collaboration desk, and at the protection services monitoring stations via the access control system. Design alarms to be silenced through use of a key switch that will be integral to the panic hardware.

7.9.4.2(34) Provide integration with the applicable control and reporting capabilities included with the security workstations located in the Operations Security Centre.

7.9.4.2(35) Provide an additional 25% of end user devices, controllers and licenses.

7.9.5 Staff Duress system

7.9.5.1 Basic Requirements

7.9.5.1(1) Provide a Real Time Location System ("RTLS") based staff duress system, in accordance with Section 7.8.20 (Real Time Location System).

- 7.9.5.1(2) Provide staff duress system tags with staff duress function as outlined in Section 7.8.20.
- 7.9.5.1(3) The staff duress system will provide 100% coverage throughout the Facility including elevator cabs, mechanical spaces, service areas, Facility exterior, stairwells, courtyards and parking lots.
- 7.9.5.2 Performance Criteria
- 7.9.5.2(1) Design the staff duress system to be capable of locating and tracking a staff member anywhere within the Facility.
- 7.9.5.2(2) Project Co will consult with the Authority to ensure that departmental tracking/dashboard displays in each Secure Client and Non-Secure Client area of the Facility are capable of displaying real-time location mapping of RTLS-tagged staff.
- 7.9.5.2(3) Project Co will provide a PC based application that will provide a presentation of staff locations by superimposing positional data on a Facility floor plan and providing staff tag based information.
- 7.9.5.2(4) Provide an RTLS based staff duress system that provides the following functionality:
- 7.9.5.2(4)(a) the system will be capable of identifying the staff duress tag location within the Facility by floor, within a 3 m x 3 m or smaller area;
 - 7.9.5.2(4)(b) the system will alert a duress system tag based on:
 - (b).1 operation of the staff duress pendant pushbutton; or
 - (b).2 status of a tag (low battery, pendant failure);
 - 7.9.5.2(4)(c) staff duress location tracking must update continuously when activated;
 - 7.9.5.2(4)(d) the system will interface and integrate with the nurse call system such that the system annunciates an alarm from either system in a similar fashion.
 - 7.9.5.2(4)(e) the system will integrate with the radio system to automatically broadcast voice messages to all security services radios. The voice message will indicate individual room location from which the staff duress call was initiated. Provide all middleware and converters required to interface the radio system with the RTLS wireless staff duress system;

7.9.5.2(4)(f) upon the initiation of an alert the system will identify the location of the event and the particular staff member on the local clinical department and security services workstation and status boards.

7.9.5.2(4)(g) the system will interface with the video surveillance system such that when an RTLS-tagged staff member activates a staff duress system pendant, all local video surveillance cameras associated with the event are displayed at the Nurse Station and at the Operations Security Centre. The event will also be transmitted to the staff communication system.

7.9.5.2(4)(h) provide a “man-down” feature for the panic duress system.

7.9.5.2(5) Provide each department utilizing wireless duress with a wireless duress pendant test device that audibly and visually indicates on a pass / fail basis the functionality and battery life of the duress pendant. The testing device will be a closed loop device/station that allows for full functional testing without activating the Facility's staff duress system and will provide audit function as required.

7.9.6 Intrusion Detection and Perimeter Security

7.9.6.1 Basic Requirements

7.9.6.1(1) Perimeter Intrusion Detection System (PIDS):

7.9.6.1(1)(a) There will be no part of the secure perimeter of the Facility that incorporates the use of wire material. Provide all Perimeter Intrusion Detection System (PIDS) through detection technology or monitoring system designed to be non-obstructive.

7.9.6.1(1)(b) Provide a complete and fully functional Perimeter Intrusion Detection System to effectively detect, report and record any perimeter intrusion and to effectively monitor the activities in the following areas: the Secure Perimeter, the Secure Zone, the Threat Perimeter, the Threat Perimeter Zone and the Area of Interest.

7.9.6.1(1)(c) The PIDS will include a perimeter detection system; Active Infrared Sensors (AIR) and perimeter video surveillance cameras (fixed and PTZ) with intelligent video analytics.

- 7.9.6.1(1)(d) Provide 24 hours per day /7 days per week video surveillance of all access points to the Facility (pedestrian or vehicle) within the Area of Interest Zone, including all access points and loading zones, Sally Ports in Secure Client areas and Non-Secure Client areas and other structures, including those housing electrical or mechanical equipment, and all areas surrounding such access points, loading zones, building and structures.

7.9.6.2 Performance Criteria

- 7.9.6.2(1) Design the intrusion detection system(s) to utilize industry proven devices for intrusion alarm detection and reporting capable of 24 hours per day, seven days per week continuous operation, with a minimum of 8 hours battery backup operation in the event of power outages.
- 7.9.6.2(2) Provide intrusion detection system(s) including alarm controllers, local keypads, motion sensors, shock sensors, glass break sensors, door contacts, strobes, sirens and other alarm initiating devices as needed for a reliable and fully operational system(s).
- 7.9.6.2(3) Control each system with keypad(s) located inside the department or area being protected
- 7.9.6.2(4) Local alarm controllers will be integrated with the Authority's existing intrusion monitoring system which resides in the Operations Security Centre. The intrusion alarms will report to digital receivers via its own phone line through a dedicated telephone line and be backed up over the LAN/WAN.
- 7.9.6.2(5) Install intrusion detection systems in all areas where protection of physical assets is critical including:
- 7.9.6.2(5)(a) pharmacy and narcotics rooms;
 - 7.9.6.2(5)(b) office suites (human resources, administration)
 - 7.9.6.2(5)(c) health records storage
 - 7.9.6.2(5)(d) stores (shipping/receiving)
 - 7.9.6.2(5)(e) hazmat storage
 - 7.9.6.2(5)(f) videoconference rooms
 - 7.9.6.2(5)(g) data centers (server, telecom equipment and computer rooms);

- 7.9.6.2(5)(h) cash offices; and
- 7.9.6.2(5)(i) all perimeter windows and openings that compromise integral security of the Facility.
- 7.9.6.2(6) Ensure the intrusion alarm system and all associated alarm panels are compatible and remotely programmable and monitored from Operations Security Centre.
- 7.9.6.2(7) Integrate the intrusion alarm system with the radio system to automatically broadcast voice messages to all security services radios. The voice message will indicate the specific department area from which the call was initiated. Provide all middleware and converters required to interface the radio system with the intrusion alarm system.
- 7.9.6.2(8) Perimeter Intrusion Detection System:
 - 7.9.6.2(8)(a) Provide a complete Perimeter Intrusion Detection System including all equipment, components, software and programming required for a completely integrated system.
 - 7.9.6.2(8)(b) Design the Threat Perimeter to be comprised of soft natural materials that blend naturally into existing landscape.
 - 7.9.6.2(8)(c) Design the Threat Perimeter as a boundary that is able to allow people to walk through it.
 - 7.9.6.2(8)(d) Supplemented with security sensors that will alert security staff in Operation Security Center that someone is moving in proximity to the Threat Perimeter, allowing a security response if required.
 - 7.9.6.2(8)(e) Where and when it is deemed necessary for the safety of the Client, provide for “real-time” locating systems which may be used to monitor Client movements (requires that alert-badges be issued to the Client). This approach would not be used comprehensively, but on a case-by-case basis for Clients with special needs.
 - 7.9.6.2(8)(f) Non-Secure Clients in non-secure areas are allowed freedom of movement outdoors. Provide an Area of Interest Zone perimeter boundary that serves as a visual “marker” for Non-Secure Clients in the non-secure outdoor areas of the Facility. This boundary will be highly permeable so that it does not restrict free

movement, but it will be able to be monitored by unobtrusive sensors and cameras to ensure Client safety.

- 7.9.6.2(8)(g) Secure Clients on the secure side of the Facility are not allowed freedom of movement on the exterior of the building. These Clients are secured within the building or within secure outdoor activity courtyards. The purpose of the Threat Perimeter is to restrict or limit approaches toward the Main Building from the outside. Therefore, the boundary will be less permeable in order to inhibit ease of approach to the Main Building. This boundary will be monitored with unobtrusive sensors and cameras.
- 7.9.6.2(8)(h) The PIDS will report alarms to the Operations Security Centre.
- 7.9.6.2(8)(i) Design PIDS components with open architecture, to be forward and backward compatible, to be non-proprietary, and to operate in standard TCP-IP Ethernet network environment.
- 7.9.6.2(8)(j) The perimeter coverage will be broken into zones. Configure the zones such that a single camera covers an entire zone. No zones will be configured to require two cameras for total coverage. Zone lengths will not exceed 60 meters.
- 7.9.6.2(8)(k) Design the PIDS to employ color video surveillance cameras in a video motion detection-based system with integral DVR/NVR capabilities and video services.
- 7.9.6.2(8)(l) The system will have integral DVR / NVR recording capabilities.
- (l).1 The video images from the perimeter security system will be available over the video surveillance system in a manner similar to the cameras required for the video surveillance system.

7.9.6.2(9) Provide an additional 25% of end-user devices and controllers.

7.9.7 Video Surveillance

7.9.7.1 Basic Requirements

- 7.9.7.1(1) Provide all necessary infrastructure required to support the following systems:
- 7.9.7.1(1)(a) video surveillance;
 - 7.9.7.1(1)(b) webcams; and
 - 7.9.7.1(1)(c) videoconferencing cameras.
- 7.9.7.1(2) Provide the supporting infrastructure including power, telecommunication outlets, audio-video wiring, raceways, outlet boxes, structural requirements necessary to deliver the Telehealth requirements identified in Appendix 3A [Clinical Specifications].
- 7.9.7.1(3) Provide video surveillance throughout the Facility, and exterior areas for the purpose of viewing and recording video to enhance the level of security and assist Authority staff in providing a safe environment for Facility Users and the general public while protecting the physical assets. With respect to video surveillance coverage of doors, provide as a minimum, video surveillance in accordance with Appendix 3D(v) [Door Operation Matrix].
- 7.9.7.1(4) Project Co will post signage at the main entrances to the Facility. The signage as per Authority standards will notify the public that this area is under video surveillance. Video surveillance processes will be governed by the Public Surveillance System Privacy Guidelines for the Province of Saskatchewan as well as the Freedom of Information and Protection of Privacy Act (Saskatchewan).
- 7.9.7.1(5) Ensure the system is able to record clear images of individuals, which would allow distinction of gender, ethnicity and age category. Ensure the system will provide recorded images of sufficient quality to be used as court evidence in Canada.
- 7.9.7.1(6) The Authority is implementing a project to integrate all Authority video surveillance cameras onto a single open architecture type platform. Provide a video surveillance system which is compatible with an open architecture system specified by the Authority.
- 7.9.7.1(7) Interface requirements between the video surveillance system and other systems are described in Appendix 3D(viii)[IMIT Systems Integration Matrix].
- 7.9.7.1(8) Design the video surveillance system to provide simultaneous monitoring and real time display, camera control, video playback and recording of multiple video streams.

7.9.7.1(9) The video surveillance system software will match the existing Milestone solution. Ensure all cameras are compatible with the DVMS.

7.9.7.1(10) Provide 100% coverage in all areas in the Facility except Client rooms, showers and washrooms.

7.9.7.2 Performance Criteria

7.9.7.2(1) Design system(s) to be a dedicated software-based virtual matrix that integrates to the existing Authority video surveillance system using the structured cable plant for transmission and recording of images.

7.9.7.2(2) Provide the appropriate encoding/decoding capability to support 2 way (video and control) communications with any and all video surveillance camera, individually and/or in predetermined clusters via the Authority network.

7.9.7.2(3) Provide video storage capacity for minimum of 30 days at 15 frames per second, minimum HD (1920 x 1080p) resolution. Provide the option of recording each camera at various resolution levels and frames per second depending on use and location, as well as by schedule or event. Provide file servers, workstations, and optical storage devices and connection to network. The system will have activity detection and incorporate smart search capabilities. Provide playback speed capable of 5x normal rate. During alarm conditions, allow for higher recording rates.

7.9.7.2(4) Provide sufficient storage capability to allow for retention of video images for 30 days, as described in this section, for all cameras included as part of the Facility at system commissioning, including 50% growth.

7.9.7.2(5) Integrate the video surveillance system with other systems identified in Appendix 3D(viii) [IMIT Systems Integration Matrix].

7.9.7.2(6) Provide video surveillance display and review system that is a network-based application allowing for authorized users to view, control and manage all aspects of the video surveillance system across the network and export videos to secure storage device. Provide network and web access for monitoring, using predefined user authentication. Provide the ability for the Authority to exchange video surveillance hard drives to preserve original video footage in case of an incident.

7.9.7.2(7) Allow display and review for all the cameras to be accessible through dual screen workstations located in the Operations Security

Centre. Provide video surveillance workstations with all required operating and application software, monitors, keyboard, mouse, joystick control with interconnection to security system network.

- 7.9.7.2(7)(a) Provide indoor cameras of fixed type, capable of facial recognition, colour, high-resolution, high sensitivity (day/night), smoke dome type with an auto iris and zoom capability. Mounting will be appropriate for the environment, unobtrusive, matching colour with hidden cabling. Ensure fixed cameras are vandal resistant wall mounted and / or mounted at protective locations and heights.
- 7.9.7.2(7)(b) Provide outdoor cameras that are either:
- (b).1 fixed colour cameras, high resolution, capable of motion detection and low light day/night operation capability. Install cameras to be unobtrusive, solidly mounted on poles, parapets and walls such that they do not move in the wind, and located to provide optimum unobstructed viewing of the area under surveillance. Ensure fixed cameras are vandal resistant and/or mounted at protective locations and heights; or
 - (b).2 pan-tilt-zoom (PTZ) colour dome cameras, high resolution, capable of minimum 35x optical zoom, high-speed with low light day/night operation capability with 360 degrees rotation in less than 3 seconds. Install domes to be solidly mounted on poles, parapets and walls located to provide optimum unobstructed viewing of the area under surveillance. PTZ cameras will have the ability to mask portions of view through software and remote programming.
- 7.9.7.2(7)(c) Provide fixed cameras in locations that have PTZ cameras to ensure all areas are properly covered at all times with no area left uncovered during PTZ movement.
- 7.9.7.2(7)(d) Provide outdoor cameras complete with weatherproof housing and internal heater/ defroster/blower/wiper as required for suitable operation under varying environmental conditions.
- 7.9.7.2(7)(e) Do not locate cameras in private areas such as private Client rooms, treatment rooms or clinical areas (unless

specifically identified for use by clinical department staff), locker rooms or washrooms. Cameras will not be placed or reviewed for the purpose of observing work performance of employees.

- 7.9.7.2(7)(f) Locate video surveillance clinical activity monitors out of public view as required to protect privacy.
- 7.9.7.2(7)(g) Provide controller at Operations Security Centre and BOSC to view and control all PTZ video surveillance cameras
- 7.9.7.2(7)(h) Provide minimum 24" LED video surveillance monitors on Site.
- 7.9.7.2(7)(i) At minimum provide two security workstations located at the Operational Security Centre and one security workstation located at the BOSC, each complete with virtual matrix controller and 4x42" 1080p monitors. Provide megapixel cameras in consultation with the Authority to capture appropriate identification footage.
- 7.9.7.2(7)(j) Integrate all entry and exit points to departments and associated areas require recorded video surveillance to the video surveillance security system as identified in Appendix 3D(v) [Door Operation Matrix]. Where required by the Authority, provide video monitors for department staff to monitor local video surveillance cameras associated with the department.
- 7.9.7.2(8) Provide video surveillance equipment to monitor and record the identity of all persons entering and exiting the Facility's main entrances, corridor/links and utilizing elevators in strictly controlled high risk departments and associated areas, as identified in consultation with the Authority.
- 7.9.7.2(9) Provide video surveillance cameras at locations determined in consultation with the Authority, including:
 - 7.9.7.2(9)(a) main entrances & exits to the Facility;
 - 7.9.7.2(9)(b) entrance and exit corridors to all departments;
 - 7.9.7.2(9)(c) public lobbies and waiting areas;
 - 7.9.7.2(9)(d) pharmacy and associated entry doors;
 - 7.9.7.2(9)(e) narcotic vaults;

- 7.9.7.2(9)(f) loading docks;
 - 7.9.7.2(9)(g) Sally Ports;
 - 7.9.7.2(9)(h) inside all elevators and elevator lobbies;
 - 7.9.7.2(9)(i) parking entrances and exits, including stairwells, exterior locations for viewing parking areas;
 - 7.9.7.2(9)(j) perimeter walkways and walkways connecting to other buildings on Site;
 - 7.9.7.2(9)(k) public thoroughfares and walkways;
 - 7.9.7.2(9)(l) Therapy mall areas;
 - 7.9.7.2(9)(m) cash offices or areas where cash is exchanged;
 - 7.9.7.2(9)(n) North staff and Client entry at Non-Secure Client Care Unit;
 - 7.9.7.2(9)(o) access door locations to the outdoor activity spaces;
 - 7.9.7.2(9)(p) overhead door and man-door to Vocational Area 1, on East side of the Main Building;
 - 7.9.7.2(9)(q) overhead door to vocational Area 2 at loading dock and other overhead doors at loading docks;
 - 7.9.7.2(9)(r) South staff entry at secure Client care unit;
 - 7.9.7.2(9)(s) visitor entry at Secure Client visiting centre; and
 - 7.9.7.2(9)(t) vehicular Sally Port and man-door at Admissions and Discharge.
- 7.9.7.2(10) Non-Secure side of the Facility non-recorded video surveillance coverage will be monitored locally at the Nurse's stations on local monitors. The non-recorded areas will include:
- 7.9.7.2(10)(a) any Client accessible common areas,
 - 7.9.7.2(10)(b) rooms not directly observable from the care team station,
 - 7.9.7.2(10)(c) interview/consultation rooms,
- 7.9.7.2(11) Non-recorded cameras will be IP based and the same type as recorded surveillance cameras.

- 7.9.7.2(12) Provide an interface between the video surveillance system and the fire alarm system such that when a fire alert or fire alarm is activated, the video surveillance cameras in the vicinity of the fire alarm or alert will automatically be displayed in the Operations Security Centre.
- 7.9.7.2(13) Design and provide for 25% growth in cameras and video storage at the time of commissioning.

PART 8. SITE, INFRASTRUCTURE AND LANDSCAPE SUBGROUP SPECIFICATIONS

8.1 Exterior Improvements

8.1.1 Aggregate Base Courses

8.1.1.1 Basic Requirements

- 8.1.1.1(1) Utilize granular sub-base for stability of surface treatment through freeze thaw cycles and for its ability to store moisture.
- 8.1.1.1(2) Place granular sub-base and base only on an underlying subgrade that has been properly compacted and approved by the project engineer.
- 8.1.1.1(3) The granular sub-base and base course will consist of crushed rock, gravel and sand consisting of hard, clean durable material, free from coatings of silt, clay or other deleterious materials and containing no organic matter

8.1.1.2 Performance Criteria

- 8.1.1.2(1) Design the depths of aggregate base courses to exceed limits defined by regional average freeze thaw cycles averaged over a twenty year period.
- 8.1.1.2(2) Design aggregate base courses to meet or exceed the specifications of the pavement structure design for intended loads and climate conditions found on site.

8.1.2 Asphalt Paving

8.1.2.1 Basic Requirements

- 8.1.2.1(1) Utilize asphalt paving in areas where vehicle traffic and snow clearing equipment require a smooth surface for travel.
- 8.1.2.1(2) Place hot mix asphalt only on an underlying base course that has been compacted and approved by the project engineer.

8.1.2.1(3) Design asphalt mix for the intended load and climate conditions found on site.

8.1.2.2 Performance Criteria

8.1.2.2(1) Asphalt will meet or exceed the specifications of the pavement structure design and asphalt mix design. Pavement structure thicknesses will be as required by Project Co's geotechnical engineers, based on assessment of specific Site conditions.

8.1.2.2(2) Asphalt design will meet or exceed the intended loads and climate conditions found on site

8.1.3 Concrete Curbs and Unit Paving

8.1.3.1 Basic Requirements

8.1.3.1(1) Utilize unit paving in areas that require firm, long lasting hard surfaces for activities such as pedestrian pathways, loading docks, and building entrances.

8.1.3.1(2) Provide concrete curbs along the perimeter of asphalt surfaces, unless otherwise reviewed by the Authority.

8.1.3.1(3) All concrete works are to meet or exceed Best Practice requirements for load and climate conditions found on site.

8.1.4 Prevailing Winds

8.1.4.1 Basic Requirements

8.1.4.1(1) Protect pedestrians at building entrances and high activity pedestrian areas from the negative effects of the prevailing winds.

8.1.4.2 Performance Criteria

8.1.4.2(1) Design and install the landscape with trees, shrubs, hedges, or other elements to protect pedestrians from the prevailing south easterly wind.

8.1.4.2(2) Install trees and shrubs in a manner that reduces snow drifting onto roadways and parking lots.

8.1.5 Tree Retention and Protection

8.1.5.1 Basic Requirements

8.1.5.1(1) Conduct a predesign assessment of the existing vegetation to identify existing trees and mature plant communities to be retained.

- 8.1.5.1(2) Retain existing trees and mature vegetation where they do not conflict with Site development or Site grading. Protect trees and mature vegetation that will be retained during construction.
 - 8.1.5.1(3) To reinforce the image of a well-established landscape, retain and incorporate mature trees and landscaping into the Site development. Develop a tree salvage plan that notes trees to be cut down, trees to remain, and trees to be relocated.
 - 8.1.5.1(4) Review the site for plants on the Saskatchewan Noxious Weed List and prepare and execute a strategy to clear site of problem plants.
- 8.1.5.2 Performance Criteria
- 8.1.5.2(1) Engage a certified arborist (licensed with the International Society of Arboriculture – ISA) to evaluate the existing trees to remain.
 - 8.1.5.2(2) Treat the retained trees as directed by the arborist and under the direct guidance of the arborist (e.g. root pruning, spiral pruning, watering, fertilizing).
 - 8.1.5.2(3) Control plants on the Noxious Weed List by appropriate means with the assistance of a certified Agrologist prior to the development of the site including any stockpiling of existing soils.
 - 8.1.5.2(4) Protect trees and mature vegetation that will be retained during construction with fencing to the Critical Protection Zone as defined herein as the drip line of the canopy of foliage.
 - 8.1.5.2(5) Surround trees and vegetation that will be retained by Protective Fencing to the Critical Protection Zone.
 - 8.1.5.2(6) Avoid excavating, storage of materials, parking, vehicular driving, preloading, or filling within the Critical Protection Zone of the trees being preserved.
 - 8.1.5.2(7) Comply with applicable tree protection bylaws with regard to tree replacement ratios and sizes.
 - 8.1.5.2(8) If there is no tree protection bylaw applicable to the Site, then comply with the following tree replacement requirements: a) whenever a tree over 300 mm diameter at breast height is removed, Project Co will replace the tree at a 1:1 ratio; and b) replacement trees will be specimen trees and must have a minimum calliper of 14 cm (5.9 in.) in diameter at breast height for deciduous trees, or 3.0 m ht. for coniferous trees.

- 8.1.5.2(9) Provide tree wells and/or creative grading of the ground away from existing vegetation to remain. Where tree wells are to be constructed, the wells must be a minimum distance of 1.5 times the distance from the trunk of the tree to the drip line.

8.1.6 Outdoor Art

8.1.6.1 Basic Requirements

- 8.1.6.1(1) The Master Site Plan will include areas for outdoor art/sculptures.

8.1.6.2 Performance Criteria

- 8.1.6.2(1) Provide areas for outdoor art.
- 8.1.6.2(2) Place and prepare any art installations in a manner suited to the local context, program of the Facility, and specific program of the immediate sculptural location.

8.1.7 Trees, Shrubs and Groundcover

8.1.7.1 Basic Requirements

- 8.1.7.1(1) Provide plantings to support the landscape design by reinforcing spatial relationships and way-finding. The plant selection and placement will address micro-climates surrounding the Facility and mitigation of heating and cooling loads. Planting will shade and screen parking lots. Planting will provide habitat for birds and other animals.
- 8.1.7.1(2) Provide landscape treatments that protect and reinforce the existing natural landscape by providing view corridors and means of engaging the natural landscape.
- 8.1.7.1(3) Provide landscape treatments for the complete Site that contributes to the creation of a liveable, healthy and responsive community.
- 8.1.7.1(4) Provide planting that is responsive to views from habitable/resident interior spaces. Planting will provide a positive benefit for residents equally from the interior and the exterior of the building.
- 8.1.7.1(5) Use large caliper deciduous trees and evergreen trees that provide seasonal interest in association with ground covering shrub plantings. Use a variety of plant material to reflect seasonal change.
- 8.1.7.1(6) Use similar plant species to help unify the site character, create recognizable spaces, contribute to site orientation and create a

strong sense of place, recognizing that a diversity of tree species may increase the survival ratio of new landscaping.

- 8.1.7.1(7) Use of indigenous flora will be a priority, in terms of minimizing maintenance and expressing an attitude about the Prairie context and location along the North Saskatchewan River.
 - 8.1.7.1(8) Landscape open space and setbacks to include existing trees that are of high quality, desirable species and appropriately situated.
 - 8.1.7.1(9) Provide trees, shrubs and other plants that are of the types listed in Appendix 3H [Plant List] and that meet the requirements set out in Appendix 3H [Plant List].
- 8.1.7.2 Performance Criteria
- 8.1.7.2(1) All planting is to be suitable for plant hardiness zone 3a or hardier and be grown in a nursery within the same hardiness zone.
 - 8.1.7.2(2) Imported plant material must be accompanied with necessary permits and import licenses. Transportation of elm trees must comply with Provincial DED regulations.
 - 8.1.7.2(3) Source any roses from areas free of the pathogen *Pytophthora ramorum*. Roses must be on their own roots and not grafted.
 - 8.1.7.2(4) Quality and source will comply with the “Canadian Standards for Nursery Stock”, by the Canadian Nursery Landscape Association (CNLA), referring to size and development of plant material and root ball.
 - 8.1.7.2(5) Trees must be planted at a minimum ratio of one tree for every two surface parking stalls. Trees are to be distributed throughout the parking area in a manner that provides shade to pedestrian areas, maintains clear view corridors to exits and entries, and complements the building architecture. Note: Newly planted trees that are replacing existing trees (per Section 8.1.5 (Tree Retention and Protection) will not count towards this total.
 - 8.1.7.2(6) Shrubs must be planted at a minimum ratio of six shrubs for every surface parking stall. Shrubs are to be distributed throughout the parking area in planting beds in order to soften the hard surface area.
 - 8.1.7.2(7) Trees to be no smaller than 5 cm cal for deciduous shade trees, 2 m ht. Or 3 cm cal for ornamental/understory trees and 2.5 m ht. for coniferous trees upon installation.

- 8.1.7.2(8) Shrubs will be no smaller than #2 pot size upon installation.
- 8.1.7.2(9) Landscape treatment and circulation routes must be in accordance with Section 4.2.7.3.
- 8.1.7.2(10) To ensure safety and security in areas of entry/egress, areas open to the public, and areas of security concern, provide sightlines through any cluster of tall growing vegetation by keeping all under storey plants to a maximum of 1.2 m (3.9 ft.) in height. All tree canopies are to be no lower than 1.5 m (5.0 ft.) in height, at the time of installation.
- 8.1.7.2(11) At least 50% of the total number of plants on the Site are to be native to Saskatchewan.
- 8.1.7.2(12) Use some flowering and fruiting trees and shrubs to promote natural avian habitat.
- 8.1.7.2(13) The trees on Site will be a combination of small trees, medium-sized trees and large trees (in terms of ultimate size) with no less than 50% of the total number of trees being large trees.
- 8.1.7.2(14) Do not install any plants listed as poisonous to humans by the Canadian Government's 'Canadian Poisonous Plants Information System'.
- 8.1.7.2(15) Group plants to minimize the use of water, chemicals and fossil fuel use for routine maintenance and to promote a healthy local ecosystem using sustainable measures.
- 8.1.7.2(16) Provide elements of healing gardens in the courtyards and close to building entries to stimulate senses of sight, smell and touch.
- 8.1.7.2(17) Shrubbery within 2 m of walkways will not exceed 50 cm in height.
- 8.1.7.2(18) Trees planted in narrow planting areas (e.g. 'Street Trees') between hard surfaces (e.g. curbs, sidewalks, roads, buildings) will have a continuous volume growing medium available to their roots along the length of the planting area (i.e. no tree pits). Minimum widths of planting areas to be 1.5 m, but wider planting areas are encouraged.
- 8.1.7.2(19) Trees will be planted in areas that will provide root zone access to a volume of growing medium sufficient to support proper growth. This may include linear tree trenches, structural soil beneath pavement or other means necessary to provide ample growing medium. Provide soil volume per tree as follows:

- 8.1.7.2(19)(a) 5 cubic metres for small trees;
- 8.1.7.2(19)(b) 10 cubic metres for a medium-sized tree; and
- 8.1.7.2(19)(c) 20 cubic metres for a large tree.

8.1.8 Mulches

8.1.8.1 Basic Requirements

- 8.1.8.1(1) Provide mulch to planting beds and tree wells to increase moisture retention.

8.1.8.2 Performance Criteria

- 8.1.8.2(1) Provide wood mulch that is untreated, locally sourced, and free from deleterious materials and weed sources. Wood mulch must be designed to a depth so as to retain moisture and reduce weed growth without the use of landscape fabric.
- 8.1.8.2(2) Rock mulch will be clean washed rock, installed over professional grade landscape fabric. Rock mulch will only be used in areas without perennials, shrubs, needle bearing plants, and fruit bearing plants.
- 8.1.8.2(3) Mulch will be tapered to base of tree, shrub or perennial.

8.1.9 Utility Visibility

8.1.9.1 Basic Requirements

- 8.1.9.1(1) Locate refuse/recycling areas, shipping, loading or utility areas, satellite dishes, and other similar structures, such as outdoor vents, mechanical equipment, or transformers out of view from streets and from adjacent properties.
- 8.1.9.1(2) In cases where the above items will not be located out of view, they must be screened out of view from streets and from adjacent properties.
- 8.1.9.1(3) Garbage and recycling bins must be easily accessible, and contained within roofed/walled enclosures or screened from public view and from adjacent properties.

8.1.9.2 Performance Criteria

- 8.1.9.2(1) Refuse/recycling areas, shipping, loading or utility areas, satellite dishes, and other similar structures, such as outdoor vents, mechanical equipment, or transformers must be screened out of

view from streets and from adjacent properties using hedging, shrubs, trees, fencing or walls.

8.1.9.2(2) Garbage and recycling bins must be easily accessible, and contained within roofed/walled enclosures, or screened from public view and from adjacent properties using hedging, shrubs, trees, fencing or walls.

8.1.9.2(3) Bury electrical wires.

8.2 Landscape

8.2.1 Outdoor Open Space

8.2.1.1 Basic Requirements

8.2.1.1(1) Provide outdoor spaces in the design of the Facility to accommodate activities.

8.2.1.1(2) Provide areas for temporary snow dumping at end of parking lots; design to ensure adequate drainage from snow melt.

8.2.1.2 Performance Criteria

8.2.1.2(1) Provide outdoor spaces in the design of the Facility to accommodate activities, including:

8.2.1.2(1)(a) space and hard landscape elements conducive to healing and recovery that may be used as a component of physical and occupational therapy;

8.2.1.2(1)(b) space which acts as the “front garden” of the Facility which will be fully accessible to the public with strong connections to the site and the neighbourhood;

8.2.1.2(1)(c) space to accommodate semi-public/private activities; and

8.2.1.2(1)(d) spaces for activities including Client/family visiting, staff breaks/retreats.

8.2.1.2(2) Provide access to the outdoor spaces from the public areas of the hospital.

8.2.1.2(3) Provide trees at least 1.5 metres from the edge of the sidewalk and 2 or 3 metres from the edge of a road for areas dedicated for snow piling.

8.2.2 Outdoor Courtyards

8.2.2.1 Basic Requirements

- 8.2.2.1(1) In addition to general outdoor spaces, provide distinct, separate outdoor courtyards to accommodate programmed and un-programmed activities at the Facility in accordance to the Appendix 3A [Clinical Specifications]:

8.2.2.2 Performance Criteria

- 8.2.2.2(1) The general specifications in this Section 8.2.2 will apply to all the outdoor courtyards.

- 8.2.2.2(2) Project Co will design the outdoor courtyards throughout the Site:

- 8.2.2.2(2)(a) to provide a sense of control:

- (a).1 provide a variety of spaces from which to choose;
- (a).2 provide fixed furniture and movable furniture according to the Security Level Classification; and
- (a).3 promote a sense of security and safety;

- 8.2.2.2(2)(b) to provide for social support:

- (b).1 provide areas with seating to encourage conversation;
- (b).2 provide areas of refuge; and
- (b).3 provide areas for meditation, contemplation and reflection;

- 8.2.2.2(2)(c) to provide for physical movement and exercise:

- (c).1 provide a variety of different activities;
- (c).2 provide easy wayfinding;
- (c).3 provide a variety of longer and shorter pathway loops for strolling and exercise;
- (c).4 no pathway is to have dead ends;
- (c).5 utilize walkway edging to prevent those using wheelchairs from rolling into planting beds;
- (c).6 walkways will be a minimum 1.5m in width and will have a surface that accommodates Clients with intravenous equipment, gurneys and wheelchairs or walkers;
- (c).7 provide a minimum of one handrail between the entrance to any garden (from the interior of the Facility) and a seat for Clients experiencing difficulties with strength or balance; and

- (c).8 pavement expansion joints to be no more than 1/8" in width to prevent the wheels of IV poles getting caught and stuck;
- 8.2.2.2(2)(d) to provide access to nature and positive distractions:
- (d).1 gardens are to be incorporated as an integral extension of the hospital interiors, linking its internal spaces to view vistas of the exterior greenspace;
 - (d).2 gardens are to be visible from at least one well-used interior area (unless otherwise noted below);
 - (d).3 incorporate visibility and visual interest both into and out of the garden;
 - (d).4 provide adequate signage within the building to alert people of the gardens;
 - (d).5 gardens are to be fully accessible with automatic doors and low entry lips to facilitate wheelchair access;
 - (d).6 gardens are to be unlocked during daylight hours (unless otherwise noted below);
 - (d).7 provide artwork including 'found elements' of art that provide visual distraction;
 - (d).8 provide plant material that attracts birds and provides seasonal interest;
 - (d).9 design elements that stimulate the senses and create an atmosphere of peace, such as reflecting pools;
 - (d).10 provide visual relief and interest in vertical and horizontal dimensions;
 - (d).11 provide bright colours; and
 - (d).12 provide visual vistas of nature/landscape elements viewable to Clients who are confined to their rooms.
- 8.2.2.2(2)(e) to minimize intrusive stimuli:
- (e).1 gardens must be sheltered from the wind;
 - (e).2 provide some gathering/seating areas that are sheltered from the sun and rain;
 - (e).3 surfaces must reduce glare (e.g. tinted concrete);
 - (e).4 seating material to be constructed of warm, comfortable material that does not get excessively hot or cold (e.g. wood) and facilitates the shedding of water. Avoid the use of concrete, aluminum & steel seats;

- (e).5 seating must include back rests;
- (e).6 take measures to reduce or cover up loud or repetitive man-made sounds (e.g. by providing running water);
- (e).7 locate gardens to avoid unpleasant odours and smoke;
- (e).8 design gardens to avoid bright lights; and
- (e).9 all plant material selection will avoid any potential allergic reaction causing species;

8.2.2.2(2)(f)

- as gardens and not paved courtyards:
- (f).1 gardens are to be lush and green with a minimum ratio of planted areas to hard surface areas of 7:3. Higher ratio of plants is acceptable;
 - (f).2 stimulate the senses of sight, sound, smell and touch;
 - (f).3 provide natural lighting and sounds;
 - (f).4 design with an emphasis on natural features such as plants, rocks, wood and water; and
 - (f).5 provide at least one hose bib in each therapeutic garden regardless of whether an automatic irrigation system is supplied as part of the design;

8.2.2.2(2)(g)

- to minimize ambiguity:
- (g).1 provide a well-defined and inviting garden entrance;
 - (g).2 provide a design that is easy to interpret by the majority of people; and
 - (g).3 avoid the use of abstract art.

8.2.2.2(3) To supplement the general specifications identified above, the following Sections 8.2.2.2(4) to 8.2.2.2(5) set out specific requirements for each of the outdoor courtyards at each Facility.

8.2.2.2(4) Design the Client Care Unit Courtyards so that they:

- 8.2.2.2(4)(a) are a private and secure space enclosed by clear fencing. Refer to Section 6.5.4.6.
- 8.2.2.2(4)(b) are not visible from any well-used areas of the hospital;
- 8.2.2.2(4)(c) are observable from a nursing station with PA access for staff to call back Clients;
- 8.2.2.2(4)(d) have direct access from the PIU;

- 8.2.2.2(4)(e) will not have items dropped into the garden from the floors above or from outside the garden;
 - 8.2.2.2(4)(f) allow space for outdoor therapy;
 - 8.2.2.2(4)(g) allow Clients to have scheduled visits outdoors under supervision from staff;
 - 8.2.2.2(4)(h) allow basic activities like picnics, outdoor gardening, reading, resting, contemplation and walking;
 - 8.2.2.2(4)(i) have fixed furniture;
 - 8.2.2.2(4)(j) allow for areas / spaces for horticultural therapy programs (may include raised garden planters, storage of gardening supplies, access to water etc.);
 - 8.2.2.2(4)(k) have anti-glare and slip resistant pavement with defined pathway edges;
 - 8.2.2.2(4)(l) have plant material that supports / encourages sensory stimulation;
 - 8.2.2.2(4)(m) have accommodations for behavioural difficulties / challenges;
 - 8.2.2.2(4)(n) encourage home-like environments (residential scale);
 - 8.2.2.2(4)(o) maintain and enhance views from interior spaces into courtyards, gardens and exterior green spaces;
 - 8.2.2.2(4)(p) include considerations for micro-climate control including wind, sun & precipitation; and
 - 8.2.2.2(4)(q) include tables and chairs, with seating for at least 10 people.
- 8.2.2.2(5) Design the staff outdoor area so that it:
- 8.2.2.2(5)(a) provides staff outdoor resting areas in close proximity to the staff facilities;
 - 8.2.2.2(5)(b) provides visual privacy from public and Client care areas so staff members do not have to mingle with Clients on their breaks;
 - 8.2.2.2(5)(c) has moveable furniture; and

- 8.2.2.2(5)(d) includes tables and chairs, with seating for at least 30 people.

8.2.3 Site Slopes and Retaining Walls

8.2.3.1 Basic Requirements

- 8.2.3.1(1) Site grading is to provide positive drainage throughout (except where required for storm water detention/retention).
- 8.2.3.1(2) Site grading is to avoid over-steepened slopes that cause erosion, cause pedestrian instability and will not hold growing medium and plants.
- 8.2.3.1(3) Retaining walls to be architecturally finished.
- 8.2.3.1(4) Provide 'green' retaining walls.

8.2.3.2 Performance Criteria

- 8.2.3.2(1) Minimum gradients (e.g. 2%) are required to avoid ponding throughout the site except where required for storm water detention/retention.
- 8.2.3.2(2) Steep slopes are to be no steeper than 4:1 and finished with growing medium and plant material. Prohibit riprap on slopes.
- 8.2.3.2(3) Slopes steeper than 4:1 are to be retained using structural architecturally-finished retaining walls (e.g. cast-in-place C.I.P concrete, precast concrete).
- 8.2.3.2(4) Retaining walls within 5 m of roadways and building faces are to be 'green' retaining walls (e.g. planters) planted with vegetation to cover 80% of the face of the retaining walls one year following installation.

8.2.4 Street Furniture

8.2.4.1 Basic Requirements

- 8.2.4.1(1) Unify the exterior ground plane treatment through the use of common paving materials, tree grates, lighting and other landscape furniture items.
- 8.2.4.1(2) Provide and coordinate design for street furniture, including benches provided at regular intervals for ease of use particularly for the infirm.

8.2.4.1(3) Where possible ensure universal accessibility at grade changes through sloped walkways and ramps, and avoid the use of stairs.

8.2.4.1(4) Seating in public areas must: be ergonomically designed for a variety of people; be designed to allow a wheelchair to sit alongside fixed seating or, where tables are provided, to allow a wheelchair to pull up to each table; have a minimum of 5% with backrests; and shed rain water.

8.2.4.2 Performance Criteria

8.2.4.2(1) Unify the ground plane treatment through the use of common paving materials, tree grates, lighting and other landscape furniture items.

8.2.4.2(2) Seating areas with benches will be located throughout the site no more than 70 m apart from each other. Select products on the basis of safety, comfort, design and materials that relate to the Facility architecture and landscape design, durability and required maintenance.

8.2.4.2(3) Select products for their suitability and durability in the climatic conditions found at the Facility.

8.2.4.2(4) Utilize a variety of scales, locations and orientations of seating areas and site furnishings to cater to varied outdoor activities and varied experiences of the staff and visitors.

8.3 Utilities (Division 33)

8.3.1 Manholes and Catch Basins

8.3.1.1 Basic Requirements

8.3.1.1(1) Provide monolithic concrete manholes with transition to lid frame, covers, anchorage, and accessories.

8.3.1.1(2) Provide modular precast concrete manhole sections with tongue and groove joints with masonry transition to lid frame, covers, anchorage, and accessories.

8.3.1.2 Performance Criteria

8.3.1.2(1) Locate and size manholes and catch basins in accordance with Best Design Practices. Avoid catch basins in walking areas.

8.3.1.2(2) All manhole joints will be watertight.

8.3.2 Site Water Utility Distribution Piping

8.3.2.1 Basic Requirements

- 8.3.2.1(1) Design the water system to conform to A Guide to Waterworks Design, as published by the Water Security Agency.
- 8.3.2.1(2) The water system will include the pipes, valves, hydrants, fittings, and all other required appurtenances to comply with the applicable Municipal and Provincial Standards.
- 8.3.2.1(3) Refer to Section 4.4.

8.3.3 Site Sanitary Sewer Piping

8.3.3.1 Basic Requirements

- 8.3.3.1(1) Design the sanitary sewer system to conform to The Guidelines of Sewage Works Design, as published by the Water Security Agency.
- 8.3.3.1(2) The sanitary sewer system will include the pipes, manholes, quality testing and all other required appurtenances to comply with applicable Municipal and Provincial Standards.
- 8.3.3.1(3) Refer to Section 4.4.

8.3.4 Storm Sewer Water Drains

8.3.4.1 Basic Requirements

- 8.3.4.1(1) Design the storm sewer system (major and minor) to meet or exceed the Guidelines of Sewage Works Design, as published by the Water Security Agency.

APPENDIX 3A: CLINICAL SPECIFICATIONS

ATTACHMENT 1 TO APPENDIX 3A STAFFING MODEL

APPENDIX 3B: STANDARDS**ANSI / EIA**

568-B.1 & 568-B.2 (CSA-0T529-M95) Commercial Building Telecommunications Cabling Standard – Parts 1 & 2;

568-B3 (CSA-T529-M95) Commercial Building Telecommunications Cabling Standard – Part 3;

569-B (CSA-T530) Commercial Building Standard for Telecommunications Pathways and Spaces;

606A (CSA-T528) Administration Standard for Telecommunications Infrastructure of Commercial Buildings; and

607B (CSA-527) Commercial Grounding and Bonding Requirements for Telecommunications;

TIA/EIA 526-7 and TIA/EIA 526-14 standards for Optical Power Loss measurement of single mode and multimode fibre cable plant;

TIA/EIA – 606-A Administration Standard for the Telecommunications Infrastructure of Commercial Buildings;

ANSIA/TIA/EIA – 607B (J-STD-607-A) Commercial Building Grounding and Bonding Requirements for Telecommunications;

ANSI/TIA/EIA-758-A Customer Owned Outside Plant Telecommunications Cabling Standard;

ANSI/TIA-1179 Healthcare Facility Telecommunications Cabling Standard and all referenced documents;

BICSI TDM, TCIM, NTS, OSP and WD manuals.

ANSI/TIA

ANSI/TIA-942-2 Telecommunications Infrastructure Standard for Data Centers;

ANSI/TIA TSB-162 Telecommunications Cabling Guidelines for Wireless Access Points.

ANSI / ESNA American National Standard Practice for Lighting.

IESNA RP 29-06;

ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers)

Handbooks (current): Fundamentals, Refrigeration, HVAC Systems and Equipment, HVAC Applications;

Design of Smoke Control Systems;

ASHRAE Guideline 12 Minimizing the Risk of Legionellosis Associated with Building Water Systems;

52.2: Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size;

55: Thermal Environmental Conditions for Human Occupancy;

62.1: Ventilation for Acceptable Air Quality;

90.1: Energy Efficient Design for New Buildings;

111: Practices for Measurement, Testing, Adjusting and Balancing of Building HVAC systems;

129: Measuring Air Change Effectiveness; and

135: Data Communication Protocol for Building Automation and Control Network;

170: Ventilation for Health Care Facilities

189.1 – Standard for the Design of High Performance Green Buildings

Guideline 0: The HVAC Commissioning process;

Guideline 1.1: HVAC&R Technical requirements for the commissioning process;

ANSI / ASME (American National Standards Institute / American Society of Mechanical Engineers)

A13.1 Visibility Standard (Pipe Labeling);

B16 Piping Component Standards;

B31 Pressure Piping Code;

B36 Piping Standards;

Z358.1: Emergency Eyewash and Shower Equipment;

Section IX: Welding Qualifications; and

Unfired Pressure Vessels;

ASPE (American Society of Plumbing Engineers)

Plumbing Engineering Design Handbook, Volumes 1 – 4;

ASTM (American Society for Testing and Materials)

A185-06 - Standard Specification for Steel Welded Wire Fabric;

A82/A82M-05 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement;

ASTM C568-03 - Standard Specification for Limestone Dimension Stone;

ASTM C615-03 - Standard Specification for Granite Dimension Stone;

ASTM C503-05 - Standard Specification for Marble Dimension Stone;

ASTM C616-03 - Standard Specification for Quartz-Based Dimension Stone;

ASTM E917.24401-1 Life Cycle Cost Assessment Methodology; and

B88: Copper Piping;

CAN ULC

S524 Standards for the Installation of Fire Alarm Systems; and
 S537 Standards for Verification of Fire Alarm Systems;

CSA (Canadian Standards Association)

A23.3-04 (R2010) – Design of Concrete Structures;
 B651-95: Barrier Free Design;
 C9-02 Dry Type Transformers;
 C22.1 & C22.2 Canadian Electrical Code with Saskatchewan amendments;
 C282 Emergency Electrical Power Supply for Buildings;
 Z32.09 Electrical Safety and Essential Electrical System in Health Care Facilities;
 Z317.5 Illumination Systems in Health Care Facilities;
 Z318.5 Commissioning of Electrical Equipment and Systems in Health Care Facilities;
 Z318.0-93: Commissioning of Health Care Facilities;
 Z462-12 - Workplace Electrical Safety;
 A23.4-09-Precast Concrete – Materials and Construction;
 W186-M1990 - Welding of Reinforcing Bars in Reinforced Concrete Construction;
 A370-04 - Connectors for Masonry;
 A23.1-09/A23.2-09 - Concrete Materials and Methods of Concrete Construction /
 Methods of Test and Standard Practices for Concrete;
 S832-06 – Seismic Risk Reduction of Operational and Functional Components (OFCS of
 buildings);
 S478-95 Guideline on Durability of Buildings;
 S413-07 - Parking Structures;
 S16-09 - Design of Steel Structures;
 S136-07 - Design of Cold Formed Steel Members;
 S157-05 – Strength Design in Aluminum;
 S304.1-04 - Masonry Design for Buildings;
 Z317.1-09 Special requirements for plumbing installations in Health Care facilities;
 Z314.7-03 Steam sterilizers for Health Care Facilities;
 Z317.11-02 Area requirements for Health Care Facilities;
 Z317-10.09 Handling of waste materials in Health Care Facilities and Veterinary Health
 Care Facilities

Z317.13 07 “Infection Control During Construction, Renovation, and Maintenance of Health Care Facilities”;

CSA S832-06 Guidelines for Seismic Risk Reduction of Operational and Functional Components of Buildings;

B45 Series – 94: Plumbing Fixtures;

B51: Boiler, Pressure Vessel and Pressure Piping Code

B52HB: Mechanical Refrigeration Code;

B64: Series 94: Backflow Preventers and Vacuum Breakers

B125: Plumbing Fittings;

B139: Installation Code for Oil-Burning Equipment;

B149.1: Natural Gas and Propane Installation Code;

B651: Barrier Free Design;

Z305.1: Design of Medical Gas Systems

Z317-2-10: Special Requirements for Heating, Ventilation and Air-conditioning (HVAC) Systems in Health Care Facilities

NFPA (National Fire Protection Association)

10: Standard for Portable Fire Extinguishers;

13: Standard for Installation of Sprinkler Systems;

14: Standard for Installation of Standpipe and Hose Systems;

17: Standard for Dry-Chemical Extinguishing Systems;

20: Standard for the Installation of Stationary Pumps for Fire Protection;

54: National Fuel Gas Code

58: Liquefied Petroleum Gas Code

55: Compressed Gases and Cryogenic Fluids Code;

56: Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems

70B: Recommended Practice for Electrical Equipment Maintenance;

80: Standard for Fire Doors and Other Opening Protection

90A: Standard for Installation of Air Conditioning and Ventilation Systems;

92A: Standard for Smoke Control Systems Utilizing Barriers and Pressure Differences;

96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations;

99: Health Care Facilities Code

101: Life Safety Code;

214: Water Cooling Towers;

252: Fire Tests of Door Assemblies

664: Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities; and

701: Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

USP Chapter <797> Pharmaceutical Compounding – Sterile Preparations;

Canadian Society of Hospital Pharmacists Guideline –Sterile Preparation of Medicines: Guidelines for Pharmacies;

Model National Energy Code for Buildings;

TIAC

The TIAC Best Practices Guide

IEEE

802.1 series for Interworking, Security, Audio/Video Bridging and Data Centre Bridging;

802.3 series of Ethernet Standards;

802.11 series of Wireless Standards;

802.15 series of Wireless Standards; and

IEEE 519: Recommended Practice and Requirements for Harmonic Control in Electric Power Systems;

NETA

ATS International Electrical Testing Association (Acceptance Testing Specifications); and

MTS Standards for Maintenance Testing;

UL 1069 Hospital Signaling and Nurse Call Equipment;

Other

ECABC Seismic Restraint Standards Manual;

BICSI Telecommunications Distribution Methods Manual (TDMM);

BICSI 004 Information Technology Systems Design and Implementation Best Practices for Healthcare Institutions and Facilities;

Saskatchewan Department of Highways and Transportation Standard Specification Manual;

TAC Geometric Design Guide;

Guidelines for Design and Construction of Health Care Facilities;

ICAO / Annex 14, Volume II;

American Conference of Governmental Industrial Hygienists;

New York State Office of Mental Health, Patient Safety Standards – Materials and Systems Guidelines.

SITES – Sustainable Site Initiative

Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05.

APPENDIX 3C: SOUND TRANSMISSION RATINGS

APPENDIX 3D(I): STRUCTURED TELECOMMUNICATIONS CABLING SYSTEMS

APPENDIX 3D(II) : WIRELESS INFRASTRUCTURE STANDARD

APPENDIX 3D(III): WIRELESS DATA COMMUNICATIONS POLICY

APPENDIX 3D(IV): CONFERENCE ROOM DESIGN STANDARDS

APPENDIX 3D(V): DOOR OPERATIONS MATRIX

APPENDIX 3D(VI): VOIP COMMUNICATION SYSTEM

APPENDIX 3D(VII): IMIT SYSTEMS RESPONSIBILITY MATRIX

APPENDIX 3D(VIII): IMIT SYSTEMS INTEGRATION MATRIX

APPENDIX 3D(IX): DATA NETWORK ELECTRONICS

APPENDIX 3E: WAYFINDING AND SIGNAGE

APPENDIX 3F(I): FOOD SERVICES SPECIFICATIONS

APPENDIX 3F(II): FOOD SERVICES EQUIPMENT LIST

APPENDIX 3G: MILLWORK, CASEWORK AND SYSTEMS FURNITURE

APPENDIX 3H: PLANT LIST

CANNON DESIGN

Appendix 3A: Clinical Specifications

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ATTACHMENT 1

STAFFING MODEL

0.1 INTRODUCTION

0.1.1 Background and Scope

The purpose of the Clinical Specifications is to describe and outline the key needs and building design attributes required by the Authority to successfully implement clinical operations and achieve their desired model of care. This document describes both big picture concepts and detailed specific clinical needs. It includes numerous data that will directly and indirectly influence design decisions. Appendix 3A includes the Functional Space Requirements, which outline the spaces that Project Co will provide in the buildings.

0.1.2 Vision Statement:

Project Co will use the following vision statement as guidance in the development of the Facility:

Together we will create a Provincial mental health complex that provides innovative, client-centred and therapeutic services to clients, which contribute to safe, healthy communities.

0.1.3 Guiding Principles:

0.1.3.1 Provide and promote a Client-centred and therapeutic environment for Clients and families:

- 0.1.3.1.1 Design holistic care and security processes that optimize Client rehabilitation and reintegration.
- 0.1.3.1.2 Provide a positive, strength-based environment that supports cultural diversity and spiritual needs.
- 0.1.3.1.3 Reflect concepts of wellness and aesthetically pleasing healing environments throughout the Facility, including optimizing Client views and access to natural light.
- 0.1.3.1.4 Create Client areas that promote appropriate independence, privacy, confidentiality and safety.
- 0.1.3.1.5 Provide a professional and supportive environment for all staff in order to provide the best possible evidence-based care.
- 0.1.3.1.6 Build and promote partnerships, including community supports, which improve outcomes for Clients.

0.1.3.2 Support concepts of safety and security:

- 0.1.3.2.1 Demonstrate the importance of design in balancing safety and security, along with improved freedom for Clients as appropriate.

0.1.3.3 Program and design in accordance with Lean tools and techniques:

- 0.1.3.3.1 Actively incorporate Lean and evidence-based design principles to support the Facility design.
- 0.1.3.3.2 Encompass universal design concepts to maximize flexibility in caring for Clients with diverse needs, which are likely to change over time.
- 0.1.3.3.3 Promote design that is flexible, adaptive and responsive to Client needs and future changes in service delivery.

0.1.3.3.4 Maximize cost effectiveness and operational efficiencies.

0.1.3.4 Reduce stigmatization associated with mental illness and with Clients:

0.1.3.4.1 Provide a design that communicates openness, accessibility, hope, and that is inviting and welcoming.

0.1.3.4.2 Recognize and strengthen the relationship between communities served and this Facility, thereby contributing to the de-stigmatization of mental illness, addictions and Clients.

0.1.3.4.3

0.1.3.5 As appropriate, develop and apply integrated resources to enable:

0.1.3.5.1 Seamless and sustainable care and support for Clients and their families.

0.1.3.5.2 Effective exchange of information.

0.1.3.5.3 Sharing of technology and services.

0.1.3.5.4 Advance the integration of clinical care, education and research.

0.1.3.5.5 Be a centre of excellence for care, study and teaching in mental health and addictions, focussing on stabilization, rehabilitation and re-integration into the community.

0.1.3.5.6 Incorporate and acknowledge the Authority's university affiliations.

0.1.3.5.7 Facilitate the integration of mental health care with efficient, effective interdisciplinary teams.

0.1.3.5.8 Create areas for learning and research integrated within clinical services.

0.1.3.5.9 Ensure environmental sustainability, and respect the unique setting.

0.1.3.5.10 Serve as a leader in environmental sustainability and minimize impact on the natural and physical environment.

0.1.3.5.11 Incorporate key characteristics of the surrounding landscape.

0.1.4 **Scope:**

0.1.4.1 The Facility will provide 270 beds and 14 community reintegration beds in the following areas:

0.1.4.1.1 Acute Rehabilitation – 96 beds - 4 Client care units of 24 beds each

0.1.4.1.2 Extended Rehabilitation – 36 beds – 3 Client care units of 12 beds each

0.1.4.1.3 Forensic Rehabilitation – 30 Client care beds

0.1.4.1.4 Forensic Assessments – 12 Client care beds

0.1.4.1.5 Secure Rehabilitation – 96 beds – 4 Client care units of 24 beds each

0.1.4.1.6 Community Reintegration – 14 beds

0.1.4.2 Community Reintegration Units: Whenever possible and appropriate, Clients will progress from a highly structured mental hospital environment to an independent living environment, with a goal of community reintegration. In addition to beds in the main building the Facility will include 14 community reintegration beds in the Community Reintegration Units, which will be distinct from the Main Building but on-site.

0.1.5 **Services Overview:**

The Facility will specialize in Psychiatric Rehabilitation, including:

0.1.5.1 Short-term and Long-term Rehabilitation

0.1.5.2 Forensic Client Care Services

- 0.1.5.3 Mental Health Services for Secure Clients
- 0.1.5.4 Respite Care (assessment and consultation)
- 0.1.5.5 Outpatient (assessment, psychosocial programs and follow-up)

0.1.6 Delivery Standards:

The Authority promotes the following service delivery standards:

- 0.1.6.1 Individualization
- 0.1.6.2 Normalization
- 0.1.6.3 Continuity of Care
- 0.1.6.4 Client/Family Involvement
- 0.1.6.5 De-stigmatization

0.1.7 Overview of Service Components:

0.1.7.1 NON-SECURE CLIENT CARE SERVICES (Section A)

- 0.1.7.1.1 Acute Client Care Service (s)
- 0.1.7.1.2 Extended Client Care Service (s)
- 0.1.7.1.3 Therapy Mall - provides a variety of therapy programs and rehabilitation opportunities. These resources and programs, coupled with other more intangible components of rehabilitation such as the scenic rural setting, yields an environment and culture of true refuge. Psychiatric Rehabilitation goals are determined and achieved because of this unique blend of resources and multidisciplinary expertise.
- 0.1.7.1.4 Conference Centre

0.1.7.2 SECURE CLIENT CARE SERVICES (Section B)

- 0.1.7.2.1 Forensic Client Care Service(s)
- 0.1.7.2.2 Forensic Assessment Client Care Unit
- 0.1.7.2.3 Secure Client Care Service(s)
- 0.1.7.2.4 Operations Security Centre
- 0.1.7.2.5 Video Court
- 0.1.7.2.6 Central Programs

0.1.7.3 SHARED CLIENT SERVICES (Section C)

- 0.1.7.3.1 Entrance
- 0.1.7.3.2 Administration
- 0.1.7.3.3 Admissions and Discharge
- 0.1.7.3.4 Therapy Mall – Shared includes Recreation Therapy as well as Spiritual and Cultural Services
- 0.1.7.3.5 Staff Lockers/showers/toilets
- 0.1.7.3.6 Parking
- 0.1.7.3.7 Healthcare Clinic
- 0.1.7.3.8 Admissions & Discharge
- 0.1.7.3.9 Family Visiting Centre
- 0.1.7.3.10 Staff Resources/ERT

0.1.7.4 SUPPORT SERVICES (Section C)

- 0.1.7.4.1 Materials Management
- 0.1.7.4.2 Linen
- 0.1.7.4.3 Dietary
- 0.1.7.4.4 Housekeeping
- 0.1.7.4.5 Pharmacy
- 0.1.7.4.6 Client Storage
- 0.1.7.4.7 Maintenance

0.1.7.5 COMMUNITY REINTEGRATION UNITS

The purpose of the Community Reintegration Units (CRU) is to provide a transitional living environment, allowing Clients who are being discharged to participate in a managed process of re-entry to the community with the support of the Authority’s clinical staff and services, including food and medications.

0.1.7.6 REGIONAL ADMINISTRATION

Some of the Prairie North Region Health Authority offices will be accommodated at this Facility.

0.1.7.7 EDUCATION

The scope of educational opportunities at the Facility is evolving. Education and Learning Services will focus on the Client, family, staff and student education requirements specific to the Mental Health Services. The presence of appropriate Education and Learning Services on-site will facilitate evidence-based care that is in keeping with best practices.

0.1.7.8 RESEARCH

The goal of the Facility is to foster education, research and innovation in achieving ever-better processes for achieving and maintaining mental health. However, the scope/discussion for formal research opportunities is ongoing and evolving.

0.1.8 Service Components:

The following service components will be provided within the Facility unless otherwise noted:

Non-Secure Client Care Units	<ul style="list-style-type: none"> • Acute Client Care Services (4 Units @ 24 beds each) • Acute Shared Services (Unit Dining & Offices) • Extended Client Care Units (3 Units @ 12 beds each) • Extended Care Shared Services (Unit Offices)
Clinical Services for Non-Secure Clients	<ul style="list-style-type: none"> • Therapy Mall for Non-Secure Clients: <ul style="list-style-type: none"> ○ Quality of Life & Canteen ○ Music & Art Therapy ○ Education Centre, Internet Café & Library/Resources ○ Apparel Shop & Boutique ○ Gift Shop ○ Hair Care

APPENDIX 3A: CLINICAL SPECIFICATIONS
Introduction

	<ul style="list-style-type: none"> ○ Client Business Centre ○ Rehabilitation Lab & Addictions ○ Physical Therapy ○ Medical Clinic ○ Vocational Area 1 ○ Vocational Area 2 ○ Vocational Area 3 ○ Shared Support Office and Staff Lounge
Secure Client Care Units	<ul style="list-style-type: none"> ● Forensic Client Care Services (<i>1 Unit @ 30 beds each</i>) ● Forensic Assessment Unit (<i>1 Unit @ 12 beds each</i>) ● Forensic Shared Services (Unit Offices) ● Secure Client Care Unit (<i>4 Units @ 24 beds each</i>) ● Secure Shared Services (<i>Unit Offices</i>)
Central Programs	<ul style="list-style-type: none"> ● Centralized Therapy Programs (<i>Secure Clients</i>) ● Clinical Staff Office Area
Security Centre	<ul style="list-style-type: none"> ● Operations Security Centre
Video Court	<ul style="list-style-type: none"> ● Video Court Functions
Entrance	<ul style="list-style-type: none"> ● Entrance Functions (<i>Lobby, Reception, Museum & Conference Centre</i>)
Administration	<ul style="list-style-type: none"> ● Secure Services Administration ● Non-Secure Services Administration
Therapy Mall - Shared	<ul style="list-style-type: none"> ● Recreation Therapy (<i>Gym, Cardio, Weights, Staff Exercise, Games</i>) ● Spiritual/Cultural Care (<i>Chapel, Multipurpose, Sweat Lodge</i>)
Admissions & Discharge	<ul style="list-style-type: none"> ● Admissions & Discharge Services (<i>Sallyport, A&D Post, Classification</i>)
Visiting Centre	<ul style="list-style-type: none"> ● Visiting Areas (<i>Screening, General & Professional Visits</i>) ● Family Visiting Units (<i>Apartment</i>)
Health Care Clinic	<ul style="list-style-type: none"> ● Health Care Clinic
Staff Resources & ERT	<ul style="list-style-type: none"> ● Staff Training & Muster ● Staff Lockers & Lounge ● ERT (<i>Emergency Response Team</i>)
EOC	<ul style="list-style-type: none"> ● Emergency Operations Centre
BOSC	<ul style="list-style-type: none"> ● Back-up Operations Security Centre
Support Services	<ul style="list-style-type: none"> ● Dietary ● Materials Management ● Laundry/Linen ● Housekeeping ● Client Storage

	<ul style="list-style-type: none"> • Pharmacy • Maintenance
Building Systems	<ul style="list-style-type: none"> • Mechanical & HVAC • Power Distribution • Telecommunications • Plumbing • Signal
Building & Grounds Maintenance	<ul style="list-style-type: none"> • Building and Grounds (<i>Equipment Storage, Machine Shop</i>) • Maintenance (<i>Shop</i>)
Outdoor Spaces & Site	<ul style="list-style-type: none"> • Vocational Therapy (<i>outside equipment storage</i>) • Recreation Therapy (<i>Volleyball, Basketball, Horseshoe, Skating</i>) • Garden Therapy (<i>Greenhouse</i>) • Activity Courtyards (<i>Secure & Non-Secure Clients, Outdoor Storage</i>) • Parking • Sweat Lodge • Client Care Unit Courtyards (<i>Outdoor exercise yards, walking paths, basketball, raised healing gardens</i>)
Community Reintegration Units	<ul style="list-style-type: none"> • Community Reintegration Units (<i>2 Forensic Client Apartments – 4 bedrooms each-- & 1 Acute Client Apartment – 6 bedrooms</i>)
Regional Administration	<ul style="list-style-type: none"> • Human Resources • Health Quality Programs • QCC • Payroll/Benefits • Staff Support

0.1.8.1 Spatial Zones / Hours of Operation

0.1.8.1.1 A key-card access system, supplemented by security cameras and physical separation and/or controlled/restricted access between the various zones are required to facilitate appropriate use and safety of Clients and staff.

0.1.8.1.2 Refer to Attachment 1 [Staffing Model] for the anticipated staffing for the operation of the Facility.

0.1.8.2 Secure Client Zones: There will be three (3) spatial/temporal zones for the Secure Client areas of the Main Building.

0.1.8.2.1 24 hours-a-day, 7 days a week:

0.1.8.2.1.1 C 7 - Staff Resources & ERT

0.1.8.2.1.2 B 3 -Operations Security Centre

0.1.8.2.1.3 B 1.1 -Forensic Care Unit and Forensics Assessment Unit

0.1.8.2.1.4 B 1.2 - Secure Client Care Unit

0.1.8.2.2 12 to 16 hours/day, 7 days a week:

0.1.8.2.2.1 C 4 - Property Management (part of Admissions and Discharge)

0.1.8.2.2.2 B 2 - Central Programs

0.1.8.2.2.3 C 8 -Support Services (shared with Non-Secure) (includes Pharmacy)

0.1.8.2.2.4 C 6- Health Care Clinic

0.1.8.2.2.5 B 5 -Visiting Centre

0.1.8.2.2.6 C 3 -Therapy Mall Shared (within flexible security perimeter zone)

0.1.8.2.3 8 hours/day, 5 days a week

0.1.8.2.3.1 C 2 – Secure Administration (located in the Non-Secure Client area of the Main Building)

0.1.8.2.3.2 C 4 - Admissions and Discharge

0.1.8.2.3.3 B 2 - Video Court

0.1.8.3 Non-Secure Client Zones: There will be three (3) spatial/temporal zones for the Non-Secure Client areas of the Main Building.

0.1.8.3.1 24 hours/day, 7 days a week:

0.1.8.3.1.1 A 1.1 - Acute Client Care Unit

0.1.8.3.1.2 A 1.2 -Extended Client Care Unit

0.1.8.3.1.3 D 3 - Community Reintegration Units

0.1.8.3.2 12 to 16 hours/day, 7 days a week:

0.1.8.2.1.1 C 6 - Health Care Clinic (shared with Secure Clients) (within Flexible Perimeter Areas)

0.1.8.2.1.2 A 2 -Therapy Mall

0.1.8.2.1.3 C 3 - Therapy Mall Shared – (shared with Secure Clients) (within Flexible Perimeter Areas)

0.1.8.2.1.4 C 8 - Support Services (shared with Secure Clients, includes Pharmacy)

0.1.8.2.1.5 C1 Entrance

0.1.8.3.3 8 hours/day, 5 days per week

- 0.1.8.3.3.1 C 2 - Non-Secure Administration (located in the Non-Secure Client area of the Main Building)
- 0.1.8.3.3.2 D 4 - Regional Administration
- 0.1.8.3.3.3 B 2 -Video court (shared with Secure Clients)

0.1.8.4 Essential Clinical and Security Staff Interactions:

- 0.1.8.4.1 In the Secure Client Care Units (CCUs) and IPCRs the Nurse Station will be staffed by Registered Psychiatric nurse.
- 0.1.8.4.2 Therapeutic programs will occur both within the CCUs, managed by case management staff, as well as in centralized program facilities, some of which will be shared with the Non-Secure Client programs (see Therapy Mall in A2 and Therapy Mall-Shared in C3 sections of this Appendix).
- 0.1.8.4.3 Clients will be assessed at admission and a Care Plan will be developed for them, taking into account that Client's will be required to participate in the creation of their own Care and Activities Plans.
- 0.1.8.4.4 Both clinical staff and security staff will be knowledgeable about each Client's assessment and any factors that may impact their behavior.
- 0.1.8.4.5 Both clinical staff and security staff will work closely with Clients to engage them in constructive and responsible behavior, observing and assessing behaviors that are critical to maintaining a safe and therapeutic environment, documenting and sharing behavioral information with other staff and reporting any behavior that may jeopardize the safety or therapeutic advancement of any one within or outside of the Facility.

0.1.9 Building Concepts:

- 0.1.9.1** In order to understand the preferences and needs of the Authority what follows is a description of general building concepts and organization.
- 0.1.9.2** Flexible Perimeter Areas: This term describes departments or services that will be utilized by both Secure and Non-Secure Clients at different times. The Secure perimeter boundary will "flex" to include the services noted below during certain hours and not include them at other times. Utilizing the ESS, security and access will need to switch at various times throughout the day to allow for access by either Secure or Non-Secure Clients.
- 0.1.9.3** Schedules relating to the shifts have not been fully determined but the design will be required to be simple enough to allow for the securing of doors and achieving new security levels within minutes.
- 0.1.9.4** Each of these components within the Flexible Perimeter Areas will require independent flexibility (i.e. the entire group of flexible components can shift from secure to unsecure as a whole or one of the components will be secure while the others remain unsecure – the design will accommodate any permutation of these options).
 - 0.1.9.4.1 Components to be included in the Flexible Perimeter Areas are:
 - 0.1.9.4.2 Recreation Therapy

- 0.1.9.4.3 Spiritual/Cultural Care (see C-3)
- 0.1.9.4.4 Healthcare Clinic (see C-6)
- 0.1.9.4.5 Family Visiting Unit (see C-5)

0.1.9.5 Security Level Classifications: All spaces will have a Security Level Classification (SLC). This SLC determines the various safety and security specifications that will be required for the performance of the hardware, equipment, doors, windows, finishes, materials, and security and safety technologies that are required. These SLC numbers can be found in the SLC column of the Functional Space Requirements tables. The following are the SLC descriptions:

- 0.1.9.5.1 SLC 1 – Highest security level applicable to space where there is a risk for self-harm or harm to others. The equipment, lighting, plumbing fixtures, and hardware will be ligature resistant, vandal resistant, and some rooms will be required to be padded. Examples of SLC1 are the IPCR Rooms and Holding Rooms in the Admissions/Discharge and Video Court. Refer to the Functional Space Requirements tables for specific rooms requiring specifications that meet this classification.
- 0.1.9.5.2 SLC 2 – This level of security requires performance of specified equipment, fixtures and materials that have high resistance to abuse and ligature risk. But while providing this level of security the specified materials and equipment need to reinforce the need for a friendly, inviting environment. Examples of SLC2 are the Secure Client Care Unit Client bedrooms, and the Recreational Therapy spaces within the Shared Therapy Mall. Refer to the Functional Space Requirements tables for specific rooms requiring specifications that meet this classification.
- 0.1.9.5.3 SLC 3 – This level of security requires performance of specified equipment, fixtures and materials that are vandal and ligature resistant. Examples of SLC 3 are the Non-Secure Client spaces such as Acute Client Care Unit Client bedrooms and Vocational Therapy Programs. Refer to the Functional Space Requirements tables for specific rooms requiring specifications that meet this classification.
- 0.1.9.5.4 SLC 4 – This level of security applies to areas which will not be accessed by Clients. The performance specification for equipment, materials, and fixtures will be standard “specification grade”. Examples of SLC 4 are spaces such as those in the C8-Support section, Pharmacy and Regional Administration. Refer to the Functional Space Requirements tables for specific rooms requiring specifications that meet this classification.
- 0.1.10.5.4.1 Staff facilities, including toilets and change rooms, will be separate from Client areas to reduce the risk of staff being isolated with a Client or visitor.

0.1.11 External Circulation and Links:

- 0.1.11.1** Client Entrances – The Admissions and Discharge area of the Facility will support admissions for Secure Clients (Correctional and Forensic Services) arriving to the Facility (see C 4). Non-Secure Clients (Acute and Extended Client Care Services) will be directly admitted from the exterior to the dedicated Acute Care Admissions Unit (see A1.1)
- 0.1.11.2** Visitor Entrances – The Main Building will have two visitor entrances. The Facility’s main entrance will serve as the non-secure visitor entrance. Visitors who are visiting Secure Clients will be required to enter through a secure visitor entrance (see C-4 & C-

5) and proceed through a distinct screening process that the non-secure visitors are not required to complete.

0.1.11.3 Staff Entrances –Staff for Secure Client Care zone and Staff for the Non-Secure Client Care Zone will require separate entrances. All secure staff is required to arrive through one secure entry point).

0.1.11.4 Support Services Entrance -- One supply delivery entrance location is required for Food, Supplies, Pharmaceuticals, Linens, bottled Medical Gases, Equipment and Mail. Within the supply delivery area, differentiation and separation of clean and soiled flows will be required. The support services entry will not be allowed on the main entry face of the Main Building.

0.1.12 Internal Circulation and Links:

0.1.12.1 The general configuration of horizontal and vertical circulation systems has a direct impact on healthcare delivery, visitor orientation and way-finding and the efficiency of logistical activities. Its structure greatly influences travel times and is a key element that will determine the Facility organization and layout.

0.1.12.2 The architectural circulation systems help enhance patient, user and employee satisfaction in the healing environment. In general, the design of the Facility will include differentiated public circulation systems adapted to a mental health setting. Where possible, the design of the Facility needs to provide three main circulation systems for the flow of persons and goods, as outlined below:

0.1.12.2.1 Public circulation reserved for visitors, clients and caregivers

0.1.12.2.2 General clinical circulation located within departments and functional units, and reserved for staff, Clients, and supplies

0.1.12.2.3 Circulation reserved for logistics, in particular support services.

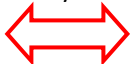


0.1.12.3 Stairwells will be located so as to shorten staff travel distance between critical departments. The design of the Facility should consider windowed exit stairwells with views of the outdoors to facilitate employee orientation and comfort, encourage the use of the stairwells and increase nighttime safety. The design of the Facilities should avoid placing stairwells in areas which restrict exterior views.

0.1.12.4 Elevators will be located for convenient staff and Client movement and the efficient movement of support services. Service elevators will be located to allow efficient ease of access for material movement. Public elevators will be visible and easily accessible from the entrances, parking lots and main circulation on each floor. Service elevators will be sized to accommodate the supply-distribution “tug” and supply and linen carts.

0.1.13 External Circulation and Links:

The following table provides definitions for key terms and notations used throughout this Appendix.

Term or Notation	Definition
Direct Access	Components are located side-by-side. Direct Access will be via either vertical or horizontal adjacency unless otherwise noted.
Convenient Access	Components are located side-by-side or with minimal horizontal or vertical separation.

Internal Circulation	Connection between components provided with no separation or via dedicated connection.
General Circulation	Connection between components provided via shared spaces or hallways.
Proximity Relationship: Red Arrow 	Required <u>Direct Access</u> and <u>Internal Circulation</u> between components. Horizontal adjacency required unless otherwise specified.
Proximity Relationship: Yellow Arrow 	Required <u>Direct Access</u> and <u>General Circulation</u> between components.
Proximity Relationship: Green Arrow 	Required <u>Convenient Access</u> and <u>General Circulation</u> between components.
Horizontal Adjacency	Components located side-by-side on the same level.
Vertical Adjacency	Components located one or multiple levels apart, directly on top of one another with a vertical connection (i.e. elevator).

0.1.14 Standardization:

0.1.14.1 It is the intent of the Authority that the Facility will be standardized. All rooms that have similar functions will be standardized. This means that where rooms have a similar function they will be standardized within the Facility. Whenever possible, and whenever appropriate for the type of Client care to be delivered, the Client Care Units will be designed in standardized, modular, flexible configurations so that they can adapt to changes in client types, and care-delivery practices over time. For example, interchangeability of Client Care Units serving both Secure and Non-Secure Clients should be a goal of the design.

0.1.14.2 The following room elements will be standardized:

- 0.1.14.2.1 Client Room length and width
- 0.1.14.2.2 IPCR Suite
- 0.1.14.2.3 Fixed Equipment
- 0.1.14.2.4 Millwork
- 0.1.14.2.5 Plumbing Fixtures and Location
- 0.1.14.2.6 Furniture locations
- 0.1.14.2.7 Client bed/desk and wardrobe location
- 0.1.14.2.8 Door Location
- 0.1.14.2.9 Lighting

0.1.15 Therapy Mall Concepts:

0.1.15.1 The Therapy Mall concept is an important core organizing principle for the Facility. The following design concepts are important for the effective functioning of the Therapy Mall:

0.1.15.2 The A2 Therapy Mall will be conveniently located by general circulation to all Non-Secure Client care units.

0.1.15.3 The C3 Therapy Mall – Shared will be conveniently located by general circulation to all Non-Secure Client care units and all Secure Client care units.

- 0.1.15.4** The A2 Therapy Mall and the C3 Therapy Mall – Shared will be designed to act as the “heart of the Main Building” to encourage utilization, access and client interaction.
 - 0.1.15.5** The Therapy Mall(s) will provide a normalizing environment for clients. The mall(s) will provide destinations/appointments for Clients very much like their experiences outside of the Facility.
 - 0.1.15.6** Use of interior glazing and storefront designs are encouraged to promote client interaction as well as provide for passive supervision.
 - 0.1.15.7** Natural daylight will be provided to all Client spaces within the Therapy Malls.
- 0.1.16 Support Services Concepts:**
- 0.1.16.1** The support services will have an appropriate location that improves efficiency and reduces travel distances for support staff:
 - 0.1.16.2** The Support Services need to be convenient to the Client Care Units
 - 0.1.16.3** Support services will be clustered to maximize the utilization of shared spaces
 - 0.1.16.4** Staff lockers, showers and lounge spaces
 - 0.1.16.5** Spaces will be designed with thoughtful consideration of staff travel distances and ease of external accessibility for delivery services
- 0.1.17 Outdoor Space Concepts:**
- 0.1.17.1** The connection to the landscape and the outdoors is a critical element of the healing process. The Facility will have a variety of outdoor program spaces for Clients to use in their journey to recovery. Outdoor spaces will fall into three categories:
 - 0.1.17.1.2** The Client Care Units will have secure outdoor spaces and/or secure courtyards with direct access from each Client care unit. These will be accessed by clients, staff and visitors on that specific unit. The security “fencing” will be provided by either the building envelope or secure fencing, or both.
 - 0.1.17.1.2** Secure Central outdoor spaces are required. At least one central secure outdoor space for Secure Clients and at least one central secure outdoor space for Non-Secure Clients will be located in central and convenient location(s) within the Facility. Secure Client courtyard(s) will be separated from Non-Secure Client courtyard(s). The secure courtyards will be used by Clients, staff and potentially visitors while still within the security perimeter of the building. The security “fencing” will be provided by the building perimeter.
 - 0.1.17.1.3** Non-secure outdoor spaces located on Site will be accessed by Clients with privileges, and by staff, visitors and the public. No security fencing is required, but “soft” edges for the Site will be defined by appropriate, indigenous landscaping. Refer to security section in Schedule 3 [Design and Construction Specifications] for proximity sensors and cameras that will be required

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- 0.1.17.2** For all types of outdoor spaces, selection of outdoor plantings and ground covers will be safe for psychiatric clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
 - 0.1.17.3** Secure Fencing – refer to Schedule 3 [Design and Construction Specifications] for further requirements
 - 0.1.17.4** Fencing will not be climbable.
 - 0.1.17.5** The aesthetic of the fencing will be unobtrusive and blend into the landscape as much as possible to create a normalized environment.
 - 0.1.17.6** All gates where required will be secured and tied to the Operations Security Centre (see B 3)
 - 0.1.17.7** Outdoor lighting- refer to Schedule 3 [Design and Construction Specifications] for further requirements.
 - 0.1.17.8** Facility Outdoor Spaces requirements:
 - 0.1.17.8.1 All outdoor courtyards will allow for maintenance and cleaning and snow removal.
 - 0.1.17.8.2 Each courtyard that is fully enclosed by the building envelope requires a secure storage shed for maintenance equipment and supplies.
 - 0.1.17.9** The following features will be provided in each of the central secure and non-secure courtyards.
 - 0.1.17.9.1 Accessible looped walking path
 - 0.1.17.9.2 A wood fire pit with seating
 - 0.1.17.9.3 Smudging capability
 - 0.1.17.9.4 BBQ grill with piped natural gas
 - 0.1.17.9.5 Recreation therapy including but not limited to outdoor basketball and volleyball courts.
 - 0.1.17.9.6 Garden Therapy programs including areas for planting and raised garden beds.

0.1.18 Functional Space Requirements:

- 01.18.1** Each department in the Facility has a Functional Space Requirement table. Each room and area listed in the table will be provided in the applicable department of the Facility. The Functional Space Requirement tables list additional requirements in the design criteria column for each room. The net square meter area provided will be considered the minimum area to be provided
- 0.1.18.2** Each component in the Facility has a Functional Space Requirement table. Each room and area listed in the table shall be provided in the Facility. The Functional Space Requirement tables list additional requirements in the design criteria column for each room. The net square meter area provided shall be considered the minimum area to be provided
- 0.1.18.3** Staff facilities, including toilets and change rooms, will be separate from Client areas to reduce the risk of staff being isolated with a Client or visitor.

0.1.18.4 Electrical outlets and data outlets will be provided in equipment rooms, supply rooms, soiled utility, holding rooms, storage and alcoves and be positioned at a height which promotes ease of access without unnecessary bending.

0.1.18.5 All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behaviour.

0.1.19 Technical Requirements:

0.1.19.1 A variety of lighting strategies must be considered to provide a safe environment for clients and staff, a calming environment and accurate and safe working conditions. Refer to Schedule 3 [Design and Construction Specifications] for specific lighting requirements.

0.1.19.2 Acoustics is an important consideration in the design of mental health facilities to both provide the ability to have calming, quiet environments when desired as well as to allow for audible supervision of some spaces. Refer to Schedule 3 [Design and Construction Specifications] for acoustic requirements by room.

0.1.19.3 Electrical outlets and data outlets will be provided in equipment rooms, supply rooms, soiled utility, holding rooms, storage and alcoves and be positioned at a height which promotes ease of access without unnecessary bending.

0.1.19.4 All dimensions of counters and desks will act as an appropriate barrier and provide adequate protection from violent or threatening behaviour.

0.1.20 Medication Rooms

0.1.20.1 Medication Room/Dispensaries will be directly adjacent to the Nurse stations and allow for convenient, secure, quick staff access. All medication rooms are to be fully enclosed unless otherwise directed by the Authority. All medication rooms will have at least one door and will be capable of opening electronically and securely for authorized staff (i.e. controlled access). All medication room doors shall have direct line of sight from the nurse station. All medication rooms shall have no less than 2800mm in countertop length; room for at least two under-counter medication refrigerators and one automated medication dispensing unit and a sink.

0.1.21 Client Care Units Requirements:

0.1.21.1 The Facility beds will be organized into the following Client Care Unit types:

- 0.1.21.1.1 4 Acute Client Care Units of 24 beds each
- 0.1.21.1.2 3 Extended Client Care Units of 12 beds each
- 0.1.21.1.3 1 Forensics Client Care Unit of 30 beds
- 0.1.21.1.4 1 Forensic Assessment Client Unit of 12 beds
- 0.1.21.1.5 4 Secure Client Care Units of 24 beds each
- 0.1.21.1.6 3 Community Reintegration Units – total of 14 beds

0.1.22 Care Unit Priorities:

0.1.22.1 The Unit design will achieve the following priorities:

0.1.22.2 Line of sight from one central nurse collaboration station is required for safety and control to all bed wings, day spaces (zen/activity, dining, therapy, and interview) and unit entry.

- 0.1.22.3** Reduced travel distances for Staff and Clients; therefore each bed wings of a Unit will not exceed 12 beds.
- 0.1.22.4** Client's private room will have a view to the landscape. However, priority should be given to provide views of the landscape for all day-activity spaces where Clients will spend most of their time.

0.1.23 Guiding Design Principles:

0.1.23.1 The following design principles will be met on all Client Care Units:

- 0.1.23.1.1 All Client spaces will have views to the landscape. Views of parking lots, support service areas, loading docks, and MEPI elements are not permitted.
- 0.1.23.1.2 All Client accessed spaces will meet barrier free design standards.
- 0.1.23.1.3 Spaces used by Clients most frequently during the day, such as dining, zen activity, and therapy will be given the priority views to the river valley.
- 0.1.23.1.4 Spaces used by Clients less frequently, or at night, such as Client rooms & interview rooms, will be given second priority to the views of the river valley.
- 0.1.23.1.5 Nurse collaboration stations will have direct line of sight to the following areas:
 - 0.1.23.1.5.1 Client bed wings and corridors
 - 0.1.23.1.5.2 Dining room
 - 0.1.23.1.5.3 Zen/activity room(s)
 - 0.1.23.1.5.4 Therapy room(s)
 - 0.1.23.1.5.5 Interview Room(s)
 - 0.1.23.1.5.6 Client Laundry room
- 0.1.23.2** Flexibility and Adaptability is important. Client Care Units will be designed as interchangeable as possible to best accommodate future changes in Client types and care delivery methods, while at the same time keeping in mind that some Client populations, such as Extended Client Care will have unique differences that will be acknowledged in the design.
- 0.1.23.3** Client and staff safety is of the utmost importance. All interior material selections for rooms designated in SLC 1, 2, and 3 will employ anti-barricade, anti-ligature and tamper resistant features.
- 0.1.23.4** Entrances and exits to Client care units should be reduced to help prevent elopement. All areas that could allow for client exit or entrance will be monitored by the Operations Security Centre.
- 0.1.23.5** All IPCR suites will be identical in layout for ease of use by staff and predictable work patterns due to the high acuity of clients utilizing those spaces.
- 0.1.23.6** Client Medical and Bariatric Rooms will be located in close proximity to the Nursing Stations.

- 0.1.23.7** Use of temper-laminated interior glazing on client care units is encouraged to increase staff visual connection to client daytime activity spaces and allow for maximum client choice while providing a safe and secure environment.
- 0.1.23.8** Each Non-Secure Client Care Unit will have Staff Support spaces with offices and work spaces for clinical staff and clinical support functions. This integrated office suite will be located along the general, public circulation with direct adjacency to the Care Unit that it serves.
- 0.1.23.9** Secure Client Care Units will have Staff Support spaces with offices and work spaces for clinical staff, security staff and clinical support functions. This integrated office suite will be located along the general, public circulation with direct adjacency to the Care Unit that it serves.

0.1.24 Key Client-driven Criteria:

- 0.1.24.1** The following criteria were developed through consultation with the Authority representatives. The design will include the following:

- 0.1.24.1.1 Good views to the natural environment
- 0.1.24.1.2 Natural light throughout the building
- 0.1.24.1.3 Create a warm, inviting environment
- 0.1.24.1.4 Temperature controllable environment (i.e. ability to make warmer or cooler)
- 0.1.24.1.5 Good proximity to bathrooms
- 0.1.24.1.6 Areas for Client privacy and areas that are calming
- 0.1.24.1.7 Space that meets Client's needs and reduces conflicts
- 0.1.24.1.8 Good access to therapy and program areas
- 0.1.24.1.9 Space for visiting with family
- 0.1.24.1.10 Outdoor space for walking, visiting, and therapeutic activities.
- 0.1.24.1.11 Staff and Client security & safety for IPCR rooms
- 0.1.24.1.12 Flexible and adaptable spaces
- 0.1.24.1.13 Good adjacencies to reduce travel distances for Staff.
- 0.1.24.1.14 Quiet spaces
- 0.1.24.1.15 Modifiable spaces
- 0.1.24.1.16 Wheelchair accessibility
- 0.1.24.1.17 Open sight lines to Client rooms and activity areas

- 0.1.24.2** Introduce Kanban (nurse-server) supply system to improve efficiency of the supply system at the Client Care Rooms. Kanban system will be lockable from both sides and will not compromise the security of the Client's room.

0.1.25 The Virtual Care Team Approach:

- 0.1.25.1** Technology will be leveraged to enable more effective collaboration among administrative and clinical care teams in the management of Clients, clinical programs, resources, legal records and health records.
- 0.1.25.2** Video-conferencing will be utilized to enable more efficient court hearings and probation hearings.
- 0.1.25.3** Tele-health technologies will be utilized to enable remote specialist consultation, discharge planning to the community, better clinical collaboration, and more efficient legal consultations for Clients.

A 1.1 ACUTE CLIENT CARE SERVICES

This specification outlines the functional, operational and physical requirements for the Acute Client Care Service(s) functional component at the Facility.

FUNCTIONAL DESCRIPTION

1.1.1 Statement of Purpose

1.1.1.1 Philosophy

- 1.1.1.1.1 Acute Client Care Services provide assessment and treatment to residents of Saskatchewan who experience the effects of serious mental illness, thereby allowing them to be re-integrated as contributing members of the community.
- 1.1.1.1.2 The Short Term Rehabilitation Service is based on the belief in an individualized holistic approach to a comprehensive range of client needs. Clients are entitled to be treated with dignity and respect and without prejudice through a multidisciplinary approach to service delivery.
- 1.1.1.1.3 The focus of the service is to ensure a safe environment and a therapeutic milieu for the Client. It is the Authority's belief that a positive relationship with the community will be created. It is the right of all Clients to have access to dynamic psychiatric rehabilitation with discharge planning from time of admission.
- 1.1.1.1.4 Supportive psychiatric rehabilitation programming will extend from the Facility into the community to ensure successful community reintegration. Each individual has a right to community living, with the greatest level of independence and richest quality of life possible. All service delivery will be as culturally relevant as possible.
- 1.1.1.1.5 All services provided through this service area will be accessible to all Non-Secure Clients in accordance with specific identified needs.
- 1.1.1.1.6 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive way as possible.

1.1.1.2 Guiding Principles

- 1.1.1.2.1 Stabilize the Client's psychiatric condition such that the symptoms are reduced or better managed. Develop and deliver Client centred individualized multidisciplinary treatment plans based on assessed needs.
- 1.1.1.2.2 Provide a welcoming, safe and secure environment for Clients.
- 1.1.1.2.3 Develop and maintain effective programs that will provide Clients' families with support and education. Promote community awareness and involvement.

1.1.1.2.4 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

1.1.1.3 Scope of Services

1.1.1.3.1 Functional Content

1.1.1.3.1.1 Functionally, this component has four distinct client care units. Each unit will be identical in layout, however one unit will have an assessment room (one of the two standard interview rooms will be used as an assessment room) and this unit will act as the assessment unit.

1.1.1.3.1.2 Each Acute care unit will have 24 beds.

1.1.1.3.1.3 Bed wings will not contain more than 12 beds each and not less than 6.

1.1.1.3.1.4 Psychiatric Intensive Care will be decentralized to each of the Client care units. Each unit will have 2 Intensive Psychiatric Care Rooms. These rooms are intended for high acuity Clients who are a risk to themselves or require 1 to1 or 1 to 2 observations. Clients will use these rooms for short durations and will be moved back to their private room when appropriate.

1.1.1.3.1.5 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:

1.1.1.3.1.6 The design will promote a safe and secure environment;

1.1.1.3.1.7 The design will create a welcoming Client and family-centred healing environment;

1.1.1.3.1.8 The design will support the model of care;

1.1.1.3.1.9 The design will minimize staff travel distances;

1.1.1.3.1.10 The design will provide specific supports to ensure the control of infection;

1.1.1.3.1.11 The design will provide respite and relaxation opportunities for both Clients and their visitors on each of the care units;

1.1.1.3.1.12 The design will provide multiple opportunities for clients to experience the outdoors via courtyards, porches and through natural light and views;

1.1.1.3.1.13 Priority of spaces receiving views to the river valley and landscape should be determined based upon the following criteria: 1 – Day spaces on the client care unit where clients spend the most of their daylight hours (i.e. activity room/Zen room, dining room, therapy rooms) 2 – Client Private Bedrooms 3 – Staff Spaces; and

1.1.1.3.1.14 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots.

1.1.1.3.2 Exclusions

- 1.1.1.3.2.1 The following list specifies functions that involve either Clients or staff normally present on the Acute Care Units but are understood to occur in other functional components in the Facility or outside of the Facility:
- 1.1.1.3.2.2 Large scale Recreational Therapy/Wellness activities will occur within A2 Therapy Mall;
- 1.1.1.3.2.3 Education/Training and GED completion will occur in the Education Centre (A2 Therapy Mall);
- 1.1.1.3.2.4 Vocational Therapy (recycling, wood working, gardening) (A2 Therapy Mall);
- 1.1.1.3.2.5 Quality of Life/Canteen – large scale activities of daily living, cooking, dishwashing (A2 Therapy Mall);
- 1.1.1.3.2.6 Client Business Centre – resume writing, activities of daily living (A2 Therapy Mall)
- 1.1.1.3.2.7 Medical Services other than those performed in the unit Treatment Room will occur in the Health Care Clinic (C 6), or in the community through partnership agreements, or transferred to a local acute care location.

1.1.1.3.3 Anticipated Trends in Service Delivery

- 1.1.1.3.3.1 The following lists trends expected within the planning horizon of this Project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design:
- 1.1.1.3.3.2 Increasing numbers of Clients with addictions and mental disorders;
- 1.1.1.3.3.3 Increasing Client acuity and complexity and potential for aggression (e.g. brain injured younger people from trauma or substance abuse);
- 1.1.1.3.3.4 Increasing numbers of bariatric Clients admitted to Facility is predicted to increase;
- 1.1.1.3.3.5 Increasing mean age of staff working on the Client units is predicted to increase;
- 1.1.1.3.3.6 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions;
- 1.1.1.3.3.7 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility;
- 1.1.1.3.3.8 Increasing recognition of need for informed care; and
- 1.1.1.3.3.9 Redesigning service delivery to meet the needs of First Nations Clients.

1.1.1.4 Scope of Education Functions

1.1.1.4.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

1.1.1.5 Scope of Research Functions

1.1.1.5.1 Staff and students working in the Client units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

1.1.2 Hours of Operation

1.1.2.1 The Acute Client Care Service will be staffed and in operation:

24 hours-a-day, 7 days-a-week

1.1.2.2 The component will have regular visiting hours:

0900 – 2100, 7 days-a-week

1.1.3 People Management Systems

1.1.3.1 All Clients admitted to this component will arrive from a referring institution. The typical Client will be ambulatory, and will be escorted by care givers or, in extreme cases, by police or security staff.

1.1.3.2 Registration and documentation will have been started or completed for referred Clients in the referring institution. All other Clients will be documented upon arrival. Arrival will also coincide with medical and nursing assessments to determine the appropriate level of care required.

1.1.3.3 Clients will be admitted from the exterior directly to the Admission Room on one of the Acute Care Units. After initial assessment and medical screening, clients will be able to bathe or shower and then be shown to their private room.

1.1.3.4 Acute Client discharge will occur through the Main Building main entrance door or discharged to their home region facilities.

1.1.3.5 All visitors to the Acute Client Care Services will have access through the Main Building main entrance and move through general circulation to the unit entry door.

1.1.3.6 At the unit entry secure vestibule, a visual and audio control system will allow visitors to contact the nursing station of the desired unit to request admission to the unit. Staff of that unit as well as the Operations Security Centre will be able to electronically open the unit door from the nurse station as well as physically move to the visitor to greet them depending upon the situation. The nurse station will have direct visual control of the unit entry secure vestibule.

1.1.4 Material Management Systems

- 1.1.4.1** The design of the unit will minimize the need for support and maintenance staff to access Client areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.
- 1.1.4.2** The following rooms will be able to deliver /retrieve supplies or perform work without directly interacting with Clients and staff on the unit: housekeeping room soiled holding room, clean supply room, nutrition centre, data and electrical closets.
- 1.1.4.3** Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

1.1.5 Consumable Supplies

- 1.1.5.1** Inventories of consumable supplies will utilize the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use.
- 1.1.5.2** Cabinets will be lockable so that if necessary Client access is controlled.
- 1.1.5.3** All supplies will be inaccessible to Clients and to the public.

1.1.6 Linen

- 1.1.6.1** Each Client unit has one Client laundry room consisting of a heavy-duty domestic type washer and dryer to use for laundering personal clothing is considered essential. Clients will wash and dry their own personal clothing.
- 1.1.6.2** Laundry service is provided by the Authority for those who are not able to wash their own clothes. All linen services are provided by the Authority.
- 1.1.6.3** Inventories will be managed via the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) of the cabinet.
- 1.1.6.4** Laundry, for Clients' non-personal items, processing will occur in the laundry and linen service area. Soiled linen will be collected from the Kanban in small covered hampers, temporarily staged in the soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.

1.1.7 Pharmaceutical Products

- 1.1.7.1** Medication is currently delivered via mobile medication carts and medications are dispensed to the Clients on the unit. The design of the medication room will allow for the flexibility to dispense medication in a number of ways to allow for future flexibility. It is assumed that in the future automation will be used in the inventory management and dispensing of Client medications as per the Saskatchewan College of Pharmacists, Reference Manual-Standards, Guidelines and Policy Statements. The design will accommodate the use of automated dispensing, narcotics cabinets, refrigeration, medication carts, and a dispensing window with direct access to the corridor.
- 1.1.7.2** The medication room will be enclosed and lockable and consistent with the best practice pharmacy standards.

- 1.1.7.3** The medication room will have direct access to the IPCR suite for ease of dispensing medications to clients in crisis.
- 1.1.7.4** The medication room will have direct access to the nursing station for ease of use and control of medications.
- 1.1.7.5** The medication room will contain medication carts which will be stocked with unit doses of Clients' medications and dispensed according to prescribed schedules or as required. Pharmacy personnel will be responsible for inventory management of the medication rooms and their associated medication carts, whereas nursing personnel will deliver medications from the medication room to the Client.
- 1.1.7.6** Unstable products will be prepared in Pharmacy (C8.6), and then delivered to the unit either according to a prescribed schedule or upon request. Product delivery to the medication rooms will rely on pharmacists or pharmacy technicians for product transportation.

1.1.8 Food Services

- 1.1.8.1** Food service will generally be provided to Acute Clients in the central dining room for all Acute Clients. This area will be located convenient to all Acute Client units and will allow for Clients to socialize with their friends from other units. Food will be prepared in a servery style where Clients can move through a tray line and choose their items to be plated. For those Clients who are not well enough to eat in a central location tray service will be provided via cart to the nourishment station and delivered to the Client either in the unit dining room or within their private room.
- 1.1.8.2** A roll down shutter will be provided between the Dining Room and Servery.
- 1.1.8.3** The Servery will be accessed by staff only.
- 1.1.8.4** Dishwashing will occur in the satellite kitchen.

1.1.9 Waste Management

- 1.1.9.1** The majority of waste products will be soiled linen, garbage and recyclables. Other waste products will be managed within the soiled holding stations located in the common support area of each unit.
- 1.1.9.2** Segregation of wastes will accommodate the following categories of products:
 - 1.1.9.2.1 General garbage;
 - 1.1.9.2.2 Sharps (including potentially bio hazardous items);
 - 1.1.9.2.3 Infectious or contaminated wastes (excluding sharps);
 - 1.1.9.2.4 Confidential paper;
 - 1.1.9.2.5 Clean paper and cardboard;
 - 1.1.9.2.6 Clean metal (tin and aluminum);
 - 1.1.9.2.7 Clean recyclable plastics; and
 - 1.1.9.2.8 Compostable materials.
- 1.1.9.3** A secure soiled utility room, for the containment of soiled items and trash will be required on the unit. The soiled utility room will be accessible by staff only.

1.1.10 Information Management Systems

- 1.1.10.1** All Client related information will be maintained on the electronic medical record (EMR) system. Wireless technology will enable data entry using a combination of fixed terminals, at staff workstations in the nurse station and team charting/conference room and mobile computer on wheels or tablets. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.
- 1.1.10.2** To meet requirements of the Mental Health Act; each Client will be required to have some paper based health records. Storage for these records will be provided within the unit, in the team charting/conference room which is only accessible by the appropriate staff.
- 1.1.10.3** The clinical unit and Client care spaces will optimize care delivery through the design and building of facilities and work spaces which emphasize the blend of workflow, care processes, automation of practice, and interoperability between medical and business technologies in support of the Authority's strategic investment in Sunrise Clinical Manager and other clinical and business systems.
- 1.1.10.4** The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:
 - 1.1.10.4.1 Integrated Medication Carts;
 - 1.1.10.4.2 Medication Dispensing Cabinets;
 - 1.1.10.4.3 Mobile and Fixed Computer Devices – Desktop and Wall mount;
 - 1.1.10.4.4 Mobile and Fixed Label Printers;
 - 1.1.10.4.5 Mobile and Fixed Barcode Scanners;
 - 1.1.10.4.6 Handheld Computer Devices;
 - 1.1.10.4.7 Glucometers with Docking Stations;
 - 1.1.10.4.8 Tracking Monitors – Client, Staff, and Resource Tracking;
 - 1.1.10.4.9 Clinical Dashboards;
 - 1.1.10.4.10 Smart Beds;
 - 1.1.10.4.11 Smart Pumps;
 - 1.1.10.4.12 Device Integration for real –time clinical assessment and physiological data documentation;
 - 1.1.10.4.13 Digital Room Signage and Way-finding;
 - 1.1.10.4.14 Location Awareness;
 - 1.1.10.4.15 Device Connectivity;
 - 1.1.10.4.16 Multifunction Communication Devices with integration to systems;
 - 1.1.10.4.17 Telehealth and Virtual Team Capabilities;

- 1.1.10.4.18 Real Time Location System; and
- 1.1.10.4.19 Staff Safety and Duress.

DESIGN CRITERIA

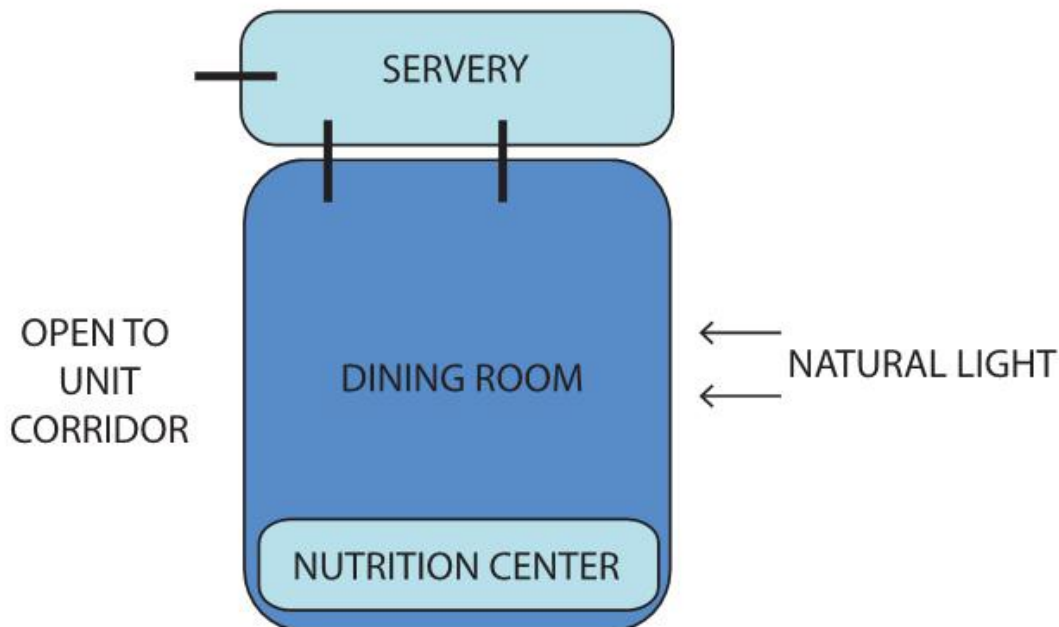
1.1.11 Lean Planning Standards

1.1.11.1 Standardization of Client Bedrooms

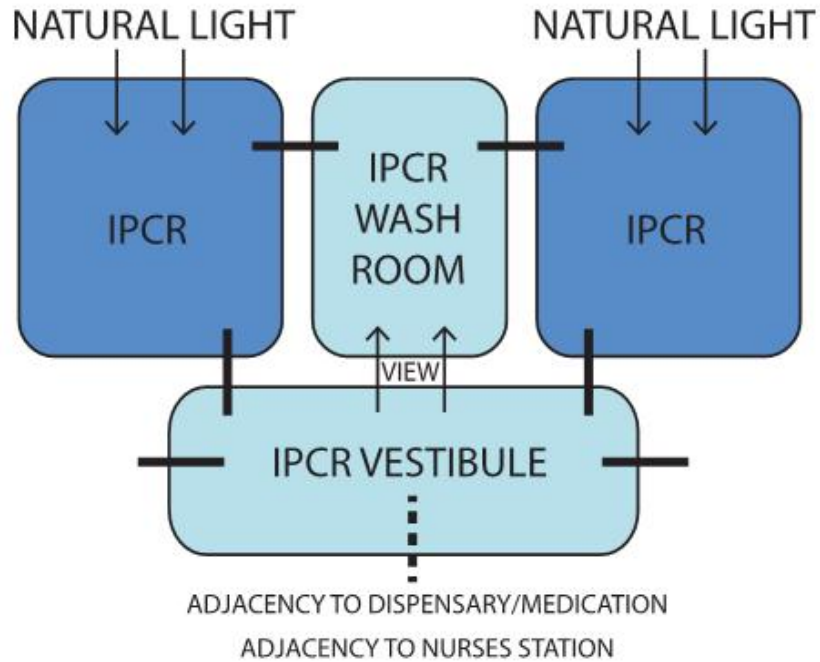
- 1.1.11.1.1 Each Client room will be designed, configured, equipped and furnished to a common standard and design. The intent of this requirement is to facilitate staff moving from room-to-room without having to reorient themselves with respect to frequently accessed key features like Client bed, desk, wardrobe, Kanban cupboard, call annunciator, and cancel buttons.
- 1.1.11.1.2 All Client rooms are to have a standard orientation; the configuration and layout within each Client room will be standardized to facilitate immediate orientation for staff. A standard room orientation will be accommodated via a “like-handed” design – or in “mirrored” design..

1.1.11.2 Proximity Relationships

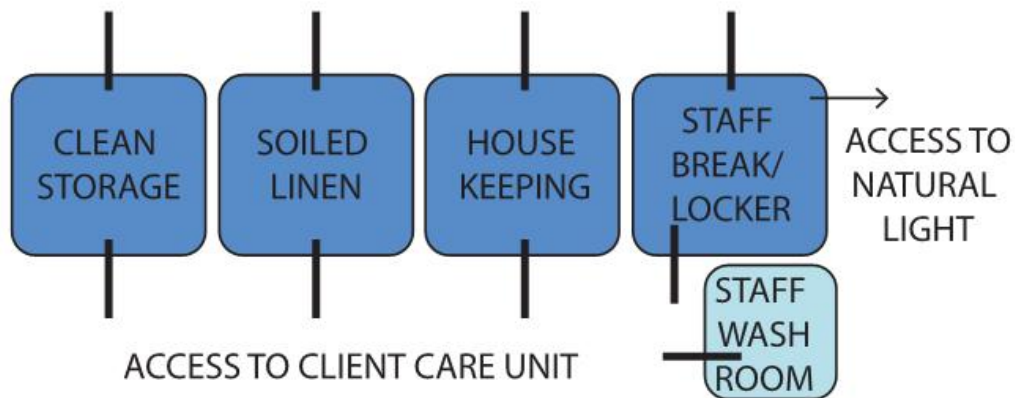
DINING ROOM/NUTRITION/SERVERY



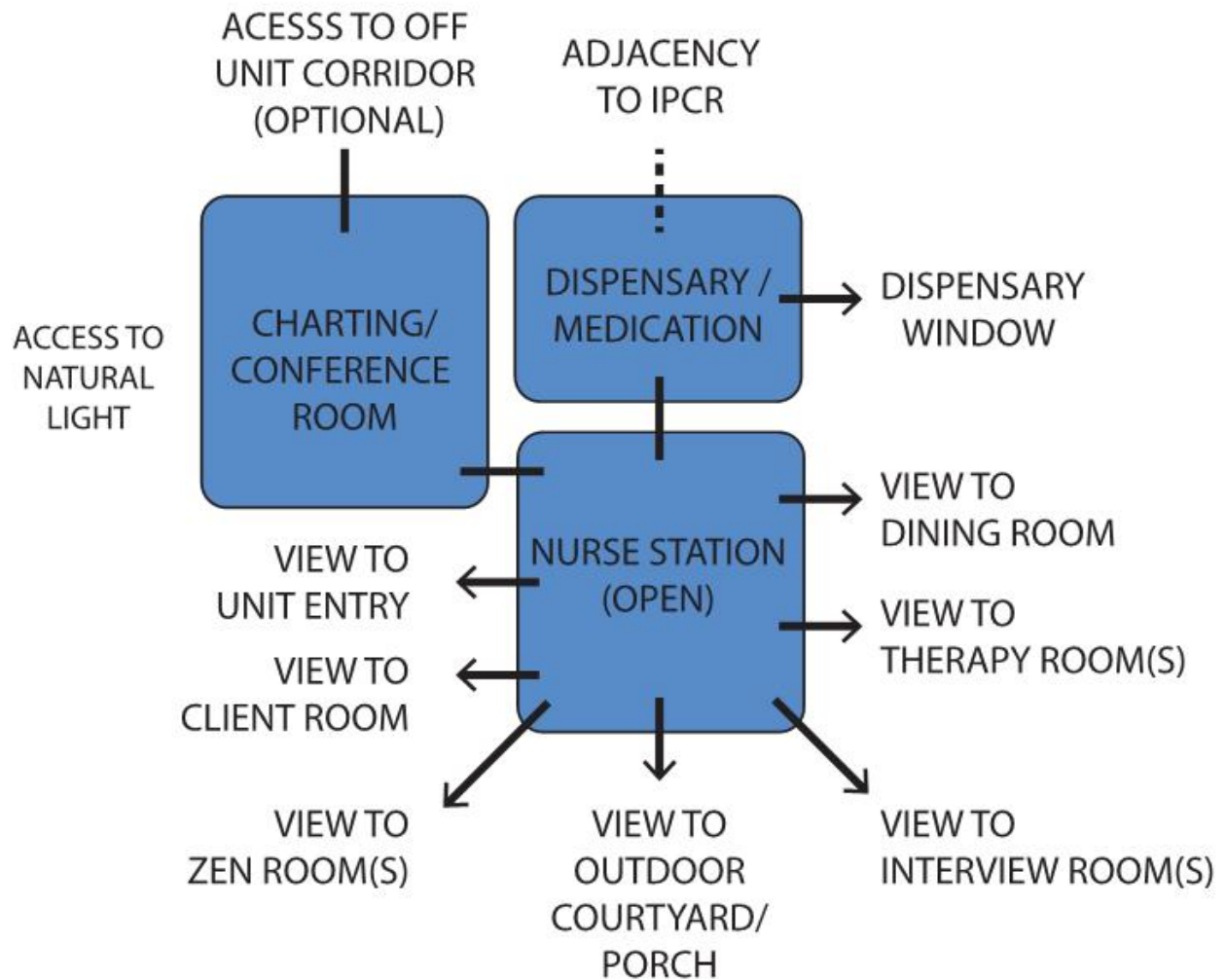
INTENSIVE PSYCHIATRIC CARE SUITE



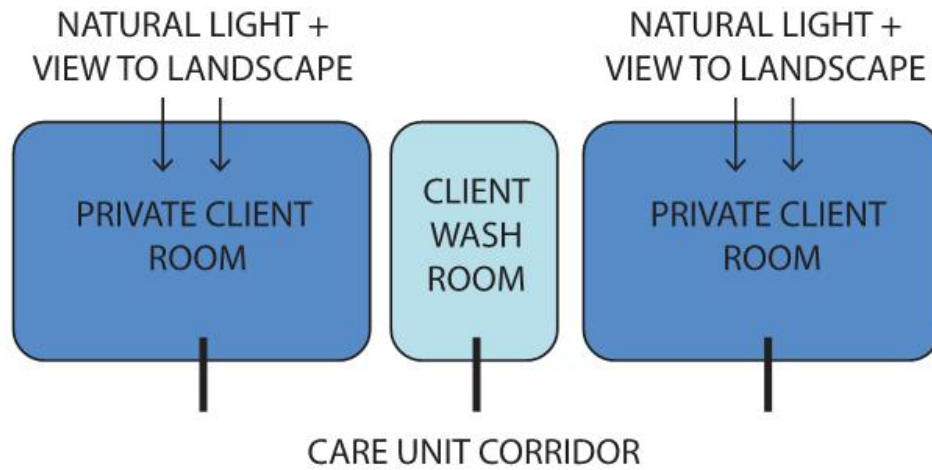
SUPPORT SERVICES OFF UNIT CORRIDOR



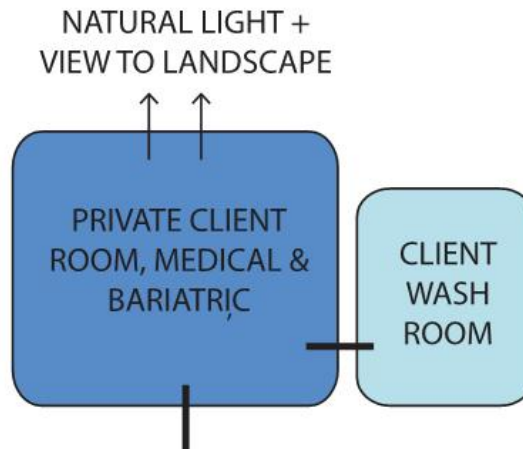
NURSE STATION, MEDICAL DISPENSARY, AND CONFERENCE ROOM



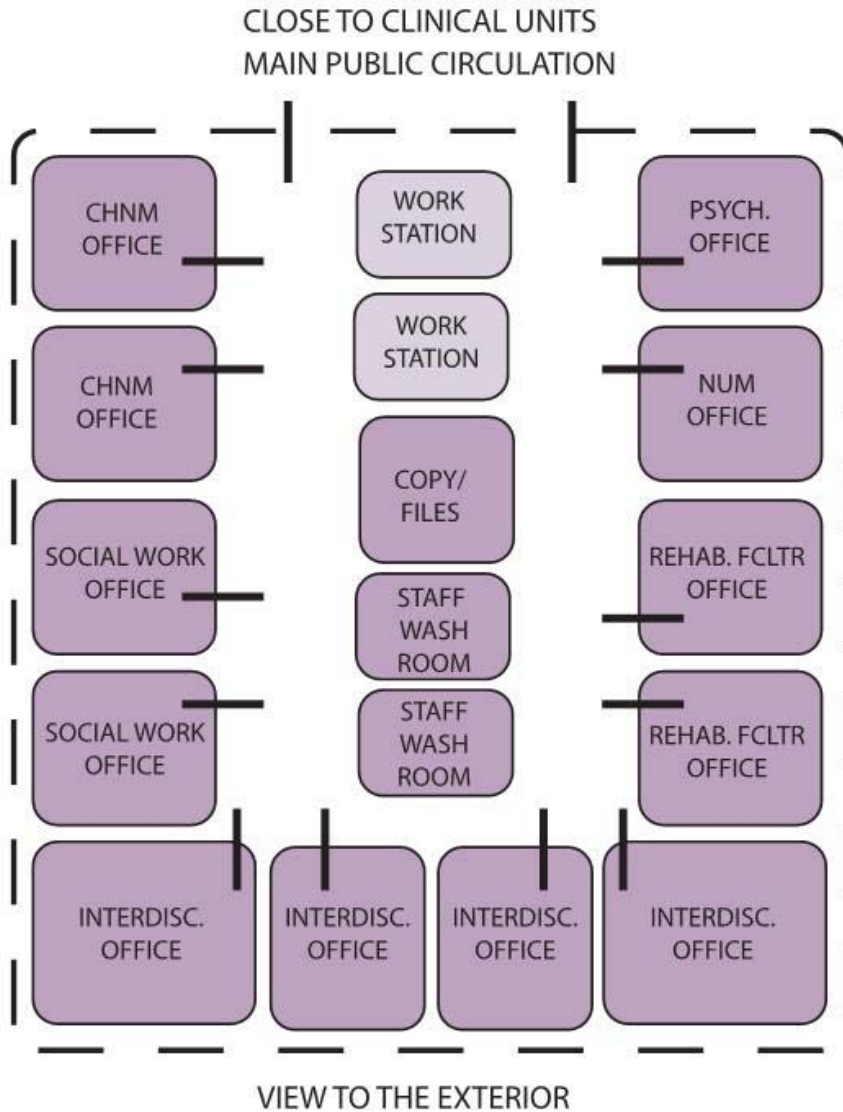
PRIVATE CLIENT ROOM /WASHROOM PAIR



PRIVATE CLIENT ROOM, SPECIALTY/WASHROOM



MODULAR CLINICAL OFFICE SUITE



- 1.1.11.2.1 The Acute Client Care units locations relative to other components, or other areas of the facility, and the nature of circulation used to move between different components/areas are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 1.1.11.2.2 The 4 Acute Client Care Units will be collocated on one level or separated into pairs onto two levels.
- 1.1.11.2.3 Provide convenient access by general circulation between the 4 Acute Client Care Units.

- 1.1.11.2.4 Outdoor Spaces
 - 1.1.11.2.4.1 Access and exit from the courtyard/porch is limited to/from within the unit. Courtyards and porches will not be shared between units.
 - 1.1.11.2.4.2 The entire courtyard and porch will be physically visible to staff at all times and video monitoring of the courtyard/porch is also required.
 - 1.1.11.2.4.3 Provide direct access by internal circulation to a secured outdoor area for the movement of Clients, visitors and staff. Each Client Care unit will have separate, dedicated secure outdoor areas.
- 1.1.11.2.5 Provide convenient access by general circulation to the Acute Dining Area and Servery for convenient movement of Clients, visitors and staff at meal times.
- 1.1.11.2.6 Provide convenient access by general circulation to the Acute Office Suite from all Acute Care Units for ease of staff movement and response time for code calls.
 - 1.1.11.2.6.1 The Acute Office Suite will be organized as one suite of offices located off of a main general circulation route.
 - 1.1.11.2.6.2 The Acute Office Suite will have two entrances/exits for staff safety. The suite will be lockable.
 - 1.1.11.2.6.3 Each office will be enclosed and lockable and will have a full height side lite to allow for visibility into the space for staff safety. Natural light to clinical offices will be provided.
 - 1.1.11.2.6.4 Each office and workstation will have convenient access by internal circulation to the Copy/Files room and the Staff Washrooms.
- 1.1.11.2.7 Connection to the Therapy Mall (A2)
 - 1.1.11.2.7.1 Provide convenient access by general circulation to the Recreation Centre for ease of Client and staff movement.
 - 1.1.11.2.7.2 Provide convenient access by general circulation to Vocational Services for the ease of Client and staff movement
 - 1.1.11.2.7.3 Provide convenient access by general circulation to the Education Centre for ease of Client and staff movement.
 - 1.1.11.2.7.4 Provide convenient access by general circulation to the Client Business Centre for ease of Client and staff movement.
 - 1.1.11.2.7.5 Provide convenient access by general circulation to the Quality of Life/Canteen area for ease of Client and staff movement.

- 1.1.11.3 Provide convenient access for each Acute Care unit by general circulation to major public and non-public circulation. Personnel, Clients, visitors and supplies will move frequently to/from this component and other components in the Facility.
- 1.1.11.4 Provide convenient access by general circulation to Client Belonging Storage Area(s) for ease of staff travel distances.

1.1.12 Internal Design Criteria

1.1.12.1 General Internal Layout

- 1.1.12.1.1 Bed wings will be no greater than 12 beds and no less than 6. . The maximum allowable distance from the centre point of the last client room door to the edge of the central millwork nurse station is 32m.
- 1.1.12.1.2 The component will be organized into 3 major areas as follows, 1 - Client bedroom clusters/wings, 2 - Client activity spaces and therapy rooms, 3 - staff team centre and unit support spaces. The Nursing Station will be able to view all three areas from one central “awareness point”.
- 1.1.12.1.3 All Client rooms will be private.
- 1.1.12.1.4 Client washrooms will be shared between pairs of private rooms with direct access to the general circulation unit corridor. Specialty Client Rooms (i.e. Bariatric and Medical) will have dedicated private washrooms with access directly from the Client room.
- 1.1.12.1.5 Unit support spaces such as soiled linen, clean storage, housekeeping, staff break/locker will allow for ease of entrance and stocking by staff without entering the Client zone of the unit. This can be achieved in a number of ways but examples are (each room having dual entrance from public corridor and the care unit, secondary staff entrance to the unit that allows for all rooms to be off that staff only “back of house” corridor).

1.1.12.2 Unit Organization

- 1.1.12.2.1 All Client bedrooms will be designed to recognize the environmental risk factors for the Client population. Design requirements will accommodate a range of acuity levels for this population but will be designed for the highest acuity Clients.
- 1.1.12.2.2 All Client bedrooms and Client washrooms will be designed with anti-ligature and tamper resistant finishes, fixtures, equipment and furniture.
- 1.1.12.2.3 All Client bedrooms will have a Client bed (psychiatric platform or medical), millwork desk, millwork night table, lockable wardrobe with fixed shelving, side chair with sled based legs.
- 1.1.12.2.4 Acute Units will have the capability for dining on each of the individual units however a centralized acute Client dining area will be the primary location for acute Client dining. Clients enjoy interacting and socializing with Clients from other units. The design will promote a normalizing hospital experience. The Acute central dining area will be convenient to all acute units.

- 1.1.12.2.5 The Nutrition Centre will be located directly adjacent to the Dining Room on each of the Client Care Units. The Nutrition Centre will be an enclosed lockable room that can be left open or closed depending upon staff preference. Food Services staff will be able to deliver tray carts to the Nutrition Centre without entering Client care areas of the unit.
- 1.1.12.2.6 Interview rooms are primarily for conducting private interviews in space separate from the Clients' bedrooms. Interview rooms will be used for admission interviews, psychological testing, quiet reading, quiet staff work spaces.
- 1.1.12.2.7 Each unit has a large area programed for Activity/Zen Room. This room(s) will be subdivided into two areas. This room(s) will be open to the corridor and provide a welcoming living room feel. This room will be an area for Clients to relax, play games, watch television, read or sit quietly. These rooms require line of sight from the nursing station, this could be accomplished by windows.
- 1.1.12.2.8 The Charting/Conference Room will occasionally be utilized for meetings including Clients and families and will require direct access from a general circulation corridor within the Client care unit.
- 1.1.12.2.9 Each of the four Acute Units has a Tub Room. The tub room will be located in a central location to the unit but provide discrete access for Clients.
- 1.1.12.2.10 The Acute Service will have one tub room with overhead X-Y bariatric ceiling lift. This tub and lift will be located on the admissions unit and will have a walk-in assist type tub for staff to assist in bathing Clients with mobility challenges. The remaining tub rooms will be residential in style with combination tub/shower units.
- 1.1.12.2.11 The remaining 3 Acute Care Tub Rooms will have the above ceiling structure provided for the future installation of an X-Y overhead client lift.
- 1.1.12.2.12 The Charting/Conference room will be used for conducting shift reports and participating in interdisciplinary team meetings. Client charts will be stored in this space for ease of use and discussion. Two staff computer workstations will be provided in this space.
- 1.1.12.2.13 The Charting/Conference room will have a direct connection to the nursing station for ease of staff movement.
- 1.1.12.2.14 Provide an electronically controlled door into the unit.
- 1.1.12.2.15 A centrally located secured storage area for Client's personal belongings will be provided in the Main Building for Client belongings not required on a regular basis. The secure storage area will be accessible only by staff and will have appropriate ventilation and be equipped with shelving for storage of Rubbermaid type bins. The secure storage room will be located off a general circulation corridor; Clients and visitors will not have access to the Client belongings storage area(s).

1.1.12.3 Nurse station

- 1.1.12.3.1 The Nurse Station and Charting/Conference will act as the unit's communication centre, and will accommodate a variety of functions. Its function is to support the interdisciplinary collaboration between all caregivers, including nursing, physicians and allied health personnel. There will be visibility at all times from the Nursing Station to the Client care areas on the Client Care Unit. There will be provision for a closed, acoustically private area in the Charting/Conference Room to undertake confidential and frequently highly sensitive discussions including:
- 1.1.12.3.1.1 Dictating and reviewing charts, diagnostic images and test results;
 - 1.1.12.3.1.2 Conducting private telephone conversations;
 - 1.1.12.3.1.3 Conducting multi-disciplinary care team discussions;
 - 1.1.12.3.1.4 Accommodation of teaching and collaboration space;
 - 1.1.12.3.1.5 Providing access to computer workstations and business equipment and business supplies for the unit; and
 - 1.1.12.3.1.6 Providing on-unit space for nursing management activities and transfer of control conferences at shift change.
 - 1.1.12.3.1.7 This space will act as a location for staff/Client/family meetings however Clients and families will always be accompanied by a staff member.
- 1.1.12.3.2 The Nurse Station will include the following areas:
- 1.1.12.3.2.1 The Nurse Station will act as the control and awareness point for the unit.
 - 1.1.12.3.2.2 The Charting/Conference Room will be located in close proximity to the Nurse Station/Unit Clerk desk while providing the appropriate segregation of business equipment for staff safety and noise reduction within the Nurse Station.
- 1.1.12.3.3 Direct adjacency between the Nurse Station, the Medication Room, Charting/Conference Room and the IPCR Suite is required.

1.1.12.4 Client Screening

- 1.1.12.4.1 Upon arrival in the acute admissions unit, Clients will be placed into one of the two interview rooms used as an admissions room. Clients require an initial assessment to identify accommodation requirements and the beginning of a care plan. A warm welcoming environment and experience will be provided. Interview Room/Admission Room will have access to natural light and views. Clients are also checked for drugs, weapons, upon arrival to the assessment unit. Unit design will promote risk assessment, while ensuring privacy and safety of the Client.

1.1.12.5 Client Security and Safety

1.1.12.5.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards of the “*British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units*” Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.

1.1.12.5.2 The design is to include, but is not limited to, items which are non-loopable or designed to release under a load of 20 kilograms and meet either the load release or non-loopability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. These features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:

- 1.1.12.5.2.1 Temper Laminated Interior Glazing;
- 1.1.12.5.2.2 Door hardware;
- 1.1.12.5.2.3 Sprinklers;
- 1.1.12.5.2.4 Showerheads;
- 1.1.12.5.2.5 Lavatories;
- 1.1.12.5.2.6 Faucets;
- 1.1.12.5.2.7 Lavatory valves;
- 1.1.12.5.2.8 Shower actuators;
- 1.1.12.5.2.9 Toilet seats;
- 1.1.12.5.2.10 Toilets;
- 1.1.12.5.2.11 Toilet operator valves;
- 1.1.12.5.2.12 Plumbing traps and piping covers;
- 1.1.12.5.2.13 Fire extinguisher and hose cabinets;
- 1.1.12.5.2.14 Medical gas enclosures;
- 1.1.12.5.2.15 HVAC terminal devices and covers;
- 1.1.12.5.2.16 Millwork;
- 1.1.12.5.2.17 Access doors;
- 1.1.12.5.2.18 Light fixtures;
- 1.1.12.5.2.19 Electrical outlets;
- 1.1.12.5.2.20 Thermostats;
- 1.1.12.5.2.21 Fire alarm system components;
- 1.1.12.5.2.22 Grab bar – not filled in;
- 1.1.12.5.2.23 Handrails;
- 1.1.12.5.2.24 Crash rails;
- 1.1.12.5.2.25 Rub rails;
- 1.1.12.5.2.26 Clothes hooks;

- 1.1.12.5.2.27 CCTV devices;
 - 1.1.12.5.2.28 Security and tracking devices and antennas;
 - 1.1.12.5.2.29 Hanger rods and Coat Hooks;
 - 1.1.12.5.2.30 Toilet partitions;
 - 1.1.12.5.2.31 Mirrors;
 - 1.1.12.5.2.32 Bulletin Boards;
 - 1.1.12.5.2.33 Artwork hanging systems; and
 - 1.1.12.5.2.34 Window treatments.
- 1.1.12.5.3 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 1.1.12.5.4 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at bedrooms and washrooms, but also applies to other Client treatment areas such as interview rooms, treatment rooms, and nourishment stations. Provide bedrooms, Client washroom and tub rooms with doors that can be locked by staff, but not by the Client.
- 1.1.12.5.5 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.
- 1.1.12.5.6 The component’s design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.
- 1.1.12.6 Staff Safety**
- 1.1.12.6.1 The Nurse Station, which controls access to the unit, will be provided with visibility to the unit secure vestibule and entrance. The Nurse Station will have two means of egress to prevent barricading of staff in the nurse station.
- 1.1.12.6.2 The Nurse Station requires two points of entrance/exit to avoid staff entrapment. The care desk will be open concept but will have features such as deep counter depths and heights to deter jumping/reaching and damaging of equipment and or injuring staff. The design will provide a transaction counter at a barrier free height.
- 1.1.12.6.3 A single Client/public entrance to the unit is desired. A secondary staff and supply entrance is permitted. Entrances/exits to the unit should be limited to prevent elopement. All entrances and exits to Client Care Units will have interlocking door capability.

- 1.1.12.6.4 The Charting/Conference Room will be designed as a secure area and will include interior glazing to support visibility to the unit.
- 1.1.12.6.5 “Staff only” rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.
- 1.1.12.6.6 A staff lounge will be provided and will be located in close proximity to the Nurse Station and Charting/Conference Room. A staff washroom will be provided adjacent to the staff lounge; the washroom will not open directly into the staff lounge.

1.1.12.7 Emergency Response

- 1.1.12.7.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the treatment room.

1.1.12.8 Operable Windows

- 1.1.12.8.1 Each Client bedroom will have windows that provide access to exterior views, and views of predominantly landscape versus buildings, parking lots or loading docks. At least a portion of each window will be operable (restricted to maximum of 4”) providing access to fresh, outdoor air. Ensure that the windows are lockable by staff such that Clients are prevented from opening windows unauthorized.
- 1.1.12.8.2 Exterior and interior windows need to be temper laminated, impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact.

1.1.12.9 Unobstructed Site Lines

- 1.1.12.9.1 Unobstructed site lines will be provided between the Nurse Station and the doors to all Client bedrooms. The head of each Client bed needs to be visible to caregivers from the hallway outside of the room. Small vision panels in doors are required.
- 1.1.12.9.2 Unobstructed site lines will be provided between the Nurse Station and the following rooms/areas: Unit Entry, Zen/Activity Rooms, Dining Room(s), Interview Rooms, Therapy Rooms, outdoor porch(s) and courtyards.

1.1.12.10 Component Security

- 1.1.12.10.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.
- 1.1.12.10.2 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.

- 1.1.12.10.3 All Client rooms will be lockable from the exterior but not from the interior.
- 1.1.12.10.4 All lockable Client care rooms in this component will be serviced by non-accessible audio-video surveillance and monitoring equipment. Monitoring stations will be located at the component's Nursing Station and at the Operations Security Centre located in the B3.
- 1.1.12.10.5 The component's design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.
- 1.1.12.10.6 Storage areas, supply/utility and medications rooms will be secure from Client access and include lockable cupboards for supplies and or medications.
- 1.1.12.10.7 There will be no "blind spots" within the Client Care Unit such as recesses, alcoves or places where Clients can hide.
- 1.1.12.10.8 Intensive Psychiatric Care Rooms (IPCR)
 - 1.1.12.10.8.1 IPCR Rooms are used for Clients in crisis that are of harm to themselves or others. Staff is required to observe these Clients on a 1:1 or 1:2 basis with direct visualization at all times.
 - 1.1.12.10.8.2 The IPCR suite consists of two IPCR Rooms, one IPCR washroom shared between the two rooms, one IPCR vestibule and staff work area.
 - 1.1.12.10.8.3 The IPCR suite will be located in a central location to the Client care unit for ease of transfer of Clients in crisis but will not be located in such a way that disrupts the flow and activities of other Clients on the unit.
 - 1.1.12.10.8.4 The IPCR suite will have direct adjacency to the Dispensary/Medication Room to allow for quick transfer of medications as well as direct adjacency to the Nurse Station for ease of staff back up and assistance.
 - 1.1.12.10.8.5 IPCR rooms will have one point of access through the IPCR vestibule. The IPCR vestibule will have multiple access points including one leading directly to the Nurse Station.
 - 1.1.12.10.8.6 Staff will be able to visualize both IPCR Rooms from one single location within the IPCR Vestibule.
 - 1.1.12.10.8.7 Staff will be able to visually monitor Clients from the vestibule in both IPCR Rooms and the bathroom at the same time.

- 1.1.12.10.8.8 IPCR room design will meet or exceed, if new information is available, the standards for psychiatric secure room section of “*British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units*” published by the Ministry of Health and include: special treatment of fixtures, absence of handles; tamper-proof fixtures; solid ceilings; water control shut-off from the nursing station; sound proofing; observation windows in each secure room; internal blinds on external windows; doors that swing in both directions; and configuration such that the general population could readily use the rooms, when they are not being utilized as secure rooms. Secure rooms will not have any raised platforms or ledges, and will not have any sharp edges or corners
- 1.1.12.10.8.9 IPCR suite will have acoustic separation from the remainder of the unit as Clients in the IPCR are at times noisy and disruptive to the remainder of Client activities on the unit.
- 1.1.12.10.8.10 One of the two IPCR rooms will provide safety padding on all walls, doors, door frames and floors.
- 1.1.12.10.8.11 IPCR room door will have a full height side lite that will allow for staff to fully visualize the Client as well as allow the Client to fully visualize their caregiver. The door will also have a vision panel.
- 1.1.12.10.8.12 IPCR Room will have a minimum ceiling height of 3650 mm.
- 1.1.12.10.8.13 IPCR Client beds require 3-sided access. Client beds will be bolted to the floor and will not be against a wall limiting access to the Client.
- 1.1.12.10.8.14 IPCR rooms will have a window to the outside for natural light and view.

1.1.12.11 Therapeutic Environment

- 1.1.12.11.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises, and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.
- 1.1.12.11.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.

- 1.1.12.11.3 Space will be provided for Client access to a telephone. This space will be visible by staff and provided in a location easily accessible by all Clients. Design of the phones will provide for barrier free use and also provide cords that are no greater than 15 cm.
- 1.1.12.11.4 The unit entry/secure vestibule design will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 1.1.12.11.5 The design will be non-institutional and as home-like as possible and conducive to wellness. This includes the inclusion of elder-friendly design to address such features as signage, lighting, colours and floor services.

1.1.12.12 Access to outdoor Therapy Space

- 1.1.12.12.1 Each Client Care Unit will have a direct connection with a secured outdoor courtyard and covered porch. Location must provide privacy from other Facility areas and from visitors.
 - 1.1.12.12.1.1 These spaces will be designed for therapeutic functions and will include features that provide a variety of calming stimulation. It will be a healing garden with plants, looping accessible pathways and seating benches will be incorporated into this space. No less than 10 garden seating places will be provided. The outdoor space will have areas that are covered from the elements for shade and protection from the rain.
 - 1.1.12.12.1.2 Selection of outdoor plantings and ground covers will be safe for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
 - 1.1.12.12.1.3 The outdoor space will utilize the Facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.
 - 1.1.12.12.1.4 There will be covered area away from the entrance that is isolated as a smoking area. The smoking area will be observable from the outdoor space door. The smoking area will have a minimum of four covered seats to sit. Provide smokeless ashtrays and other accessories for odour, ventilation and trash issues. If smoking is permitted it will not occur in the enclosed courtyards, there would be designated spots (1 or 2) on site.

1.1.12.13 Lighting

- 1.1.12.13.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.

- 1.1.12.13.2 Each Client bedroom will have access to natural lighting and views to the landscape. Window sills will be low and close to the floor. Windows will be large to provide a connection with outside grounds and to avoid perceptions of a “closed in” and confining environment. Exterior and interior windows need to be impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact. Windows, with the exception of secure and convertible rooms, will be operable (restricted to 4” openings) to the exterior to access fresh air, offer appropriate light, but also privacy. The windows will prevent Clients from throwing things out of the window.
- 1.1.12.13.3 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 1.1.12.13.4 Artificial lighting in each Client bedroom will be variable to provide different levels of lighting and for different purposes. At night time, Clients will have the ability to read while in their bed. Lighting in the room will also accommodate staff’s ability to monitor the Client during the night without affecting the Client’s ability to sleep. Lighting to Client bedrooms will be controlled in the evening from the hallways as well as from the Client bedside (by the Client).
- 1.1.12.13.5 All Client rooms will have low level night lighting that automatically turns on.
- 1.1.12.13.6 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.
- 1.1.12.13.7 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

1.1.12.14 Ergonomics for an Aging Workforce

- 1.1.12.14.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

1.1.12.15 Accommodation of Bariatric Clients

- 1.1.12.15.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.

1.1.12.15.2 Ceiling lifts will not be installed in this component (other than the 1 tub room on the acute admissions unit), All remaining tub rooms will have the structure above the ceiling provided for the future installation of an X-Y bariatric Client lift. Mechanical assistance required for moving bariatric Clients will rely on the one tub room provided with an X-Y ceiling bariatric capable lift. In addition one mobile lift will be provided that services the entire component. When not in use, this mobile unit will be kept in a locked equipment storage room.

1.1.12.16 Inducements for Client Ambulation

1.1.12.16.1 Activation spaces on the Client Care Unit, including designated therapy spaces, activity rooms and general Zen/activity rooms, will be inviting with natural lighting, views to the landscape and opportunities for light recreation and entertainment such as gaming consoles with TVs which have exercise programs and various games.

1.1.12.17 Infection Control

1.1.12.17.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.

1.1.12.17.2 Medical Client Rooms and Bariatric Client Rooms will be located in close proximity to the Nursing Station for ease of supervision.

1.1.12.17.3 The Private Client Room, Medical will be equipped with negative pressure capabilities to be used as an isolation room, if required.

1.1.13 Space Table

1.1.13.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1.1 ACUTE CLIENT CARE SERVICES**

A1.1 - ACUTE CLIENT CARE SERVICES						
24 BED UNIT						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
UNIT ENTRY						
.01	Unit Sallyport	1	6.00	6.00	3	
.02	Housekeeping Room	1	13.00	13.00	4	
.03	Storage	1	8.00	8.00	3	<i>wheelchair storage</i>
	SUBTOTAL			27		
12 BED CLUSTER						
.04	Private Client Room	10	11.00	110.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet</i>
.05	Client Washroom, Barrier Free	5	6.50	32.50	3	<i>accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.06	Private Client Room, Bariatric	1	18.50	18.50	3	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability</i>
.07	Client Washroom, Bariatric, Barrier Free	1	7.50	7.50	3	<i>bariatric toilet, sink, shower</i>
.08	Private Client Room, Medical	1	18.50	18.50	3	<i>accessible, rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability, can be used for Palliative Care</i>
.09	Client Washroom, Medical, Barrier Free	1	6.50	6.50	3	<i>accessible, toilet, sink, shower</i>
.10	Therapy Room	1	22.00	22.00	3	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.11	Interview Room	1	11.00	11.00	3	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			227		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1.1 ACUTE CLIENT CARE SERVICES**

12 BED CLUSTER						
.12	Private Client Room	12	11.00	132.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet</i>
.13	Client Washroom	6	6.50	39.00	3	<i>toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.14	Therapy Room	1	22.00	22.00	3	<i>flexible use, group therapy, individual therapy, physio therapy,</i>
.15	Interview Room	1	11.00	11.00	3	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			204.00		
BED ZONE SUPPORT						
						<i>locate w/in Bed Zone</i>
.16	Tub Room	1	15.00	15.00	3	<i>tub, toilet, sink, storage, provide structure for future x-y ceiling mount Client lift</i>
.17	Clean Storage	1	9.00	9.00	4	<i>linen storage, Client supplies, dual access to public corridor and to unit</i>
.18	Soiled Holding	1	7.50	7.50	4	<i>provide dual access from public corridor and unit</i>
.19	Client Laundry	1	10.00	10.00	3	<i>washer, dryer, folding counter, storage</i>
.20	Treatment Room	1	11.00	11.00	3	<i>medical exam room, exam table, phlebotomy chair, workstation, side chair, oxygen machine, hand</i>
	SUBTOTAL			53		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1.1 ACUTE CLIENT CARE SERVICES**

TEAM CENTRE						
.21	Nurses Station	1	15.00	15.00	3	2 workstations, visibility to all bed wings, activity spaces, therapy rooms, dining, unit entry, outdoor porch/yard, Client laundry - determine location for eyewash station
.22	Dispensary/Medication	1	11.00	11.00	3	locate medication room directly adjacent to nurse station, provide dispensing window, confirm methadone regulations
.23	Charting/Conference Room	1	28.00	28.00	3	15 staff seated around a table, 2 workstations, Client file storage
.24	Staff Break/Locker	1	15.00	15.00	4	u/c refrigerator, lockers, coat hanging, hand wash sink, access to natural light, dual access
.25	Staff Washroom	1	4.00	4.00	4	2 piece
.26	Intensive Psych. Care Room	2	9.00	18.00	1	locate Intensive Psych. Care suite near team ctr., provide natural light, provide 3 sided access to Client bed
.27	Intensive Psych. Care Washroom, Barrier Free	1	6.50	6.50	1	2 piece
.28	Intensive Psych. Care Vest	1	7.50	7.50	1	staff work area, one staff
	SUBTOTAL			105		
COMMON ACTIVITY AREAS						
.29	Zen/Activity Room	1	67.00	67.00	3	approx 2.8 sm/Client for 24 Clients - may be subdivided - open to corridor, Client living room lounge, phone location for the unit
.30	Dining Room	1	56.00	56.00	3	2 workstations @ 5.5sm, file storage
.31	Nutrition Centre	1	4.00	4.00	3	locate within the dining room, includes ice machine, refrigerator, dishwasher, microwave, range, coffee, toaster, sink - lockable locate in dining activity area
.32	Client Washroom, Barrier Free	1	5.00	5.00	3	2 piece, accessible can be for Clients or visitors
.33	Exterior Courtyard Sallyport/Airlock	1	6.00	6.00	3	airlock between unit and outdoor courtyard

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1.1 ACUTE CLIENT CARE SERVICES**

.34	Exterior Courtyard	1	0.00	0.00	3	<i>covered outdoor porch, access to secure outdoor "back yard", visibility from nursing station, larger secure outdoor yard with walking paths secure fencing</i>
	SUBTOTAL			138		
	TOTAL NET SQUARE METRES			753		
	TOTAL NET AREA FOR 4 UNITS			3,012		<i>96 Acute Beds</i>
ACUTE SHARED SERVICES						<i>shared by all acute units</i>
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	ACUTE DINING					<i>locate just off units</i>
.35	Dining/Cafeteria	1	140.00	140.00	3	<i>seating for 100 at 15sf/person</i>
.36	Servery	1	37.00	37.00	3	<i>satellite serving and dishwashing area locate adjacent to dining/cafeteria</i>
.37	Client Washroom, Barrier Free	2	5.00	10.00	3	<i>2 piece, accessible</i>
	SUBTOTAL			187		
	ACUTE OFFICE AREA					<i>locate just off unit</i>
.38	Office, Clinical	12	11.00	132.00	3	<i>flexible use for NUM, Social Work, Facilitator, Psychologist, Psychiatrist, CMHN, Neuro, Behavioral Therapist, Admin</i>
.39	Workstation	2	6.00	12.00	3	<i>admin, flex, students</i>
.40	Copy/Files	1	7.50	7.50	3	<i>printer/scanner/fax, paper storage, office supplies</i>
.41	Staff Washroom, Barrier Free	2	5.00	10.00	4	<i>2 piece</i>
	SUBTOTAL			162		
	TOTAL NET SQUARE METRES			349		
TOTAL NET AREA FOR ACUTE SERVICES						
	DEPT NET SQUARE METRES			3,361		96 ACUTE BEDS

A 1.2 EXTENDED CLIENT CARE SERVICES

This specification outlines the functional, operational and physical requirements for the Extended Client Care Units component at the Facility.

FUNCTIONAL DESCRIPTION

1.2.1 Statement of Purpose

1.2.1.1 Philosophy

1.2.1.1.1 To provide psychiatric and clinical assessment and treatment services to facilitate stabilization, behaviour management and community reintegration within the framework of a cognitive and psychiatric rehabilitation approach.

1.2.1.1.2 Extended Care Units provide the following services

1.2.1.1.2.1 **Organic Treatment** - provides services for client with significant cognitive deficits, memory impairment, aggression, poor impulse control, impulsivity/unpredictability, other behaviour management issues and provincial respite services (up to 3 months).

1.2.1.1.2.2 **Specialized Treatment Resistant** - provides services for Clients with a predominant diagnosis of schizophrenia, exhibiting a high degree of chronicity and disability, marked social deficits, impairment in functioning i.e. interpersonal, vocational, self-care, high risk of harm to self and others and polydipsia.

1.2.1.1.2.3 **Complex Needs** - provides services for individuals whose characteristics include but are not limited to developmental deficits, dual diagnosis, cognitive deficits, acquired brain injury, aggression, Fetal Alcohol Syndrome (FAS)/Fetal Alcohol Spectrum Disorder (FASD), significant behaviour management issues.

1.2.1.1.2.4 **Intensive Care** - provides services for the elderly, unstable physical/mental status, high personal care needs, medical acuity, compassionate terminal care, compromised mobility, incontinence, provincial respite services.

1.2.1.1.3 Services for Clients in this service area will focus on improving and maintaining their level of functioning from a holistic perspective, including planning and preparing for discharge.

1.2.1.1.4 Programming will focus on maintaining and enhancing Client's quality of life utilizing four main categories:

1.2.1.1.4.1 Stimulation - to increase sensory stimulation, to increase or maintain level of orientation

1.2.1.1.4.2 Motivation - to increase level of global functioning, to increase independence

- 1.2.1.1.4.3 Activation - to maintain or increase physical fitness, to maintain or improve mobility, range of motion or balance
 - 1.2.1.1.4.4 Interaction- to provide opportunities for social interactions, to enable Client to attend functions and social events both in Main Building and in the community
 - 1.2.1.1.5 The focus of the service is to ensure a safe environment and a therapeutic milieu for the Client. It is the Authority's belief that a positive relationship with the community will be created. It is the right of all Clients to have access to dynamic psychiatric rehabilitation with discharge planning from time of admission.
 - 1.2.1.1.6 Supportive psychiatric rehabilitation programming will extend from the Facility into the community to ensure successful community reintegration. Each individual has a right to community living, with the greatest level of independence and richest quality of life possible. All service delivery will be as culturally relevant as possible.
 - 1.2.1.1.7 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive way as possible.
- 1.2.1.2 Guiding Principles**
- 1.2.1.2.1 Stabilize the Client's psychiatric condition such that the symptoms are reduced or better managed. Develop and deliver Client centred individualized multidisciplinary treatment plans based on assessed needs.
 - 1.2.1.2.2 Provide a welcoming, safe and secure environment for Clients.
 - 1.2.1.2.3 Develop and maintain effective programs that will provide Clients' families with support and education. Promote community awareness and involvement.
 - 1.2.1.2.4 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

1.2.2 Scope of Services

1.2.2.1 Functional Content

- 1.2.2.1.1 Functionally, this component has three distinct Client Care Units, each unit will be identical in layout.
- 1.2.2.1.2 Each extended care unit will have 12 beds.
- 1.2.2.1.3 Bed wings will not contain more than 12 beds each and not less than 6.
- 1.2.2.1.4 Approach to Psychiatric Intensive Care is decentralized to each of the Client care units. Each unit will have 2 Intensive Psychiatric Care Rooms. These rooms are intended for high acuity Clients who are a risk to themselves or require 1:1 or 1:2 observations. Clients will use these rooms for short durations and will be moved back to their private room when appropriate.

- 1.2.2.1.5 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 1.2.2.1.5.1 The design will promote a safe and secure environment;
 - 1.2.2.1.5.2 The design will create a welcoming Client and family-centred healing environment;
 - 1.2.2.1.5.3 The design will support the model of care;
 - 1.2.2.1.5.4 The design will minimize staff travel distances;
 - 1.2.2.1.5.5 The design will provide specific supports to ensure the control of infection;
 - 1.2.2.1.5.6 The design will provide respite and relaxation opportunities for both Clients and their visitors on each of the care units;
 - 1.2.2.1.5.7 The design will provide multiple opportunities for Clients to experience the outdoors via courtyards, porches and through natural light and views;
 - 1.2.2.1.5.8 Priority of spaces receiving views to the river valley and landscape should be determined based upon the following criteria: 1 – Day spaces on the Client care unit where Clients spend the most of their daylight hours (i.e. activity room/Zen room, dining room, therapy rooms) 2 – Client Private Bedrooms 3 – Staff Spaces; and
 - 1.2.2.1.5.9 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots.

1.2.2.2 Exclusions

- 1.2.2.2.1 The following list specifies functions that involve either Clients or staff normally present on the Extended Care Units but are understood to occur in other functional components in the facility or outside of the facility:
- 1.2.2.2.1.1 Large scale Recreational Therapy/Wellness activities will occur within A2 Therapy Mall.
 - 1.2.2.2.1.2 Education/Training and GED completion will occur in the Education Centre (A2 Therapy Mall).
 - 1.2.2.2.1.3 Vocational Therapy (recycling, wood working, gardening) (A2 Therapy Mall)
 - 1.2.2.2.1.4 Quality of Life/Canteen – large scale activities of daily living, cooking, dishwashing (A2 Therapy Mall).
 - 1.2.2.2.1.5 Client Business Centre – resume writing, activities of daily living (A2 Therapy Mall).
 - 1.2.2.2.1.6 Medical Services other than those performed in the on unit Treatment Room will occur in the C06 – Health Care Clinic, in the community through partnership agreements, or transferred to a local Extended care facility.

1.2.2.3 Anticipated Trends in Service Delivery

- 1.2.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.
- 1.2.2.3.1.1 Increasing numbers of Clients with addictions and mental disorders
 - 1.2.2.3.1.2 Increasing Client acuity and complexity and potential for aggression (e.g. brain injured younger people from trauma or substance abuse).
 - 1.2.2.3.1.3 Increasing numbers of bariatric Clients admitted to Main Building is predicted to increase.
 - 1.2.2.3.1.4 Increasing mean age of staff working on the client units is predicted to increase.
 - 1.2.2.3.1.5 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions.
 - 1.2.2.3.1.6 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility.
 - 1.2.2.3.1.7 Increasing recognition of need for informed care
 - 1.2.2.3.1.8 Redesigning service delivery to meet the needs of First Nations Clients

1.2.3 Scope of Education Functions

- 1.2.3.1** Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

1.2.4 Scope of Research Functions

- 1.2.4.1** Staff and students working in the Client units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

1.2.5 Hours of Operation

- 1.2.5.1** The component at this facility will be staffed and in operation:
24 hours-a-day, 7 days-a-week
- 1.2.5.2** The component will have regular visiting hours:
0900 – 2100, 7 days-a-week

1.2.6 People Management Systems

- 1.2.6.1** Most Clients admitted to this component will arrive from a referring institution. The typical Client will have mobility challenges, and will be escorted by care givers or, in extreme cases, by police or security staff.
- 1.2.6.2** Registration and documentation will have been started or completed in the referring institution. Arrival will also coincide with medical and nursing assessments to determine the appropriate level of care required.
- 1.2.6.3** Extended Client discharge will occur through the Main Building entrance door or discharged to their home region facilities.
- 1.2.6.4** All visitors to the Extended Units will have access through the main facility entrance and move through general circulation to the unit entry door.
- 1.2.6.5** At the unit entry, a visual and audio control system will allow visitors to contact the nursing station of the desired unit to request admission to the unit. Staff of that unit as well as the Operations Security Centre will be able to electronically open the unit door as well as physically move to the visitor to greet them depending upon the situation. The nurse station will have direct visual control of the electronic control door to the unit entry.

1.2.7 Material Management Systems

- 1.2.7.1** The design of the unit will minimize the need for support and maintenance staff to access Client areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.
- 1.2.7.2** The following rooms will be able to deliver/retrieve supplies or perform work without directly interacting with Clients and staff on the unit: housekeeping room soiled holding room, clean supply room, nutrition centre, data and electrical closets.
- 1.2.7.3** Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

1.2.8 Consumable Supplies

- 1.2.8.1** Inventories of consumable supplies will utilize the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use.
- 1.2.8.2** Cabinets will be lockable so that if necessary Client access is controlled.
- 1.2.8.3** All supplies will be inaccessible to Clients and to the public.

1.2.9 Linen

- 1.2.9.1** Each Client unit has one Client laundry room consisting of a heavy-duty domestic type washer and dryer to use for laundering personal clothing is considered essential. Clients will wash and dry their own personal clothing.
- 1.2.9.2** Laundry service is provided by the Authority for those who are not able to wash their own clothes. All linen services are provided by the Authority.

- 1.2.9.3** Inventories will be managed via the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) of the cabinet.
- 1.2.9.4** Laundry, for Clients' non-personal items, processing will occur in the laundry and linen service area. Soiled linen will be collected from the Kanban in small covered hampers, temporarily staged in the soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.

1.2.10 Pharmaceutical Products

- 1.2.10.1** Medication is currently delivered via mobile medication carts and medications are dispensed to the Clients on the unit. The design of the medication room will allow for the flexibility to dispense medication in a number of ways to allow for future flexibility. It is assumed that in the future automation will be used in the inventory management and dispensing of Client medications.
- 1.2.10.2** The design will accommodate the use of automated dispensing, narcotics cabinets, refrigeration, medication carts, and a dispensing window with direct access to the corridor.
- 1.2.10.3** The medication room will be enclosed and lockable.
- 1.2.10.4** The medication room will have direct access to the IPCR suite for ease of dispensing medications to Clients in crisis.
- 1.2.10.5** The medication room will have direct access to the nursing station for ease of use and control of medications.
- 1.2.10.6** The medication room will contain medication carts which will be stocked with unit doses of Clients' medications and dispensed according to prescribed schedules or as required. Pharmacy personnel will be responsible for inventory management of the medication rooms and their associated medication carts, whereas nursing personnel will deliver medications from the medication room to the Client.
- 1.2.10.7** Unstable products will be prepared in Pharmacy (C8), and then delivered to the unit either according to a prescribed schedule or upon request. Product delivery to the medication rooms will rely on pharmacists or pharmacy technicians for product transportation.

1.2.11 Food Services

- 1.2.11.1** Food service will generally be provided to Extended Clients in the on unit Dining Room. Food will be prepared in a server style where Clients move through a tray line and choose their items to be plated.
- 1.2.11.2** A roll down shutter will be provided between the Dining Room and Servery.
- 1.2.11.3** The Servery will be accessed by staff only.
- 1.2.11.4** Following each meal service, all carts, trays and service ware will be returned to the central kitchen for ware washing and sanitation.

1.2.12 Waste Management

- 1.2.12.1** The majority of waste products will be soiled linen, garbage and recyclables. Other waste products will be managed within the soiled holding stations located in the common support area of each unit.
- 1.2.12.2** Segregation of wastes will accommodate the following categories of products:
- 1.2.12.2.1 General garbage;
 - 1.2.12.2.2 Sharps (including potentially bio hazardous items);
 - 1.2.12.2.3 Infectious or contaminated wastes (excluding sharps);
 - 1.2.12.2.4 Confidential paper;
 - 1.2.12.2.5 Clean paper and cardboard;
 - 1.2.12.2.6 Clean metal (tin and aluminum);
 - 1.2.12.2.7 Clean recyclable plastics; and
 - 1.2.12.2.8 Compostable materials.
- 1.2.12.3** A secure soiled utility room, for the containment of soiled items and trash will be required on the unit. The soiled utility room will be accessible by staff only.

1.2.13 Information Management Systems

- 1.2.13.1** All Client-related information will be maintained on the electronic medical record (EMR) system. Wireless technology will enable data entry using a combination of fixed terminals, at staff workstations in the nurse station and team charting/conference room and mobile computer on wheels or tablets. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.
- 1.2.13.2** To meet requirements of the Mental Health Act; each Client will be required to have some paper based health records. Storage for these records will be provided within the unit, in the team charting/conference room which is only accessible by the appropriate staff.
- 1.2.13.3** The clinical unit and Client care spaces will optimize care delivery through the design and build of facilities and work spaces which emphasize the blend of workflow, care processes, automation of practice, and interoperability between medical and business technologies in support of the Authorities strategic investment in Sunrise Clinical Manager and other clinical and business systems.
- 1.2.13.4** The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:
- 1.2.13.4.1 Integrated Medication Carts;
 - 1.2.13.4.2 Medication Dispense Cabinets;
 - 1.2.13.4.3 Mobile and Fixed Computer Devices – Desktop and Wall mount;

- 1.2.13.4.4 Mobile and Fixed Label Printers;
- 1.2.13.4.5 Mobile and Fixed Barcode Scanners;
- 1.2.13.4.6 Handheld Computer Devices;
- 1.2.13.4.7 Glucometers with Docking Stations;
- 1.2.13.4.8 Tracking Monitors – Client, Staff, and Resource Tracking;
- 1.2.13.4.9 Clinical Dashboards;
- 1.2.13.4.10 Smart Beds;
- 1.2.13.4.11 Smart Pumps;
- 1.2.13.4.12 Device Integration for real –time clinical assessment and physiological data documentation;
- 1.2.13.4.13 Digital Room Signage and Way-finding;
- 1.2.13.4.14 Location Awareness;
- 1.2.13.4.15 Device Connectivity;
- 1.2.13.4.16 Multifunction Communication Devices with integration to systems;
- 1.2.13.4.17 Telehealth and Virtual Team Capabilities;
- 1.2.13.4.18 Real Time Location System; and
- 1.2.13.4.19 Staff Safety and Duress.

DESIGN CRITERIA

1.2.14 Lean Planning Standards

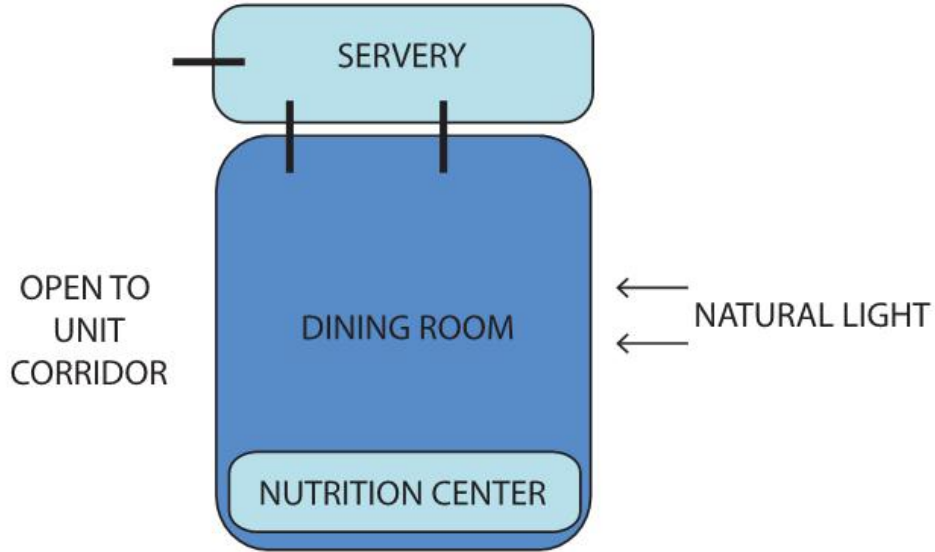
1.2.14.1 Standardization of Client Bedrooms

- 1.2.14.1.1 Each Client room will be designed, configured, equipped and furnished to a common standard and design. The intent of this requirement is to facilitate staff moving from room-to-room without having to reorient themselves with respect to frequently accessed key features like Client bed, desk, wardrobe, Kanban cupboard, call annunciator, cancel buttons.

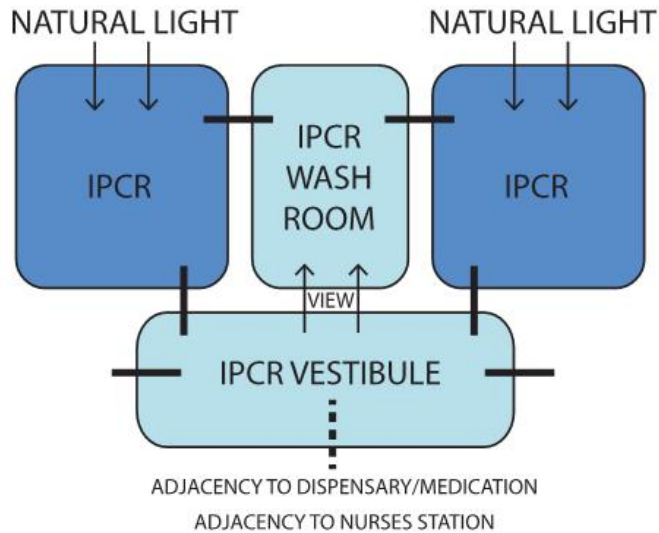
All Client rooms are to have a standard orientation; the configuration and layout within each Client room will be standardized to facilitate immediate orientation for staff. A standard room orientation will be accommodated via a “like-handed” design – or in “mirrored” design.

1.2.15 Proximity Relationships

DINING ROOM/NUTRITION/SERVERY

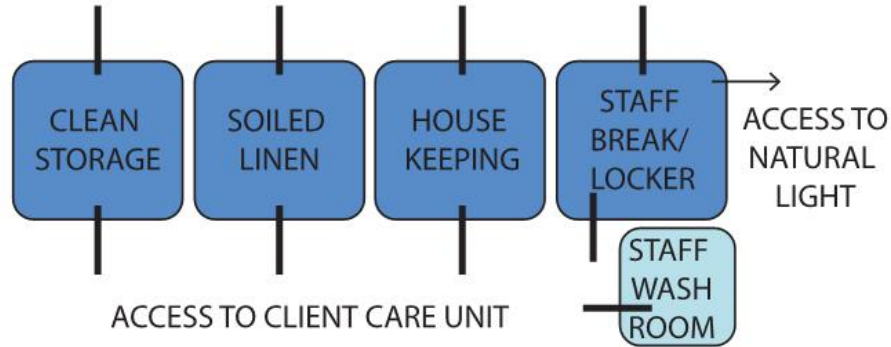


INTENSIVE PSYCHIATRIC CARE SUITE

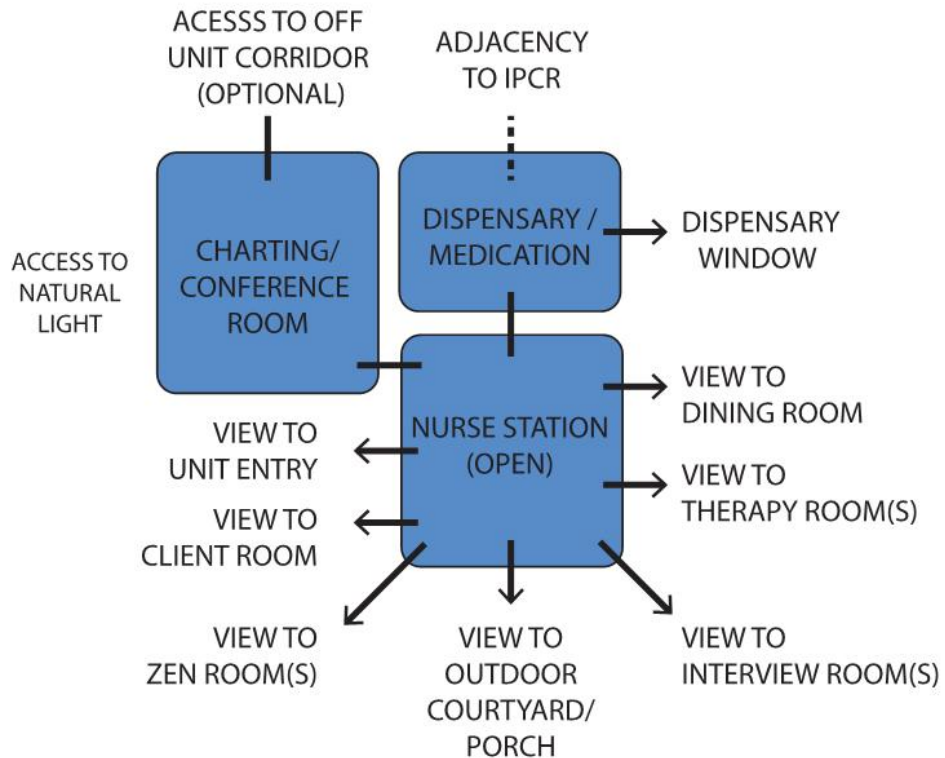


SUPPORT SERVICES

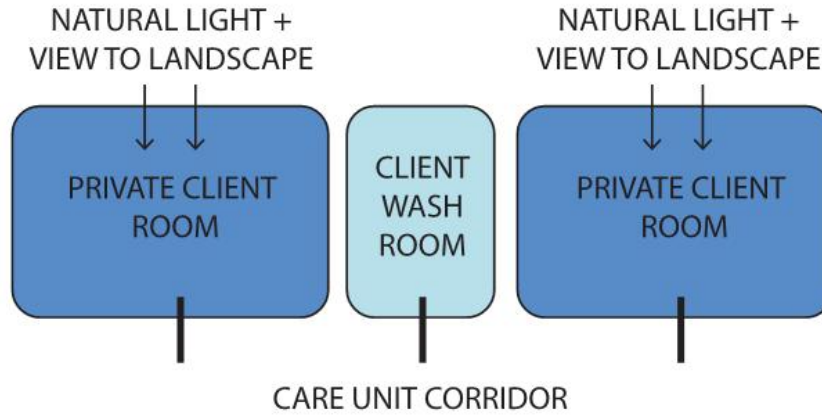
OFF UNIT CORRIDOR



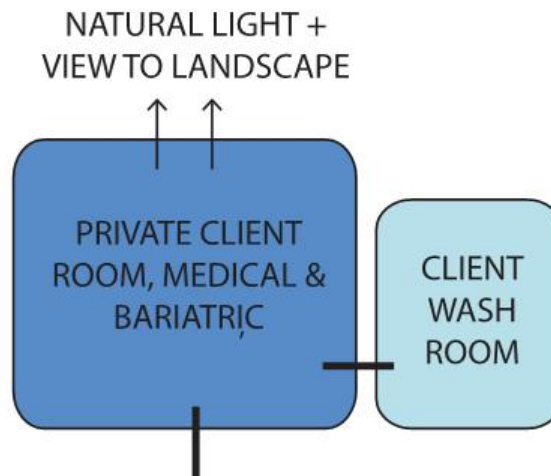
NURSE STATION, MEDICAL DISPENSARY,
 AND CONFERENCE ROOM



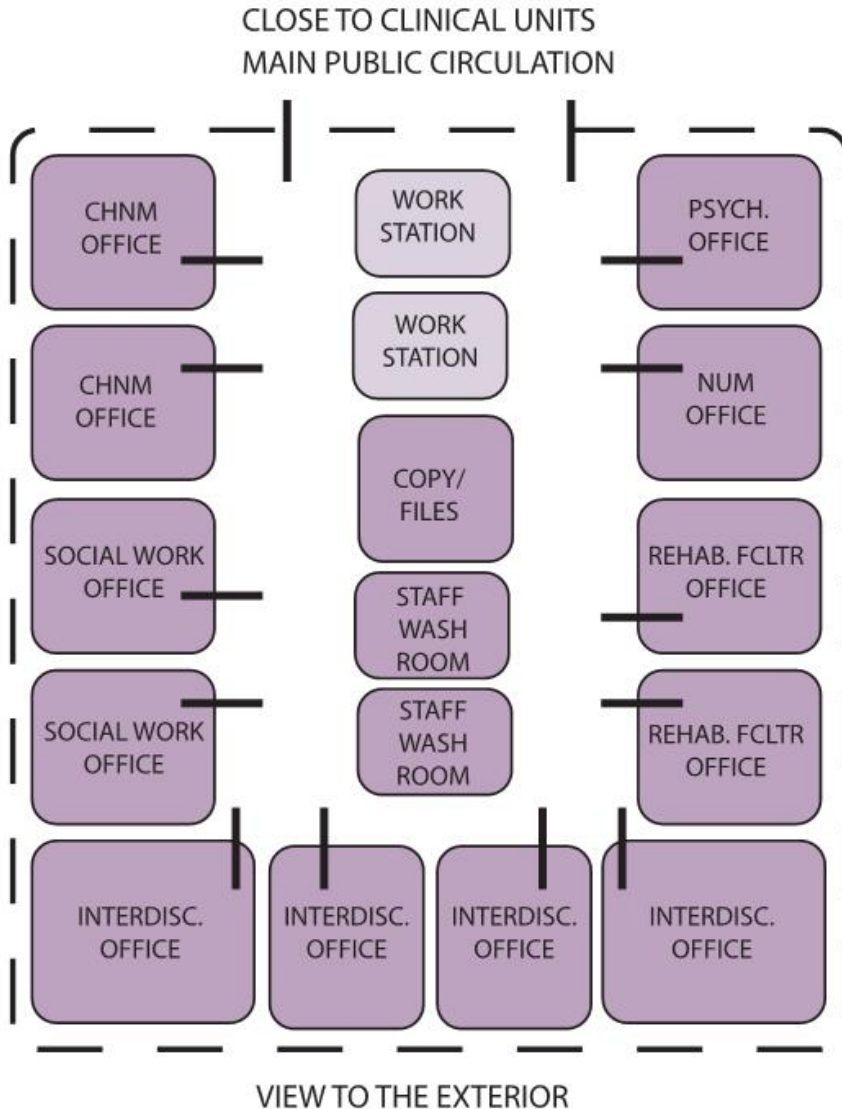
PRIVATE CLIENT ROOM /WASHROOM PAIR



PRIVATE CLIENT ROOM,
SPECIALTY/WASHROOM



MODULAR CLINICAL OFFICE SUITE



- 1.2.15.1 The Extended Client Care units locations relative to other components, or other areas of the facility, and the nature of circulation used to move between different components/areas are illustrated in the diagrams above. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 1.2.15.2 The 3 Extended Client Care Units will be collocated on one level.
- 1.2.15.3 The 3 Extended Client Care Units will have direct by internal circulation to one another.
- 1.2.15.4 Outdoor Spaces

- 1.2.15.4.1.1 Access and exit from the courtyard/porch is limited to/from within the unit. Courtyards and porches will not be shared between units.
- 1.2.15.4.1.2 The entire courtyard and porch will be physically visible to staff at all times and video monitoring of the courtyard/porch is also required.
- 1.2.15.4.1.3 Provide direct access by internal circulation to a secured outdoor area for the movement of Clients, visitors and staff. The each Client Care Unit will have separate, dedicated secure outdoor areas.
- 1.2.15.5** Provide convenient access by general circulation to the Extended Office Suite from all Extended Care Units for ease of staff movement and response time for code calls.
 - 1.2.15.5.1.1 The Extended Office Suite will be organized as one suite of offices located off of a main general circulation route.
 - 1.2.15.5.1.2 The Extended Office Suite will have two entrances/exits for staff safety. The suite will be lockable.
 - 1.2.15.5.1.3 Each office will be enclosed and lockable and will have a full height side lite to allow for visibility into the space for staff safety. Natural light to clinical offices will be provided.
 - 1.2.15.5.1.4 Each office and workstation will have convenient access by internal circulation to the Copy/Files room and the Staff Washrooms.
- 1.2.15.6** Connection to the Therapy Mall (A2)
 - 1.2.15.6.1.1 Provide convenient access by general circulation to the Quality of Life/Canteen area for ease of Client and staff movement.
 - 1.2.15.6.1.2 Provide convenient access by general circulation to Vocational Services for the ease of Client and staff movement
 - 1.2.15.6.1.3 Provide convenient access by general circulation to the Physiotherapy Suite for ease of Client and staff movement.
 - 1.2.15.6.1.4 Provide convenient access by general circulation to the Recreation Centre for ease of Client and staff movement.
 - 1.2.15.6.1.5 Provide convenient access for each Extended Care unit by general circulation to major public and non-public circulation. Personnel, Clients, visitors and supplies will move frequently to/from this component and other components in the Facility.
- 1.2.15.7** Provide convenient access by general circulation to Client Belonging Storage Area(s) for ease of staff travel distances.

1.2.16 Internal Design Criteria

1.2.16.1 General Internal Layout

- 1.2.16.1.1 Each Extended Unit is comprised of 12 beds. Bed wings will be no greater than 12 beds and no less than 6. The maximum allowable distance from the centre point of the last client room door to the edge of the central millwork nurse station is 32m.
- 1.2.16.1.2 The component will be organized into 3 major areas as follows, 1 - Client bedroom clusters/wings, 2 - Client activity spaces and therapy rooms, 3 - staff team centre and unit support spaces. The Nurse Station will be able to view all three areas from one central “awareness point”.
- 1.2.16.1.3 All Client rooms will be private.
- 1.2.16.1.4 Client washrooms will be shared between pairs of private rooms with direct access to the general circulation unit corridor. Specialty Client Rooms (i.e. Bariatric and Medical) will have dedicated private washrooms with access directly from the Client room.
- 1.2.16.1.5 Zen/Activity Room and Dining Room shall be distinct spaces. Both spaces will be fully open to the corridor. No dividing walls between the room and general circulation are permitted.
- 1.2.16.1.6 Unit support spaces such as soiled linen, clean storage, housekeeping, staff break/locker will allow for ease of entrance and stocking by staff without entering the Client zone of the unit. This can be achieved in a number of ways but examples are: each room having dual entrance from public corridor and the care unit, secondary staff entrance to the unit that allows for all rooms to be off that staff only “back of house” corridor.

1.2.16.2 Unit Organization

- 1.2.16.2.1 All Client bedrooms will be designed to recognize the environmental risk factors for the Client population. Design requirements will accommodate a range of acuity levels for this population but will be designed for the highest acuity Clients.
- 1.2.16.2.2 All Client bedrooms and Client washrooms will be designed with anti-ligature and tamper resistant finishes, fixtures, equipment and furniture.
- 1.2.16.2.3 All Client bedrooms will have a Client bed (psychiatric platform or medical), millwork desk, millwork night table, lockable wardrobe with fixed shelving, side chair with sled based legs.
- 1.2.16.2.4 The Nutrition Centre will be located directly adjacent to the Dining Room on each of the Client care units. The Nutrition Centre will be an enclosed lockable room that can be left open or closed depending upon staff preference. Food Services staff will be able to deliver tray carts to the Nutrition Centre without entering Client care areas of the unit.

- 1.2.16.2.5 A Therapy room is provided on each of the care units. These Therapy rooms will be used for different therapies on different units. The rooms will be used for, but not limited to, recreation therapy, arts and crafts, physiotherapy and group or individual therapy. Each room will be designed with similar features to allow for the flexible use of these spaces.
- 1.2.16.2.6 One Therapy room of the three programmed in Extended Care is to be a Snoezelen Room with multi-sensory equipment. This room requires special power, lighting and features. Refer to Schedule 3 for further information.
- 1.2.16.2.7 Interview rooms are primarily for conducting private interviews in space separate from the Clients' bedrooms. Interview rooms will be used for admission interviews, psychological testing, quiet reading, quiet staff work spaces.
- 1.2.16.2.8 Each unit has a large area programed for Activity/Zen Room. This room(s) will be subdivided into two areas. This room(s) will be open to the corridor and provide a welcoming living room feel. This room will be an area for Clients to relax, play games, watch television, read or sit quietly.
- 1.2.16.2.9 The Charting/Conference Room will occasionally be utilized for meetings including Clients and families and will require direct access from a general circulation corridor within the Client care unit.
- 1.2.16.2.10 Each of the three Extended Units has a Tub Room. The tub room will be located in a central location to the unit but provide discrete access for Clients.
- 1.2.16.2.11 The tubs shall be walk-in assist type tub for staff to assist in bathing Clients with mobility challenges. .
- 1.2.16.2.12 All Extended Client Care Tub Rooms will have an X-Y bariatric Client lift provided.
- 1.2.16.2.13 The Charting/Conference room will be used for conducting shift reports and participating in interdisciplinary team meetings. Client charts will be stored in this space for ease of use and discussion. Two staff computer workstations will be provided in this space.
- 1.2.16.2.14 The Charting/Conference room will have a direct connection to the nursing station for ease of staff movement.
- 1.2.16.2.1 At the unit entry secure vestibule, a visual and audio control system will allow visitors to contact the nursing station of the desired unit to request admission to the unit. Staff of that unit as well as the Operations Security Centre will be able to electronically open the unit door from the nurse station as well as physically move to the visitor to greet them depending upon the situation. The nurse station will have direct visual control of the unit entry secure vestibule.
- 1.2.16.2.2 The secure vestibule will be large enough for a stretcher.

1.2.16.2.3 A centrally located secured storage area for Client's personal belongings will be provided in the Main Building for Client belongings not required on a regular basis. The secure storage area will be accessible only by staff and will have appropriate ventilation and be equipped with shelving for storage of Rubbermaid type bins. The secure storage room will be located off a general circulation corridor; Clients and visitors will not have access to the Client belongings storage area(s)

1.2.16.3 Nurse station

1.2.16.3.1 The Nurse Station and Charting/Conference will act as the unit's communication centre, and will accommodate a variety of functions. Its function is to support the interdisciplinary collaboration between all caregivers, including nursing, physicians and allied health personnel. There will be visibility at all times from the Nursing Station to the Client care areas on the Client care unit. There will be provision for a closed, acoustically private area in the Charting/Conference Room to undertake confidential and frequently highly sensitive discussions including:

- 1.2.16.3.1.1 Dictating and reviewing charts, diagnostic images and test results;
- 1.2.16.3.1.2 Conducting private telephone conversations;
- 1.2.16.3.1.3 Conducting multi-disciplinary care team discussions;
- 1.2.16.3.1.4 Accommodation of teaching and collaboration space;
- 1.2.16.3.1.5 Providing access to computer workstations and business equipment and business supplies for the unit;
- 1.2.16.3.1.6 Providing on-unit space for nursing management activities and transfer of control conferences at shift change; and
- 1.2.16.3.1.7 This space will act as a location for staff/client/family meetings however Clients and families will always be accompanied by a staff member.

1.2.16.3.2 The Nurse Station will include the following areas:

- 1.2.16.3.2.1 The Nurse Station will act as the control and awareness point for the unit; and
- 1.2.16.3.2.2 The Charting/Conference Room will be located in close proximity to the Nurse Station/Unit Clerk desk while providing the appropriate segregation of business equipment for staff safety and noise reduction within the Nursing Station.

1.2.16.3.3 Direct adjacency between the Nurse Station, the Medication Room, Charting/Conference Room and the IPCR Suite is required.

1.2.16.4 Client Screening

1.2.16.4.1 A warm welcoming environment and experience will be provided. Interview Rooms will have access to natural light and views.

1.2.16.5 Client Security and Safety

- 1.2.16.5.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units.
- 1.2.16.5.2 Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.
- 1.2.16.5.3 The design will include, but is not limited to items which are non-loopable or designed to release under a load of 20 kilograms and meet either the load release or non-loopability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. These features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:
 - 1.2.16.5.3.1 Temper Laminated Interior Glazing;
 - 1.2.16.5.3.2 Door hardware;
 - 1.2.16.5.3.3 Sprinklers;
 - 1.2.16.5.3.4 Showerheads;
 - 1.2.16.5.3.5 Lavatories;
 - 1.2.16.5.3.6 Faucets;
 - 1.2.16.5.3.7 Lavatory valves;
 - 1.2.16.5.3.8 Shower actuators;
 - 1.2.16.5.3.9 Toilet seats;
 - 1.2.16.5.3.10 Toilets;
 - 1.2.16.5.3.11 Toilet operator valves;
 - 1.2.16.5.3.12 Plumbing traps and piping covers;
 - 1.2.16.5.3.13 Fire extinguisher and hose cabinets;
 - 1.2.16.5.3.14 Medical gas enclosures;
 - 1.2.16.5.3.15 HVAC terminal devices and covers;
 - 1.2.16.5.3.16 Millwork;
 - 1.2.16.5.3.17 Access doors;
 - 1.2.16.5.3.18 Light fixtures;
 - 1.2.16.5.3.19 Electrical outlets;
 - 1.2.16.5.3.20 Thermostats;
 - 1.2.16.5.3.21 Fire alarm system components;
 - 1.2.16.5.3.22 Grab bar – not filled in;
 - 1.2.16.5.3.23 Handrails;
 - 1.2.16.5.3.24 Crash rails;
 - 1.2.16.5.3.25 Rub rails;
 - 1.2.16.5.3.26 Clothes hooks;

- 1.2.16.5.3.27 CCTV devices;
 - 1.2.16.5.3.28 Security and tracking devices and antennas;
 - 1.2.16.5.3.29 Hanger rods and Coat Hooks;
 - 1.2.16.5.3.30 Toilet partitions;
 - 1.2.16.5.3.31 Mirrors;
 - 1.2.16.5.3.32 Bulletin Boards;
 - 1.2.16.5.3.33 Artwork hanging systems; and
 - 1.2.16.5.3.34 Window treatments.
- 1.2.16.5.4 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 1.2.16.5.5 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at bedrooms and washrooms, but also applies to other Client treatment areas such as interview rooms, treatment rooms, and nourishment stations. Provide bedrooms, Client washroom and tub rooms with doors that can be locked by staff, but not by the Client.
- 1.2.16.5.6 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.
- 1.2.16.5.7 The component’s design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.
- 1.2.16.5.8 Many Clients on the Extended Care Units have a diagnosis of Polydipsia (excessive thirst and therefore consumption of water). These units require special water limiting features so that Clients still have access to the washroom but staff has the ability to control the Client access to water. Refer to Schedule 3 for detailed requirements. Some examples of features are:
- 1.2.16.5.8.1 Confirm features desired;
 - 1.2.16.5.8.2 Client Washroom water shut of capability from the nurse station; and
 - 1.2.16.5.8.3 Water less or limited water toilets.
- 1.2.16.6 Staff Safety**
- 1.2.16.6.1 The Nurse Station, which controls access to the unit, will be provided with visibility to the unit entrance. The Nurse Station will have two means of egress to prevent barricading of staff in the nurse station.

- 1.2.16.6.2 Nurse Stations will be designed as open to the surrounding corridors and/or spaces. The design of the care desk will allow for the future flexibility to enclose the Nurse Station in the future if required. An open and welcoming feel is desired.
- 1.2.16.6.3 The Nurse Station requires two points of entrance/exit to avoid staff entrapment. The care desk will be open concept but will have features such as deep counter depths and heights to deter jumping/reaching and damaging of equipment and or injuring staff. The design will provide a transaction counter at a barrier free height.
- 1.2.16.6.4 A single Client/public entrance to the unit is desired. A secondary staff and supply entrance is permitted. Entrances/exits to the unit should be limited to prevent elopement. All entrances and exits to Client care units will have interlocking door capability.
- 1.2.16.6.5 The Charting/Conference Room will be designed as a secure area and will include interior glazing to support visibility to the unit.
- 1.2.16.6.6 “Staff only” rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.
- 1.2.16.6.7 A staff lounge will be provided and will be located in close proximity to the Nursing Station and Charting/Conference Room. A staff washroom will be provided adjacent to the staff lounge; the washroom will not open directly into the staff lounge.

1.2.16.7 Emergency Response

- 1.2.16.7.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the treatment room.

1.2.16.8 Operable Windows

- 1.2.16.8.1 Each Client bedroom will have windows that provide access to exterior views, and views of predominantly landscape versus buildings, parking lots or loading docks. At least a portion of each window will be operable (restricted to maximum of 4”) providing access to fresh, outdoor air. Ensure that the windows are lockable by staff such that Clients are prevented from opening windows unauthorized.
- 1.2.16.8.2 Exterior and interior windows need to be temper laminated, impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact.

1.2.16.9 Unobstructed Site Lines

- 1.2.16.9.1 Unobstructed site lines will be provided between the Nurse Station and the doors to all Client bedrooms. The head of each Client bed needs to be visible to caregivers from the hallway outside of the room. Small vision panels in doors are required.

- 1.2.16.9.2 Unobstructed site lines will be provided between the Nurse Station and the following rooms/areas: Unit Entry, Zen/Activity Rooms, Dining Room(s), Interview Rooms, Therapy Rooms, outdoor porch(s) and courtyards.

1.2.16.10 Component Security

- 1.2.16.10.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.
- 1.2.16.10.2 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.
- 1.2.16.10.3 All Client rooms will be lockable from the exterior but not from the interior.
- 1.2.16.10.4 All lockable Client care rooms in this component will be serviced by non-accessible audio-video surveillance and monitoring equipment. Monitoring stations will be located at the component's Nursing Station and at the Operations Security Centre located in the B3.
- 1.2.16.10.5 The component's design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.
- 1.2.16.10.6 Storage areas, supply/utility and medications rooms will be secure from Client access and include lockable cupboards for supplies and or medications.
- 1.2.16.10.7 There will be no "blind spots" within the Client care unit such as recesses, alcoves or places where Clients can hide.
- 1.2.16.10.8 Intensive Psychiatric Care Rooms (IPCR)
- 1.2.16.10.8.1 IPCR Rooms are used for Clients in crises that are of harm to themselves or others. Staff is required to observe these Clients on a 1:1 or 1:2 basis with direct visualization at all times.
- 1.2.16.10.8.2 The IPCR suite consists of two IPCR Rooms, one IPCR washroom shared between the two rooms, one IPCR vestibule and staff work area.
- 1.2.16.10.8.3 The IPCR suite will be located in a central location to the Client care unit for ease of transfer of Clients in crisis but will not be located in such a way that disrupts the flow and activities of other Clients on the unit.
- 1.2.16.10.8.4 The IPCR suite will have direct adjacency to the Dispensary/Medication Room to allow for quick transfer of medications as well as direct adjacency to the Nursing Station for ease of staff back up and assistance.

- 1.2.16.10.8.5 IPCR rooms will have one point of access through the IPCR vestibule. The IPCR vestibule will have multiple access points including one leading directly to the Nurse Station.
- 1.2.16.10.8.6 Staff will be able to visualize both IPCR Rooms from one single location within the IPCR Vestibule.
- 1.2.16.10.8.7 Staff will be able to visually monitor Clients from the vestibule in both IPCR Rooms at the same time.
- 1.2.16.10.8.8 IPCR room design will comply with equivalent standards for the psychiatric secure room section of "*British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units*" published by the Ministry of Health and include: special treatment of fixtures, absence of handles; tamper-proof fixtures; solid ceilings; water control shut-off from the nursing station; sound proofing; observation windows in each secure room; internal blinds on external windows; doors that swing in both directions; and configuration such that the general population could readily use the rooms, when they are not being utilized as secure rooms. Secure rooms will not have any raised platforms or ledges, and will not have any sharp edges or corners
- 1.2.16.10.8.9 IPCR suite will have acoustic separation from the remainder of the unit as Clients in the IPCR are at times noisy and disruptive to the remainder of Client activities on the unit.
- 1.2.16.10.8.10 One of the two IPCR rooms will provide safety padding on all walls, doors, door frames and floors.
- 1.2.16.10.8.11 IPCR room door will have a full height side lite that will allow for staff to fully visualize the Client as well as allow the Client to fully visualize their caregiver. The door will also have a vision panel.
- 1.2.16.10.8.12 IPCR Room will have a minimum ceiling height of 12ft.
- 1.2.16.10.8.13 IPCR Client beds require 3-sided access. Client beds will be bolted to the floor and will not be against a wall limiting access to the Client.
- 1.2.16.10.8.14 IPCR rooms will have a window to the outside for natural light and view.

1.2.16.11 Therapeutic Environment

- 1.2.16.11.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.

- 1.2.16.11.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.
- 1.2.16.11.3 Space will be provided for Client access to a telephone. This space will be visible by staff and provided in a location easily accessible by all Clients. Design of the phones will provide for barrier free use and also provide cords that are no greater than 6” in length.
- 1.2.16.11.4 The unit entry/secure vestibule design will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 1.2.16.11.5 The design will be non-institutional and as home-like as possible and conducive to wellness. This includes the inclusion of elder-friendly design to address such features as signage, lighting, colours and floor services.

1.2.16.12 Access to outdoor Therapy Space

- 1.2.16.12.1 Each Client care unit will have a direct connection with a secured outdoor courtyard and covered porch. Location will provide privacy from other Facility areas and from visitors.
- 1.2.16.12.2 These spaces will be designed for therapeutic functions and will include features that provide a variety of calming stimulation. It will be a healing garden with plants, looping accessible pathways and seating benches will be incorporated into this space. No less than 10 garden seating places will be provided. The outdoor space will have areas that are covered from the elements for shade and protection from the rain.
- 1.2.16.12.3 Selection of outdoor plantings and ground covers will be safe for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
- 1.2.16.12.4 The outdoor space will utilize the facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.

1.2.16.13 Lighting

- 1.2.16.13.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 1.2.16.13.2 Each Client bedroom will have access to natural lighting and views to the landscape. Windows will be large to provide a connection with outside grounds and to avoid perceptions of a “closed in” and confining environment. Exterior and interior windows need to be impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact. Windows, with the exception of secure and convertible rooms, will be operable (restricted to 4” openings) to the exterior to access fresh air, offer appropriate light, but also privacy. The windows will prevent Clients from throwing things out of the window.

- 1.2.16.13.3 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 1.2.16.13.4 Artificial lighting in each Client bedroom will be variable to provide different levels of lighting and for different purposes. At night time, Clients will have the ability to read while in their bed. Lighting in the room will also accommodate staff’s ability to monitor the Client during the night without affecting the Client’s ability to sleep. Lighting to Client bedrooms will be controlled in the evening from the hallways as well as from the Client bedside (by the Client).
- 1.2.16.13.5 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.
- 1.2.16.13.6 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

1.2.16.14 Ergonomics for an Aging Workforce

- 1.2.16.14.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

1.2.16.15 Accommodation of Bariatric Clients

- 1.2.16.15.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.
- 1.2.16.15.2 Additional assistance required for moving bariatric Clients will rely on 1 mobile lift that services the entire component. When not in use, this mobile unit will be kept in a locked equipment storage room.

1.2.16.16 Inducements for Client Ambulation

- 1.2.16.16.1 Activation spaces on the Client care unit, including designated therapy spaces, activity rooms and general Zen/activity rooms, will be inviting with natural lighting, views to the landscape and opportunities for light recreation and entertainment such as gaming consoles with TVs which have exercise programs and various games.

1.2.16.17 Infection Control

- 1.2.16.17.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.
- 1.2.16.17.2 The Private Client Room, Medical will be equipped with negative pressure capabilities to be used as an isolation room, if required.

1.2.17 Space Table

- 1.2.17.1** The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1. 2 EXTENDED CLIENT CARE SERVICES**

A1.2 - EXTENDED CLIENT CARE SERVICES						
12 BED UNIT						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	UNIT ENTRY					
.01	Unit Sallyport	1	6.00	6.00	3	
.02	Housekeeping Closet	1	4.50	4.50	4	<i>maybe combined to one central room for all 3 units, dual access from public corridor and the unit</i>
.03	Storage	1	7.50	7.50	3	<i>wheelchair storage</i>
	SUBTOTAL			18		
	12 BED CLUSTER					
.04	Private Client Room	10	11.00	110.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet</i>
.05	Client Washroom, Barrier Free	5	6.50	32.50	3	<i>accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.06	Private Client Room, Bariatric	1	18.50	18.50	3	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability</i>
.07	Client Washroom, Bariatric, Barrier Free	1	7.50	7.50	3	<i>bariatric toilet, sink, shower</i>
.08	Private Client Room, Medical	1	18.50	18.50	3	<i>accessible, rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability, can be used for Palliative Care</i>
.09	Client Washroom, Medical, Barrier Free	1	7.50	7.50	3	<i>accessible, toilet, sink, shower</i>
.10	Therapy Room	1	22.00	22.00	3	<i>flexible use, snoezelen, physio therapy, wellness, group therapy, individual therapy</i>
.11	Interview Room	1	11.00	11.00	3	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			228		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1. 2 EXTENDED CLIENT CARE SERVICES**

BED ZONE SUPPORT						<i>locate w/in Bed Zone</i>
.12	Tub Room	1	15.00	15.00	3	<i>tub, toilet, sink, storage, provide structure for future x-y ceiling mount Client lift</i>
.13	Clean Storage	1	7.50	7.50	4	<i>linen storage, Client supplies, dual access to public corridor</i>
.14	Soiled Holding	1	7.50	7.50	4	<i>provide dual access</i>
.15	Client Laundry	1	10.00	10.00	2	<i>washer, dryer, folding counter, storage</i>
.16	Treatment Room	1	11.00	11.00	3	<i>medical exam room, exam table, phlebotomy chair, workstation, side chair, oxygen machine, hand</i>
	SUBTOTAL			51		
TEAM CENTRE						
.17	Nurses Station	1	15.00	15.00	3	<i>2 workstations, visibility to all bed wings, activity spaces, therapy rooms, dining, unit entry, outdoor porch/yard, Client laundry - determine location for eyewash station</i>
.18	Dispensary/Medication	1	11.00	11.00	3	<i>locate medication room directly adjacent to Team Centre, provide dispensing window, confirm methadone regulations</i>
.19	Charting/Conference Room	1	15.00	15.00	3	<i>8 staff seated around a table, 2 workstations, Client file storage</i>
.20	Staff Break/Locker	1	11.00	11.00	4	<i>u/c refrigerator, lockers, coat hanging, hand wash sink, access to natural light, dual access</i>
.21	Staff Washroom	1	4.00	4.00	4	<i>2 piece</i>
.22	Intensive Psych. Care Room	2	9.00	18.00	1	<i>locate Intensive Psych. Care suite near team ctr., provide natural light, provide 3 sided access to Client bed</i>
.23	Intensive Psych. Care Washroom, Barrier Free	1	6.50	6.50	1	<i>2 piece</i>
.24	Intensive Psych. Care Vest.	1	7.50	7.50	1	<i>staff work area, one staff</i>
	SUBTOTAL			88		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 1. 2 EXTENDED CLIENT CARE SERVICES**

TOTAL NET AREA FOR 3 UNITS				1,416		36 Extended Beds
EXTENDED SHARED SERVICES						
OFFICE AREA						
.32	Office, Clinical	12	11.00	132.00	3	<i>flexible use for NUM, Social Work, Facilitator, Psychologist, Psychiatrist, CMHN, Neuro, Behavioral Therapist, Admin</i>
.33	Workstation	2	6.00	12.00	3	<i>admin, flex, students</i>
.34	Copy/Files	1	7.50	7.50	4	<i>printer/scanner/fax, paper storage, office supplies</i>
.35	Staff Washroom, Barrier Free	2	5.00	10.00	4	<i>2 piece, accessible</i>
	SUBTOTAL			162		
	TOTAL NET SQUARE METRES			162		
TOTAL NET AREA FOR EXTENDED UNITS						
DEPT NET SQUARE METRES				1,578		36 Extended Beds

A 2 THERAPY MALL – NON SECURE CLIENTS

This specification outlines the functional, operational and physical requirements for the Therapy Mall Unit(s) functional component at the Facility.

FUNCTIONAL DESCRIPTION

2.1.1 Statement of Purpose

2.1.1.1 Philosophy

- 2.1.1.1.1 The Therapy Mall provides a central/common location for all Non-Secure Clients to attend therapy in a normalizing environment. Each of the various programs will have an entrance off of the common street or mall and access to the outdoors where necessary. Services include: Rehabilitation Lab, Physical Therapy, Vocational Therapies (Recycling Program, Industrial Therapy and Garden Therapy), Quality of Life Programming, Apparel Shop, Medical Clinic, Hair Care, Art Therapy, and Music Therapy.
- 2.1.1.1.2 Services provided in this component will be accessible to all Non-Secure Clients throughout the Facility in accordance with specific identified needs.
- 2.1.1.1.3 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive way as possible.

2.1.1.2 Guiding Principles

- 2.1.1.2.1 Provide a welcoming, safe and secure environment for Clients.
- 2.1.1.2.2 Develop and maintain effective programs that will provide Clients' families with support and education as well as skills and training to assist in their transition and life outside of the Main Building.
- 2.1.1.2.3 The Therapy Mall spaces will create a welcoming central destination for Clients, families and staff to congregate in an inviting space to create a sense of community.
- 2.1.1.2.4 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

2.1.2 Scope of Services

2.1.2.1 Functional Content

- 2.1.2.1.1 Functionally, this component has multiple sub-components within the larger Therapy Mall.
- 2.1.2.1.2 Each Therapy program will have a welcoming “store front” or open access off of main general circulation corridors.

- 2.1.2.2** Quality of Life - This vocational program provides opportunities that allow higher functioning Clients to engage in supervised and individual goal-directed activities in a safe and supportive work setting. This service provides programming to improve and maintain quality of life to Clients that have limitations. Activities include: social activities, reality orientation, exercise program, reminiscing and validation. The vocational component focuses on Clients who have emotional behavioural, and/or cognitive problems associated with mental illness which interferes with their motivation and ability to function independently. Activities in this program include making and selling crafts, baking, cleaning and organizing the Quality of Life room, serving at Facility functions, socializing and going on community outings.
- 2.1.2.3** Canteen - The canteen/coffee shop provides a leisure area for Clients to socialize, have coffee & snacks. The coffee shop provides a social space for Clients and visitors. The atmosphere will promote the sense of community.
- 2.1.2.4** Music/Art Therapy – Music and Art therapy programs allow Clients to use activities such as guitar, singing, drawing, painting, and craft work to express emotion in a positive way. They also allow Clients the opportunity to learn how to perform, create and appreciate all forms of art. The music also teaches warm up skills and visualization techniques for performing arts and provides opportunities for Clients to use these techniques for performances within the Main Building. It is the goal that the Music and Art Programs can perform/present to Clients in the Indoor Courtyard area.
- 2.1.2.5** Education Centre – The Education Centre provides a number of education services ranging from basic literacy, elementary education, high school courses, G.E.D. preparation, technical courses and distance university classes. These activities are individualized to whatever degree possible in order to meet Client needs. The SHNB Library has a partnership with the local public library for book rotation. The library will act as a resource library for staff and students as well as Clients and visitors.
- 2.1.2.6** Apparel Shop/Boutique - The Apparel Shop/Boutique will provide an area for Clients to try on and purchase new and donated items in a traditional shopping experience. The Apparel Shop collects donated items from the community. These items are sorted, repaired, and tagged for Client purchase. Clients can then purchase the clothing with their "incentive pay" money in the retail area of the Apparel Shop/Boutique.
- 2.1.2.7** Gift Shop – The gift shop will be run by the Authority. It is a location for families and Clients to purchase gifts and small food items.
- 2.1.2.8** Hair Care - Hair Care services within a traditional salon setting will be provided within the Therapy Mall.
- 2.1.2.9** Client Business Centre – Assists Clients in skills related to finding a job, writing a resume, managing personal banking and other life skills related to working and finances. The incentive pay system is run by the Client Business Centre. Clients receive incentive pays to purchase items within the facility (i.e. at the canteen, apparel shop). Client Business Centre Offices handle all Client monetary transactions.

- 2.1.2.10** Rehabilitation Lab - The Rehabilitation Lab provides an assessment and activation programs for new admissions. The Transitional Program Assessment is also completed with new admissions to determine suitable programming for the Client within the facility. The assessment covers criteria for vocational placements as well as quality of life programming and psycho-educational modules to all Non-Secure Clients. Some of these modules are coping, anger management, goal setting, and social skills. It also provides specific skill development for all Clients through groups such as life skills and stress and emotional management. Specific modules are provided to assist with the transition to community living and to develop independent living skills. Some modules are meal preparation, safety, self-medication, assertiveness, budgeting, goal-setting and community awareness. The goals of the program are to restore, develop or enhance the individual's knowledge, skills or abilities in areas of coping and life skills so that he/she will successfully reintegrate to the community.
- 2.1.2.11** Addictions Services - The Addiction service provides education, assessment and treatment regarding addictions to substances and alcohol to all areas of the Main Building. These services are to be held in such a manner to respect the confidentiality of those receiving these services. Addictions group meetings or individual appointments will be delivered on the Forensic Remand Unit, in the Addictions offices, or when necessary on the Main Building's treatment units as required.
- 2.1.2.12** Physical Therapy – 0800-1600 - Monday to Friday
- 2.1.2.13** Medical Clinic - The medical clinic will operate on an as needed basis and on scheduled days when the physician, nurse practitioner and/or pharmacist are present. Clients typically enter the community for eye care and dental services but will in the future utilize the Healthcare Clinic (C6)
- 2.1.2.14** Vocational Therapy 01 - is a fully functional wood shop to assist with recovery, skill development and vocational opportunities. Typical wood project vary for small toys and bird houses to large lawn furniture, picnic tables, dog houses and garden sheds. All projects are available for sale to members of the public. This area will be used by all Non-Secure Clients.
- 2.1.2.15** Vocational Therapy 02 - 0800-1630, Monday to Friday - These activities are designed to meet the assessed needs of Clients requiring highly structured and highly supervised programs. Programming includes recycling, paper shredding, some arts and crafts and educational activities according to Client needs.
- 2.1.2.16** Vocational Therapy 03 – 0800-1630, Monday to Friday - This program provides activities for physically active Clients. Their programs include utilization of the Greenhouse, gardening, car washes and other outdoor activities. Clients provide maintenance and assist with grounds maintenance.
- 2.1.2.16.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 2.1.2.16.1.1 The design will promote a safe and secure environment;
- 2.1.2.16.1.2 The design will create a welcoming Client-centred healing environment;
- 2.1.2.16.1.3 The design will support the model of care;
- 2.1.2.16.1.4 The design will minimize staff travel distances;
- 2.1.2.16.1.5 The design will provide specific supports to ensure the control of infection;

- 2.1.2.16.1.6 The design will provide respite and relaxation opportunities for both Clients and their visitors within the Indoor Courtyard;
 - 2.1.2.16.1.7 The design will provide multiple opportunities for Clients to experience the outdoors via courtyards, outdoor patios and through natural light and views;
 - 2.1.2.16.1.8 The Indoor Courtyard and Quality of Life spaces require views to the river valley and landscape; and
 - 2.1.2.16.1.9 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots.
- 2.1.2.17** Print Shop – The main responsibility of the Print Shop is the production and distribution of forms to the entire region. Services include desk top publishing, forms development and distribution, mail sorting and distribution.
- 2.1.2.18** Exclusions
- 2.1.2.18.1 The following list specifies functions that involve either Clients or staff normally present on the Secure Care Units but are understood to occur in other functional components in the facility or outside of the facility:
 - 2.1.2.18.1.1 Large scale Recreational Therapy/Wellness activities will occur within C03 Therapy Mall – Shared component;
 - 2.1.2.18.1.2 Spiritual/Cultural Services will occur in a central shared location by both secure and Non-Secure Clients in the C03 Therapy Mall – Shared component; and
 - 2.1.2.18.1.3 Medical Services other than those performed in the Medical Clinic will occur on the Client care units, in the community or in the C6 – Health Care Clinic.
- 2.1.2.19** Anticipated Trends in Service Delivery
- 2.1.2.19.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.
 - 2.1.2.19.1.1 Increasing numbers of Clients with addictions and mental disorders;
 - 2.1.2.19.1.2 Increasing Client acuity and complexity and potential for aggression;
 - 2.1.2.19.1.3 Increasing numbers of bariatric Clients admitted to Main Building is predicted to increase;
 - 2.1.2.19.1.4 Increasing mean age of staff working on the Client care units is predicted to increase;
 - 2.1.2.19.1.5 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions;

- 2.1.2.19.1.6 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility;
- 2.1.2.19.1.7 Increasing recognition of need for informed care; and
- 2.1.2.19.1.8 Redesigning service delivery to meet the needs of First Nations Clients.

2.1.3 Scope of Education Functions

- 2.1.3.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

2.1.4 Scope of Research Functions

- 2.1.4.1 Staff and students working in the Client care units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

2.1.5 Hours of Operation

- 2.1.5.1 The component at this facility will be staffed and in operation:
 - Quality of Life – 0800-1630, Monday – Friday
 - Canteen - 7 days a week - 09:00 – 11:00, 13:00 – 15:00, 18:00 – 20:00
 - Music/Art Therapy – Flexible Hours, 0800-2100, 7 days a week
- 2.1.5.2 Education Centre –Classroom Monday to Friday 0800-1630; Library open 7 days, 0800-2100; Internet Café open 7 days, 0800-2100
- 2.1.5.3 Apparel Shop/Boutique - 0900-2100, Monday – Friday
- 2.1.5.4 Gift Shop – 0900-2100, Monday – Friday
- 2.1.5.5 Hair Care - on a scheduled basis a hair care professional will be on site to provide Client hair care.
- 2.1.5.6 Client Business Centre – 0800-1630, Monday to Friday
- 2.1.5.7 Rehabilitation Lab & Addictions Services – 0800-1630, Monday to Friday however services will expand into the evening in the future
- 2.1.5.8 Physical Therapy – 0800-1600, Monday to Friday
- 2.1.5.9 Medical Clinic - The medical clinic will operate on an as needed basis and on scheduled days when the physician, nurse practitioner and/or pharmacist are present. Clients typically enter the community for eye care and dental services.
- 2.1.5.10 Vocational Therapy 01 - 0800-1630, Monday to Friday

2.1.5.11 Vocational Therapy 02 - 0800-1630, Monday to Friday

2.1.5.12 Vocational Therapy 03 – 0800-1630, Monday to Friday

2.1.6 People Management Systems

2.1.6.1 Clients utilizing this component will arrive from one of the Non-Secure Client care units. The typical Client will be ambulatory, and the Secure Clients will be escorted and the Non-Secure Clients will not be escorted by staff to and from the Client care units.

2.1.7 Material Management Systems

2.1.7.1 The design of the therapy mall will minimize the need for support and maintenance staff to access Client therapy areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.

2.1.7.2 Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

2.1.8 Consumable Supplies

2.1.8.1 Inventories of consumable supplies will utilize the Kanban system. Each locker room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use. Areas required are Quality of Life, Hair Care Salon, Physiotherapy.

2.1.8.2 Cabinets will be lockable so that if necessary Client access is controlled.

2.1.8.3 All central supply storage areas will be inaccessible to Clients and to the public.

2.1.9 Linen

2.1.9.1 Inventories will be managed via the Kanban system. Clean Utility Room will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) of the cabinet.

2.1.9.2 Soiled laundry and linen will be collected from the Kanban in small hampers, temporarily staged in the Therapy Mall - Physiotherapy soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.

2.1.10 Pharmaceutical Products

2.1.10.1 Medications will not be dispensed in the Therapy Mall

2.1.11 Food Services

2.1.11.1 Food service will generally be provided to Clients on the Client care units or in the central acute dining area or cafeteria. The Canteen will be open for coffee and snacks. It is anticipated that the required bulk food will be delivered by food services to the Quality of Life Kitchen and then possibly sold through the Canteen. Food is prepared by Clients with staff assistance.

- 2.1.11.2** Following each canteen service, dishes, trays and service ware will be washed in the canteen dish room.

2.1.12 Waste Management

- 2.1.12.1** The majority of waste products will be garbage and recyclables. Other waste products such as soiled linen will be managed within the soiled holding room shared by the entire therapy mall.

- 2.1.12.2** Segregation of wastes will accommodate the following categories of products:

- 2.1.12.2.1 General garbage;
- 2.1.12.2.2 Sharps (including potentially bio hazardous items);
- 2.1.12.2.3 Infectious or contaminated wastes (excluding sharps);
- 2.1.12.2.4 Confidential paper;
- 2.1.12.2.5 Clean paper and cardboard;
- 2.1.12.2.6 Clean metal (tin and aluminum);
- 2.1.12.2.7 Clean recyclable plastics; and
- 2.1.12.2.8 Compostable materials.

- 2.1.12.3** A secure soiled utility room, for the containment of soiled items and trash will be required adjacent to the Recreation Centre, Physical Therapy and the Medication clinic.

2.1.13 Information Management Systems

- 2.1.13.1** The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:

- 2.1.13.1.1 Integrated Medication Carts (Medication Clinic only);
- 2.1.13.1.2 Medication Dispense Cabinets (Medication Clinic only);
- 2.1.13.1.3 Mobile and Fixed Computer Devices – Desktop and Wall mount;
- 2.1.13.1.4 Tracking Monitors – Client, Staff, and Resource Tracking;
- 2.1.13.1.5 Clinical Dashboards;
- 2.1.13.1.6 Device Integration for real –time clinical assessment and physiological data documentation;
- 2.1.13.1.7 Digital Room Signage and Way-finding;
- 2.1.13.1.8 Location Awareness;
- 2.1.13.1.9 Device Connectivity;
- 2.1.13.1.10 Multifunction Communication Devices with integration to systems;

- 2.1.13.1.11 Telehealth and Virtual Team Capabilities;
- 2.1.13.1.12 Real Time Location System; and
- 2.1.13.1.13 Staff Safety and Duress.

DESIGN CRITERIA

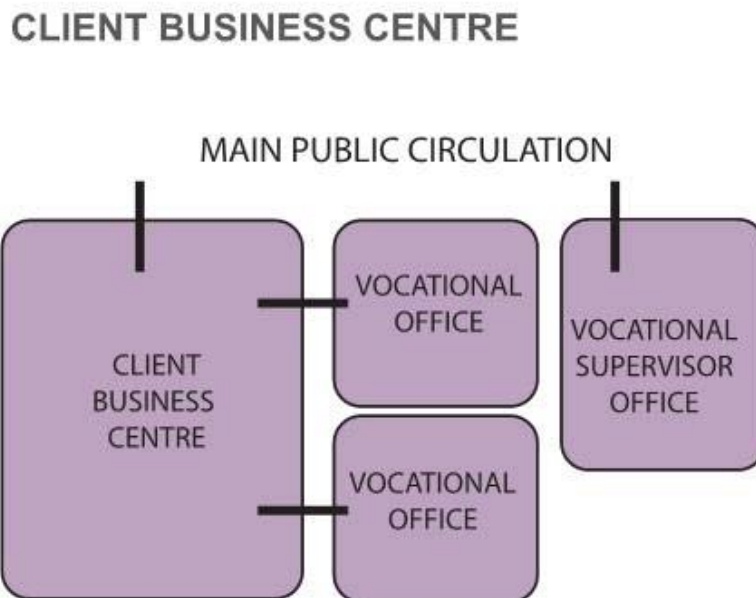
2.1.14 Lean Planning Standards

2.1.14.1 Standardization

- 2.1.14.1.1 All Therapy Mall Components will have a public storefront “address” to encourage Client participation.
- 2.1.14.1.2 All Therapy Mall Components will be designed to allow for future flexibility and adaptability of services.
- 2.1.14.1.3 All Therapy Mall Components will be independently lockable.

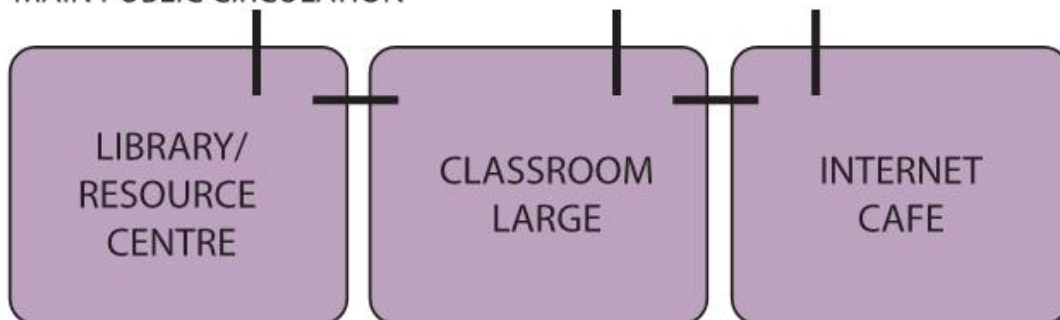
2.1.15 Proximity Relationships

- 2.1.15.1 The areas making up this component should be organized as illustrated in the following diagrams:



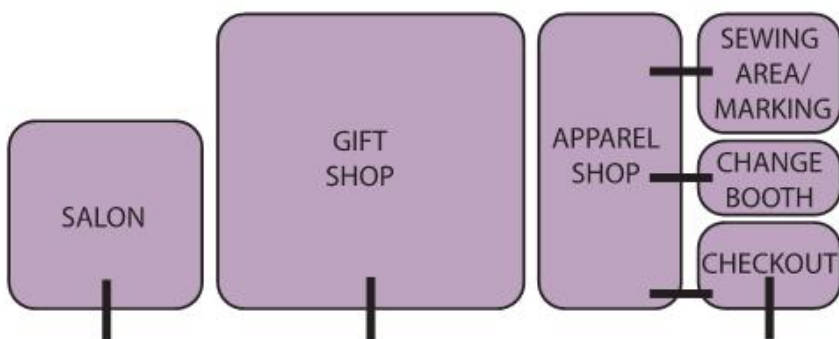
EDUCATION CENTRE

MAIN PUBLIC CIRCULATION

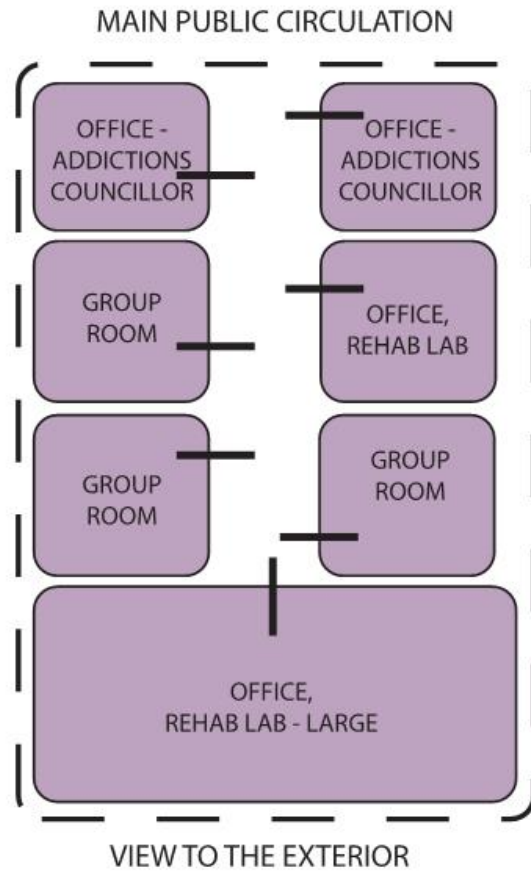


EXTERIOR VIEW TO THE LANDSCAPE

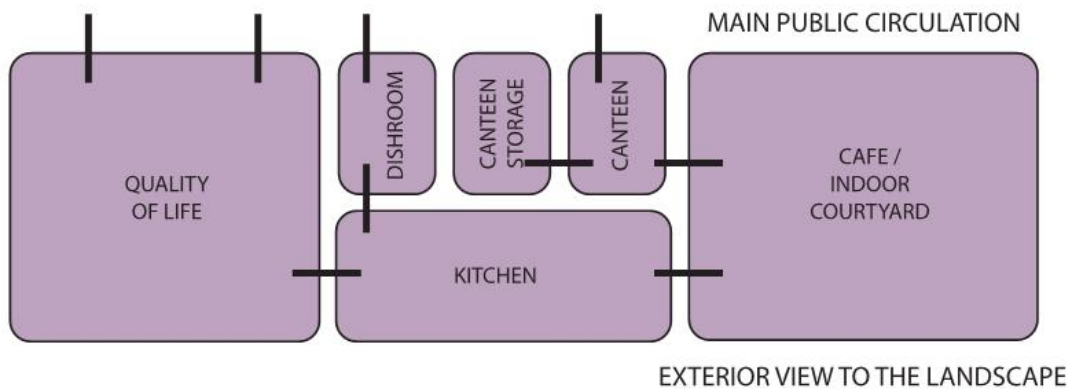
GIFT SHOP, APPAREL & HAIR CARE



REHABILITATION LAB AND ADDICTIONS

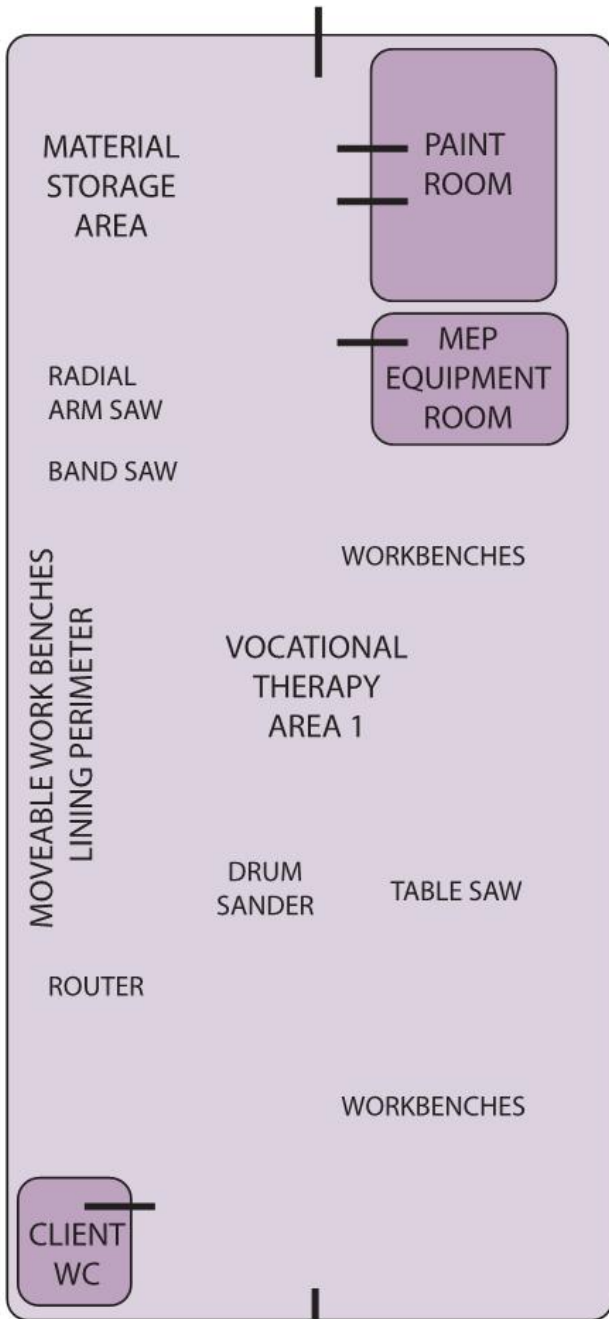


QUALITY OF LIFE / CANTEEN



VOCATIONAL AREA 1

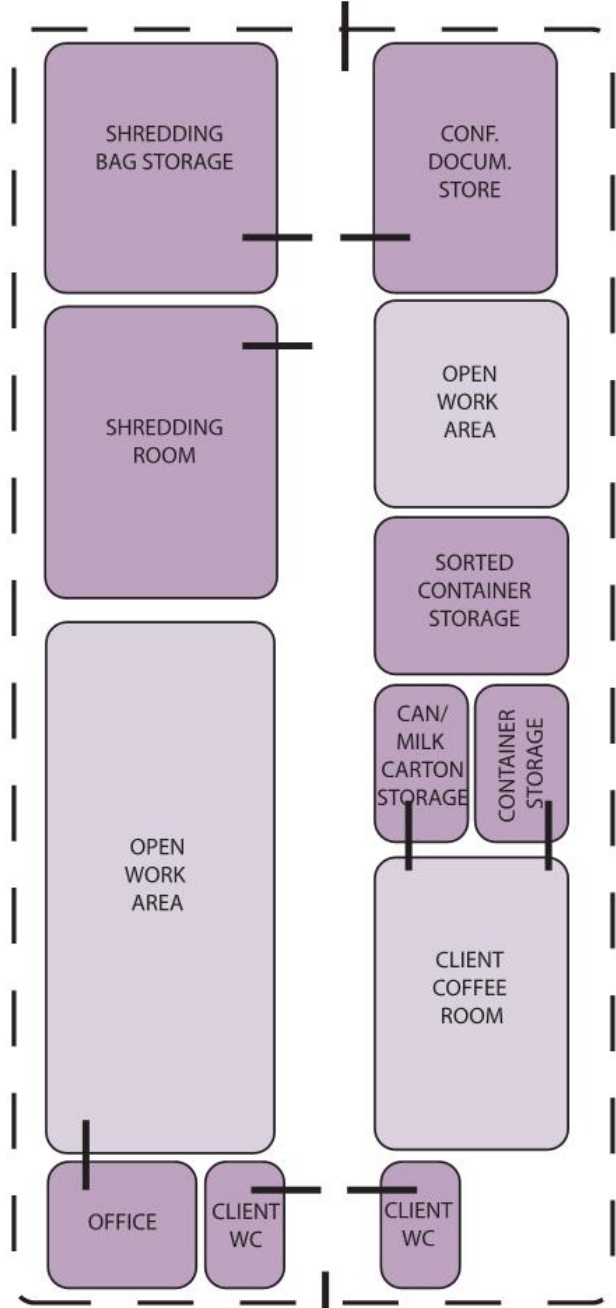
LOADING DOCK FOR SUPPLY DELILVERY/PICK UP



MAIN PUBLIC CIRCULATION

VOCATIONAL AREA 2

LOADING DOCK FOR SUPPLY DELILVERY/PICK UP



MAIN PUBLIC CIRCULATION

- 2.1.15.2** The diagram(s) above show the various independent Therapy Mall departments. See the overall Main Building block diagram for reference of the Therapy Mall departmental relationships to one another as well as to the other components of the Facility. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 2.1.15.3** The Therapy Mall departments will be collocated on one level. The Therapy Mall will be located on the same level as Extended Client Care Units.
- 2.1.15.4** Vocational Therapy 01 and Vocational Therapy 02 are noisy services. Location of these programs will be considerate of adjoining rooms and avoid incompatible adjacencies (i.e. not adjacent to the Education Centre where quiet learning occurs). Appropriate treatment of the Vocational Therapy 01 and 02 for acoustical separation is required. See schedule 3 for future information.
- 2.1.15.5** Provide convenient access by general circulation between the Therapy Mall Units and the Extended, Acute and Forensic Client Care Services.
- 2.1.15.6** Quality of Life/Canteen
- 2.1.15.6.1 The Indoor Courtyard will be located in a central location with direct connection to the outdoors and views to the river valley
 - 2.1.15.6.2 Quality of Life will have direct access to the Kitchen.
 - 2.1.15.6.3 The Quality of life Kitchen will have direct access to the Dish Room and to the Canteen.
 - 2.1.15.6.4 The Canteen will have a direct adjacency to the Indoor Courtyard for the sale of coffee/food.
 - 2.1.15.6.5 The Canteen will have a retail storefront set up with cash register, display cabinets, and menu/offering boards.
- 2.1.15.7** Music/Art Therapy
- 2.1.15.7.1 Music/Art Therapy will have direct adjacency by general circulation to the Indoor Courtyard for ease of transfer of equipment and supplies for shows/display within the Indoor Courtyard.
- 2.1.15.8** Education Centre
- 2.1.15.8.1 The Education Centre will be located in a central location for ease of access by all Non-Secure Clients.
 - 2.1.15.8.2 The Education Centre will consist of three rooms the Classroom, Internet Café and the Library/Resource Centre. The Classroom will have direct access to the Internet Café and the Library/Resource Room.
 - 2.1.15.8.3 The Internet Café will have a direct connection to general public circulation with a central and prominent location for ease of use by all Non-Secure Clients.
 - 2.1.15.8.4 The Library/Resource will have a direct connection to general public circulation with a central and prominent location for ease of use by all Non-Secure Clients, family members and staff.

2.1.15.8.5 The Classroom will be set up like a traditional high school classroom with teacher desk, white boards, student seating, computers, and lockable storage for materials/supplies.

2.1.15.8.6 The Education Centre will consist of three rooms the Classroom, Internet Café and the Library/Resource Centre. The Classroom will have direct access to the Internet Café and the Library/Resource Room.

2.1.15.9 Apparel Shop/Boutique

2.1.15.9.1 The Apparel Shop/Boutique will be located in a central location for ease of access by all Non-Secure Clients.

2.1.15.9.2 The Apparel Shop will have a boutique shop feel with cash register, clothing display cabinetry, change booth and clothing racks.

2.1.15.9.3 The Sewing Marking Area will have adjacency to the Laundry/Linen Services (C8) for ease of repair/alterations of clothing.

2.1.15.10 Gift Shop

2.1.15.10.1 The Gift Shop will be located in a central location for ease of access by all visitors, Non-Secure Clients and staff.

2.1.15.10.2 The Gift Shop will have a glassy store front, display shelving, and cash register for display of sale materials.

2.1.15.11 Hair Care

2.1.15.11.1 The Hair Care salon will be located in a central location within the Therapy Mall with convenient access by general circulation to the Extended, Acute and Forensic Client Care Units.

2.1.15.11.2 The Hair Care salon will have a glassy storefront, one adjustable salon chair, salon style hair wash sink, built in product supply storage, 2-3 chairs for waiting Clients.

2.1.15.12 Client Business Centre

2.1.15.12.1 The Client Business Centre will be located in a central location for ease of access by all Non-Secure Clients.

2.1.15.12.2 The Client Business Centre will have two offices with direct adjacency off of the Client Business Centre.

2.1.15.13 Rehabilitation Lab & Addictions Services

2.1.15.13.1 Additions services will be located adjacent to the Rehabilitation Lab.

2.1.15.13.2 The Rehabilitation Lab will be located in a central location for ease of access by all Non-Secure Clients.

2.1.15.13.3 The Rehabilitation Lab will have convenient access by general circulation to the Acute Client Care Services. This service is one of the first Therapy Mall services by the Acute Clients upon admission.

2.1.15.13.4 The Addictions Services will be located in a central location for ease of access by all Non-Secure Clients. This service is most utilized by Forensic Clients but can be used by all Clients dealing with Addictions.

2.1.15.13.5 The Addictions Services require ease of access off of general circulation however Client privacy is desired therefore entrances to the Addictions Services will not be directly from the general circulation corridor.

2.1.15.14 Physical Therapy

2.1.15.14.1 Physical Therapy will be located with convenient access to the Cardio/Weigh Room within Recreation Therapy – Therapy Mall Shared (C3)

2.1.15.14.2 Physical Therapy will be located in a central location for ease of access by all Non-Secure Clients.

2.1.15.15 Vocational Therapies (01, 02, and 03) will have convenient access by general circulation to the Extended Client Care Units.

2.1.15.16 Print Shop

2.1.15.16.1 This area provides vocational training for Clients in the form of sorting, packaging, cutting, collating, hole punching, copying, correlating and shredding.

2.1.15.16.2 The Print shop utilizes specialty equipment such as a shrink wrapper, cutter, 2 laminators, and a laser color printer. File storage is also required.

2.1.15.16.3 Print Shop requires shelves and work area for correlating, packaging, sorting distribution of forms and mail.

2.1.15.16.4 Adequate counter space to compile binders is necessary.

2.1.15.16.5 A utility sink is required.

2.1.15.17 Outdoor Spaces

2.1.15.17.1.1 Access and exit directly to at grade outdoor space is required from Vocational Therapy 01, Vocational Therapy 02 and Vocational Therapy 03. This access will not be located within the Threat Perimeter Zone.

2.1.15.17.1.2 The Indoor Courtyard requires direct access to and outdoor seating patio.

2.1.15.18 Provide convenient access by general circulation to the Therapy Shared Support area from all Therapy Mall programs for ease of staff movement

2.1.15.18.1 The Staff Break Room/Lounge and Staff Washroom(s) will be located in a central location for all therapy mall staff to limit staff steps. Consideration for staff entrance/exits and travel path to and from their area of work will be considered when locating the staff break room/lounge and staff washrooms.

2.1.15.19 Connection to other services:

- 2.1.15.19.1.1 Provide convenient access by general circulation from the Indoor Courtyard to the main entrance for ease of visitor and Client access.
- 2.1.15.19.1.2 Provide direct access from a supply delivery/dock area to Vocational Therapy 01 and Vocational Therapy 02 for ease of supply delivery and pick up.
- 2.1.15.19.1.3 Provide direct access between Vocational Area 01 a 1828.8 mm wide door is required.
- 2.1.15.19.1.4 Provide convenient access by general circulation between Extended Client Care Units and Vocational Therapy 01, Vocational Area 02 and the Quality of Life components.
- 2.1.15.19.1.5 Provide convenient access by external circulation between Vocational Therapy 03 and the Green House for ease of Client and staff movement.
- 2.1.15.19.1.6 Provide convenient access by general circulation to the Spiritual/Cultural Centre for ease of Client and staff movement.
- 2.1.15.19.1.7 Provide convenient access by general circulation to the Healthcare Clinic for ease of Client and staff movement.
- 2.1.15.19.1.8 Provide convenient access by general circulation to the Visiting Centre for ease of Client and staff movement.

2.1.15.20 Provide convenient access for each Therapy Mall Component by general circulation to major public and non-public circulation. Personnel, Clients, and supplies will move frequently to/from this component and other components in the Facility.

2.1.16 Internal Design Criteria

2.1.16.1 General Internal Layout

2.1.16.1.1 The design of the Vocational Therapy 01 will respond to the following workflow:

- 2.1.16.1.1.1 Projects flow clockwise from the main loading dock door;
- 2.1.16.1.1.2 Raw lumber is delivered to loading area and entry through the overhead garage door to lumber storage area;
- 2.1.16.1.1.3 Tools and machinery are closely located where materials are cut and ripped to proper sizes. Router, Sanders (spindle, disc and belt), band saws, scroll saws and drill presses are located to continue material flow to assemble areas;
- 2.1.16.1.1.4 Once material is assembled into completed projects, items are taken to be painted in the painting room; and
- 2.1.16.1.1.5 Finished Products are then sold and exit through overhead garage door to the loading dock.

2.1.16.1.2 Vocational Therapy 01 requires the following features:

- 2.1.16.1.2.1 A dust collection system;
 - 2.1.16.1.2.2 Clear floor area for lumber and plywood storage;
 - 2.1.16.1.2.3 Shelving/storage to store work projects in progress;
 - 2.1.16.1.2.4 An air compressor and vent for the paint booth;
 - 2.1.16.1.2.5 Mechanical equipment will be provided in a lockable enclosed room;
 - 2.1.16.1.2.6 Built-in lockable wardrobe storage for smaller power tools and supplies. The storage wardrobe will provide continuous power outlets to charge 12 drill batteries at one time. The storage will be able to store all other materials such as nails, crews and other small hand tools;
 - 2.1.16.1.2.7 One Client washroom will be located with direct access to Vocational Therapy 01. Washrooms will be designed with water limiting features for the safety of use by Clients with Polydipsia;
 - 2.1.16.1.2.8 One hand sink is required located near the main Client entrance from the general circulation. Fixtures and fittings will be anti-ligature and barrier free;
 - 2.1.16.1.2.9 One 3048 mm wide garage door will be provided between Vocational 01 and the loading dock;
 - 2.1.16.1.2.10 One 3048 mm wide overhead door will be provided to the Paint Room;
 - 2.1.16.1.2.11 An enclosed paint room and appropriate exhaust for fumes; and
 - 2.1.16.1.2.12 Proper clearances are required for tool operation. Current lumber used is in 8ft and 12ft spruce and 4ftx8ft plywood sheets. Material up to 16ft in length will be used.
- 2.1.16.1.3 The Vocational Therapy 02 Area is organized into the following zones:
- 2.1.16.1.3.1 Work area – open and closed rooms for shredding and sorting of cans/bottles. This area will be designed to allow for future flexibility and change of programs and services.
 - 2.1.16.1.3.2 Client Coffee Room– an open coffee area will be within the suite to allow for ease of line of sight and observation for high risk Clients. Clients will be at risk of self-harm, elopement or polydipsia.
 - 2.1.16.1.3.3 Office – one enclosed office will be located within the Vocational Therapy 02 suite. The office will contain a small desk, telephone, computer and lockable storage of staff personal belongings.
- 2.1.16.1.4 The design of the Vocational Therapy 02 area will respond to the following workflow related to confidential document shredding:
- 2.1.16.1.4.1 Grey boxes are filled with confidential documents from other facilities and are delivered to the loading dock area

- 2.1.16.1.4.2 Boxes are placed in the confidential storage room.
- 2.1.16.1.4.3 Clients remove boxes as needed and take them to sorting stations. The documents are sorted and placed in cardboard boxes.
- 2.1.16.1.4.4 Cardboard boxes are then moved to the sorted confidential storage room
- 2.1.16.1.4.5 Boxes are transported to the sound proof shredding room where they are shredded. Documents pass through the shredders and are deposited into plastic bags.
- 2.1.16.1.4.6 Filled plastic bags are transported to the shredding bag storage room.
- 2.1.16.1.4.7 At the end of each day the plastic bags are transported to the recycling bins located outside the Main Building.
- 2.1.16.1.5 The design of the Vocational Therapy 02 area will respond to the following workflow related to recycling:
 - 2.1.16.1.5.1 Cans and cartons are delivered through the Main Building and placed in the dirty container storage room;
 - 2.1.16.1.5.2 Containers are retrieved from the dirty container storage room, sprayed with water at the sink and set out to dry;
 - 2.1.16.1.5.3 Dried containers are placed in plastic bags and are placed in the clean cans and mild carton storage room;
 - 2.1.16.1.5.4 At the end of each day the plastic bags are transported to recycling bins located outside of the Main Building; and
 - 2.1.16.1.5.5 A deep double scrub type sink is required for container and can clearing.
- 2.1.16.1.6 Two Client washrooms will be located with direct access to Vocational Therapy 02. Washrooms will be designed with water limiting features for the safety of use by Clients with Polydipsia.
- 2.1.16.1.7 Vocational Area 02 will have an eyewash station.
- 2.1.16.1.8 Perimeter counter space is required. Each Client will have 4ft of linear work area due to behavioural issues. Vocational Therapy 02 will have up to 18 Clients working at the same time. Work space will be moveable tables rather than fixed millwork counters. Metal counters are required.
- 2.1.16.1.9 Vocational Area 03
 - 2.1.16.1.9.1 Vocational Area 03 will have convenient access by general circulation to a Client washroom.
- 2.1.16.1.10 Education Centre
 - 2.1.16.1.10.1 The Library will provide a librarian work desk/book check-out station.

2.1.16.1.10.2 The Library requires stacks or built-in bookshelves equivalently sized for two double sided full height bookcases 8ft in length. Library will also contain an area for book display, computer access, comfortable furniture for reading as well as small group meeting furniture.

2.1.16.1.11 Quality of Life

2.1.16.1.11.1 The Quality of Life room requires an acoustical dividing partition wall that allows the one room to function as two separate rooms. Access to each half independently is required.

2.1.16.1.11.2 The Quality of Life room requires 15 linear feet of built in storage on each side of the dividing partition.

2.1.16.1.11.3 Quality of Life component shares the use of the kitchen with the Canteen Service.

2.1.16.1.11.4 Convenient access by general circulation from the Quality of Life component to a Client washroom(s) will be provided.

2.1.16.1.11.5 The programmed kitchen requires two fully functioning “U” shaped kitchens (two sinks, two refrigerators, to ranges) to teach larger groups of life skills training.

2.1.16.1.11.6 A direct connection is required from the kitchen to the dish room.

2.1.16.1.11.7 Convenient Access through general circulation to outdoor seating/picnic areas and central BBQ locations is required from the Quality of Life Kitchen as Clients will prepare all food for picnics and gatherings.

2.1.16.1.11.8 Appliances provided in the kitchen will be industrial grade.

2.1.16.1.12 Client Business Centre

2.1.16.1.12.1 Client Business Centre will have tables, computer workstation, printer/scanner/fax combo machine, and seating/waiting chairs.

2.1.16.1.12.2 Requires internal secure bulletin board(s) for job postings, community postings, building information, and employment offered in the community.

2.1.16.1.12.3 A hand washing sink in the business centre is required.

2.1.16.1.12.4 The Client Business Centre requires wall area just outside the component along a general circulation corridor to allow for secured posting of information/jobs.

2.1.16.2 Client Security and Safety

2.1.16.2.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards to the *“British Columbia Ministry of Hospital Standards for Hospital-Based Psychiatric Emergency Services: Observations Units”*.

- 2.1.16.2.2 Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.
- 2.1.16.2.3 The design to include, but is not limited to items which are non-loop able or designed to release under a load of 20 kilograms and meet either the load release or non-loop ability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. This features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:
- 2.1.16.2.3.1 Temper Laminated Interior Glazing;
 - 2.1.16.2.3.2 Door hardware;
 - 2.1.16.2.3.3 Sprinklers;
 - 2.1.16.2.3.4 Showerheads;
 - 2.1.16.2.3.5 Lavatories;
 - 2.1.16.2.3.6 Faucets;
 - 2.1.16.2.3.7 Lavatory valves;
 - 2.1.16.2.3.8 Shower actuators;
 - 2.1.16.2.3.9 Toilet seats;
 - 2.1.16.2.3.10 Toilets;
 - 2.1.16.2.3.11 Toilet operator valves;
 - 2.1.16.2.3.12 Plumbing traps and piping covers;
 - 2.1.16.2.3.13 Fire extinguisher and hose cabinets;
 - 2.1.16.2.3.14 Medical gas enclosures;
 - 2.1.16.2.3.15 HVAC terminal devices and covers;
 - 2.1.16.2.3.16 Millwork;
 - 2.1.16.2.3.17 Access doors;
 - 2.1.16.2.3.18 Light fixtures;
 - 2.1.16.2.3.19 Electrical outlets;
 - 2.1.16.2.3.20 Thermostats;
 - 2.1.16.2.3.21 Fire alarm system components;
 - 2.1.16.2.3.22 Grab bar – not filled in;
 - 2.1.16.2.3.23 Handrails;
 - 2.1.16.2.3.24 Crash rails;
 - 2.1.16.2.3.25 Rub rails;
 - 2.1.16.2.3.26 Clothes hooks;
 - 2.1.16.2.3.27 CCTV devices;
 - 2.1.16.2.3.28 Security and tracking devices and antennas;
 - 2.1.16.2.3.29 Hanger rods and Coat Hooks;

- 2.1.16.2.3.30 Toilet partitions;
 - 2.1.16.2.3.31 Mirrors;
 - 2.1.16.2.3.32 Bulletin Boards;
 - 2.1.16.2.3.33 Artwork hanging systems; and
 - 2.1.16.2.3.34 Window treatments.
- 2.1.16.2.4 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 2.1.16.2.5 All Therapy Mall components will have interior glazing to the general circulation corridors for staff and Client safety.
- 2.1.16.2.6 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at change rooms and washrooms, but also applies to other Client areas with doors such as interview rooms, therapy rooms, and group rooms.
- 2.1.16.2.7 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.
- 2.1.16.2.8 The component's design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.
- 2.1.16.3 Staff Safety**
- 2.1.16.3.1 Areas not requiring 24 hours-a-day, 7 days a week, access will be able to be locked and secured when not in operation.
- 2.1.16.3.2 All Therapy Mall Components will have two points of entrance/exit to avoid staff entrapment. The care desk will be open concept but will have features such as deep counter depths and heights to deter jumping/reaching and damaging of equipment and or injuring staff. Where transaction counters are provided the design will accommodate barrier free design.
- 2.1.16.3.3 All staff washrooms will be lockable to prevent Client access.
- 2.1.16.3.4 Staff Break/Lounge will be lockable to prevent Client access.
- 2.1.16.3.5 A staff washroom will be provided adjacent to the staff lounge; the washroom will not open directly into the staff lounge.
- 2.1.16.3.6 Staff Break/Lounge will have access to natural light.

2.1.16.3.7 “Staff only” rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.

2.1.16.4 Emergency Response

2.1.16.4.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the Client care unit treatment room as well as the Office, Nurse Practitioner within the A2 Therapy Mall - Medical Clinic.

2.1.16.5 Windows

2.1.16.5.1 All Therapy Mall components (i.e. Vocational Therapy, Quality of Life, Canteen, Education Centre) require access to natural light.

2.1.16.5.2 All Therapy Mall components will have interior glazing to the general circulation corridors for staff and Client safety as well as to provide borrowed daylight to the interior of the facility.

2.1.16.5.3 All Therapy Mall staff spaces with doors will have vision panels either in the door or side lights for staff safety as well as to provide borrowed daylight to the interior of the facility.

2.1.16.6 Unobstructed Site Lines

2.1.16.6.1 Unobstructed site lines will be provided from staff work areas to Therapy Mall component entrances/exits for staff control and awareness.

2.1.16.6.2 Unobstructed site lines will be provided from staff work areas to Therapy Mall component entrances/exits for staff control and awareness.

2.1.16.7 Component Security

2.1.16.7.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.

2.1.16.7.2 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.

2.1.16.7.3 The component’s design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.

2.1.16.7.4 Storage areas and supply/utility rooms will be secure from Client access and include lockable cupboards for supplies and or medications.

- 2.1.16.7.5 There will be no “blind spots” within the Therapy Mall components such as recesses, alcoves or places where Clients can hide.

2.1.16.8 Therapeutic Environment

- 2.1.16.8.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.
- 2.1.16.8.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.
- 2.1.16.8.3 The Therapy Mall component designs will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 2.1.16.8.4 The design will be non-institutional and as home-like as possible and conducive to wellness. This includes the inclusion of elder-friendly design to address such features as signage, lighting, colours and floor services.

2.1.16.9 Access to outdoor Therapy Space

- 2.1.16.9.1 All Therapy Mall services will have convenient access by general circulation to a central secured outdoor courtyard and will doors will be electronically controlled.
- 2.1.16.9.2 Selection of outdoor plantings and ground covers will be safe for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
- 2.1.16.9.3 The outdoor space will utilize the facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.

2.1.16.10 Lighting

- 2.1.16.10.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 2.1.16.10.2 Vocational Therapy Service spaces require appropriate general as well as task lighting for wood working, sorting, gardening.
- 2.1.16.10.3 Music/Art Therapy spaces will have adjustable lighting to allow for general, task and dimmable lighting.
- 2.1.16.10.4 All therapy rooms, group rooms, interview rooms will have dimmable lighting.

- 2.1.16.10.5 All areas requiring display such as the Canteen, Gift Shop, and Apparel shop will require display lighting.
- 2.1.16.10.6 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 2.1.16.10.7 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.
- 2.1.16.10.8 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

2.1.16.11 Ergonomics for an Aging Workforce

- 2.1.16.11.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

2.1.16.12 Accommodation of Bariatric Clients

- 2.1.16.12.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.
- 2.1.16.12.2 Ceiling lifts will not be installed in this component.

2.1.16.13 Infection Control

- 2.1.16.13.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.

2.1.17 Space Table

- 2.1.17.1** The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 2 THERAPY MALL –NON SECURE CLIENTS**

A2 THERAPY MALL - NON-SECURE CLIENTS						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
QUALITY OF LIFE & CANTEEN						
.01	Quality of Life	1	167.00	167.00	3	<i>acoustic moveable partition to divide room into 2, tables chairs, storage, utility sink, hand wash sink</i>
.02	Client Washroom, Barrier Free	2	5.00	10.00	3	<i>2 piece, accessible</i>
.03	Canteen	1	15.00	15.00	3	<i>Display area, serving counter, coffee pots, tea. Include sinks, a back work counter, and a cash register, storage</i>
.04	Kitchen	1	28.00	28.00	3	<i>Include a walk-up window, display windows, refrigerator/freezer, and a cash register, storage</i>
.05	Canteen Storage	1	15.00	15.00	3	
.06	Indoor Courtyard	1	232.00	232.00	3	<i>25 - 4 top tables - seating for 100</i>
	SUBTOTAL			467.00		
MUSIC/ART THERAPY						
.07	Music/Art Therapy Room	1	26.00	26.00	3	<i>locate adjacent to the indoor courtyard for ease of instrument transfer for performances</i>
	SUBTOTAL			26.00		
EDUCATION CENTRE						
.08	Classroom, Large	1	82.00	82.00	3	<i>Client school</i>
.09	Internet Café	1	74.00	74.00	3	<i>Client use, direct connection to education centre, 15 computer workstations</i>
.10	Library/Resource Centre	1	74.00	74.00	3	<i>Client use, families, staff - includes stacks, periodicals and seating, internet access, computers</i>
	SUBTOTAL			230		
APPAREL						
.11	Apparel Shop	1	21.00	21.00	3	<i>set up like a glassy mall storefront for Clients to shop for clothing</i>
.12	Sewing Area/Marking	1	11.00	11.00	3	<i>1 workstation, table, locate within laundry</i>
.13	Change Booth	1	3.00	3.00	3	<i>include wall mirror</i>
.14	Check Out	1	5.50	5.50	3	
	SUBTOTAL			40.50		
	Soiled Holding					
.15	Recycle Alcove	1	50.00	50.00	3	<i>includes storage, located with apparel shop, locate in a public area</i>

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 2 THERAPY MALL –NON SECURE CLIENTS**

	SUBTOTAL			50.00		
	HAIR CARE					
.16	Salon	1	10.00	10.00	3	1 workstation/hair wash sink, storage, waiting 2-3 chairs
	SUBTOTAL			10.00		
	CLIENT BUSINESS CENTER					
.17	Client Business Center	1	62.00	62.00	3	provide display cabinet to corridor for postings
.18	Office	1	11.00	11.00	3	
.19	Office	1	11.00	11.00	3	2 person
	SUBTOTAL			84.00		
	REHABILITATION LAB & ADDICTIONS					
.20	Group Room	3	12.00	36.00	3	
.21	Office, Rehab Lab	1	11.00	11.00	3	computer workstation, lockable file storage
.22	Office, Rehab Lab - Large	1	46.50	46.50	3	open welcoming area, TV, chairs, table and chairs, refrigerator, double basin sink, storage, coffee pot
.23	Office, Addictions Councillor	1	11.00	11.00	3	2 workstations @ 5.5sm, file storage
.24	Office, Addictions Councillor	1	11.00	11.00	3	desk, chair, bed, locate entry for privacy, not off the public corridor
	SUBTOTAL			116		
	PHYSICAL THERAPY					
.25	Physio Therapy	1	46.50	46.50	3	hand wash sink, workstation, file cabinet, sink, storage, mats, 2 therapy tables, parallel bars, weights, dumbbells, stair climber, 2 UBE bikes, refrigerator, microwave, ice machine
.26	Client Washroom, Barrier Free	2	5.00	10.00	3	2 piece, accessible
.27	PT Storage	1	7.50	7.50	4	storage for equipment - wheelchairs, walkers when not in use
.28	Soiled Holding	1	6.00	6.00	4	shared with recreation therapy for soiled linens
.29	Clean Linen	1	6.00	6.00	4	shared with recreation therapy for clean linens
	SUBTOTAL			76.00		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 2 THERAPY MALL –NON SECURE CLIENTS**

	VOCATIONAL AREA 1					<i>seating for 4-6</i>
.30	Vocational Therapy Area 1	1	528.00	528.00	3	<i>seating for 10-12</i>
.31	Paint Room	1	18.50	18.50	3	<i>enclosed room with appropriate ventilation, provide 8ft double doors</i>
.32	Client Washroom, Barrier Free	1	5.00	5.00	3	<i>2 piece, accessible</i>
	SUBTOTAL			551.50		
	VOCATIONAL AREA 2					<i>requires garage door access directly to the loading dock, visual to all areas from central location, 20 Clients at one time</i>
.33	Office	1	15.00	15.00	3	
.34	Sorted Container Storage	1	13.00	13.00	3	
.35	Vocational Work Area	1	257.00	256.87	3	<i>main work area, work counter, sinks, drying racks, access to loading dock</i>
.36	Shredding Room	1	32.00	32.00	3	<i>sound proof</i>
.37	Conf. Docum. Store	1	19.00	19.00	3	
.38	Shredding Bag Storage	1	30.00	30.00	3	
.39	Cans, Milk Carton Storage	1	6.50	6.50	3	
.40	Container Storage	1	6.00	6.00	3	
.41	Client Coffee Room	1	28.00	28.00	3	<i>kitchenette, sink, microwave, refrigerator, tables and chairs</i>
.42	Client Washroom Barrier Free	2	5.00	10.00	3	<i>2 piece, male and female</i>
	SUBTOTAL			416.37		
	VOCATIONAL THERAPY 3					<i>previously called PAG, locate near Extended Rehab Unit, locate near outdoor fenced garden area, convenient access to a Client Washroom is required</i>
.43	Outside Garden Storage	1	11.00	11.00	3	<i>tools, adjacent to greenhouse</i>
.44	Vocational Therapy Area 3	1	59.50	59.50	3	<i>25 Clients</i>
.45	Office, Staff	1	11.00	11.00	3	
	SUBTOTAL			81.50		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
A 2 THERAPY MALL –NON SECURE CLIENTS**

	PRINT SHOP					<i>REGIONAL PRINTING SERVICE, client participation</i>
.46	Workroom	1	93	93	3	<i>printer, copier, shrink wrap, cutter, binding machine, work table and storage ect.. 5 Client workstations, seating, work sink</i>
.47	Storage	1	11	11	3	<i>3 pallets of paper, door size to accommodate fork lift</i>
.48	Workstation	1	0	0	3	<i>located in workroom, desk, computer</i>
	SUBTOTAL			104		<i>repair small equipment, includes</i>
	SHARED SUPPORT					<i>locate central to all areas</i>
.49	Office, Therapy Supervisor	1	11.00	11.00	3	
.50	Kitchenette	1	7.50	7.50	3	<i>central use for all therapy departments includes refrigerator, stove, microwave, sink, counter, storage</i>
.51	Staff Break/Lounge	1	11.00	11.00	3	<i>kitchenette - microwave, refrigerator, sink, coats hanging/boots/lockers</i>
.52	Storage, Shared	1	14.00	14.00	3	<i>garden group, STEP, crafts shared storage, storage of 1 telehealth cart</i>
.53	Washrooms, Staff , Barrier Free	2	5.00	10.00	3	<i>2 piece accessible</i>
.54	Housekeeping Room	1	13.00	13.00	4	
	SUBTOTAL			67		
	TOTAL NET SQUARE METRES			2,319		

B 1.1 FORENSIC CLIENT CARE SERVICES

This specification outlines the functional, operational and physical requirements for the Forensic Client Care Unit(s) functional component at the Facility. The following statements unless otherwise noted refer to both the Forensic Assessment Unit – 12 beds and the Forensic Client Care Unit – 30 beds.

FUNCTIONAL DESCRIPTION

3.2.1 Statement of Purpose

3.2.1.1 Philosophy

- 3.2.1.1.1 Forensic Client Care services provide assessment and treatment to Clients interacting with the justice system throughout Saskatchewan who experiences the effects of serious mental illness.
- 3.2.1.1.2 The Forensic Client Care service shall be designed as a treatment facility that is secure. The design shall provide a high level of security while at the same time providing a healing environment.
- 3.2.1.1.3 The Forensic Client Service is based on the belief in an individualized holistic approach to a comprehensive range of Client needs. Clients are entitled to be treated with dignity and respect and without prejudice through a multidisciplinary approach to service delivery.
- 3.2.1.1.4 The focus of the service is to ensure a safe environment and a therapeutic milieu for the Client. It is the Authority's belief that a positive relationship with the community will be created. It is the right of all Clients to have access to dynamic psychiatric rehabilitation with discharge planning from time of admission.
- 3.2.1.1.5 The Forensic Client Assessment Unit will respond to all court-ordered assessments that require secure detention. Accused persons and persons awaiting sentencing come to Forensic Services on Warrants of Remand and on Assessment Orders. Alleged offences range from minor offences such as shoplifting and meal fraud, through moderate offences such as assaults and robberies to the most serious offences of sexual assault and murder.
- 3.2.1.1.6 It is also the mandate of Forensic Client Services to admit Clients that have been found unfit to stand trial or that have been found not criminally responsible. Clients remain until they are fit to stand trial or until the Saskatchewan Review Board determines that they are no longer a significant risk to the public.
- 3.2.1.1.7 Supportive psychiatric rehabilitation programming will extend from the Facility into the community to ensure successful community reintegration. Each individual has a right to community living, with the greatest level of independence and richest quality of life possible. All service delivery will be as culturally relevant as possible.

3.2.1.1.8 All services provided through this service area will be accessible to all Clients throughout the Facility in accordance with specific identified needs.

3.2.1.1.9 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive way as possible.

3.2.1.2 Guiding Principles

3.2.1.2.1 Stabilize the Client's psychiatric condition such that the symptoms are reduced or better managed. Develop and deliver Client-centred individualized multidisciplinary treatment plans based on assessed needs.

3.2.1.2.2 Provide a welcoming, safe and secure environment for Clients.

3.2.1.2.3 Develop and maintain effective programs that will provide Clients' families with support and education. Promote community awareness and involvement.

3.2.1.2.4 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

3.2.2 Scope of Services

3.2.2.1 Functional Content

3.2.2.1.1 Functionally, this component has two distinct Client care units. One 12 bed Forensic Assessment Unit and one 30 bed Forensic Unit.

3.2.2.1.2 The Forensic Client Care Unit will have 30 beds.

3.2.2.1.3 The Forensic Client Assessment Unit will have 12 beds.

3.2.2.1.4 A standard approach should be taken with the Forensic Assessment and Forensic Unit layout.

3.2.2.1.5 Review Board Hearings will occur off unit in the Multi-Purpose Room located in the C1 – Entrance component.

3.2.2.1.6 Approach to Psychiatric Intensive Care is decentralized to each of the Client care units. Each unit will have 2 Intensive Psychiatric Care Rooms. These rooms are intended for high acuity Clients who are a risk to themselves or require 1:1 or 1:2 observations. Clients will use these rooms for short durations and will be moved back to their private room when appropriate.

3.2.2.1.7 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:

3.2.2.1.7.1 The design will promote a safe and secure environment;

3.2.2.1.7.2 The design will create a welcoming Client-centred healing environment;

3.2.2.1.7.3 The design will support the model of care;

3.2.2.1.7.4 The design will minimize staff travel distances;

- 3.2.2.1.7.5 The design will provide specific supports to ensure the control of infection;
- 3.2.2.1.7.6 The design will provide respite and relaxation opportunities for Clients on each of the care units;
- 3.2.2.1.7.7 The design will provide multiple opportunities for Clients to experience the outdoors via courtyards, porches and through natural light and views;
- 3.2.2.1.7.8 Priority of spaces receiving views to the river valley and landscape should be determined based upon the following criteria: 1 – Day spaces on the Client care unit where Clients spend the most of their daylight hours (i.e. activity room/Zen room, dining room, therapy rooms) 2 – Client Private Bedrooms 3 – Staff Spaces; and
- 3.2.2.1.7.9 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots. Longer stay, forensic Clients on the 30-bed unit have a priority for quality views over the 12-bed Forensic Assessment Unit.

3.2.2.2 Exclusions

- 3.2.2.2.1 The following list specifies functions that involve either Clients or staff normally present on the Forensic Client Care Units but are understood to occur in other functional components in the facility or outside of the facility:
 - 3.2.2.2.1.1 Large scale Recreational Therapy/Wellness activities will occur within A2 Therapy Mall; and
 - 3.2.2.2.1.2 Medical Services other than those performed in the on unit Treatment Room will occur in the C6 – Health Care Clinic.

3.2.2.3 Anticipated Trends in Service Delivery

- 3.2.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.
 - 3.2.2.3.1.1 Increasing numbers of Clients with addictions and mental disorders;
 - 3.2.2.3.1.2 Increasing Client acuity and complexity and potential for aggression;
 - 3.2.2.3.1.3 Increasing numbers of bariatric Clients admitted to Main Building is predicted to increase;
 - 3.2.2.3.1.4 Increasing mean age of staff working on the Client units is predicted to increase;
 - 3.2.2.3.1.5 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions;

- 3.2.2.3.1.6 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility;
- 3.2.2.3.1.7 Increasing recognition of need for informed care; and
- 3.2.2.3.1.8 Redesigning service delivery to meet the needs of First Nations Clients.

3.2.3 Scope of Education Functions

- 3.2.3.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

3.2.4 Scope of Research Functions

- 3.2.4.1 Staff and students working in the Client units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

3.2.5 Hours of Operation

- 3.2.5.1 The component at this facility will be staffed and in operation:
 - 24 hours-a-day, 7 days a week
- 3.2.5.2 The component will have regular visiting hours:
 - 0800-2100, 7 days a week, visiting will occur in the Visiting Centre (C5). See this component for further information. Visitors will first move through a secure screening process prior to entering the Visiting Centre.

3.2.6 People Management Systems

- 3.2.6.1 Most Clients admitted to this component will arrive from a referring correctional facility. The typical Client will be ambulatory, and will be escorted by police or correction services personnel.
- 3.2.6.2 Registration and documentation will have been started or completed in the referring institution. Arrival will also coincide with medical and nursing assessments to determine the appropriate level of care required.
- 3.2.6.3 Clients will be admitted from the secure sallyport/garage directly to the Admissions and Discharge Area (C4). After initial assessment and medical screening, Clients will be able to bathe or shower and then be shown to their Client care unit. See the Admissions and Discharge (C4) component for further information.
- 3.2.6.4 Forensic Client discharge will occur through the Admission and Discharge (C4).

- 3.2.6.5** All visitors to the Forensic Client Care Units will enter through the facility secure entrance and interact with their family or friends in the Visitor Centre (C5). Visitors will not be permitted on the Forensic Client Care Units.

3.2.7 Material Management Systems

- 3.2.7.1** The design of the unit will minimize the need for support and maintenance staff to access Client areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.
- 3.2.7.2** The following rooms will be able to deliver/retrieve supplies or perform work without directly interacting with Clients and staff on the unit: housekeeping room, soiled holding room, clean supply room, nutrition centre, data and electrical closets.
- 3.2.7.3** Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

3.2.8 Consumable Supplies

- 3.2.8.1** Inventories of consumable supplies will utilize the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use.
- 3.2.8.2** Cabinets will be lockable so that if necessary Client access is controlled.
- 3.2.8.3** All central supply storage areas will be inaccessible to Clients and to the public.

3.2.9 Linen

- 3.2.9.1** It is considered essential that each Client unit will have one Client laundry room consisting of a heavy-duty domestic type washer and dryer to use for laundering personal clothing. Clients' institutional clothing will be laundered in the centralized laundry linen area. The on-unit laundry room can be used as an ADL - activities of daily living tool as required. Clients in the 12 Bed Assessment Unit will wear institutional clothing however, Clients on the 30 Bed Forensic Unit will wear their personal clothing.
- 3.2.9.2** All linen services are provided by the Authority.
- 3.2.9.3** Inventories will be managed via the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) areas of the cabinet.
- 3.2.9.4** Soiled laundry and linen will be collected from the Kanban in small covered hampers, temporarily staged in the soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.

3.2.10 Pharmaceutical Products

- 3.2.10.1** The design of the medication room will allow for the flexibility to dispense medication in a number of ways to allow for future flexibility. It is assumed that in the future automation will be used in the inventory management and dispensing of Client medications.
- 3.2.10.2** The design will accommodate the use of automated dispensing, narcotics cabinets, refrigeration, medication carts, and a dispensing window with direct access to the corridor.
- 3.2.10.3** The medication room will be enclosed and lockable.
- 3.2.10.4** The medication room will have direct access to the IPCR suite for ease of dispensing medications to Clients in crisis.
- 3.2.10.5** The medication room will have direct access to the nursing station for ease of use and control of medications.
- 3.2.10.6** The medication room will contain medication carts which will be stocked with unit doses of Clients' medications and dispensed according to prescribed schedules or as required. Pharmacy personnel will be responsible for inventory management of the medication rooms and their associated medication carts, whereas nursing personnel will deliver medications from the medication room to the Client.
- 3.2.10.7** Unstable products will be prepared in Pharmacy (C8), and then delivered to the unit either according to a prescribed schedule or upon request. Product delivery to the medication rooms will rely on pharmacists or pharmacy technicians for product transportation.

3.2.11 Food Services

- 3.2.11.1** Food service will generally be provided to Forensic Client Care Units in the on unit Dining Room. Food will be prepared in a servery style where Clients can move through a tray line and choose their items to be plated. A roll down shutter will be provided between the Dining Room and Servery.
- 3.2.11.2** The Servery will be accessed by staff only.
- 3.2.11.3** Following each meal service, all carts, trays and service ware will be returned to the central kitchen for ware washing and sanitation.

3.2.12 Waste Management

- 3.2.12.1** The majority of waste products will be soiled linen, garbage and recyclables. Other waste products will be managed within the soiled holding stations located in the common support area of each unit.
 - 3.2.12.1.1** Segregation of wastes will accommodate the following categories of products:
 - 3.2.12.1.2** General garbage;
 - 3.2.12.1.3** Sharps (including potentially bio hazardous items);
 - 3.2.12.1.4** Infectious or contaminated wastes (excluding sharps);
 - 3.2.12.1.5** Confidential paper;
 - 3.2.12.1.6** Clean paper and cardboard;

- 3.2.12.1.7 Clean metal (tin and aluminum);
- 3.2.12.1.8 Clean recyclable plastics; and
- 3.2.12.1.9 Compostable materials.

3.2.12.2 A secure soiled utility room, for the containment of soiled items and trash will be required on the unit. The soiled utility room will be accessible by staff only.

3.2.13 Information Management Systems

3.2.13.1 All Client-related information will be maintained on the electronic medical record (EMR) system and criminal information management system. Wireless technology will enable data entry using a combination of fixed terminals, at staff workstations in the nurse station and team charting/conference room and mobile computer on wheels or tablets. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.

3.2.13.2 To meet requirements of the Mental Health Act and the Corrections Act; each Client will be required to have some paper based health records. Storage for these records will be provided within the unit, in the team charting/conference room which is only accessible by the appropriate staff.

3.2.13.3 The clinical unit and Client care spaces will optimize care delivery through the design and build of facilities and work spaces which emphasize the blend of workflow, care processes, automation of practice, and interoperability between medical and business technologies in support of the Authorities strategic investment in other clinical and business systems.

3.2.13.4 The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:

- 3.2.13.4.1 Integrated Medication Carts;
- 3.2.13.4.2 Medication Dispense Cabinets;
- 3.2.13.4.3 Mobile and Fixed Computer Devices – Desktop and Wall mount;
- 3.2.13.4.4 Mobile and Fixed Label Printers;
- 3.2.13.4.5 Mobile and Fixed Barcode Scanners;
- 3.2.13.4.6 Handheld Computer Devices;
- 3.2.13.4.7 Glucometers with Docking Stations;
- 3.2.13.4.8 Tracking Monitors – Client, Staff, and Resource Tracking;
- 3.2.13.4.9 Clinical Dashboards;
- 3.2.13.4.10 Smart Beds;
- 3.2.13.4.11 Smart Pumps;

- 3.2.13.4.12 Device Integration for real –time clinical assessment and physiological data documentation;
- 3.2.13.4.13 Digital Room Signage and Way-finding;
- 3.2.13.4.14 Location Awareness;
- 3.2.13.4.15 Device Connectivity;
- 3.2.13.4.16 Multifunction Communication Devices with integration to systems;
- 3.2.13.4.17 Telehealth and Virtual Team Capabilities;
- 3.2.13.4.18 Real Time Location System; and
- 3.2.13.4.19 Staff Safety and Duress.

DESIGN CRITERIA

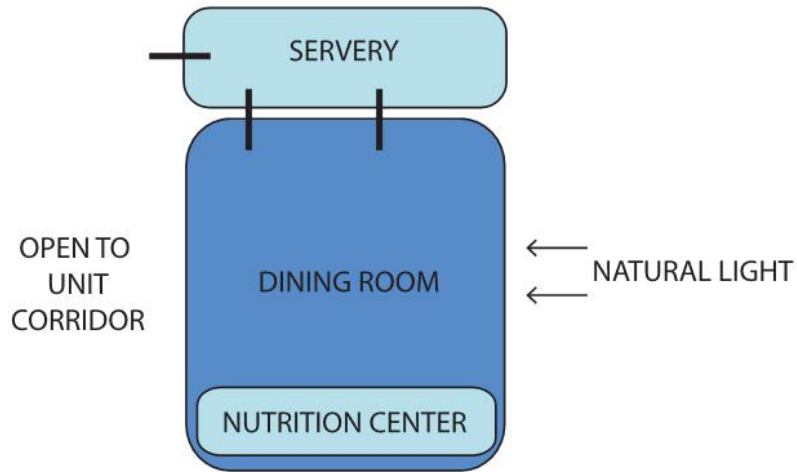
3.2.14 Lean Planning Standards

3.2.14.1 Standardization of Client Bedrooms

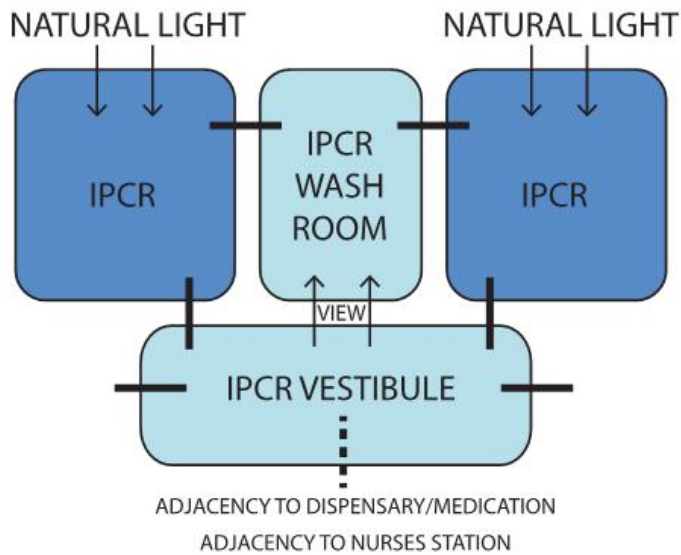
- 3.2.14.1.1 Each Client room will be designed, configured, equipped and furnished to a common standard and design. The intent of this requirement is to facilitate staff moving from room-to-room without having to reorient themselves with respect to frequently accessed key features like Client bed, desk, wardrobe, Kanban cupboard, call annunciator, cancel buttons.
- 3.2.14.1.2 All Client rooms are to have a standard orientation; the configuration and layout within each Client room will be standardized to facilitate immediate orientation for staff. A standard room orientation will be accommodated via a “like-handed” design – or in “mirrored” design.

3.2.15 Proximity Relationships

DINING ROOM/NUTRITION/SERVERY

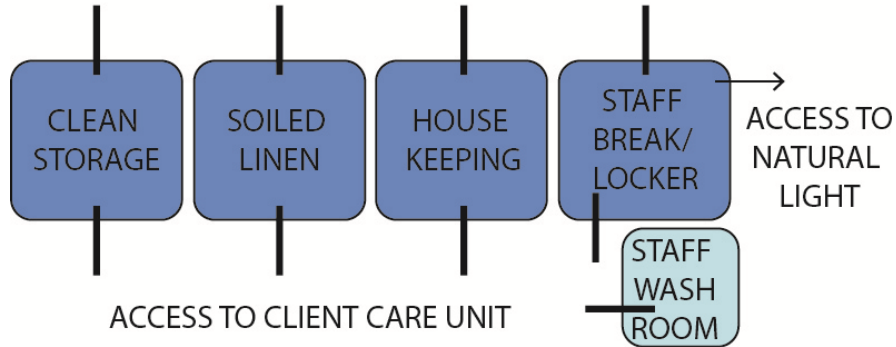


INTENSIVE PSYCHIATRIC CARE SUITE

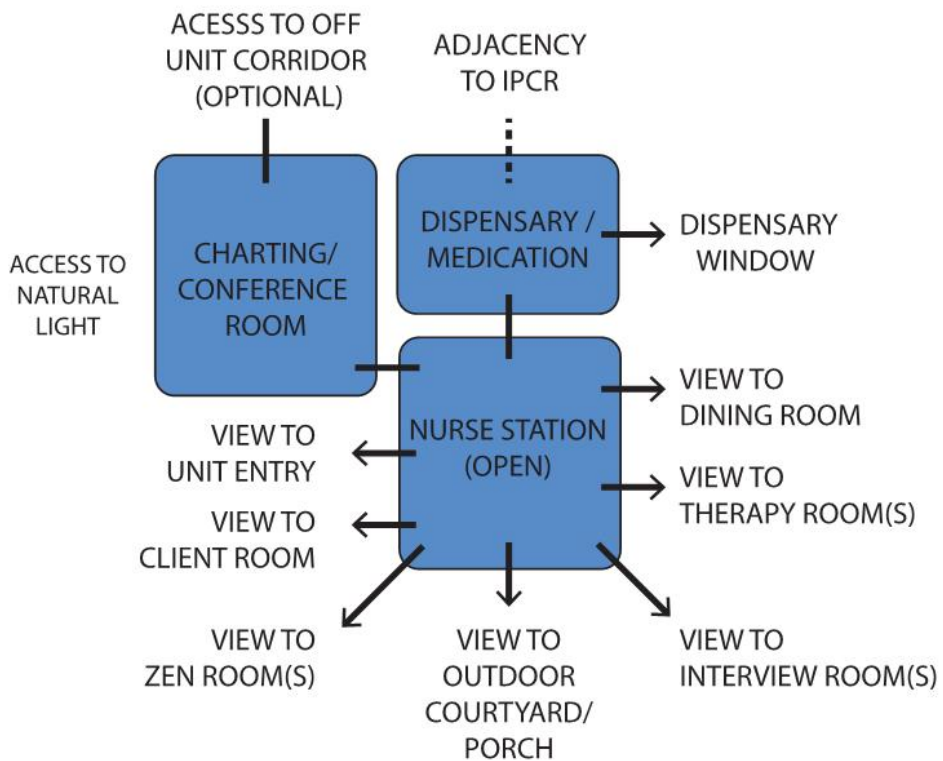


SUPPORT SERVICES

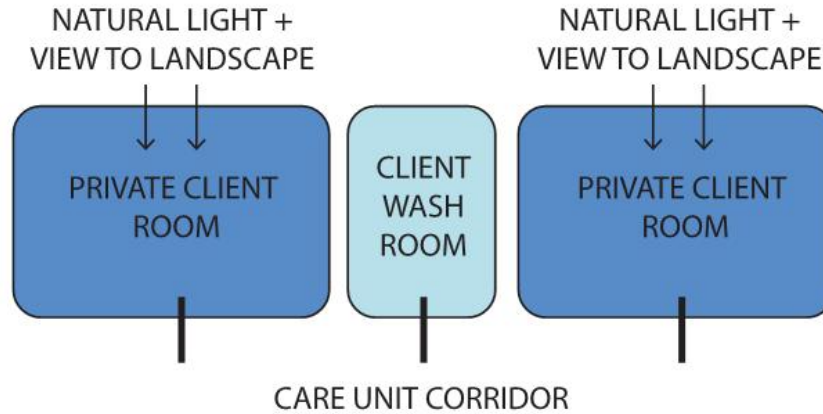
OFF UNIT CORRIDOR



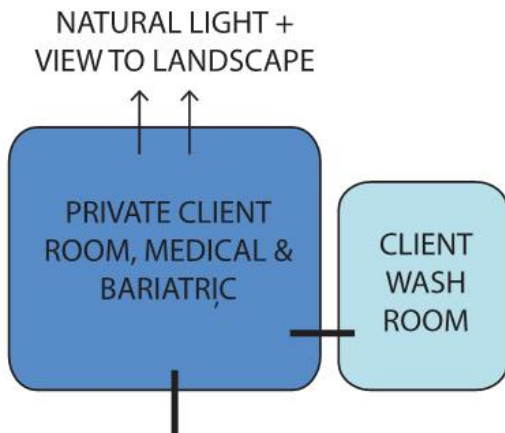
NURSE STATION, MEDICAL DISPENSARY, AND CONFERENCE ROOM



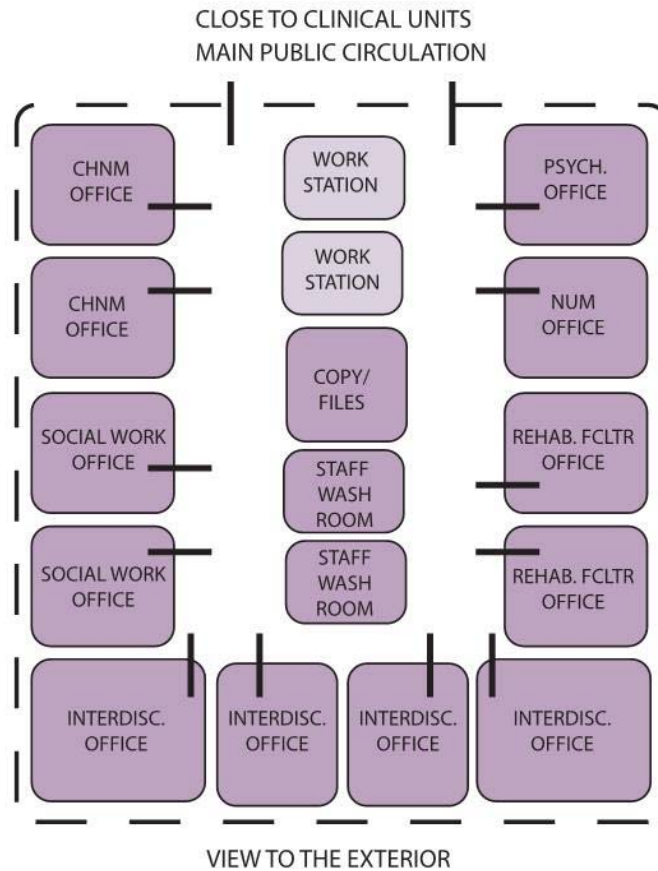
PRIVATE CLIENT ROOM /WASHROOM PAIR



PRIVATE CLIENT ROOM,
SPECIALTY/WASHROOM



MODULAR CLINICAL OFFICE SUITE



- 3.2.15.1** The Forensic Client Care units locations relative to other components, or other areas of the facility, and the nature of circulation used to move between different components/areas are illustrated in the diagrams above. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 3.2.15.2** The two Forensic Client Care Units (Forensic and Admissions) will be co-located on one level for convenient access for staff.
- 3.2.15.3** Provide convenient access by general circulation between the Forensic Client Care Unit and the Forensic Assessment Unit.
- 3.2.15.4** Outdoor Spaces
- 3.2.15.4.1 Access and exit from the courtyard/porch is limited to/from within the unit. Courtyards and porches will not be shared between units.
 - 3.2.15.4.2 The entire courtyard and porch will be physically visible to staff at all times and video monitoring of the courtyard/porch is also required.
 - 3.2.15.4.3 The courtyards will be shielded from visibility to public and staff outside of the Forensic Client Care Unit.

- 3.2.15.4.4 Provide direct access by internal circulation to a secured outdoor area for the movement of Clients, visitors and staff. The each Client care unit will have separate, dedicated secure outdoor areas.
- 3.2.15.5** Provide convenient access by general circulation to the Forensic Office Suite from all Forensic Client Care Units for ease of staff movement and response time for code calls.
 - 3.2.15.5.1 The Forensic Office Suite will be organized as one suite of offices located off of a main general circulation route.
 - 3.2.15.5.2 The Forensic Office Suite will have two entrances/exits for staff safety. The suite will be lockable.
 - 3.2.15.5.3 Each office will be enclosed and lockable and will have a full height side lite to allow for visibility into the space for staff safety. Natural light to clinical offices will be provided.
 - 3.2.15.5.4 Each office and workstation will have convenient access by internal circulation to the Copy/Files room and the Staff Washrooms.
- 3.2.15.6** Connection to other services:
 - 3.2.15.6.1 Provide convenient access by general circulation to the Recreation Centre for ease of Client and staff movement.
 - 3.2.15.6.2 Provide convenient access by general circulation to the Spiritual/Cultural Centre for ease of Client and staff movement.
 - 3.2.15.6.3 Provide convenient access by general circulation to the Entrance (C01) component for ease of Client and staff movement.
 - 3.2.15.6.4 Provide convenient access by general circulation to the Visiting Centre for ease of Client and staff movement.
 - 3.2.15.6.5 Provide convenient access by general circulation to the Video Court for ease of Client and staff movement.
 - 3.2.15.6.6 Provide convenient access by general circulation to the Education Centre for ease of Client and staff movement.
 - 3.2.15.6.7 Provide convenient access by general circulation to the Vocational Therapy 01 for ease of Client and staff movement.
 - 3.2.15.6.8 Provide convenient access by general circulation to the Vocational Therapy 02 for ease of Client and staff movement.
 - 3.2.15.6.9 Provide convenient access by general circulation to the Rehab Lab and Addictions for ease of Client and staff movement.
 - 3.2.15.6.10 Provide convenient access by general circulation to the Client Business Centre for ease of Client and staff movement.
 - 3.2.15.6.11 Provide convenient access by general circulation to the Healthcare Clinic for ease of Client and staff movement.
 - 3.2.15.6.12 Provide convenient access by general circulation to the Operations Security Centre for ease of staff travel distance and control.

3.2.15.7 Provide convenient access for each Forensic Care unit by general circulation to major public and non-public circulation. Personnel, Clients, and supplies will move frequently to and from this component and other components in the Facility.

3.2.15.8 Provide convenient access by general circulation to Client Belonging Storage Area(s) for ease of staff travel distances.

3.2.16 Internal Design Criteria

3.2.16.1 General Internal Layout

3.2.16.1.1 The Forensic Client Care Unit is comprised of 30 beds. Bed wings will be no greater than 12 beds and no less than 6. The maximum distance from the centre point of the last client room door to the edge of the central millwork nurse station is 32m.

3.2.16.1.2 The Forensic Assessment Unit is comprised of 12 beds. Bed wings will be no greater than 12 beds and no less than 6. The maximum distance from the centre point of the last client room door to the edge of the central millwork nurse station is 32m.

3.2.16.1.3 The component will be organized into 3 major areas as follows, 1 - Client bedroom clusters/wings, 2 - Client activity spaces and therapy rooms, 3 - staff team centre and unit support spaces. The Nurse Station will be able to view all three areas from one central "awareness point".

3.2.16.1.4 All Client rooms will be private.

3.2.16.1.5 Client washrooms will be shared between pairs of private rooms with direct access to the general circulation unit corridor. Specialty Client Rooms (i.e. Bariatric and Medical) will have dedicated private washrooms with access directly from the Client room.

3.2.16.1.6 Unit support spaces such as soiled linen, clean storage, housekeeping, staff break/locker will allow for ease of entrance and stocking by staff without entering the Client zone of the unit. This can be achieved in a number of ways but examples are (each room having dual entrance from public corridor and the care unit, secondary staff entrance to the unit that allows for all rooms to be off that staff only "back of house" corridor).

3.2.16.2 Unit Organization

3.2.16.2.1 All Client bedrooms will be designed to recognize the environmental risk factors for the Client population. Design requirements will accommodate a range of acuity levels for this population but will be designed for the highest acuity Clients.

3.2.16.2.2 All Client bedrooms and Client washrooms will be designed with anti-ligature and tamper resistant finishes, fixtures, equipment and furniture.

3.2.16.2.3 All Client bedrooms will have a Client bed (psychiatric platform or medical), millwork desk, millwork night table, lockable wardrobe with fixed shelving, side chair with sled based legs.

- 3.2.16.2.4 The Nutrition Centre will be located within the Dining Room on each of the Client care units. The Nutrition Centre will be accessible to Clients 24 hours-a-day, 7 days a week for snacks, light meals and food preparation related to life skills training. All millwork, appliances, sinks and faucets will be anti-ligature, tamper-resistant and lockable.
- 3.2.16.2.5 Food Services staff will be able to deliver bulk food to the Servery without entering Client care areas of the unit. The Servery will contain a roll down shutter/window opening to the dining room to allow for a tray line service. The dining room will have a tray counter that is anti-ligature and tamper-resistant.
- 3.2.16.2.6 Therapy rooms will be used for different therapies on different units. The rooms will be used for, but not limited to, recreation therapy, arts and crafts, physiotherapy, group therapy and individual therapy. Each room will be designed with similar features to allow for the flexible use of these spaces.
- 3.2.16.2.7 Smudging rooms will have appropriate ventilation for the smudging ritual to occur. Smudging is a traditional First Nations ceremony that creates smoke. It is smoldering sweet grass or sage that is used to purify or cleanse the mind, body or physical space before a ceremony. It is not an open flame but does create smoke that will be adequately ventilated from the Main Building.
- 3.2.16.2.8 Interview rooms will be located in a quiet area of the unit to reduce disruptions.
- 3.2.16.2.9 Interview rooms are primarily for conducting private interviews in space separate from the Clients' bedrooms. Interview rooms will be used for admission interviews, psychological testing, quiet reading, quiet staff work spaces.
- 3.2.16.2.10 The interview room on the 12 bed Forensic Assessment Unit will have built-in lockable storage for Psychological testing materials.
- 3.2.16.2.11 Each unit has a large area programmed for Activity/Zen Room. This room(s) will be subdivided into two areas. This room(s) will be open to the corridor and provide a welcoming living room feel. This room will be an area for Clients to relax, play games, watch television, read or sit quietly.
- 3.2.16.2.12 The Charting/Conference Room will occasionally be utilized for meetings including Clients and families and will require direct access from a general circulation corridor within the Client care unit.
- 3.2.16.2.13 The tub room(s) will be located in a central location to the unit but provide discrete access for Clients.
- 3.2.16.2.14 Tub room on the Forensic Assessment Unit will be residential in style with combination tub/shower units.
- 3.2.16.2.15 The tub on the 30 bed Forensic Client Care Unit shall be walk-in assist type tub for staff to assist in bathing Clients with mobility challenges. This tub room will have an overhead X-Y bariatric Client lift.

- 3.2.16.2.16 The 12 bed Forensic Assessment Unit Tub Room will have the above ceiling structure provided for the future installation of an X-Y overhead Client lift.
- 3.2.16.2.17 The Charting/Conference room will be used for conducting shift reports and participating in interdisciplinary team meetings. Client charts will be stored in this space for ease of use and discussion. Two staff computer workstations will be provided in this space.
- 3.2.16.2.18 The Charting/Conference room will have a direct connection to the nursing station for ease of staff movement.
- 3.2.16.2.19 At the unit entry secure vestibule, a visual and audio control system will allow visitors to contact the nursing station of the desired unit to request admission to the unit(s). Staff of that unit(s) as well as the Operations Security Centre will be able to electronically open the unit door from the nurse station as well as physically move to the visitor to greet them depending upon the situation. The nurse station will have direct visual control of the unit entry secure vestibule.
- 3.2.16.2.20 A centrally located secured storage area for Client's personal belongings will be provided in the Main Building for Client belongings not required on a regular basis. The secure storage area will be accessible only by staff and will have appropriate ventilation and be equipped with shelving for storage of Rubbermaid type bins. The secure storage room will be located off a general circulation corridor; Clients and visitors will not have access to the Client belongings storage area(s).

3.2.16.3 Nurse Station

- 3.2.16.3.1 The Nurse Station and Charting/Conference will act as the unit's communication centre, and will accommodate a variety of functions. Its function is to support the interdisciplinary collaboration between all caregivers, including nursing, physicians and allied health personnel. There will be visibility at all times from the Nurse Station to the Client care areas on the Client care unit. There will be provision for a closed, acoustically private area in the Charting/Conference Room to undertake confidential and frequently highly sensitive discussions including:
 - 3.2.16.3.1.1 Dictating and reviewing charts, diagnostic images and test results;
 - 3.2.16.3.1.2 Conducting private telephone conversations;
 - 3.2.16.3.1.3 Conducting multi-disciplinary care team discussions;
 - 3.2.16.3.1.4 Accommodation of teaching and collaboration space;
 - 3.2.16.3.1.5 Providing access to computer workstations and business equipment and business supplies for the unit;
 - 3.2.16.3.1.6 Providing on-unit space for nursing management activities and transfer of control conferences at shift change; and
 - 3.2.16.3.1.7 This space will act as a location for staff/client meetings. Clients will always be accompanied by a staff member.

- 3.2.16.3.2 The Nurse Station will include the following features:
 - 3.2.16.3.2.1 The Nurse Station will act as the control and awareness point for the unit.
 - 3.2.16.3.2.2 Nurse Station for the two Forensic Units will “back onto one another” for ease of staff movement and assistance however it is not required.
 - 3.2.16.3.2.3 The Charting/Conference Room will be located in close proximity to the Nurse Station/Unit Clerk desk while providing the appropriate segregation of business equipment for staff safety and noise reduction within the Nursing Station.
- 3.2.16.3.3 Direct adjacency between the Nurse Station, the Medication Room, Charting/Conference Room and the IPCR Suite is required.

3.2.16.4 Client Security and Safety

- 3.2.16.4.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards of “*British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units*”
- 3.2.16.4.2 Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.
- 3.2.16.4.3 The design to include, but is not limited to items which are non-loop able or designed to release under a load of 20 kilograms and meet either the load release or non-loop ability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. These features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:
 - 3.2.16.4.3.1 Temper Laminated Interior Glazing;
 - 3.2.16.4.3.2 Door hardware;
 - 3.2.16.4.3.3 Sprinklers;
 - 3.2.16.4.3.4 Showerheads;
 - 3.2.16.4.3.5 Lavatories;
 - 3.2.16.4.3.6 Faucets;
 - 3.2.16.4.3.7 Lavatory valves;
 - 3.2.16.4.3.8 Shower actuators;
 - 3.2.16.4.3.9 Toilet seats;
 - 3.2.16.4.3.10 Toilets;
 - 3.2.16.4.3.11 Toilet operator valves;
 - 3.2.16.4.3.12 Plumbing traps and piping covers;
 - 3.2.16.4.3.13 Fire extinguisher and hose cabinets;

- 3.2.16.4.3.14 Medical gas enclosures;
 - 3.2.16.4.3.15 HVAC terminal devices and covers;
 - 3.2.16.4.3.16 Millwork;
 - 3.2.16.4.3.17 Access doors;
 - 3.2.16.4.3.18 Light fixtures;
 - 3.2.16.4.3.19 Electrical outlets;
 - 3.2.16.4.3.20 Thermostats;
 - 3.2.16.4.3.21 Fire alarm system components;
 - 3.2.16.4.3.22 Grab bar – not filled in;
 - 3.2.16.4.3.23 Handrails;
 - 3.2.16.4.3.24 Crash rails;
 - 3.2.16.4.3.25 Rub rails;
 - 3.2.16.4.3.26 Clothes hooks;
 - 3.2.16.4.3.27 CCTV devices;
 - 3.2.16.4.3.28 Security and tracking devices and antennas;
 - 3.2.16.4.3.29 Hanger rods and Coat Hooks;
 - 3.2.16.4.3.30 Toilet partitions;
 - 3.2.16.4.3.31 Mirrors;
 - 3.2.16.4.3.32 Bulletin Boards;
 - 3.2.16.4.3.33 Artwork hanging systems; and
 - 3.2.16.4.3.34 Window treatments.
- 3.2.16.4.4 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 3.2.16.4.5 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at bedrooms and washrooms, but also applies to other Client treatment areas with doors such as interview rooms, treatment rooms, and nourishment stations. Provide bedrooms, Client washroom and tub rooms with doors that can be locked by staff, but not by the Client.
- 3.2.16.4.6 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.

3.2.16.4.7 The component's design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.

3.2.16.5 Staff Safety

3.2.16.5.1 The Nurse Station, which controls access to the unit, will be provided with visibility to the unit secure vestibule. The nurse station will have two means of egress to prevent barricading of staff in the nurse station.

3.2.16.5.2 Nurse Stations will be designed as open to the surrounding corridors and/or spaces. The design of the care desk will allow for the flexibility to enclose the Nurse Station in the future if required. An open and welcoming feel is desired.

3.2.16.5.3 The Nurse Station requires two points of entrance/exit to avoid staff entrapment. The care desk will be open concept but will have features such as deep counter depths and heights to deter jumping/reaching and damaging of equipment and or injuring staff. The design will provide a transaction counter at a barrier-free height.

3.2.16.5.4 A single Client/public entrance to the unit is desired. A secondary staff and supply entrance is permitted. Entrances/exits to the unit should be limited to prevent elopement. All entrances and exits to Client care units will have an electronic interlocking door capability.

3.2.16.5.5 The Charting/Conference Room will be designed as a secure area and will include interior glazing to support visibility to the unit.

3.2.16.5.6 "Staff only" rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.

3.2.16.5.7 A staff lounge will be provided and will be located in close proximity to the Nurse Station and Charting/Conference Room. A staff washroom will be provided adjacent to the staff lounge; the washroom will not open directly into the staff lounge.

3.2.16.6 Emergency Response

3.2.16.6.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the treatment room.

3.2.16.7 Windows

3.2.16.7.1 Each Client bedroom will have windows that provide access to exterior views, and views of predominantly landscape versus buildings, parking lots or loading docks.

3.2.16.7.2 Exterior and interior windows will be temper laminated, impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact.

3.2.16.8 Unobstructed Site Lines

- 3.2.16.8.1 Unobstructed site lines will be provided between the Nurse Station and the doors to all Client Bedrooms. The head of each Client bed needs to be visible to caregivers from the hallway outside of the room. Small vision panels in doors are required.
- 3.2.16.8.2 Unobstructed site lines will be provided between the Nurse Station and the following rooms/areas: Unit Entry, Zen/Activity Rooms, Dining Room(s), Interview Rooms, Therapy Rooms, outdoor porch(es) and courtyards.

3.2.16.9 Component Security

- 3.2.16.9.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.
- 3.2.16.9.2 The Central Control Desk located in the Operations Security Centre (B3) will coordinate and monitor activities from a security stand point for both the Forensic Assessment Unit – 12 Beds and Forensic Client Care Unit – 30 Bed units.
- 3.2.16.9.3 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.
- 3.2.16.9.4 All Client rooms will be lockable from the exterior but not from the interior.
- 3.2.16.9.5 All lockable Client care rooms in this component will be serviced by non-accessible audio-video surveillance and monitoring equipment. Monitoring stations will be located at the component's Nursing Station and at the Operations Security Centre located in the B3.
- 3.2.16.9.6 The component's design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.
- 3.2.16.9.7 Storage areas, supply/utility and medications rooms will be secure from Client access and include lockable cupboards for supplies and or medications.
- 3.2.16.9.8 There will be no "blind spots" within the Client care unit such as recesses, alcoves or places where Clients can hide.
- 3.2.16.9.9 Intensive Psychiatric Care Rooms (IPCR)
 - 3.2.16.9.9.1 IPCR Rooms are used for Clients in crisis that are of harm to themselves or others. Staffs are required to observe these Clients on a 1:1 or 1:2 basis with direct visualization at all times.

- 3.2.16.9.9.2 The IPCR suite consists of two IPCR Rooms, one IPCR washroom shared between the two rooms, one IPCR vestibule and staff work area.
- 3.2.16.9.9.3 The IPCR suite will be located in a central location to the Client care unit for ease of transfer of Clients in crisis but will not be located in such a way that disrupts the flow and activities of other Clients on the unit.
- 3.2.16.9.9.4 The IPCR suite will have direct adjacency to the Dispensary/Medication Room to allow for quick transfer of medications as well as direct adjacency to the Nurse Station for ease of staff back up and assistance.
- 3.2.16.9.9.5 IPCR rooms will have one point of access through the IPCR vestibule. The IPCR vestibule will have multiple access points including one leading directly to the Nursing Station.
- 3.2.16.9.9.6 Staff will be able to visualize both IPCR Rooms from one single location within the IPCR Vestibule.
- 3.2.16.9.9.7 Staff will be able to visually monitor Clients from the vestibule in both IPCR Rooms at the same time.
- 3.2.16.9.9.8 IPCR room design will meet or exceed, if new information is available, the standards for psychiatric secure room section of "*British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units*" published by the Ministry of Health and include: special treatment of fixtures, absence of handles; tamper-proof fixtures; solid ceilings; water control shut-off from the nursing station; sound proofing; observation windows in each IPCR room; internal blinds on external windows; doors that swing in both directions; and configuration such that the general population could readily use the rooms, when they are not being utilized as secure rooms. IPCR rooms will not have any raised platforms or ledges, and will not have any sharp edges or corners.
- 3.2.16.9.9.9 IPCR suite will have acoustic separation from the remainder of the unit as Clients in the IPCR are at times noisy and disruptive to the remainder of Client activities on the unit.
- 3.2.16.9.9.10 One of the two IPCR rooms will provide safety padding on all walls, doors, door frames and floors.
- 3.2.16.9.9.11 IPCR room door will have a full height sidelight that will allow for staff to fully visualize the Client as well as allow the Client to fully visualize their caregiver. The door will also have a vision panel.
- 3.2.16.9.9.12 IPCR Room will have a minimum ceiling height of 12ft.
- 3.2.16.9.9.13 IPCR Client beds require 3-sided access. Client beds will be bolted to the floor and will not be against a wall limiting access to the Client.

3.2.16.9.9.14 IPCR rooms will have a window to the outside for natural light and view.

3.2.16.10 Therapeutic Environment

- 3.2.16.10.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises, and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.
- 3.2.16.10.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.
- 3.2.16.10.3 Space will be provided for Client access to a telephone. This space will be visible by staff and provided in a location easily accessible by all Clients. Design of the phones will provide for barrier free use and also provide cords that are no greater than 6" in length.
- 3.2.16.10.4 The unit entry/secure vestibule design will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 3.2.16.10.5 The design will be non-institutional and as home-like as possible and conducive to wellness. This includes the inclusion of elder-friendly design to address such features as signage, lighting, colours and floor services.

3.2.16.11 Access to outdoor Therapy Space

- 3.2.16.11.1 Each Client care unit will have a direct connection with a secured outdoor courtyard and covered porch. Location will provide privacy from other Facility areas and from visitors.
- 3.2.16.11.2 These spaces will be designed for therapeutic functions and will include features that provide a variety of calming stimulation. It will be a healing garden with plants, looping accessible pathways and seating benches will be incorporated into this space. No less than 10 garden seating places will be provided. The outdoor space will have areas that are covered from the elements for shade and protection from the rain.
- 3.2.16.11.3 Select safe outdoor plantings and ground covers for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
- 3.2.16.11.4 The outdoor space will utilize the facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.

3.2.16.12 Lighting

- 3.2.16.12.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 3.2.16.12.2 Each Client bedroom will have access to natural lighting and views to the landscape. Windows will be large to provide a connection with outside grounds and to avoid perceptions of a “closed in” and confining environment.
- 3.2.16.12.3 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 3.2.16.12.4 Artificial lighting in each Client bedroom will be variable to provide different levels of lighting and for different purposes. At night time, Clients will have the ability to read while in their bed. Lighting in the room will also accommodate staff’s ability to monitor the Client during the night without affecting the Client’s ability to sleep. Lighting to Client bedrooms will be controlled from the hallways as well as from the Client bedside (by the Client).
- 3.2.16.12.5 All Client rooms will have low level night lighting that automatically turns on.
- 3.2.16.12.6 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.
- 3.2.16.12.7 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

3.2.16.13 Ergonomics for an Aging Workforce

- 3.2.16.13.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

3.2.16.14 Accommodation of Bariatric Clients

- 3.2.16.14.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.

- 3.2.16.14.2 In addition to the one X-Y bariatric Client lift located on the 30 bed Client care unit tub room, assistance required for moving bariatric Clients will rely on 1 mobile lift that services the entire component. When not in use, this mobile unit will be kept in a locked equipment storage room.

3.2.16.15 Inducements for Client Ambulation

- 3.2.16.15.1 Activation spaces on the Client care unit, including designated therapy spaces, activity rooms and general Zen/activity rooms, will be inviting with natural lighting, views to the landscape and opportunities for light recreation and entertainment such as gaming consoles with TVs which have exercise programs and various games.

3.2.16.16 Infection Control

- 3.2.16.16.1 The design will include the selection of finishes and fixtures that maximize the ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.
- 3.2.16.16.2 The Private Client Room, Medical will be equipped with negative pressure capabilities to be used as an isolation room, if required.

3.2.17 Space Table

- 3.2.17.1** The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

B1.1 - FORENSIC CLIENT CARE SERVICES						
30 BED UNIT						
Room ID	Room Name	Quantity	SM	Total Net SM	SLC level	Description
UNIT ENTRY						
.01	Unit Sallyport	1	6.00	6.00	2	
.02	Housekeeping Room	1	13.00	13.00	4	
.03	Storage	1	7.50	7.50	2	wheelchair storage
SUBTOTAL				27		
12 BED CLUSTER						
.04	Private Client Room	10	11.00	110.00	2	rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet
.05	Client Washroom, Barrier Free	5	6.50	32.50	2	accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only
.06	Private Client Room, Bariatric	1	18.50	18.50	2	rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability
.07	Client Washroom, Bariatric, Barrier Free	1	7.50	7.50	2	bariatric toilet, sink, shower
.08	Private Client Room, Medical	1	18.50	18.50	2	accessible, rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability, can be used for Palliative Care
.09	Client Washroom, Medical, Barrier Free	1	6.50	6.50	2	accessible, toilet, sink, shower
.10	Therapy Room	1	22.00	22.00	2	flexible use, group therapy, individual therapy, physio therapy, wellness
.11	Interview Room	1	11.00	11.00	2	table 2 chairs, can be used for admitting
SUBTOTAL				227		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

12 BED CLUSTER						
.12	Private Client Room	12	11.00	132.00	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet</i>
.13	Client Washroom, Barrier Free	6	6.50	39.00	2	<i>toilet, 2 sinks, shower, shared between Client rooms/access from corridor only</i>
.14	Therapy Room	1	22.00	22.00	2	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.15	Interview Room	1	11.00	11.00	2	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			204		
6 BED CLUSTER						
.16	Private Client Room	6	11.00	66.00	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet</i>
.17	Client Washroom, Barrier Free	3	6.50	19.50	2	<i>toilet, 2 sinks, shower, shared between Client rooms/access from corridor only</i>
.18	Therapy Room	1	11.00	11.00	2	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.19	Interview Room	1	11.00	11.00	2	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			108		
BED ZONE SUPPORT						
.20	Tub Room	1	15.00	15.00	2	<i>tub, toilet, sink, storage, provide structure for future x-y ceiling mount Client lift</i>
.21	Clean Storage	1	9.50	9.50	4	<i>linen storage, Client supplies, dual access to public corridor</i>
.22	Soiled Holding	1	7.50	7.50	4	<i>provide dual access</i>
.23	Client Laundry	1	10.00	10.00	2	<i>washer, dryer, folding counter, storage</i>
.24	Treatment Room	1	11.00	11.00	2	<i>medical exam room, exam table, phlebotomy chair, workstation, side chair, oxygen machine, hand washing sink</i>
	SUBTOTAL			53		
TEAM CENTER						
.25	Nurses Station	1	15.00	15.00	2	<i>2 workstations, visibility to all bed wings, activity spaces, therapy rooms, dining, unit entry, outdoor porch/yard, Client laundry - determine location for eyewash station, include a safe for backup master keys for Forensics</i>
.26	Dispensary/Medication	1	11.00	11.00	2	<i>locate medication room directly adjacent to nurse station, provide dispensing window, confirm methadone regulations</i>
.27	Charting/Conference Room	1	28.00	28.00	2	<i>15 staff seated around a table, 2 workstations, Client file storage</i>
.28	Staff Break/Locker	1	15.00	15.00	4	<i>u/c refrigerator, lockers, coat hanging, hand wash sink, access to natural light, dual access</i>
.29	Staff Washroom	1	4.00	4.00	4	<i>2 piece</i>
.30	Intensive Psych. Care Room	2	9.00	18.00	1	<i>locate Intensive Psych. Care suite near team ctr., provide natural light, provide 3 sided access to Client bed</i>
.31	Intensive Psych. Care Washroom, Barrier Free	1	6.50	6.50	1	<i>2 piece, accessible</i>

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

.32	Intensive Psych. Care Vest.	1	7.50	7.50	1	<i>staff work area, one staff</i>
	SUBTOTAL			105		
	COMMON ACTIVITY AREAS					
.33	Zen/Activity Room	1	84.00	84.00	2	<i>approx 2.8 sm/Client for 30 Clients - may be sub divided - open to corridor, Client living room lounge, phone location for the unit</i>
.34	Dining Room	1	70.00	70.00	2	<i>approx 2.3 sm/Client, 30 Clients may be sub divided into 2 or 3 dining areas</i>
.35	Nutrition Centre	1	4.00	4.00	2	<i>locate within the dining room, includes ice machine, refrigerator, dishwasher, microwave, range, coffee, toaster, sink - lockable locate in dining activity area, dual access for food service delivery</i>
.36	Servery	1	11.00	11.00	4	
.37	Smudging Room	1	11.00	11.00		
.38	Client Washroom, Barrier Free	1	5.00	5.00	2	<i>2 piece, accessible can be for Clients or visitors</i>
.39	Exterior Courtyard Sally port/Airlock	1	6.00	6.00	2	<i>airlock between unit and outdoor courtyard</i>
.40	Exterior Courtyard	1	0.00	0.00	2	<i>covered outdoor porch, access to secure outdoor "back yard", visibility from nursing station, larger secure outdoor yard with walking paths secure fencing</i>
	SUBTOTAL			191		
	TOTAL NET SQUARE METRES			914		30 BED UNIT

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

ASSESSMENT UNIT - 12 BEDS						
UNIT ENTRY						
.41	Unity Sallyport	1	6.00	6.00	2	
.42	Housekeeping Closet	1	3.50	3.50	2	
.43	Storage	1	7.50	7.50	2	
SUBTOTAL				17		
12 BED CLUSTER						
.44	Private Client Room	11	11.00	121.00	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, toilet, sink</i>
.45	Client Washroom, Barrier Free	6	6.50	39.00	2	<i>accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.46	Private Client Room, Speciality	1	18.50	18.50	2	<i>accessible, bariatric capable - rooms ea. contain: bed, wardrobe, desk, night table w/lockable area for meds</i>
.47	Client Washroom, Specialty Barrier Free	1	7.50	7.50	2	<i>accessible, bariatric capable - Washroom, sink, shower, access from corridor only</i>
.48	Therapy Room	1	22.00	22.00	2	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.49	Interview Room	2	11.00	22.00	2	<i>table 2 chairs, used for psych testing, provide storage for testing materials</i>
SUBTOTAL				230		
BED ZONE SUPPORT						
.50	Tub Room	1	15.00	15.00	2	<i>tub, toilet, sink, storage, provide structure for future x-y ceiling mount Client lift</i>
.51	Clean Storage	1	9.50	9.50	4	<i>linen storage, Client supplies, dual access to public corridor</i>
.52	Soiled Holding	1	7.50	7.50	4	<i>provide dual access</i>
.53	Client Laundry	1	10.00	10.00	2	<i>washer, dryer, folding counter, storage</i>
.54	Treatment Room	1	11.00	11.00	2	<i>medical exam room, exam table, phlebotomy chair, workstation, side chair, oxygen machine, hand washing sink</i>
SUBTOTAL				53		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

TEAM CENTRE						
.55	Nurses Station	1	15.00	15.00	2	2 workstations, visibility to all bed wings, activity spaces, therapy rooms, dining, unit entry, outdoor porch/yard, Client laundry - determine location for eyewash station
.56	Dispensary/Medication	1	11.00	11.00	2	locate medication room directly adjacent to nurse station, provide dispensing window, confirm methadone regulations
.57	Charting/Conference Room	1	28.00	28.00	2	15 staff seated around a table, 2 workstations, Client file storage
.58	Staff Break/Locker	1	15.00	15.00	4	u/c refrigerator, lockers, coat hanging, hand wash sink, access to natural light, dual access
.59	Staff Washroom	1	4.00	4.00	4	2 piece
.60	Intensive Psych. Care Room	2	9.00	18.00	1	locate Intensive Psych. Care suite near team ctr., provide natural light, provide 3 sided access to Client bed
.61	Intensive Psych. Care Washroom, Barrier Free	1	6.50	6.50	2	2 piece
.62	Intensive Psych. Care Vest.	1	7.50	7.50	2	staff work area, one staff
SUBTOTAL				105		
COMMON ACTIVITY AREAS						
.63	Zen/Activity Room	1	67.00	67.00	2	approx 2.8 sm/Client for 24 Clients - may be subdivided - open to corridor, Client living room lounge, phone location for the unit
.64	Dining Room	1	56.00	56.00	2	approx 2.3 sm/Client, 24 Clients may be subdivided into 2 or 3 dining areas
.65	Nutrition Centre	1	4.00	4.00	2	locate within the dining room, includes ice machine, refrigerator, dishwasher, microwave, range, coffee, toaster, sink - lockable locate in dining activity area
.66	Servery	1	11.00	11.00	4	
.67	Exercise Room	1	32.00	32.00	2	
.68	Smudging Room	1	11.00	11.00	2	
.69	Client Washroom, Barrier Free	1	5.00	5.00	2	2 piece, accessible can be for Clients or visitors
.70	Exterior Courtyard	1	0.00	0.00	2	covered outdoor porch, access to secure outdoor "back yard", visibility from nursing station
SUBTOTAL				186		
TOTAL NET SQUARE METRES				591		12 BED REMAND UNIT

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.1 FORENSIC CLIENT CARE SERVICES**

FORENSIC SHARED SERVICES						
FORENSIC OFFICE AREA						
						<i>locate just off unit</i>
.71	Office, Clinical	12	11.00	132.00	3	<i>flexible use for NUM, Social Work, Facilitator, Psychologist, Psychiatrist, CMHN, Neuro, Behavioral Therapist, Admin</i>
.72	Workstation	2	5.50	11.00	3	<i>admin, flex, students</i>
.73	Copy/Files	1	7.50	7.50	4	<i>printer/scanner/fax, paper storage, office supplies</i>
.74	Staff Washroom, Barrier Free	2	5.00	10.00	4	<i>2 piece</i>
SUBTOTAL				161		
TOTAL NET SQUARE METRES				161		OFFICE SUITE
TOTAL NET AREA FOR FORENSIC SERVICES						
DEPT NET SQUARE METRES				1,665		TOTAL FORENSIC PROGRAM

B 1.2 SECURE CLIENT CARE SERVICES

This specification outlines the functional, operational and physical requirements for the Secure Client Care Unit(s) functional component at the Facility.

FUNCTIONAL DESCRIPTION

4.1.1 Statement of Purpose

4.1.1.1 Philosophy

- 4.1.1.1.1 Secure care services provide assessment and treatment to Clients in provincial custody throughout Saskatchewan who experience the effects of serious mental illness.
- 4.1.1.1.2 The Secure Client Care is based on the belief in an individualized holistic approach to a comprehensive range of Client needs. Clients are entitled to be treated with dignity and respect and without prejudice through a multidisciplinary approach to service delivery.
- 4.1.1.1.3 The focus of the service is to ensure a safe environment and a therapeutic milieu for the Client. It is the Authority's belief that a positive relationship with the community will be created. It is the right of all Clients to have access to dynamic psychiatric rehabilitation with discharge planning from time of admission.
- 4.1.1.1.4 Supportive psychiatric and rehabilitation programming for criminal behaviour will extend from the Facility into the community to ensure successful community reintegration. Each individual has a right to community living, with the greatest level of independence and richest quality of life possible. All service delivery will be as culturally relevant as possible.
- 4.1.1.1.5 The intent is to provide as home-like an atmosphere as possible, while maintaining a safe environment for all, with attention given to providing the necessary services in as unobtrusive way as possible.

4.1.1.2 Guiding Principles

- 4.1.1.2.1 Stabilize the Client's psychiatric condition such that the symptoms are reduced or better managed. Develop and deliver Client centred individualized multidisciplinary treatment and correctional rehabilitation plans based on assessed needs.
- 4.1.1.2.2 Provide facilities and services that support Client's cultural and spiritual needs.
- 4.1.1.2.3 Provide a welcoming, safe and secure environment for Clients.
- 4.1.1.2.4 Develop and maintain effective programs that will provide Clients' families with support and education. Promote community awareness and involvement.
- 4.1.1.2.5 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

4.1.2 Scope of Services

4.1.2.1 Functional Content

- 4.1.2.1.1 Functionally, this component has four distinct Client care units; each unit will be identical in layout.
- 4.1.2.1.2 Privacy will be maintained between Client room windows.
- 4.1.2.1.3 Each Secure Client Care Unit will have 24 beds.
- 4.1.2.1.4 Bed wings will not contain more than 12 beds each and not less than 6 beds.
- 4.1.2.1.5 One of the four Secure Client Care Units will be dedicated for female Clients. The other 3 Secure Client units will be for male Clients only.
- 4.1.2.1.6 Approach to Psychiatric Intensive Care is decentralized to each of the Client care units. Each unit will have 2 Intensive Psychiatric Care Rooms. These rooms are intended for high acuity Clients who are a risk to themselves or require 1:1 or 1:2 observations. Clients will use these rooms for short durations and will be moved back to their private room when appropriate.
- 4.1.2.1.7 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
 - 4.1.2.1.7.1 The design will promote a safe and secure environment;
 - 4.1.2.1.7.2 The design will create a welcoming Client-centred healing environment;
 - 4.1.2.1.7.3 The design will support the model of care;
 - 4.1.2.1.7.4 The design will minimize staff travel distances;
 - 4.1.2.1.7.5 The design will provide specific supports to ensure the control of infection;
 - 4.1.2.1.7.6 The design will provide respite and relaxation opportunities for both Clients and their visitors on each of the care units;
 - 4.1.2.1.7.7 The design will provide multiple opportunities for Clients to experience the outdoors via courtyards, porches and through natural light and views;
 - 4.1.2.1.7.8 Priority of spaces receiving views to the river valley and landscape should be determined based upon the following criteria: 1 – Day spaces on the Client care unit where Clients spend the most of their daylight hours (i.e. activity room/Zen room, dining room, therapy rooms) 2 – Client Private Bedrooms 3 – Staff Spaces; and
 - 4.1.2.1.7.9 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots.

4.1.2.2 Exclusions

4.1.2.2.1 The following list specifies functions that involve either Clients or staff normally present on the Secure Care Units but are understood to occur in other functional components in the facility or outside of the facility:

- 4.1.2.2.1.1 Large scale Recreational Therapy/Wellness activities will occur within A2 Therapy Mall;
- 4.1.2.2.1.2 Medical Services other than those performed in the on unit Treatment Room will occur in the C6 – Health Care Clinic;
- 4.1.2.2.1.3 Sweat Lodge; and
- 4.1.2.2.1.4 Chapel.

4.1.2.3 Anticipated Trends in Service Delivery

4.1.2.3.1 The following lists trends that are expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.

- 4.1.2.3.1.1 Increasing numbers of Clients with addictions and mental disorders.
- 4.1.2.3.1.2 Increasing Client acuity and complexity and potential for aggression.
- 4.1.2.3.1.3 Increasing numbers of bariatric Clients admitted to Main Building is predicted to increase.
- 4.1.2.3.1.4 Increasing mean age of staff working on the Client units is predicted to increase.
- 4.1.2.3.1.5 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions.
- 4.1.2.3.1.6 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility.
- 4.1.2.3.1.7 Increasing recognition of need for informed care.
- 4.1.2.3.1.8 Redesigning service delivery to meet the needs of First Nations Clients.

4.1.3 Scope of Education Functions

4.1.3.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

4.1.4 Scope of Research Functions

- 4.1.4.1 Staff and students working in the Client units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

4.1.5 Hours of Operation

- 4.1.5.1 This component will be staffed and in operation:

24 hours-a-day, 7 days a week

The component will have regular visiting hours. Visiting will occur in the Visiting Centre (C5). See this component for further information. Visitors will first move through a secure screening process prior to entering the Visiting Centre. Visiting hours are 9 to 9

4.1.6 People Management Systems

- 4.1.6.1 Most Clients admitted to this component will arrive from a referring correctional facility. The typical Client will be ambulatory, and will be escorted by police or correction services personnel.
- 4.1.6.2 Documentation will have been started in the referring institution. Arrival will also coincide with medical and nursing assessments to determine the appropriate level of care required.
- 4.1.6.3 Clients will be admitted from the secure sally port/garage directly to the Admissions Area. After initial assessment and medical screening, Clients will be able to bathe or shower and then be shown to their Client care unit. See the Admissions and Discharge (C4) component for further information.
- 4.1.6.4 Secure Client discharge will occur through the Admission and Discharge (C4).
- 4.1.6.5 All visitors to the Secure Units will enter through the facility secure entrance and interact with their family or friends in the Visitor Centre (C5). Visitors will not be permitted in the Secure Client Care Units.

4.1.7 Material Management Systems

- 4.1.7.1 The design of the unit will minimize the need for support and maintenance staff to access Client areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.
- 4.1.7.2 The following rooms will be able to deliver/retrieve supplies or perform work without directly interacting with Clients and staff on the unit: Housekeeping room soiled holding room, clean supply room, nutrition centre, data and electrical closets.
- 4.1.7.3 Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

4.1.8 Consumable Supplies

- 4.1.8.1 Inventories of consumable supplies will utilize the lockable Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use.
- 4.1.8.2 Cabinets will be lockable so that if necessary Client access is controlled.
- 4.1.8.3 All central supply storage areas will be inaccessible to Clients and to the public.

4.1.9 Linen

- 4.1.9.1 Each Client unit has one Client laundry room consisting of a heavy-duty domestic type washer and dryer to use for laundering personal clothing is considered essential. Client's institutional clothing will be laundered in the centralized laundry linen area. The on-unit laundry room can be used as an ADL - activities of daily living tool as required.
- 4.1.9.2 All linen services are provided by the Authority.
- 4.1.9.3 Inventories will be managed via the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) of the cabinet.
- 4.1.9.4 Soiled laundry and linen will be collected from the Kanban in small hampers, temporarily staged in the soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.

4.1.10 Pharmaceutical Products

- 4.1.10.1 The design of the medication room will allow for the flexibility to dispense medication in a number of ways to allow for future flexibility. It is assumed that in the future automation will be used in the inventory management and dispensing of Client medications.
- 4.1.10.2 The design will accommodate the use of automated dispensing, narcotics cabinets, refrigeration, medication carts, and a dispensing window with direct access to the corridor.
- 4.1.10.3 The medication room will be enclosed and lockable.
- 4.1.10.4 The medication room will have direct access to the IPCR suite for ease of dispensing medications to Clients in crisis.
- 4.1.10.5 The medication room will have direct access to the nursing station for ease of use and control of medications.
- 4.1.10.6 The medication room will contain medication carts which will be stocked with unit doses of Clients' medications and dispensed according to prescribed schedules or as required. Pharmacy personnel will be responsible for inventory management of the medication rooms and their associated medication carts, whereas nursing personnel will deliver medications from the medication room to the Client.
- 4.1.10.7 Unstable products will be prepared in Pharmacy (C8), and then delivered to the unit either according to a prescribed schedule or upon request. Product delivery to the medication rooms will rely on pharmacists or pharmacy technicians for product transportation.

4.1.11 Food Services

- 4.1.11.1 Food service will generally be provided to Secure Client Care Units in the on unit Dining Room. Food will be prepared in a server style where Clients move through a tray line and choose their items to be plated.
- 4.1.11.2 A roll down shutter will be provided between the Dining Room and Servery.
- 4.1.11.3 The Servery will be accessed by staff only.
- 4.1.11.4 Following each meal service, all carts, trays and service ware will be returned to the central kitchen for ware washing and sanitation.
- 4.1.11.5 Following each meal service, all carts, trays and service ware will be returned to the central kitchen for ware washing and sanitation.

4.1.12 Waste Management

- 4.1.12.1 The majority of waste products will be soiled linen, garbage and recyclables. Other waste products will be managed within the soiled holding stations located in the common support area of each unit.
- 4.1.12.2 Segregation of wastes will accommodate the following categories of products:
 - 4.1.12.2.1 General garbage;
 - 4.1.12.2.2 Sharps (including potentially bio hazardous items);
 - 4.1.12.2.3 Infectious or contaminated wastes (excluding sharps);
 - 4.1.12.2.4 Confidential paper;
 - 4.1.12.2.5 Clean paper and cardboard;
 - 4.1.12.2.6 Clean metal (tin and aluminum);
 - 4.1.12.2.7 Clean recyclable plastics and
 - 4.1.12.2.8 Compostable materials.
- 4.1.12.3 A secure soiled utility room, for the containment of soiled items and trash will be required on the unit. The soiled utility room will be accessible by staff only.

4.1.13 Information Management Systems

- 4.1.13.1 All Client related information will be maintained on the electronic medical record (EMR) system. Wireless technology will enable data entry using a combination of fixed terminals, at staff workstations in the nurse station and team charting/conference room and mobile computer on wheels or tablets. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.
- 4.1.13.2 To meet the requirements of the Mental Health Act; each Client will be required to have some paper based health records. Storage for these records will be provided within the unit, in the team charting/conference room which is only accessible by the appropriate staff.

- 4.1.13.3** The clinical unit and Client care spaces will optimize care delivery through the design and build of facilities and work spaces which emphasize the blend of workflow, care processes, automation of practice, and interoperability between medical and business technologies in support of the Authorities strategic investment in Sunrise Clinical Manager and other clinical and business systems.
- 4.1.13.4** The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:
- 4.1.13.4.1 Integrated Medication Carts;
 - 4.1.13.4.2 Medication Dispense Cabinets;
 - 4.1.13.4.3 Mobile and Fixed Computer Devices – Desktop and Wall mount;
 - 4.1.13.4.4 Mobile and Fixed Label Printers;
 - 4.1.13.4.5 Mobile and Fixed Barcode Scanners;
 - 4.1.13.4.6 Handheld Computer Devices;
 - 4.1.13.4.7 Glucometers with Docking Stations;
 - 4.1.13.4.8 Tracking Monitors – Client, Staff, and Resource Tracking;
 - 4.1.13.4.9 Clinical Dashboards;
 - 4.1.13.4.10 Smart Beds;
 - 4.1.13.4.11 Smart Pumps;
 - 4.1.13.4.12 Device Integration for real –time clinical assessment and physiological data documentation;
 - 4.1.13.4.13 Digital Room Signage and Way-finding;
 - 4.1.13.4.14 Location Awareness;
 - 4.1.13.4.15 Device Connectivity;
 - 4.1.13.4.16 Multifunction Communication Devices with integration to systems;
 - 4.1.13.4.17 Telehealth and Virtual Team Capabilities;
 - 4.1.13.4.18 Real Time Location System; and
 - 4.1.13.4.19 Staff Safety and Duress.

DESIGN CRITERIA

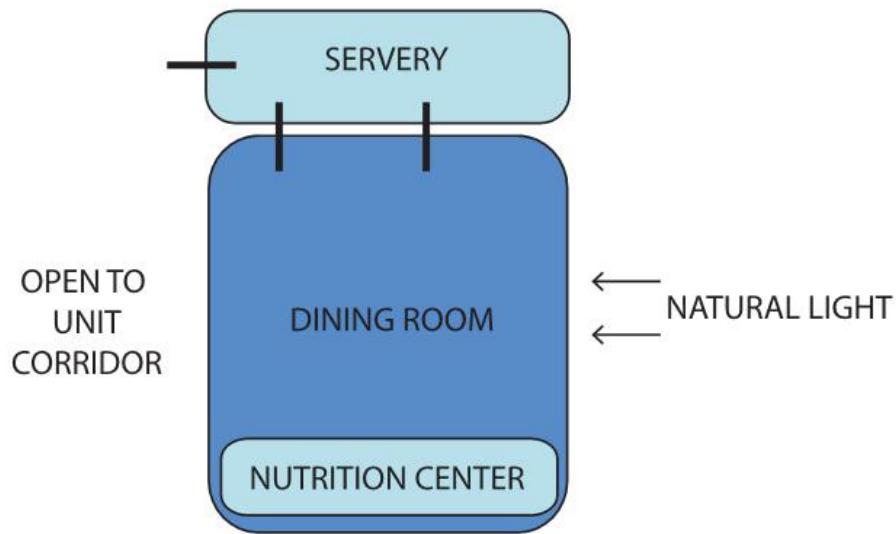
4.1.14 Lean Planning Standards

4.1.14.1 Standardization of Client Bedrooms

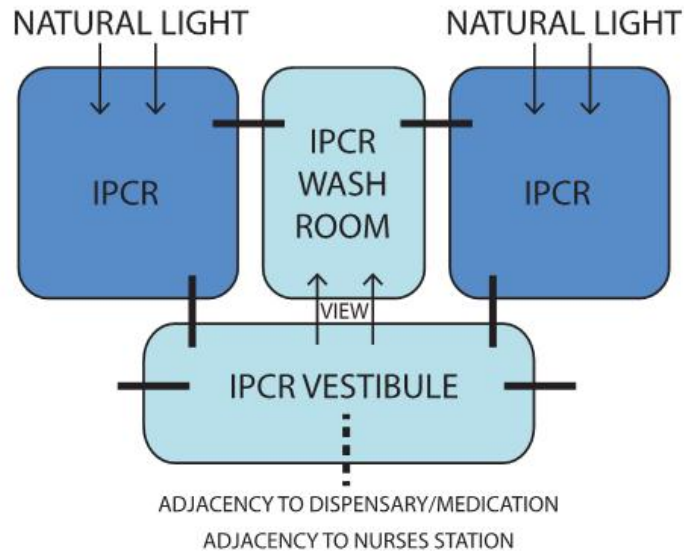
- 4.1.14.1.1 Each Client room will be designed, configured, equipped and furnished to a common standard and design. The intent of this requirement is to facilitate staff moving from room-to-room without having to reorient themselves with respect to frequently accessed key features like Client bed, desk, wardrobe, Kanban cupboard, call annunciator, and cancel buttons.
- 4.1.14.1.2 All Client rooms are to have a standard orientation; the configuration and layout within each Client room will be standardized to facilitate immediate orientation for staff. A standard room orientation will be accommodated via a “like-handed” design – or in “mirrored” design.

4.1.15 Proximity Relationships

DINING ROOM/NUTRITION/SERVERY

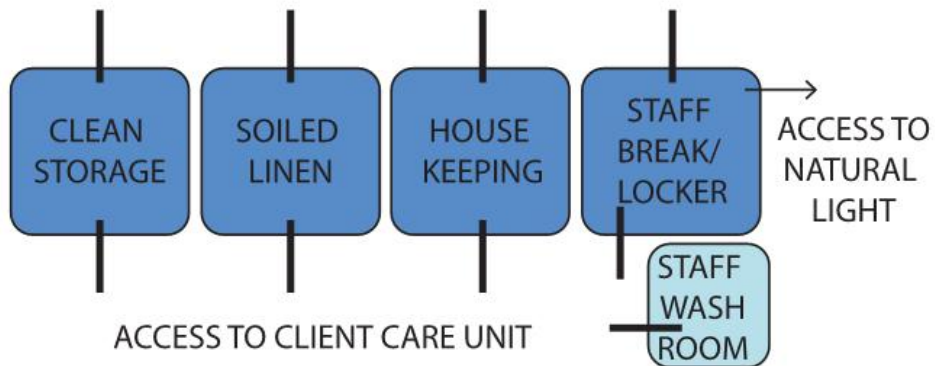


INTENSIVE PSYCHIATRIC CARE SUITE

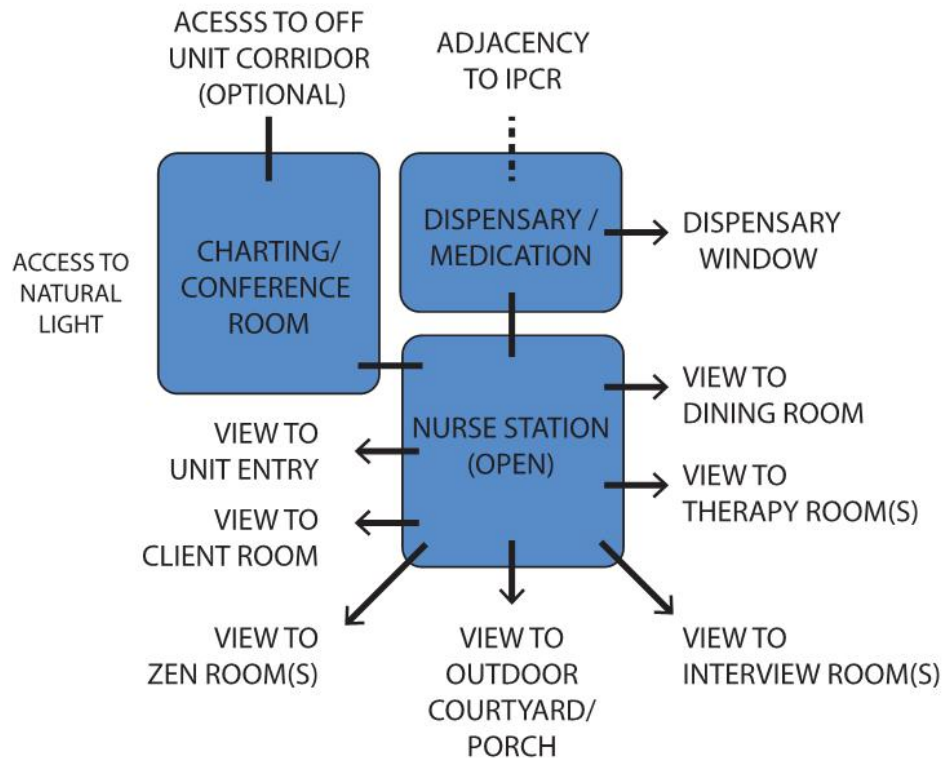


SUPPORT SERVICES

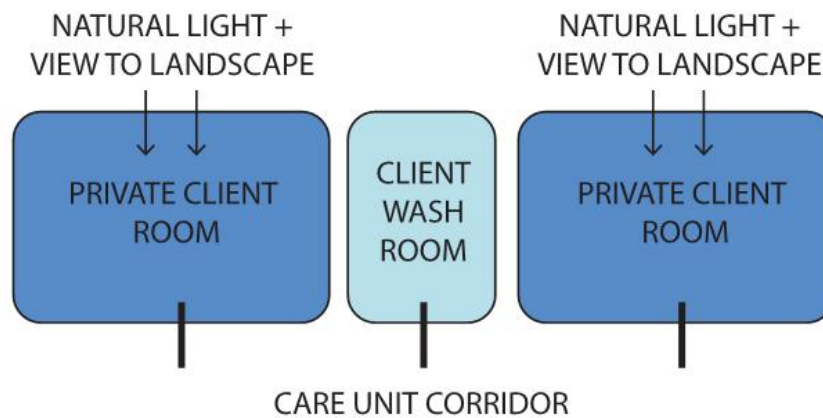
OFF UNIT CORRIDOR

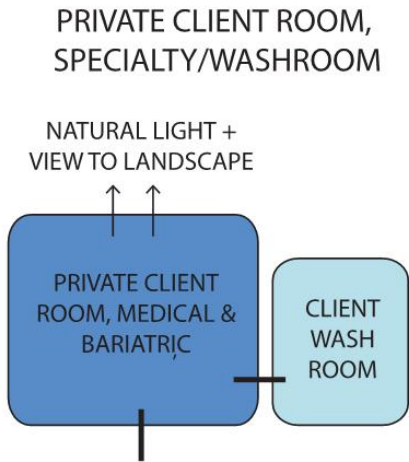


NURSE STATION, MEDICAL DISPENSARY,
 AND CONFERENCE ROOM

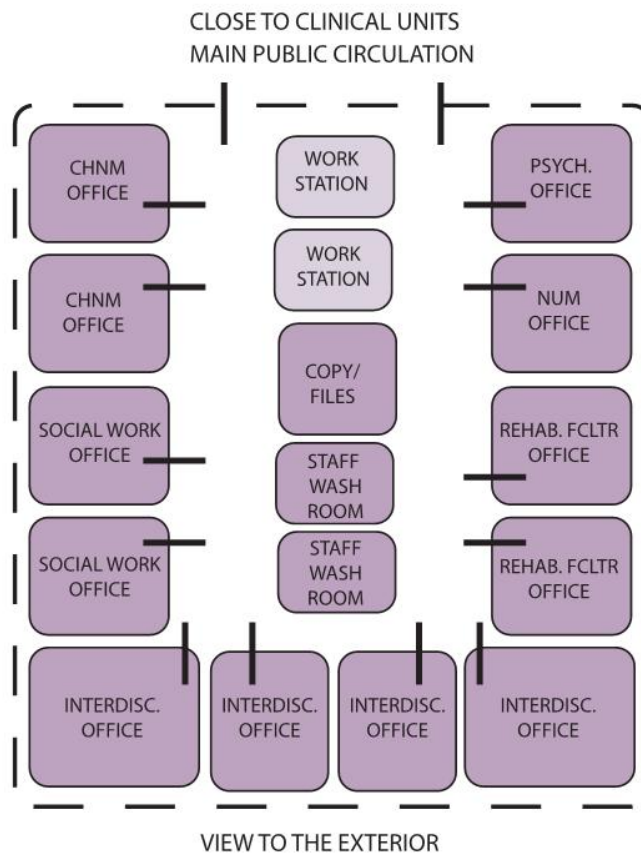


PRIVATE CLIENT ROOM /WASHROOM PAIR





MODULAR CLINICAL OFFICE SUITE



4.1.15.1 The 4 Secure Client Care Units will be collocated on one level or separated into pairs onto two levels.

4.1.15.2 Provide convenient access by general circulation between the 4 Secure Client Care Units.

4.1.15.3 Outdoor Spaces

- 4.1.15.3.1.1 Access and exit from the courtyard/porch is limited to/from within the unit. Courtyards and porches will not be shared between units.
- 4.1.15.3.1.2 The entire courtyard and porch will be physically visible to staff at all times and video monitoring of the courtyard/porch is also required.
- 4.1.15.3.1.3 Provisions will be made to obscure views from the courtyard into private Client rooms
- 4.1.15.3.1.4 The courtyards will be shielded from visibility to public and staff outside of the Secure Client Care Unit as well as other Client units.
- 4.1.15.3.1.5 Provide direct access by internal circulation to a secured outdoor area for the movement of Clients, visitors and staff. Each Client care unit will have separate, dedicated secure outdoor areas.

4.1.15.4 Provide convenient access by general circulation to the Secure Office Suite from all Secure Care Units for ease of staff movement and response time for code calls.

- 4.1.15.4.1.1 The Secure Office Suite will be organized as one suite of offices located off of a main general circulation route.
- 4.1.15.4.1.2 The Secure Office Suite will have two entrances/exits for staff safety. The suite will be lockable.
- 4.1.15.4.1.3 Each office will be enclosed and lockable and will have a full height side lite to allow for visibility into the space for staff safety. Natural light to clinical offices will be provided.
- 4.1.15.4.1.4 Each office and workstation will have convenient access by internal circulation to the Copy/Files room and the Staff Washrooms.

4.1.15.5 Connection to other services:

- 4.1.15.5.1.1 Provide convenient access by general circulation to the Recreation Centre for ease of Client and staff movement.
- 4.1.15.5.1.2 Provide convenient access by general circulation to the Spiritual/Cultural Centre for ease of Client and staff movement.
- 4.1.15.5.1.3 Provide convenient access by general circulation to the Sweat Lodge.
- 4.1.15.5.1.4 Provide convenient access by general circulation to the Central Programs for ease of Client and staff movement.
- 4.1.15.5.1.5 Provide convenient access by general circulation to the Healthcare Clinic for ease of Client and staff movement.
- 4.1.15.5.1.6 Provide convenient access by general circulation to the Visiting Centre for ease of Client and staff movement.
- 4.1.15.5.1.7 Provide convenient access by general circulation to the Video Court for ease of Client and staff movement.

- 4.1.15.5.1.8 Provide convenient access by general circulation to the Operations Security Centre for ease of staff travel distance and control.
- 4.1.15.6 Provide convenient access for each Secure Care unit by general circulation to major public and non-public circulation. Personnel, Clients, and supplies will move frequently to/from this component and other components in the Facility.
- 4.1.15.7 Provide convenient access by general circulation to Client Belonging Storage Area(s) for ease of staff travel distances.

4.1.16 Internal Design Criteria

4.1.16.1 General Internal Layout

- 4.1.16.1.1 Each Secure Unit is comprised of 24 beds. Bed wings will be no greater than 12 beds and no less than 6. The maximum allowable distance from the centre point of the last client room door to the edge of the central millwork nurse station is 32m.
- 4.1.16.1.2 The component will be organized into 3 major areas as follows, 1 - Client bedroom clusters/wings, 2 - Client activity spaces and therapy rooms, 3 - staff team centre and unit support spaces. The Nursing Station will be able to view all three areas from one central “awareness point”.
- 4.1.16.1.3 All Client rooms will be private.
- 4.1.16.1.4 Client washrooms will be shared between pairs of private rooms with direct access to the general circulation unit corridor. Specialty Client Rooms (i.e. Bariatric and Medical) will have dedicated private washrooms with access directly from the Client room.
- 4.1.16.1.5 Unit support spaces such as soiled linen, clean storage, housekeeping, staff break/locker will allow for ease of entrance and stocking by staff without entering the Client zone of the unit. This can be achieved in a number of ways but some examples are: Each room having a dual entrance from public corridor and the care unit, or a secondary staff entrance to the unit that allows for all rooms to be off that staff only “back of house” corridor.

4.1.16.2 Unit Organization

- 4.1.16.2.1 All Client bedrooms will be designed to recognize the environmental risk factors for the Client population. Design requirements will accommodate a range of acuity levels for this population but will be designed for the highest acuity Clients.
- 4.1.16.2.2 All Client bedrooms and Client washrooms will be designed with anti-ligature and tamper resistant finishes, fixtures, equipment and furniture.
- 4.1.16.2.3 All Client bedrooms will have a Client bed (psychiatric platform or medical), millwork desk, millwork night table, lockable wardrobe with fixed shelving, side chair with sled based legs.

- 4.1.16.2.4 The Nutrition Centre will be located directly adjacent to the Dining Room on each of the Client care units. The Nutrition Centre will be an enclosed lockable room that can be left open or closed depending upon staff preference. Food Services staff will be able to deliver tray carts to the Nutrition Centre without entering Client care areas of the unit.
- 4.1.16.2.5 Two Therapy rooms are provided on each of the care units. These Therapy rooms will be used for different therapies on different units. The rooms will be used for, but not limited to, recreation therapy, arts and crafts, physiotherapy, Snoezelen or multi-sensory room, and group or individual therapy. Each room will be designed with similar features to allow for the flexible use of these spaces.
- 4.1.16.2.6 Interview rooms are primarily for conducting private interviews in space separate from the Clients' bedrooms. Interview rooms will be used for admission interviews, psychological testing, quiet reading, quiet staff work spaces.
- 4.1.16.2.7 One dedicated smudging room will be provided by on each Secure Client care unit. This room requires a dedicated ventilation system.
- 4.1.16.2.8 Each unit has a large area programmed for Activity/Zen Room. This room(s) will be subdivided into two areas. This room(s) will be open to the corridor and provide a welcoming living room feel. This room will be an area for Clients to relax, play games, watch television, read or sit quietly.
- 4.1.16.2.9 The Charting/Conference Room will occasionally be utilized for meetings including Clients and families and will require direct access from a general circulation corridor within the Client care unit.
- 4.1.16.2.10 Each of the four Secure Units has a Tub Room. The tub room will be located in a central location to the unit but provide discrete access for Clients.
- 4.1.16.2.11 One Tub room (of the 4) on the Secure Client care units will have an X-Y bariatric lift as well as a walk in assist type tub.
- 4.1.16.2.12 Remaining Tub Rooms on the Secure Client Care Units will have the above ceiling structure provided for the future installation of an X-Y overhead Client lift.
- 4.1.16.2.13 The Charting/Conference room will be used for conducting shift reports and participating in interdisciplinary team meetings. Client charts will be stored in this space for ease of use and discussion. Two staff computer workstations will be provided in this space.
- 4.1.16.2.14 The Charting/Conference room will have a direct connection to the nursing station for ease of staff movement.

- 4.1.16.2.15 At the unit entry secure vestibule, a visual and audio control system will allow visitors to contact the nursing station of the desired unit to request admission to the unit. Staff of that unit will be able to electronically open the unit door from the nurse station as well as physically move to the visitor to greet them depending upon the situation. The security staff in the Operations Security Centre will also be able to open the doors of all these units. The nurse station will have direct visual control of the unit entry secure vestibule.
- 4.1.16.2.16 The unit entry/secure vestibule design will provide a welcoming experience for Clients. Interior glazing, natural light and views are required.
- 4.1.16.2.17 A centrally located secured storage area for Client's personal belongings will be provided in the Main Building for Client belongings not required on a regular basis. The secure storage area will be accessible only by staff and will have appropriate ventilation and be equipped with shelving for storage of Rubbermaid type bins. The secure storage room will be located off a general circulation corridor; Clients and visitors will not have access to the Client belongings storage area(s).

4.1.16.3 Nurse station

- 4.1.16.3.1 The Nurse Station and Charting/Conference will act as the unit's communication centre, and will accommodate a variety of functions. Its function is to support the interdisciplinary collaboration between all caregivers, including nursing, physicians and allied health personnel. There will be visibility at all times from the Nursing Station to the Client care areas on the Client care unit. There will be provision for a closed, acoustically private area in the Charting/Conference Room to undertake confidential and frequently highly sensitive discussions including:
 - 4.1.16.3.1.1 Dictating and reviewing charts, diagnostic images and test results;
 - 4.1.16.3.1.2 Conducting private telephone conversations;
 - 4.1.16.3.1.3 Conducting multi-disciplinary care team discussions;
 - 4.1.16.3.1.4 Accommodation of teaching and collaboration space;
 - 4.1.16.3.1.5 Providing access to computer workstations and business equipment and business supplies for the unit;
 - 4.1.16.3.1.6 Providing on-unit space for nursing management activities and transfer of control conferences at shift change; and
 - 4.1.16.3.1.7 This space will act as a location for staff/client meetings. Clients will always be accompanied by a staff member.
- 4.1.16.3.2 The Nurse Station will include the following areas:
 - 4.1.16.3.2.1 The Nurse Station will act as the control and awareness point for the unit.
 - 4.1.16.3.2.2 The unit team work areas will back onto one another.

4.1.16.3.2.3 The Charting/Conference Room will be located in close proximity to the Nurse Station/Unit Clerk desk while providing the appropriate segregation of business equipment for staff safety and noise reduction within the Nursing Station.

4.1.16.3.3 Direct adjacency between the Nurse Station, the Medication Room, Charting/Conference Room and the IPCR Suite is required.

4.1.16.4 Client Security and Safety

4.1.16.4.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units.

4.1.16.4.2 Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.

4.1.16.4.3 The design will include, but is not limited to items which are non-loopable or designed to release under a load of 20 kilograms and meet either the load release or non-loopability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. This features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:

- 4.1.16.4.3.1 Temper Laminated Interior Glazing;
- 4.1.16.4.3.2 Door hardware;
- 4.1.16.4.3.3 Sprinklers;
- 4.1.16.4.3.4 Showerheads;
- 4.1.16.4.3.5 Lavatories;
- 4.1.16.4.3.6 Faucets;
- 4.1.16.4.3.7 Lavatory valves;
- 4.1.16.4.3.8 Shower actuators;
- 4.1.16.4.3.9 Toilet seats;
- 4.1.16.4.3.10 Toilets;
- 4.1.16.4.3.11 Toilet operator valves;
- 4.1.16.4.3.12 Plumbing traps and piping covers;
- 4.1.16.4.3.13 Fire extinguisher and hose cabinets;
- 4.1.16.4.3.14 Medical gas enclosures;
- 4.1.16.4.3.15 HVAC terminal devices and covers;
- 4.1.16.4.3.16 Millwork;
- 4.1.16.4.3.17 Access doors;
- 4.1.16.4.3.18 Light fixtures;
- 4.1.16.4.3.19 Electrical outlets;
- 4.1.16.4.3.20 Thermostats;

- 4.1.16.4.3.21 Fire alarm system components;
 - 4.1.16.4.3.22 Grab bar – not filled in;
 - 4.1.16.4.3.23 Handrails;
 - 4.1.16.4.3.24 Crash rails;
 - 4.1.16.4.3.25 Rub rails;
 - 4.1.16.4.3.26 Clothes hooks;
 - 4.1.16.4.3.27 CCTV devices;
 - 4.1.16.4.3.28 Security and tracking devices and antennas;
 - 4.1.16.4.3.29 Hanger rods and Coat Hooks;
 - 4.1.16.4.3.30 Toilet partitions;
 - 4.1.16.4.3.31 Mirrors;
 - 4.1.16.4.3.32 Bulletin Boards;
 - 4.1.16.4.3.33 Artwork hanging systems; and
 - 4.1.16.4.3.34 Window treatments;
- 4.1.16.4.4 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 4.1.16.4.5 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at bedrooms and washrooms, but also applies to other Client treatment areas with doors such as interview rooms, treatment rooms, and nourishment stations. Provide bedrooms, Client washroom and tub rooms with doors that can be locked by staff, but not by the Client.
- 4.1.16.4.6 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.
- 4.1.16.4.7 The component’s design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.

4.1.16.5 Staff Safety

- 4.1.16.5.1 The Nurse Station, which controls access to the unit, will be provided with visibility to the entrance. The nurse station will have two means of egress to prevent barricading of staff in the nurse station.
- 4.1.16.5.2 Nurse Stations will be designed as open to the surrounding corridors and/or spaces. The design of the care desk will allow for the future flexibility to enclose the Nurse Station in the future if required. An open and welcoming feel is desired.

- 4.1.16.5.3 The Nurse Station requires two points of entrance/exit to avoid staff entrapment. The care desk will be open concept but will have features such as deep counter depths and heights to deter jumping/reaching and damaging of equipment and or injuring staff. The design will provide a transaction counter at a barrier free height.
 - 4.1.16.5.4 A single Client/public entrance to the unit is desired. A secondary staff and supply entrance is permitted. Entrances/exits to the unit should be limited to prevent elopement. All entrances and exits to Client care units will have interlocking door capability.
 - 4.1.16.5.5 The Charting/Conference Room will be designed as a secure area and will include interior glazing to support visibility to the unit.
 - 4.1.16.5.6 “Staff only” rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.
 - 4.1.16.5.7 A staff lounge will be provided and will be located in close proximity to the Nursing Station and Charting/Conference Room. A staff washroom will be provided adjacent to the staff lounge; the washroom will not open directly into the staff lounge.
- 4.1.16.6 Emergency Response**
- 4.1.16.6.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the treatment room.
- 4.1.16.7 Windows**
- 4.1.16.7.1 Each Client bedroom will have windows that provide access to exterior views, and views of predominantly landscape versus buildings, parking lots or loading docks.
 - 4.1.16.7.2 Exterior and interior windows need to be temper laminated, impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact.
- 4.1.16.8 Unobstructed Site Lines**
- 4.1.16.8.1 Unobstructed site lines will be provided between the Nurse Station and the doors to all Client Bedrooms. The head of each Client bed needs to be visible to caregivers from the hallway outside of the room. Small vision panels in doors are required.
 - 4.1.16.8.2 Unobstructed site lines will be provided between the Nurse Station and the following rooms/areas: Unit Entry, Zen/Activity Rooms, Dining Room(s), Interview Rooms, Therapy Rooms, outdoor porch(s) and courtyards.
- 4.1.16.9 Component Security**

- 4.1.16.9.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and correction legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the Facility-wide system fails.
- 4.1.16.9.2 The Operations Security Centre (B3) will coordinate and monitor activities from a security stand point in all four Secure Client care units and will have control of entry doors to the unit.
- 4.1.16.9.3 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.
- 4.1.16.9.4 All Client rooms will be lockable from the exterior but not from the interior.
- 4.1.16.9.5 All rooms on the Client care unit will be remotely lockable at one time, and in zones with control located at the nursing station.
- 4.1.16.9.6 All lockable Client care rooms in this component will be serviced by non-accessible audio-video surveillance and monitoring equipment. Monitoring stations will be located at the component's Nursing Station and at the Operations Security Centre located in the B3.
- 4.1.16.9.7 The component's design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.
- 4.1.16.9.8 All rooms on the Client care unit will have remote lighting control all at one time, and in zones. The control will be located at the nursing station.
- 4.1.16.9.9 Storage areas, supply/utility and medications rooms will be secure from Client access and include lockable cupboards for supplies and or medications.
- 4.1.16.9.10 There will be no "blind spots" within the Client care unit such as recesses, alcoves or places where Clients can hide.
- 4.1.16.9.11 Intensive Psychiatric Care Rooms (IPCR)
 - 4.1.16.9.11.1 IPCR Rooms are used for Clients in crisis that are of harm to themselves or others. Staff is required to observe these Clients on a 1:1 or 1:2 basis with direct visualization at all times.
 - 4.1.16.9.11.2 The IPCR suite consists of two IPCR Rooms, one IPCR washroom shared between the two rooms, one IPCR vestibule and staff work area.
 - 4.1.16.9.11.3 The IPCR suite will be located in a central location to the Client care unit for ease of transfer of Clients in crisis but will not be located in such a way that disrupts the flow and activities of other Clients on the unit.

- 4.1.16.9.11.4 The IPCR suite will have direct adjacency to the Dispensary/Medication Room to allow for quick transfer of medications as well as direct adjacency to the Nursing Station for ease of staff back up and assistance.
- 4.1.16.9.11.5 IPCR rooms will have one point of access through the IPCR vestibule. The IPCR vestibule will have multiple access points including one leading directly to the Nursing Station.
- 4.1.16.9.11.6 Staff will be able to visualize both IPCR Rooms from one single location within the IPCR Vestibule.
- 4.1.16.9.11.7 Staff will be able to visually monitor Clients from the vestibule in both IPCR Rooms at the same time.
- 4.1.16.9.11.8 IPCR room design will meet or exceed, if new information is available, the standards for psychiatric secure room section of “British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units” published by the Ministry of Health and include: special treatment of fixtures, absence of handles; tamper-proof fixtures; solid ceilings; water control shut-off from the nursing station; sound proofing; observation windows in each secure room; internal blinds on external windows; doors that swing in both directions; and configuration such that the general population could readily use the rooms, when they are not being utilized as secure rooms. Secure rooms will not have any raised platforms or ledges, and will not have any sharp edges or corners.
- 4.1.16.9.11.9 IPCR suite will have acoustic separation from the remainder of the unit as Clients in the IPCR are at times noisy and disruptive to the remainder of Client activities on the unit.
- 4.1.16.9.11.10 One of the two IPCR rooms will provide safety padding on all walls, doors, door frames and floors.
- 4.1.16.9.11.11 IPCR room doors will have a full height side lite that will allow for staff to fully visualize the Client as well as allow the Client to fully visualize their caregiver. The door will also have a vision panel.
- 4.1.16.9.11.12 IPCR Room will have a minimum ceiling height of 12ft.
- 4.1.16.9.11.13 IPCR Client beds require 3-sided access. Client beds will be bolted to the floor and will not be against a wall limiting access to the Client.
- 4.1.16.9.11.14 IPCR rooms will have a window to the outside for natural light and view.

4.1.16.10 Therapeutic Environment

- 4.1.16.10.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.
- 4.1.16.10.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.
- 4.1.16.10.3 Space will be provided for Client access to a telephone. This space will be visible by staff and provided in a location easily accessible by all Clients. Design of the phones will provide for barrier free use.
- 4.1.16.10.4 The unit entry design will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 4.1.16.10.5 The design will be non-institutional and as home-like as possible and conducive to wellness. This includes the inclusion of elder-friendly design to address such features as signage, lighting, colours and floor services.

4.1.16.11 Access to outdoor Therapy Space

- 4.1.16.11.1 Each Client care unit will have a direct connection with a secured outdoor courtyard and covered porch. Location will provide privacy from other Facility areas and from visitors.
- 4.1.16.11.2 These spaces will be designed for therapeutic functions and will include features that provide a variety of calming stimulation. It will be a healing garden with plants, looping accessible pathways and seating benches will be incorporated into this space. No less than 10 garden seating places will be provided. The outdoor space will have areas that are covered from the elements for shade and protection from the rain.
- 4.1.16.11.3 Select safe outdoor plantings and ground covers for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
- 4.1.16.11.1 The outdoor space will utilize the facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.

4.1.16.12 Lighting

- 4.1.16.12.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.

- 4.1.16.12.2 Each Client bedroom will have access to natural lighting and views to the landscape. Windows will be large to provide a connection with outside grounds and to avoid perceptions of a “closed in” and confining environment. Exterior and interior windows need to be impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact.
- 4.1.16.12.3 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 4.1.16.12.4 Artificial lighting in each Client bedroom will be variable to provide different levels of lighting and for different purposes. At night time, Clients will have the ability to read while in their bed. Lighting in the room will also accommodate staff’s ability to monitor the Client during the night without affecting the Client’s ability to sleep. Lighting to Client bedrooms will be controlled from the hallways as well as from the Client bedside (by the Client).
- 4.1.16.12.5 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.
- 4.1.16.12.6 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

4.1.16.13 Ergonomics for an Aging Workforce

- 4.1.16.13.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

4.1.16.14 Accommodation of Bariatric Clients

- 4.1.16.14.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.
- 4.1.16.14.2 In addition to the one X-Y bariatric Client lift provided in the tub room, assistance required for moving bariatric Clients will rely on 1 mobile lift that services the entire component. When not in use, this mobile unit will be kept in a locked equipment storage room.

4.1.16.15 Inducements for Client Ambulation

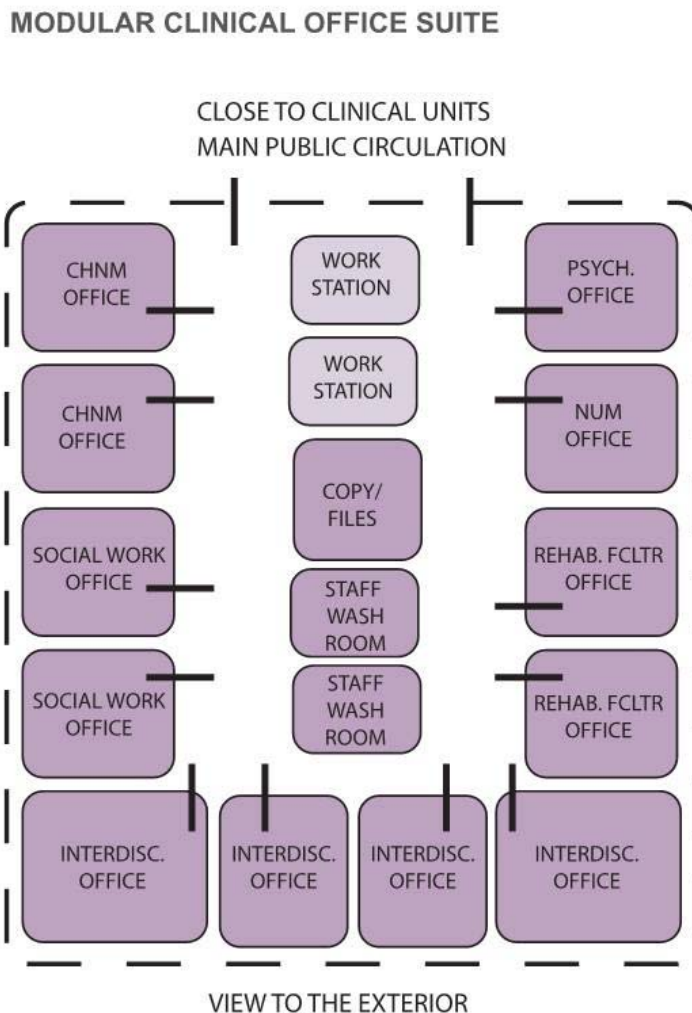
- 4.1.16.15.1 Activation spaces on the Client care unit, including designated therapy spaces, activity rooms and general Zen/activity rooms, will be inviting with natural lighting, views to the landscape and opportunities for light recreation and entertainment such as gaming consoles with TVs which have exercise programs and various games.

4.1.16.16 Infection Control

- 4.1.16.16.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.
- 4.1.16.16.2 The Private Client Room, Medical will be equipped with negative pressure capabilities to be used as an isolation room, if required.

4.1.17 Component Functional Diagram

- 4.1.17.1 The areas making up this component should be organized as illustrated in the following diagrams:



4.1.18 Space Table

4.1.18.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

B1.2 - SECURE CLIENT CARE SERVICES						
24 BED UNIT						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
	UNIT ENTRY					
.01	Unit Sallyport	1	6.00	6.00	2	
.02	Housekeeping Room	1	13.00	13.00	4	
.03	Storage	1	7.50	7.50	2	<i>wheelchair storage</i>
	SUBTOTAL			27		
	12 BED CLUSTER					
.04	Private Client Room	10	11.00	110.00	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, toilet, sink</i>
.05	Client Washroom, Barrier Free	5	6.50	32.50	2	<i>accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.06	Private Client Room, Bariatric	1	18.50	18.50	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability</i>
.07	Client Washroom, Bariatric, Barrier Free	1	7.50	7.50	2	<i>bariatric toilet, sink, shower</i>
.08	Private Client Room, Medical	1	18.50	18.50	2	<i>accessible, rooms ea. contain: bed, wardrobe, desk, night table, supply cabinet, provide negative pressure capability, can be used for Palliative Care</i>

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.2 SECURE CLIENT CARE SERVICES**

.09	Client Washroom, Medical, Barrier Free	1	6.50	6.50	2	<i>accessible, toilet, sink, shower</i>
.10	Therapy Room	1	22.00	22.00	2	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.11	Interview Room	1	11.00	11.00	2	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			227		
	12 BED CLUSTER					
.12	Private Client Room	12	11.00	132.00	2	<i>rooms ea. contain: bed, wardrobe, desk, night table, toilet, sink</i>
.13	Client Washroom, Barrier Free	6	6.50	39.00	2	<i>accessible, toilet, 2 sinks, shower, shared between Client rooms/ access from corridor only</i>
.14	Therapy Room	1	22.00	22.00	2	<i>flexible use, group therapy, individual therapy, physio therapy, wellness</i>
.15	Interview Room	1	11.00	11.00	2	<i>table 2 chairs, can be used for admitting</i>
	SUBTOTAL			204		
	BED ZONE SUPPORT					<i>locate w/in Bed Zone</i>
.16	Tub Room	1	15.00	15.00	2	<i>tub, toilet, sink, storage, provide structure for future x-y ceiling mount Client lift</i>
.17	Soiled Holding	1	9.50	9.50	4	<i>linen storage, Client supplies, dual access to public corridor</i>
.18	Recycle Alcove	1	7.50	7.50	4	<i>provide dual access</i>
.19	Client Laundry	1	10.00	10.00	2	<i>washer, dryer, folding counter, storage</i>
.20	Treatment Room	1	11.00	11.00	2	<i>medical exam room, exam table, phlebotomy chair, workstation, side chair, oxygen machine, hand washing sink</i>
	SUBTOTAL			53		
	TEAM CENTRE					<i>locate Adj. to Bed & Activity areas</i>
.21	Nurses Station	1	15.00	15.00	2	<i>2 workstations, visibility to all bed wings, activity spaces, therapy rooms, dining, unit entry, outdoor porch/yard, Client laundry - determine location for eyewash station</i>
.22	Dispensary/ Medication	1	11.00	11.00	4	<i>locate medication room directly adjacent to nurse station, provide dispensing window, confirm methadone regulations</i>
.23	Charting/Conference Room	1	18.00	18.00	2	<i>15 staff seated around a table, 2 workstations, Client file storage</i>
.24	Operations Control Post			0.00		<i>not applicable</i>

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.2 SECURE CLIENT CARE SERVICES**

.25	Staff Break/Locker	1	15.00	15.00	4	<i>u/c refrigerator, lockers, coat hanging, hand wash sink, access to natural light, dual access</i>
.26	Staff Washroom	1	4.00	4.00	4	<i>2 piece</i>
.27	Intensive Psych. Care Room	2	9.00	18.00	1	<i>locate Intensive Psych. Care suite near team ctr., provide natural light, provide 3 sided access to Client bed</i>
.28	Intensive Psych. Care Washroom, Barrier Free	1	6.50	6.50	1	<i>2 piece</i>
.29	Intensive Psych. Care Vest	1	7.50	7.50	1	<i>staff work area, one staff</i>
.30	Exercise Room	1	32.00	32.00	2	
	SUBTOTAL			138		
						<i>2 workstations @ 5.5sm, file storage</i>
	COMMON ACTIVITY AREAS					
.31	Activity/Zen Room	1	67.00	67.00	2	<i>approx 2.8 sm/Client for 24 Clients - may be subdivided - open to corridor, Client living room lounge, phone location for the unit</i>
.32	Activity Storage	1	7.50	7.50	2	<i>approx 2.3 sm/Client, 24 Clients may be subdivided into 2 or 3 dining areas</i>
.33	Dining Room	1	56.00	56.00	2	
.34	Nutrition Centre	1	4.00	4.00	2	<i>locate within the dining room, includes ice machine, refrigerator, dishwasher, microwave, range, coffee, toaster, sink - lockable locate in dining activity area</i>
.35	Servery	1	11.00	11.00	4	
.36	Smudging Room	1	11.00	11.00	2	
.37	Client Washroom, Barrier Free	1	5.00	5.00	2	<i>2 piece, accessible can be for Clients or visitors</i>
.38	Exterior Courtyard Sallyport/Airlock	1	6.00	6.00	2	<i>airlock between unit and outdoor courtyard</i>
.39	Exterior Courtyard	1	0.00	0.00	2	<i>covered outdoor porch, access to secure outdoor "back yard", visibility from nursing station, larger secure outdoor yard with walking paths secure fencing</i>
	SUBTOTAL			168		
	TOTAL NET SQUARE METRES			816		
	TOTAL NET AREA FOR 4 UNITS			3,218		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 1.2 SECURE CLIENT CARE SERVICES**

SECURE SUPPORT SERVICES						
OFFICE AREA						
.40	Office, Clinical	12	11.00	132.00	3	<i>locate just off unit flexible use for NUM, Social Work, Facilitator, Psychologist, Psychiatrist, CMHN, Neuro, Behavioral Therapist, Admin</i>
.41	Workstation	2	5.50	11.00	3	<i>admin, flex, students</i>
.42	Copy/Files	1	7.50	7.50	4	<i>printer/scanner/fax, paper storage, office supplies</i>
.43	Staff Washroom, Barrier Free	2	5.00	10.00	4	<i>2 piece, accessible</i>
	SUBTOTAL			161		
	TOTAL NET SQUARE METRES			161		1 office suite
	TOTAL NET AREA FOR 2 OFFICE SUITES			321		2 office suites
TOTAL NET AREA FOR CORRECTIONS						
	DEPT NET SQUARE METRES			3,539		96 CORRECTIONS BEDS & 2 OFFICE SUITES

B 2 CENTRAL PROGRAMS

This specification outlines the functional, operational and physical requirements for the Central Programs functional component.

FUNCTIONAL DESCRIPTION

5.1.1 Statement of Purpose

- 5.1.1.1** The Central Programs functional component provides a central shared location for group programs that benefit Secure Clients, helping them to develop and enhance their skills for daily living and to address the issues that brought them into conflict with the law. The primary focus of this component is on the Secure Client population of the Facility.

5.1.2 Scope of Services

5.1.2.1 Functional Content

- 5.1.2.1.1 The following list specifies the minimum set of functions and programs that will be accommodated within the component's spaces:

- 5.1.2.1.1.1 Conducting Client assessments, meetings, instructional sessions, presentations, demonstrations and workshops involving Client groups of varying sizes

- 5.1.2.1.1.2 Presenting the list of treatment processes cited above using live presenters and through the use of teleconference, videoconference and telehealth technology

- 5.1.2.1.1.3 Group Programs for Clients will include education and literacy, vocational, employment and cognitive behavioural interventions

- 5.1.2.1.1.4 Intervention programs, such as those addressing social values, social skills, problem solving, violence prevention, anger-management.

- 5.1.2.1.1.5 Addiction programs & counseling

5.1.2.2 Activities in the Component

5.1.2.3 Providing information to visitors about institutional practices and policies

5.1.3 Exclusions

- 5.1.3.1** The following list specifies related administrative, instructional and educational functions conducted in other components in the Facility or outside of the Facility:

- 5.1.3.1.1 Group services are dedicated to the Secure Clients

- 5.1.3.1.2 Instructional, educational, assessment and treatment functions that are included in the A-2 Therapy Mall for Non-Secure Clients;
- 5.1.3.1.3 Multi-disciplinary spiritual programs in C3-Therapy Mall-shared;
- 5.1.3.1.4 Multi-program room/Cultural in C 3-Therapy Mall-shared;
- 5.1.3.1.5 Multi-purpose room/Chaplaincy in C 3-Therapy Mall-shared;
- 5.1.3.1.6 Sweat Lodge (see C 3);
- 5.1.3.1.7 Chapel (see C-3);
- 5.1.3.1.8 Two on-unit Therapy Rooms will be provided (see B1.2 Secure Client Care Services);
- 5.1.3.1.9 Two on-unit Interview Rooms will be provided (see B1.2 Secure Client Care Services);
- 5.1.3.1.10 One on-unit Exercise Therapy Room will be provided (see B1.2 Secure Client Care Services);
- 5.1.3.1.11 One on-unit Zen Room will be provided (see B1.2 Secure Client Care Services); and
- 5.1.3.1.12 On-unit secure courtyards will be provided allowing opportunities for Horticultural Vocational Therapy (see B1.2 Secure Client Care Services).

5.1.3.2 Anticipated Trends in Service Delivery

- 5.1.3.2.1 The following lists trends that are expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends should be reflected in the component's design.
 - 5.1.3.2.1.1 Utilizing telehealth medicine video-conference resources to access offsite expert resources for on-line consultations
 - 5.1.3.2.1.2 Demands for meeting accommodation will possibly exceed availability of suitable rooms, especially during peak utilization hours; therefore, this component will need to operate under extended hours, including evenings and weekends.
 - 5.1.3.2.1.3 Increased inclusion of family members in the treatment processes will be accommodated with the extended operating hours noted above.

5.1.4 Scope of Education Functions

5.1.4.1 Education Functions accommodated in this component will include:

- 5.1.4.1.1 Limited continuing education for professionals on a space-available basis
- 5.1.4.1.2 In-service education for therapeutic staff
- 5.1.4.1.3 Orientation sessions for new staff

OPERATIONAL DESCRIPTION

5.1.5 Lean Planning Standards

5.1.5.1 Component Utilization

- 5.1.5.1.1 Clerical and professional staff will need to spend considerable time each work day scheduling meetings, therapeutic sessions, and education programs. Therefore, utilization of an electronic booking function for all rooms in this component will enable authorized users a convenient, on-line, real time view of room availability and the technology supported in each room.

5.1.6 Hours of Operation

The Central Education and Conference Facilities component will be accessible to authorized users during the following times:

0800 and 2100, 7-days-a-week

5.1.7 Operational systems

5.1.7.1 Security system provisions

- 5.1.7.1.1 Program areas will have limited access, requiring the use of key card access to monitor and record access.

5.1.7.2 General Program Descriptions: The following describes some of the attributes of the programs:

- 5.1.7.2.1 Program rooms for therapeutic activities will also be provided on the Client Care Units;
- 5.1.7.2.2 This Central Programs component accommodates the larger more centralized programs, allowing a more normalized environment for Clients who are able to participate in group programming;
- 5.1.7.2.3 Programs vary in size and will accommodate from two to 50 Clients;
- 5.1.7.2.4 In education programs, cohorts will be up to 20 Clients;
- 5.1.7.2.5 The employment program will include recycling and possibly other meaningful, non-critical activities;
- 5.1.7.2.6 A book depository will be provided from which the Clients will borrow reading materials;
- 5.1.7.2.7 The medium and large classrooms will support a variety of activities including therapeutic interventions and recreation activities; and
- 5.1.7.2.8 Recreation is primarily an outdoor activity, but Clients will have use of the Gym on a scheduled and escorted basis.

5.1.8 Material Management Systems

5.1.8.1 Waste Management

- 5.1.8.1.1 Waste products will be managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations. In this component, waste management will focus on disposal of discarded paper, used food containers and disposable plates and utensils. All collected wastes will be returned to designated holding areas located in Housekeeping.
- 5.1.8.1.2 Segregation of wastes in this component will accommodate the following categories of products:
- 5.1.8.1.2.1 General garbage;
 - 5.1.8.1.2.2 Clean paper and cardboard;
 - 5.1.8.1.2.3 Clean metal (tin and aluminum);
 - 5.1.8.1.2.4 Clean recyclable plastics; and
 - 5.1.8.1.2.5 Compostable.

5.1.9 Information Management Systems

- 5.1.9.1 See People Management Systems, above.

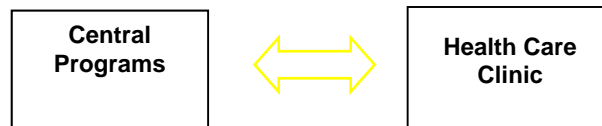
DESIGN CRITERIA

5.1.10 Lean Planning Standards

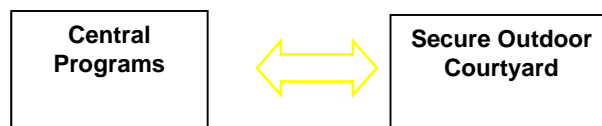
5.1.10.1 Proximity Relationships

- 5.1.10.1.1 The Central Programs component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.

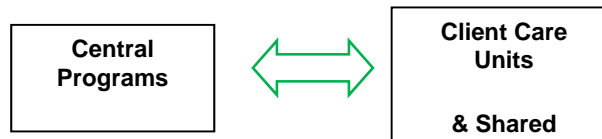
- 5.1.10.1.2 Provide direct access by general circulation to the Health Care Clinic



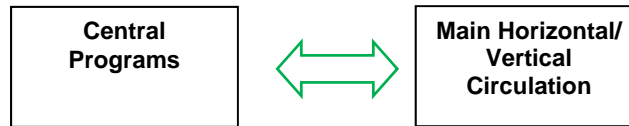
- 5.1.10.1.3 Provide direct access to a Secure Outdoor Courtyard.



- 5.1.10.1.4 Provide convenient access by general circulation to Client Care Units Chaplaincy, Sweat Lodge and multi-cultural centre.



- 5.1.10.1.5 Provide convenient access by general circulation to major public and non-public circulation to allow access to shared services.



5.1.11 Internal Design Criteria

5.1.11.1 General Internal Layout

- 5.1.11.1.1 The interior of this component should be organized as follows:

- 5.1.11.1.1.1 Major classrooms adjacent to general corridor to allow ease of access.
- 5.1.11.1.1.2 Provide convenient access to general corridor for Book Repository.
- 5.1.11.1.1.3 Provide convenient access to Multi-purpose Cultural Centre and Multi-purpose Chaplaincy and Sweat Lodge.

5.1.11.2 Component Utilization and Security

- 5.1.11.2.1 Utilization of this component will be promoted by having convenient access to users arriving from the Client Care Units and for family therapy-participants arriving from parking. It will also require access outside of the Facility's routine hours of operation, and at a time when staffing will be lower or absent in other components.
- 5.1.11.2.2 Security throughout the rest of the Facility will not be compromised by this component's operations during evenings and weekends, which will include Family members who are participating in family-focused therapy sessions.

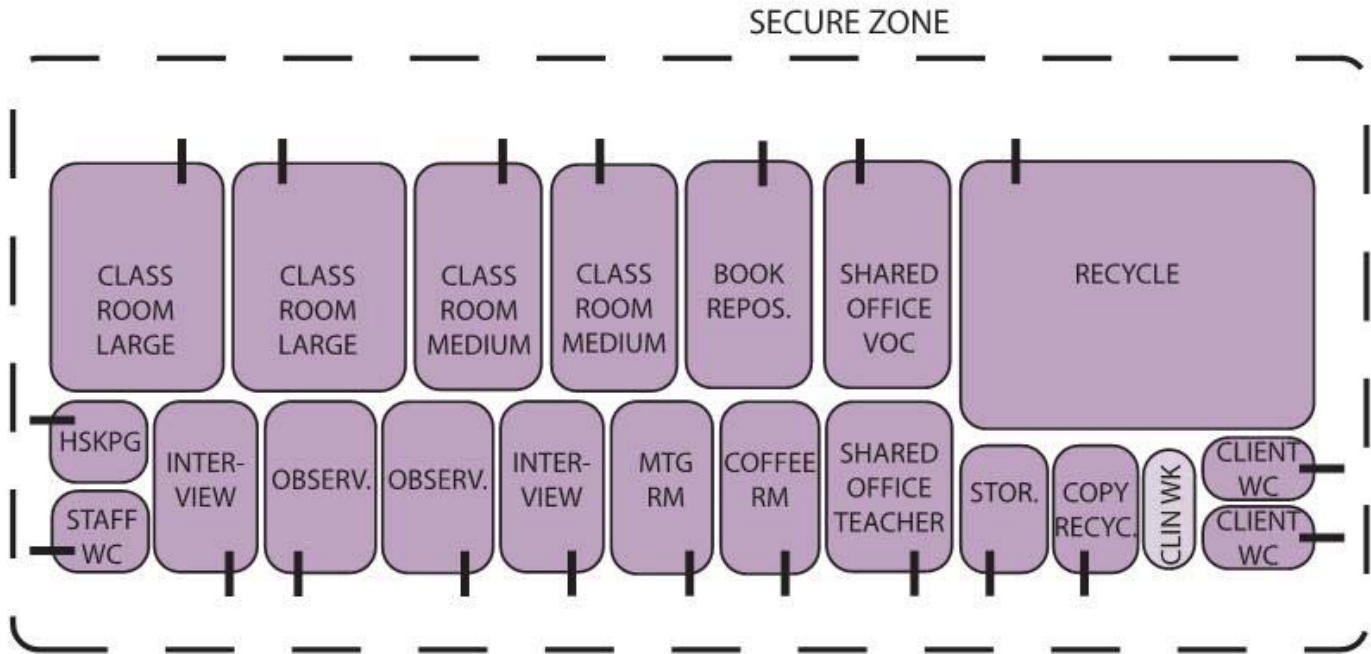
5.1.11.3 Architectural Concepts:

- 5.1.11.3.1 This component should be located central to the Client Care Units, with non-Client access provided for family members who will be participating in therapy sessions with the Client
- 5.1.11.3.2 All areas of the component will be wheelchair accessible
- 5.1.11.3.3 Program rooms should be flexible to accommodate a range of activities from lecture-type sessions to small group sessions and role-playing.
- 5.1.11.3.4 Program rooms will have access to natural light.

5.1.12 Component Functional Diagram

- 5.1.12.1 The areas making up this component should be organized as illustrated in the following diagram:

CENTRAL PROGRAMS



5.1.13 Space Table

5.1.13.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component.

B2 CENTRAL PROGRAMS						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
CENTRAL PROGRAMS						
.01	Book Repository with Workstation	1	15.00	15.00	3	
.02	Storage Room	1	8.00	8.00	3	<i>storage of telehealth cart</i>
.03	Classroom, Medium	2	20.00	40.00	3	
.04	Classroom, Large	2	25.00	50.00	3	
.05	Interview Room	2	10.00	20.00	3	
.06	Observation Room	2	8.00	16.00	3	<i>provide one way glass</i>
.07	Client Washroom, Barrier Free	2	4.00	8.00	3	<i>2 piece accessible</i>
.08	Recycling Program	1	50.00	50.00	3	
.09	Housekeeping Closet	1	3.50	3.50	4	
	SUBTOTAL			211		
STAFF OFFICE AREA						
.10	Shared Office, Vocational	1	14.00	14.00	3	
.11	Workstation, Clinical	1	4.50	4.50	3	
.12	Shared Office, Teacher	1	14.00	14.00	3	
.13	Meeting Room	1	12.00	12.00	3	
.14	Copy/Workroom	1	8.00	8.00	4	
.15	Coffee Room	1	12.00	12.00	4	
.16	Washroom, Staff	1	4.00	4.00	4	<i>2 piece</i>
.17	Recycle Room/Alcove	1	2.00	2.00	3	
	SUBTOTAL			71		
TOTAL NET SQUARE METRES				281		

B 3 OPERATIONS SECURITY CENTRE

This specification outlines the functional, operational and physical requirements for the Operations Security Centre functional component of this Facility.

FUNCTIONAL DESCRIPTION

6.1.1 Statement of Purpose

- 6.1.1.1 The Operations Security Centre (OSC) component exists for the purpose of providing centralized static security for this Site, controlling access to this Facility, and through major security zones within the Facility. It also accommodates the associated support functions.

6.1.2 Scope of Services

6.1.2.1 Functional Content

6.1.2.1.1 Activities taking place in this component include:

- 6.1.2.1.1.1 Central control for all perimeter security and all Facility security not related to the Client Care Unit, including care support and Main Building support services.
- 6.1.2.1.1.2 Central control for all security in the Client Care Units and related therapeutic services
- 6.1.2.1.1.3 Sallyport access require for OSC

OPERATIONAL DESCRIPTION

6.1.3 Hours of Operation

The Operation Security Centre, component at this Facility will be staffed and in operation 24 hours-a-day, 7 days-a-week.

6.1.4 Operational Systems

- 6.1.4.1 Controlled access to the Operations Security Centre (OSC) is required.
- 6.1.4.2 Staff will have access to this component through a staff-only circulation corridor to the OSC.
- 6.1.4.3 The OSC is responsible for:
 - 6.1.4.3.1 Monitoring and control of all doors and security cameras at all key entry & exit points, Loading Docks and Parking as well as at key locations within the Facility
 - 6.1.4.3.2 Monitoring all alarm systems in the Facility.
 - 6.1.4.3.3 Coordination of response to all emergency events

- 6.1.4.3.4 The OSC will function as a communication centre for the facility
- 6.1.4.4 Provide remote locking/unlocking at security thresholds, secure vestibules and Client Care Rooms.
- 6.1.4.5 Provide secure interconnections to backup security control station and emergency operations centre in the Muster Room.

6.1.5 Material Management Systems

6.1.5.1 Consumable Supplies

- 6.1.5.1.1 Inventories of consumable supplies will be maintained close to point of use. Generally, a 3 day supply of each item will be maintained with minimum inventory levels triggering a re-ordering process. All orders will be sent electronically to the facility's Material Management component (See C 8.2) for processing.
- 6.1.5.1.2 All ordering, purchasing, receiving and checking, monitoring of supply levels, and delivering of supplies will be conducted through the Facility's Material Management component (See C 8.2) .

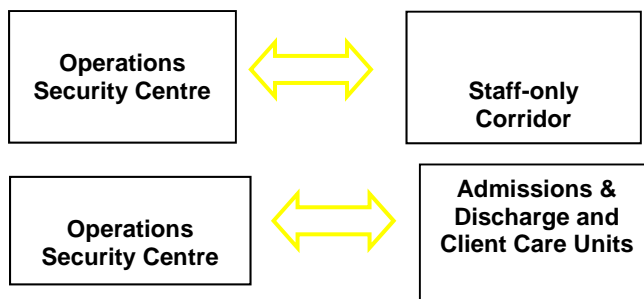
6.1.6 Information Management Systems

- 6.1.6.1 All security related information will be maintained on a secure electronic information system. Wireless technology will enable data entry using a combination of fixed terminals, and mobile pads. Access to information system will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.

DESIGN CRITERIA

6.1.7 Proximity Relationships

- 6.1.7.1 The Operations Security Centre (OSC) is the most secure area of the Facility. The OSC component's location relative to other components and the nature of circulation used to move between two components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 6.1.7.2 Provide Direct Access to a secure staff-only corridor.
- 6.1.7.3 Provide Direct Access by General Circulation to primary public circulation corridors/conveyances for the movement staff to key operational areas of the Facility.



6.1.8 Internal Design Criteria

6.1.8.1 General Internal Layout

6.1.8.1.1 Equipment should be organized and located so that staff can effectively monitor and use the various controls from seated and standing positions.

6.1.8.1.2 The washroom and break area associated with the OSC should be directly adjacent with as much critical visibility of monitors as possible.

6.1.8.2 Component Security

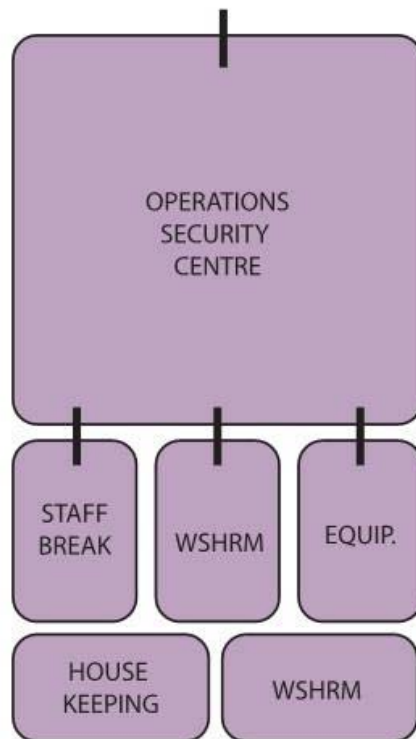
6.1.8.2.1 Access to the OSC will be restricted and will not be open to access by other Facility users and Staff. Staff working in this area will have a means of leaving their workstation for immediate access to a safe haven should their personal safety be jeopardized.

6.1.8.2.2 Access to the OSC will be controlled at all times. Access will be controlled by electronic security technology.

6.1.9 Component Functional Diagram

6.1.9.1 The areas making up this component should be organized as illustrated in the diagram:

OPERATIONS SECURITY CENTRE



6.1.10 Space Table

6.1.10.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component.

B3 OPERATIONS SECURITY CENTRE						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	OPERATIONS SECURITY CENTRE					
.01	Operations Security Centre	1	20.00	20.00	4	<i>locate fire alarm panels at operations security centre</i>
.02	Operations Security Centre Washroom	1	4.00	4.00	4	<i>3 piece</i>
.03	Equipment Room	1	10.00	10.00	4	
.04	Staff Break Room	1	12.00	12.00	4	
.05	Staff Washroom	1	4.00	4.00	4	<i>2 piece</i>
.06	Housekeeping Closet	1	3.50	3.50	4	
	SUBTOTAL			53.50		
	TOTAL NET SQUARE METRES			53.50		

B 4 VIDEO COURT

This specification outlines the functional, operational and physical requirements for the Video Court functional component.

FUNCTIONAL DESCRIPTION

7.1.1 Statement of Purpose

- 7.1.1.1** This component accommodates the facilities required to conduct video court hearings. Video-conferencing for hearings will also be used to review the progress made by Clients in their therapeutic processes, and to assess whether Clients are eligible for parole and to determine the conditions for parole.
- 7.1.1.2** This component will be centrally managed as a Facility-wide Resource and it will be open to all the users in this Facility.

7.1.2 Scope of Services

7.1.2.1 Functional Content

- 7.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
 - 7.1.2.1.1.1 Video court rooms and no contact interview rooms are the primary functions in this component;
 - 7.1.2.1.1.2 Client waiting in a secure lobby and/or holding rooms for hearings, court proceedings and video-conferences, including Client interviews and conferences with attorneys;
 - 7.1.2.1.1.3 Client waiting area will be able to accommodate families who will be in attendance at some hearings and video-conferences;
 - 7.1.2.1.1.4 Participation by Clients in video court proceedings and video conferences, Client conferences with attorneys and confidential police interviews;
 - 7.1.2.1.1.5 Visitor Lobby for families who will be attending the hearings;
 - 7.1.2.1.1.6 Accommodating the list of functions cited above through the use of teleconference, videoconference and telehealth technologies;
 - 7.1.2.1.1.7 Video data recording and equipment room; and
 - 7.1.2.1.1.8 Staff station and video control station.

7.1.3 Exclusions

- 7.1.3.1** The following list specifies video-supported interview functions that will be conducted in other components in this Facility:

- 7.1.3.1.1 Assessment and interview functions in Client Care Units (see A1.1, A1.2, B 1.1 and B 1.2).

7.1.4 Scope of Education Functions

7.1.4.1 Functions accommodated in this component will support:

- 7.1.4.1.1 In-service and orientation sessions for new staff;
- 7.1.4.1.2 Demonstrations on the use of the video-conference technologies and equipment; and
- 7.1.4.1.3 Video Court staff will be cross-trained as Admissions and Discharge staff and will have duties in Admissions and Discharge during periods of no video-court activity.

OPERATIONAL DESCRIPTION

7.1.5 Lean Planning Standards

7.1.5.1 Component Utilization

- 7.1.5.1.1 Centralized electronic booking for all video-court and interview rooms in this component will enable authorized users a convenient, on-line, real time view of room availability. Priority will be given to video court for scheduling of legal hearings.

7.1.6 Hours of Operation

- 7.1.6.1 The Video-court component will be accessible to authorized users during the following times:

0800 and 1600 Monday through Friday

7.1.7 Proceedings Management Systems

- 7.1.7.1.1 The video court coordinator is responsible for administering any proceedings; including ensuring that essential information is received by the courts, Probation Board members and legal counsel. The video court coordinator is also responsible for ensuring that Clients attend and that any decisions are properly filed and followed
 - 7.1.7.1.2 All proceedings will be recorded by data control systems and will be managed by the staff in the video control station.
 - 7.1.7.1.3 This is a secure area and access will be controlled electronically and will be under a video surveillance system.
 - 7.1.7.1.4 Proceedings generally occur Mondays to Fridays throughout the day.
- 7.1.7.2 Security Systems: the following security provisions will be provided to ensure the security of this component:

- 7.1.7.2.1 The video court will be located within the security perimeter, in proximity to the Client Care Units and the Admissions & Discharge component.
- 7.1.7.2.2 All Clients will be escorted by staff to the video-court from the Units.
- 7.1.7.2.3 Separate waiting areas will be provided for Clients, visitors, and victims through scheduling and/or the provision of additional waiting areas. The waiting areas will be zoned, providing Client only waiting areas that are separated from the visitor waiting area.
- 7.1.7.2.4 Visitors to the Video-Court will include members of the Probation Board, legal counsel, victims of crime, the press, family and members of the community. All will be processed through the Visiting Centre's visitor screening area and will be escorted to the Video-Court.

7.1.8 Information Management Systems

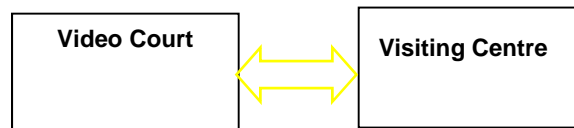
- 7.1.8.1 See Proceedings Management Systems, above.

DESIGN CRITERIA

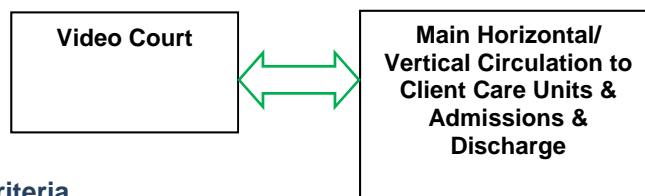
7.1.9 Lean Planning Standards

7.1.9.1 Proximity Relationships

- 7.1.9.1.1 The Video-Court component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 7.1.9.1.2 Provide direct access by general circulation from Visiting Centre's visitor screening functions to the Video Court's visitor waiting area for the movement of people arriving from outside of the facility.



- 7.1.9.1.3 Provide convenient access by general circulation to major public and non-public circulation to Client Care Units and Admissions and Discharge component (see C 4).



7.1.10 Internal Design Criteria

7.1.10.1 General Internal Layout

- 7.1.10.1.1 The interior of this component should be organized as follows:

- 7.1.10.1.1.1 This component is best located adjacent to both the Visiting Centre and Admissions and Discharge, so that it can be accessed easily by visitors attending proceedings in person and so staff can assist with the activities in Admissions and Discharge during periods of no video court activity.
- 7.1.10.1.1.2 Video Court should be physically accessible to interior areas that are open to Clients.
- 7.1.10.1.1.3 All areas of this component will be wheelchair accessible.
- 7.1.10.1.1.4 Video Court rooms will be flexible to support a variety of furniture layouts to respond to changing uses and occupancy levels
- 7.1.10.1.1.5 Signage directing visitors to Video Court should be clear and access routes should be straightforward.
- 7.1.10.1.1.6 Since proceedings will range from formal to informal, Court rooms will be capable of creating an environment that is open, non-threatening and conducive to relaxed communication.
- 7.1.10.1.1.7 The organization of the Court rooms will create a visible separation of Clients and Observers; thereby reinforcing the requirement that observers refrain from attempting to participate in the proceeding unless requested.
- 7.1.10.1.1.8 Furnishings will be movable to provide maximum flexibility and enable a variety of arrangements, including “sentencing-circles.”

7.1.10.2 Component Utilization and Security

- 7.1.10.2.1 Utilization of this component requires convenient access for visitors arriving at the Visitor’s Centre screening area.
- 7.1.10.2.2 Satisfying these criteria will require a point of access/exit from nearby vehicle drop-off and parking facilities.
- 7.1.10.2.3 Separate access routes to the Video Court will be provided for visitors and Clients
- 7.1.10.2.4 Court rooms will be equipped with fixed alarms and staff will carry personal alarms/radios.

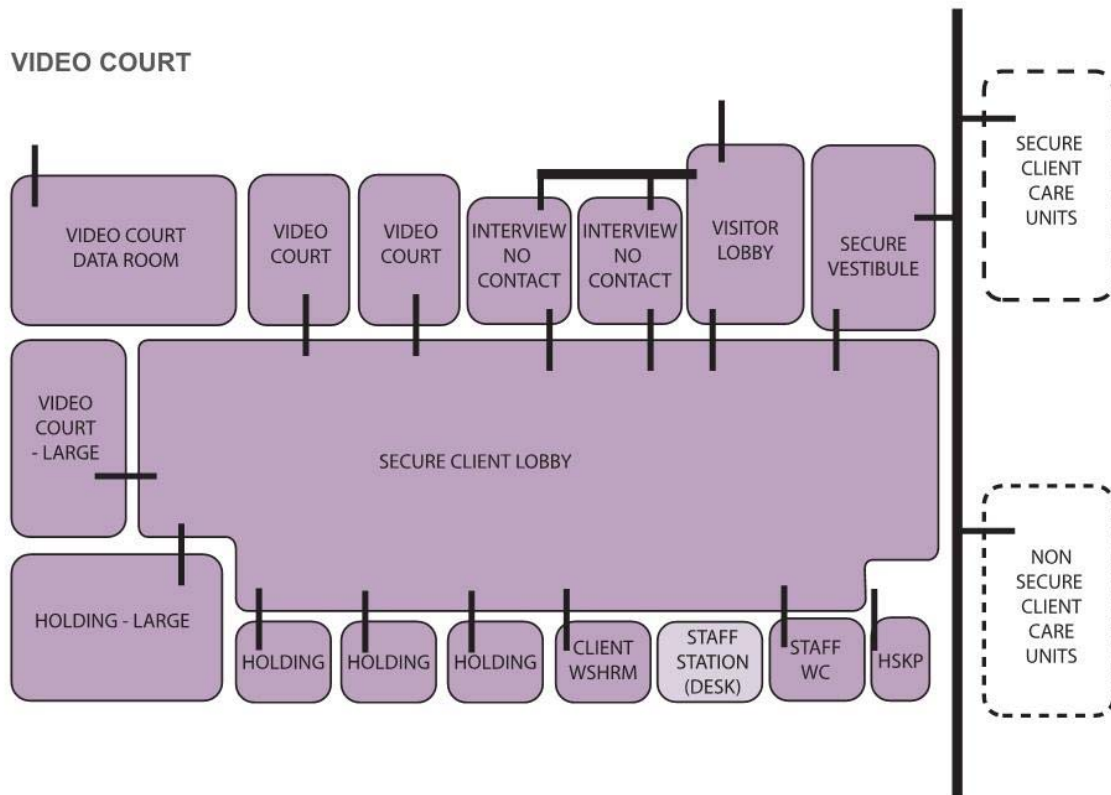
7.1.10.3 Building System Concepts

- 7.1.10.3.1 Excellent acoustic isolation is required for the Court rooms. In addition, heating, ventilation and air-conditioning systems will be quiet so that they do not adversely affect the proceedings. **Refer to Appendix 3C [Sound Transmission Ratings]**

- 7.1.10.3.2 Room finishes should facilitate good quality video communications and recordings, as well as facilitate effective verbal communications. To facilitate good quality video images, lighting will be provided with a color temperature of between 3200 and 3400 degrees Kelvin and a Color Rendering Index (CRI) of 90 or better.

7.1.11 Component Functional Diagram

- 7.1.11.1 The areas making up this component should be organized as illustrated in the following diagram:



7.1.12 Space Table

- 7.1.12.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
B 4 VIDEO COURT**

B4 VIDEO COURT						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	VIDEO COURT					<i>from original ICF program , shared by all secure units</i>
.01	Staff Station/Video System Control	1	8.00	8.00	4	<i>requires video conferencing equipment, power and data</i>
.02	Staff Washroom	1	4.00	4.00	4	<i>2 piece</i>
.03	Secure Client Lobby	1	15.00	15.00	2	
.04	Secure Client Holding Room	3	6.00	18.00	2	
.05	Secure Client Holding Room, Large	1	10.00	10.00	2	
.06	Client Washroom, Barrier Free	1	4.00	4.00	2	<i>2 piece accessible</i>
.07	Interview Room, Non-Contact	1	10.00	10.00	2	
.08	Video Court Room	2	6.00	12.00	2	<i>requires video conferencing equipment, power and data</i>
.09	Video Court Room, Large	1	10.00	10.00	2	<i>requires video conferencing equipment, power and data</i>
.10	Video Court Data Room	1	12.00	12.00	2	<i>requires video conferencing equipment, power and data</i>
.11	Visitor Lobby	1	20.00	20.00	2	
.12	Interview Room, Non-Contact	1	12.00	12.00	2	<i>requires video conferencing equipment, power and data</i>
.13	Housekeeping Closet	1	3.50	3.50	4	
	SUBTOTAL			138.50		
	TOTAL NET SQUARE METRES			138.50		

C 1 ENTRANCE

This specification outlines the functional, operational and physical requirements for the Entrance functional component.

FUNCTIONAL DESCRIPTION

8.1.1 Statement of Purpose

- 8.1.1.1** The Entrance component provides the main public and staff entrance to the Main Building. This component accommodates the non-clinical needs of all Facility users including Clients, visitors and staff. It is intended to function as the Facility's front door where first impressions will be created. Functions located here will respond to people's need for orientation, reception, directions and access to key Administrative or Admissions staff

8.1.2 Scope of Services

8.1.2.1 Functional Content

- 8.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 8.1.2.1.2 Welcoming visitors and Clients and providing orientation for users regarding the full scope of services provided at the Facility, a service's location(s) and its hours of operation;
- 8.1.2.1.3 Displays of contributions and legacies promoting the Facility as a community resource with strong ties to North Battleford and the Prairie North region;
- 8.1.2.1.4 Providing information to visitors about institutional practices and policies;
- 8.1.2.1.5 Providing access to facilities that will be shared with the community, including the Gym and Conference Rooms
- 8.1.2.1.6 Providing information about facility access for group gatherings and for spiritual ceremonies practiced by any culture; and
- 8.1.2.1.7 Participation by Clients in video court proceedings and video conferences, Client conferences with attorneys and confidential police interviews.

8.1.2.2 Anticipated Trends in Service Delivery

- 8.1.2.2.1 This Facility will continue to play a major role in the health of the community. It will be seen as a resource used by those requiring support for mental health problem, but it will also assume a growing role in promoting healthy lifestyles.

OPERATIONAL DESCRIPTION

8.1.3 Hours of Operation

The Entrance component will be accessible to authorized users during the following times:

0800 and 2200, 7-days-a-week

8.1.4 People Management Systems

8.1.4.1 Facility User Orientation and Wayfinding

- 8.1.4.1.1 The Entrance component will be immediately accessible from a vehicle drop-off bay and nearby Client/visitor parking. Protection against inclement weather will be provided at the Main Building entrance. A vestibule will be required at the Main Building entrance.
- 8.1.4.1.2 Visibility to the main Client drop-off and pick-up area will be provided from the main entrance.
- 8.1.4.1.3 Greeting and orientation functions will be prominently located enabling immediate access upon entering the Facility. Whenever the component is open to the public, staff will be available to provide assistance regarding the location of a service or of a Client.
- 8.1.4.1.4 Wheelchairs and dedicated storage for the wheelchairs will be available for users requiring mobility assistance.

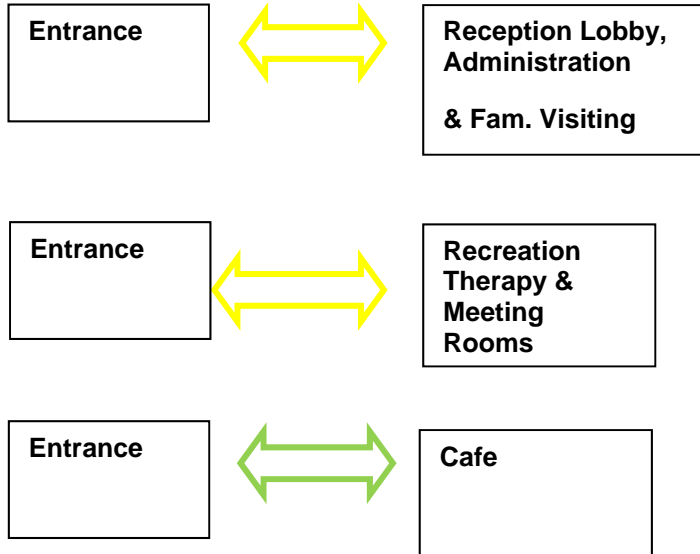
8.1.5 After Hours Access

- 8.1.5.1 Cultural and spiritual needs of the Facility's users may need to be addressed at any time. At times when this component is closed, access to Recreation Therapy, Meeting Rooms, and a First Nations Healing/Smudging Room(s) will be available from a secondary entry point, monitored by Operations Security Centre (see B 3).
- 8.1.5.2 Regular patrols by security staff will ensure that all office/administrative spaces and shared meeting rooms and recreation therapy areas are secured.

8.1.6 Lean Planning Standards

- 8.1.6.1 Proximity Relationships
- 8.1.6.2 This component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank, higher priorities appear above lower priorities.
- 8.1.6.3 Provide direct access by internal circulation to/from the Facility's main entrance for the movement of arriving and departing users.
- 8.1.6.4 Provide access by general circulation to major public and non-public circulation for transition to any part of the Facility.

8.1.6.5 Provide direct access by internal circulation to/from Facility's main entrance for the movement of arriving & departing users.



INTERNAL DESIGN CRITERIA

8.1.7 General Internal Layout

8.1.7.1 The interior of this component should be organized into 3 major areas as follows:

8.1.7.1.1 Entrance, Reception Lobby, Museum and Family Visiting area;

8.1.7.1.2 Administrative area (see C 2); and

8.1.7.1.3 Café area (see .17 “cafeteria” in C 8.1).

8.1.7.2 Internal Design

8.1.7.2.1 Provide an open, high ceiling space to serve as the main lobby. Provide a space with large amounts of natural light. Provide a space that reflects the culture and environment of the local area.

8.1.7.2.2 The greeter/Reception/information desk will be at a prominent location in the lobby and service as an information centre for visitors. Provide feature lighting over this greeter desk. Provide stand up height countertop and wheelchair accessible locations. Provide signage on or above the desk for way-finding and branding.

8.1.7.2.3 Ensure that washrooms do not open directly onto the lobby or waiting areas. They shall have a vestibule.

8.1.7.3 Component Utilization and Security

8.1.7.3.1 Utilization of this component will be promoted by having convenient access to users arriving from off-site. It will also require access outside of the Facility’s routine hours of operation, and at a time when staffing will be lower or absent in other components.

8.1.7.3.2 Satisfying these criteria will require a point of access/egress from nearby vehicle drop-off and parking facilities. Access to this component from inside the Facility will be available and any time, but security throughout the component will not be compromised by this limited restriction access.

8.1.7.4 Respect for and Display of First Nations Culture

8.1.7.4.1 Respecting the First Nations Community will be a key goal of this Facility. First impressions upon entry will be crucial in establishing perceptions of welcoming, inviting and supportive of the spiritual health of all people.

8.1.7.4.2 First Nations artifacts and art will be displayed prominently in this component as well as throughout the Facility. Displays shall include a blend of permanent features that will be part of the Facility's design/structure and of temporary showings depicting a featured artist's work or a major celebration or event. Provide artwork lighting and any security or display accessories necessary for the artwork.

8.1.7.5 Multipurpose Use of Space

8.1.7.5.1 Spaces in this component will accommodate a variety of users and functions.

8.1.7.5.2 Office/administrative functions will require acoustic isolation from activities occurring in the lobby and cafeteria areas.

8.1.7.5.3 The cafeteria will require an open seating area that is inviting to users. (See Dietary C 8.1) This should be an inviting space providing comfortable seating and views to natural settings outside of the Facility.

8.1.7.6 Separate Point of Access/Exit for Administrative Functions

8.1.7.6.1 Staff based in this component with administrative responsibilities will have needs for public exposure. They will also have needs to travel to other destinations within the Facility, and should be able to do so without risk of being detained by members of the public. Consideration should be given to consolidating spaces that accommodate administrative functions and providing this cluster with discrete access to nearby circulation corridors/routes.

8.1.7.7 Component Security

8.1.7.7.1 The volume of people using the services in this component and passing through it will be high. The Facility's security staff will require a discrete, but visible presence.

8.1.7.8 Furniture and Finishes

8.1.7.8.1 This component will experience high Client volumes daily. There will be peak traffic periods, but constant activity throughout a workday should be anticipated.

8.1.7.8.2 Walls in circulation corridors should be supplied with guards that will double as hand rails. Door frames should be supplied with guards to prevent chipping and denting caused by mobility aids, delivery carts, and cleaning machines.

8.1.7.8.3 Flooring should consist of smooth, non-porous, anti-skid and anti-static material that is resilient to high traffic, dropped objects and repeated exposure to cleaning chemicals.

8.1.7.8.4 Furniture used throughout the component should be modular and mobile to allow fast and efficient conversions to different floor plans. All furniture should be comfortable and easy to clean.

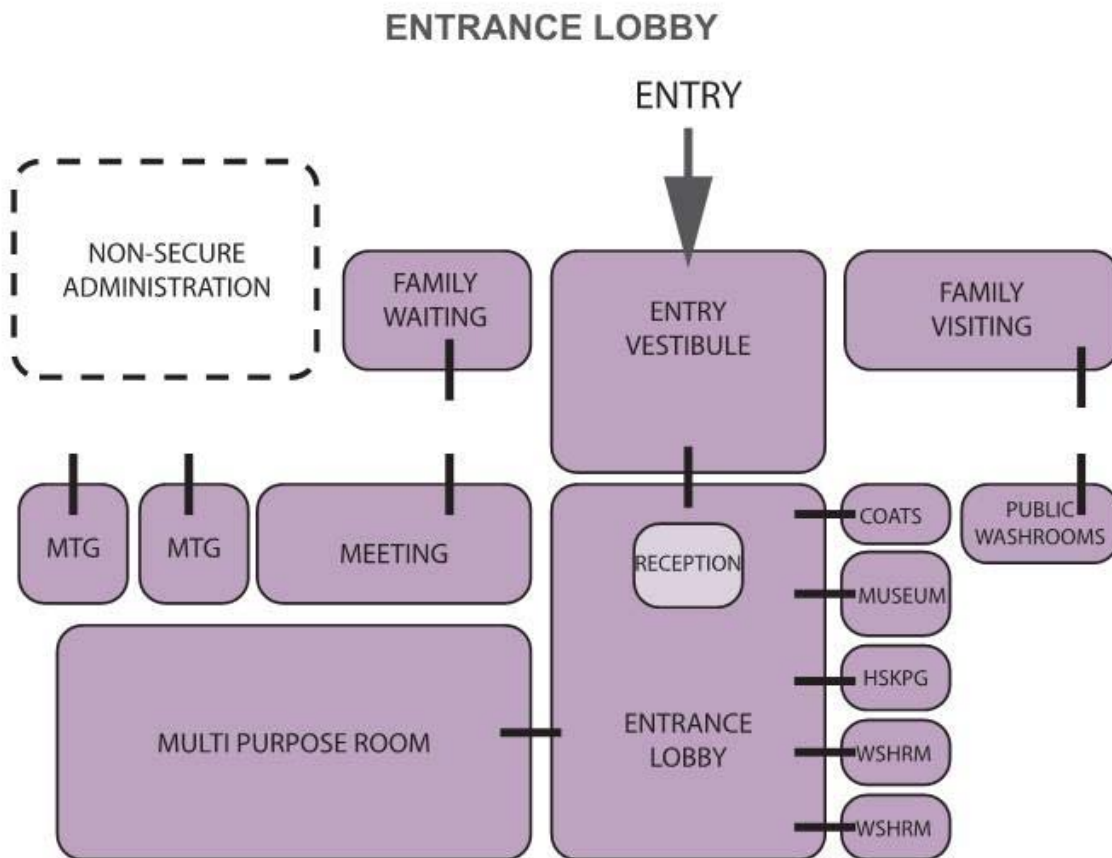
8.1.7.9 Functional Considerations for Health and Safety

8.1.7.9.1 Design and configuration of this component will avoid creation of blind, under-lit corners or other conditions where staff could be isolated and separated from means of communication for security or first aid, or otherwise put at physical risk.

8.1.7.9.2 Staff access rooms will have glazing in doors or sidelights for safe movement and visual access for security.

8.1.7.10 Component Functional Diagram

8.1.7.10.1 The areas making up this component should be organized as illustrated in the following diagram:



8.1.8 Space Table

8.1.8.1 The Space Table illustrates rooms, and their respective sizes, that combine to make up this functional component.

C1 ENTRANCE						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
ENTRANCE LOBBY -- SHARED MENTAL HEALTH COMPLEX						<i>non-secure public entrance</i>
.01	Entry Vestibule	1	41.50	41.50	3	
.02	Entrance Lobby	1	141.00	141.00	3	<i>provide public ATM in the lobby</i>
.03	Public Washrooms	2	38.50	77.00	3	<i>3 toilets, 3 sinks, 1 barrier free stall ea.</i>
.04	Coat/Boot Closet	1	18.00	18.00	3	<i>shared by visitors, staff</i>
.05	Family Visiting Room	1	46.50	46.50	3	
.06	Family Room	1	18.50	18.50	3	
RECEPTION/SWITCHBOARD						<i>locate near main entry</i>
.07	Switchbd/Info/Reception	1	17.00	17.00	3	
.08	Alarm Monitoring Panels	0	0.00	0.00	3	<i>locate in Operations Security Center</i>
MUSEUM						<i>locate adjacent to main lobby</i>
.09	Display Area	1	38.50	38.50	3	<i>provide in wall display cases</i>
CONFERENCE CENTRE						
.10	Multi- Purpose Room	1	108.00	108.00	3	<i>may be used for review board hearings, bookable, moveable partition</i>
.11	Meeting Room	1	31.00	31.00	3	<i>bookable, shared, dividing partiton</i>
SUPPORT						<i>locate in a central location</i>
.12	Housekeeping Closet	1	3.50	3.50	4	
TOTAL NET SQUARE METRES				540.50		

C 2 ADMINISTRATION

This specification outlines the functional, operational and physical requirements for the Administration functional component.

FUNCTIONAL DESCRIPTION

9.1.1 Statement of Purpose

- 9.1.1.1** The Administration functional component exists to accommodate administrative and non-Client contact functions required to support the day-to-day operations of the Facility. The Facility's Secure-Client and Non-Secure Client administrative functions are accommodated here.

9.1.2 Scope of Services

9.1.2.1 Functional Content

- 9.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 9.1.2.1.1.1 Office-based functions including reading, producing correspondence and documents, small scale printing and photocopying and receipt and distribution of hard copy mail;
 - 9.1.2.1.1.2 Administrative teleconferences and videoconferences;
 - 9.1.2.1.1.3 Meetings between staff;
 - 9.1.2.1.1.4 Clinical staff administration;
 - 9.1.2.1.1.5 Corrections staff administration;
 - 9.1.2.1.1.6 Electronic medical record (EMR) administration including establishing formatting and content standards, checking for completion, notifying physicians of outstanding/incomplete medical records, conducting retrospective audits and scanning of paper records for insertion into the EMR;
 - 9.1.2.1.1.7 Administration of the Authority's release of information practices, providing Clients and authorized representatives with access to EMR contents, and in some cases with hard or electronic copies of EMR extracts; and
 - 9.1.2.1.1.8 Managing practical learning experiences by medial learners, nursing students and students in the allied health professions.

9.1.2.2 Exclusions

9.1.2.2.1 The following list specifies functions similar to those accommodated in this component, but are understood to occur in other components in the Facility or outside of the Facility:

9.1.2.2.1.1 Large scale printing and photocopying; and

9.1.2.2.1.2 Permanent office accommodation for the Authority's Corporate Services.

9.1.2.3 Anticipated Trends in Service Delivery

9.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends should be reflected in the component's design.

9.1.2.3.1.1 Advances in computer networks, wireless networks and mobile computing will continue enabling staff to work remotely from their colleagues and a central workstation. Main Building of the future will require generic workspace that any eligible staff member can access for periods of time, and when an on-site presence is required.

9.1.2.3.1.2 For staff with an administrative responsibility, meetings will continue accounting for a substantial part of each workday. Maximizing use of available time, and while at the same time reducing needs for meeting rooms will require the ability to teleconference and videoconference from the staff member's workstation.

9.1.2.3.1.3 Client information, regardless of which service generates it, will become integrated into a common source for future retrieval. Access to the EMR for input and retrieval will be electronically mediated. The future role of "Health Records" personnel will become more administrative; needs for warehousing and manual retrieval of paper records will, at most, be limited and short term.

9.1.2.3.1.4 The trend of Clients becoming advocates for their own health will continue. Engaging members of the public and providing them with access to their records will continue as a growing need.

9.1.3 Scope of Education Functions

9.1.3.1 Staff working in this component will, from time to time, engage in instructional and informational sessions. These sessions will be accommodated in the general work areas, and in the meeting and conference rooms provided in this component.

9.1.4 Scope of Research Functions

9.1.4.1 Staff working in this component will, from time to time, engage in research, typically involving literature reviews and data analyses. These functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

OPERATIONAL DESCRIPTION

9.1.5 Hours of Operation

The Site Support Facilities component at this Facility will be open for routine business hours of:
0800 – 1600, Monday to Friday

During off hours, it will be accessible by authorized staff 24 hours-a-day, 7 days-a-week.

9.1.6 People Management Systems

- 9.1.6.1** During routine business hours of operation, this component will be open to the public and to all staff. A central reception area for the Main Building will screen arrivals and will guide people to their destinations. Outside of routine business hours, the component will be locked, and access will be restricted to authorized personnel and people under their escort. Access control will be provided by electronic security measures.

9.1.7 Material Management Systems

9.1.7.1 Consumable Supplies

- 9.1.7.1.1 Inventories of consumable supplies will be maintained close to point of use in this component. Generally, a 3 day supply of each item will be maintained with minimum inventory levels triggering a re-ordering process. All orders will be sent electronically to the facility's Materials Management component (See C 8.2) for processing.

9.1.7.2 Dietary Services

- 9.1.7.2.1 Events conducted in this component will be eligible to receive catered food. Prepared meals, snacks and beverages will be prepared by the Facility's Dietary component (See C 8.1) in response to electronic requisitions. Dietary staff will deliver carts/trays to the event site just prior to the scheduled start time, and will return after the scheduled finish time to remove used meal-ware and unconsumed food/beverages.

- 9.1.7.2.2 Food wastes and discarded containers will be picked up by Housekeeping staff (See C 8.4) during routine cleaning, usually at the end of each day.

9.1.7.3 Waste Management

- 9.1.7.3.1 Waste products will be generally managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations.

- 9.1.7.3.2 Segregation of wastes will accommodate the following categories of products:

- 9.1.7.3.2.1 General garbage;
- 9.1.7.3.2.2 Compostable material;

- 9.1.7.3.2.3 Confidential paper, contained within secure bins, not accessible to non-authorized personnel;
 - 9.1.7.3.2.4 Clean paper and cardboard;
 - 9.1.7.3.2.5 Clean metal (tin and aluminum); and
 - 9.1.7.3.2.6 Clean recyclable plastics.
- 9.1.7.3.3 Housekeeping Services personnel will be responsible for cleaning all areas of this component on a once-daily basis.

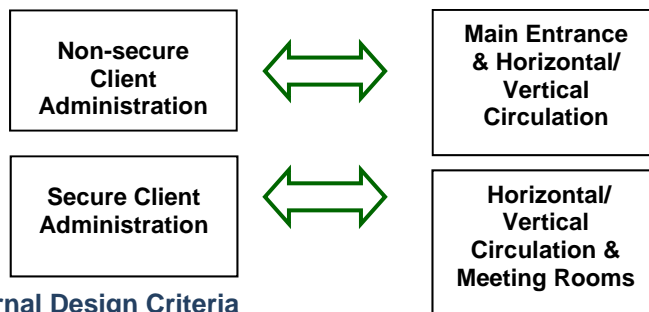
9.1.8 Information Management Systems

- 9.1.8.1 Computer terminal and wireless pads will provide staff working in this component with access to the internet, the Authority’s intranet and to the electronic medical record (EMR) system. Security levels will be assigned to each authorized user controlling the site(s) and document(s) to which they have access and to what extent they are allowed to add, delete or alter data.
- 9.1.8.2 The Site Support and Business Services component will accommodate both hard-wired and wireless connectivity.

DESIGN CRITERIA

9.1.9 Proximity Relationships

- 9.1.9.1 The Administration component’s location relative to other components and the nature of circulation used to move between components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 9.1.9.2 Provide Convenient Access by General Circulation to major public circulation. Staff and visitors will move frequently to/from this component and other components in the Facility, mainly those involved in direct Client care. Close proximity of Director and Facility-in-Charge Nurse (FIN) to the Main Entry is a priority.



9.1.10 Internal Design Criteria

9.1.10.1 General Internal Layout

- 9.1.10.1.1 The component will be organized initially into 3 distinct areas as follows:
 - 9.1.10.1.1.1 Centralized administrative support area;
 - 9.1.10.1.1.2 Central administrative offices area; and
 - 9.1.10.1.1.3 Health records area.

9.1.10.2 Natural Lighting and Views to the Outside

- 9.1.10.2.1 Studies have demonstrated that staff is generally more satisfied and more productive when provided with access to natural light and views to natural settings. Natural light also offers electrical energy conservation benefits by reducing needs for artificial lighting during bright, daylight hours. Consideration should be given to providing all offices and clerical/administrative workstations with windows.
- 9.1.10.2.2 Consideration should also be given to installing operable windows in this component enabling staff to choose access to fresh air.

9.1.10.3 Staff and Component Security

- 9.1.10.3.1 Staff will be present in this component at all hours of the day or night. Security during times of low occupancy will be provided by panic buttons located at strategic locations throughout the component. This technology will provide immediate voice contact with security staff based in the Operations Security Centre (see B-3).
- 9.1.10.3.2 The OSC will contain two separate and fully functional workstations, as this is a two person work space.
- 9.1.10.3.3 A video intercom system will provide security for users inside the component by allowing for visitor screening when the component's main entrance is locked.
- 9.1.10.3.4 In addition to the component's main entrance, a second point of access/exit should be located providing staff with a secure alternate route out of the Main Building.

9.1.10.4 Communication Technology

- 9.1.10.4.1 Areas in this component where staff and students conduct professional work will be serviced with data ports for computer connectivity. Areas requiring this technology include:
 - 9.1.10.4.1.1 Offices;
 - 9.1.10.4.1.2 Clerical and administrative workstations; and
 - 9.1.10.4.1.3 Meeting/conference rooms.
- 9.1.10.4.2 A meeting/conference room will be serviced by full teleconference and videoconference technology; videoconference technology will accommodate computer interface.

9.1.10.5 Lighting

- 9.1.10.5.1 The nature of activities conducted in this component will benefit from a combination of natural and task lighting. Ceiling mounted light fixtures should cast light upwards to avoid the shadows created by direct ambient lighting.
- 9.1.10.5.2 Individual workstations will be supplied with task lighting.

9.1.10.6 Acoustic Insulation

9.1.10.6.1 Private and confidential discussions will be conducted in this component. Design and construction features will ensure that sound, at a level equivalent to a typical conversation, does not transmit between adjoining offices or between offices and adjacent workstations or corridors.

9.1.10.7 Off-Stage versus On-Stage Areas

9.1.10.7.1 The personnel working in this component will be responsible for responding to questions, concerns, suggestions, commendations and complaints registered by Clients, staff, students and visitors. This component will convey a welcoming image fostering a sense of openness, honesty, transparency and trust. The component's existence and location should be obvious to all Facility users, and the on-stage portion of this component will be the venue where staff and visitors interact.

9.1.10.7.2 The off-stage area will provide refuge for staff working in this component. Here they will have opportunities to concentrate free of distractions or hold strategic meetings/conversations. Visitor access to the off-stage area will be anticipated, but generally only under escort.

9.1.10.8 Infection Control

9.1.10.8.1 During routine hours of operation, this component will be open to all staff and visitors. Traffic flow in and out will be high at times, and hand sanitizing stations will be provided at:

9.1.10.8.1.1 At the component's main entrance; and

9.1.10.8.1.2 In each meeting/conference room.

9.1.10.9 Functional Considerations for Health and Safety

9.1.10.9.1 Design and configuration of this component will avoid creation of blind, under-lit corners or other conditions where staff could be isolated and separated from means of communication for security or first aid, or otherwise put at physical risk.

9.1.10.9.2 Staff access rooms will have glazing in doors or sidelights for safe movement and visual access for security.

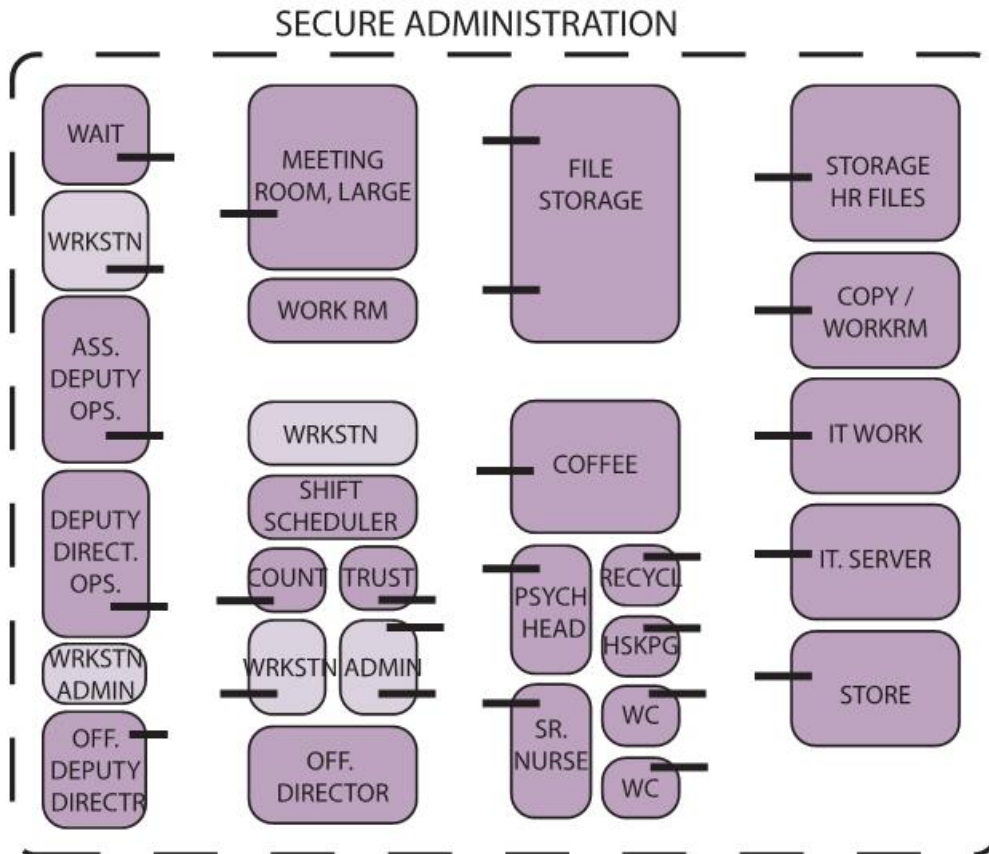
9.1.10.9.3 Staff washrooms will be separate from those used by the public for staff safety.

9.1.10.9.4 Reception counters and desks will be secured from unauthorized access to minimize risk of public aggressive behaviors directed at staff. Staff in this component will have the ability to passively supervise immediate and surrounding areas through clear lines of sight. Provide multiple means of egress or safe locations for staff

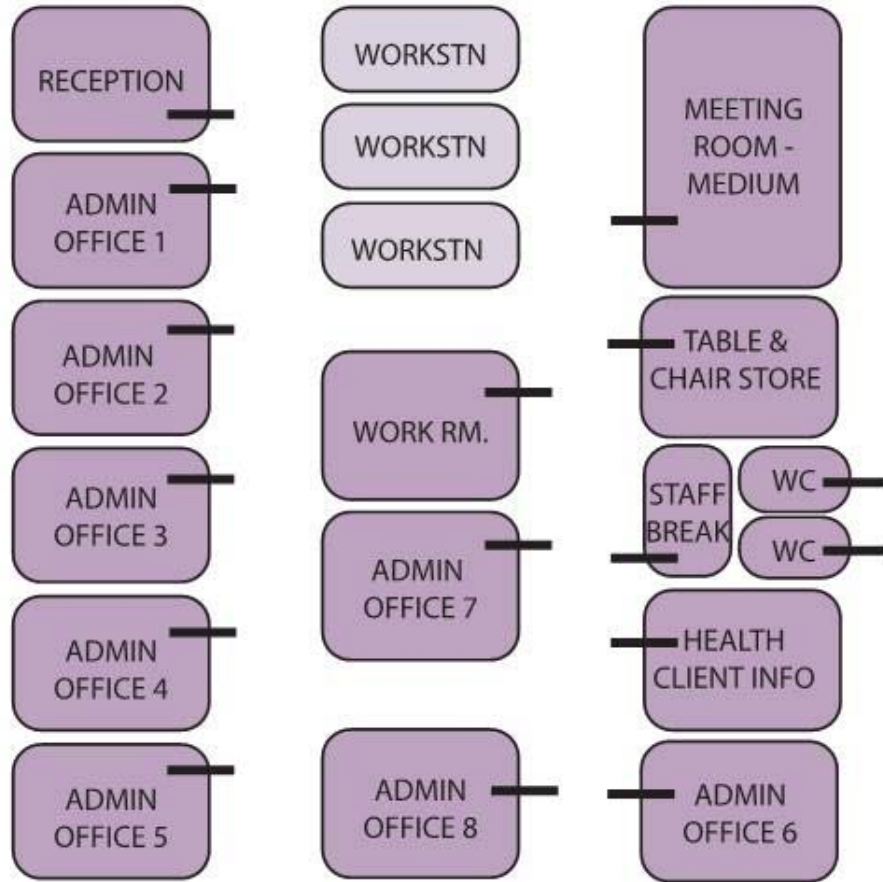
9.1.11 Component Functional Diagram

9.1.11.1 The areas making up this component should be organized as illustrated in the following diagrams:

SECURE ADMINISTRATION



NON-SECURE ADMINISTRATION



9.1.12 Space Table

9.1.12.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 2 ADMINISTRATION**

C2 ADMINISTRATION						
SECURE ADMINISTRATION						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	SENIOR ADMINISTRATION					
.01	Waiting	1	8.00	8.00	3	<i>shared with all administrative staff</i>
.02	Office, Director	1	18.00	18.00	3	
.03	Workstation, Admin	1	6.50	6.50	3	
.04	Office, Deputy Director Operations/Administration Programs	3	15.00	45.00	3	
.05	Shared Office, Assist. Deputy Director, Operations	1	15.00	15.00	3	
.06	Office, Senior Nurse Manager	1	15.00	15.00	3	
.07	Office, Psychology Department Head	1	15.00	15.00	3	
.08	Meeting Room, Large	1	50.00	50.00	3	<i>shared with all administrative staff</i>
	SUBTOTAL			172.50		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 2 ADMINISTRATION**

	PERSONNEL, ACCOUNTING & CLERICAL SERVICES					<i>from original ICF program</i>
.09	Office, Deputy Director, Personnel	1	15.00	15.00	3	
.10	Workstation, Supervisor Administration	1	6.50	6.50	3	
.11	Office, Shift Scheduler	1	8.50	8.50	3	
.12	Counting Area	1	3.00	3.00	3	
.13	Trust Accounts	1	4.00	4.00	3	
.14	Workstation, Administrative Assistants/Clerks	2	6.50	13.00	3	
	SUBTOTAL			50.00		
	SHARED SUPPORT					<i>shared with all administrative staff</i>
.15	Meeting Room, Medium	0	18.00	0.00	3	<i>removed 9/15</i>
.16	Copy/Workroom	1	12.00	12.00	4	
.17	Coffee Room	1	16.00	16.00	4	
.18	Washroom, Staff	2	4.00	8.00	4	<i>2 piece</i>
.19	Office, IT Workroom	1	12.00	12.00	4	
.20	Server Room	1	14.00	14.00	4	
.21	Storage	1	10.00	10.00	4	
.22	Recycle Alcove	1	2.00	2.00	3	
	SUBTOTAL			74.00		
	TOTAL NET SQUARE METRES			296.50		
NON-SECURE ADMINISTRATION						

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 2 ADMINISTRATION**

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
OFFICES CLINICAL AND ADMINISTRATIVE						
.23	Office, FIN	1	11.00	11.00	3	
.24	Office, Rehab/Social Work	1	11.00	11.00	3	<i>from original SHNB program</i>
.25	Office, Interdisciplinary	4	11.00	44.00	3	<i>interns, specialists, serves Therapy Mall</i>
.26	Office, Confidential	1	11.00	11.00	3	
.27	Workstations	3	5.50	16.50	3	<i>3 admin assistants, lockable storage</i>
.28	Workroom	1	11.00	11.00	3	<i>mail, printer, copier, fax, storage</i>
.29	Health Records, Active	1	97.00	97.00	3	<i>all client records storage - microfiche storage/reader, legal size files, high density storage, locate near clinical staff, 3 staff workstations</i>
.30	Health Records, Inactive	1	71.00	71.00	3	<i>health records stored for 10 years after deceased</i>
.31	Workstation, Scheduling	1	13.00	13.00	3	<i>2 workstations @ 5.5sm, file storage</i>
	SUBTOTAL			285.50		
SENIOR ADMINISTRATION						
.32	Office, Administrator	1	15.00	15.00	3	
.33	Office, Facility Manager	1	15.00	15.00	3	
.34	Office, Finance	1	11.00	11.00	3	
.35	Clozapine	1	11.00	11.00	3	
.36	Office, Nurse Educator	1	11.00	11.00	3	
.37	Office, Chief Psych.	1	15.00	15.00	3	
	SUBTOTAL			78.00		
SHARED SUPPORT						
.38	Reception	1	9.50	9.50	3	<i>shared with all administrative staff seating for 4-6</i>
.39	Meeting Room, Medium	1	18.50	18.50	3	<i>seating for 10-12</i>
.40	Housekeeping Room	1	13.00	13.00	4	
.41	Washroom, Staff	2	4.00	8.00	4	<i>2 piece</i>
.42	Staff Break/Lounge	1	11.00	11.00	4	<i>kitchenette - microwave, refrigerator, sink, coats hanging/boots/lockers</i>
	SUBTOTAL			60.00		
TOTAL NET SQUARE METRES				424		
TOTAL NET AREA FOR ADMINISTRATION						
DEPT NET SQUARE METRES				720		<i>TOTAL ADMINISTRATION AREA</i>

C 3 THERAPY MALL SHARED

This specification outlines the functional, operational and physical requirements for the Therapy Mall Unit(s) functional component at the Facility.

FUNCTIONAL DESCRIPTION

10.1.1 Statement of Purpose

10.1.1.1 Philosophy

- 10.1.1.1.1 The C3 Therapy Mall – Shared provides a central/common location for all Secure and Non-Secure Clients to attend therapy in a normalizing environment. Each of the various programs will have an entrance(s) off of the common street or mall and access to the outdoors where necessary. Services include: Recreation Therapy, Spiritual/Cultural Care.
- 10.1.1.1.2 Services provided in this component will be accessible to all Clients at specifically scheduled times, to be determined at a later date, throughout the Facility in accordance with specific identified needs.
- 10.1.1.1.3 “Flexible Perimeter” – This zone of the facility will be a part of the flexible perimeter where based upon scheduling, dedicated circulation paths and series of locked doors and sally ports both the Secure and Non-Secure Clients in the facility can share these spaces.
- 10.1.1.1.4 The Recreation Therapy Department serves all Clients. This therapy program offers a variety of indoor recreation activities such as volleyball, basketball, bowling, billiards, ping pong, bingo, aerobics and fitness programs. In addition, this department offers a variety of outdoor recreation activities such as volleyball, horse shoes, broomball, ice hockey, baseball, basketball, and a walking program.
- 10.1.1.1.5 This service will focus on cognitive, social, physical and affective areas of functioning. Therapeutic Recreationists will focus on leisure education and recreation participation. Purposes, goals and benefits of the service will include: promoting a well-balanced, healthy leisure lifestyle, guiding Clients through appropriate leisure skills, knowledge, attitudes and resources, providing opportunities for individual expression, and fun and enjoyment.
- 10.1.1.1.6 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive a way as possible.

10.1.1.2 Guiding Principles

- 10.1.1.2.1 Provide a welcoming, safe and secure environment for Clients.
- 10.1.1.2.2 Develop and maintain effective programs that will provide Clients’ families with support and education as well as skills and training to assist in their transition and life outside of the Facility.

- 10.1.1.2.3 The Therapy Mall – Shared spaces will create a welcoming central destination for Clients, families and staff to congregate in an inviting space to create a sense of community.
- 10.1.1.2.4 Create and maintain a safe and positive environment conducive to the professional growth of all staff.

10.1.2 Scope of Services

10.1.2.1 Functional Content

- 10.1.2.1.1 Functionally, this component is shared by all Clients, staff and visitors of the Facility at various times.
- 10.1.2.1.2 Recreation Therapy
 - 10.1.2.1.2.1 This Gymnasium will be used, in addition to physical activities, for bingo, musical performances, conferences, unit parties, entertainment, and family functions.
- 10.1.2.1.3 Spiritual/Cultural Care
 - 10.1.2.1.3.1 This space will be used for functions related to Chaplaincy and First Nations and Metis Programming, including, but not limited to, church services, spiritual group programs, First Nations and Metis cultural programs and ceremonies.
- 10.1.2.1.4 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
 - 10.1.2.1.4.1 The design will promote a safe and secure environment;
 - 10.1.2.1.4.2 The design will create a welcoming Client-centred healing environment;
 - 10.1.2.1.4.3 The design will support the model of care;
 - 10.1.2.1.4.4 The design will minimize staff travel distances;
 - 10.1.2.1.4.5 The design will provide specific supports to ensure the control of infection;
 - 10.1.2.1.4.6 The design will promote wellness and physical activity;
 - 10.1.2.1.4.7 The design will provide multiple opportunities for Clients to experience the outdoors via courtyards, outdoor patios and through natural light and views; and
 - 10.1.2.1.4.8 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots;

10.1.2.2 Exclusions

- 10.1.2.2.1 The following list specifies functions that involve either Clients or staff normally present in the Therapy Mall but are understood to occur in other functional components in the facility or outside of the facility:
 - 10.1.2.2.1.1 Therapy Mall (A2) – in general, services are dedicated to only Non-Secure Clients except for education centre classrooms.

10.1.2.2.1.2 Central Programs (B2) – services dedicated only to Secure Clients.

10.1.2.3 Anticipated Trends in Service Delivery

10.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.

10.1.2.3.1.1 Increasing numbers of Clients with addictions and mental disorders

10.1.2.3.1.2 Increasing Client acuity and complexity and potential for aggression

10.1.2.3.1.3 Increasing numbers of bariatric Clients admitted to Main Building is predicted to increase.

10.1.2.3.1.4 Continuing need to focus on infection control is predicted to remain an ongoing challenge in all areas of the facility.

10.1.2.3.1.5 Redesigning service delivery to meet the needs of First Nations Clients

10.1.3 Scope of Education Functions

10.1.3.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

10.1.4 Scope of Research Functions

10.1.4.1 Staff and students working in the therapy mall will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

10.1.5 Hours of Operation

10.1.5.1 The component at this facility will be staffed and in operation:

Gymnasium - 0800-2100 - 7 days a week

Staff Exercise Room – 24 hours-a-day, 7 days a week

Games Room - 0800-2200 - 7 days a week

Cultural/Spiritual Care - 0800-2100 - 7 days a week

10.1.6 People Management Systems

- 10.1.6.1** Clients utilizing this component will arrive from either Secure or Non-Secure Client care units. The typical Client will be ambulatory, and the Secure Clients will be escorted and the Non-Secure Clients will not be escorted by staff to and from the Client care units.

10.1.7 Material Management Systems

- 10.1.7.1** The design of the therapy mall will minimize the need for support and maintenance staff to access Client therapy areas. The flow of support services and Clients and clinical staff will be separated to the greatest extent possible.
- 10.1.7.2** Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

10.1.8 Consumable Supplies

- 10.1.8.1** Inventories of consumable supplies will utilize the Kanban system. Each locker room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use. The Gymnasium, Cardio/Weight Room and Locker/Shower/Change Rooms require Kanban systems.
- 10.1.8.2** Cabinets will be lockable so that if necessary Client access is controlled.
- 10.1.8.3** All supply storage areas will be inaccessible to Clients and to the public

10.1.9 Linen

- 10.1.9.1** Inventories will be managed via the Kanban system. Each room that requires a Kanban system will have a dual door supply cabinet that allows for daily clean linen supplies to be delivered and soiled linen to be picked up from the general circulation corridor. The supply cabinet will have a clear separation between the clean (i.e. top) and dirty (i.e. bottom) parts of the cabinet.
- 10.1.9.2** Soiled laundry and linen will be collected from the Kanban in small hampers, temporarily staged in the Therapy Mall - Physiotherapy soiled holding room prior to removal to the central laundry/linen service area. Clean linen will be delivered and picked up from each individual Kanban cabinet daily.
- 10.1.9.3** Food Services
- 10.1.9.3.1 Food service will generally be provided to Clients on the Client care units or in the central acute dining area or cafeteria. This component will not require food service delivery.
- 10.1.9.4** Waste Management
- 10.1.9.4.1 The majority of waste products will be garbage and recyclables. Other waste products such as soiled linen will be managed within the soiled holding room shared by the entire therapy mall.
- 10.1.9.4.2 Segregation of wastes will accommodate the following categories of products:
- 10.1.9.4.2.1 General garbage;
- 10.1.9.4.2.2 Sharps (including potentially bio hazardous items);
- 10.1.9.4.2.3 Infectious or contaminated wastes (excluding sharps);

- 10.1.9.4.2.4 Confidential paper;
 - 10.1.9.4.2.5 Clean paper and cardboard;
 - 10.1.9.4.2.6 Clean metal (tin and aluminum);
 - 10.1.9.4.2.7 Clean recyclable plastics; and
 - 10.1.9.4.2.8 Compostable materials.
- 10.1.9.4.3 A secure soiled utility room, for the containment of soiled items and trash will be required adjacent to the Recreation Centre, Physical Therapy and the Medication clinic.

10.1.10 Information Management Systems

10.1.10.1 The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The space will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:

- 10.1.10.1.1 Mobile and Fixed Computer Devices – Desktop and Wall mount;
- 10.1.10.1.2 Tracking Monitors – Client, Staff, and Resource Tracking;
- 10.1.10.1.3 Device Integration for real –time clinical assessment and physiological data documentation;
- 10.1.10.1.4 Digital Room Signage and Way-finding;
- 10.1.10.1.5 Location Awareness;
- 10.1.10.1.6 Device Connectivity;
- 10.1.10.1.7 Multifunction Communication Devices with integration to systems;
- 10.1.10.1.8 Telehealth and Virtual Team Capabilities;
- 10.1.10.1.9 Real Time Location System; and
- 10.1.10.1.10 Staff Safety and Duress.

DESIGN CRITERIA

10.1.11 Lean Planning Standards

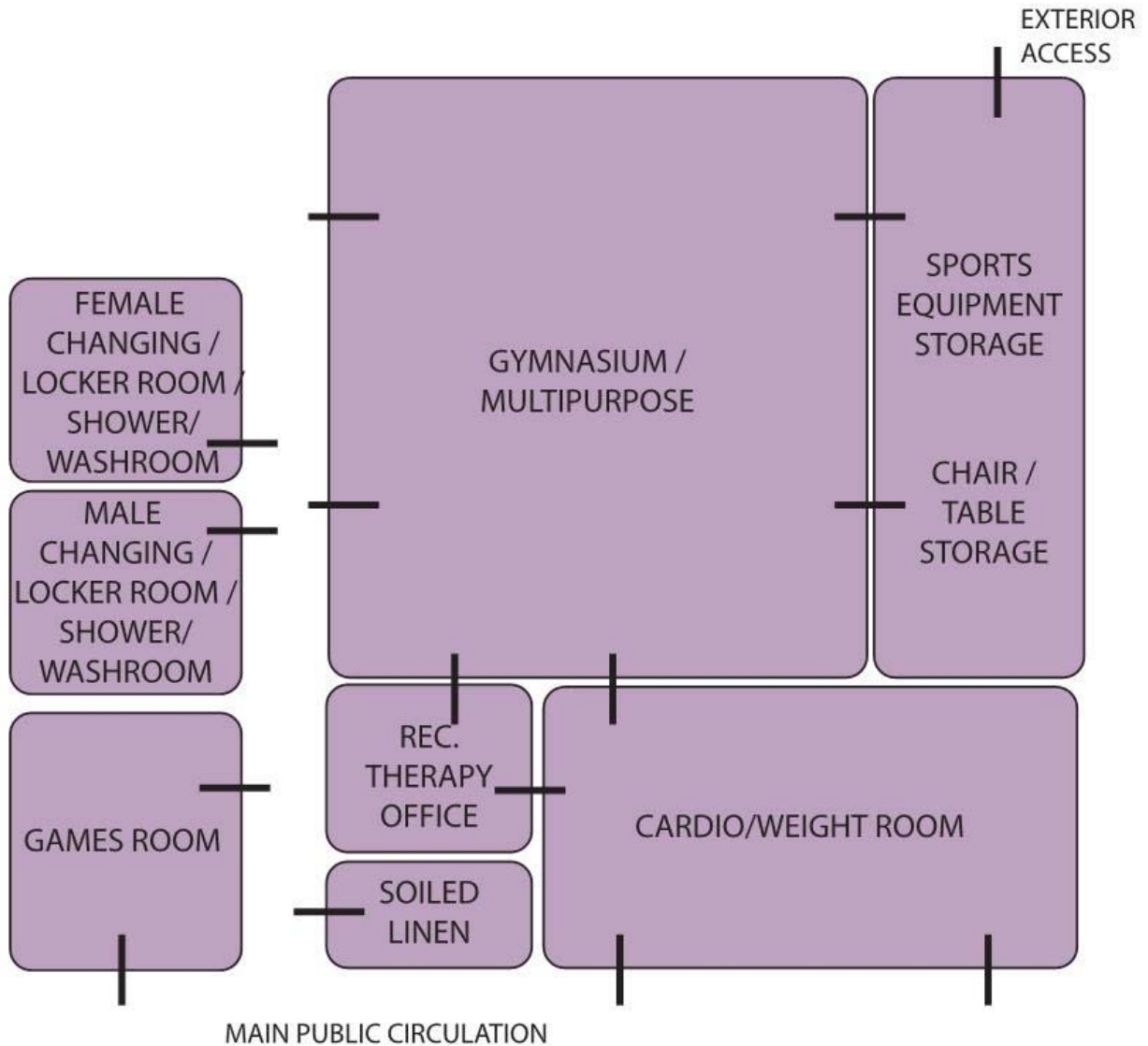
10.1.11.1 Standardization

- 10.1.11.1.1 All Therapy Mall Shared (C3) components will have a public storefront “address” to encourage Client participation.
- 10.1.11.1.2 All Therapy Mall Components will be designed to allow for future flexibility and adaptability of services.
- 10.1.11.1.3 All Therapy Mall Components will be independently lockable.

10.1.12 Proximity Relationships

10.1.12.1 The diagram(s) above show the various independent Therapy Mall departments. See the overall Main Building block diagram for reference of the Therapy Mall departmental relationships to one another as well as to the other components of the Main Building.

WELLNESS, PHYSIO & RECREATION THERAPY



- 10.1.12.2** The Therapy Mall (A2) and Therapy Mall Shared (C3) departments will be collocated on one level.
- 10.1.12.3** Provide convenient access by general circulation between the Therapy Mall Shared (C3) and the Extended, Acute Forensic and Secure Client Care Services.
- 10.1.12.4** Provide direct access from Sport Equipment Storage to an outdoor recreational activity area.
- 10.1.12.5** Male and Female washroom, change room, lockers, and showers shall be located with convenient by internal circulation to the Gymnasium and Cardio/Weight Room.
- 10.1.12.6** Chair and Table storage should have a direct connection to the Gymnasium for ease of movement of the portable stage, tables and chairs.
- 10.1.12.7** Secure outdoor activity areas will be accessible directly from the Gymnasium.
- 10.1.12.8** The outdoor recreation storage will be located adjacent to the outdoor entry/access point.

10.1.12.9 Outdoor Spaces

- 10.1.12.9.1.1 Spiritual/Cultural Care requires convenient access by general circulation to an outdoor area for traditional First Nations ceremonies such as Smudging and Sweat Lodge.
- 10.1.12.9.1.2 Access and exit directly to an at-grade outdoor recreation space is required from the Gymnasium.

10.1.12.10 Connection to other services:

- 10.1.12.10.1 Provide convenient access by general circulation to Physiotherapy (Therapy Mall A2.1) for sharing of clean and soiled rooms and cardio equipment.
- 10.1.12.10.2 Provide convenient access by general circulation to all Client care units.
- 10.1.12.10.3 Provide convenient access by general circulation to the Visiting Centre for ease of Client and staff movement.
- 10.1.12.10.4 Provide convenient access for each Therapy Mall Shared Component by general circulation to major public and non-public circulation. Personnel, Clients, and supplies will move frequently to/from this component and other components in the Facility.

10.1.13 Internal Design Criteria

10.1.13.1 General Internal Layout

- 10.1.13.1.1 Changing/Locker Room/Shower/Washroom(s) will have one dedicated for females and one dedicated for males.
- 10.1.13.1.2 Changing/Locker Room/Shower/Washroom(s) will have convenient access by internal circulation to the Gymnasium, Cardio/Weight Room and the Staff Exercise Room

- 10.1.13.1.3 The Game room will accommodate pool tables, ping pong, shuffle board, video games, television, and board games. Convenient washroom facilities will be provided for this area.
- 10.1.13.1.4 Activity Equipment storage shall be located for convenient access for outdoor activities.
- 10.1.13.1.5 Activity Equipment storage will have a 6ft double door for ease of movement of balls, racks, poles and nets. The room will provide for vertical volleyball nets and wire shelving for smaller sports equipment.
- 10.1.13.1.6 The Chair and Table Storage Room will have a double door sized for the ease of movement of chairs and tables as well as a moveable stage.
- 10.1.13.1.7 The Gym will have a motorized ceiling mounted/retracting dividing partition to allow for two activities to occur at the same time within the gymnasium.
- 10.1.13.1.8 The Gym will contain 4 automated lift basketball nets. The gym will contain one net on each end with a ½ court floor painted layout. The other two nets will be located on the opposite walls will be placed offset to one side of the gym so that a game could still occur if the dividing partition was drawn. The Therapists workroom will have access directly off of the side of the gym with 3 nets.
- 10.1.13.1.9 The Gym will contain painted lines for 2 badminton courts, 2 volleyball courts, ½ court basketball, and in-floor posts for poles for the above games.
- 10.1.13.1.10 The Gymnasium will have a sound system, projection screen/wall for movies and a fixed overhead projector.
- 10.1.13.1.11 The Cardio/Weight room will require a cushioned floor to absorb the noise and vibration related to weights and jumping.
- 10.1.13.1.12 The Therapists Work Room will contain 3 large filing cabinets, shelving, coffee station, sink, fridge, microwave/table & water cooler.
- 10.1.13.1.13 Staff Exercise Room will have a cushioned floor to absorb the noise and vibration related to weights and jumping.
- 10.1.13.1.14 Multi-Disciplinary Spiritual Centre and the Multipurpose Programs Room/Cultural Centre should be able to accommodate smudging, and therefore be vented and provide heat detection measures. If an eastern direction for the windows is not possible, indication of the eastern direction should be a clear architectural feature within the space.
- 10.1.13.1.15 Multi-Disciplinary Spiritual Centre should be arranged and adorned to reflect a multi-faith population. Fixed seating will not be used; however, an altar is required.
- 10.1.13.1.16 Finishes and general ambiance within Spiritual/Cultural Care shall promote quiet reflection.

10.1.13.2 Client Security and Safety

- 10.1.13.2.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observations Units.
- 10.1.13.2.2 The “flexible perimeter” will change by the hour and/or by the day. Therapy Mall Shared will have the ability to easily switch from secure to non-secure.
- 10.1.13.2.3 The Therapy Mall Shared component will be a part of the “flexible perimeter” and will, at times, be located within the Secure Client perimeter and at times be a part of the Non-Secure Client perimeter. The design will provide the features necessary for the highest level of security occupant and in this case provide features necessary for the Secure Clients. Any door from the rooms captured in the flexible perimeter will be designed with portal or sally port as required to meet Secure Client requirements.
- 10.1.13.2.4 Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.
- 10.1.13.2.5 The design will include, but is not limited to items which are non-loop able or designed to release under a load of 20 kilograms and meet either the load release or non-loop ability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. These features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:
 - 10.1.13.2.5.1 Door hardware;
 - 10.1.13.2.5.2 Sprinklers;
 - 10.1.13.2.5.3 Showerheads;
 - 10.1.13.2.5.4 Lavatories;
 - 10.1.13.2.5.5 Faucets;
 - 10.1.13.2.5.6 Lavatory valves;
 - 10.1.13.2.5.7 Shower actuators;
 - 10.1.13.2.5.8 Toilet seats;
 - 10.1.13.2.5.9 Toilets;
 - 10.1.13.2.5.10 Toilet operator valves;
 - 10.1.13.2.5.11 Plumbing traps and piping covers;
 - 10.1.13.2.5.12 Fire extinguisher and hose cabinets;
 - 10.1.13.2.5.13 Medical gas enclosures;
 - 10.1.13.2.5.14 HVAC terminal devices and covers;
 - 10.1.13.2.5.15 Millwork;
 - 10.1.13.2.5.16 Access doors;
 - 10.1.13.2.5.17 Light fixtures;

- 10.1.13.2.5.18 Electrical outlets;
 - 10.1.13.2.5.19 Thermostats;
 - 10.1.13.2.5.20 Fire alarm system components;
 - 10.1.13.2.5.21 Grab bar – not filled in;
 - 10.1.13.2.5.22 Handrails;
 - 10.1.13.2.5.23 Crash rails;
 - 10.1.13.2.5.24 Rub rails;
 - 10.1.13.2.5.25 Clothes hooks;
 - 10.1.13.2.5.26 CCTV devices;
 - 10.1.13.2.5.27 Security and tracking devices and antennas;
 - 10.1.13.2.5.28 Hanger rods and Coat Hooks;
 - 10.1.13.2.5.29 Toilet partitions;
 - 10.1.13.2.5.30 Mirrors;
 - 10.1.13.2.5.31 Bulletin Boards;
 - 10.1.13.2.5.32 Artwork hanging systems; and
 - 10.1.13.2.5.33 Window treatments.
- 10.1.13.2.6 All Therapy Mall Shared components will have interior glazing to the general circulation corridors for staff and Client safety.
- 10.1.13.2.7 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops.
- 10.1.13.2.8 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.
- 10.1.13.2.9 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.
- 10.1.13.2.10 The component's design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.

10.1.13.3 Staff Safety

- 10.1.13.3.1 All areas will be able to be locked and secured when not in operation.
- 10.1.13.3.2 All Therapy Mall Components will have two points of entrance/exit to avoid staff entrapment.
- 10.1.13.3.3 All staff washrooms will be lockable to prevent Client access.

- 10.1.13.3.4 Staff Exercise Room will allow for 24 hours-a-day,7 days a week secure access by staff only.
- 10.1.13.3.5 Staff will utilize the same shower/change/lockers as Clients and visitors.
- 10.1.13.3.6 “Staff only” rooms will have windows incorporated into doors enabling staff to assess the area outside of the room for traffic and security issues. Allow for a space to where staff can retreat when their safety is at risk. All dimensions of counters and desks will act as a barrier and provide adequate protection from violent or threatening behavior.

10.1.13.4 Emergency Response

- 10.1.13.4.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the Recreation Therapy Office or the staff exercise room whichever provides the most central and convenient location to the entire shared therapy mall.

10.1.13.5 Windows

- 10.1.13.5.1 The following rooms require access to natural light: Gymnasium, Cardio/Weight Room, Multipurpose Programs Room/Cultural Centre and Multi-Disciplinary Spiritual Centre.
- 10.1.13.5.2 The Gymnasium will have interior glazing to the general circulation corridors for staff and Client safety as well as to provide borrowed daylight to the interior of the facility.
- 10.1.13.5.3 The Cardio/Weight Room will have interior glazing to the general circulation corridors for staff and Client safety as well as to provide borrowed daylight to the interior of the facility.
- 10.1.13.5.4 Multipurpose Programs Room/Cultural Centre will have interior glazing to the general circulation corridors for staff and Client safety as well as to provide borrowed daylight to the interior of the facility.
- 10.1.13.5.5 All Therapy Mall staff spaces with doors will have vision panels either in the door or side lights for staff safety as well as to provide borrowed daylight to the interior of the facility.

10.1.13.6 Unobstructed Sight Lines

- 10.1.13.6.1 Recreation Therapy Office will have direct views through interior glazing into the Gymnasium and to the Cardio/Weight Room for staff and Client safety.
- 10.1.13.6.2 Unobstructed sight lines will be provided from staff work areas to Therapy Mall component entrances/exits for staff control and awareness.
- 10.1.13.6.3 Unobstructed sight lines will be provided from staff work areas to Therapy Mall component entrances/exits for staff control and awareness.

10.1.13.7 Component Security

- 10.1.13.7.1.1 Recreation Therapy is shared between the Secure Clients and Non-Secure Clients. This department will have the ability to “flex” at various hours of the day to be within the secure perimeter for use by Secure Clients and at other times be within the non-secure perimeter and used by Non-Secure Clients, staff or public. Entrances and exits to this department will need to be separated so that the flow of Secure Clients and Non-Secure Clients is separated and appropriate sally ports are provided where required. This department will be able to be accessed independently even if other adjacent departments are being used by a different security classification of Client.
- 10.1.13.7.2 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.
- 10.1.13.7.3 The Central Control Desk located in the Operations Security Centre (B3) will coordinate and monitor activities from a security stand point in the Therapy Mall Shared (C3).
- 10.1.13.7.4 The component will be accessible to authorized personnel 24 hours-a-day, 7 days a week. Staff Exercise Room will be accessible to all staff 24 hours- a-day, 7 days-a-week.
- 10.1.13.7.5 All lockable Client accessed rooms in this component will be serviced by non-accessible audio-video surveillance and monitoring equipment. Monitoring stations will be located in the B3 - Operations Security Centre.
- 10.1.13.7.6 The component’s design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored and supplied with ceiling-mounted mirrors enabling staff to view the area prior to entry.
- 10.1.13.7.7 Storage areas and supply/utility rooms will be secure from Client access and include lockable cupboards for supplies and or medications.
- 10.1.13.7.8 There will be no “blind spots” within the Therapy Mall Shared (C3) components such as recesses, alcoves or places where Clients can hide.

10.1.13.8 Therapeutic Environment

- 10.1.13.8.1 Client spaces will be designed to reduce anxiety and fear. The design will enhance the psychological effect of colour and décor. Where possible, use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises and mechanical noises. Give Clients as much visual privacy and control over it, as is consistent with the need for supervision.
- 10.1.13.8.2 Design features to assist Client orientation, such as direct and obvious travel paths, avoidance of glare, avoidance of unusual configurations and excessive corridor lengths. Make spaces easy to find, identify and use without asking for help.
- 10.1.13.8.3 The Spiritual/Cultural Care area will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 10.1.13.8.4 The Recreation Therapy area will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.

10.1.13.9 Access to outdoor Therapy Space

- 10.1.13.9.1 All Therapy Mall – Shared (C3) services will have convenient access by general circulation to a central secured outdoor courtyard(s).
- 10.1.13.9.2 Selection of outdoor plantings and ground covers will be safe for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.
- 10.1.13.9.3 The outdoor space will utilize the facility exterior wall as well as secure fencing around its perimeter. The exterior walls and fencing solutions will be aesthetically pleasing and un-scalable to prevent Client escape. The exterior walls will be safe.

10.1.13.10 Lighting

- 10.1.13.10.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 10.1.13.10.2 All spiritual/cultural care areas will have dimmable lighting.
- 10.1.13.10.3 Lighting in the Recreation Therapy areas will be appropriate for sports related activities.
- 10.1.13.10.4 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact, and especially in those areas where Clients will be either in bed or transported on stretchers.
- 10.1.13.10.5 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.

10.1.13.10.6 Surfaces, including walls and floors, throughout this component will avoid the use of highly reflective materials. Reflected light will be muted.

10.1.13.11 Ergonomics for an Aging Workforce

10.1.13.11.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

10.1.13.12 Accommodation of Bariatric Clients

10.1.13.12.1 Numbers of bariatric Clients admitted to Main Building are projected to increase. Managing these Clients will require features enabling for both Clients and staff. Doorways and circulation spaces will be sufficiently wide to accommodate large people, many of whom will be relying on mobility assistance including motorized chairs and scooters. The reference to circulation spaces applies especially in confined rooms like water closets.

10.1.13.12.2 Ceiling lifts will not be installed in this component.

10.1.13.13 Infection Control

10.1.13.13.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations and clean/soiled utility rooms.

10.1.14 Space Table

10.1.14.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 3 THERAPY MALL SHARED**

C3 THERAPY MALL - SHARED						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	RECREATION THERAPY					<i>provide in a "flexible perimeter"</i>
.01	Gymnasium/Multi-purpose	1	500.00	500.00	3	<i>3/4 gym, dividing partition</i>
.02	Sports Equipment Storage	1	56.00	56.00	3	
.03	AV Room/Storage	1	9.50	9.50	4	
.04	Chairs/Table Storage	1	65.00	65.00	3	<i>Adjacent to Gym.</i>
.05	Cardio/Weight Room	1	125.00	125.00	3	<i>cushioned/rubber floor, flexible divider wall, combined cardio and weight room</i>
.06	Staff Exercise Room	1	59.50	59.50	3	<i>exercise room for staff only, locate near locker/change rooms</i>
.07	Games Room	1	34.00	34.00	3	<i>20 Clients, pool table, table tennis, piano, game tables, TV, interior glazing to corridor for supervision, located in a public zone for ease of access</i>
.08	Rec Therapy Office	1	11.00	11.00	3	
.09	Male Changing/Locker Room/Shower/Washroom	1	31.00	31.00	3	<i>lockers, used for both Clients and staff, shower, toilet, sink</i>
.10	Female Changing/Locker Room/Shower/Washroom	1	31.00	31.00	3	<i>lockers, used for both Clients and staff, shower, toilet, sink</i>
	SUBTOTAL			922		
	SPIRITUAL/CULTURAL CARE					<i>provide in a "flexible perimeter"</i>
.11	Chapel	1	0.00	0.00	3	<i>retain existing chapel on site?</i>
.12	Multi-Disciplinary Spiritual	1	28.00	28.00	3	
.13	Multipurpose Programs Room/Cultural Centre	1	100.00	100.00	3	
.14	Multipurpose Room, Chaplaincy	0	50.00	0.00	3	<i>eliminated 50sm 9/5/14</i>
.15	Sweat Lodge (separate structure)	1	0.00	0.00	N/A	<i>Lodge is 15 feet in diameter. The fire pit minimum of 5ft in diameter. The fire needs to be 30 feet away from the lodge. Space is also needed in close proximity to the lodge for the storage of large amounts of wood and rocks. . A storage shed is needed to store tools and other supplies. A water supply is also required for the ceremony and for fire precautions. An area approximately 75x75 feet should be adequate to provide the sweat lodge ceremonies.</i>
	SUBTOTAL			128		
	TOTAL NET SQUARE METRES			1050		

C 4 ADMISSIONS AND DISCHARGE

This specification outlines the functional, operational and physical requirements for the Admissions and Discharge functional component for the Clients who are admitted to and discharged from the Facility.

FUNCTIONAL DESCRIPTION

11.1.1 Statement of Purpose

11.1.1.1 The Admissions and Discharge component exists for the purpose of providing centralized services that provide Client intake, registration, admissions and discharge services for the Facility and will be adjacent to the Forensics Client Care Services, the Forensics Assessment Unit and the Secure-Client Care Services. Key objectives of this component's operations will be to maximize appropriate utilization of all Facility-based services and to maximize the efficiency of each Client's visit to the Facility. To determine admissibility, the Client's documentation will be reviewed.

11.1.2 Scope of Services

11.1.2.1 Functional Content

11.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:

- 11.1.2.1.1.1 Secure-Client Reception and check-in;
- 11.1.2.1.1.2 Forensics Non-Secure Client classification, admission or discharge;
- 11.1.2.1.1.3 Forensic Assessment classification admission or discharge;
- 11.1.2.1.1.4 Secure-Client classification, admission or discharge;
- 11.1.2.1.1.5 Client search, holding, relinquishment of personal effects & clothing, shower and dressing in institutional clothing;
- 11.1.2.1.1.6 Client flow coordination services;
- 11.1.2.1.1.7 Procurement of Client specimens (blood and urine) and acceptance of specimens procured off-site. Protocol for Forensic and Forensic Assessment Clients will be to obtain samples on the Client Care Unit;
- 11.1.2.1.1.8 Temporary holding of specimens pending transport to the offsite clinical laboratory;
- 11.1.2.1.1.9 Storage for both clean and dirty/contaminated items; and
- 11.1.2.1.1.10 Administration of component operations.

11.1.2.2 Exclusions

11.1.2.2.1 Registration of Non-Secure Acute Clients and Non-Secure Extended Care Clients -These Clients are admitted directly to the Non-Secure Acute Client and Non-Secure Extended Client Care Services.

11.1.2.3 Anticipated Trends in Service Delivery

- 11.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends should be reflected in the component's design.
 - 11.1.2.3.1.1 Advances in electronics will be implemented to enhance Client flow and support the single Electronic Medical Record (EMR).
 - 11.1.2.3.1.2 Effective and efficient utilization of all Facility-based services will need to be supported by an electronic order entry system with decision support tools, and a fully integrated registration, admissions and discharge service that address the needs of all on-site Client care-delivery and therapeutic services.
 - 11.1.2.3.1.3 Individual care programs will continue emphasizing multidisciplinary content that will require involvement of several practitioners in each Client's care plan.

OPERATIONAL DESCRIPTION

11.1.3 Lean Planning Standards

11.1.3.1 Utilization Efficiency

- 11.1.3.1.1 It is critical to clearly delineate the Non-Secure Client classification and admissions process from the Secure Client classification and admissions process so there is no delay in registering and admitting Clients for either service.
- 11.1.3.1.2 This component will experience variable volumes of daily Client visits. Planning assumes that Facility operations will include a fully integrated registration and admissions scheduling system in which all Facility-based services participate.

11.1.4 Hours of Operation

- 11.1.4.1 The Admissions and Discharge, component at this Facility will be staffed and in operation:

0800 and 1600 Monday through Friday

11.1.5 People Management Systems -- Admissions

- 11.1.5.1 Most Clients seen in this component will arrive according to a scheduled arrival from other Facilities. Upon entering this Facility, Clients will move, under corrections staff escort, from the Vehicular Sallyport, and proceed directly to Reception and then a Holding Room to await verification of identity and legal and admitting paperwork and determination of status/classification. A separate exterior man door is required in the enclosed vehicular sallyport garage.
- 11.1.5.2 One holding room will include a full bathroom and is intended to be used for acutely psychotic Clients unable to wait to be admitted in the main holding area.
- 11.1.5.3 Admissions will require a psychiatrist to sign off and will be controlled by this component.

- 11.1.5.4 All Clients will be searched for contraband and directed to a shower room and clothing change area. Client clothing and effects will be taken into custody and recorded to facilitate future retrieval on discharge. Property will be stored in the Property and Valuables storage rooms. Institutional clothing will be issued to Forensic Assessment and Secure-Client Care Service Clients.
- 11.1.5.5 To determine admissibility, Clients' documentation will be reviewed. Clients will be examined for health-related issues. Clients will be interviewed by Psychiatrist in accordance with standard protocols and classified for appropriate Client care unit placement.
- 11.1.5.6 Once admitted, Clients will be escorted to the appropriate Client Care Unit for housing and treatment
- 11.1.5.7 Property being dropped off, or retrieved, for Clients will be received from the Drop-off/Client Accounts pass-through window in the Reception & Waiting area.

11.1.6 People Management Systems -- Discharge

- 11.1.6.1 Most Clients being discharged from this component, according to a pre-determined departure schedule. When discharged they will either be transferred back their "home-institution" or will be released from the Facility's front entry, or from the Reception and Waiting area of this component. Clients proceeding back to other facilities will move, under corrections staff escort, through the Vehicular Sallyport.
- 11.1.6.2 Discharged Clients will receive their belongings and effects from the Property and Valuables storage area in this component.
- 11.1.6.3 Client health records will be maintained by this Facility (see C-2). Legal records will accompany the Client back to his "home-institution".

11.1.7 Material Management Systems

11.1.7.1 Consumable Supplies

- 11.1.7.1.1 Inventories of consumable supplies will be maintained close to point of use. Generally, a 3 day supply of each item will be maintained with minimum inventory levels triggering a re-ordering process. All orders will be sent electronically to the facility's Material Management component (See C-8.2) for processing.
- 11.1.7.1.2 All ordering, purchasing, receiving and checking, monitoring of supply levels, and delivering of supplies will be conducted through the Facility's Material Management component (See C-8.2) .

11.1.7.2 Linen

- 11.1.7.2.1 All clean linen used for Clients will be stored close to point of use. A clean utility room in this component will accommodate inventories of commonly used items for immediate access. All inventories will be managed according to a minimum of 3 days supply reorder level.
- 11.1.7.2.2 Linen Services will supply clean linen and pick up soiled linen from this component on a scheduled basis.

11.1.7.3 Waste Management

11.1.7.3.1 Waste products will be managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations. Throughout this component, waste management is understood to begin at the individual Client contact locations with centralized collection and temporary holding stations being located in a general support area. Each administrative area will also accommodate segregation of the types of waste products typically generated in these types of spaces.

11.1.7.3.2 Segregation of wastes will accommodate the following categories of products:

- 11.1.7.3.2.1 General garbage;
- 11.1.7.3.2.2 Confidential paper;
- 11.1.7.3.2.3 Clean paper and cardboard;
- 11.1.7.3.2.4 Clean metal (tin and aluminum); and
- 11.1.7.3.2.5 Clean recyclable plastics.

11.1.8 Information Management Systems

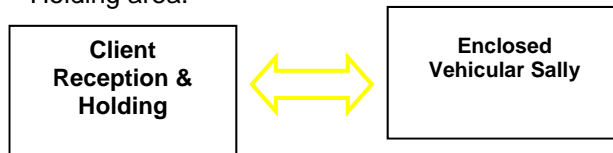
11.1.8.1 All Client-related information will be maintained on the electronic medical record (EMR) system. Wireless technology will enable data entry using a combination of fixed terminals, and mobile pads. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person’s access to different sections and their ability to enter/edit data.

DESIGN CRITERIA

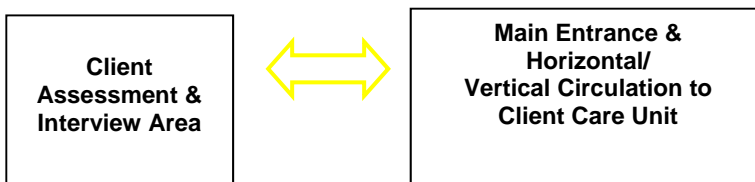
11.1.9 Proximity Relationships

11.1.9.1 The Central Client Registration, Diagnostic Intake and Specimen Collection component’s location relative to other components and the nature of circulation used to move between two components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.

11.1.9.2 Provide Direct Access from the Facility’s vehicular Sallyport to the Reception and Holding area.



11.1.9.3 Provide Direct Access by General Circulation to primary public circulation corridors/conveyances for the movement of Clients and escorts to the Client Care Unit.



11.1.10 Internal Design Criteria

11.1.10.1 General Internal Layout

11.1.10.1.1 The component should be organized into 4 major areas as follows:

11.1.10.1.1.1 Client reception and intake area;

11.1.10.1.1.2 Client Assessment and classification area;

11.1.10.1.1.3 Client change & shower area; and

11.1.10.1.1.4 Shared support area.

11.1.10.1.2 The vehicular sally will be the primary means of entrance to the Admissions area and requires a Secure-Client entry into the Reception & Holding area where legal and health documentation will be reviewed and processed and Client will be searched for contraband.

11.1.10.1.1 The Client will disrobe and take a shower and receive institutional clothing. This area should be proximate to the Client holding area.

11.1.10.1.2A Client health exam will be conducted in the Exam room which will be immediately adjacent to Holding and the Shower & Clothing change area.

11.1.10.1.3 The Client will be interviewed by a psychiatrist who will classify the Client and determine what kind of treatment services are appropriate and which type of Care Unit he/she should be admitted to.

11.1.10.1.4 The Client will then be escorted to the appropriate Client Care Unit.

11.1.10.1.5 Specimens will be collected on the Client Care Unit.

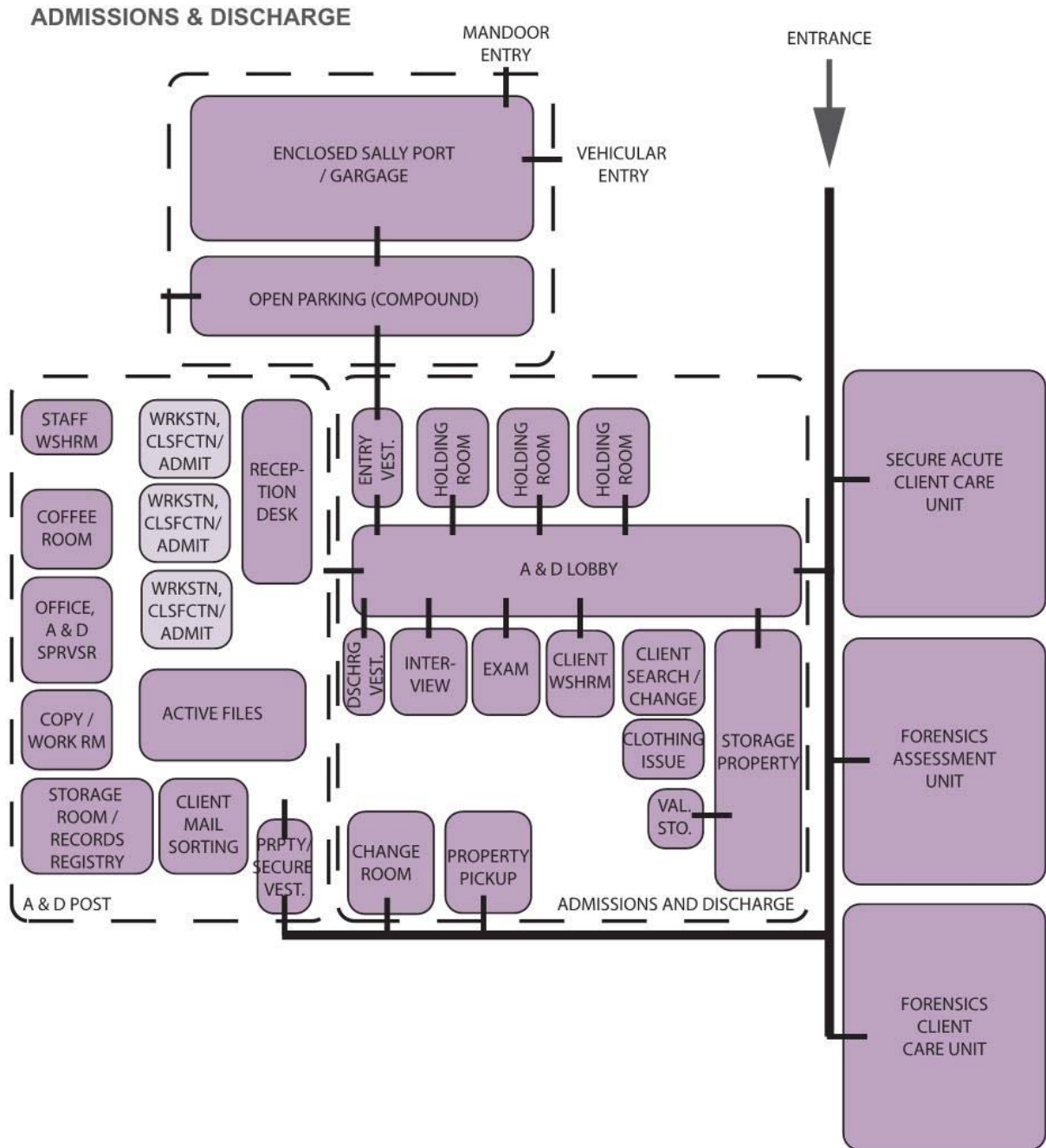
11.1.10.2 Component Security

11.1.10.2.1 Access to the Client intake area of this component will be restricted and will not be open to access by other Facility users. Staff working in this area will have a means of leaving their workstation for immediate access to a safe haven should their personal safety be jeopardized. Panic alarms will be installed in the Reception Holding area, and will communicate directly with the Operations Security Centre (see .B-3).

11.1.10.2.2 Access to the Admissions and Discharge component will be controlled at all times. Access will be controlled by electronic security technology.

11.1.11 Component Functional Diagram

11.1.11.1 The areas making up this component should be organized as illustrated in the diagram:



11.1.12 Space Table

11.1.12.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

C4 ADMISSIONS AND DISCHARGE						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	SALLYPORT					<i>for all secure Client admissions and transfers</i>
.01	Enclosed Sallyport/Garage	1	115.00	115.00	2	provide automatic garage door, provide interlocking doors so that door to the facility will not open until the garage door is closed and secured. Provide space for one ambulance and minimum 10ft of clearance on all sides of the vehicle, types of vehicles involved in transfer may be ambulance, car, or conversion van
.02	Open Parking (Compound)	1	(-)	(-)	2	
	SUBTOTAL			115.00		
	A & D POST					
.03	Office, A & D Supervisor	1	12.00	12.00	3	
.04	Workstation, Classification/Admitting	2	6.50	13.00	3	
.05	Coffee Room	1	10.00	10.00	4	
.06	Copy/Workroom	1	10.00	10.00	4	
.07	Active Files	1	20.00	20.00	4	
.08	Storage Room, Records Registry	0	40.00	0.00	4	<i>eliminated 40sm 9/5/14</i>
.09	Washroom, Staff	1	4.00	4.00	4	2 piece
.10	Recycling Alcove	1	2.00	2.00	3	
.11	Property Transfer, Secure Vestibule	1	6.00	6.00	3	
	SUBTOTAL			77.00		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 4 ADMISSIONS AND DISCHARGE**

ADMISSIONS AND DISCHARGE						<i>shared with Forensics</i>
.12	Entry Vestibule	1	10.00	10.00	2	
.13	A&D Lobby	1	30.00	30.00	2	seating for Client waiting, TV, welcoming safe environment
.14	Holding Room	3	10.00	30.00	2	
.15	Holding Room, Soft	1	10.00	10.00	1	provide in room toilet and sink for unstable or aggressive clients
.16	Housekeeping Closet	1	3.50	3.50	4	
.17	Client Search/Change	2	6.00	12.00	2	
.18	Shower/Change	1	11.00	11.00	2	
.19	Interview Room	3	11.00	33.00	2	
.20	Exam Room	1	11.00	11.00	2	
.21	Washroom, Client, Barrier Free	1	4.50	4.50	2	2 piece accessible
.22	Soiled Holding	1	50.00	50.00	4	
.23	Recycle Alcove	1	10.00	10.00	4	
.24	Institutional Clothing Issue and Storage	1	12.00	12.00	4	
.25	Discharge Vestibule	1	6.00	6.00	2	
	SUBTOTAL			233		
	TOTAL NET SQUARE METRES			425		

C 5 VISITING CENTRE

This specification outlines the functional, operational and physical requirements for the Secure Visiting Centre functional component for the family and friend who are visiting Clients.

FUNCTIONAL DESCRIPTION

12.1.1 Statement of Purpose

- 12.1.1.1** This component accommodates the Visiting and Family Visiting Unit programs, which provide the opportunities for Clients to maintain and establish and develop family and community relationships during their residency. As such, staff of this component manage and oversee all Client/visitor activities.

12.1.2 Scope of Services

12.1.2.1 Functional Content

- 12.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 12.1.2.1.1.1 Client Reception. Waiting, Registration and Search;
 - 12.1.2.1.1.2 Check-in of visitors as they arrive at the Visiting Centre (VC);
 - 12.1.2.1.1.3 Controlling visitor personal items, including receiving, registering, and checking these items and intercepting contraband;
 - 12.1.2.1.1.4 Visitor lockers for personal items;
 - 12.1.2.1.1.5 Area for search of Clients before and after open contact visits;
 - 12.1.2.1.1.6 Registration area for requests for visits and phone calls;
 - 12.1.2.1.1.7 Waiting area for Clients;
 - 12.1.2.1.1.8 Vending Area for Clients;
 - 12.1.2.1.1.9 Public Property pickup area;
 - 12.1.2.1.1.10 Drop-off for Client Accounts;
 - 12.1.2.1.1.11 .Security Vestibule;
 - 12.1.2.1.1.12 Control Desk;
 - 12.1.2.1.1.13 Visitor Waiting;
 - 12.1.2.1.1.14 Visitor Washrooms;
 - 12.1.2.1.1.15 Metal detection scanning;
 - 12.1.2.1.1.16 Post-scan waiting;
 - 12.1.2.1.1.17 Public changing area for Clients on Discharge (see C-4);
 - 12.1.2.1.1.18 Professional Visiting areas;

- 12.1.2.1.1.19 General Visiting areas;
- 12.1.2.1.1.20 Family visiting area;
- 12.1.2.1.1.21 Open-visiting station;
- 12.1.2.1.1.22 Outdoor visiting station;
- 12.1.2.1.1.23 Security Vestibule;
- 12.1.2.1.1.24 Family Visiting Unit with bedroom, kitchen/dining, living, washroom and outdoor secure courtyard; and
- 12.1.2.1.1.25 Administration of component operations.

12.1.2.2 Exclusions

- 12.1.2.2.1 Family room and Family Visiting Room in non-secure Entrance area (see C-1) are not included in this Secure Visiting Centre component.

12.1.2.3 Anticipated Trends in Service Delivery

- 12.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. The effects of these trends should be reflected in the component's design.
 - 12.1.2.3.1.1 Advances in electronic information and scheduling will be implemented to enhance Visitor registration.
 - 12.1.2.3.1.2 A greater emphasis will be placed on visits during non-program hours (evenings and weekends) to reduce conflicts with Client therapy programs and the Client's Care Plan. This approach will foster more regularized work habits for Clients.
 - 12.1.2.3.1.3 More use will be encouraged of video conferencing technologies to improve access for Client-lawyer consultations, as well as more frequent on-line family visits.
 - 12.1.2.3.1.4 Increased emphasis will be placed on encouraging frequent family interactions to enhance the Client's possibilities for successful reintegration into the community by providing supportive community and family relationships.
 - 12.1.2.3.1.5 Because the Client-visitor interaction represents an important step in the process of re-integration into the community, operational features of this component will be configured to support pro-active, not oppressive, social experiences.

OPERATIONAL DESCRIPTION

12.1.3 Hours of Operation

Visiting hours for Clients will be from 8am to 8pm, seven days per week. Overnight in the family visiting unit will be permitted.

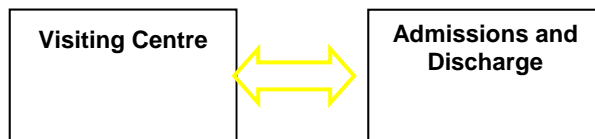
12.1.4 People Management Systems

- 12.1.4.1 A visitor will be searched at the entrance in conformance to this component's administrative policy. Clients will be searched before entry to the visiting area and after visits have taken place.
- 12.1.4.2 Visiting area must be secured with sallyport access required
- 12.1.4.3 Secure visiting stations will be provided to accommodate high-risk Clients.
- 12.1.4.4 Clients will be notified of a visitor's arrival. Their identity will be verified and they will be allowed access to the main visiting area, or private or secure visiting areas, depending on their security status.

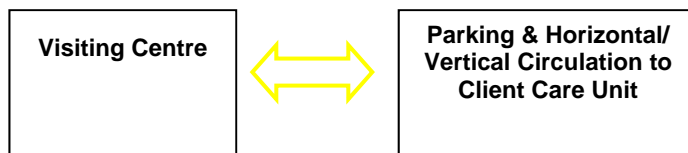
DESIGN CRITERIA

12.1.5 Proximity Relationships

- 12.1.5.1 The Secure Visiting Centre will require proximity to the Admissions and Discharge component (see C-4) and convenient access to the Secure Client Care Services (see B-1.2)
- 12.1.5.2 Provide Direct Access from the Visiting Centre to Admissions and Discharge.



- 12.1.5.3 Provide Direct Access by General Circulation to public parking and primary public circulation corridors/conveyances for the movement of Clients and escorts to the Client Care Unit.



12.1.6 Internal Design Criteria

12.1.6.1 General Internal Layout

- 12.1.6.1.1 The component will feature two entry points:
 - 12.1.6.1.1.1 An external visitor entry from the main parking lot; and
 - 12.1.6.1.1.2 A Client entry from the internal circulation system connecting to the Client Care Units
 - 12.1.6.1.1.3 Movement paths will be of an appropriate dimension to allow for secure and frequent movement of both visitors and Clients, and the secure monitor of that movement by the staff.

- 12.1.6.1.1.4 The staffed nurse station will have clear sightlines to visitor and Client entrances, as well as the general and family visiting stations, open visiting rooms, and the outdoor visiting area.
 - 12.1.6.1.2 The component will consist of 3 zones:
 - 12.1.6.1.3 Staff control station and support space;
 - 12.1.6.1.4 Visiting areas featuring partial Client/visitor separation; and
 - 12.1.6.1.5 Visiting areas featuring no Client/visitor separation.
- 12.1.6.2** Visiting station configurations:
- 12.1.6.2.1 General visiting stations, each accommodating one Client and up to 2 visitors, will feature visitor separation via security partitions.
 - 12.1.6.2.2 Family visiting stations, each accommodating one Client and up to 4 visitors, will feature partial Client/visitor separation via security partitions.
 - 12.1.6.2.3 Two open visiting rooms will be provided to accommodate face to face interactions between up to eight Clients and their visitors (1 to 3 visitors each).
 - 12.1.6.2.4 A children's play area will be provided in each open visiting room
 - 12.1.6.2.5 General and family visiting stations will provide limited opportunities for spatial, visual and acoustic privacy.
 - 12.1.6.2.6 The open visiting rooms will provide limited opportunities for spatial, visual and acoustic privacy by using appropriate size and furniture layout.
- 12.1.6.3** Interior Design concepts:
- 12.1.6.3.1 This component's environment will approximate that of a community centre rather than that of a traditional correctional facility.
 - 12.1.6.3.2 This component will be provided with ample natural light and views to the exterior and will have access to a secured outdoor courtyard.
 - 12.1.6.3.3 Since this component is a primary destination for visitors, there will be signage directly visible from the parking area that is clear and the access routes will be straightforward.
 - 12.1.6.3.4 All areas will be wheel-chair accessible.
 - 12.1.6.3.5 Comfortable, low-maintenance furniture, including casual seating, chairs, and tables, will be required in the open visiting rooms.
- 12.1.6.4** Component Security
- 12.1.6.4.1 A staffed nurse station will be provided, with views to all entry points and visitor statins and rooms.

- 12.1.6.4.2 Visiting stations which involve partial Client/visitor separation will be equipped with glazed partitions and built-in microphone systems that can be controlled from the nurse station.
- 12.1.6.4.3 All partial-contact and open-contact visiting spaces will be equipped with fixed alarms and panic buttons.
- 12.1.6.4.4 Staff will carry personal radios with alarms.
- 12.1.6.4.5 The open visiting rooms will be equipped with public address systems.
- 12.1.6.4.6 Security cameras will be required for the open visiting rooms.

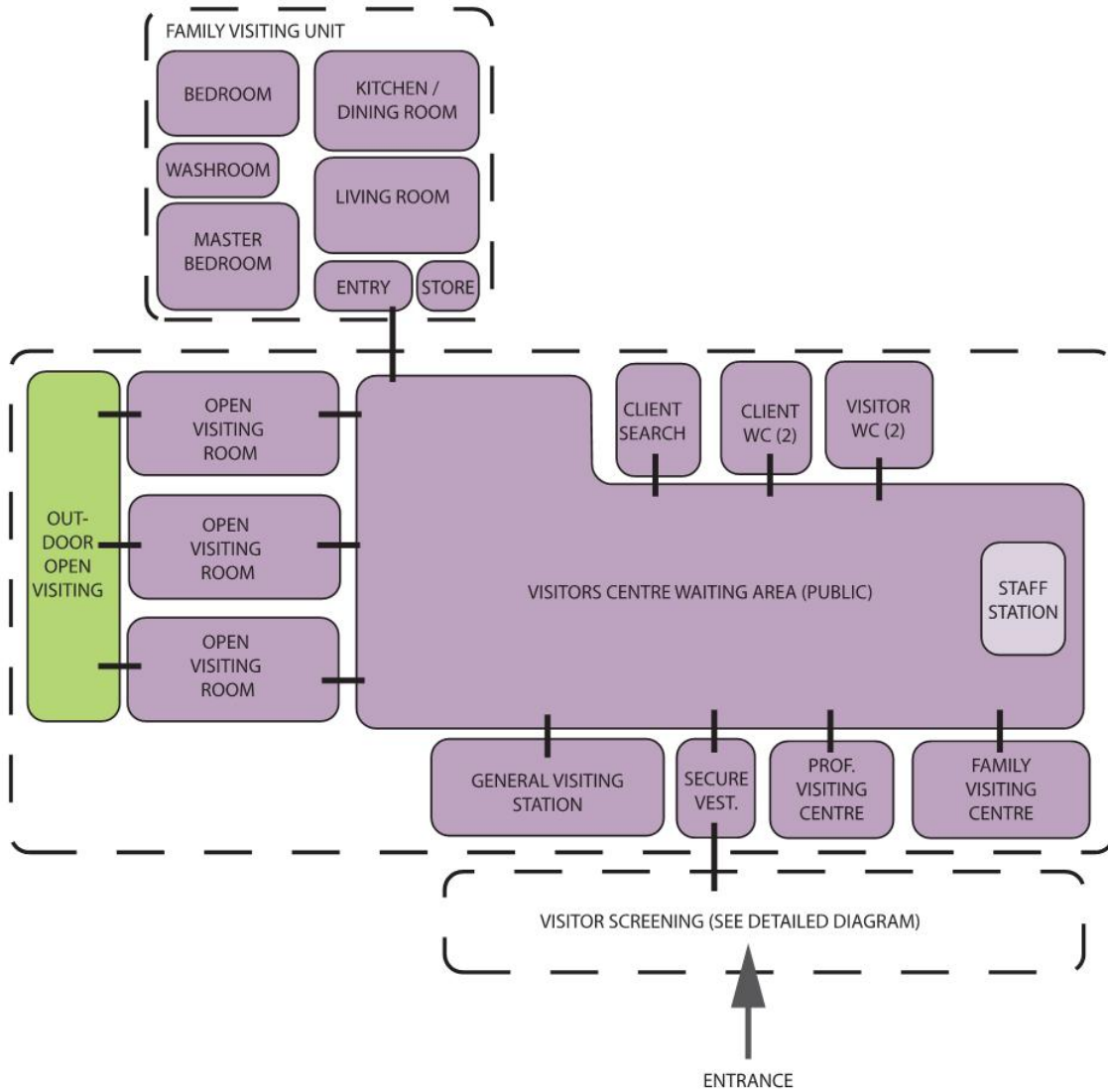
12.1.6.5 Building system concepts

- 12.1.6.5.1 Acoustic isolation in the range of 45 to 50 STC is required for the semi-private visiting stations for Client/visitor privacy.
- 12.1.6.5.2 All glazed security panels will be tempered, impact resistant glass.
- 12.1.6.5.3 All entrance and exit systems will require glazed door panels to enable staff surveillance of visitor and Client approach and movement

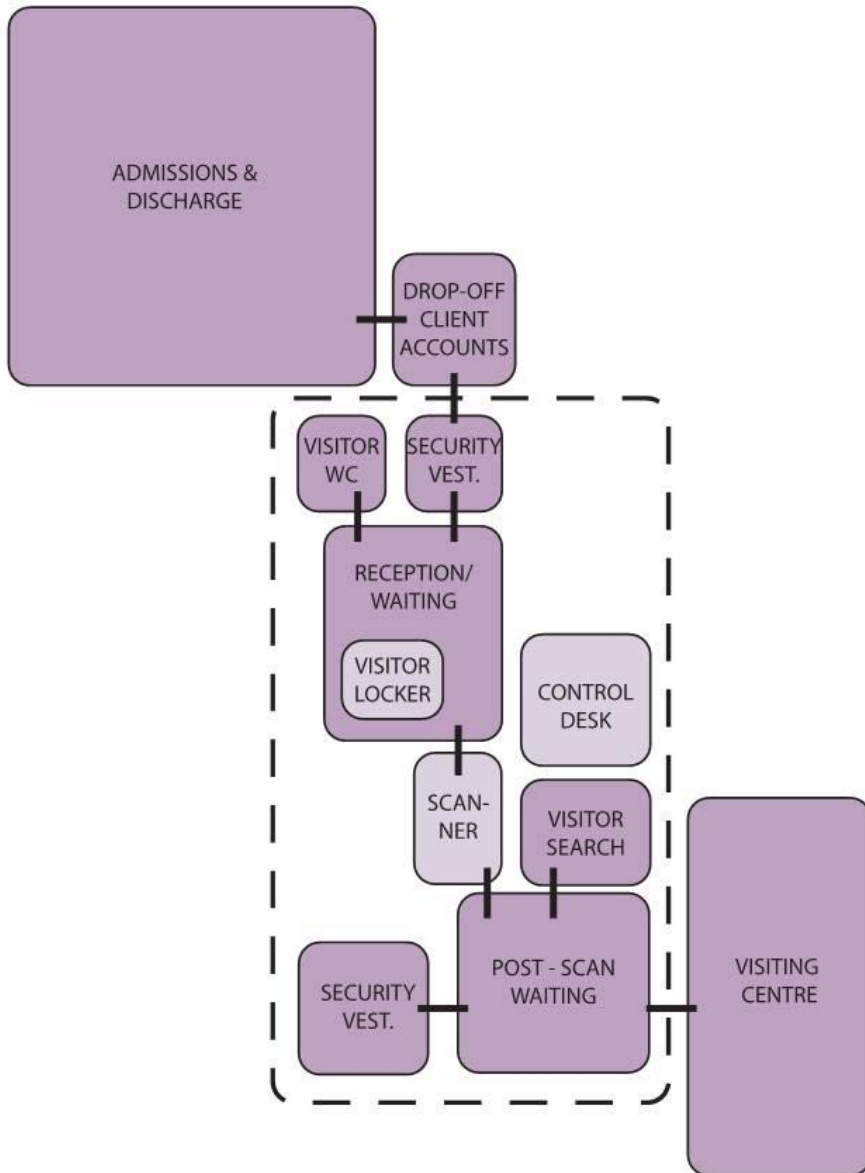
12.1.7 Component Functional Diagram

- 12.1.7.1** The areas making up this component should be organized as illustrated in the diagram:

VISITING CENTRE



VISITOR SCREENING



12.1.8 Space Table

12.1.8.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 5 VISITING CENTRE**

C5 VISITING CENTRE						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	SECURE ENTRANCE					
.01	Secure Public Lobby	1	7.00	7.00	3	<i>public lobby with all non secure rooms below located off of this lobby</i>
.02	Reception Desk	1	15.00	15.00	3	
.03	Public Property Pick up	1	8.00	8.00	3	locate near public entry for ease of transfer/pick up of Client items
.04	Drop-off/Client Accounts	1	9.50	9.50	3	locate near public entry for ease of transfer/drop off of Client items
.05	Public Change Room	1	10.00	10.00	3	change are for Clients to change into their personal clothing upon discharge
	SUBTOTAL			49.50		
	VISITING AREAS					<i>used by secure and forensic clients and visitors</i>
.06	Secure Vestibule	1	6.00	6.00	3	
.07	Visitor Locker	1	6.00	6.00	3	<i>locate off of secure public lobby</i>
.08	Washroom, Visitor Barrier Free	1	5.00	5.00	3	<i>2 piece, accessible, locate off of secure public lobby</i>
.09	Security Vestibule	1	8.00	8.00	2	
.10	Control Desk	1	15.00	15.00	2	
.11	Reception Waiting	1	20.00	20.00	2	
.12	Visitor Search Room	1	9.50	9.50	2	
.13	Post Scan Waiting	1	12.00	12.00	2	
.14	Security Vestibule	1	8.00	8.00	2	
.15	Staff Station	1	12.00	12.00	2	
.16	Client Search	1	8.00	8.00	2	
.17	Washroom, Client, Barrier Free	2	4.50	9.00	2	<i>2 piece, accessible</i>
.18	Visiting Centre Waiting Area (public)	1	35.00	35.00	3	

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 5 VISITING CENTRE**

.19	Professional Visiting	2	4.00	8.00	2	
.20	General Visiting Station	4	6.00	24.00	2	
.21	Family Visiting Station	3	10.00	30.00	2	
.22	Open Visiting Station (contact)	3	15.00	45.00	2	
.23	Washroom, Public, Barrier Free	2	4.50	9.00	3	2 piece, accessible
.24	Outdoor Visiting Area	1	0.00	0.00	2	requires secure perimeter
	SUBTOTAL			269.50		
	FAMILY VISITING UNIT (2)					locate one suite in the flexible perimeter shared by both secure and non secure sides and locate one on the secure side near the secure secure outdoor space - porch
.25	Entry Vestibule	1	3.50	3.50	3	
.26	Kitchen/Dining Room	1	13.50	13.50	3	
.27	Living Room	1	14.00	14.00	3	pull out bed
.28	Master Bedroom	1	13.00	13.00	3	
.29	Bedroom	1	10.00	10.00	3	
.30	Washroom, Client	1	3.50	5.00	3	3 piece
.31	Storage	1	0.50	0.50	3	
	SUBTOTAL			59.50		net area for 1 visiting unit
	TOTAL NET AREA FOR 2 VISITING UNITS			119		
	TOTAL NET SQUARE METRES			438		

C 6 HEALTH CARE CLINIC

This specification outlines the functional, operational and physical requirements for the Health Care Clinic functional component.

FUNCTIONAL DESCRIPTION

13.1.1 Statement of Purpose

- 13.1.1.1** This Facility will deploy a higher level of professional staff to comprehensively address significant mental health matters for Clients, such as substance abuse, bi-polar disease and personality disorders. The Health Care Clinic, which is part of that continuum of care, provides health services to both Secure and Non-Secure Clients, including medical, dental, pharmaceutical services and sexually transmitted infection (STI) clinics.

13.1.2 Scope of Services

13.1.2.1 Functional Content

13.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:

- 13.1.2.1.1.1 Provision of initial health status examination during the Admissions process;
- 13.1.2.1.1.2 Set up appointments for Clients requiring services from health care consultants;
- 13.1.2.1.1.3 Assisting consultants with examinations and treatments;
- 13.1.2.1.1.4 Providing minor treatments to Clients;
- 13.1.2.1.1.5 Responding to medical emergencies;
- 13.1.2.1.1.6 Maintaining medical and dental records for Clients;
- 13.1.2.1.1.7 Consulting with Clients regarding Client health status;
- 13.1.2.1.1.8 Consultation with off-site experts using Tele-health technologies;
- 13.1.2.1.1.9 Providing dental services;
- 13.1.2.1.1.10 Generating diagnostic x-ray images;
- 13.1.2.1.1.11 Providing basic Optometric services; and
- 13.1.2.1.1.12 Provide space for specialist consultants to attend to Clients.

13.1.2.2 Exclusions

- 13.1.2.2.1 Methadone treatments will be provided by clinical staff on the Client Care Units. Medicine rooms on Care Units will appropriately secure and refrigerated storage for methadone in accordance with legal and medical protocols.

- 13.1.2.2.2 Clients requiring major treatments, surgery, and complex diagnostic services will be referred to appropriate off-site medical and surgical facilities. Lab tests will be performed off-site.

13.1.2.3 Anticipated Trends in Service Delivery

- 13.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. The effects of these trends should be reflected in the component's design.
 - 13.1.2.3.1.1 Advances in electronic will be implemented to enhance Client flow and support the single Electronic Medical Record (EMR).
 - 13.1.2.3.1.2 Effective and efficient utilization of all Facility-based services will need to be supported by an electronic order entry system with decision support tools, and a fully integrated registration, admissions and discharge service that address the needs of all on-site Client care-delivery and therapeutic services.
 - 13.1.2.3.1.3 Individual care programs will continue emphasizing multidisciplinary content that will require involvement of several practitioners in each Client's care plan.

OPERATIONAL DESCRIPTION

13.1.3 Lean Planning Standards

13.1.3.1 Utilization Efficiency

- 13.1.3.1.1 This component will experience variable volumes of daily Client visits. Planning assumes that Facility operations will include a fully integrated scheduling system in which all Facility-based services participate.

13.1.4 Hours of Operation

The clinic will be staffed between the hours of 8 am and 8pm, seven days per week. Clients will not stay overnight in this component. If an overnight stay is required, the Client will be moved to the Private Client Room-Medical on the Care Unit.

13.1.5 Operational Systems

13.1.5.1 Security Systems:

- 13.1.5.1.1 Depending on security risk, some Clients will be escorted to the clinic by staff.
- 13.1.5.1.2 Staff at Nurse Station will have sightlines of all areas accessible to Clients.
- 13.1.5.1.3 Client contact rooms will be equipped with fixed alarms and will be monitored by staff in the Operations Security Centre (see B-3).

- 13.1.5.2 Client Files: Clients will have a hard copy of health care files. Client health records will be maintained by this Facility (see C-2). Migration to an Electronic Medical Record will be anticipated.
- 13.1.5.3 Access to Health Care: All Clients will have access to the Health Care Clinic.
 - 13.1.5.3.1 Clients will have scheduled examinations.
 - 13.1.5.3.2 Blood and urine specimen collection will be conducted at the Client Care Unit
- 13.1.5.4 Medications: a clinical pharmacist will be provided for consultation with Clinic Clients on an as-needed basis and managed by the on-site Pharmacy (see C-8.6). Nursing staff will distribute medications to Clients at scheduled times using medication carts that will be moved to Medication Room on each Care Unit. A drop-in work station for the Clinical Pharmacist will be provided in this component.

13.1.6 Material Management Systems

13.1.6.1 Consumable Supplies

- 13.1.6.1.1 Inventories of consumable supplies will be maintained close to point of use. Generally, a 3 day supply of each item will be maintained with minimum inventory levels triggering a re-ordering process. All orders will be sent electronically to the facility's Material Management component (See C-8.2) for processing.
- 13.1.6.1.2 All ordering, purchasing, receiving and checking, monitoring of supply levels and delivering of supplies will be conducted through the Facility's Material Management component (See C8.2) .

13.1.6.2 Linen

- 13.1.6.2.1 All clean linen used for Clients will be stored close to point of use. A clean utility room in this component will accommodate inventories of commonly used items for immediate access. All inventories will be managed according to a minimum 3 days supply reorder level.
- 13.1.6.2.2 Linen will supply clean linen and pick up soiled linen from this component on a scheduled basis.

13.1.6.3 Waste Management

- 13.1.6.3.1 Waste products will be managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations. Throughout this component, waste management is understood to begin at the individual Client contact locations with centralized collection and temporary holding stations being located in a general support area. Each administrative area will also accommodate segregation of the types of waste products typically generated in these types of spaces.
- 13.1.6.3.2 Segregation of wastes will accommodate the following categories of products:

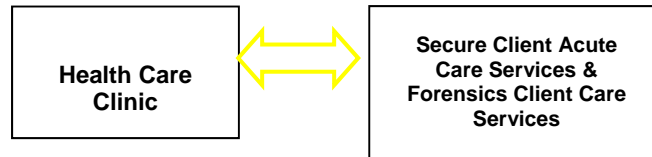
- 13.1.6.3.2.1 General garbage;
- 13.1.6.3.2.2 Confidential paper;
- 13.1.6.3.2.3 Clean paper and cardboard;
- 13.1.6.3.2.4 Clean metal (tin and aluminum); and
- 13.1.6.3.2.5 Clean recyclable plastics.

DESIGN CRITERIA

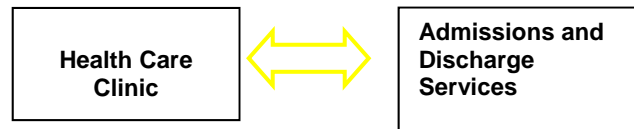
13.1.7 Proximity Relationships

13.1.7.1 The Health Care Clinic will be located in close proximity to the Secure Client Care Services (see B 1.2) and the Forensics Client Care Services (see B 1.1). Convenient access to the Admissions and Discharge Services is important.

13.1.7.2 Provide Direct Access by General Circulation to primary secure public circulation corridors/conveyances for the movement of Clients and escorts to the Client Care Units.



13.1.7.3 Provide Direct Access by General Circulation to primary public circulation corridors/conveyances for the movement of Clients and escorts to the Admissions and Discharge Service.



13.1.8 Internal Design Criteria

13.1.8.1 General Internal Layout

13.1.8.1.1 The component will be organized into 3 major areas as follows:

- 13.1.8.1.1.1 Client reception, nurse station and waiting area
- 13.1.8.1.1.2 Client examination and treatment area
- 13.1.8.1.1.3 Diagnostic x-ray and dental x-ray area
- 13.1.8.1.1.4 Nurse Station will be immediately adjacent to the Medication Room.
- 13.1.8.1.1.5 All areas accessed by Clients will be wheelchair accessible
- 13.1.8.1.1.6 Treatment rooms will accommodate and allow movement of a stretcher
- 13.1.8.1.1.7 All doors controlled by the nurse station will be visible from the nurse station.

13.1.8.2 Component Security

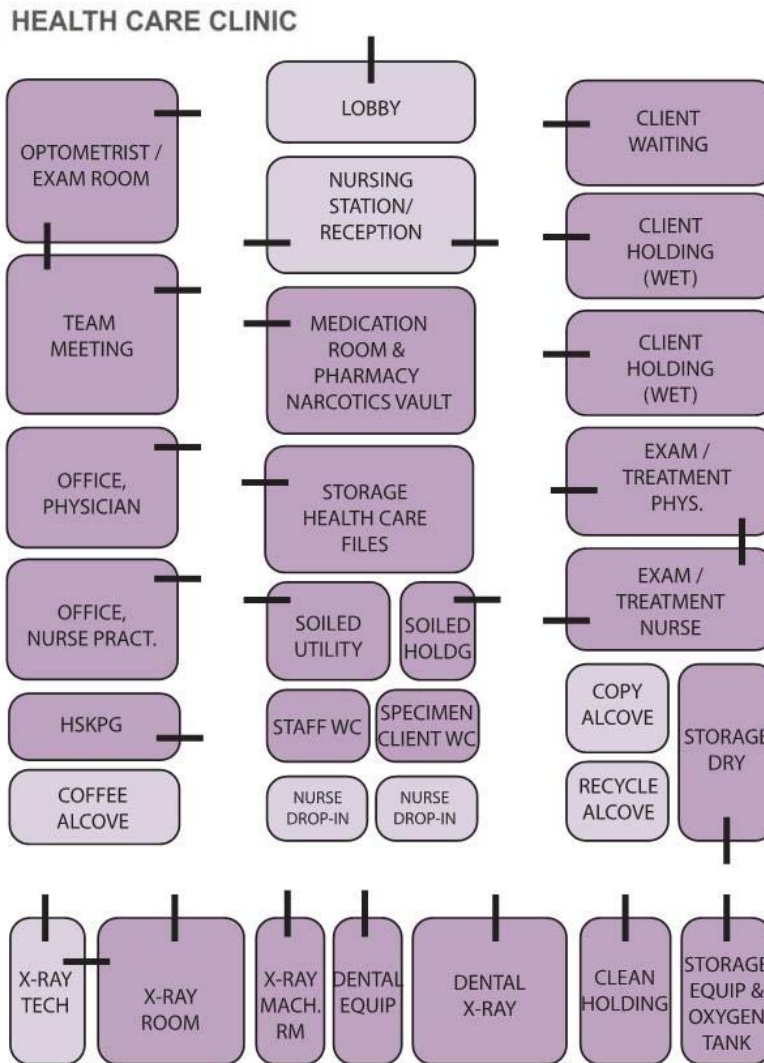
- 13.1.8.2.1 Access to the nurse station and medication room of this component will be restricted. Staff working in this area will have a means of leaving their workstation for immediate access to a safe haven should their personal safety be jeopardized. Panic alarms will be installed in the Client-occupied areas, and will communicate directly with the Operations Security Centre (see .B-3).
- 13.1.8.2.2 A lockable narcotics vault will be maintained for controlled substances and narcotics. This vault will be located inside of the lockable Medication Room.
- 13.1.8.2.3 Access to the Health Care Clinic component will be controlled at all times. Access will be controlled by electronic security technology.

13.1.8.3 Building System Concepts:

- 13.1.8.3.1 Air conditioning will be provided to the Health Care Clinic. The temperature of the Medication Room will be kept at 22 degrees Celsius or below at all times.
- 13.1.8.3.2 The dental procedure room and X-ray procedure room will have lead-lined walls. Special servicing will be required for the X-ray machine room and the dental air-compressor and water-purification room.
- 13.1.8.3.3 The Physician's room will have video-conferencing capability to support Tele-health services.

13.1.9 Component Functional Diagram

- 13.1.9.1** The areas making up this component should be organized as illustrated in the diagram:



13.1.10 Space Table

13.1.10.1 The schedule beginning on the following page illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 7 STAFF RESOURCES/ERT**

C6 HEALTH CARE CLINIC						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	HEALTH CARE CLINIC					<i>located in "flexible perimeter" for use by secure and non-secure clients</i>
.01	Lobby	1	12.00	12.00	3	
.02	Client Holding (Wet)	2	8.00	16.00	3	
.03	Client Waiting	1	12.00	12.00	3	
.04	Nursing Station/Reception	1	12.00	12.00	3	
.05	Office, Physician	1	12.00	12.00	3	
.06	Office, Nurse Pract.	1	11.00	11.00	3	
.07	Copy Alcove	1	6.00	6.00	3	
.08	Storage, Health Care Files	1	16.00	16.00	4	
.09	Medication Room	1	12.00	12.00	4	
.10	Pharmacy, Narcotics Vault	1	2.00	2.00	4	
.11	Storage, Dry	1	12.00	12.00	4	
.12	Storage, Equipment & Oxygen Tanks	1	12.00	12.00	4	
.13	Team Meeting Room	1	16.00	16.00	3	
.14	Coffee Alcove	1	4.00	4.00	3	
.15	Workstation, Nurse Drop-in	2	3.50	7.00	3	
.16	Workstation, X-ray Technician	1	6.50	6.50	3	<i>Note: SHNB currently contracts for X-ray etc. outside, within community</i>
.17	Washroom, Staff	1	4.00	4.00	4	<i>2 piece</i>
.18	Exam/Treatment Room, Physician	1	14.00	14.00	3	
.19	Exam/Treatment Room, Nurse/Interview	1	10.00	10.00	3	
.20	X-Ray Room	1	14.00	14.00	3	<i>Note: SHNB currently contracts for X-ray etc. outside, within community</i>
.21	X-Ray Machine Room	1	4.00	4.00	3	<i>Note: SHNB currently contracts for X-ray etc. outside, within community</i>
.22	Dental Procedures	1	14.00	14.00	3	<i>Note: SHNB currently contracts for dental outside, within community</i>
.23	X-Ray Machine Room	1	4.00	4.00	3	<i>Note: SHNB currently contracts for X-ray etc. outside, within community</i>
.24	Optometrist/Exam Room	1	14.00	14.00	3	<i>Note: SHNB currently contracts for Optometry outside, within community</i>
.25	Specimen Collection/Washroom	1	4.00	4.00	3	
.26	Soiled Utility Room	1	8.00	8.00	4	
.27	Clean Holding	1	5.00	5.00	4	
.28	Soiled Holding	1	5.00	5.00	4	
.29	Recycle Alcove	1	2.00	2.00	3	
.30	Housekeeping Closet	1	3.50	3.50	4	
	SUBTOTAL			274.00		
	TOTAL NET SQUARE METRES			274.00		

C7 STAFF RESOURCES/ERT

This specification outlines the functional, operational and physical requirements for the shared Staff Facilities functional component and Emergency Response Team (ERT) functions.

FUNCTIONAL DESCRIPTION

14.1.1 Statement of Purpose

- 14.1.1.1 The Staff Facilities component accommodates the locker/change/shower functions for staff when entering the Facility at the non-secure entry point and at the secure entry point. This component also provides areas for the secure staff Training and the Emergency Response Team (ERT).

14.1.2 Scope of Services

14.1.2.1 Functional Content

- 14.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
 - 14.1.2.1.1.1 Serving as the Facility's main staff change areas near the Non-secure and Secure staff entry points;
 - 14.1.2.1.1.2 The functions normally associated with locker/shower/change/toilet facilities;
 - 14.1.2.1.1.3 Secure storage of personal belongings for staff that do not have an on-site dedicated workstation or secure storage within their department;
 - 14.1.2.1.1.4 Posting of notices of general interest to staff;
 - 14.1.2.1.1.5 Secure staff training and meeting (see section .02 in C7) muster room; and
 - 14.1.2.1.1.6 Secure staff Emergency Response Team (ERT) and ERT equipment spaces.

14.1.2.2 Exclusions

- 14.1.2.2.1 The following list specifies administrative, instructional and educational functions exercise functions conducted in other components in the Facility or outside of the Facility:
 - 14.1.2.2.1.1 Group meeting and education sessions (see B 2 Central Programs);
 - 14.1.2.2.1.2 Child day-care services (Assumed to be accommodated in the community);
 - 14.1.2.2.1.3 Wellness and fitness functions normally associated with a fitness facility including support for individual exercise sessions using a variety of fixed and movable exercise stations (for these functions, see wellness & exercise provisions in C3.01 Gym and C3.05 Staff Exercise Room);

14.1.2.2.1.4 Staff lockers and change areas associated with a fitness facility (for these functions See C3.08 and C3.09 Locker Room/Shower); and

14.1.2.2.1.5 Administrative functions associated with running organized exercise programs for staff.

14.1.3 Scope of Education, Meeting and Activity Functions

14.1.3.1 Functions accommodated in this component will support:

14.1.3.1.1 Teaching and demonstration of ERT equipment;

14.1.3.1.2 Training programs for new and current staff;

14.1.3.1.3 Muster room for shift change and advisory meetings;

14.1.3.1.4 Back-up Operations Security Centre (see B3) and emergency operating centre equipment and work stations;

14.1.3.1.5 Staff Lounge;

14.1.3.1.6 Staff outdoor deck;

14.1.3.1.7 All new security staff will receive an orientation training program;

14.1.3.1.8 Current staff will be given training on new programs and on refresher programs;

14.1.3.1.9 Training will occur in a classroom setting of up to 30 staff sitting at tables and chairs. Computer work stations will be available for introducing new applications to the staff; and

14.1.3.1.10 Storage of training materials and CPR dummies.

OPERATIONAL DESCRIPTION

14.1.4 Hours of Operation

14.1.4.1 The Central Staff Facilities component will be accessible to authorized users during the following times:

24 hours-a-day, 7 days-a-week

14.1.5 People Management Systems

14.1.5.1 Access and Security

14.1.5.1.1 Access to this component will be restricted to authorized staff. Electronic technology will be used to control access and to log component users as they enter and leave

14.1.5.1.2 Controlled access will be provide for the Training/Classroom/ERT and the Muster room and the ERT equipment spaces

- 14.1.5.1.3 Controlled access will be provided for the Back-up Operations Security Centre and emergency operating centre equipment and workstations.
- 14.1.5.1.4 Video monitoring will be conducted in the Muster and ERT equipment spaces.
- 14.1.5.1.5 Since users will have access to this component at any time, strategically located panic buttons will provide immediate and direct 2-way voice communication with the Facility's security staff.
- 14.1.5.1.6 The component will be located along a non-public corridor.

14.1.6 Waste Management Systems

14.1.6.1 Waste Management

- 14.1.6.1.1 Waste products will be managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations. In this component, waste management will focus on disposal of discarded paper and disposable water containers. All collected wastes will not be returned to designated holding areas located in Material Management (See C8.2).
- 14.1.6.1.2 Segregation of wastes in this component will accommodate the following categories of products:
 - 14.1.6.1.2.1 General garbage;
 - 14.1.6.1.2.2 Clean paper and cardboard; and
 - 14.1.6.1.2.3 Clean recyclable plastics.

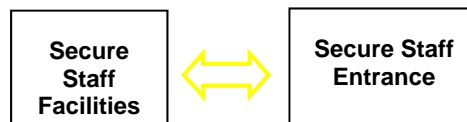
14.1.7 Information Management Systems

- 14.1.7.1 See People Management Systems, above.

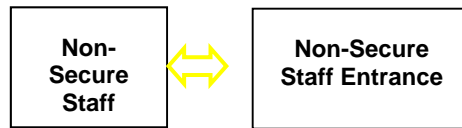
DESIGN CRITERIA

14.1.8 Proximity Relationships

- 14.1.8.1 The Staff Resources/ERT component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 14.1.8.2 Provide Direct Access by Internal Circulation to/from secure building's exterior to create a "main staff entrance" for the arrival and departure of secure staff



- 14.1.8.3** Provide Direct Access by Internal Circulation to/from non-secure Main Building's exterior to create a "main staff entrance" for the arrival and departure of non-secure staff



- 14.1.8.4** Provide Convenient Access by General Circulation to major public and non-public circulation connecting to Client Care Units



14.1.9 Internal Design Criteria

14.1.9.1 General Internal Layout

14.1.9.1.1 The interior of this component should be organized as follows:

14.1.9.1.1.1 Staff entrance

14.1.9.1.1.2 Locker/change/shower/toilet area, segregated for males and female

14.1.9.1.1.3 Direct, convenient access to Training and ERT functions from the main corridor

14.1.9.2 Internal Circulation

14.1.9.2.1 The activity area of this component will connect directly with a point of entrance/exit to/from the building exterior. Staff entering at this point should have the option of proceeding directly to workout stations. The entry route will give staff the option of accessing locker/change/shower/toilet facilities or a point of access/exit into/out of the Client Care Units. A secondary route to enter the facility should not be provided. All entry into secure side should use same route.

14.1.9.3 Communication Technology

14.1.9.3.1 Staff will access this component during their work day and while on breaks. While engaged in activities at this component location, it will be important for staff to maintain connection with the Facility's paging technology enabling emergency/urgent contact.

14.1.9.4 Architectural Concept

14.1.9.4.1 Pay careful attention to security around the various access requirements. During an emergency situation, the Muster and ERT equipment area will be used to mount a response and gain control of the Facility.

14.1.9.4.2 Staff training and lounge will be designed to provide relaxation from the intensity of the structured environment of the Client Care areas.

- 14.1.9.4.3 Training/Classroom/ERT room will be a flexible space for a variety of teaching methods, from small groups to larger lecture type setting.
- 14.1.9.4.4 The training/Classroom/ERT should support video-conferencing.
- 14.1.9.4.5 Training/Classroom/ERT and Muster room will not be accessible to visitors during any emergency.
- 14.1.9.4.6 Flexibility will be provided in washrooms and showers to accommodate variable proportions of male and female staff.

14.1.9.5 Building Systems Concepts

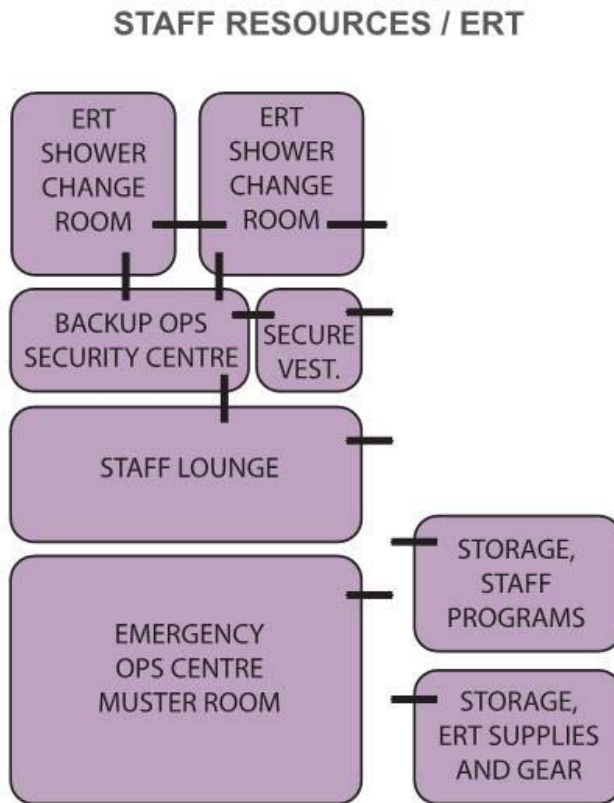
- 14.1.9.5.1 Training/Classroom/ERT will have high quality wireless, hard-wired data connectivity and should support video-conferencing.
- 14.1.9.5.2 Staff showers and locker rooms should have provision for humidity control and should have negative pressure compared to the surrounding spaces.

14.1.9.6 Functional Considerations for Health and Safety

- 14.1.9.6.1 Design and configuration of this component will avoid creation of blind, under-lit corners or other conditions where staff could be isolated and separated from means of communication for security or first aid, or otherwise put at physical risk. Deploy corner mirrors for blind corridors and corners.
- 14.1.9.6.2 Staff access rooms will have glazing in doors or sidelights for safe movement and visual access for security.
- 14.1.9.6.3 Staff in this component will have the ability to passively supervise immediate and surrounding areas through clear lines of sight. Provide multiple means of exit or safe locations for staff.

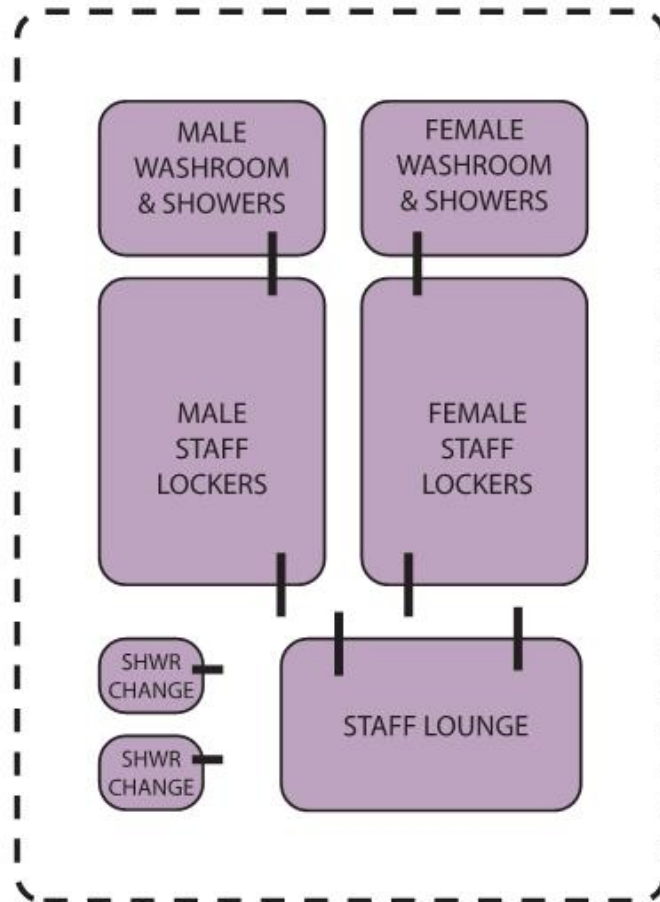
14.1.10 Component Functional Diagram

14.1.10.1 The areas making up this component should be organized as illustrated in the following diagrams:



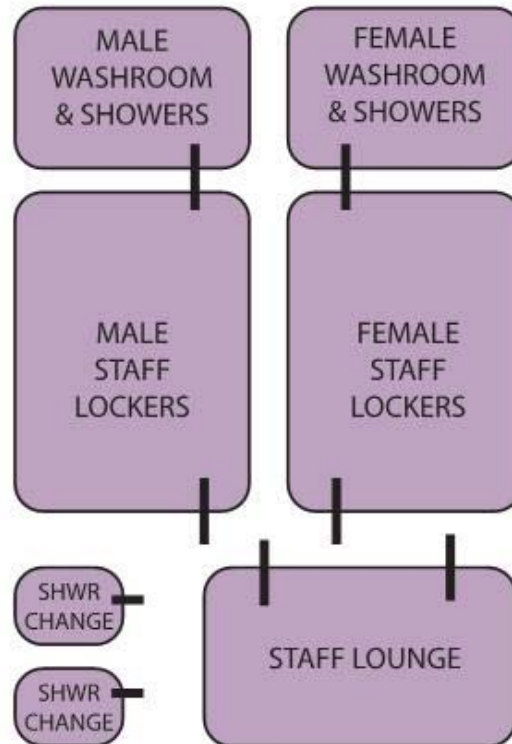
STAFF LOCKERS / SHOWERS

SECURE CLIENT ZONE FACILITY ENTRY



STAFF LOCKERS / SHOWERS

NON- SECURE CLIENT ZONE FACILITY ENTRY



14.1.11 Space Table

- 14.1.11.1** The schedule accompanying this document illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 7 STAFF RESOURCES/ERT**

C7 STAFF RESOURCES/ERT						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
STAFF OPERATIONS/ERT						
.01	Storage, Staff Programs	1	12.00	12.00	4	
.02	Emergency Operations Centre/Muster Room	1	80.00	80.00	4	<i>use as back up operations security centre and emergency response</i>
.03	Back Up Operations Security Centre	1	20.00	20.00	4	
	SUBTOTAL			112.00		
STAFF LOUNGE/ LOCKER						
						<i>shared by all staff</i>
.04	Female Staff Lockers	2	35.50	71.00	4	<i>provide one on secure side and one on non-secure side</i>
.05	Washroom, Staff	2	18.50	37.00	4	
.06	Shower, Staff	3	2.00	6.00	4	
.07	Shower, Staff, Barrier-Free	1	4.00	4.00	4	
.08	Male Staff Lockers	2	24.00	48.00	4	<i>provide one on secure side and one on non-secure side</i>
.09	Washroom, Staff	2	18.50	37.00	4	
.10	Shower, Staff	2	2.00	4.00	4	
.11	Shower, Staff, Barrier-Free	1	4.00	4.00	4	
.12	Staff Lounge	2	46.50	93.00	4	<i>provide one on secure side and one on non-secure side</i>
.13	Staff Outdoor Deck	2	0.00	0.00	4	<i>provide one on secure side and one on non-secure side</i>
ERT						
.14	ERT Lockers	1	40.00	40.00	4	
.15	Laundry Area	1	4.00	4.00	4	
.16	Shower/Change Room/WC	2	8.00	16.00	4	
.17	Storage, ERT Supplies and Gear	1	15.00	15.00	4	<i>The emergency master key will be in a secured locked locker</i>
.18	Sally Port	1	6.00	6.00	4	<i>secure vestibule for BOSC - for security when in use as BOSC</i>
	SUBTOTAL			385.00		
TOTAL NET SQUARE METRES				497		

C 8.1 DIETARY

This specification outlines the functional, operational and physical requirements for the Food Services functional component the Facility for both the secure and non-secure services.

FUNCTIONAL DESCRIPTION

15.1.1 Statement of Purpose

- 15.1.1.1** Food Services will include a Client-focused meal service approach providing Clients with ability to make selection during service and a retail program to support staff and visitor meal service. The scope of food service will include in-Client meal service for Secure and Non-Secure Clients, and retail/cafeteria food services, vending (beverage program only) and catering.

15.1.2 Scope of Services

15.1.2.1 Client Food Services

- 15.1.2.1.1 The Client food system will be predicated on a bulk service concept whereby food service personnel will prepare and transport hot meals in bulk to unit specific serveries (ref A.1.1, A.1.2, B1.1, B.1.2) where they will be portioned and served.
- 15.1.2.1.2 The facilities programmed will support central food production with decentralized plating. Once produced, bulk meals are panned into unit specific formats, distributed to Client unit dining areas, portioned and plated and served “cafeteria-style”.
- 15.1.2.1.3 The model will be designed so as to allow for flexibility in production, procurement and meal assembly. The production capabilities will be designed to support alternate levels of in-house production versus food procurement (that is the purchase of pre-prepared chilled and frozen bulk menu items such as bagged soups and stews, casseroles, pre-cooked and frozen/chilled meats, vegetables, chilled/frozen therapeutic diets and in some instances pre-portioned entrée items).
- 15.1.2.1.4 For bulk meal delivery, cart technology utilized will allow for proper holding of temperatures during transport. Following meal service, all carts and bulk pans will be returned to the central kitchen (ref C8.1) for warewashing and sanitation.

- 15.1.2.1.5 Each unit will have a Servery (ref A.1.2, B1.1; B1.2,) to support meal service for that unit. For the Acute Client Care Service Clients (ref A.1.1), a main dining room/cafeteria with Servery will be provided so that all (or majority) of Clients can enjoy their meals at the same time. This Servery will include a dish washing area for the Acute Client Care service wares. The service wares in all other units will be returned to the main kitchen for dish washing. However, all Servery's will include an under counter commercial grade dish washer for any special Client feeding utensils and for portioning utensils. Within the dining areas on each unit, there will also be a Nutrition Centre (ref A.1.1, A.1.2, B1.1, B.1.2) that is accessible 24 hours, 7 days-a- week by Clients and Nursing. The Nutrition Centres will include domestic type equipment such as counter/cupboards, refrigerator/freezer, sink, kettle, toaster and ice/water dispenser.
- 15.1.2.1.6 In addition to daily meals, Clients will also be provided with daily nourishments, snacks and supplements. Nourishments will be prepared and delivered by Food Service personnel. Evening nourishments will be stocked in on-unit Nutrition Centres along with snacks and supplements. Food Service personnel will stock nutrition centres to specific par levels on a daily basis.

15.1.2.2 Retail food services

- 15.1.2.2.1 Visitors and staff food service will be provided from the Cafeteria (ref C8.1.17 – C8.1.20). The Cafeteria will be located in a high staff and visitor traffic area and should also be immediately adjacent to the main kitchen (ref C8.1.1 – C8.1.16). It will offer hot food and cold food choices as well as hot and cold beverages. Support for the Cafeteria will be provided from the main kitchen. Vending machines will be provided adjacent to the seating area to provide beverage and grab and go items. Vending machines (beverage program only) will be accessible 24 hours, 7 days- a- week.
- 15.1.2.2.2 Catering will be provided on a requisition basis. Catering will be provided from the central kitchen.
- 15.1.2.2.3 A Canteen (ref A.2) will be provided so that Clients will have access to sundry/confectionary snacks, coffee/tea and cold beverages. The Canteen will include its own storage and service spaces and is meant to be self-sufficient. The Canteen will also include an under counter commercial grade dish washer for washing and sanitizing the service wares within that area. The Canteen will be immediately adjacent to the Quality of Life Kitchen.

15.1.2.3 Anticipated Trends in Service Delivery

- 15.1.2.3.1 It is anticipated that Clients and staff and visitor food service trends will evolve during the course of the development and during the life of the Facility. As a result, flexibility has been built into the program herein so as to allow for some alteration in the delivery model going forward including but not limited to:
- 15.1.2.3.1.1 Altering production versus procurement mix;
 - 15.1.2.3.1.2 Altering service delivery approach;

- 15.1.2.3.1.3 Ability to alter service delivery to meet each Client's needs as opposed to provision on a fixed schedule;
- 15.1.2.3.1.4 Allowance for both central and decentralized (on-unit) service models; and
- 15.1.2.3.1.5 Allowance for in-house or third party operation of retail food services.

15.1.2.4 Exclusions

- 15.1.2.4.1 Focus of Food Service will be delivery of Client staff and visitor meals. Community based programs such as meals on wheels, wheels to meals, will not be provided within the Main Building and have not been accounted for in this program.

OPERATIONAL DESCRIPTION

15.1.3 Hours of Operation

- 15.1.3.1 Food service functions at the facility will operate seven days per week, with hours to support the provision of three meals and three nourishments per day.
- 15.1.3.2 Retail food service will be staffed and in operation over shift and a half, 7 days- a- week or as demand warrants. Vending will be accessible 24 hours, 7 days- a -week.

15.1.4 Operational Process Description: Client Food Service

- 15.1.4.1 All food products and other supplies will be specified and purchased by food services personnel.
- 15.1.4.2 Perishable and non-perishable food product and supplies will be obtained from commercial and private purveyors regularly throughout the week Monday through Saturday. All incoming goods will be removed from transport vehicles and placed onto the receiving platform. Commercial food purveyors will transport the incoming goods from the receiving platform to the kitchen (ref C.8.1) and the Canteen (ref A.2). Food services staff will receive and verify the shipment orders. Perishable food products will be de-cased, weighed, audited for quantity and moved into the appropriate storage rooms. These items will be placed immediately on the food services inventory and will be used in accordance with a First in-First Out protocol.
- 15.1.4.3 Paper and chemical supplies will be purchased by Dietary from Materials Management.
- 15.1.4.4 On a daily basis, raw food products and semi processed food items will be removed from appropriate refrigerated, frozen and dry goods storage rooms and moved to the preparation and production areas. On-premise production capabilities will be provided to support in-house conventional cooking of menu items. Conventional production systems will be utilized in compliance with HACCP (Hazardous Analysis Critical Control point) standards. In-house food production will also be supplemented with selected items procured from private and commercial purveyors.

- 15.1.4.5 For each meal, menu items will be assembled centrally in bulk (in accordance with the Client menu cycle), placed in insulated transport carts and distributed to Client unit Servery's (ref A.1.2, B1.1, B.1.2) or the Acute Client Care Services Servery (ref A.1.1) area. Ergonomically friendly carts will be utilized. For Secure Client meals, the transport carts will be equipped with correctional security packages. Food Service personnel will then place the hot components of the meal, in steam pans, into a hot food well, and the cold components into a cold food well or merchandiser within the service area. Meals will be assembled for Clients within the Servery's, at the point of service. Hot beverages will be prepared within the Servery's. Following meal assembly either Food Service personnel or the Client will carry their meal to their table within the dining area.
- 15.1.4.6 Clients will be offered a selection of one of two hot entrées, or one cold entrée, sides, beverages and desserts at the point of service, depending on their individual diet profile. Menu selections will vary based on the predetermined menu cycle.
- 15.1.4.7 After meal service, food service staff will be responsible for collecting soiled trays and service wares from the dining area and cleaning and sanitizing them within the Servery for the Acute Client Care Services (ref A.1.1) units or within the main kitchen (ref C.8.1) for all other units. Organic and inorganic waste will be collected and brought back to the waste handling area in order to be decomposed, disposed of and/or digested within the warewashing room (ref C.8.1).
- 15.1.4.8 Each unit will also contain Nutrition centres (ref A.1.1, A.1.2, B1.1, B.1.2) for stock of nourishments and snacks. The nutrition centres will be lockable and contain an ice/water dispenser, refrigerator/freezer, domestic toaster, domestic kettle and sink.

15.1.5 Client Menu

- 15.1.5.1 The menu will be based on a predetermined menu cycle whereby Clients will be offered choices of menu items at each meal, at the point of service.
- 15.1.5.2 The menu will be based on a cyclical menu. The menu offering will ensure variety to account for Client allergy requirements, diet restrictions, ethnic and cultural diversity and personal preferences.

15.1.6 Food Services Information Management System

- 15.1.6.1 The Facility will utilize a computerized food service information management system. Infrastructure needs to be provided to support this system.

15.1.7 Operational Process Description: Retail Food Service

- 15.1.7.1 Meal service for visitors and staff will be provided from the cafeteria and vending machines. Catering will be provided on a requisition basis. Products for cafeteria, vending and catering operations will be received, stored, prepared, assembled and produced within the main kitchen.
- 15.1.7.2 Menus for retail food services and catering will be developed to meet customers' preferences and will vary based on seasonal availability.
- 15.1.7.3 Automated point of sales system technology will be utilized in the Cafeteria and Canteen. A point of sale system is to be planned for within the Acute Client Care Services Servery in the event that Staff is invited to use that space as well. Infrastructure needs to be provided to support these systems.

15.1.8 KEY WORKLOAD INDICATORS

15.1.8.1 Projected Client food service workload for the Facility is projected as follows:

WORKLOAD	Projected
Acute Care	96
Forensic Unit	30
Forensic Assessment Unit	12
Extended Care Unit	36
Non-Secure Patients	174
Correctional Unit	96
Secure Patients	96
In-Patient Meal Days	295,650

DESIGN CRITERIA

15.1.9 Proximity Relationships

15.1.9.1 The facilities for the main kitchen (C.8.1) are to be located at the same level in the Main Building receiving with nearby access to major vertical (if elevators are used) and horizontal circulation routes for delivery of Client meals.

15.1.9.2 The facilities for the Cafeteria (ref C8.1.17 – C8.1.20) including the dining room/seating area is to be located in high visitor and staff traffic areas. The Cafeteria should also be immediately adjacent to the main kitchen.

15.1.9.3 Key adjacencies are as follows:
Adjacent: Direct Access by Internal Circulation



15.1.9.3.1 For all functional areas within the main kitchen (C.8.1) including storage, production, assembly, warewashing and organic/inorganic dehydrator/digesting area as one integral department and not separated by corridors or general circulation.

15.1.9.3.2 Between the Cafeteria Servery, condiments drink island and dining/seating area (ref. C.8.1.17-C.8.1.20)

Close: Direct Access by Non Public Circulation



- 15.1.9.3.3 The main kitchen (C.8.1) requires direct access to the main receiving/loading dock (ref C.8.2) for incoming products.
- 15.1.9.3.4 The main kitchen requires direct access to horizontal routes within the Main Building for delivery of Client meals.
- 15.1.9.3.5 Food services departmental administrative offices require direct and convenient access to the main kitchen.
- 15.1.9.3.6 The main kitchen requires convenient access to staff washroom and locker facilities (ref C.7).
- 15.1.9.3.7 Between the Cafeteria and the main kitchen.
- 15.1.9.3.8 Between the Cafeteria and Main Building loading / receiving dock (ref C.8.2).
- 15.1.9.3.9 Between Cafeteria and Materiel Management (ref C.8.2) for the movement of food products.

Convenient: Access by General Circulation

- 15.1.9.3.10 Between the Cafeteria and public washrooms (ref C.1).
- 15.1.9.3.11 Between the Cafeteria and General Horizontal Circulation for movement of major public circulation.

15.1.10 Internal Design Criteria

15.1.11 Main Kitchen

- 15.1.11.1** The functional areas within the main kitchen facilities will also be arranged to accommodate a forward workflow of products and a reversing flow of waste products.
- 15.1.11.2** The main kitchen will be designed to support a forward workflow from receiving to preparation, production, assembly and distribution. The functional areas within the main kitchen facilities will also be arranged to accommodate a separate and non-crossing flow of waste and soiled carts and service wares.
- 15.1.11.3** The two workflows are not to cross to avoid the possibility of contamination.

15.1.12 Retail Food Service / Café

- 15.1.12.1** A forward flow in and out of the Cafeteria will be required. Adequate circulation space will be required to ensure wheelchair accessibility
- 15.1.12.2** Sight lines from the cashier stations to the servery entrance will be needed.
- 15.1.12.3** Tray carts will also be provided throughout the seating area for soiled tray drop off
- 15.1.12.4** The Cafeteria seating area (ref C.8.1. 17) is to be designed to allow it to remain open while the cafeteria service area (ref C.8.1.18 – C.8.1.20) is closed.

- 15.1.12.5** Adequate circulation space will be required to ensure wheelchair accessibility
- 15.1.12.6** Sight lines from the cashier stations to the Cafeteria Servery entrance will be needed.
- 15.1.12.7** Tray carts will also be provided throughout the seating area for soiled tray drop off

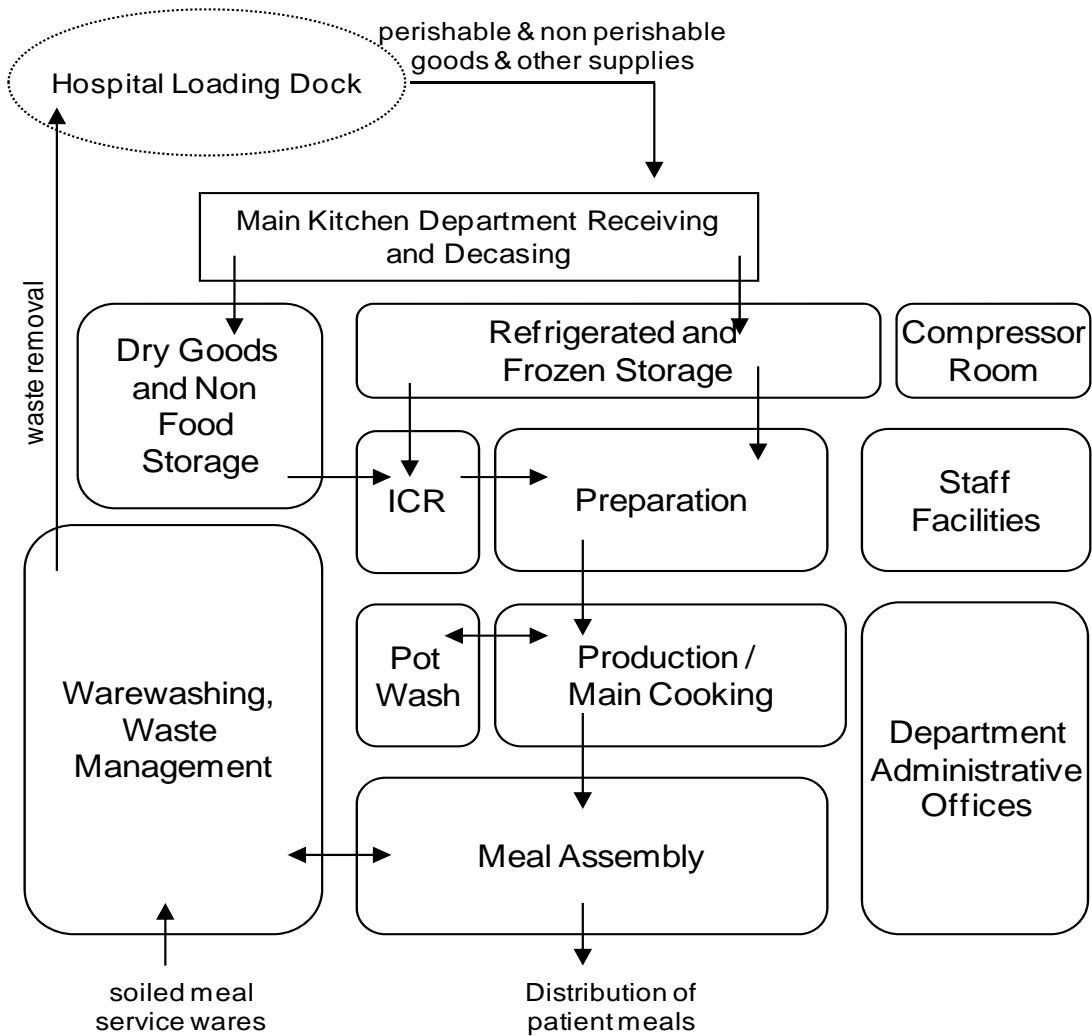
15.1.13 **Client Service Areas**

- 15.1.13.1** The Servery's (ref A.1.1, A.1.2, B1.1, B.1.2) within the Client units will need to be secured during non-meal periods. During meal periods the Servery's need to open directly into the dining areas. All enclosures will be home-like. The Servery's need to be accessible directly from a corridor for staff access.
- 15.1.13.2** The Nutrition Centres (ref A.1.1, A.1.2, B1.1, B.1.2) within the Client unit dining rooms will be contiguous within the dining room and accessible 24 hours per day.

COMPONENT FUNCTIONAL DIAGRAM

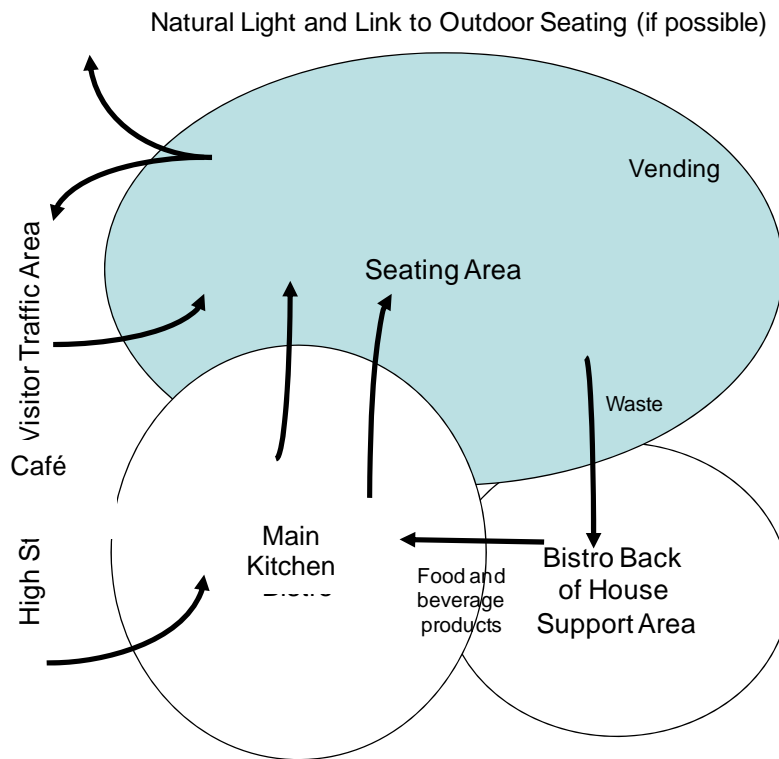
15.1.14 Main Kitchen (ref C.8.1)

Conceptually, the following illustrates the internal relationships but is not intended to represent a specific design.



15.1.15 Retail Food Service / Cafeteria (ref C.8.1.17 – C.8.1.20)

Conceptually, the following illustrates the internal relationships but is not intended to represent a specific design.



15.1.16 Flexibility and Adaptability

- 15.1.16.1** To the extent possible, mobile equipment will be used in the central kitchen so as to allow for movement and repositioning in the future, easy replacement and ease of cleaning.
- 15.1.16.2** A variety of mechanical and electrical sources including gas, electrical and steam will be provided so as to ensure production and service capabilities during power loss.
- 15.1.16.3** Architectural provisions will be required to enable removal and replacement of large food service equipment following the end of its useful life.

15.1.17 HACCP (Hazardous Analysis Critical Control Point)

- 15.1.17.1 The main kitchen will be designed to support a HACCP program. Hazard analysis is the process of identifying and assessing where hazards will enter the food processing flow and effect food safety. Critical control points are operational procedures or functions where identified hazards must be controlled and continuously monitored.
- 15.1.17.2 Central to the HACCP program will be the control of time temperature relationships through the food processing flow. To support this effort, equipment such as walk in refrigerators and freezers within the central receiving facility will include temperature recorders and alarms.
- 15.1.17.3 Also, as part of the HACCP program, hand wash stations with soap dispensers and/or automatic hand disinfectant stations will be provided in all work areas in the main kitchen.

15.1.18 Information Technology Food Services Information Management system

- 15.1.18.1 Food Services will be supported with a Food services information management software system which will aid with management of inventory and diet profiles and will full interface with the Main Building ADT system.
- 15.1.18.2 The Food services information management software system will be utilized to allow for diet office, menu processing and inventory management.
- 15.1.18.3 Infrastructure must be provided for the Food Services Management Information System and Point of Sale System.

15.1.19 Room Finishes

- 15.1.19.1 Heavy duty non-slip flooring will be provided throughout the Main Kitchen which is washable, impervious to food acids and oils, suitable for rolling equipment with anti-mould/anti-fungi characteristics.
- 15.1.19.2 All corners between walls and floors within the Main Kitchen will be coved.
- 15.1.19.3 General areas within the Main Kitchen will be gradually sloped to central floor drains for general drainage to enable mechanical spray wash and chemical sanitation.
- 15.1.19.4 Wall finishes within the Main Kitchen will be smooth, washable and durable and come complete with protection from cart damage.

15.1.20 Ventilation and Air Conditioning

- 15.1.20.1** Conditioned moderate velocity air in work areas will be provided within the Main Kitchen. Slight negative pressure will be needed for odour control.
- 15.1.20.2** Special exhaust will be required above any cooking and dishwashing equipment to vent grease, odours and humidity from the source.
- 15.1.20.3** All hoods utilized within the Main Kitchen must be compliant NFPA 96
- 15.1.20.4** All foodservice areas will be air conditioned.

15.1.21 Shape and Critical Dimensions

- 15.1.21.1** Floor to Ceiling Heights: The Food Service Kitchen will require a clearance of 10 feet from finished floor to finished ceiling. At minimum an additional 3-4 feet will be provided above finished ceiling to accommodate ducting and mechanical systems.
- 15.1.21.2** Kitchen areas will be designed so as to avoid odd shapes, acute angles and non-functional corners.

15.1.22 Refrigerated and Frozen Storage Rooms

- 15.1.22.1** All temperature controlled storage rooms will be constructed of pre-fabricated insulated walk-in panels. Panels will be a minimum of 100mm thick.
- 15.1.22.2** Back loading walk in refrigeration and freezer units are desired so as to allow for forward flow from Food Service departmental receiving areas to preparation production areas.
- 15.1.22.3** Walk in units will come complete with bumpers and corner guards.
- 15.1.22.4** All temperature controlled rooms where internal air temperature is maintained by blower type evaporator coils will be connected to room specific mechanical refrigeration systems (condensing units) located either in the Main Kitchen or Main Building mechanical room.
- 15.1.22.5** All mechanical refrigeration systems will utilize CFC-free refrigerant and be designed for heat reclaim.
- 15.1.22.6** Floor depressions will be provided in the floor slab underneath all walk in refrigerators and freezers. This will avoid equipping walk-ins with insulated floors mounted on top of the building slab requiring the use of interior ramp and also allow for flexibility to convert units from coolers to freezers in the future if required.

15.1.23 Emergency Power

15.1.23.1 At minimum, emergency power is required in the following areas:

- 15.1.23.1.1 The lighting, walk-in refrigerators and freezers, and 50 per cent of the production equipment within the central kitchen and Servery's;
- 15.1.23.1.2 To the dishwasher within the main kitchen;
- 15.1.23.1.3 To Servery's located on the Client units;
- 15.1.23.1.4 To coffee machines within the main kitchen, Cafeteria and Canteen; and
- 15.1.23.1.5 To the food service information management system which maintains Client diet profiles is also required.

15.1.24 Grease Traps

15.1.24.1 Pot sink, soiled dish tabling, dishwashing and pot washing equipment as well as any work sink (i.e. tied to work table excluding hand wash sinks) within preparation and production areas will be connected to a grease trap/interceptor unless otherwise stated by local code or jurisdiction.

15.1.24.2 Floor drains within the kitchen will also be tied to a grease trap/interceptor.

15.1.25 Safety and Security

15.1.25.1 All food service areas must support staff safety by incorporating features to control hazards and minimize risk, consistent with current legislation, guidelines and best practices (i.e. chemical, ergonomic, biological, physical). (including shadowboards for tools)

15.1.25.2 Key elements include the following:

- 15.1.25.2.1 Use of non-slip flooring materials within the main kitchen and back of house cafeteria/ bistro support area;
- 15.1.25.2.2 Use of ergonomically friendly height adjustable equipment;
- 15.1.25.2.3 Cash stations within the Cafeteria designed to allow visibility to entrance of the Servery;
- 15.1.25.2.4 Access restriction to the department and within departmental storage areas;
- 15.1.25.2.5 Temperature alarms for all refrigerators and freezers networked to a central computerized control system; and
- 15.1.25.2.6 Proper in-kitchen safety apparel (i.e. supplies of hair nets/caps, gowns) at all controlled entry points to the kitchen.

15.1.26 Natural Light and artificial lighting

- 15.1.26.1** To the extent possible, the main kitchen will be enhanced by natural light. The Cafeteria will have access to natural light. Appropriate window coverings will be required in all instances where natural light is provided. In addition, the cafeteria will have access to external / outdoor seating area.
- 15.1.26.2** In production areas, artificial lighting fixtures must be easily disassembled for cleaning and sanitizing.

15.1.27 Space Table

- 15.1.27.1** The schedule accompanying this document illustrates rooms, and their respective sizes, that combine to make up this functional component. Any room that will be located remotely from the main component is identified by a grey-tone highlight. Any room that is referenced here but captured in another component program is denoted via bracket. The notes describe any qualifications or conditions that must be observed if any room is to be located separately from its host. The "Notes" are an integral part of this schedule and must be consulted prior to subsequent physical planning or design.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 8.1 DIETARY**

C8 SUPPORT SERVICES						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
C8.1	DIETARY					
	Kitchen					<i>all 48x24 carts/racks</i>
.01	Dairy Freezer	1	9.50	9.50	4	<i>dual entrance, 4 carts/racks</i>
.02	Milk Cooler	1	9.50	9.50	4	<i>dual entrance, 4 carts/racks</i>
.03	Vegetable Cooler	1	12.50	12.50	4	<i>dual entrance, 6 carts/racks</i>
.04	Beverage Holding Fridge	1	9.50	9.50	4	<i>dual entrance, 2 carts/racks</i>
.05	Freezer	1	9.50	9.50	4	<i>dual entrance from corridor and to cooler, 6 racks</i>
.06	Cooler	1	12.00	12.00	4	<i>dual entrance from cooler to meat prep area, 6 racks</i>
.07	Dry Storage	2	8.50	17.00	4	
.08	Meat Prep Area	1	35.50	35.50	4	<i>counter work area, spice storage</i>
.09	Cooking/Baking Area	1	115.50	115.50	4	
.10	Salad Prep Area	1	72.50	72.50	4	
.11	Meal Prep Area	1	90.00	90.00	4	
.12	Dietary Office	2	9.50	19.00	4	
.13	Dietary Workstation	1	2.00	2.00	4	
.14	Dish Washing	1	59.50	59.50	4	<i>clean exit and dirty entrance, locate near cafeteria</i>
.15	Cart Holding	1	32.00	32.00	4	
.16	Cart Wash	1	5.50	5.50	4	
	SUBTOTAL			511		
	Dining Area					
.17	Cafeteria	1	63.00	63.00	3	<i>Seating for 40, 2 hand sinks, refrigerator, condiment station, drink station, microwave</i>
.18	Servery	1	34.50	34.50	3	<i>galley style, hand sink, counter sink</i>
.19	Condiments	1	9.50	9.50	3	
.20	Drink Island	1	9.50	9.50	3	<i>beverage fridge, fridge, microwave</i>
.21	Washroom, Client	1	5.00	5.00	3	<i>2 piece</i>
	SUBTOTAL			122		
	DIETARY SUBTOTAL			633		

C 8.2 MATERIAL MANAGEMENT

This specification outlines the functional, operational and physical requirements for the Material Management functional component.

FUNCTIONAL DESCRIPTION

16.1.1 Statement of Purpose

16.1.1.1 The Material Management component will accommodate vendor selection and the ordering, purchasing, receiving, processing and distributing of most items used in the Facility. Incoming and outgoing mail will be processed through this area, as will most outgoing equipment soiled/contaminated items and wastes. It is anticipated that mail will be handled by the Administrative Staff, in conjunction with Transportation. Laundry and waste are not handled by Materials Management, although the loading dock area will be utilized by other staff for these purposes

16.1.2 Scope of Services

16.1.2.1 Functional Content

16.1.2.1.1 Functions occurring within this component will complement those occurring in the Housekeeping Services component (See C 8.4) and the Linen Services component (See C 8.3). Generally, incoming supply items for the Facility will flow through Material Management, whereas outgoing items will flow through Housekeeping Services and Linen Services. Provision will be made in those components for storage/holding of items that will not be immediately transported to their point of use.

16.1.2.1.2 The following list specifies the minimum set of functions that will be accommodated within the Material Management component's spaces:

16.1.2.1.2.1 Receiving of electronic requisitions from all user components in the Facility;

16.1.2.1.2.2 Submitting purchase orders to the Authority purchasing system or directly to vendors;

16.1.2.1.2.3 Receipt of incoming and outgoing items in the following categories (includes checking against purchase orders/packing slips where applicable):

- 16.1.2.1.2.3.1 Equipment (New incoming equipment and outgoing equipment in need of maintenance or repair by private/off-site vendors or being sent for disposal);
- 16.1.2.1.2.3.2 Consumable supplies, including medical and Client care supplies and Housekeeping supplies will be received, stored and distributed using a combination of flow-through and bulk storage functions;
- 16.1.2.1.2.3.3 Pharmaceuticals (Incoming purchases are Flow through function only and are directly delivered to the Pharmacy (See C 8.6); and
- 16.1.2.1.2.3.4 Food products (Incoming dry goods – Flow through the Material Management Dock directly to Dietary)
 - 16.1.2.1.2.4 Centralized storage of full and empty gas cylinders;
 - 16.1.2.1.2.5 Centralized storage of clean/usable and contaminated/un-usable flammable substances; and
 - 16.1.2.1.2.6 Centralized storage of inventory for the Gift Shop

16.1.2.2 Exclusions

- 16.1.2.2.1 The following list specifies functions conducted by Material Management personnel that are understood to occur in other components in the Facility, outside of the Facility or be conducted by other authorities:
 - 16.1.2.2.1.1 Receipt of prepared foods and meals and raw ingredients (Assumed delivered directly to C 8.1 Dietary Services);
 - 16.1.2.2.1.2 Inventory checking of pharmaceuticals (Receiving function only with inventory control residing with the Pharmacy component (See C 8.6);
 - 16.1.2.2.1.3 Large volume printing and copying services (Assumed accommodated off-site by private vendors);
 - 16.1.2.2.1.4 Flow through of cadavers leaving the Facility;
 - 16.1.2.2.1.5 Flow through of expired pharmaceutical products being sent off-site for disposal; and
 - 16.1.2.2.1.6 Management and operation of the Facility's cylinder gas tank storage (This will be located on the exterior of the Main Building and under the control of Project Co).

16.1.2.3 Anticipated Trends in Service Delivery

- 16.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.

- 16.1.2.3.1.1 Inventory management in the Facility and in the individual components will shift towards “just-in-time” management, reducing the need for centralized and decentralized bulk storage requirements. Success of this system will depend upon a fully automated inventory control system (i.e., no manual inventory control), and an automated off-site warehousing facility. Depending on provincial timescales for any proposed central distribution centres, it will be the case that Materials Management continues to operate as a satellite of UH Materials Management for a period of time.
- 16.1.2.3.1.2 As priority is given to accommodating clinical services on-site, Material Management will take on more of a role of supply chain management. This will mean more flow-through of goods and services and less warehousing functions. Decentralized stores areas will be accommodated in the Facility’s various components as required.

16.1.3 Scope of Education Functions

- 16.1.3.1 Education conducted in this component will focus on in-service training and orientation for new staff. These functions will be accommodated in the general workspace provided, or in the meeting spaces provided in Administration (see C 2) and there will be no need for dedicated or purpose-built teaching spaces for Materials Management.

OPERATIONAL DESCRIPTION

16.1.4 Lean Planning Standards

16.1.4.1 Minimal Personnel Circulation

- 16.1.4.1.1 Material Management staff will spend substantial portions of each work shift circulating between this component and all other areas of the Facility. Efficiencies in circulation will require the location of this component immediately accessible to major non-public vertical and horizontal circulation routes to all areas of the Facility.

16.1.4.2 Reduced Materials Handling

- 16.1.4.2.1 Efficiency in processing of received items will rely on reduced steps of processing. Wherever practicable, received goods will be transported directly to the user component using a Kanban system at each Client Care room and at Housekeeping rooms for inventory control. An overriding guideline to this general principle will be needs for centralized (to the Facility) storage of items.

16.1.5 Hours of Operation

- 16.1.5.1 The Material Management component at this Facility will be staffed and in operation:

0600 to 2100, Monday to Friday

- 16.1.5.2** Outside the routine hours of operation listed above and depending upon the nature of service(s) required, delivery services will be available on an on-call basis.

16.1.6 People Management Systems

- 16.1.6.1** The component will serve as a “home base” for Material Management personnel in which informal meetings, training sessions and assignment briefings will be conducted.
- 16.1.6.2** This component will be restricted to authorized employees and vendors only. No public presence will be accommodated here, and controlled access will be provided off a major, non-public circulation route. Separate points of entrance/exit connecting to circulation routes will be provided for pedestrians and for carts, dollies and tugs used in distributing materials.

16.1.7 Material Management Systems

16.1.7.1 Receiving and Distribution

- 16.1.7.1.1 All deliveries to the Facility, with the exception of all pharmaceuticals, prepared and raw food products and linen will be conducted through this component. Deliveries will generally coincide with reconciliation against purchase orders and packing slips before items are delivered to the user component. Order discrepancies and disputes between purchasers and vendors will be referred back to this component for reconciliation.
- 16.1.7.1.2 All outgoing items will generally be prepared in the user component (i.e., Documentation and packaging) before being sent to Material Management where shipping requisitions and arrangements will be made.
- 16.1.7.1.3 The Facility’s portering services will be used to assure prompt handling and delivery of time-sensitive items.

16.1.7.2 Waste Management

- 16.1.7.2.1 To the extent practicable, waste products will be generally managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations.
- 16.1.7.2.2 In the Housekeeping component (see C 8.4), waste handling will focus on designated holding areas to accommodate consolidated temporary holding of the following product categories:
- 16.1.7.2.2.1 General garbage;
 - 16.1.7.2.2.2 Confidential paper;
 - 16.1.7.2.2.3 Clean paper and cardboard;
 - 16.1.7.2.2.4 Clean metal (tin and aluminum);
 - 16.1.7.2.2.5 Clean recyclable plastics; and
 - 16.1.7.2.2.6 However, Compostables will be managed by Dietary Services.

- 16.1.7.2.3 This component will also provide temporary holding of items for off-site transport. Categories will include:
- 16.1.7.2.3.1 Equipment items requiring repair;
 - 16.1.7.2.3.2 Expired Pharmaceuticals in Pharmacy for pick up; and
 - 16.1.7.2.3.3 Mail.

16.1.8 Information Management Systems

16.1.8.1 Purchasing and Inventory Control

- 16.1.8.1.1 Component personnel will maintain an electronic library of approved vendors for selected items, especially those characterized by high volume and frequent ordering.
- 16.1.8.1.2 Requisitions from user areas will be submitted electronically into the Authority's purchasing system. Most purchased items will be delivered to Material Management where orders will be checked against packing slips and purchase orders. Some items will be taken into central warehousing facilities, but the general trend will be to transport items directly to user areas.

16.1.8.2 Consumable Supply Management

- 16.1.8.2.1 Wherever practicable, inventories of consumable supplies in user areas will rely on a 2-bin system. Under this system, stock will be drawn first from a top/front bin. When the last item has been removed, an electronic tag will be placed on a monitoring board which will trigger the reordering process in Material Management. The empty bin will be replaced with the one previously being held as standby. Two (2) tags on a monitoring board from the same type of storage bin will trigger a STAT order and delivery process.

DESIGN CRITERIA

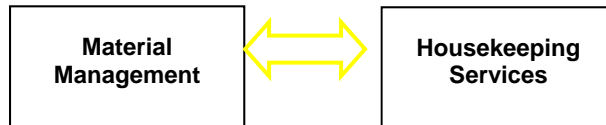
16.1.9 Lean Planning Standards

- 16.1.9.1 Efficiencies in moving and maneuvering large pieces of equipment will require wide hallways and wide doorways throughout the Facility. Entrances to this component will be sufficiently wide to accommodate large pieces of equipment including mobile pallet trucks. All doorways installed in this component and which accommodate the movement of goods arriving at or leaving the Facility will be a minimum of 2,440 mm. (approximately 8') wide and 3,050 mm. (approximately 10') high.

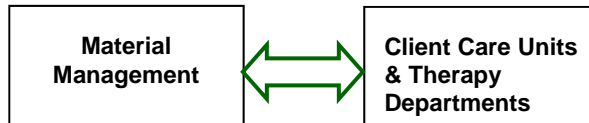
16.1.10 Proximity Relationships

- 16.1.10.1 The Material Management component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.

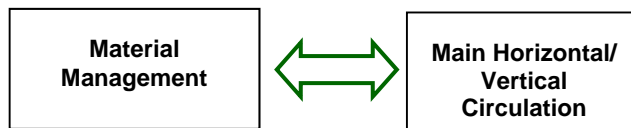
16.1.10.2 Provide Direct Access by General Circulation to Housekeeping Services for the coordinated movement of items to/from the Facility.



16.1.10.3 Provide Convenient Access by General Circulation to Client Care Units and Therapy Departments for movement of equipment, supplies and staff.



16.1.10.4 Provide Convenient Access by General Circulation to major public and non-public circulation. Material Management personnel, supplies and pieces of large equipment will move frequently to/from this component and all areas in the Facility.



16.1.11 Internal Design Criteria

16.1.11.1 General Internal Layout

16.1.11.1.1 The interior of this component will be organized into 2 zones as follows:

16.1.11.1.1.1 Administrative work area

16.1.11.1.1.2 Industrial area including equipment and supplies marshalling and shipping area and general inventory stores areas

16.1.11.2 Physical Relationship with Housekeeping, Linen and Dietary Services

16.1.11.2.1 Functions occurring in this component will complement those occurring in Housekeeping Services (See C 8.4) and Linen Service (see C 8.3) and Dietary (see. C 8.1). Achieving efficiencies in the coordinated flow of items both coming onto and leaving the Facility will require these 4 components sharing adjacent locations as well as access to a common loading dock. The loading dock will be part of neither component, but planning assumes designated areas along the dock's expanse that support functions of one component or the either. It is further assumed that designated spaces will cluster near points of access/egress for the appropriate component. The loading dock will be shared by all departments, there will be a need for separation for clean functions and soiled functions

16.1.11.2.2 Planning assumes that Material Management, Housekeeping Services, Dietary and Linen Services will be adjacent components. There will not, however, be any internal circulation connections between these components. It is recommended that a secured corridor be used as a partition. This corridor will have a secured, monitored doorway leading from the loading dock, and connecting directly with the Facility's internal non-public circulation system. The purpose of this corridor will be to accommodate couriers arriving on-site to deliver/pick-up items directly to/from other components in the Facility. Access to this corridor will be unrestricted during normal, day-time business hours of operation, but will be monitored and controlled by Protections Services personnel during off-hours. The monitoring station will be located in the Operations Security Centre (See B 3), and provision will be made for continuous voice contact capability between the courier doorway intercom system and security services officers' portable radios.

16.1.11.3 Secured Access:

16.1.11.3.1 Provide secured card access throughout the Materials Management area. This area has complex security needs that will be provided in consultation with the Authority.

16.1.11.4 Mail Room

16.1.11.4.1 Mail for Secure-Clients will be managed by Admissions/Discharge security staff.

16.1.11.4.2 Mail describes the processing and movement of internal (throughout the Authority), federal (Postage) and small parcels for inbound and outbound items.

16.1.11.4.3 Mail stations within the facility will be in secured locations. Key-card access will be for authorized employees only. Mail stations will be behind glass walls. Walls need not reach the ceiling. Mail station for Secure Clients will be a lockable room.

16.1.11.4.4 General Mail Centre will be located near receiving area and Secure Client population mail will be directed to the Admissions Discharge component (see C 4).

16.1.11.4.5 Provide corridor access to the mailroom.

16.1.11.4.6 Mail Room Design Criteria

16.1.11.4.6.1 The floor will be concrete with floor drains and sealed with waterproof sealant. Paint will not be used on the floor in this area.

16.1.11.4.6.2 Walls will be covered with a durable material that will be easy to clean and resistant to cleaning chemicals.

16.1.11.4.6.3 The ceiling will be 2400mm high with air exchange to provide fresh air into the space.

16.1.11.4.6.4 Provide no less than six sets of wall plugs. Plugs will be approximately 914mm above the finished floor.

16.1.11.4.6.5 Provide no less than three separate data lines and outlets.

16.1.11.5 Stores Area

16.1.11.5.1 Provide an electric pallet jack recharging station in the equipment room. This recharging station will be mounted to the wall and allow docking of pallet jacks. This area will include an eye wash station.

16.1.11.6 Bulk Storage Room

16.1.11.6.1 Provide a radio frequency identification system. Provide a stainless steel hand wash sink. Provide an eye wash station. Provide workstations for business centre functions including a recharging station.

16.1.11.6.2 Provide secured steel pallet racking that is secured from lateral (earthquake) forces. Provide a space that accommodates stores stacks of 4800mm minimum height. Provide no less than four full height lockers. Ensure that the pallet racking does not cover the ceiling lights and is greater than 18 inches beneath the level of any built in sprinkler system. The floors will have proper finishing allowing for extreme wear by pallets and heavy equipment. Provide a cabinet work surface with storage cabinets below that is no less than 1800mm in length and 914mm wide, close to the primary corridor entrance door. Provide a wall phone on the loading dock that connects the dock to the Bulk Storage area.

16.1.11.7 Warehouse Space Flexibility

16.1.11.7.1 Future needs for warehouse space will vary according to the model adopted for on-site handling of material. Warehouse space designated in the planning and design phases of this Facility will be located in an area where conversion for other uses can be accomplished efficiently and without disrupting other component operations.

16.1.11.8 Infection Control

16.1.11.8.1 Arriving and departing items will include both the clean and soiled states. While measures will be taken to segregate incoming from outgoing streams, a second level of segregation will be used to separate clean and soiled items.

16.1.11.9 Flammable Storage Room

16.1.11.9.1 Separate rooms will be provided for incoming (clean) and outgoing (used/contaminated) flammable products (including, but not limited to, maintenance and cleaning products and gas bottles). These 2 rooms will be physically distinct and separated from one another to avoid mixing of usable versus non-usable products.

16.1.11.9.2 This room will have a minimum fire resistance rating of 1 hour.

- 16.1.11.9.3 A flammable storage room will be located with at least 1 wall being on the exterior Main Building wall; this will have “blow-out” capability. The door to this room will be automatically closing and will be hinged to swing out on its vertical axis.
- 16.1.11.9.4 Flooring will be non-skid and anti-spark material. The floor will be equipped with a drain connected to a dry sump. There will be liquid-tight seals between interior walls and the floor. Any door opening which is not part of an exterior wall will have a liquid-tight ramped sill.
- 16.1.11.9.5 The room will have passive ventilation created by the installation of upper and lower gravity louvers in the exterior wall.

16.1.11.10 Options for Exterior Location

- 16.1.11.10.1 All spaces dedicated for Material management do not require interior space. Certain holding areas for soiled/contaminated items and waste products, for example, will be stored in designated areas outside of the Main Building envelope. Benefits of using exterior space include less expensive construction and fewer measures required for environmental control (e.g., ventilation for odor control).
- 16.1.11.10.2 Compactors and recycled cardboard bins are obvious candidates for outside accommodation, provided they are covered and protected from precipitation. Other designated holding areas cited in this specification will be considered for locating outside, subject to being able to provide adequate control, access and security. Possible choices are:
 - 16.1.11.10.2.1 General waste holding;
 - 16.1.11.10.2.2 Compostable waste holding; or
 - 16.1.11.10.2.3 Gas cylinder storage.

16.1.11.11 Occupational Health and Safety

- 16.1.11.11.1 Spill kits, eyewash stations and an emergency deluge shower will be installed close to any chemical storage location. A floor drain will be installed below the shower outlet.
- 16.1.11.11.2 Flooring throughout the component will be non-slip and resilient to chemicals, abrasion and damage from dropped objects.
- 16.1.11.11.3 The component’s overall configuration and devices installed/used in the various areas will be designed to minimize staff having to manually lift, push, pull or carry objects.

16.1.11.12 Environmental Control

- 16.1.11.12.1 Exhaust gases from vehicles using the loading dock area will not be allowed to enter the Facility either through passive air exchange or through air intake and handling systems.

- 16.1.11.12.2 Interior areas immediately adjacent to the loading docks will be provided with climate controls enabling heating and cooling independently from other component areas.

16.1.11.13 Loading Dock Specifications

- 16.1.11.13.1 To provide protection of the Loading Dock in extreme weather conditions, the Loading Dock will be enclosed. 10' wide by 10' high overhead doors with weather curtains will be provided at each truck loading bay and at access points to the compactors and waste and recycling bins (dumpsters).
- 16.1.11.13.2 Full dimensions of the loading dock will be determined, in part, by the design and configuration of this component and of the adjacent components for Housekeeping Services, Linen Services and Dietary. At a minimum, the depth of the loading dock platform, as measured from the wall surface forming the curb of the truck docking area (pit wall) to the opposing exterior wall of the Facility, will be 4,270 mm (approximately 14'). It will be planned as a continuous-run platform free of structural supports, changes in grade, raised seams or features that could impede movement of items, many of which will be manually transported on dollies, carts and hand trucks. Organize the loading dock as shown in Diagram 2. The loading dock surface will be non-skid, non-porous and anti-static.
- 16.1.11.13.3 The upper portion of the curb will be protected by a molded or laminated rubber bumper of not less than 100 mm. The intent of this feature is to protect both the Main Building and trucks from impact damage.
- 16.1.11.13.4 Ramps located at both extreme ends of the loading dock will be installed to accommodate manual transport of items from the driveway bed to the loading dock surface. The ramp will be either straight run or curved, but will not be switch-backed. The ramp's maximum grade will be in compliance with prevailing WorkSafe Saskatchewan (WSC) standards for these features.
- 16.1.11.13.5 A set of safety stairs will be installed in the vicinity of the doorway leading to the corridor that separates Material Management from Linen Services. In addition to providing emergency access/egress between the loading dock and driveway bed, this stairway will also be used by couriers who will typically arrive in light duty (i.e., low bed height) vehicles and who will not require the use of a ramp. This stair will include a 1500 mm wide platform to provide level access to the bins (dumpsters). A second stair will be provided in proximity to the recycling bins (dumpsters).

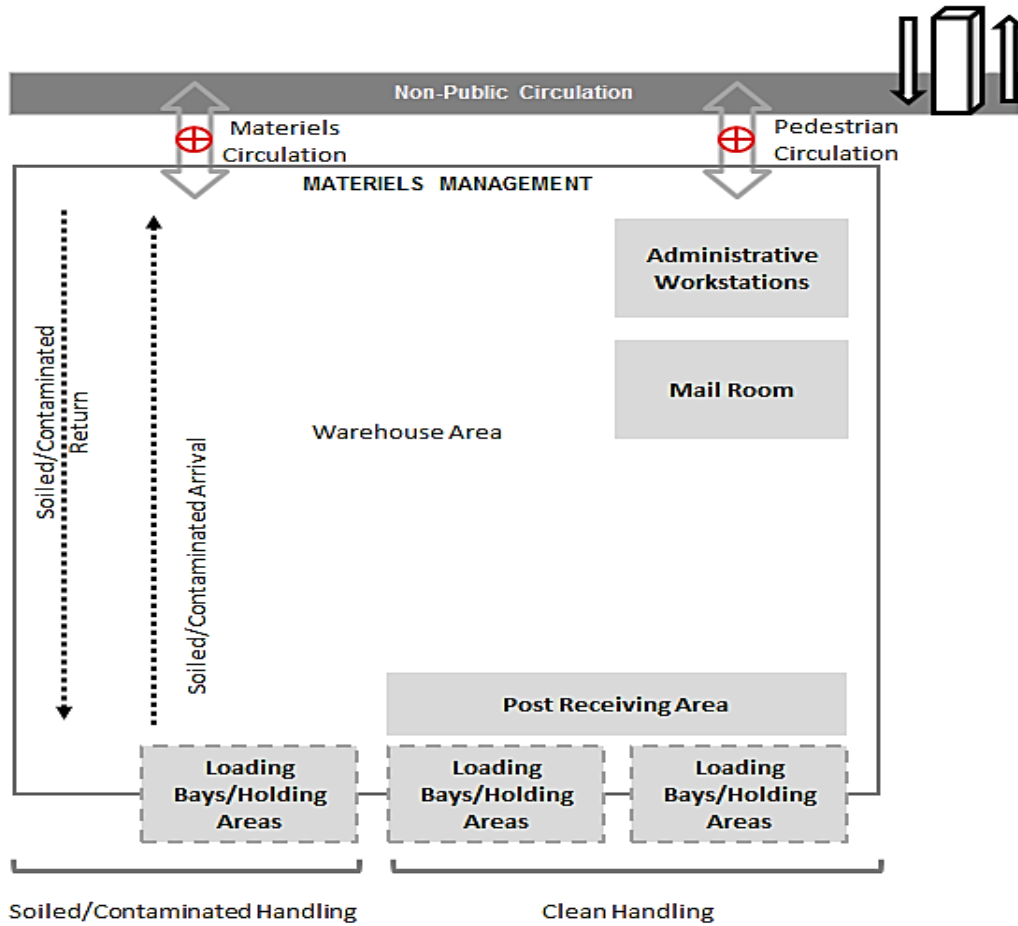
- 16.1.11.13.6 The loading dock area will not be enclosed, but will be covered by overhanging portions (canopy) of the Facility. Minimum clearance between dock surface and the canopy will be determined, in part, by the depth of the driveway bed and the maximum dimensions of truck/trailers that will arrive at this Facility. Clearance will be not less than 4,420 mm. (approximately 14'-6"). The horizontal run of the canopy, as measured perpendicularly from the Facility's wall towards the opposing driveway, will extend to at least the pit wall (i.e., covering the entire loading dock surface). Requirements for additional coverage will be considered depending upon the loading dock's orientation with respect to prevailing winter storm directions. Maximum weather protection will be a planning criterion.
- 16.1.11.13.7 Dimensions of the loading dock will provide for segregation of Material streams. There will be clear separation between incoming (typically clean) items as opposed to outgoing (typically soiled, contaminated or used and being sent for salvage) items. Ample space will be allowed for the following:
- 16.1.11.13.7.1 Organic (dietary) waste compactor;
 - 16.1.11.13.7.2 General waste (trash) compactor;
 - 16.1.11.13.7.3 Two general purpose waste bins (dumpster);
 - 16.1.11.13.7.4 Compostable materials bin (dumpster);
 - 16.1.11.13.7.5 Recycling bin for cardboard bin (dumpster); and
 - 16.1.11.13.7.6 Recycling bin with totes segregated for glass, metals, plastics/Styrofoam, paper.
- 16.1.11.13.8 Specifications for each of the preceding categories will be explored in detail with loading dock users prior to its design.
- 16.1.11.13.9 Radio frequency identification (RFID) sensors will be installed in the ceiling of the canopy to record and track equipment items arriving at and leaving the Facility.
- 16.1.11.13.10 The Facility wall forming the exterior limits of the loading dock surface will be serviced by 115 VAC electrical outlets. Positioning of these outlets will be determined, in part, by the Facility's design, but installation will be between 1,070 mm. and 1,370 mm. (approximately 42" and 54") above the dock's surface. The maximum horizontal distance between outlets will not more than 4,570 mm. (approximately 15').
- 16.1.11.13.11 The loading dock and driveway areas will be supplied with lighting for safety and security purposes. Automatic sensors responding to ambient light conditions will be installed near the top of the Facility, and not in an area subject to shadows or reflected light. Automatic motion sensors will provide surveillance over the entire loading dock surface, ramps, stairwell and driveway. During daylight hours, the ambient light sensors will have priority, and during hours between sunset and sunrise the motion sensors will have priority.

- 16.1.11.13.12 The driveway will accommodate at least 6 truck berths. Subject to the Facility's design and configuration, consideration will be given to accommodating an additional berth to achieve maximum efficiency in truck arrivals and departures. One (1) berths will have a driveway surface 1,020 mm. (approximately 40") below loading dock surface, and the other berth(s) will have a driveway surface 1,120 mm. (approximately 48") below loading dock surface. All truck berths will have a width not less than 4,000 mm (approximately 13').
- 16.1.11.13.13 One truck berth will be supplied with a scissor lift and scale.
- 16.1.11.13.14 Each truck berth will be supplied with a recessed dock leveler capable of achieving a maximum grade of 10% (downwards from truck to loading dock). Final dimensions and capacities of the dock levelers will be determined, in part, by the anticipated maximum truck size and transport vehicle (i.e., forklift, hand truck, cart, and dolly) plus payload to be accommodated. Materials Management personnel will be consulted prior to final selection of the levelling system to be installed. Controls for each leveling system will be located away from the vicinity of the leveler to avoid unintentional activation while in use.
- 16.1.11.13.15 Light duty vehicle parking spaces will be incorporated into the driveway's design, and in the vicinity of the ramps and safety stairwell.
- 16.1.11.13.16 Design, configuration, orientation and maximum permissible grade of the driveway will be determined, in part, by the Facility's design and configuration, choice of truck berth configuration (i.e., straight line or saw tooth), Site grade/topography/availability and the maximum dimensions/weight of vehicles anticipated to use the driveway. Trucks as large as 19 meters in length should be anticipated; therefore the truck maneuvering apron in front of the dock will have a minimum depth of 27 meters from edge of dock to edge of pavement.
- 16.1.11.13.17 Truck maneuvering and parking apron in front of the dock will not have a slope greater than 1:10. If the apron area is sloped, then the apron will have de-icing provisions built into the slab, which will be manually controlled at the loading dock during inclement weather with icing conditions.
- 16.1.11.13.18 A continuous trench drain will be provided in the truck apron at the face of the dock and this drain will be provided with de-icing capabilities.

16.1.12 Component Functional Diagram

16.1.12.1 The areas making up this component will be organized as illustrated in the following diagrams:

16.1.12.1.1 DIAGRAM 1: Component Organization



Note: Work zones, points of access/egress and circulation systems are shown for illustrative purposes, and are not drawn to scale. See accompanying Space Table for room and work zone size details.

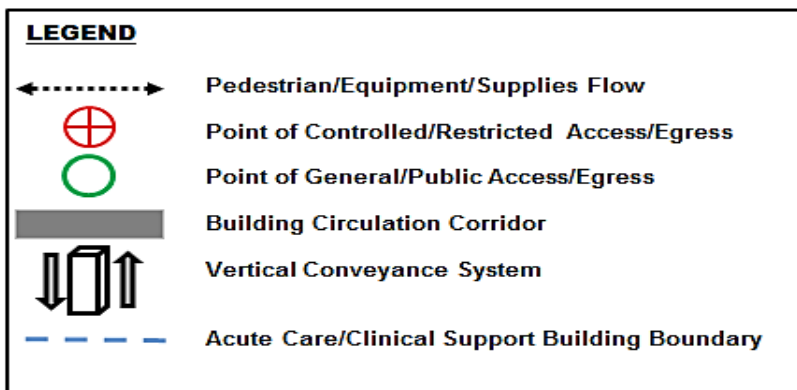
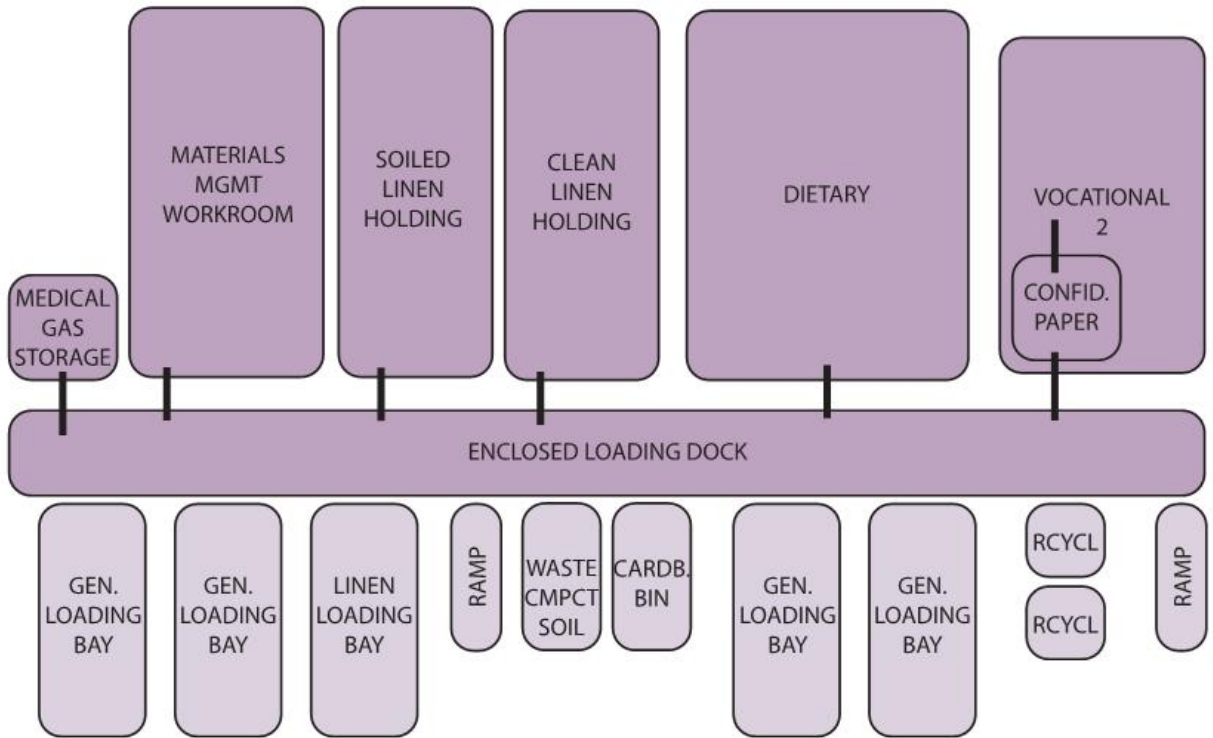


DIAGRAM 2: Loading Dock

MATERIAL MANAGEMENT / LAUNDRY / LINEN



**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 8.2 MATERIAL MANAGEMENT**

16.1.13 Space Table

16.1.13.1 The schedule accompanying this document illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.2 MATERIAL MANAGEMENT						
.01	Enclosed Loading Dock	5	111.50	557.50	4	<i>reduced from 8 to 5 docks 9/5/14 - 5 total docks and 2 compactors, one scissor docks w/ scale, recycling area - 2 bins</i>
.02	Waste Compactor (Soiled)	2	40.00	80.00	4	<i>removed assumed the SHNB sizes meet the needs of the facility</i>
.03	Recycling Staging Area (Soiled)	1	15.00	15.00	4	<i>removed assumed the SHNB sizes meet the needs of the facility</i>
.04	Materials Management Workroom	1	156.50	156.50	4	<i>2 garage style doors, entrance and exit</i>
.05	Receiver's Workstation	1	5.50	5.50	4	<i>include in materials management area</i>
.06	Cart Storage	1	22.00	22.00	4	
.07	Cart/Bin Wash	1	10.00	10.00	4	<i>from original ICF program</i>
.08	Mail Room	1	18.50	18.50	4	<i>shared by entire complex secure and non-secure mail, provide mail slots, counter for sorting, mail bin storage</i>
.09	Medical Gas Storage Room	1	7.50	7.50	4	<i>requires explosion resistance</i>
.10	Auxiliary Storage Central	1	15.00	15.00	4	<i>from original ICF program</i>
.11	Storage, Office Supplies	1	5.00	5.00	4	<i>from original ICF program</i>
	MATERIAL MGMT SUBTOTAL			892.50		

C 8.3 LINEN SERVICES

This specification outlines the functional, operational and physical requirements for the Linen Services functional component.

FUNCTIONAL DESCRIPTION

17.1.1 Statement of Purpose

- 17.1.1.1 Linen Services will encompass centralized Linen Receiving and Distribution and Client's personal laundry.

17.1.2 Scope of Services

- 17.1.2.1 Linen Services will be responsible for managing the linen needs of both the Secure Clients and the Non-Secure Clients. This program component will accommodate the spaces required to support Laundry including central administrative, clerical, communications and storage functions as well as the decentralized Linen supply rooms and Kanbans which will be provided throughout the Facility.
- 17.1.2.2 Linen Services will manage the Linen ordering, inventorying, receiving and distribution process and will ensure standards are maintained throughout the Facility.
- 17.1.2.3 Soiled linen management will begin at the point-of-use, the soiled linen holding receptacles which will be provided as part of the Kanban cabinet at Private Client Care Rooms. Soiled Utility Rooms will be the collection point for soiled linen that is collected at the Kanbans in the Client rooms.
- 17.1.2.4 Linen Services will be responsible for moving soiled linen from the points-of-use, and from the soiled utility/holding rooms to the soiled linen dock area. Soiled linen will be transported in carts. Soiled linen stream will be managed by Linen Services.
- 17.1.2.5 Laundry functions will be facilitated off-site by Linen Services. However commercial washers and dryers will be maintained on site by Linen Services for laundering of client clothing and any specialty or incidental items. Linen Services will be responsible for the collection, retrieval, distribution and management Client laundry items.
- 17.1.2.6 Additional Laundry services will be available for Client use on the Client Care Units

OPERATIONAL DESCRIPTION

17.1.3 Hours of Operation

Linen services will be staffed from 07:00 am to 18:00 pm. Linen service and delivery to units will also occur during these times, or as agreed. Supplemental linen will be provided in the Kanban serving Private Client Rooms and in the Clean Utility Rooms.

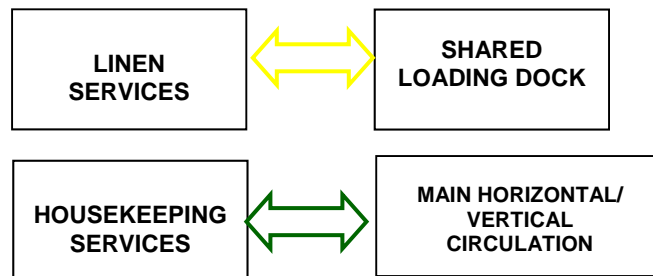
17.1.4 Staff Workflow

- 17.1.4.1 Continuous Quality Improvement (CQI) initiatives will be supported within Linen Services.
- 17.1.4.2 Staff will be assigned to specific areas of the Facility to provide Linen services. Staff will sign-in/log-in centrally.
- 17.1.4.3 The storage of bulk cleaning supplies will be managed by Materials Management Services in their central supply area.
- 17.1.4.4 Linen inventory will be managed by Linen staff. Linen will be received by Linen staff at the Loading Dock and stored centrally at the Clean Linen Holding room and sorted before distribution to the Clean Utility Rooms and to the Kanbans in the Private Client Rooms on the Client Care Units and also to the various Support rooms throughout the Facility, as agreed.
- 17.1.4.5 The Kanbans will be resupplied with fresh linens at agreed inventory levels, including extra linens as will be needed.

DESIGN CRITERIA

17.1.5 Proximity Relationships

- 17.1.5.1 The Linen Services component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 17.1.5.2 Provide Direct Access by General Circulation to the shared common loading dock for both Clean and Soiled linens



- 17.1.5.3 Provide Convenient Access by General Circulation to the Facility's main circulation system for the movement of staff and linen carts.
- 17.1.5.4 Loading Dock Requirements & Functions
 - 17.1.5.4.1 Refer to Material Management (C-8.2) for loading dock specifications and soiled linen staging.

17.1.6 Flexibility and Adaptability

- 17.1.6.1 Provision will be made for dedicated decentralized clean utility rooms, Client laundry rooms and Kanban system for distributed supplies and linens.

17.1.7 Environmental Considerations

- 17.1.7.1 Natural light is preferred, wherever possible. Task lighting should be included in selected work areas.
- 17.1.7.2 Appropriate air temperature and ventilation controls should be provided in work areas for staff comfort and equipment sensitivities.
- 17.1.7.3 Sound attenuation systems/finishes will be used wherever possible to keep noise to minimum levels.

17.1.8 Special Considerations

17.1.8.1 Room Requirements

- 17.1.8.1.1 All soiled linen holding rooms should have floor drains, as well as wall faucets/hose bibs, hand wash sinks, and door openings at least 1200mm (4 feet) wide.
- 17.1.8.1.2 Ventilation in soiled linen holding rooms should provide ten (10) air changes hourly
- 17.1.8.1.3 All clean linen storage and holding rooms to have door openings at least 1200mm (4 feet) wide.

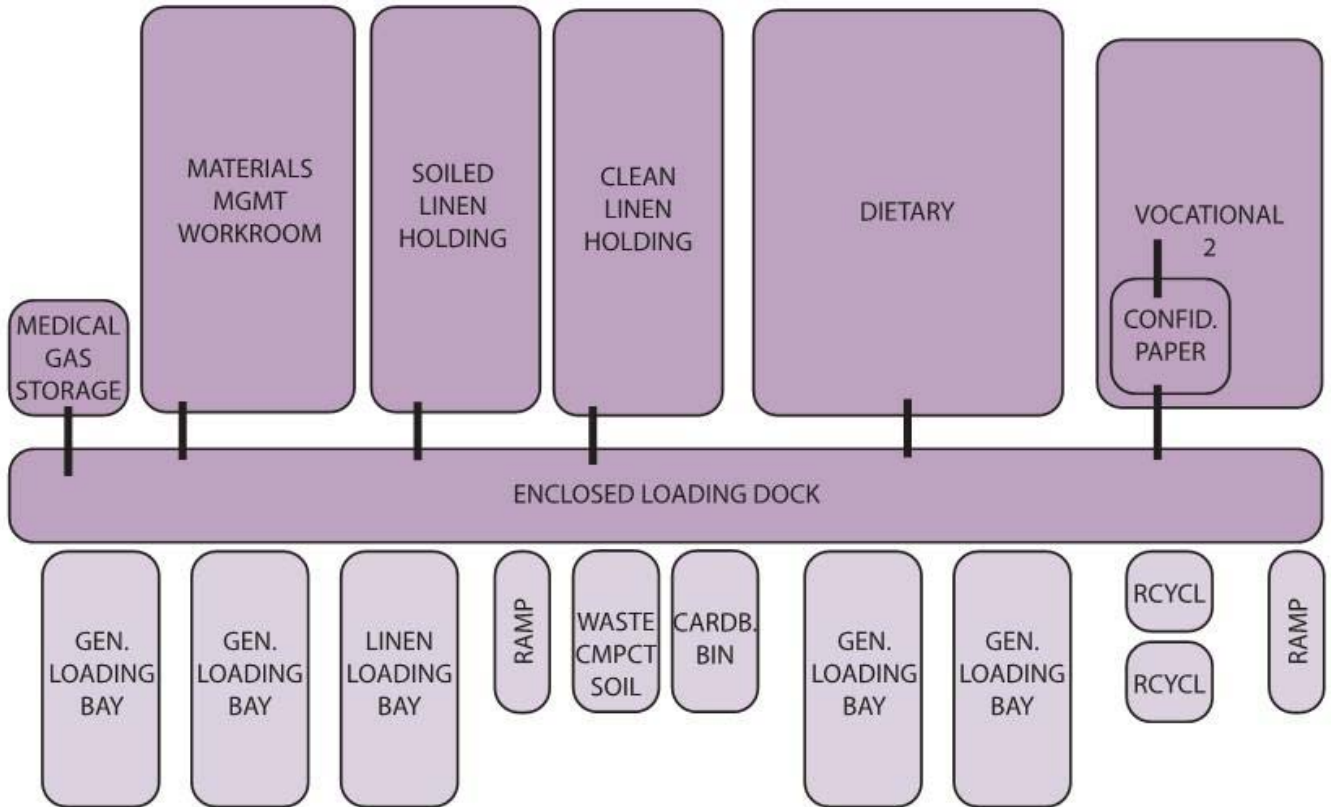
17.1.8.2 Other Considerations

- 17.1.8.2.1 Access to conference and training rooms for in-service and on-going education for Linen staff

17.1.9 Component Functional Diagram

- 17.1.9.1 The areas making up this component should be organized as illustrated in the following diagrams:

MATERIAL MANAGEMENT / LAUNDRY / LINEN



17.1.10 Space Table

17.1.10.1 The schedule accompanying this document illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
C 8.3 LINEN SERVICES**

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.3	LAUNDRY/LINEN					<i>shared service, locate adjacent to housekeeping</i>
.01	Clean Linen Holding	1	37.00	37.00	4	<i>2 workstations @ 5.5sm, file storage</i>
.02	Soiled Linen Holding	1	18.50	18.50	4	<i>shared by all, daily pick up, locate near loading dock 12 carts -one per unit</i>
.03	Storage, Staff Clothing	1	20.00	20.00	4	<i>co-locate with SHNB Linen</i>
.04	Client Clothing Washing	1	45.00	45.00	4	<i>pass thru from washing to drying</i>
.05	Client Clothing Drying	1	51.00	51.00	4	
.06	Cart Wash	1	6.50	6.50	4	
.07	Housekeeping Closet	1	3.50	3.50	4	
	LAUNDRY/LINEN SUBTOTAL			182		

C 8.4 HOUSEKEEPING

This specification outlines the functional, operational and physical requirements for the Housekeeping Services functional component.

FUNCTIONAL DESCRIPTION

18.1.1 Statement of Purpose

18.1.1.1 Housekeeping Services (HS) will encompass housekeeping & waste management.

18.1.2 Scope of Services

18.1.2.1 HS will be responsible for the cleaning of interior Main Building surfaces throughout the Facility. This program component will accommodate the spaces required to support Housekeeping central administrative, clerical, communications and storage functions as well as the decentralized housekeeping supply rooms which will be provided throughout the Facility.

18.1.2.2 HS will manage the Waste Management process and will ensure standards are maintained throughout the Facility. Waste Management will begin at the point-of-use, therefore holding rooms for trash, recyclables, shredded confidential paper, and regulated medical waste containers will be provided at strategic points throughout the facility.

18.1.2.3 HS will be responsible for moving selected portions of the waste stream from points-of-use, and from soiled utility/holding rooms to the soiled dock area. The major portions of the waste stream including; non-infectious trash, and mixed recyclables, will be transported in covered carts and totes. Soiled linen waste stream will be managed by Linen Services (see C 8.3)

18.1.2.4 Additional miscellaneous services will include reporting facility conditions that present a safety hazard.

OPERATIONAL DESCRIPTION

18.1.3 Hours of Operation

Client Care Units will be primarily cleaned and serviced from 8:00am to 16:00pm, or as agreed. Supplemental cleaning of Client areas, clinics, offices and ancillary departments, will occur from 4:00pm and midnight, and as necessary throughout the day. Waste management/collection will occur as necessary, from 0700 to 1800.

18.1.4 Staff Workflow

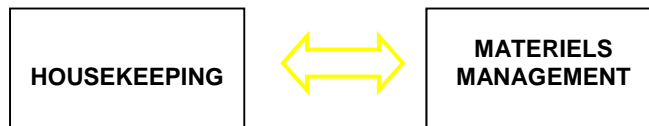
18.1.4.1 Continuous Quality Improvement (CQI) initiatives will be supported within Housekeeping Services.

- 18.1.4.2** Staff will be assigned to specific areas of the Facility to provide cleaning services. Staff will sign-in at point of work assignment. The storage and charging of cleaning equipment (e.g. auto scrubbers) will be accommodated in decentralized housekeeping rooms on the Client Care Units. The storage of bulk cleaning supplies will be managed by Materials Management Services in their central supply area. Materials Management Services will manage distribution of cleaning supplies to the Housekeeping rooms on the Client Care Units will be accomplished using the Kanbans that open from corridors to the Housekeeping Rooms.
- 18.1.4.3** Central storage and equipment maintenance will be provided for selected floor care equipment such as wet-vacs, floor fans, floor finishing/stripping machines, and floor polisher will be provided in the housekeeping centralized storage and equipment room.
- 18.1.4.4** Housekeeping closets as well as soiled and clean housekeeping and will be developed to efficiently service the needs of Client care, treatment areas and Administrative, Support and Staff areas of the Facility. The housekeeping rooms will accommodate a floor sink, a hand-wash sink, floor polisher, floor cleaning machine, vacuum, housekeeping cart, cleaning and paper supplies. Each room on the Client Care Units will have a Kanban pass-through locker which will be re-supplied by Materials Management.
- 18.1.4.5** The various forms of soiled material handling/waste management will be addressed as follows:
- 18.1.4.5.1** General Non-infectious trash will be collected on the Client care units from individual Client rooms, treatment areas, soiled utility, and soiled holding rooms. HS staff will transport trash carts located throughout the Facility directly to central waste holding area adjacent to the soiled docks and/or directly into a trash compactor. The waste holding area will be required to hold waste transport equipment, waste containers for washing and drip drying purposes. This space needs to be adjacent to the loading dock and waste compactor.
 - 18.1.4.5.2** Recyclables will be collected manually and delivered to Vocational Area 2 (A2) where they will be segregated and processed. They will then be transferred to a central recycling area adjacent to the soiled docks and stored until the items are picked up by a recycling company(s). All recyclables will be stored in bins off of the loading dock adjacent to the truck loading bays. A stair from the loading dock will be provided for access.
- 18.1.4.6** Confidential paper waste will be stored in small totes located in alcoves throughout the Facility. Periodically, HS staff will exchange full totes for empty totes. Staff will then take the full totes to a secure holding room in Vocational Area 2 where they will be shredded and stored in shredding bags adjacent to the loading docks. An outside contractor will remove the totes of shredded confidential papers, and replace them with an equal number of empty totes. The full totes will be taken off-site by the contractor for destruction.
- 18.1.4.7** HS will not be directly involved with handling food waste within the Dietary Service department.

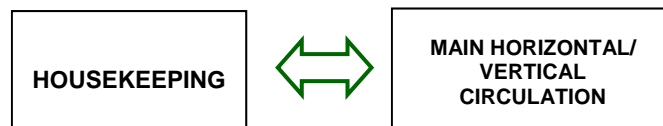
DESIGN CRITERIA

18.1.5 Proximity Relationships

- 18.1.5.1** The Housekeeping services component's location relative to other components and the nature of circulation used to move between 2 components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 18.1.5.2** Provide Direct Access by General Circulation to the Material Management component for the movement of staff and materials and for the sharing of a common loading dock.



- 18.1.5.3** Provide Convenient Access by General Circulation to the Facility's main circulation system for the movement of staff, cleaning carts and cleaning machines.



- 18.1.5.4** Loading Dock Requirements & Waste Management Functions
- 18.1.5.4.1 Refer to Material Management (C-8.2) for loading dock specifications and Waste Staging, Waste Compactor, & Recycling Staging.

18.1.6 Flexibility and Adaptability

- 18.1.6.1** Provision for dedicated decentralized soiled and clean housekeeping and Client laundry rooms and housekeeping closets

18.1.7 Environmental Considerations

- 18.1.7.1** Natural light is preferred, wherever possible. Task lighting should be included in selected work areas.
- 18.1.7.2** Appropriate air temperature and ventilation controls should be provided in work areas for staff comfort and equipment sensitivities, i.e. floor care equipment (battery charging), cleaning supplies.
- 18.1.7.3** Appropriate flammable stores will be provided for holding of flammable cleaning products.
- 18.1.7.4** Sound attenuation systems/finishes will be used wherever possible to keep noise to minimum levels.
- 18.1.7.5** Bumper protection will be used on walls and corners exposed to cart traffic or powered equipment. Bumpers to project out from wall and to protect both upper and lower part of the wall

18.1.8 Special Considerations

18.1.8.1 Room Requirements

- 18.1.8.1.1 Floor care equipment storage requires additional ventilation due to fumes emitted during battery charging
- 18.1.8.1.2 Floor care equipment areas and all soiled holding rooms should have floor drains, as well as wall faucets/hose bibs, and hand wash sinks
- 18.1.8.1.3 Ventilation in soiled holding rooms should provide ten (10) air changes hourly
- 18.1.8.1.4 All HS storage/holding rooms to have door openings at least 4 feet wide

18.1.8.2 Other Considerations

- 18.1.8.2.1 Access to conference and training rooms for in-service and on-going education for HS staff

18.1.9 Space Table

18.1.9.1 The schedule accompanying this document illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each Facility.

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.4	HOUSEKEEPING					<i>locate near laundry/linen</i>
.01	Central Equipment Holding	1	37.00	37.00	4	<i>equipment and product storage, note the future need for RFID and requires adjacency to maintenance</i>
.02	Storage, Janitorial Supplies and Equipment	1	54.00	54.00	4	<i>weekly supplies, ventilated</i>
.03	Cart Wash	1	7.50	7.50	4	<i>manual cart wash</i>
.04	Office	1	11.00	11.00	4	<i>seating for 4-6</i>
	HOUSEKEEPING SUBTOTAL			110		<i>seating for 10-12</i>

C 8.5 CLIENT STORAGE

This specification outlines the functional, operational and physical requirements for Non- Secure Client Storage functions required in the Support Services component.

FUNCTIONAL DESCRIPTION

19.1.1 Statement of Purpose

- 19.1.1.1** Non- Secure Client Storage is required for the personal belongings and secure items that need to be stored for the Non-Secure Clients and this space will be distributed in convenient locations throughout the Facility, preferably with ease of access from the Non Secure Client Care Units.

- 19.1.1.2** Client Storage for Secure Clients will be provided in the Admissions and Discharge component (see section C 4)

19.1.2 Space Table

- 19.1.2.1** These Functional Space Requirements illustrate the rooms, and their respective sizes, that combine to make up this functional component.

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.5	CLIENT STORAGE					<i>may be decentralized to a few locations for ease of access by the care units</i>
.01	Client Belongings Storage	2	107.00	214.00	4	<i>used by entire hospital - locations should be centrally located for ease of access</i>
.02	Storage, Secure Items	1	27.00	27.00	4	<i>used by entire hospital - should be centrally located for ease of access</i>
	STORAGE SUBTOTAL			241		

C 8.6 PHARMACY

This specification outlines the functional, operational and physical requirements for the Pharmacy functional component.

FUNCTIONAL DESCRIPTION

20.1.1 Statement of Purpose

20.1.1.1 The Pharmacy exists for the purposes of procuring, controlling inventories of, preparing and distributing medications and narcotics, teaching Clients and other health care providers about medications, training new pharmacists and pharmacy technicians, applying medication knowledge collaboratively with physicians and other health care providers and delivering drug order review and therapeutic drug therapy management decisions within defined scope of practice criteria defined by the Saskatchewan College of Pharmacists and Health Authority Policy.

20.1.2 Scope of Services

20.1.2.1 Functional Content

- 20.1.2.1.1 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
- 20.1.2.1.2 Ordering, receiving and inventory controlling of medications and narcotics
- 20.1.2.1.3 Dispensing and distributing medications and narcotics to various user sites throughout the Facility using a unit-dose system and direct deliveries to Clients.
- 20.1.2.1.4 Preparing/compounding, including sterilized preparation, of specialized products including admixture preparation in accordance with the USP Pharmaceutical Compounding – Sterile Products Guidelines (797) and the Canadian Society of Hospital Pharmacists Guidelines for the Preparation of Sterile Products in Pharmacies for:
 - 20.1.2.1.4.1 Clinical drug trial medications and documentation
 - 20.1.2.1.4.2
 - 20.1.2.1.4.3 Storage and temporary holding of unused and discarded medications and narcotics for off-site disposal;
 - 20.1.2.1.4.4 Meeting with pharmaceutical representatives to discuss existing and new medications;
 - 20.1.2.1.4.5 Consulting with staff on medication administration and safety;

- 20.1.2.1.4.6 Consulting one-on-one with Clients regarding drug administration, therapeutic drug monitoring, possible side effects and contraindications (some of this function occurs outside of this component while the majority occurs within this component (See Exclusions below – Reference: Health Professions Act, Bylaws, Schedule F and Pharmacy Operations and Scheduling Act Bylaws regarding legislative requirements for pharmacist/Client consultation and outpatient counseling space);
- 20.1.2.1.4.7 Providing clinical pharmacy on-call support to this Facility through the use of Tele-health; and
- 20.1.2.1.4.8 Provision for training of new Pharmacists and Pharmacy Technicians.

20.1.2.2 Exclusions

- 20.1.2.2.1 The following list specifies functions conducted by Pharmacy personnel that are understood to occur in other components in the Facility or outside of the Facility
 - 20.1.2.2.1.1 Consulting with Clients and staff in the following components:
 - 20.1.2.2.1.2 All Client Care Units (A 1.1, A 1.2, B 1.1, B 1.2);
 - 20.1.2.2.1.3 Admissions and Discharge (C 4);
 - 20.1.2.2.1.4 Community Re-integration Units (D 3);
 - 20.1.2.2.1.5 Dedicated pharmacist workspace/workstation for Client Care Units;
 - 20.1.2.2.1.6 Maintaining minimum stock levels at various user sites throughout the Facility; and
 - 20.1.2.2.1.7 Providing in-service training to medical, nursing, pharmacy and allied health professionals.

20.1.2.3 Anticipated Trends in Service Delivery

- 20.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design.
 - 20.1.2.3.1.1 The increasing use of Tele-medicine to access expert consultation services from other Facilities as resource for this Facility.
 - 20.1.2.3.1.2 The increasing use of automation and technology in the ordering and in the dispensing of medications and narcotics will continue.
 - 20.1.2.3.1.3 The profession will continue increasing its use of pharmacy technicians in the professional workforce.
 - 20.1.2.3.1.4 Pharmacists will be increasingly mobile, working remotely from collaborative care spaces distributed throughout the Client care areas.

20.1.3 Scope of Education Functions

- 20.1.3.1 Pharmacy students from technical colleges and universities will receive practical skills training through post-graduate residencies, internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.

20.1.4 Scope of Research Functions

- 20.1.4.1 Pharmacy personnel and students will, from time-to-time, be engaged in research. The nature and extent of research functions, which will include dispensing investigational drugs or preparing medications for clinical trials, will be accommodated in the general work areas, and will not require specialized or dedicated facilities in this component.
- 20.1.4.2 Upon consultation with User Consultation Group, confirm the need for dedicated and secure storage for clinical trials or research protocols.

OPERATIONAL DESCRIPTION

20.1.5 Lean Planning Standards

20.1.5.1 Consumable Supply Management

- 20.1.5.1.1 Consumable supplies stored in treatment areas will be organized and stored in a common order and configuration. The intent of this standard is to enable efficient locating of each supply item without staff first having to reorient themselves to a new room configuration and to avoid long travel distances between supplies storage and point of use.
- 20.1.5.1.2 The Material Management and Pharmacy components will establish a receiving and delivering system for incoming and outgoing pharmaceutical products to ensure that all such activities are timely, reduce the need to carry out unnecessary handoffs, provide required chain of control including cold chain processes, and that pharmaceutical products are stored as per manufacturer's recommendations and are kept secure.
- 20.1.5.1.3 Pharmaceuticals will be delivered directly to the pharmacy, provide a non-public access corridor to allow the transfer of pharmaceutical supplies to the main pharmacy. The transport corridor will not cross a public corridor.
- 20.1.5.1.4 A dedicated staging/holding area will be provided in the main pharmacy, located directly off a non-public corridor, for the delivery of pharmaceutical supplies.
- 20.1.5.1.5 Confirm the final requirements for security systems to be provided in the main pharmacy upon consultation with the User Consultation Group. Provide at a minimum a secured access door and video monitoring of all areas of the pharmacy.

20.1.6 Hours of Operation

- 20.1.6.1 The Pharmacy component at this Facility will be staffed and in operation:

0730 to 1700, Monday through Friday

0800 to 1630, Saturday and Sunday

- 20.1.6.2** Outside the routine hours of operation listed above, and depending upon the nature of service(s) required, pharmacy services will be available on-call locally or by using Tele-health linkages with personnel located off-site. The Pharmacy components are not to lose space to accommodate an automated night cabinet outside of pharmacy.
- 20.1.6.3** An automated night cabinet will be located outside this component and will be accessible by authorized personnel at times when the Pharmacy is closed. The night cabinet is to be in a secure room outside of Pharmacy and close to the Extended Care component (A 1.2) but not inside that component. The night cabinet will be obscured from public view.

20.1.7 People Management Systems

- 20.1.7.1** Pharmacy personnel will have unrestricted, but controlled, secure access to this component at all times. Unauthorized personnel will not have access to this component's interior space.
- 20.1.7.2** The component will serve as a “home base” for personnel and students at which to conduct informal meetings, training sessions and assignment briefings.

20.1.8 Material Management Systems

20.1.8.1 Pharmaceutical Products

- 20.1.8.1.1 All orders for pharmaceutical products, including those originating from other user sites, will be submitted and processed electronically through the Pharmacy component.
- 20.1.8.1.2 Pharmaceutical products arriving during regular Pharmacy hours of operation will be delivered directly to the Pharmacy where they will be received. Pharmaceutical products, arriving when the Pharmacy is closed, destined for the Pharmacy component will be received in Material Management. Orders will be left “as received” and delivered immediately to the Pharmacy where boxes will be unpacked, contents checked against purchase and packing orders and then taken into inventory. Some orders will be delivered by couriers directly to the Pharmacy.
- 20.1.8.1.3 Dispensing medications within the Facility will generally follow two streams. The medication system will provide a “Client-specific stream” and a “ward-stock stream” and will utilize unit dose medications in both streams. The ward-stock stream will be contained in an Automated Dispensing Cabinet (ADC) or traditional medication cupboard. The Client-specific stream will be dispensed from pharmacy and supplied to the Client care area for administration to Clients. The Client specific stream will utilize PacMed and PacVision technologies. In both streams pharmacy personnel will transport the medications to the Client care area.
- 20.1.8.1.4 Dedicated storage will be provided in the pharmacy for the pharmacy distribution/medication carts. The cart storage is for pharmacy carts only.

- 20.1.8.1.5 As per ISMP's Guidance on the Interdisciplinary Safe Use of Automated Dispensing Cabinets (https://www.ismp.org/tools/guidelines/ADC_Guidelines_Final.pdf) "the physical environment in which the ADC is placed can have a dramatic effect on medication errors." The guidelines for the location and number of ADCs are
- 20.1.8.1.5.1 Purchase a sufficient quantity of ADCs, depending on their intended use (e.g., limited narcotic and unit stock versus total drug distribution), and install them in areas that are easily accessible to staff and in close proximity to Clients in order to reduce excessive walking and workarounds by staff.
 - 20.1.8.1.5.2 Locate ADCs in an isolated "sterile cockpit" environment or an area of limited foot traffic, where a minimal number of distractions would be the norm.
 - 20.1.8.1.5.3 Locate ADCs in close proximity to supplies, and refrigerated medications.
 - 20.1.8.1.5.4 Ensure sufficient space around ADCs to allow for the opening of access doors to the medication area and medication drawers in the cabinet. Provide space for the use of medication administration records (MAR) and Client charts, and for the movement of staff without encumbrances.
 - 20.1.8.1.5.5 Ensure adequate ventilation and temperature control of the area or room where ADCs are placed to avoid overheating of the electronic systems and to maintain proper storage temperature for medications.
 - 20.1.8.1.5.6 Provide sufficient overhead lighting to allow for easy reading of the ADC screen, medication label, and the MAR. Auxiliary lighting will be available day or night. Even on low-light units, there will be the ability to brighten the medication areas around ADCs for short periods to prepare and dispense medications.
 - 20.1.8.1.5.7 Ensure ADCs are placed in locations that are secure when cabinets are not being used.
 - 20.1.8.1.5.8 A third "product stream" of select pharmaceutical products that require special handling and or storage will occur. This third "product stream" will include injectable medications compounded in pharmacy and will require storage in medical grade refrigerators with temperature monitors. Some injectable compounded medications will be stored for short periods at room temperature in a secure location in the Client care area. Transportation will be provided by pharmacy.
 - 20.1.8.1.5.9 Pharmaceutical products returned to the Pharmacy in the same sealed containers as dispensed will be reused; products will be disposed if there is any indication of broken packing seals.

20.1.8.2 Waste Management

- 20.1.8.2.1 Waste products will be managed according to a system of segregation at point of origin and sequential consolidation. Operation of this system relies on appropriate containment facilities for each type of waste product beginning at where the waste is generated followed by similar, but progressively larger, containment facilities at key collection locations. Throughout the Pharmacy, waste management is understood to begin at the individual workstations with centralized collection and temporary holding stations being located in a general support area. Each administrative area will also accommodate segregation of the types of waste products typically generated in these types of spaces.
- 20.1.8.2.2 Segregation of wastes will accommodate the following categories of products:
- 20.1.8.2.2.1 General garbage;
 - 20.1.8.2.2.2 Sharps (including potentially bio-hazardous items);
 - 20.1.8.2.2.3 Narcotics (Rendered unusable then temporarily held in secure storage);
 - 20.1.8.2.2.4 Medications;
 - 20.1.8.2.2.5 Confidential paper;
 - 20.1.8.2.2.6 Clean paper and cardboard;
 - 20.1.8.2.2.7 Clean metal (tin and aluminum); and
 - 20.1.8.2.2.8 Clean recyclable plastics.
- 20.1.8.2.3 Unused medications originating from various Client care areas will generally be returned to the Pharmacy where they will be either returned into inventory or discarded. Pharmaceutical waste will be kept secure in all storage locations outside of this component until pick-up for off-site disposal.

20.1.9 Information Management Systems

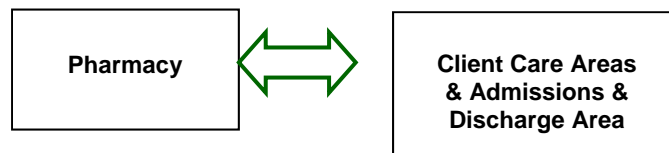
- 20.1.9.1** Most “active” information used in this component will be stored and managed electronically. Component personnel will enter purchase/receipt orders, production records, dispensing records and personnel work records at local terminals. Pharmacy staff engaged in work and training functions on the Client care areas will be deployed with wireless computing technology used to access the Client care system and teaching resources.
- 20.1.9.2** Although planning assumes eventual transition to a “paperless” system, provision will be made initially for retention of hard copy prescriptions and medication dispensing requisition. Hard copy records will be deemed “active” for a 6-month period during which they will be maintained in this component. After this initial holding period, records will be transported off-site and stored for a further 30 months.
- 20.1.9.3** Component personnel will maintain a library of hard copy product manuals.

DESIGN CRITERIA

20.1.10 Proximity Relationships

- 20.1.10.1 The Pharmacy component's location relative to other components and the nature of circulation used to move between two components are illustrated in the diagram below. Proximities are listed according to rank; higher priorities appear above lower priorities.
- 20.1.10.2 A staff lounge will be provided within the pharmacy, staff will not be required to leave the secure area of the pharmacy to access the staff lounge.
- 20.1.10.3 Staff toilets will be provided in the pharmacy, toilets will not open on to main public work areas or directly into the staff lounge. Toilets will be accessible to staff without having to exit the secure areas of the pharmacy.
- 20.1.10.4 A reception station will be provided and will act as the main access point into the pharmacy.
- 20.1.10.5 The Administrative offices, including the First Line Leader's office will be provided within the secure area of the pharmacy.

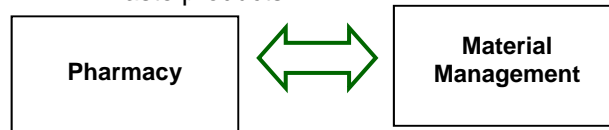
20.1.10.5.1 Provide Convenient Access by General Circulation to all Client components in this Facility for the movement of Client, staff and pharmaceutical products.



20.1.10.5.2 Community Re-integration Clients will access the pharmacy; convenient access is required for Clients obtaining medication from the main pharmacy.



20.1.10.5.3 Provide Convenient Access by General Circulation to the Material Management component for the movement of pharmaceuticals and waste products.



20.1.11 Internal Design Criteria

20.1.11.1 General Internal Layout

20.1.11.1.1 The component will be organized into three major areas as follows:

- 20.1.11.1.1.1 Administrative work area including reception counter, private consultation area and general workspace for teaching and training; and
- 20.1.11.1.1.2 Technical work area including product receiving/processing area and technical workstations.

20.1.11.2 Open Plan

- 20.1.11.2.1 Administrative and technical work areas will be segregated, but organized within a common, open floor plan. Staff will be able to move easily between technical workbenches and administrative workstations and with minimal disruption to others occupying other workstations.
- 20.1.11.2.2 The reception/consultation counter will serve as a boundary between pharmacy personnel and other authorized HCF personnel accessing this component for pharmacy consultations or for product pick-up. Provide picking wall storage, half height and full height.
- 20.1.11.2.3 Provide modular systems furniture in this area, including under counter storage components, full height storage components and accessories as required for functionality. This includes any drug dispensing/picking/storage areas and workstations/cubicles.

20.1.11.3 Component Security and Confidentiality

- 20.1.11.3.1 Access to this component will be controlled at all times. This area will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week. A staff safety alarm system built into each workstation will communicate directly with the Facility's security staff.
- 20.1.11.3.2 The ceiling installed in this component will be solid and not be of the drop-down variety. All of the component's exterior walls will extend from the floor to the base of the overlying slab to prevent unauthorized access through interstitial or crawl spaces.
- 20.1.11.3.3 All areas in this component will be under video surveillance and recording. This criterion will be especially important for the unused narcotics storage area. This will be the location where narcotics that have been rendered unusable will be temporarily held pending removal for off-site destruction.
- 20.1.11.3.4 Refrigerators will be monitored and alarmed. In the event of a refrigerator's failure, annunciators in the Main Building monitoring system will alert maintenance staff and initiate a maintenance response.
- 20.1.11.3.5 Secured storage areas and rooms will not be located on an exterior wall of the Main Building. Space dedicated for clinical drug trial inventory and associated trial documentation will be segregated and secure from general access within the internal design.

20.1.11.4 Environmental Control

- 20.1.11.4.1 Equipment and products accommodated in these rooms will generate heat and odors. Compounding rooms in this component will be supplied with independent controls for varying temperature and air quality.
- 20.1.11.4.2 Medication production and bulk storage spaces, in addition to appropriate lighting, will require controlled temperature and humidity environments to maintain integrity of medications within approved product monograph specifications. This specification will apply to both refrigerated and non-refrigerated spaces.

20.1.11.5 Emergency Power

- 20.1.11.5.1 Essential equipment in this component will require connections to delayed vital power which will be restored within two minutes of an electrical power failure. Essential equipment will include refrigerators, freezers, computers and video systems supporting Tele-health functions.

20.1.11.6 Natural Lighting and Exterior Views

- 20.1.11.6.1 Research has demonstrated the benefits that natural light and views of natural surroundings offer to the accuracy and quality of work performed in vital areas. Areas in this component where products are mixed or packaged for dispensing will be provided with windows and views to the exterior.
- 20.1.11.6.2 Exposure to natural lighting will not compromise the component's security by providing direct views from the outside into key work and storage areas. Some products are also light sensitive and consideration will be given to locating some workstations away from spots that could receive direct sunlight.

20.1.11.7 Lighting

- 20.1.11.7.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 20.1.11.7.2 Artificial lighting will follow a general standard of providing "non-direct" lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact.
- 20.1.11.7.3 Artificial lighting in the administrative and technical work areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.

20.1.11.8 Staff Support Areas

- 20.1.11.8.1 A staff lounge and meeting area will be provided within the pharmacy. Staff will not be required to leave the secure area of the pharmacy to access the Facility's staff lounge or staff lockers. Staff toilets will be provided without staff having to exit the secure areas of the pharmacy. Toilets will not open directly into the staff lounge.
- 20.1.11.8.2 A reception station will be provided which will act as the main access point into the pharmacy. Security cameras will be provided at all pharmacy access and exit points and work area within the main pharmacy stores and narcotics storage areas.
- 20.1.11.8.3 The Administrative offices, including the First Line Leader's office will be provided within the secure area of the Pharmacy.

20.1.11.9 Ergonomics for an Aging Workforce

20.1.11.9.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staffs are required to use. Ease of access will be among the key criteria. In the Client care areas, this specification will be reflected in electrical outlets being located approximately 900 mm (approximately 3') above floor surface. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending. Work stations where individuals will work for extended periods of time will require the ability to accommodate both sitting and standing positions. Height adjustable tables will be required in all preparation and dispensing areas.

20.1.11.10 Staff Safety

20.1.11.10.1 A plumbed emergency eye wash station (tempered with thermostatic mixing valves to prevent eye scalding) and emergency deluge shower will be installed in the Pharmacy. The final location of eye wash stations and emergency shower will require consultation with the Pharmacy clinical champions. A floor drain will be installed with each deluge shower.

20.1.11.10.2 The receiving and storage areas will also require a hand wash sink.

20.1.11.10.3 Upon consultation with the User Consultation Group, provide a sufficient number of hand-washing, in the appropriate locations. The Clinical User Group will have final input and confirmation of the location and quantity of hand-washing stations required.

20.1.11.10.4 Upon consultation with the User Consultation Group, provide a sufficient number of emergency eye wash stations in the appropriate locations. The pharmacy champions will have final input and confirmation of the location and quantity of eye-wash stations required.

20.1.11.10.5 Upon consultation with the User Consultation Group, confirm the need and location or locations for deluge showers. If deluge showers are provided ensure a secure drainage system is provided to prevent contamination of water streams.

20.1.11.10.6 Infection Control Features

20.1.11.10.6.1 Hand wash stations will be located at each workstation where medications are prepared. In the compounding area, a single station in the anteroom will be sufficient. The location of all hand wash stations will prevent against accidental spills and splashes from contacting nearby medications.

20.1.11.10.6.2 All furniture, fixtures and equipment used in this component should be fabricated using smooth, non-porous materials that are capable of being decontaminated with hospital grade disinfectants. Their shapes will allow for easy cleaning around all sides and will be free of inaccessible spaces.

20.1.11.10.6.3 Electronic technology increases the number of interfaces between Clients and technical devices. All equipment used in this component that comes into contact with Clients will be able to withstand frequent and consistent cleaning using hospital-grade products.

20.1.11.10.6.4 All flooring in this component will be smooth, non-porous, skid and slip resistant and anti-static.

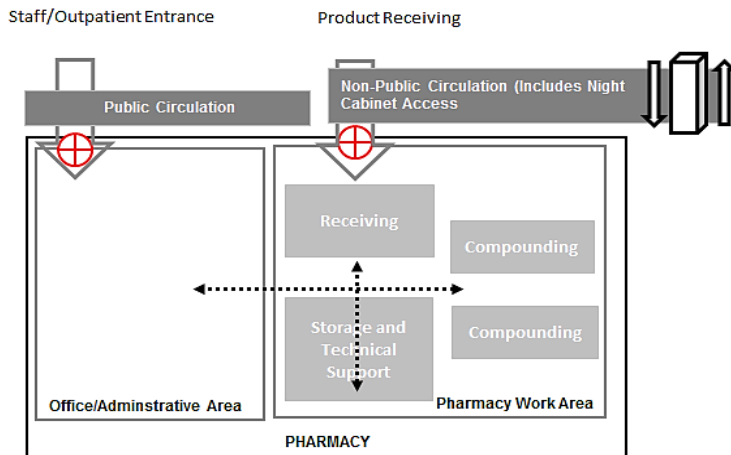
20.1.11.11 Automated Night Cabinet

20.1.11.11.1 An automated night cabinet will be located outside this component and will be accessible by authorized personnel at times when the Pharmacy is closed. The night cabinet is to be in a secure room outside of Pharmacy and close to the Acute Client Care Services component (A 1.1) but not inside the component. The night cabinet will be obscured from public view.

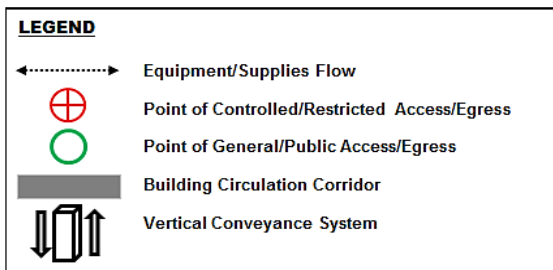
20.1.12 Component Functional Diagrams

20.1.12.1 The areas making up this component shall be organized as illustrated in the following diagram

20.1.12.1.1 Diagram 1: Pharmacy Services Diagram



Note: Work zones, points of access/egress and circulation systems are shown for illustrative purposes, and are not drawn to scale. See accompanying [Space Table](#) for room and work zone size details.



20.1.13 **Space Table**

20.1.13.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component.

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.6 PHARMACY						
.01	Workstations, Techs	6	6.00	36.00	4	
.02	Workstation, Pharmacist	3	6.00	18.00	4	
.03	Office, Manager	1	11.00	11.00	4	
.04	Cart Parking	1	6.00	6.00	4	<i>holding of transport carts</i>
.05	Ante Room/Checking	1	9.50	9.50	4	
.06	Sterile Products Room	1	9.50	9.50	4	
.07	Packing/Compounding	1	20.50	20.50	4	
.08	Label Printers	1	5.50	5.50	4	
.09	Unit Dose Dispensing	1	44.50	44.50	4	<i>automated dispensing system should be anticipated in the future</i>
.10	Refrigerator/Freezer	1	5.50	5.50	4	
.11	Narcotic Station	1	5.50	5.50	4	<i>Pyxis system should be anticipated in the future</i>
.12	Shipping/Receiving	1	15.00	15.00	4	
.13	Storage	1	22.00	22.00	4	
.14	Washroom, Staff	1	4.00	4.00	4	<i>2 piece</i>
.15	Staff Break Room	1	11.00	11.00	4	
.16	Housekeeping Closet	1	3.50	3.50	4	
	PHARMACY SUBTOTAL			227		

C 8.7 MAINTENANCE

This specification outlines the functional, operational and physical requirements for Maintenance functions required in the Support Services component.

FUNCTIONAL DESCRIPTION

21.1.1 Statement of Purpose

- 21.1.1.1** A maintenance area is required for repair of small equipment throughout the Facility, preferably with ease of access to the Loading Dock. This space includes a work-bench and an office.
- 21.1.1.2** Maintenance space for Project Co's functions is located in Building and Grounds section of the Functional Program

21.1.2 Space Table

These Functional Space Requirements illustrate the rooms, and their respective sizes, that combine to make up this functional component.

Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
C8.7	MAINTENANCE					
.01	Storage	1	50.00	50.00	4	
.02	Equipment Repair Shop	1	56.00	56.00	4	<i>repair small equipment, includes 5.5sm workstation</i>
.03	Office, Supervisor	1	9.50	9.50	4	<i>Maintenance Supervisor</i>
	MAINTENANCE SUBTOTAL			116		
	TOTAL NET SQUARE METRES ALL SUPPORT SERVICES			2,400		

D1 BUILDING & GROUNDS

At Project Co's discretion, constructed maintenance buildings will include a Project Co Office, building and ground equipment storage, machine shop and maintenance shop.

FUNCTIONAL DESCRIPTION

22.1.1 Statement of Purpose

22.1.1.1 The Building and Grounds component focuses on the following functions necessary for the continuing maintenance of the Facility and Site

- 22.1.1.1.1 Project Co's office;
- 22.1.1.1.2 Equipment Storage for the Building and Grounds maintenance work;
- 22.1.1.1.3 Maintenance Supervisor's office;
- 22.1.1.1.4 Machine shop for the maintenance work; and
- 22.1.1.1.5 Maintenance Shop.

22.1.2 Space Table

22.1.2.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component.

D1 BUILDING & GROUNDS						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC Level	Description
	OFFICE AREA					
.01	Project Co. Office	0	0.00	0.00	4	
	SUBTOTAL			0.00		
	BUILDING & GROUNDS					<i>Project Co Space</i>
.02	Equipment Storage	0	0.00	0.00	4	<i>may be located in an out-building,</i>
.03	Office, Supervisor	0	0.00	0.00	4	<i>building and grounds supervisor</i>
.04	Machine Shop	0	0.00	0.00	4	<i>may be located in an out- building, kitchen equipment, welding,</i>
	SUBTOTAL	0	0.00	0.00		
		0	0.00	0.00		
	MAINTENANCE	0	0.00	0.00		
.05	Shop, Maintenance	0	0.00	0.00	4	
	SUBTOTAL			0		
	TOTAL NET SQUARE METRES			0		

D 2 OUTDOOR SPACES & SITE

This specification outlines the functional, operational and physical requirements for the Outdoor Spaces & Site functional component.

FUNCTIONAL DESCRIPTION

23.1.1 Statement of Purpose

23.1.1.1 Outdoor Spaces & Site component focuses on the following functions:

23.1.1.1.1 Outdoor spaces and connection to the outdoors is a critical part of healing and normalization for Clients. The outdoor spaces within the facility will be provided in a variety of ways and a variety of scales from intimate courtyards for each Client care unit to larger central gathering courtyards to the site as a whole. The outdoor spaces will be programmed, planned and detailed in a similar way as the interior spaces. Sensitivity to site climate including sun and wind directions must be considered to allow for Client outdoor access as much of the year as possible.

23.1.1.1.2 Many of the vocational and recreational services rely on the ability to utilize outdoor spaces in the treatment programs. All Clients will have equal access to quality outdoor spaces to relax, gather in small groups, visit with family and participate in therapy programs.

23.1.1.1.3 Refer to Schedule 3 for further site and landscape requirements related to fencing, plant, furniture and material selections that are appropriate for mental health Clients.

23.1.1.2 Parking

23.1.1.2.1 See Schedule 3 section 4.3 for further requirements on parking.

23.1.2 Guiding Principles - N/A

23.1.3 Scope of Service

23.1.3.1 Provide a healing landscape to assist in recovery.

23.1.4 Exclusions

23.1.4.1 See specific sections within 3A for further information on connection to the outdoors.

OPERATIONAL DESCRIPTION

23.1.5 Hours of Operation

23.1.5.1 See programs and services that utilize the outdoor spaces for hours of operation

23.1.6 People Management Systems

23.1.6.1 All courtyards will have the ability to be secured. Refer to the space list for the SLC ratings of each type of courtyard. The centralized courtyards for Secure (SLC 2) and Non-Secure Clients (SLC 3) should be detailed accordingly for safety and security.

23.1.7 Material Management Systems – N/A

23.1.8 Consumable Supplies– N/A

23.1.9 Linen– N/A

23.1.10 Pharmaceutical Products– N/A

23.1.11 Food Services

23.1.11.1 Outdoor Centralized BBQ and Picnic areas will be serviced by the Quality of Life Kitchen and primarily supported by Clients. Convenient access for food delivery and movement is required to the central large gathering courtyards.

23.1.12 Waste Management – N/A

23.1.13 Information Management Systems

DESIGN CRITERIA

23.1.14 Lean Planning Standards

23.1.15 Internal Design Criteria

23.1.15.1.1 Areas of refuge and fire exiting will be coordinated with the courtyards and stairs so that intermixing of incompatible Clients across unit is prevented.

23.1.15.1.2 Each central courtyard will have a secure enclosed shed for small equipment and garden tools.

23.1.15.1.3 All courtyards will have a covered area for Clients who require limited exposure to the sun and for protection from the elements when required.

23.1.15.1.4 All structures within the courtyards must not allow for climbing and or scaling that would allow for Client elopement.

23.1.15.2 Centralized Activity Courtyards

- 23.1.15.2.1 The facility will have two central courtyards; one for Secure Clients (Forensic and Secure) and one for Non-Secure Clients (Acute and Extended). Each courtyard will have a barrier free loop walking bath, a wood fire pit with seating, smudging capability, natural gas grilling, raised planting beds as well as covered area(s) for those that require limited sun exposure.

23.1.15.3 Client Care Unit activity courtyards

- 23.1.15.3.1 Each Client care unit will have a dedicated outdoor enclosed courtyard with immediate access from the Client care unit. Outdoor courtyards will be provided at the same level as the Client care unit they serve.
- 23.1.15.3.2 Each Client care unit courtyard will have a barrier free loop walking path, a concrete basketball pad and hoop/net and raised gardens for planting.

23.1.15.4 Vocational Therapy Outdoor Equipment Storage

- 23.1.15.4.1 Vocational Therapy Services will have convenient access to an outdoor storage building that provides lockable enclosed storage for a lawn mower and other outdoor lawn equipment used by Clients as part of their vocational training.
- 23.1.15.4.2 Recreation Therapy will have convenient access to outdoor amenities. These will include a full size grass volleyball court, a full court concrete basketball court, sand horseshoe pit and the ability to create a flooded grass hockey rink.
- 23.1.15.4.3 A lockable warming shack will be adjacent to the hockey rink.
- 23.1.15.4.4 The Vocational 03 program provides Clients the opportunity to learn horticulture. A free standing green house will be provided with convenient access to and from the Main Building and more specifically convenient access to Vocational 03.
- 23.1.15.4.5 The Greenhouse must be constructed for appropriate wind and snow conditions.
- 23.1.15.4.6 Client access and route to and from the green house must be free of snow and ice
- 23.1.15.4.7 Courtyard lighting must be provided for Client and staff safety but will not be provided in a way that disrupts Client sleep.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D2 OUTDOOR SPACES & SITE**

23.1.16 Space Table

23.1.16.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component.

D2 OUTDOOR SPACES & SITE						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
VOCATIONAL THERAPY						
.01	Outside Equipment Storage	1	9.50	9.50	4	<i>tools, 1 lawnmower, other equipment (additional 11sm of outdoor garden storage with the building under the therapy mall)</i>
	SUBTOTAL			9.50		
RECREATION THERAPY						
						<i>located adjacent to recreation therapy</i>
.02	Volleyball court (grass)	1	0.00	0.00	N/A	<i>flat open area for grass</i>
.03	Basketball Pad	1	0.00	0.00	N/A	<i>shared by all clients</i>
.04	Horseshoe pits	1	0.00	0.00	N/A	<i>shared by all clients</i>
.05	Flooded Grass Skating Rink & Warming Shack	1	7.50	7.50	N/A	<i>7.5sm for warming shack</i>
.06	Picnic Area	1	0.00	0.00	3	<i>shared by all clients, includes natural gas hook up for BBQ and storage area</i>
	SUBTOTAL			7.50		
GARDEN THERAPY						
						<i>locate with convenient access to Vocational Therapy 03</i>
.07	Greenhouse	1	24.50	24.50	3	<i>1 @ approx. 20 x 36', appropriate construction for wind and snow conditions</i>
	SUBTOTAL			24.50		
BUILDING SUPPORT						
.08	Main Generator Fuel Tank	0	0.00	0	N/A	<i>provide underground tanks</i>
	SUBTOTAL			0		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D2 OUTDOOR SPACES & SITE**

CENTRALIZED COURTYARDS						
.09	Secure Central Courtyard	1	0.00	0	2	<i>enclosed larger courtyard to be shared by all secure clients, provide a barrier free loop walking path, one wood fire pit with seating, Smudging capability, BBQ grill with piped natural gas, raised planting beds</i>
.10	Non-Secure Central Courtyard	1	0.00	0	3	<i>enclosed larger courtyard to be shared by all non-secure clients, provide a barrier free loop walking path, one wood fire pit with seating, Smudging capability, BBQ grill with piped natural gas, raised planting beds</i>
.11	Outdoor Storage	2	0.00	0.00	4	<i>one in each centralized courtyard - secure outdoor storage for equipment, garden tools</i>
	SUBTOTAL			0		
PARKING						
.12	Parking	400	0.00	0	N/A	<i>200 parking for visitors and staff from ICF and 200 parking for staff and visitors SHNB</i>
	SUBTOTAL			0		
CLIENT CARE UNIT COURTYARDS						
.13	Outdoor Courtyard/Exercise	13	0.00	0.00	3	<i>provide one directly off of each client care unit</i>
.14	Walking Path	13	0.00	0.00	3	<i>provide one in each unit courtyard</i>
.15	Basketball pad, backboard/net	13	0.00	0.00	3	<i>provide one in each unit courtyard</i>
.16	Raised Gardens	3	0.00	0.00	3	<i>in extended care unit courtyards</i>
	SUBTOTAL			0		
	TOTAL NET SQUARE METRES			42		

D 3 COMMUNITY REINTEGRATION UNITS

This specification outlines the functional, operational and physical requirements for the Community Reintegration Units functional component at the Facility.

FUNCTIONAL DESCRIPTION

24.1.1 Statement of Purpose

24.1.1.1 Philosophy

- 24.1.1.1.1 Clients are entitled to be treated with dignity and respect and without prejudice through a multidisciplinary approach to service delivery.
- 24.1.1.1.2 The focus of the service is to ensure a safe environment and a therapeutic milieu for the Client. The Authority believes in promoting a positive relationship with the community. It is the right of all Clients to have access to dynamic psychiatric rehabilitation with discharge planning from time of admission.
- 24.1.1.1.3 Supportive psychiatric rehabilitation programming will extend from the Facility into the community to ensure successful community reintegration. Each individual has a right to community living, with the greatest level of independence and richest quality of life possible. All service delivery will be as culturally relevant as possible.
- 24.1.1.1.4 The intent is to provide as home-like an atmosphere as possible, with attention given to providing the necessary services in as unobtrusive way as possible.

24.1.1.2 Guiding Principles

- 24.1.1.2.1 Provide assessment and treatment to residents of Saskatchewan who experience the effects of serious mental illness, thereby allowing them to be re-integrated as contributing members of the community.
- 24.1.1.2.2 Community Reintegration Units will be designed to prepare Clients for the everyday demands of living outside of the hospital setting. The apartments will have a non-institutional look and feel. The apartments will promote self-care and socialization with other Clients.
- 24.1.1.2.3 Provide a welcoming, safe and secure environment for Clients, staff and visitors.

24.1.2 Scope of Services

24.1.2.1 Functional Content

- 24.1.2.1.1 Functionally, this component has 3 distinct apartments; each apartment will be identical in layout however one unit will have 6 bedrooms rather than 4.

- 24.1.2.1.2 Two Community Reintegration Units (8 beds) are intended for use by Forensic Clients. One Community Reintegration Unit is intended for Acute Clients (6 beds).
- 24.1.2.1.3 The following list specifies the minimum set of functions that will be accommodated within the component's spaces:
 - 24.1.2.1.3.1 The design will promote a safe and secure environment;
 - 24.1.2.1.3.2 The design will create a welcoming Client and family-centred healing environment;
 - 24.1.2.1.3.3 The design will support the model of care;
 - 24.1.2.1.3.4 The design will minimize staff travel distances to and from the Main Building
 - 24.1.2.1.3.5 The design will provide specific supports to ensure the control of infection;
 - 24.1.2.1.3.6 The design will provide respite and relaxation opportunities for both Clients and their visitors on each of the reintegration units;
 - 24.1.2.1.3.7 The design will provide a porch or patio the Client Care Unit so that Clients are able to experience the outdoors similar to an experience in a traditional home;
 - 24.1.2.1.3.8 Priority of spaces receiving views to the river valley and landscape should be determined based upon the following criteria: 1 – Living/Dining rooms where Clients spend the most of their daylight hours 2 – Client Private Bedrooms 3 – Support Space (kitchen, washroom, laundry); and
 - 24.1.2.1.3.9 All Client spaces will have access to natural light and view to the landscape. Client spaces will not have a primary view to loading docks or parking lots.

24.1.2.2 Exclusions

- 24.1.2.2.1 The following list specifies functions that involve either Clients or staff normally present on the Community Reintegration Units but are understood to occur in other functional components in the Facility or outside of the Facility:
 - 24.1.2.2.1.1 Recreational Therapy/Wellness activities will occur within A2 Therapy Mall;
 - 24.1.2.2.1.2 Education/Training and GED completion will occur in the Education Centre (A2 Therapy Mall);
 - 24.1.2.2.1.3 Vocational Therapy (recycling, wood working, gardening) (A2 Therapy Mall);
 - 24.1.2.2.1.4 Quality of Life/Canteen – large scale activities of daily living, cooking, dishwashing (A2 Therapy Mall);
 - 24.1.2.2.1.5 Client Business Centre – resume writing, activities of daily living (A2 Therapy Mall); and

24.1.2.2.1.6 Medical Services other than those performed in the on unit Treatment Room will occur in the C6 – Health Care Clinic, in the community through partnership agreements, or transferred to a local acute care facility.

24.1.2.3 Anticipated Trends in Service Delivery

24.1.2.3.1 The following lists trends expected within the planning horizon of this project, and that are expected to affect the nature and/or extent of functions accommodated within this component. Effects of these trends will be reflected in the component's design:

24.1.2.3.1.1 Increasing numbers of Clients with addictions and mental disorders;

24.1.2.3.1.2 Increasing Client acuity and complexity;

24.1.2.3.1.3 Increasing numbers of forensic Clients needing community placement;

24.1.2.3.1.4 Increasing mean age of staff working on the in Client units are predicted to increase;

24.1.2.3.1.5 Increasing shortages of key staff positions are predicted to increase, including staff in the highly trained, specialized professions; and

24.1.2.3.1.6 Redesigning service delivery to meet the needs of First Nations Clients.

24.1.3 Scope of Education Functions

24.1.3.1 Medical and nursing students and students in the allied health professions from technical colleges and universities will receive practical skills training through internships and co-op programs. All teaching and supervision functions will be accommodated in the general work areas within the Main Building, and will not require specialized or dedicated facilities in this component.

24.1.4 Scope of Research Functions

24.1.4.1 Staff and students working in the Community Reintegration Units will, from time-to-time, be engaged in research. The nature and extent of research functions will be accommodated in the general work areas.

OPERATIONAL DESCRIPTION

24.1.5 Hours of Operation

24.1.5.1 The component at this facility will be staffed and in operation:

24 hours-a-day, 7 days-a-week

24.1.5.2 The component will have regular visiting hours:

0900 – 2100, 7 days-a-week, similar to the Main Building

24.1.6 People Management Systems

- 24.1.6.1 Clients in this component will arrive from the Main Building as a part of their journey toward discharge. The typical Client will be ambulatory, and will have free access to move around the buildings and grounds.
- 24.1.6.2 Staff will move to and from the Main Building to the Community Integration Units approximately 6 times per day to monitor and assist Clients as necessary (i.e. medication distribution, care plans, answer questions, interviews).
- 24.1.6.3 Clients will be discharged to go back to their home region, group home or other facility in the community or discharged with family.
- 24.1.6.4 All visitors to the Community Reintegration Units will move directly to each individual Community Reintegration apartment entrance. Staff and/or Clients will be required to meet visitors at the entrance.
- 24.1.6.5 A visual and audio control system will allow visitors to contact either the Forensic Client Care Services or Acute Client Care Services designated nursing station to request admission to the community reintegration unit. Staff of that unit as well as the Operations Security Centre will be able to electronically open the building doors as well as physically move to the visitor to greet them depending upon the situation. The nurse station and Operations Security Centre will have remote visual control of the building entry.

24.1.7 Material Management Systems

- 24.1.7.1 The Community Reintegration Units will have materials and supplies delivered by the Authority staff. Travel path via road for delivery vehicles or by walkway for pedestrians is required to ease in the delivery of materials to each Community Reintegration Unit.
- 24.1.7.2 Each Community Reintegration Unit will have a combined Laundry/Housekeeping Room. Clients will be responsible for some of the upkeep/cleaning of the unit. Housekeeping staff will complete a thorough clean at minimum of 3 times a week. A lockable cabinet within the Laundry/Housekeeping Room is required for staff only supplies. The room will be lockable if required to keep Clients out at a future date.
- 24.1.7.3 Support services, staff processes and space will have adequate safety and security to ensure Clients cannot access harmful materials or objects.

24.1.8 Consumable Supplies

- 24.1.8.1 Inventories of consumable supplies will utilize the Kanban system. Each Client room and tub room will have a dual door supply cabinet that allows for daily supplies to be delivered from the general circulation corridor and removed from inside the room for use.
- 24.1.8.2 Cabinets will be lockable so that if necessary Client access is controlled.
- 24.1.8.3 All supplies will be inaccessible to Clients and to the public.

24.1.9 Linen

- 24.1.9.1 Each Client unit has one Client laundry/housekeeping room. Clients are responsible for their daily clothing.

- 24.1.9.2** Linen service is provided by the Authority and transferred to the Community Reintegration Units by staff either by vehicle or by walking.

24.1.10 Pharmaceutical Products

- 24.1.10.1** Medication is currently delivered via mobile medication carts. Carts will be stored and secured in the staff work area/medication room on each community reintegration units.
- 24.1.10.2** The staff work area/medication room design will accommodate the use of a small automated dispensing unit, narcotics cabinet, u/c refrigerator, and medication cart.
- 24.1.10.3** The staff work area/medication room will be enclosed and lockable.
- 24.1.10.4** The medication carts will be stocked with unit doses of Clients' medications and dispensed according to prescribed schedules or as required. Pharmacy personnel will be responsible for inventory management of the medication rooms and their associated medication carts, whereas nursing personnel will deliver medications from the medication room to the Client.

24.1.11 Food Services

- 24.1.11.1** Food service will be provided by the Authority food services department. Food will be delivered in bulk to each kitchen on the Community Reintegration Units and Clients will prepare their own food. The kitchens will have the appropriate accessories to prepare and serve meals (i.e. pots and pans, plates, utensils, cups).
- 24.1.11.2** Clients will be responsible for their own dishwashing. Each unit kitchen will have a full size refrigerator, range, microwave, dishwasher, double basin sink, coffee pot and toaster.

24.1.12 Waste Management

- 24.1.12.1** The majority of waste products will be soiled linen, garbage and recyclables. Waste will be collected by support services staff and moved to the Main Building soiled holding areas at the loading dock for final pick up.
- 24.1.12.2** Garbage and Recycling bins will be located outside of the Community Reintegration Units for Clients to dispose of their own garbage.
- 24.1.12.3** The kitchen area will allow for storing and sorting of recyclables. Segregation of wastes will accommodate the following categories of products:
- 24.1.12.3.1 General garbage;
 - 24.1.12.3.2 Sharps (including potentially bio hazardous items);
 - 24.1.12.3.3 Infectious or contaminated wastes (excluding sharps);
 - 24.1.12.3.4 Clean paper and cardboard;
 - 24.1.12.3.5 Clean metal (tin and aluminum);
 - 24.1.12.3.6 Clean recyclable plastics; and
 - 24.1.12.3.7 Compostable materials.

24.1.13 Information Management Systems

- 24.1.13.1** All Clients' related information will be maintained on the electronic medical record (EMR) system. Wireless technology will enable data entry at the staff work area/medication room. Access to the EMR will be controlled electronically with varying levels of security clearance determining a person's access to different sections and their ability to enter/edit data.
- 24.1.13.2** To meet requirements of the Mental Health Act; each Client will be required to have some paper based health records. Storage for these records will be provided within the staff work area/medication room which is only accessible by the appropriate staff.
- 24.1.13.3** The intent is to enable clinicians and staff to take advantage of the technologies and resultant optimal care environment with respect to communication, access to the Electronic Health Record, documentation, mobility, monitoring, tracking, and care processes and best practices supported by technology. The community reintegration units will accommodate the technology devices and medical equipment required to deliver care in an automated environment including mounting, storage, charging, and space requirements of:
- 24.1.13.3.1 Integrated Medication Carts;
 - 24.1.13.3.2 Medication Dispense Cabinets;
 - 24.1.13.3.3 Fixed Computer Devices – Desktop and Wall mount;
 - 24.1.13.3.4 Mobile Label Printers;
 - 24.1.13.3.5 Mobile Barcode Scanners;
 - 24.1.13.3.6 Handheld Computer Devices;
 - 24.1.13.3.7 Glucometers with Docking Stations;
 - 24.1.13.3.8 Tracking Monitors – Client, Staff, and Resource Tracking;
 - 24.1.13.3.9 Clinical Dashboards;
 - 24.1.13.3.10 Device Integration for real –time clinical assessment and physiological data documentation;
 - 24.1.13.3.11 Location Awareness;
 - 24.1.13.3.12 Device Connectivity;
 - 24.1.13.3.13 Multifunction Communication Devices with integration to systems;
 - 24.1.13.3.14 Telehealth and Virtual Team Capabilities;
 - 24.1.13.3.15 Real Time Location System; and
 - 24.1.13.3.16 Staff Safety and Duress.

DESIGN CRITERIA

24.1.14 Lean Planning Standards

- 24.1.14.1** Standardization of Private Client Rooms

- 24.1.14.1.1 Each Client room will be designed, configured, equipped and furnished to a common standard and design. The intent of this requirement is to facilitate staff moving from room-to-room without having to reorient themselves with respect to frequently accessed key features like Client bed, desk, and wardrobe, call annunciator, cancel buttons.
- 24.1.14.1.2 All Client rooms are to have a standard orientation; the configuration and layout within each Client room will be standardized to facilitate immediate orientation for staff. A standard room orientation will be accommodated via a “like-handed” design – or in “mirrored” design.

24.1.15 Proximity Relationships

- 24.1.15.1** Each apartment will be designed as a separate space to provide a residential scale to the buildings to best mirror the Client’s experience after discharge into the community. Each apartment will have a separate and dedicated entrance from the outdoors.
- 24.1.15.2** .
- 24.1.15.3** The 3 Community Reintegration Units will be provided on one level at grade.
- 24.1.15.4** Provide convenient access by external circulation between the Community Reintegration Units and the Main Building.
- 24.1.15.5** Provide convenient access by exterior circulation to the Community Reintegration Units for ease of staff movement and response time for code calls.
- 24.1.15.6** Clients in the Reintegration Units will access the therapy programs and activities within the Main Building. The following ardenancies are most important:
 - 24.1.15.6.1.1 Provide convenient access by external circulation to Vocational Services for the ease of Client movement;
 - 24.1.15.6.1.2 Provide convenient access by exterior circulation to Spiritual/Cultural Care for ease of Client movement;
 - 24.1.15.6.1.3 Provide convenient access by external and general circulation to the Education Centre for ease of Client movement;
 - 24.1.15.6.1.4 Provide convenient access by external and general circulation to the Client Business Centre for ease of Client movement; and
 - 24.1.15.6.1.5 Provide convenient access by exterior and general circulation to the Quality of Life/Canteen area for ease of Client movement.
- 24.1.15.7** Provide convenient access for each Community Reintegration Unit by external and general circulation to major public and non-public circulation within the Main Building.

24.1.16 Internal Design Criteria

24.1.16.1 General Internal Layout

- 24.1.16.1.1 Community Reintegration Units are comprised of either 4 or 6 beds each. Units will be designed like a traditional apartment with each apartment having a public shared zone and a private bedroom zone.

- 24.1.16.1.2 The Community Reintegration Units will be organized into 3 major zones as follows:
 - 24.1.16.1.2.1 1 – Private Client Room and shared washroom;
 - 24.1.16.1.2.2 2 – Living Room, Dining Room and Kitchen and Porch; and
 - 24.1.16.1.2.3 3 – Unit entry, staffs work area/medication room and laundry/housekeeping room.
- 24.1.16.1.3 All Client rooms will be private.
- 24.1.16.1.4 Client washroom(s) will be shared by all Clients and will have a residential look and feel. Tub/shower combination units are required.

24.1.16.2 Unit Organization

- 24.1.16.2.1 All Client bedrooms will be designed to recognize the environmental risk factors for the Client population as well as create a normalizing home-like experience.
- 24.1.16.2.2 All Client bedrooms and Client washrooms will be designed with anti-ligature and tamper resistant finishes, fixtures, equipment and furniture.
- 24.1.16.2.3 All Client bedrooms will have a Client bed (psychiatric platform or standard twin bed), millwork desk, millwork night table, lockable wardrobe with fixed shelving, side chair with sled based legs.
- 24.1.16.2.4 Living Room, Dining Room and Kitchen will be open concept.
- 24.1.16.2.5 The Kitchen have barrier free design features allowing even those in wheelchairs to participate in food preparation.
- 24.1.16.2.6 Living Room is intended to be an area for Clients to relax, play games, watch television, read or sit quietly.
- 24.1.16.2.7 Dining Room will allow for each of the Clients in the Community Reintegration Unit to sit around a table and have a family style meal.
- 24.1.16.2.8 Provide a secure vestibule entrance vestibule into each of the Community Reintegration units. The vestibule will provide secure access to the community reintegration unit but will also act as an air lock in cold winter conditions.

24.1.16.3 Nurse station

- 24.1.16.3.1 The staff work area/medication room will allow for the following functions to occur:
 - 24.1.16.3.1.1 Dictating and reviewing charts, diagnostic images and test results;
 - 24.1.16.3.1.2 Conducting private telephone conversations; and
 - 24.1.16.3.1.3 Providing access to a computer workstation and business equipment and business supplies for the unit.

24.1.16.4 Client Security and Safety

- 24.1.16.4.1 Safety will be a high planning and design priority. The design of this component will comply with equivalent standards to the British Columbia Ministry of Health Standards for Hospital-Based Psychiatric Emergency Services: Observation Units.
- 24.1.16.4.2 Although the Clients in the Community Reintegration Unit are close to discharge the design will still hold Client safety to the same standard as provided on the Client care units within the Main Building. Client safety will be provided for in all locations e.g. by providing anti-ligature breakaway design features and avoidance of ligature attachment points.
- 24.1.16.4.3 The design to include, but is not limited to items which are non-loop able or designed to release under a load of 20 kilograms and meet either the load release or non-loop ability ligature release tests outlines in the *Door and Hardware Federations Technical Specifications DHF-TS-001: Door mounted anti-ligature devices for safety and security purposes: November 05*. These features need to be incorporated on all items, objects, systems and fixtures incorporated into the mental health areas including, but not limited to:
- 24.1.16.4.3.1 Temper Laminated Interior Glazing;
 - 24.1.16.4.3.2 Door hardware;
 - 24.1.16.4.3.3 Sprinklers;
 - 24.1.16.4.3.4 Showerheads;
 - 24.1.16.4.3.5 Lavatories;
 - 24.1.16.4.3.6 Faucets;
 - 24.1.16.4.3.7 Lavatory valves;
 - 24.1.16.4.3.8 Shower actuators;
 - 24.1.16.4.3.9 Toilet seats;
 - 24.1.16.4.3.10 Toilets;
 - 24.1.16.4.3.11 Toilet operator valves;
 - 24.1.16.4.3.12 Plumbing traps and piping covers;
 - 24.1.16.4.3.13 Fire extinguisher and hose cabinets;
 - 24.1.16.4.3.14 Medical gas enclosures;
 - 24.1.16.4.3.15 HVAC terminal devices and covers;
 - 24.1.16.4.3.16 Millwork;
 - 24.1.16.4.3.17 Access doors;
 - 24.1.16.4.3.18 Light fixtures;
 - 24.1.16.4.3.19 Electrical outlets;
 - 24.1.16.4.3.20 Thermostats;
 - 24.1.16.4.3.21 Fire alarm system components;
 - 24.1.16.4.3.22 Grab bar – not filled in;
 - 24.1.16.4.3.23 Handrails;
 - 24.1.16.4.3.24 Crash rails;

- 24.1.16.4.3.25 Rub rails;
- 24.1.16.4.3.26 Clothes hooks;
- 24.1.16.4.3.27 CCTV devices;
- 24.1.16.4.3.28 Security and tracking devices and antennas;
- 24.1.16.4.3.29 Hanger rods and Coat Hooks;
- 24.1.16.4.3.30 Mirrors;
- 24.1.16.4.3.31 Bulletin Boards;
- 24.1.16.4.3.32 Artwork hanging systems; and
- 24.1.16.4.3.33 Window treatments.

24.1.16.4.4 Tamper resistant fasteners will be used in Client areas. Drop ceilings are not to be used. Furniture, fittings and equipment will be selected to reduce the risk of Client self-harm, harm to other Clients and staff, and property damage. Durable, secured covers are needed for items accessible to Clients in unsupervised areas to reduce the risk of tampering, removed or unapproved operation.

24.1.16.4.5 The design will include anti-barricade measures including out-swinging, uneven leaf doors that allow for one leaf to swing out, doors equipped with pivot hinges and emergency hospital stops. This applies especially to doors at bedrooms and washrooms, but also applies to other Client areas such as laundry/housekeeping, kitchen, living room or dining rooms. Provide bedrooms, Client washroom and tub rooms with doors that can be locked for Client privacy but can be easily overridden by staff.

24.1.16.4.6 Client containment strategies, such as “fail secure” design (e.g. maglocked doors remain locked in the event of a power failure) and “moveable perimeter” concepts (i.e. variable secure perimeter location) will be implemented by the Authority.

24.1.16.5 Staff Safety

24.1.16.5.1 The component's design will support staff safety (e.g., by providing a clear path to the door or two doors and by providing a staff alarm system); provide good visibility of Client activity areas (e.g., good sightlines); and avoid blind corners.

24.1.16.6 Emergency Response

24.1.16.6.1 Facilities will be planned to minimize staff response time in emergencies. Emergency equipment will be portable and stored, when not in use, in the staff work area/medication room.

24.1.16.7 Operable Windows

24.1.16.7.1 Each Client bedroom will have windows that provide access to exterior views, and views of predominantly landscape versus buildings, parking lots or loading docks. At least a portion of each window will be operable to provide access to fresh, outdoor air.

24.1.16.8 Component Security

- 24.1.16.8.1 Access to this component will be controllable at all times. Door activation technology will be in accordance with existing health legislation and will be integrated with Facility-wide security systems. The doors will have manual backup in case the facility wide system fails.
- 24.1.16.8.2 The component will be accessible to authorized personnel 24 hours-a-day, 7 days-a-week.
- 24.1.16.8.3 Visibility via camera will be provided at all unit entrances and exits from the main operations security station as well as designated care unit nursing stations.
- 24.1.16.8.4 The component's design will provide adequate lighting throughout to protect staff, Clients and visitors from unexpected violence. This includes lighting along the exterior path of travel to and from the Main Building to the Community Reintegration Units. Work areas will not place staff in isolation, and staff will have the capability of summoning help. Areas subject to limited visual access will be video monitored.
- 24.1.16.8.5 Staff work area/medication room will be secure from Client access and include lockable cupboards for supplies and or medications.

24.1.16.9 Therapeutic Environment

- 24.1.16.9.1 The Community Reintegration Units are to promote a normalizing home-like experience for Clients. Interior design will provide a residential look and feel. These units should have a distinctly different look and feel from the Client units. This is a milestone in the journey to recovery and should feel like a very different experience for Clients.
- 24.1.16.9.2 The design will enhance the psychological effect of colour and décor. The design will use familiar and non-institutional materials with cheerful and varied colours and textures. Avoid items, colours and patterns that can be disturbing or disorienting to Clients e.g. patterns with spots. Approaches to minimize noise will be included including reducing noise from other Clients, toilet noises and mechanical noises.
- 24.1.16.9.3 Design features to assist Client orientation, such as direct and obvious travel paths, level walking surfaces, avoidance of glare. Spaces will be easy to find, identify and use without asking for help.
- 24.1.16.9.4 Space will be provided for Client access to a telephone. This space will be provided in a location easily accessible by all Clients. Design of the phones will provide for barrier free use and also provide cords that are no greater than 6" in length.
- 24.1.16.9.5 The unit entry/secure vestibule design will provide a welcoming experience for Clients and visitors. Interior glazing, natural light and views are required.
- 24.1.16.9.6 The design will include elder-friendly design features such as signage, lighting, colours and floor services.

24.1.16.10 Access to outdoor spaces

- 24.1.16.10.1 Each community reintegration unit will have a direct connection with an outdoor covered porch and/or patio.
- 24.1.16.10.2 A covered canopy will be provided at the CRU building entrances.
- 24.1.16.10.3 An entrance loop road is required at the front of the Community Reintegration Units for ease of Client pick up by vehicles for Client trips or appointments.
- 24.1.16.10.4 Access and exit from the porch is limited to/from within the unit. Courtyards and porches will not be shared between units.
- 24.1.16.10.5 Each community reintegration unit will have separate, dedicated outdoor area. This area will provide enough outdoor seating around a table for all members of the unit to picnic, a gas BBQ grill, and planted gardens.
- 24.1.16.10.6 The landscape surrounding the Community Reintegration Units will include healing gardens, barrier free walking pathways and seating benches.
- 24.1.16.10.7 The path of travel to and from the Community Reintegration Units and the Main Building will provide level walking surfaces, adequate lighting, and seating opportunities for those who need to rest.
- 24.1.16.10.8 Selection of outdoor plantings and ground covers will be safe for psychiatric Clients. Sharp, poisonous, climbable or otherwise dangerous plantings are not permitted.

24.1.16.11 Lighting

- 24.1.16.11.1 There will be a variety of lighting options in this component, each suited to the functions accommodated in a specified space.
- 24.1.16.11.2 Each Client bedroom will have access to natural lighting and views to the landscape. Windows will be large to provide a connection with outside grounds and to avoid perceptions of a “closed in” and confining environment. Exterior and interior windows need to be impact resistant to appropriate standards, with secure glazing and frames, which will withstand high impact. Windows will be operable to the exterior to access fresh air, offer appropriate light, but also provide privacy. The windows will prevent Clients from throwing things out of the window.
- 24.1.16.11.3 Artificial lighting throughout the component will follow a general standard of providing “non-direct” lighting. This specification implies fixtures that reflect light upwards, away from direct eye contact.
- 24.1.16.11.4 Artificial lighting in each Client bedroom will be variable to provide different levels of lighting and for different purposes. At night time, Clients will have the ability to read while in their bed. Lighting in the room will also accommodate staff’s ability to monitor the Client during the night without affecting the Client’s ability to sleep.
- 24.1.16.11.5 Automatic night lighting is required for Client rooms as well as corridors/hallways and washrooms in each apartment.

24.1.16.11.6 Artificial lighting in the administrative and support areas will be variable to accommodate different levels of ambient lighting commensurate with the functions ongoing at any one time in that space. Individual workstations will be provided with task lighting.

24.1.16.11.7 Surfaces throughout this component, including walls and floors, will avoid the use of highly reflective materials. Reflected light will be muted.

24.1.16.12 Ergonomics for an Aging Workforce

24.1.16.12.1 The expected increase in the average age of workers in all professions will require greater attention to equipment and devices that staff is required to use. The type and number of electrical devices used in the rooms is expected to increase, and elevated outlets will avoid stress associated with repetitive bending.

24.1.16.13 Accommodation of Bariatric Clients

24.1.16.13.1 N/A

24.1.16.14 Inducements for Client Ambulation

24.1.16.14.1 Client living rooms will be inviting with natural lighting, views to the landscape and opportunities for light recreation and entertainment such as gaming consoles with TVs which have exercise programs and various games.

24.1.16.15 Infection Control

24.1.16.15.1 The design will include the selection of finishes and fixtures that maximize ability to reduce infection and disease transmission and the safe placement of hand hygiene stations. At a minimum the staff work area/medication room will have a hand washing station.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D 3 COMMUNITY REINTEGRATION UNITS**

24.1.17 Space Table

24.1.17.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component. Refer to the respective space program for each department.

D3 COMMUNITY REINTEGRATION UNITS						
Room ID	Room Name	Quantity	Net SM	Total Net SM	SLC level	Description
APARTMENT 1 (FORENSIC)						
.01	Entry Vestibule	1	4.00	4.00	3	
.02	Closet	1	1.00	1.00	3	<i>coats, boots</i>
.03	Private Client Room	4	9.50	38.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table</i>
.04	Client Washroom	1	5.50	5.50	3	<i>3 piece, shared between all rooms</i>
.05	Living Room	1	14.00	14.00	3	
.06	Dining Room/Activity Room	1	9.50	9.50	3	<i>table, seating for four</i>
.07	Kitchen	1	11.00	11.00	3	<i>includes ref. microwave, range, dishwasher</i>
.08	Client Laundry/Housekeeping	1	5.50	5.50	3	<i>locate adj. to kitchen area</i>
.09	Staff Work Area/Medication	1	7.50	7.50	3	<i>lockable, staff work area, chart storage</i>
.10	Exterior "Porch"	1	0.00	0.00	3	<i>outdoor patio</i>
	SUBTOTAL			96		
APARTMENT 2 (FORENSIC)						
.11	Entry Vestibule	1	4.00	4.00	3	
.12	Closet	1	1.00	1.00	3	<i>coats, boots</i>
.13	Private Client Room	4	9.50	38.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table</i>
.14	Client Washroom	1	5.50	5.50	3	<i>3 piece, shared between all rooms</i>
.15	Living Room	1	14.00	14.00	3	
.16	Dining Room/Activity Room	1	9.50	9.50	3	<i>table, seating for four</i>
.17	Kitchen	1	11.00	11.00	3	<i>includes ref. microwave, range, dishwasher</i>
.18	Client Laundry/Housekeeping	1	5.50	5.50	3	<i>locate adj. to kitchen area</i>
.19	Staff Work Area/Medication	1	7.50	7.50	3	<i>lockable, staff work area, chart storage</i>
.20	Exterior "Porch"	1	0.00	0.00	3	<i>outdoor patio</i>
	SUBTOTAL			96		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D 3 COMMUNITY REINTEGRATION UNITS**

APARTMENT 3 (ACUTE)						
.21	Office, Coordinator	1	4.00	4.00	3	
.22	Closet	1	1.00	1.00	3	<i>coats, boots</i>
.23	Private Client Room	6	9.50	57.00	3	<i>rooms ea. contain: bed, wardrobe, desk, night table</i>
.24	Client Washroom	2	5.50	11.00	3	<i>3 piece, shared between all rooms</i>
.25	Living Room	1	14.00	14.00	3	
.26	Dining Room/Activity Room	1	9.50	9.50	3	<i>table, seating for four</i>
.27	Kitchen	1	11.00	11.00	3	<i>includes ref. microwave, range, dishwasher</i>
.28	Client Laundry/Housekeeping	1	5.50	5.50	3	<i>locate adj. to kitchen area</i>
.29	Staff Work Area/Medication	1	7.50	7.50	3	<i>lockable, staff work area, chart storage</i>
.30	Exterior "Porch"	1	0.00	0.00	3	<i>outdoor patio</i>
	SUBTOTAL			121		
	TOTAL NET SQUARE METRES			313		total net area for all CRUs

D 4 REGIONAL ADMINISTRATION

This specification outlines the functional, operational and physical requirements for the Prairie North Regional Health Authority functional component.

FUNCTIONAL DESCRIPTION

25.1.1 Statement of Purpose

25.1.1.1 Building and Grounds component focuses on the following functions necessary for the administration:

- 25.1.1.1.1 Human Resources offices and work stations;
- 25.1.1.1.2 Health Quality Programs offices and work stations;
- 25.1.1.1.3 QCC offices;
- 25.1.1.1.4 Payroll and benefits;
- 25.1.1.1.5 Staff support; and
- 25.1.1.1.6 Print shop.

25.1.2 Space Table

25.1.2.1 The Functional Space Requirements illustrates rooms, and their respective sizes, that combine to make up this functional component.

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D 4 REGIONAL ADMINISTRATION**

D4 REGIONAL ADMINISTRATION						
Room ID	Room Name	Quantity	Net SM		SLC level	Description
<i>note all workstations to have systems furniture with coat hanging capability</i>						
HUMAN RESOURCES						<i>all HR offices and workstations to be capable of printing confidential information</i>
.01	Office, HR Consultant	4	11.00	44.00	4	<i>3 current, 1 future</i>
.02	Office, Workforce Coordinator	1	11.00	11.00	4	
.03	Office, Return to Work	2	11.00	22.00	4	<i>allows for expansion of program</i>
.04	Office, Recruitment	1	11.00	11.00	4	
.05	Workstation	2	5.50	11.00	4	<i>2 secretarial wk. stations</i>
.06	Workstation, Hotelling	2	5.50	11.00	4	<i>may be used for expansion</i>
	SUBTOTAL			110.00		
HEALTH QUALITY PROGRAMS						REGIONAL
.07	Office, Director	1	11.00	11.00	4	
.08	Workstation	2	5.50	11.00	4	<i>executive assistant, data base administrator</i>
.09	Office, Staff Dev. Coord.	2	11.00	22.00	4	
.10	Office, Claims Management	3	11.00	33.00	4	
.11	Office, RTW & Safety	3	11.00	33.00	4	<i>provide separate zone for safety officers, lockable zone</i>
.12	Office, Safety Officer	3	11.00	33.00	4	
.13	Office, Employee Health Nurse	3	11.00	33.00	4	
.14	Copy/Files/Storage	2		0.00	4	<i>each with 8 lateral 5 drawer files, storage, copy</i>
.15	Training Room	1	(-)	(-)		<i>use central multi-purpose room and ERT/Training Room as required</i>
	SUBTOTAL			176		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D 4 REGIONAL ADMINISTRATION**

	QCC					<i>REGIONAL</i>
.16	Office, Director	1	11.00	11.00	4	
.17	Office	1	11.00	11.00	4	<i>support staff, enclosed office for Client privacy</i>
	TOTAL NET SQUARE METRES			22		
	PAYROLL/BENEFITS					<i>REGIONAL</i>
.18	Office, Director	1	11.00	11.00	4	
.19	Office, Coordinator	1	11.00	11.00	4	
.20	Workstation	6	5.50	33.00	4	<i>payroll officers</i>
.21	Workstation	1	5.50	5.50	4	<i>benefits officer</i>
.22	File Storage	1	11.00	11.00	4	<i>seven year files</i>
.23	File Storage	1	11.00	11.00	4	<i>two year files, file cabinets</i>
	SUBTOTAL			83		
	FINANCE					<i>all Finance offices and workstations to be capable of printing confidential information</i>
.24	Office	6	11.00	66.00	4	<i>each provide: U shaped desk, office chair, 2 guest chairs, filing cabinets and bookshelf</i>
.25	Workroom			0.00		<i>one large workroom</i>
	Workstation	5	5.50	27.50	4	<i>each provide: L shaped desk, office chair, 1 guest chair, filing cabinet and bookshelf</i>
	Copy/Files/Storage	1	11.00	11.00	4	<i>7 - 4 drawer lateral files, shelving for procedure manuals and binders, multifunction printer, administrative supplies</i>
.26	Storage	2	86.50	173.00	4	<i>located for flexible future use as paper files are reduced</i>
				278		
	INFORMATION TECHNOLOGY					<i>REGIONAL</i>
.27	Office, Manager	2	11.00	22.00	4	<i>each provide: U shaped desk, office chair, 2 guest chairs, filing cabinets and bookshelf</i>
.28	Workroom			0.00	4	<i>one large workroom</i>
	Workstation	11	5.50	60.50	4	<i>each provide: L shaped desk, office chair, 1 guest chair, filing cabinet and bookshelf</i>
	IT Workbench	1	9.50	9.50	4	
.29	Storage	1	11.00	11.00	4	<i>2 floor to ceiling storage units</i>
	SUBTOTAL			103		

**APPENDIX 3A: CLINICAL SPECIFICATIONS
D 4 REGIONAL ADMINISTRATION**

	STAFF SUPPORT					<i>shared by all regional staff</i>
.30	Waiting	1	7.50	7.50	4	<i>3-4 chairs, locate at central entry to all regional administration</i>
.31	Meeting Room, Medium	2	17.00	34.00	4	<i>8-10 @ 1.7sm each, shared by all regional staff</i>
.32	Copy/Storage	2	11.00	22.00	4	<i>multifunction printer, administrative supply storage, shared by all regional staff</i>
.33	Washroom, Staff, Barrier Free	3	5.00	15.00	4	<i>2 piece, accessible</i>
.34	Washroom, Staff	3	3.50	10.50	4	<i>2 piece</i>
.35	Staff Break/Locker	1	22.50	22.50	4	<i>63 total staff, includes kitchenette, table and chairs, 2 full size refrigerators, coat hanging</i>
	SUBTOTAL			112		
	TOTAL DEPARTMENT NET SQUARE METRES			883		

STAFFING - ACUTE CLIENT CARE SERVICES					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
UNIT 1					
RPN	1	7	24 HRS.		<i>replacement</i>
RPN	1	M-F	8 HRS.		<i>replacement</i>
CCA	1	7	24 HRS.		<i>replacement</i>
UNIT 2					
RPN	1	7	24 HRS.		<i>replacement</i>
RPN	1	M-F	0700-1530		<i>replacement</i>
CCA	1	7	24 HRS.		<i>replacement</i>
CCA	1	M-F	1100-2300		<i>replacement</i>
CCA	1	Sat & Sun	0700-2300		<i>replacement</i>
UNIT 3					
RPN	1	7	0700-1917		<i>replacement</i>
RPN	2	7	24 HRS.		<i>replacement</i>
CCA	4	7	24HRS.		<i>replacement</i>
UNIT 4					
RPN	1	7	0700-1917		<i>replacement</i>
RPN	2	7	24 HRS.		<i>replacement</i>
CCA	4	7	24HRS.		<i>replacement</i>
SHARED POSITIONS					
NUM	2	M-F	0800-1600		<i>not replaced</i>
Psychiatrist	1	M-F	0800-1600		<i>not replaced</i>
Psychometrician	1	M-F	0800-1600		<i>not replaced</i>
Psychologist	2	M-F	0800-1600		<i>not replaced</i>
Social Worker	2	M-F	0800-1600		<i>replacement</i>
CMHN	2	M-F	0800-1600		<i>not replaced</i>
Rehab Facilitator	2	M-F	0800-1600		<i>replacement</i>
Unit Clerk	1	M-F	0800-1600		<i>replacement</i>
STAFFING - EXTENDED CLIENT CARE SERVICES					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
UNIT 1					
RPN	1	7	0700-2300		<i>replacement</i>
RPN	1	7	24 HRS.		<i>replacement</i>
CCA	1	7	24 HRS.		<i>replacement</i>
UNIT 2					
RPN	1	7	0700-2300		<i>replacement</i>
RPN	1	7	24 HRS.		<i>replacement</i>
CCA	2	7	0700-2300		<i>replacement</i>
CCA	1	7	2300-0700		<i>replacement</i>
UNIT 3					
RPN	2	7	24 HRS.		<i>replacement</i>
RPN	1	7	0700-2300		<i>replacement</i>
CCA	1	7	24 HRS.		<i>replacement</i>
SHARED POSITIONS					
NUM	1	M-F	0800-1600		<i>not replaced</i>
Psychiatrist	1	M-F	0800-1600		<i>not replaced</i>
Neuropsychologist	1	M-F	0800-1600		<i>not replaced</i>

Psychologist	1	M-F	0800-1600	<i>not replaced</i>
Social Worker	2	M-F	0800-1600	<i>replacement</i>
CMHN	1	M-F	0800-1600	<i>replacement</i>
Rehab Facilitator	2	M-F	0800-1600	<i>replacement</i>
Behavioral Consultant	1	M-F	0800-1600	<i>replacement</i>
Occupational Therapist	1	M-F	0800-1600	<i>replacement</i>
Unit Clerk	1	M-F	0800-1600	<i>replacement</i>
STAFFING THERAPY MALL - NON SECURE CLIENTS				
Position/Job Title	Quantity	Days/Week	Shift hours	Comments
Chief of Rehabilitation	1	M-F	0800 - 1630	<i>not replaced</i>
Addiction				
Addictions Worker/Councillor	2	M-F	0800 - 1630	<i>replacement</i>
Camp Cosmo				
Camp Aide (CUPE)	1	5	0800 - 1630,	<i>M-F, May 01 - August 31</i>
Camp Lifeguard	1	5	Same as above	<i>Same as above</i>
Camp Nurse	1	5	Same as above	<i>Same as above</i>
Education Centre				
Mental Health Therapist (teacher)	1	M-F	0800 -1630	<i>replacement</i>
Therapist 1 (teacher assistant)	2	M-F	0800 - 1630	<i>replacement</i>
Patient Business Centre				
Mental Health Therapist	3	M-F	0800 - 1630	<i>replacement</i>
Mental Health Therapist (CUPE)	1	M-F	0800 - 1630	<i>replacement</i>
Physio Therapy				
Physio Therapist	1	M-F	0800 - 1630	<i>replacement</i>
Physio Aide	1	M-F	0800 - 1630	<i>replacement</i>
Quality of Life				
Mental Health Therapist	2	M-F	0800 - 1630	<i>replacement</i>
Rehab Aide	3	M-F	0800 - 1630	<i>replacement</i>
Rehab Lab				
Mental Health Therapist	5	M-F	0800 - 1630	<i>replacement</i>
Vocational Therapy 1				
Mental Health Therapist 1 (HSAS)	1	M-F	0800 - 1630	<i>replacement</i>
Therapist (CUPE)	1	M-F	0800 - 1630	<i>replacement</i>
Vocational Therapy 2				
Mental Health Therapist	1	M-F	0800 - 1630	<i>replacement</i>
Therapists (Rehab Aides)	3	M-F	0800 - 1630	<i>replacement</i>
Vocational Therapy 3				
Mental Health Therapist 1	1	M - F	0800 - 1630	<i>replacement</i>
Patient Program Assistants	3	M - F	0800 - 1630	<i>replacement</i>
Beautician				<i>Contracted Position</i>
STAFFING - FORENSIC CLIENT CARE SERVICES				
Position/Job Title	Quantity	Days/Week	Shift hours	Comments

12 BED UNIT AND 30 BED UNIT					
RPN	6	7	24 HRS.		<i>replacement</i>
GROUP NURSE	1	7	0700-2300		<i>2 shifts-8; replacement</i>
RPN	1	7	0700-2300		<i>2 shifts-8; replacement</i>
LPN	1	7	0700-2300		<i>2 shifts-8; replacement</i>
CCA	1	7	1400-2200		<i>1 shift-8; replacement</i>
SHARED POSITIONS					
NUM	1	M-F	0800-1600		<i>not replaced</i>
Psychiatrist	2	M-F	0800-1600		<i>not replaced</i>
Psychometrician	1	M-F	0800-1600		<i>replacement</i>
Psychologist	1	M-F	0800-1600		<i>not replaced</i>
Social Worker	3	M-F	0800-1600		<i>replacement</i>
CMHN	2	M-F	0800-1600		<i>no replacement</i>
Chief of Psychology	1	M-F	0800-1600		<i>no replacement</i>
Admin Assistant	1	M-F	0800-1600		<i>replacement</i>
Unit Clerk	1	M-F	0800-1600		<i>replacement</i>
STAFFING - SECURE CLIENT CARE SERVICES					<i>Admin Assistants added for Secure listed under Staffing - Administration</i>
Position/Job Title	Quantity	Days/Week	Shift hours	Comments	
Unit 1					
Nurse 1	3	7	24 hrs/day	<i>24/7 Coverage</i>	
Group Nurse	1	M-F	8-430	<i>8 hr - M-F No Backfill</i>	
Day/Evening Nurse	2	7	7-3, 3-11 (1 per)	<i>8 hr - M-F No Backfill</i>	
LPN	3	7	24hrs/day	<i>24/7 Coverage</i>	
LPN	1	7	0700-2300	<i>7 days/week - 8 hours with backfill</i>	
Rehabilitative Officer (CSRS)	2	7	24 hrs/day	<i>24/7 Coverage</i>	
Ward Clerk	0.5	M-F	0700-1530	<i>8 hr - M-F With Backfill</i>	
Social Worker	0.75	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Comm M.H. Nurse	0.5	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Nurse Manager	0.5	M-F	0800-1630	<i>8 hr - M-F With Backfill</i>	
Mental Health Therapist	1	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Recreational Worker (CSRS)	1	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Unit 2					
Nurse 1	3	7	24 hrs/day	<i>24/7 Coverage</i>	
Group Nurse	1	M-F	8-430	<i>8 hr - M-F No Backfill</i>	
Day/Evening Nurse	2	7	7-3, 3-11 (1 per)	<i>8 hr - M-F No Backfill</i>	
LPN	3	7	24hrs/day	<i>24/7 Coverage</i>	
LPN	1	7	0700-2300	<i>7 days/week - 8 hours with backfill</i>	
Rehabilitative Officer (CSRS)	2	7	24 hrs/day	<i>24/7 Coverage</i>	
Ward Clerk	0.5	M-F	0700-1530	<i>8 hr - M-F With Backfill</i>	
Social Worker	0.75	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Comm M.H. Nurse	0.5	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Nurse Manager	0.5	M-F	0800-1630	<i>8 hr - M-F With Backfill</i>	
Mental Health Therapist	1	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Recreational Worker (CSRS)	1	M-F	0800-1630	<i>8 hr - M-F No Backfill</i>	
Unit 3					
Nurse 1	3	7	24 hrs/day	<i>24/7 Coverage</i>	

Group Nurse	1	M-F	8-430		8 hr - M-F No Backfill
Day/Evening Nurse	2	7	7-3, 3-11 (1 per)		8 hr - M-F No Backfill
LPN	3	7	24hrs/day		24/7 Coverage
LPN	1	7	0700-2300		7 days/week - 8 hours with backfill
Rehabilitative Officer (CSRS)	2	7	24 hrs/day		24/7 Coverage
Ward Clerk	0.5	M-F	0700-1530		8 hr - M-F With Backfill
Social Worker	0.75	M-F	0800-1630		8 hr - M-F No Backfill
Comm M.H. Nurse	0.5	M-F	0800-1630		8 hr - M-F No Backfill
Nurse Manager	0.5	M-F	0800-1630		8 hr - M-F With Backfill
Mental Health Therapist	1	M-F	0800-1630		8 hr - M-F No Backfill
Recreational Worker (CSRS)	1	M-F	0800-1630		8 hr - M-F No Backfill
Unit 4					
Nurse 1	3	7	24 hrs/day		24/7 Coverage
Group Nurse	1	M-F	8-430		8 hr - M-F No Backfill
Day/Evening Nurse	2	7	7-3, 3-11 (1 per)		8 hr - M-F No Backfill
LPN	3	7	24hrs/day		24/7 Coverage
LPN	1	7	0700-2300		7 days/week - 8 hours with backfill
Rehabilitative Officer (CSRS)	2	7	24 hrs/day		24/7 Coverage
Ward Clerk	0.5	M-F	0700-1530		8 hr - M-F With Backfill
Social Worker	0.75	M-F	0800-1630		8 hr - M-F No Backfill
Comm M.H. Nurse	0.5	M-F	0800-1630		8 hr - M-F No Backfill
Nurse Manager	0.5	M-F	0800-1630		8 hr - M-F With Backfill
Mental Health Therapist	1	M-F	0800-1630		8 hr - M-F No Backfill
Recreational Worker (CSRS)	1	M-F	0800-1630		8 hr - M-F No Backfill
SHARED POSITIONS for Secure					
Psychiatrist	3	M-F	Contract		
Psychologist	3	M-F	0800-1630		
Psychometrician	1	M-F	0800-1631		
Addictions Worker	3	M-F	0800-1630		
Physio Aid	1	M-F	0800-1630		
Occupational Therapist	1	M-F	0800-1630		
Clinical Dietician	0.5	M-F	0800-1630		
STAFFING - CENTRAL PROGRAMS					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Teacher	1	M-F	0800-1630		
Teacher Assistant	1	M-F	0800-1630		
STAFFING - OPERATIONS SECURITY CENTRE - currently referred to as Control Room					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
OSC Control Room (CSRS)	2	7	24hrs/7 days		
Perimeter Security (CSRS)	2	7	24hrs/7 days		No designated daily space needed for Perimeter Security staff
STAFFING - Video Court					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Admitting (CSRS)	2	M-F	M-F		These 2 posts will be located

STAFFING - ENTRANCE					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
no dedicated staff					<i>space is required at the entrance for a check in point but staff will be in admitting or security areas</i>
STAFFING - ADMINISTRATION					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Director of SHNB	1	M-F	0800 - 1600		
Chief of Nursing	1	M-F	0800 - 1600		
Facility In Charge Nurses	5	6 days/week	24 hours		
Chief of Social Work	1	M-F	0800 - 1600		
Chief Psychiatrist	1	M-F	0800 - 1600		
Clinical Nurse Educator	1	M-F	0800 - 1600		
Health Records Clerk	3	M - F	0800 - 1600		
Health Records Coordinator	1	M-F	0800 - 1600		
Manager of Health Records	1	M-F	0800 - 1600		
Special Care Aides(Constant Obs)	as needed	7 days/week 24 hrs/day	24 hours		
Confidential Secretary	2	M-F	0800 - 1630		<i>added one for extra chiefs</i>
Administrative Assistants	3	M-F	0730 - 1600		
Switchboard Operator	2	7 days/week	1100 - 1930		
Scheduler	2	7 days/week	16 hours/day		
Scheduler (CSRS)	2	7 days/week	16 hours/day		<i>2 additional for secure</i>
Clozapine Coordinator	1	M-F	0800 - 1630		
Mgr of Custody Ops (CSRS)	1	M-F	0800-1630		
Administrative Assistant (CSRS)	2	M-F	0800-1630		<i>2 additional for secure</i>
Health Records Dept					
Manager of Health Records					
Health Records Clerk					
Health Records Coordinator					<i>total of 7 Health Records staff</i>
STAFFING - THERAPY MALL SHARED					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Recreation Department					
Mental Health Therapist	2	7days/week	0800 - 1630		
Therapeutic Recreation Technologists	2	7days/week	0800 - 1630 1230 - 2100		
Spiritual/Cultural					
Cultural Coordinator (facility wide)	1	M-F	0800-1630		
Chaplain (facility wide)	1	M-F	0800-1630		
STAFFING - ADMISSIONS & DISCHARGE					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments

Custody Services Dept					2 staff will cover all these functions - same staff as noted above under Staffing for Video Court
Secure Admitting Supervisor					
Video Court Officer					
Classification Officer					
Property Officer					
Admitting Corrections Worker					
Security - Forensics					
STAFFING - VISITING CENTRE					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Visiting Officer	1	7 days	0800-1630		Previously not included in the Sept. 5 Staff Planning
STAFFING - HEALTHCARE CLINIC					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Pharmacist/Aide	4	5	0800-1600		
Nurse Practitioner	1	5	0800-1600		
Lab Technician	1	5	0800-1600		
Dentist	1				contracted out
Physician	1				contracted out
Imaging Technician	1	5	0800-1600		
Clinical Nurse Educator	1	5	0800-1600		included in unit staffing
STAFFING - STAFF RESOURCES/ERT					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
					No dedicated ERT staff, all CSRS
STAFFING - SUPPORT SERVICES					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
Chief of Support Services					
Storekeeper					
Head Print Shop Operator	1				regional position
Print Shop Admin Assistant	1				regional position
Food Services Dept					
Manager Food Services					
Lead Cook					
Cook					
Food Services Supervisor					
Food Services Worker					
Office Admin Assist					
Clinical Dietician					
Houskeeping & Laundry /Linen					

Manager Housekeeping & L/L					
Laundry Supervisor					
Laundry Worker					
Seamstress					
Housekeeping Supervisor					
Housekeeping Services Worker					
Materials Management Scheduling					
Materials Management					
Plant Operations & Grounds					
Manager					
IS - Supervisor					
FMO					
MSW					
Mechanic					
Utility Worker					
STAFFING - COMMUNITY REINTEGRATION					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments
RPN	1	5	0800-15600		
LPN	1	7	24 HRS.		
STAFFING - REGIONAL ADMINISTRATION					
Position/Job Title	Quantity	Days/Week	Shift hours		Comments

APPENDIX 3C

SOUND TRANSMISSION RATINGS

1. DEFINITIONS

In this Appendix, in addition to the definitions set out in Schedule 1 of this Agreement:

“**NC**” stands for noise criteria and means a single number rating of the background noise in a room, generally as created by building HVAC systems. NC targets depend on the use and acoustical sensitivity of the space and typically range from about 30 to 35 for sleeping rooms and private offices to 45 to 55 for general offices and commercial spaces;

“**STC**” stands for sound transmission class and means a single number that is an indication of a partition’s ability to block sound. The higher the STC, the higher is the sound transmission loss. For example, loud speech can be understood fairly well through an STC 30 wall but should not be audible through a STC 60 wall. STC is a laboratory test based rating of sound insulation. When walls are tested in the field they tend to achieve lower ratings due to the “flanking transmission” of sound around the primary barrier via the floor, ceiling and side walls and/or by air gaps (leakage). In concrete buildings such as hospitals, the field test results, referred to as “Apparent STC”, or ASTC, tend to be 3 to 5 dB lower than the lab-rated STC; and

“**NIC**” stands for noise isolation class and means the measured difference between the spatially-averaged noise levels on the source room side and the receiver room side of a wall or partition. NIC is more directly indicative of the degree of sound insulation that exists between two adjacent rooms and is more straight forward to measure in the field.

2. NOISE TRANSMISSION RATINGS

Project Co will:

- (a) provide wall and floor assemblies with STC ratings in accordance with Table 1 below;
- (b) where possible, provide buffer zones (e.g. corridors) between noise sensitive areas (e.g. Client rooms, video-conferencing rooms, meeting rooms and offices) and noisy areas (e.g. service areas and lounges);
- (c) where possible, avoid vertical adjacencies between noisy and noise sensitive areas;
- (d) in order to achieve the required level of speech privacy (speech privacy for confidentiality is critical), extend the STC rated assembly full-height from floor to the underside of structure above for all walls and partitions required to have an STC rating of 45 or higher per Table 1 below. 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 speech privacy will be achieved with the proposed design;
- (e) if doors or interior windows are located in a wall required to have a specified STC rating, the specified rating only applies to the wall and not the door or interior window. Any

specific doors or interior windows requiring improved sound isolation are identified specifically in the Clinical Specifications;

- (f) provide moveable partitions (where identified in the Clinical Specifications) that are STC 41 at minimum.

Table 1 – STC Ratings and NIC Ratings of Demising Walls and Floors

Adjacency combination		STC / NIC- Walls	STC / NIC - Floors
Private Client Room	Private Client Room	45/42	50/47
Private Client Room	Corridor	45/42	50/47
Private Client Rooms	Public Space/Administrative Space/Therapy Room	50/47	50/47
IPCR	Corridor	50/47	50/47
IPCR	IPCR Vestibule	50/47	50/47
IPCR	IPCR	50/47	50/47
Exam or Interview Room	Corridor	45/42	50/47
Exam or Interview Room	Public Space, Administrative Space	50/47	50/47
Exam or Interview Room	Service Areas	50/47	50/47
Exam or Interview Room	Meeting Room	50/47	50/47
Exam or Interview Room	Staff Lounges	55/52	50/47
Meeting Room	Corridor	45/42	50/47
Holding Room	Any Occupied Space	50/47	50/47
Holding Room	Corridor	50/47	50/47
Meeting Room	Public Space	50/47	50/47
Meeting Room	Meeting Room	50/47	50/47
Education Rooms	Public Space	50/47	50/47
Education Rooms	Education Rooms	50/47	50/47
Education Rooms	Corridor	50/47	50/47
Washroom	Any Space	45/42	50/47
Video-Conferencing Room	Any Space	50/47	50/47
Video-Court Rooms	Any Room or Space	55/52	50/47
Public Space	Staff Lounges	45/42	50/47
Office	Office	45/42	50/47
Office	Corridor	45/42	50/47
Staff Lounges	Public Space	50/47	50/47
Staff Lounges	Corridor	50/47	50/47
Locker Rooms	Public Space	45/42	50 /47
Charting/Conference	Corridor	50/47	50/47
Charting/Conference	Any Occupied Space	50/47	50/47
Locker Rooms	Corridor	45/42	50 /47
Service Rooms	Any Occupied Space	55/52	50/47
Gym	Any Occupied Space	50/47	50/47
Cardio/Weight Room	Any Occupied Space	50/47	50/47

Adjacency combination		STC / NIC- Walls	STC/ NIC - Floors
Exercise Room	Any Occupied Space	50/47	50/47
Vocational Therapy 01	Any Occupied Space	50/47	50/47
Vocational Therapy 01	Corridor	50/47	50/47
Vocational Therapy 02	Any Occupied Space	50/47	50/47
Vocational Therapy 02	Corridor	50/47	50/47
Print Shop	Any Occupied Space	50/47	50/47

Table 1 - Notes:

- (a) “Public Space” includes lobbies, waiting rooms, reception areas, and similar spaces.
- (b) “Service Areas” include, elevators, elevator machine rooms, laundries, garages, maintenance rooms, mechanical and boiler rooms and similar spaces.
- (c) The airborne sound insulation requirements for walls and floors have been specified in terms of both their indicative STC ratings (lab-test based) and the NIC ratings that will required to be achieved should the wall be subjected to a post-construction field test. Project Co may decide to select somewhat higher STC ratings in order to provide greater certainty that NIC objectives will be achieved in the field.

3. NOISE CRITERIA WITHIN VARIOUS SPACES

Project Co will

- (a) in undertaking the design of the Facility, evaluate the expected noise from all mechanical systems in the Facility using the NC rating system; and
- (b) design and construct the Facility so that noise from the mechanical systems does not exceed the noise level specified in Table 2 below within the room or space identified.

Table 2 - Noise Criteria - Rating Within Various Spaces

Room Type	NC
Exam/Treatment Room	30-35
Multiple occupant Client care areas	35-40
Corridors and public spaces	35-40
Group Therapy/Classroom	35-40
Offices	35-40
Conference/meeting rooms	30-35
Video conferencing rooms	25 (max)
Private Client rooms	35-40
IPCR	35-40
Interview/Consult	35-40
Holding Rooms	35-40
Gymnasium	35-40
Cardio/Exercise Rooms	35-40

APPENDIX 3D(i)
STRUCTURED TELECOMMUNICATIONS CABLING SYSTEMS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Provide and install a complete structured telecommunications cabling infrastructure to support information transport systems as specified to support devices and systems in Schedule 3, 3A and as identified by the Authority including but not limited to the following:
1. Voice Systems.
 2. Data Systems.
 3. Video Systems.
 4. Video Surveillance Systems
 5. Security Systems
 6. Nurse Call System
 7. CATV System
 8. Audio Visual Systems
 9. Clinical Systems
- B. This Section includes:
1. Horizontal Cabling System:
 - a. Copper cabling system.
 - b. Fiber optic cabling system.
 2. Intra-Building Backbone Cabling System:
 - a. Indoor 4-pair, copper cabling system.
 - b. Indoor multipair copper cabling system.
 - c. Indoor fiber optic cabling system.
 3. Inter-Building Backbone Cabling System:
 - a. Indoor/Outdoor fiber optic cabling system.
 - b. Outdoor Copper/Fiber optic cabling system.
 4. Patch panels, patch cords, and connection hardware.
 5. Signal grounding – equipment connection.
 6. Administration – labeling.
 7. Acceptance testing.
- C. Data Network System:
1. The structured cabling system is designed in a two-tier star topology to meet the needs of the facility now and in the future. Tier 1 will be the backbone or distributed cabling and Tier 2 will be the horizontal cabling circuits.
 2. Numerous modular telecommunications outlets (work area outlets) are located throughout each building. It is the intention of these Specifications to terminate these outlets to horizontal cross-connects (HC) in Telecommunications Rooms using horizontal cabling between termination points. This will facilitate the connection of computers and other equipment to the network distributed electronics for the purpose of sharing resources such as printers, internet/intranet services, storage and backup devices.
 3. The Primary Equipment room (PER) / Main Telecommunications Room and Remote Telecommunications Rooms contain data cabinets as required to house backbone cross-connects, horizontal cross-connects and network electronics. The work area outlets will terminate at the specified telecommunications room on the horizontal cross-connects to allow segmentation and future reconfiguration of the network and the common resources to the end-users.
 4. An Intra-Building Backbone System will connect the Main Telecommunications Room to each Telecommunications Room Horizontal Cross-Connects located throughout the building via fiber optic and copper cable backbone systems. The backbone system will be terminated on the patch panels in each telecommunications room to allow reconfiguration of the network. Provide redundant fiber connections between the Main

Telecom Room / PER and each Telecom Room. Provide redundant Copper and fiber connections between the Main Telecom Room / PER and the TSER.

5. An Interbuilding Backbone System will consist of outside plant system connected to the main cross-connect of each building.

D. Telephone Cabling System:

1. The VoIP system will utilize the data network cabling for connectivity. Provide connectivity for analog telephone devices not connect to the VoIP system and dedicated lines throughout the facility. Provide backbone or distribution cabling from the PER / Main Telecommunications Rooms to the Telecommunications Room and extend horizontal cabling to the workstation outlet or device..
2. Numerous modular telecommunications outlets (work area outlets) are located throughout each building. It is the intention of these Specifications to terminate these outlets to horizontal cross-connects in telecommunication rooms (also referred to as Intermediate Cross-Connect (ICC)) using horizontal cabling to interconnect devices to the system.
3. The Main CrossConnect (MCC) will be connected to other telecommunications rooms' horizontal cross-connect located throughout the Facility via copper cable backbone systems. The backbone system will be terminated on the patch panels at each telecommunications room to allow connection to work area outlets using patch cords.
4. Work area outlets terminate at specified telecommunications rooms on patch panels to enable connection. Patch cords will be provided to enable telephone location changes by "patching" into the backbone cabling system.

1.2 REFERENCES

- A. If this document and any of the documents listed below are in conflict, then the more stringent requirement will apply. All documents listed are believed to be the most recent releases of the documents; the vendor is responsible to determine and adhere to the most recent release and associated addenda when developing the proposal for installation.
1. ANSI/TIA/EIA 568-B.2-10, Transmission Performance Specification for 4-Pair 100 Ω Augmented Category 6 Cabling.
 2. ANSI/TIA 568-C.0 Generic Telecommunications Cabling for Customer Premises Standard.
 3. ANSI/TIA 568-C.1 Commercial Building Telecommunications Cabling Standard.
 4. TIA-568-C.2 Balanced Twisted Pair Cabling Components.
 5. TIA-568-C.3 Optical Fiber Cabling Components Standard.
 6. ANSI/TIA/EIA ANSI/TIA-568-C.0-2 (August 2012)-
 7. Generic Telecommunications Cabling for Customer Premises-Addendum 2, General Updates
 8. Technical Service Bulletin - Cabling Wireless Access Points.ANSI/TIA-569-C (May 2012) – Commercial Building Standard for Telecommunication Pathways and Spaces –
 9. Include Item "9." if it applies (dormitories?)
 10. ANSI/TIA-570-C (August 2012) – Residential Telecommunications Building Standard –
 11. ANSI/TIA-606-B (June 2012) – Administrative Standard for Telecommunications Infrastructure -
 12. ANSI-J-STD 607B – Commercial Building Grounding, Earthing, and Bonding Requirements for Telecommunications – April 2012.
 13. NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings
 14. ANSI/EIA/TIA 758B – Customer-Owned Outside Plant Telecommunications Cabling Standard April 2012.
 15. – Telecommunications Infrastructure Standard for Data Centers,
 16. TIA-942-1 Telecommunications Infrastructure Standard for Data Centers - Data Center Coaxial cable and T-1, T-3, E-1, and E-3 circuit distances
 17. TIA-942-2 Telecommunications Infrastructure Standard for Data Centers Addendum 2- Additional Media and Guidelines For Data Centers.

18. ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling TIA-1179 Healthcare Facility Structured Cabling Standard.
19. BICSI – Telecommunications Distribution Methods Manual (TDMM) 13th Edition – 2013.
20. IEEE 802.3af Standard for Power Over Ethernet Requirements for Distributing Power via low voltage structured cabling devices. June 2003.
21. IEEE 802.3at-2009 Standard for Power Over Ethernet Plus Standard Requirements for Distributing Power (25W) via low voltage structured cabling devices.
22. Underwriters Laboratories (UL): UL 444 Standard for Safety for Communications Cable.
23. Underwriters Laboratories (UL): UL 1666 Vertical Flame Tests for Plenum Applications.
24. BICSI – Wireless Design Reference Manual, 3rd Edition
25. BICSI - Telecommunications Project Management (TPM) reference, 1st Edition
26. BICSI - Outside Plant Design Reference Manual, 5th Edition
27. BICSI - Electronic Safety and Security Design Reference Manual, 3rd Edition

- B. If a conflict exists between applicable documents, the more stringent application will apply. Confirm requirements from the Authority.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cable, materials and components in manufacturer's original, unopened, undamaged containers or reels with identification labels intact.
- B. Deliver cable factory-packaged in containers or reels. Store, as recommended by manufacturer, in clean dry space and protect products from damaging fumes and traffic. Handle wire and cable carefully to avoid damage.
- C. All risk of loss or damage to the equipment during and until delivery to Purchaser as a result of fire, theft, water, malicious mischief or other cause will be borne by the successful Bidder. This responsibility will continue until receipt by the Purchaser.

1.4 WARRANTY COVERAGE

- A. The cabling system warranty will cover all products (components and cable), and labor to repair/replace systems for a minimum of 20 years from the date of substantial completion.
- B. The cabling system warranty will include both permanent link and channel system performance guarantees which insure that the cabling will operate all existing and future per by ANSI, IEEE or ISO that specify compatibility with the cabling system. Provide separate warranty for fiber and copper systems.
- C. The warranty will include responsibility for replacing/removing other work as necessary to accomplish repairs or replacement of materials covered by the warranty.

PART 2 - PRODUCTS

2.1 FIBER OPTIC CABLING

- A. General: All Fiber Optic cabling installed will meet or exceed the following requirements as well as the requirements listed under the specific application of the cable:
 1. All fiber optic cabling will be new and installed one-year within date of manufacture.
 2. All fiber optic cabling will be UL listed for its required application.
 3. Fiber optic cabling manufacturer will certify that Maximum Attenuation is measured in accordance with ANSI/EIA/TIA 455-46, -53, -61.

4. Fiber optic cabling manufacturer will certify that Transmission Capacity is measured in accordance to ANSI/EIA/TIA 455-51, -30, -54.
- B. Indoor Fiber Optic Cabling:
1. Cable Type – Multimode 50/125 μ m OM4 Fiber Optic Cable:
 - a. The fiber optic cabling will have a 900 μ m tight buffer interlocking armor jacket and an aqua exterior jacket with identifiable cable markings.
 - b. Fiber optic cable will comply with ANSI/TIA/EIA 492AAAB.
 - c. Fiber optic cable will comply with IEEE 802.3z standard for Gigabit Ethernet.
 - d. Fiber optic cable will meet or exceed EIA/TIA 568-B.3. Measurement of bandwidth on multimode fiber (FOTP-204) utilizing restricted mode launch.
 - e. Indoor fiber optic cables will comply with ANSI/ICEA S-83-596 Standard for Fiber Optic Premises Distribution Cable.
 - f. Provide Twelve-Strand Fiber Optic Cabling between PER / Main Telecom Room and each Telecom Room. Provide Twelve -Strand cabling between PER / Main Telecom Room and Telecom Service Entrance Room. Provide redundant Twelve strand fiber cables between the Main Telecom Room and each TR. Provide redundant fiber cables between the Main Telecom Room and the TSER.
 - 1) Cable will be suitable for installation in a plenum application
 2. Cable Type – Singlemode Fiber Optic Cabling:
 - a. The fiber optic cabling will have a 900 μ m tight buffer interlocking armor jacket and a yellow exterior jacket with identifiable cable markings.
 - b. Fiber optic cable will comply with TIA/EIA – 492CAAA.
 - c. Indoor fiber optic cables will comply with ANSI/ICEA S-83-596 Standard for Fiber Optic Premises Distribution Cable.
 - d. Provide Twelve-Strand Fiber Optic Cabling between PER / Main Telecom Room and each Telecom Room. Provide Twelve - Strand Fiber Optic Cable between PER /Main Telecom Room and Telecommunications Service Entrance Room. Provide redundant Twelve strand fiber cables between the Main Telecom Room and each TR. Provide redundant fiber cables between the Main Telecom Room and the TSER.
 - e. :
 - 1) Cable will be suitable for installation in a plenum application:
- C. Indoor/Outdoor Fiber Optic Cabling:
1. Singlemode:
 - a. The fiber optic cabling will be a with an interlocking lockable armor exterior jacket with identifiable cable markings and suitable for the specific application.
 - 1) Waterblock gel free water swellable yarn and tape for moisture protection.
 - 2) Polyethylene jacket for weather and UV protection.
 - 3) All dielectric central strength member.
 - b. Fiber optic cable will comply with ANSI/TIA/EIA 492CAAA.
 2. Multimode 50/125 μ m OM4 Fiber Optic Cable:
 - a. Fiber optic cable will comply with ANSI/TIA/EIA 492AAAB.
 - b. Fiber optic cable will meet or exceed EIA/TIA 568-B.3. Measurement of bandwidth on multimode fiber (FOTP-204) utilizing restricted mode launch.
 - c. The fiber optic cable will be a dry, water blocking, loose-tube cable with an exterior jacket with identifiable cable markings and suitable for the specific application.
 - 1) Gel-Free cable water blocked by water-swellable yarn and tape.
 - 2) Polyethylene jacket for weather and UV protection.
 - 3) All dielectric central strength member.
 3. Indoor/Outdoor fiber optic cables will comply with ANSI/ICEA S-82-696 Standard for Premises Distribution Cable.
 4. Fiber optic cable will comply with IEEE 802.3Z standard for gigabit Ethernet.
 5. Hybrid/Composite Cabling:
 - a. Provide 12-Strand Singlemode/12-Strand Multimode (50/125) between the PER / Main Telecom Room of each remote building and the TSER of the main building. Extend cable from the TSER to the PER / Main Telecom Room for connection to

Core Network Electronics. Provide redundant Twelve strand fiber cables between the PER / Main Telecom Room of each remote building and the TSER of the main building. Extend cable from the TSER to the PER / Main Telecom Room for connection to Core Network Electronics

2.2 EXTENDED FREQUENCY COPPER DATA CABLING

A. General: All copper data cabling installed will meet or exceed the following requirements as well as the requirements listed in the specific application of the cable:

1. All copper data cabling will be new and installed one (1) year within date of manufacture.
2. All copper cabling will be UL listed for its required application.
3. All horizontal copper cabling referred to in these specifications as data cabling, copper cabling, UTP will be Category 6 data cabling as specified herein.

B. Category 6 Cabling:

1. High performance unshielded twisted pair cable capable of data transmission speeds of 10BaseT, 100BaseT4, 100Base Tx, 25 Mbps, ATM-51 Mbps, ATM-155 Mbps, ATM-2.4 Gbps, 1000 Base-TX and TP-PMD.
 - a. Four individually twisted pairs.
 - b. 23 or 24 AWG solid copper conductors [with 100% FEP insulation].
 - c. Cable will be plenum rated and listed as NEC type CMP per UL Standard 444. Cable Jacket -
 - d. The cabling will have the following performance measurements (minimum).

Impedance:	100 ohm (+-15%, 1MHz-250MHz)
Propagation Delay:	5-7 ns/m max. @ 10 MHz.
Delay Skew:	25 ns/100m maximum
Attenuation:	19.7 dB @100MHz 39.5 dB @ 350 MHz
Near-End Crosstalk: (NEXT)	45.3 dB @ 100 MHz 37.1 dB @ 350 MHz
Power Sum NEXT (PS-NEXT):	43.3 dB @ 100 MHz 35.1 dB @ 350 MHz
Equal Level Far-End Crosstalk (ELFEXT):	28.8 dB @ 100 MHz, 17.9 dB @ 350 MHz
Power Sum ELFEXT (PS-ELFEXT):	25.8 dB @ 100 MHz 14.9 dB @ 350 MHz
Attenuation to Crosstalk Ratio (ACR)	25.9 dB @ 100 MHz
Power Sum – ACR	24 dB @ 100 MHz
Return Loss:	22 dB @ 100 MHz 16 dB @ 350 MHz

- e. Include performance measurements for LCL, LCTL, ILD and DC resistance meeting or exceeding ANSI/EIA/TIA 568B.2-1 standard.
2. Factory completed end-to-end test report for each master reel indicating surpassing EIA/TIA 568 qualification testing prior to shipment of product.
3. Cable will exceed the requirements listed in EIA/TIA 568B upon installation.
4. Cable will exceed the requirements listed in EIA/TIA 568B-2.1.
5. Conform to ANSI/ICEA S-80-661, S-80-576 and ASTM B-3.
6. Cable will be capable of allowing excess of PoE plus standard wattage without degrading the cable up to 50 Watts and/or 50 degrees Celsius.
7. Cable will be ETL verified.
8. Confirm color coding with Authority standards prior to ordering. Provide the following colors to identify the different systems

C. Exterior Grade Horizontal Copper Cabling:

1. Meet requirements for Category 6 requirements above.
 2. Listed for outdoor use.
- D. Extended Frequency Copper Backbone Cabling:
1. Supplemental Multi-Pair Copper Backbone Cables: Provide multi-pair copper backbone systems for interconnection of Telecom Room locations to the Telephone System in the Main Telecom Room.
 2. Provide multipair, unshielded twisted pair cable, Category 3 rated for system connectivity between the PER / Main Telecom Room VOIP telephone system and each Telecom Rooms.
 - a. Physical specifications for Category 3 cable. Individually insulated conductors under a common plenum rated sheath.
 - 1) 50pair conductors between PER / Main Telecom Room and Telecom Rooms.
 - 2) 200 pair from The Telecom Service Entrance Room and PER / Main Telecom Room..
 - 3) 24 AWG solid copper conductors.
 - 4) 100 ohms nominal impedance +/- 15%.
 - 5) Plenum Rated (CMP) jacket.
 3. Exterior Cabling:
 - a. Physical specifications for Category 3-rated cable. Individually insulated conductors under a common sheath.
 - 1) 50pair conductors.
 - 2) 22 AWG solid copper conductors.
 - 3) 100 ohms nominal impedance +/-15%.
 - 4) PE89 type cable with moisture seal.
 - 5) Exterior jacket with identifiable cable markings and suitable for the specified application.
 - b. Provide Lightning Protection Equipment for all copper cabling entering the building.
 - c. Provide 50 Pair cable between TSER at the main facility and each remote building on site. Extend cable to the PER / Main Telecom Room and the VoIP System.

2.3 PATCH PANELS

- A. Provide Category 6 patch panels for the termination of all copper backbone cabling and field data outlets at horizontal cross-connects in telecommunications rooms throughout the facility.
1. Provide High density unloaded patch panels with 48 jacks in a 1 RMU form factor.
 2. Termination jacks will be 8-position, 8-conductor, non-keyed, RJ-45, T568 universal, with 110 style IDC termination blocks.
 3. 110 style IDC termination blocks will be capable of terminating 22 AWG – 24 AWG solid copper conductors.
- B. Fiber Optic Patch panels for the termination of the fiber optic cabling at telecommunications rooms throughout the facility.
1. Rack-Mountable Enclosure:
 - a. Capable of terminating a minimum of 24-ports Label inserts to identify cabling.
 - b. Dust covers will be provided and installed at all terminations upon completion of terminations.
 2. Terminations:
 - a. LC Terminations:
 - 1) Ceramic Ferrule, 50/125 um, multimode.
 - 2) Ceramic Ferrule, singlemode.

2.4 MODULAR TELECOMMUNICATIONS OUTLETS

- A. Faceplates:
1. All telecommunications outlets will have a flush (low-profile assembly), nylon (high-abuse), tamper-resistant faceplate as required to mount to the field outlet backbox. Provide tamper proof mounting hardware.
- B. Termination Jacks:
1. Category 6 Jacks:
 - a. Keystone compatible
 - b. 110 Style IDC termination block.
 - c. T568A or T568B (Universal).
 - d. 8-Position, 8-Conductor, RJ-45, Non-keyed.
 - e. Capable of terminating 23 AWG or 24 AWG conductors.
 - f. Electrical Requirements – to PoE demands to 29.5W at 53 V DC:
 - 1) Min. Dielectric withstand voltage (contact to contact): 1000VA RMS.
 - 2) Min. dielectric withstand voltage (to conductive surface) 1500 VAC RMS.
 2. Industrial/Exterior Termination Jacks/Cords:
 - a. Category 6, 110 style termination jack.
 - b. T568A or T568B Universal.
 - c. 8-position, 8-conductor, RJ-45.
 - d. Capable of terminating 23 AWG or 24 AWG conductors.
 - e. Thermoplastic, chemical resistant outer shell with seal.
 - f. Category 6 patch cord with mating outer shell connector and seal.
 3. Fiber Optic Termination Jacks:
 - a. Multimode, 50/125 micrometer
 - 1) LC Type
 4. Dust Caps:
 - a. Door assembly to protect unused jacks from outside containments.
 - b. Provide a dust cap for each copper and fiber terminated jack at work area outlets
 5. Provide cable termination tool and training on use of termination tool to the Authority.

2.5 PATCH CORDS

- A. Copper Patch Cords for use in patch panels and work area outlets.
1. Provide factory constructed patch cords of the same manufacturer as the cable manufacturer. Provide two patch cords per data cable. One in the Telecom Room and One at the workstation.
 - a. Length to be determined in the field per direction of the Authority
 2. Category 6 compliant.
 3. Modular data cable utilizing stranded copper conductors.
 4. 8-Position, 8-Conductor, Modular RJ-45 plugs with protective boots.
 5. Patch cords will be 100% factory tested and show compliance with Category 6 cord requirements as listed in TIA/EIA 568B Annex J for NEXT and return loss.
 6. Provide cords acceptable to manufacturer extended warranty for a certified channel solution to meet the specifications.
 7. Color per Authority standards
- B. Fiber optic patch cords for use at the patch panels and work area outlets. Factory manufactured and tested. Provide two per strand of fiber terminated.
1. 50/125 micrometer OM4 patch cords laser-optimized:
 - a. LC type, multimode, duplex, 2-meter, aqua
 2. Singlemode:
 - a. LC type, duplex, 2-meter, yellow.

2.6 LABELING

- A. Machine Printed Labels:
1. Self adhesive, smudge resistant vinyl labels for cables and faceplates.
 2. Size labels appropriately for cable diameter; utilize "wrap" installation.
 3. Size labels appropriately to fit in recessed area of faceplate or under available plastic cover.
 4. Size labels appropriately to fit on punch-down block and patch panel labeling location.
 5. Submit samples of labels to verify color of label and size of font for each application.
 6. Comply with Authority Standards for labels.

2.7 CABLE INFRASTRUCTURE SUPPORT

- A. Cable Tie:
1. Re-usable hook and loop cable managers (Velcro).
 2. 1/2" width minimum by length as required with oversized head, slot and mounting hole.
 3. Color to match cabling/system
- B. Equipment Backboards:
1. 3/4" AC fire retardant plywood painted white:
 - a. Minimum 4' W x 8' H x 3/4" sheets, mount on all walls in each Telecom room and PER. Bottom of plywood mounted 1'-6" AFF to the top at 9'-6" AFF.
- C. Pull Line
1. Minimum 210 lb. tensile strength continuous-fiber Polypropylene polyline line for installation directly into conduit.
 2. White with green or gray tracer for easy identification.
 3. Waterproof line can be left in conduit for future use. Will not rot or mildew.
- D. Pull Tape:
1. Durable and stretch resistant tape for easily pulling and installing copper and fiber optic cables.
 2. Imprinted with sequential footage or meter markings for accurate measurements.
 3. Minimum average breaking strength: 1,800 lbs. (8.01 kN).

PART 3 - EXECUTION

3.1 GENERAL

- A. Provide cabling installation requirements with installation of all pathways, raceways, outlet boxes, etc.
- B. Provide modular telecommunications outlets, patch panels, data cabinets, and associated raceway/pathway installations including special wire management auxiliaries.
- C. Install nameplates at all racks, cabinets, innerconnects, etc. and label all cables, pathways, and associated termination points.
- D. Provide testing and labeling of all cabling
- E. Provide as-built documents, submit for Authority's review and hang revised documents in respective telecommunications room.
- F. Meet with the Authority's representatives prior to each of the following installation tasks:

1. Mounting patch panels, data cabinets, and equipment grounds.
2. Backbone and telecommunications room raceway installations.
3. Pulling cable.
4. Terminating cable.
5. Labeling of cable and equipment.
6. Testing cable.
7. As-built documentation completion.

3.2 INSTALLATION

- A. Provide all labor, tools, materials, services and technical knowledge to provide a complete, reliable, structured cabling system as specified herein that meets all governing codes and meets or exceeds industry standards as presented.
- B. Install all structured cabling in accordance with EIA/TIA 568C Standards, associated addenda and technical service bulletins and per cable manufacturer's requirements.
 1. Install all structured cabling in a safe, neat, professional, workmanlike manner.
- C. Test all existing data cabling to be reworked prior to relocating cabling to verify cabling will meet the intended testing criteria upon completion of the work. Retest cabling after installation per the testing requirements in this Section.

3.3 COPPER DATA CABLING

- A. Install horizontal cabling in a star topology. Cabling will be terminated at work area outlets and homerun to the specified telecommunications room, terminated, labeled and tested.
 1. Install horizontal cabling a maximum of 80 meters (280 feet) in length for any individual twisted pair. Cabling which exceeds this length may be re-routed with the Authority's discretion to decrease individual pair length.
 2. Make no splices or bridged taps as they are prohibited. All cabling will be electrically and mechanically continuous from patch panel to work area outlet.
 3. Install cabling such that cable manufacturer's minimum bend radius will not be exceeded. The bend radius will not be less than four (4) times the diameter of the cable.

3.4 FIBER OPTIC CABLING

- A. Install cabling such that the cabling manufacturer's minimum bend radius is not exceeded. Minimum bend radius of ten (10) times the diameter of the cable under no load conditions.
- B. Attach each cable to respective fiber termination/splice enclosure by mechanical means.

3.5 GENERAL CABLING REQUIREMENTS

- A. Conceal all cabling in the facility except where specifically allowed by the Authority standards.
 1. Install all cables parallel to the grid lines of the building.
 2. Consolidate cabling in corridors to minimize disruption to occupants.
 3. Utilize Velcro straps to bundle / support cabling. Tie wraps are not acceptable.
 4. Utilize cable tray to support cabling in corridors where available.
 - a. Install cabling neatly in tray. Group and bundle cabling with Velcro cable ties to form neat, orderly bundles for engineer review. Remove cable ties upon acceptance by Authority.
 - b. Install cables only when cable tray installation has been completed and inspected.
 - c. Fasten cables on horizontal runs with Velcro straps cable clamps or nylon cable ties as recommended by NEMA VE 2 and minimum eight (8) feet on center to

- separate systems within tray. Tighten clamps only enough to secure the cable, without indenting the cable jacket. Install cable ties with a tool that includes an automatic pressure-limiting device.
- d. Provide cable tray drop outs (waterfalls) where cable drop vertically out of cable tray. Confirm Cable Tray layout with the Authority.
 - e. Provide minimum 300mm (12") x 100mm (4")_ mesh / basket type cable tray. Size cable tray per manufacturer recommendations to accommodate data cable installed plus 50% growth capacity.
 - f. Provide Ladder tray in PER / Main Telecom Room and in Telecommunication Rooms for routing cabling. Provide ladder tray on the perimeter of the room and over the data cabinets. Offset the ladder tray 250mm (10") off the wall to allow dropouts into vertical wall mounted ladder tray.
- B. Install cabling in pathways/raceways without exceeding EIA/TIA maximum fill for that raceway type.
1. Install cabling in conduits/sleeves to the maximum fill capacity allowed before using an adjacent conduit/sleeve when multiple conduits/sleeves are required.
 2. Install all exposed cabling penetrating walls or through floors through rigid metallic conduit/sleeves.
 3. Provide Fire rated Assemblies when cable passes through fire rated walls. Assembly to be sized for no greater than 40% fill. Provide spare 100mm (4") fire rate assembly for each fire rated wall where cable passes through.
 4. If cable passes through non accessible ceiling, conduit to be sized for no greater than 40% fill. Provide spare 100mm (4") conduit in non accessible ceilings where cable passes through.
 5. Support Pathways / raceway from the structure independent of other Mechanical, Plumbing, Electrical system supports and the suspended ceiling.
 6. Provide 1-1/4" conduit from 4" x 4" back box at work station outlet to accessible ceiling space. Utilize j-hooks to cable tray system located in corridors. Do not exceed 28% fill ratio in conduits with two 90 degree bends and 40% ratio with zero 90 degree bends.
 - a. Provide grounding bushing on the end of the conduit.
 - b. Provide EMT or rigid steel conduit
 - c. Connect conduits to the edge of cable tray with a conduit bracket for this purpose.
 - d. When conduit is coming from above cable tray provide 90 degree bend 6" above cable tray. The water fall effect will reduce strain on cable.
 - e. Conduits and cables containing line voltage conductors (including branch circuit wiring) shall not be supported from the supports used for Telecommunications cable tray or from the tray themselves.
 7. Unless specified otherwise, the minimum size of a pull box shall be 12" x 12" x6" deep. Size pull box based on minimum bend radius requirements of the cables installed and quantity of cables installed.
 8. Provide 305mm (12") of cable coiled in the outlet box at wall jack locations. Provide 8m (26') of spare cable coiled at wireless outlet locations.
 9. Provide minimum of four 100mm (4") conduit sleeves in the floor to connect stacked Telecommunications Rooms for backbone cabling. Fire stop sleeves after installation. Extend conduit sleeves a minimum of 100mm (4") into Telecom Rooms. If Telecom Rooms cannot be stacked provide equivalent capacity Fire Rated Assemblies for Horizontal backbone cabling.
 10. In Telecom Rooms, provide four 100mm (4") conduit sleeves in non rated walls. Provide four 100mm (4") Fire rate assemblies in rated walls for routing horizontal data cabling.
 11. For underground entrance duct banks, the size of the conduit shall be 100mm (4") schedule 80 PVC conduits. Transition to Rigid Galvanized steel prior to entry of underground conduits.
 - a. Provide four 100mm (4") conduits to manhole for incoming utility services
 - b. Provide two 50mm (2") conduits to each remote telecom building
 - c. Bending of conduit is not recommended. If required no more than two 90 degree bends are acceptable.
 - d. Stub conduit up 100mm (4") above finished floor.

12. Provide redundant diverse pathways for backbone cabling between the Main Telecom Room and each TR.
- C. Route cabling to avoid the following areas:
 1. Elevator shafts and elevator equipment rooms.
 2. Electrical rooms.
 3. Egress stairwells.
 4. Any areas that contain or store hazardous materials.
 - D. Void electromagnetic interference, the following minimum clearances will be maintained:
 1. 300mm (12") from conduit and cables used for electrical power distribution.
 2. 120mm (5") from fluorescent lighting and electrical power cables or conduits.
 - E. Pathways shall cross perpendicular to fluorescent lighting and electrical power cables and conduits.
 - F. Provide cable slack in exterior manholes equal to 3x perimeter of manhole.
 - G. Terminate all horizontal and backbone cabling at each cable end as indicated in these specifications.
 - H. Test all horizontal and backbone cabling as indicated in these specifications.
 - I. Label all horizontal and backbone cabling as indicated in these specifications.

3.6 TERMINATIONS

- A. Utilize tools recommended by the manufacture for providing all terminations.
- B. Copper Data Cabling:
 1. Utilize the EIA/TIA T568A wiring pattern terminated on an 8-Position, non-keyed modular jack (RJ-45) for all data cabling.
 - a. Mount the data jack in the faceplate with the metal contacts on top and the snap/release on the bottom.
 2. Terminate four (4) individual twisted pairs to each voice/data jack and patch panel per cable.
 3. Untwist cable pairs a maximum of .375 inches prior to termination to jack and patch panel.
- C. Fiber Optic Cabling:
 1. Terminate all strands of fiber optic cabling at each end and mount in a termination unit [
 2. Install terminations as per manufacturer's guidelines.
 3. Termination connections.
 - a. Terminate all (backbone) fiber strands utilizing LC-Type connectors.
 - b. Terminate all horizontal fiber optic strands with LC connectors.
 - c. Ensure maximum insertion loss for a mated pair is 0.75dB.
- D. Telecommunications Rooms:
 1. Mount building backbone fiber optic patch panel at top of first data rack. Review all rack layouts with the Authority prior to installation.
 2. Mount copper backbone cabling 4-pair, UTP on 48-port patch panels as required below fiber optic patch panel.
 3. Mount copper backbone cabling (multipair)
 - a. Terminate on copper patch panels at each rack/cabinet.
 4. Where metallic panels attached to the rack do not have sufficient metal to metal contact to provide an adequate path to ground, they will be bonded to the rack using a minimum #14 AWG copper conductor. The copper conductor size will be upgraded based on the

largest power conductor feeding any rack-mount equipment. The conductor will be continuous; attaching all isolated components in a daisy chain fashion from top to bottom and bonded to the rack using an appropriate compression connector.

- E. MDF Backbone Connection:
 1. Terminate multi-pair copper backbone cabling on copper patch panels.
 - a. Terminate 2-pair per jack.
 - b. Label all ports per telephone system requirements.

3.7 PATCH CORDS/CABLES

- A. Copper Patch Cords – Quantities:
 1. Provide two (2) patch cords for each data/voice outlet jack
 - a. Review length and color with the Authority to comply with Authority standards.
- B. Fiber Optic Patch Cords:
 1. Install fiber optic patch cords to complete backbone connection to network electronics.

3.8 SIGNAL GROUNDING

- A. Provide ground connection for all equipment as required by EIA/TIA 607A,
- B. Install a complete grounding system to each telecommunications rooms (PER / Main Telecom Room, Telecommunications Rooms) and bond all equipment. Include a Main Telecommunications Ground bus bar (TMGB) and extend to Telecommunications Ground bus bar (TGB) in each Telecom Room. Connect the Main Telecommunications bus bar to Main Electrical System Ground.
 1. PER / Main Telecom Room TMGB will be 100mm wide x 300mm long x 6mm thick
 2. Telecommunications Room TGB will be 50mm wide x 300mm long by 6mm thick.
 3. Utilize ground bus bars with predrilled holes.
 4. Label bonding conductors at both ends with data plate identifying destination end of conductor.
 5. Utilize exothermic welding or equivalent irreversible compression type connectors for bonding conductor splices.
 6. Bolt bonding conductor to TMGB / TGB with lugs specifically designed for this purpose.

3.9 LABELING

- A. Develop a complete labeling convention for structured cabling system, telecommunications rooms, racks, pathways, etc, with the Authority.
 1. Provide complete cable "Run-List" to Authority for review prior to installation and update for O & M manuals. Provide a spreadsheet equating the cable number and the final telecommunications jack number as identified below.
- B. Label all cables in four (4) separate locations in a neat workmanlike manner.
 1. During installation, each cable will be labeled at either end of the cable to facilitate identification prior to termination (cable number).
 - a. Each cable will have a different alphanumerical designation indicating floor termination, room termination and cable termination.
 - b. Ensure cable number is visible after termination of cable in patch panel without adjusting/moving cabling.
 2. During termination, all modular telecommunications outlet faceplates will be labeled identifying each data/voice cable terminated in that faceplate based on EIA/TIA 606A standard.

- C. Install all labels neatly onto cabling and faceplates. Install vinyl self adhesive labels on cabling and in recessed area of outlet faceplates (under protective clear laminate window) specifically designed for use.

3.10 TESTING

- A. Schedule all cable testing with the Authority and perform in the presence of the Authority.
 - 1. Complete testing for individual cabling channel/link systems within 14 days of installation/termination of equipment

- B. Test all Category 6 cabling in conformance with ANSITIA/EIA 568B and addenda.
 - 1. Test all twisted pair cabling with a Level III cable analyzer and interface.
 - 2. Test all pairs in all cables.
 - 3. Identify all cables on the test report identically to the final port alphanumeric designation as indicated on the outlet faceplate and the cable run list.
 - 4. Provide a printed report graphically and numerically documenting the following testing categories with comparisons to the most recent Category 6 testing standards. The output will include a graphical analysis of the cable for each test.
 - a. Individual pair cable length.
 - b. Individual pair attenuation.
 - c. Individual pair Near End Crosstalk (NEXT).
 - d. Power Sum – Near End Crosstalk (PS-NEXT).
 - e. Individual pair attenuation to crosstalk ratio (ACR).
 - f. Power – Sum attenuation to crosstalk ratio (PS-ACR).
 - g. Equal-level far-end crosstalk (ELFEXT).
 - h. Power – Sum equal-level far-end crosstalk (PS-ELFEXT).
 - i. Return loss (from both ends of cable).
 - j. Propagation delay.
 - k. Longitudinal conversion loss (LCL).
 - l. Longitudinal transfer conversion loss.
 - m. Delay skew.
 - n. Impedance.
 - o. Wire Map indicating:
 - 1) Proper pin termination at each end.
 - 2) Continuity to the remote end.
 - 3) Shorts between any two or more conductors.
 - 4) Crossed pairs.
 - 5) Reversed pairs.
 - 6) Split pairs.
 - 7) Any other miss wires.
 - 5. Graphical analysis will show and itemize available headroom above testing standards and compare to provided cable/component manufacturer’s published guarantee for specified tests.

- a. If necessary, a second complete test set will be provided that tests to those requirements.

- 6. Test each installed Category 6 permanent link to meet or exceed the following parameters:
 - a. Attenuation: 20.2 @ 100 MHz
 29.1 dB @ 200 MHz
 36.6 dB @ 300 MHz
 - b. NEXT: 44.3 dB @ 100 MHz
 39.8 dB @ 200 MHz
 37.1 dB @ 300 MHz
 - c. PS-NEXT: 42.3 dB @ 100 MHz
 37.8 dB @ 200 MHz
 35.1 dB @ 300 MHz

d.	ACR:	24.1	dB	@	1-80,	80-100,	1-100	MHz
		5 dB @						
e.	PS-ACR	22.1	dB	@	1-80,	80-100,	1-100	MHz
		-1.5	dB	@		100-300		MHz
		4.5 dB @						
f.	ELFEEXT	27.8	dB	@		100		MHz
		22.7	dB	@		200		MHz
		18.2 dB @						
g.	PS-ELFEXT:	24.8	dB	@		100		MHz
		18.7	dB	@		200		MHz
		15.2 dB @						
h.	Return Loss:	20.1	dB	@		100		MHz
		18	dB	@		200		MHz
		16.8 dB @						
i.	Propagation delay:	480	ns	@		100		MHz
		479	ns	@		200		MHz
		478 ns @						
j.	Delay skew:	25	ns	@		100		MHz
		25	ns	@		200		MHz
		25 ns @						
k.	Pass/Fail Application Testing for 10 Base-T, 100 Base-T4, 100 Base-Tx, 1000 Base-T, 1000 Base-Tx, 25 Mbps ATM, 51 Mbps ATM, 155 Mbps ATM.							
l.	Pass/Fail Application Testing for 10 GBase-T.							
	1) Identify cables with length less than 55 meters and test per IEEE Standard.							
	2) Identify cables longer than 55 meters and identify cable deficiencies with similar testing.							

C. Test all multipair copper cabling to ensure continuity, proper termination and proper resistance. In addition, individual cable pair length will be determined and documented.

D. Fiber Optic Cable Testing:

1. Test all fiber optic cable strands in the cables in accordance with the field test specifications defined by ANSI/TIA/EIA-568B.1, the cable system manufacturer
2. Multimode:
 - a. Perform testing in accordance with ANSI/EIA/TIA-526-14A Method B, Optical Power Loss Measurements of Installed Fiber Cable Plant.
 - 1) Utilize an adaptation to Method B for testing small-form-factor (SFF) connectors as recommended by the cable/connector manufacturer and the testing unit manufacturer.
 - b. Perform testing for end-to-end attenuation using a VCSEL source and optical power meter.
 - 1) Perform testing in at least one direction for each strand of fiber at 850 nm and 1300 nm wavelengths.
 - c. Test Results:
 - 1) Base test evaluation on EIA/TIA-568-4 Annex H, Optical Fiber Link Performance Testing.
 - 2) The Fiber Optic Cabling Test Results will document fiber strand length, attenuation and propagation delay. The following criteria will be met:
 - 3) 100 meters: 2.5 dB @ 850 wavelength
2.2 dB @ 1300 wavelength
 - 4) 300 meters: 2.9 dB @ 850 wavelength
2.3 dB @ 1300 wavelength
 - 5) 500 meters 3.9 dB @ 850 wavelength
2.6 dB @ 1300 wavelength
 - 6) 1500 meters: 7.4 dB @ 850 wavelength
3.6 dB @ 1300 wavelength

- 7) All fiber optic cabling will be application verified to exceed requirements for 10 Base-F, 100 Base-Fx, 1000 Base-F, 155 Mbps ATM, 622 Mbps ATM, 1.2 Gbps ATM, 2.5 Gbps ATM and FDDI PMD.
 - 8) All splices, if allowed, will have a maximum attenuation of 0.3dB.
 - 9) Maximum insertion loss for a mated pair will be 0.75dB.
 - d. Test all fiber strands with an Optical Time Domain Reflectometer (OTDR) and:
 - 1) Evaluate the continuity and quality of cable upon installation.
 - 2) Measure length of fiber strands and document losses of individual splices and connectors.
 - a) Test for length will be completed in accordance to EIA/TIA-455-60.
 - b) Provide documentation including a signature trace for each strand.
3. Singlemode:
- a. Perform testing in accordance with ANSI/EIA/TIA-526-7 Method A.1, Optical Power Loss Measurements of Installed Fiber Cable Plant.
 - b. Perform testing for end-to-end attenuation using a laser light source and optical power meter.
 - 1) Perform testing in at least one direction for each strand of fiber at 1310 nm and 1550 nm wavelengths.
 - c. Test Results:
 - 1) Base test evaluation on EIA/TIA-568-A Annex H, Optical Link Performance Testing.
 - 2) Document the fiber optic cable test results for fiber strand length, attenuation and propagation delay. The following criteria will be met:
 - a) 100 meters: 2.2 dB @ 1310 wavelength
2.2 dB @ 1550 wavelength
 - b) 300 meters: 2.3 dB @ 1310 wavelength
2.3 dB @ 1550 wavelength
 - c) 500 meters: 2.7 dB @ 1310 wavelength
2.7 dB @ 1550 wavelength
 - d) 1500 meters: 3.6 dB @ 1310 wavelength
3.6 dB @ 1550 wavelength
 - e) All fiber optic cabling will be application verified to exceed requirements for 1000 Base-F, 1000 Base-, 100 Base-LX, 155 Mbps ATM, 622 Mbps ATM, 1.2 Gbps ATM, 2.5 Gbps ATM and FDDI SM PMD.
 - f) All splices, if allowed, will have a maximum attenuation of 0.3 dB.
 - g) Maximum insertion loss for a mated pair will be 0.75 dB.
 - d. Test all fiber strands with Optical Time Domain Reflectometer (OTDR) and:
 - 1) Evaluate the continuity and quality of cable upon installation.
 - 2) Measure length of fiber strands and document losses of individual splices and connectors.
 - a) Test for length will be completed in accordance to EIA/TIA-455-60.
 - b) Provide documentation including a signature trace for each strand.
- E. Data Testing Equipment:
- 1. Provide documentation indicating the specific testing unit to be used has been calibrated within the last twelve (12) months.
 - 2. Calibration:
 - a. All field testers used must be within factory calibration timeframes and also must be re-calibrated prior to each use based upon the manufacturer's requirements. In addition, all adapters used must be in good condition and be acceptable for use based upon the above requirements.
- F. Test Report Information:
- 1. Provide on each test report, in addition to the required test results, the following information:
 - a. Facility Site/Location.
 - b. Test Date and Time.

- c. Cable Manufacturer and Part Number.
 - d. Overall Pass/Fail Evaluation of Link under Test indicating certification.
 - e. Cable Identification Number (i.e., alphanumeric designation as indicated on outlet faceplate).
 - f. Application Testing Results.
 - g. Technician Name and Signature.
2. Evaluate all test results by the testing unit in comparison to the EIA/TIA Standards and indicate result in an overall pass or fail evaluation.
 - a. Marginal reporting will be enabled.
 - b. All test reports will be printed out directly by the testing unit.
 - c. Headroom analysis compared with manufacturer's published data.
- G. Independent Data Testing (IDT) Contractor:
1. Provide Independent Data Testing (IDT) Contractor to complete all data testing outlined in this Specification. Any difference between this amount and the actual amount will be adjusted at the time of requisition.
 2. Provide with the IDT to supply accurate test results to the Authority upon completion. The following will be provided:
 - a. Any data or fiber outlet test report that indicates a failure to meet the requirements of this Specification will be forwarded to the Authority.
 - b. Re-work data outlet/cable as required to fulfill the minimum requirements. Install a new cable if required.
 - c. The IDT Contractor will re-test the outlet without any additional expense to the Authority.
 - d. The IDT to forward a complete set of data test reports to the Authority for verification to be included within the Operating and Maintenance Manuals.
 - e. The IDT Contractor will provide a signed letter stating that all data cabling has been tested and meets the requirements set forth in these Specifications.
 - f. The IDT Contractor will work in conjunction with Division 26 to obtain all of the manufacturer guarantee/warranty available for the installed products and system.

3.11 DOCUMENTATION

- A. Record Telecommunications Room locations and each voice/data port with its corresponding voice/data port label onto project blue prints.
1. Record horizontal cabling lengths for rooms extending to limit of telecommunications port termination area for each telecommunications room.
 2. Record backbone cable lengths, # of strands/# of pairs, cable type, on a riser diagram supplied with blueprints.
 3. Record sizes of pathways, location of cable routings and system rack elevations as installed on the project blueprints.

APPENDIX 3D(ii) WIRELESS INFRASTRUCTURE STANDARD

1. **Introduction**

This standard describes the requirements for deploying wireless technologies including data, voice, video and RTLS devices in the Facility. There are 3 main goals of this document: first to protect the Authority's information assets; secondly, to protect the privacy of the individual user; and thirdly, to ensure infrastructure is deployed to ensure the highest possible availability to the end user.

2. **Scope**

This standard covers 802.11 based wireless data communication devices planned for this Facility. The technical details included in this standard are based on the requirements as published by the relevant vendor. The standard for infrastructure is structured to ensure wireless networks are able to support data, voice, video and RTLS technologies for the foreseeable future.

3. **Equipment Standards**

The Authority utilizes Aruba Access points and Wireless LAN Controllers throughout the region. All equipment must be according to the Authority's wireless standard at the time of procurement.

3.1 Features and Functionality:

- 3.1.1 Advanced roaming features including 802.11h, 802.11r, and Aruba ClientMatch.
- 3.1.2 Packet loss will be less than 3%, Packet retry will be less than 3%.
- 3.1.3 Provide licensing for access points, policy enforcement firewall and system monitoring.

4. **Infrastructure standard**

4.1. **802.11b/g radios**

Provide complete 802.11 2.4Ghz infrastructure internal and external and adhere to the following standards of service:

- 4.1.1. Signal strength : site RSSI for 802.11b data services will not fall below -70dB at any point at the site between 3 feet and 7 feet from the surface of the floor in the intended coverage area. Site RSSI for 802.11g data services will not fall below -65dB at any point at the site between 3 feet and 7 feet from the surface of the floor in the intended coverage area. Signal strength will not exceed -30dBm in any area it is reasonable that staff will be occupying for extended periods of time.
- 4.1.2. Noise Floor : the site will not have a 2.4Ghz noise floor above -70dB in any area that 802.11b/g wireless devices will be used. Noise floor measurements are to be verified prior to infrastructure deployment.
- 4.1.3. Channel separation : site channel separation will exceed -20dB in 75% or greater of the site.
- 4.1.4. Channel plan : the site will be configured on a 3 channel plan for b/g coverage, with consideration being taken for the channels used by interfering devices such as microwave ovens.

4.2. **802.11a radios**

Provide complete 802.11a 5Ghz infrastructure and adhere to the following standards of service:

- 4.2.1. Signal strength : RSSI for data services will not fall below -60dB at any point at the site between 3 feet and 7 feet from the surface of the floor in the intended coverage area. Signal strength will not exceed -30dBm in any area it is reasonable that staff will be occupying for extended periods of time.
- 4.2.2. Noise Floor : the site will have a 5Ghz noise floor below -80dB in any area that wireless devices will be used. Noise floor measurements are to be verified prior to infrastructure deployment.
- 4.2.3. Channel separation : site co-channel separation will exceed -20dB in 95% or more of the site.
- 4.2.4. Channel plan : the site will be configured on an 8 channel plan for 802.11a coverage, with consideration being taken for the channels used by interfering devices such as industrial cleaners, radar or electric motors.

4.3. **802.11n radios**

Provide complete 802.11n 5Ghz infrastructure and adhere to the following standards of service:

- 4.3.1. Signal strength : RSSI for data services will not fall below -50dB at any point at the Facility between 3 feet and 7 feet from the surface of the floor. Signal strength will not exceed -25dBm in any area it is reasonable that staff will be occupying for extended periods of time.
- 4.3.2. Noise Floor : the site will have a 5Ghz noise floor below -70dB in any area that wireless devices will be used. Noise floor measurements are to be verified prior to infrastructure deployment.
- 4.3.3. Channel separation : site co-channel separation will exceed -30dB in 80% or more of the site.
- 4.3.4. Channel plan : the site will be configured on a 5Ghz channel plan for 802.11n coverage, with consideration being taken for the channels used by interfering devices such as industrial cleaners, radar or electric motors. 2.4Ghz 802.11n will not be used.

4.4 **802.11ac radios**

Provide complete 802.11ac release 2 5Ghz infrastructure and adhere to the following standards of service:

- 4.3.1. Signal strength : RSSI for data services will not fall below -65dB at any point at the site between 3 feet and 7 feet from the surface of the floor. Signal strength will not exceed -25dBm in any area it is reasonable that staff will be occupying for extended periods of time.
- 4.3.2. Noise Floor : the site will have a 5Ghz noise floor below -70dB in any area that wireless devices will be used. Noise floor measurements are to be verified prior to

infrastructure deployment.

- 4.3.3. Channel separation : ensure that secondary co-channels do not overlap
- 4.3.4. Channel plan : the site will be configured on a 5Ghz channel plan for 802.11ac coverage, with consideration being taken for the channels used by interfering devices such as industrial cleaners, radar or electric motors.

4.5 RF Antennas

RF antennas will be an integral part of the access point to propagate RF signals and utilized to customize coverage areas depending upon desired signal strength, quantity of users and data throughput for any given space. Access points will have the ability to integrate multiple types of antennas depending on coverage desired. Access points will support the following antennas:

4.5.1 Omni directional dipole antenna providing equal signal distribution around its vertical axis.

4.5.1.a. Use low gain antennas in areas where increased vertical coverage is desired.

4.5.1.b Use high gain antennas in areas where increased horizontal coverage is desired.

4.5.2 Use semi directional antennas to focus coverage in a horizontal arc of 180 degrees or less. Utilize the following semi directional antennas:

4.5.2.a Patch / panel antenna for horizontal coverage of 30 – 180 degrees and a vertical coverage of 6 – 90 degrees.

4.5.2.b Yagi antennas will provide a horizontal coverage of 30 – 78 degrees and a vertical coverage of 14-64 degrees.

4.5.3 Use highly directional antennas for providing point to point connectivity between buildings. These antennas will require line of site between antennas. Locate the antennas so that the first Fresnel Zone (1FZ) will not be obstructed. Utilize the following antennas:

4.5.3.a Parabolic Dish Antenna.

4.5.9.b Grid Antennas in high wind or snow collecting areas.

4.5.4 When utilizing antennas not directly connected to the access points use cable that the manufacturer has cut to set lengths and terminated. The cable will have the shortest length required between access point and antenna with the same impedance as the access points and antennas. Cable will be tested and have a listed RF signal loss.

4.5.4.a Acceptable Cable Type: LMR.

4.5.5 Provide lightning protection and grounding for any antenna located outside of the building per manufacturer's recommendations.

4.5.6 Antennas will conform to all FCC regulations including but not limited to CFR 15.203 and CFR 15.204.

4.5.7 Types and quantities of antennas will be determined through detailed physical site survey of building.

4.6 Network Controllers

4.6.1 Provide redundant Wifi network controllers with 50% growth of number of AP's installed to support the initial buildings and Site. Size each of the redundant wireless controllers to operate the wireless network at 100% capacity. Wireless service will not degrade if one of the wireless controllers is lost.

4.6.2 Provide redundant 10gb connections to network core.

4.6.3 Provide redundant power supplies.

4.6.4 The wireless network controller/s will allow for simplified deployment of access points and will provide a central point of management of the wireless network equipment including security and configuration. The wireless network controller will provide the following at a minimum:

4.6.5.a RF spectrum planning and management meeting the following requirements:

- 1) Dynamic Channel assignment
- 2) RF Interference detection and avoidance
- 3) Automatic load balancing of users across multiple access points. Bandwidth and throughput management.
- 4) Capable of adjusting power output of individual access points in areas where holes in the coverage plan are detected.
- 5) Dynamically adjust power output of individual access points to accommodate changing networks.
- 6) Provide multiple segmented wireless networks available to diverse entities within the Facility;

4.6.5.b Network wide security policy enforcement;

4.6.5.c Centralized authentication;

4.6.5.d Fast Client roaming from AP to AP;

4.6.5.e Direct trunked connection to network core;

4.6.5.f Provide QoS service for different types of traffic. (Minimum of 4 traffic classes);

4.6.5.g Provide 50% growth capacity in both redundant network controllers;

4.6.5.h Wireless network switches / controllers on the same distributed network will allow fast roaming from one switch / controller to the next without having to reauthenticate or reassociate;

4.6.5.i The wireless switch / controller will support the following security features as a minimum:

- 1) 802.11i standard encompassing WPA2 – Enterprise (CCMP/AES, 802.1X/EAP)
- 2) WPA – Enterprise (TKIP/RC4, 802.1X/EAP)
- 3) IPSEC and AES VPN tunneling.
- 4) Extensible Authentication Protocol (EAP) –TLS, EAP-TTLS, EAP-SIM, PEAP, PEAP-MSCHP, PEAP-GTC, Message Integrity Check (MIC)
 - a) Provide a RADIUS server for authentication. Configure the Radius server to run the same EAP protocol as the client. Radius server will be compatible with the wireless network equipment manufacturer.
 - b) Integrate the radius server with the Authority's Active Directory.
 - c) Provide software and licensing for a complete operating system. Provide 50% spare capacity.

4.6.5.k Management features:

- 1) Access point configuration tool for initial setup and ongoing maintenance.
- 2) Monitor signal quality of each access point and allow for manual or automatic adjustments.
- 3) Software must provide a secure remote management via SNMPv3. HTTPS (SSL / SSH). Support MIB I, MIB II, 802.11 MIB using SNMP based network management software.
- 4) Provide channel planning and power adjustments across multiple floors within the Facility.
- 5) Network Monitoring and trouble shooting.
- 6) Security monitoring to include:
 - a) Intrusion detection
 - b) Intrusion prevention
 - c) Management frame protection
 - d) Detection of Denial of Service attacks (DoD) and rogue AP's
 - e) Secure guest access with dynamic location based access ability
 - f) Wireless LAN Management
 - g) Trending and analysis reporting
 - h) Location tracking of wireless devices

1. 802.11 enabled, laptops, tablets, mobile devices

2. Wireless telephones and staff communication devices
3. RTLS devices
4. 802.11 transceivers

7) Provide management of multiple wireless LAN controllers for seamless roaming.

4.6.6 Provide licensing to support installed access points and 50% future access points. Include the following at a minimum WAP, PEFNG and RFP licenses.

4.7 **Physical Installation**

4.7.1 All wireless access points will be flush mount to the ceiling or attached to the ceiling tile using approved mounts anchored to the building structure. All cabling will be in compliance with Appendix 3D(i) [Structured Telecommunications Cabling System] and will support PoE and PoE plus to the access point.

4.7.1.a Utilize recessed ceiling box to completely conceal wiring and infrastructure. Utilize Authority standard recessed ceiling box manufactured by Oberon.

4.7.1.b Provide an environmental enclosure for exterior mounted wireless access points. Environmental enclosure shall be rated to -50 degrees Celsius to +40 degrees Celsius.

4.7.1.c Provide two data drops to each wireless access points.

4.7.1. d Provide 6 strand indoor / outdoor OM4 Multimode fiber optic cable to exterior Wireless access points that are beyond horizontal data cable lengths allowed per Appendix 3D(i) Structured Telecommunications Cabling System.

4.7.1.d (1) Provide fiber to copper media converters. Utilize chassis based fiber media converter in the Telecom Room. Mount converter in environmental enclosure at the exterior location.

4.7.1.e Utilize Site Lighting Poles for mounting exterior Wireless Access Points. Provide mounting bracket as recommended by the manufacturer.

4.7.2 Provide predictive Site survey to determine location of access points prior to deployment of access points. The predictive survey will determine RF signal strength and data throughput rates based on quantity of users, types of service and type of devices as directed by the Authority.

4.7.3 Provide physical Site survey after buildings have been constructed prior to deployment of access points to verify predictive site survey. The physical survey will determine actual RF signal strength and data throughput rates based on quantity of users, types of service and type of devices as directed by the Authority. Review survey information with Authority prior to installation of devices.

4.7.6 Provide physical Site survey post occupation of the Facility to determine location of access points based on actual use of the Facility. Adjust locations of the access points based on survey with input from the Authority.

4.7.7 Provide exterior coverage of the Facility including but not limited to courtyards, parking lots, loading docks, security areas. Provide antennas, environmental enclosures, cabling, lightning protection for exterior access points. Identify exterior coverage requirements with the Authority and associated system providers utilizing the wireless network as the transport.

4.7.8 Install, furnish and test all equipment as required to the manufacturer's specifications and the Authority's standards. Test all systems in conjunction with the Authority's requirements.

4.7.8.a Review installation requirements with the Authority, to meet the Authority's standards.

4.7.9 Installation will include rack mounting all wireless switches /controller equipment, installation of all access points, antennas and providing connectivity to all devices / equipment. Position access points and antennas in locations that provide optimum coverage for the area being covered. The Authority will be responsible for configuration of the wireless system controller and access points will include the following:

4.7.9.a Implement an IP addressing scheme provided by the Authority.

4.7.9.b Implement routing schemes for all required protocols.

4.7.9.c Assign IP addresses on all network components.

4.7.9.d Create VLAN's to segment administrative, staff and client access as required.

4.7.9.e Configure security protocols and parameters.

4.7.9.f Provide standard image for access points.

4.7.9.g Configure the access points RF signal strength, output power per FCC regulations.

4.7.9.h Set all configuration parameters.

4.7.10 Provide additional wireless access points to be used in conjunction with the wireless network for purposes of monitoring the wireless network health, detecting rogue access points and managing the wireless network. Provide quantity as recommended by manufacturer to provide adequate coverage for this Facility.

4.7.10.a Provide wireless tracking and analytic software and all associated hardware and licensing. Include licensing to support devices identified by the Authority. Utilize Airwave or other Authority- approved software.

5. **Required Documentation**

5.1. All wireless LAN deployments must be fully documented.

5.2. Project Co will be responsible to document the following components:

5.2.1. Exterior site plans and Facility floor plans with access point locations and cable numbers, MAC addresses and serial numbers, and connectivity requirements.

5.2.2. Predictive and physical site surveys including exterior site plans and Facility floor plans with noise floor, data rate and signal strength overlays, preferably completed using Ekahau site survey tool, completed prior to site go-live, as a baseline.

6. **Wireless Encryption and Authentication**

All infrastructure must comply with Authority standards and Appendix 3D(iii) [Wireless Data Communications Policy].

7. **Infrastructure Maintenance**

Infrastructure will comply with Appendix 3F(i) [Structured Telecommunications Cabling System]. Project Co will be responsible for replacing infrastructure components that are physically attached to walls, floors, and ceilings. Note: all changes will need to be reviewed and communicated through the Authority IMIT department.

8. **Configuration/Coverage**

The wireless network coverage and throughput requirements will be as agreed with the Authority and will be sufficient to support the Authority's use of wireless data, voice, video, RTLS / RFID and staff-to-staff communication tools. Provide Wireless Access Points for deployment in a minimum of 10m square coverage pattern. Increase WAP to provide complete coverage and throughput requirements of the buildings and the Site as required to support operation of all systems utilizing the wireless network as a transport medium. Provide exterior coverage of Courtyards, loading docks, secure areas and parking lots. In addition to wireless access point deployment accepted by the Authority, Provide an additional 5% spare wireless access points.

9. **Suitability**

Wireless is subject to outside interference which may affect the availability of wireless services, however it is Project Co's responsibility to discover these issues prior to go-live. Issues discovered after go-live which are external in nature will be evaluated by an independent 3rd party engaged by the Authority and Project Co, and the Authority and Project Co will work together to find resolutions. If it is determined by the 3rd party that the issues existed prior to go-live, Project Co will resolve the issue or compensate the Authority accordingly for the services or areas affected. If environmental issues are found to exist which are beyond the control of either the Authority or Project Co, the issues will be documented as exceptions to the standard and signed off by both the Authority and Project Co.

APPENDIX 3D(iii)
WIRELESS DATA COMMUNICATIONS POLICY

1. **Introduction**

This policy describes requirements for access to the Authority's networks via wireless communication mechanisms. This policy also describes the requirements for creation of new wireless networks. Only wireless systems that meet the criteria of this policy or have been granted an exclusive waiver by the Authority are approved for connectivity to the Authority's networks.

2. **Scope**

This policy covers all wireless data communication devices (e.g., personal computers, cellular phones, PDAs, printers, handheld scanners, RTLS devices, etc.) connected to any of the Authority's internal networks or devices. This includes any form of wireless communication device capable of transmitting packet data. Wireless devices and/or networks without any connectivity to the Authority's networks do not fall under the purview of this policy (i.e. isolated wireless phones, ham radio etc).

3. **Policy**

3.1. Registration of Access Points and Wireless Network Cards

All wireless Access Points / Base Stations / Switches must be registered and accepted by the Authority. Access Points / Base Stations are subject to periodic penetration tests and audits. Project Co will allow access to the Facility for and cooperate with such tests and audits and will resolve any issues arising from such tests and audits. All wireless Network Interface Cards (i.e., PC cards) used in wireless devices must be registered with the Authority.

3.2. Wireless Encryption and Authentication

All computers with wireless LAN devices must utilize an Authority approved wireless encryption connection method (at a minimum WPA2/802.11i) configured to drop all unauthenticated and unencrypted traffic. To comply with this policy, wireless implementations must maintain point to point hardware encryption mechanisms of at least 1024 bits cipher strength. All implementations must support a hardware address that can be registered and tracked, i.e., a MAC address. Provide WPA2 (AES Encryption) with a radius authentication server with 802.1x (port based network access control) authentication for wireless data network.

3.3. Setting the SSID

- All SSIDs will be configured and maintained by the Authority. Wireless access points provide network access to wireless devices that are dedicated to areas and have separate SSID broadcast domain with the ability to disable SSID broadcasting. Personal and public devices will not have access to Authority wifi. Separate open SSIDs protected with a captive portal will be used. Doctors and Specialists will have captive portal protected limited access to the wireless network. General staff and public will be serviced through a separate segment. Additional SSID will be established for secure systems. Provide equipment to allow segmentation of different systems and users.
- Personal and public devices will not have access to Authority wifi. Separate open SSIDs protected with a captive portal will be used. Doctors and Specialists will have captive portal protected limited access to the Authority network. General staff and public will be serviced through a separate segment.

- Application access Authority users are given full access. All other users may be subject to port restrictions

4. **Suitability**

For data networks, wireless networks should not be considered a replacement for a wired network. They should be seen only as an extension to the wired network for general purpose access in areas of transient use such as common areas, meeting rooms and areas with fluctuating user counts. Wired network access should always be the first option considered for provision of data services.

A wireless access point provides shared bandwidth. As more users connect to the access point, the available bandwidth per user diminishes. Therefore, wireless networks are not appropriate for high bandwidth applications including high quality video streaming or digital imaging. It is most suited for applications such as voice, text based client systems (telnet), email and web browsing.

The Authority may restrict access to wireless technologies that the Authority considers may be disruptive to wireless networks or pose a significant risk to the Authority.

5. **Procedure**

5.1. **Requesting access to wireless network(s):**

REASON : to control the growth of the number of users thereby maintaining availability of the wireless network for all users

- 5.1.1. Users requiring wireless access are required to submit a request for access form to the Authority. A request for access must include detail on frequency of use and type of use. Submission of a request does not guarantee approval.
- 5.1.2. An e-mail confirmation of receipt will be sent upon receipt of a completed form.
- 5.1.3. If approved, the Authority will provide detail on setup for access to the wireless network
- 5.1.4. If the addition of a user results in the need for the installation of additional hardware, Project Co will be responsible for the costs associated with the additional hardware

5.2. **Communicate the intended use of wireless networks**

REASON : to ensure all users are aware of the intended use of a wireless network to avoid creating unnecessary and unintended risk

- 5.2.1. The intended use of the wireless service will be communicated to the end user to ensure the wireless service is only used for its intended purpose.
- 5.2.2. Modifications to the intended use of the wireless networks will be considered a modification to the wireless network itself and will require prior approval. Wireless networks will be deployed in such a fashion as the services available will be as narrowly defined as possible and therefore will not be the same as those available on the physical wired network. Changes to the intended use may cause issues to be reported erroneously.

APPENDIX 3D(iv)

Conference Room Design Standards

Interior Acoustics

Appropriate acoustical conditions are necessary to make the room functional for presentations and video conferencing. It is critical that ambient noise such as HVAC, ballast noise, etc. be controlled and that appropriate acoustical treatment be installed to control reverberation, minimize reflections, flutter echo and other acoustical issues that impair the microphone pickup.

Avoid hard reflective wall or ceiling surfaces within 8' or 2500mm of lectern or table top microphones. The reflections from these surfaces will create audible artifacts or lower feedback thresholds and add absorption or diffusion materials if required for appropriate acoustical conditions. In rooms with any length or width dimension less than 15' or 5m, provide acoustical wall treatment between chair rail height and approximately 8' or 2500mm AFF, on two adjacent walls to eliminate flutter echo.

Ceiling tiles will be high-quality acoustic tiles, ideally 1" thick compressed dense core fiberglass. An added benefit of this kind of ceiling tile is that it works well with indirect lighting as specified later in this document. To reduce any extraneous noise from leaving or entering the room via the ceiling space, the ceiling tiles can be blanketed completely from the plenum side, with a minimum of 6" thick unfaced dense fiberglass batting or mineral rock wool (~R-15 to R-19). Here again, a barrier layer will improve the performance, but all building codes must be followed for allowable materials in the various aspects of room acoustic modifications. To make entry and exit from the ceiling space easier, the blanket and barrier do not need to rest on the ceiling tiles, but may be suspended above it.

Windows

Avoid including windows in conference rooms unless required to comply with another provision of these Design and Construction Specifications. If a window is required provide a window treatment that matches the interior look and feel of the space, while providing a high level of sound and light block. Typically, a heavyweight drape (>24 ounces) of heavy fullness (>6" fullness on >8" centers per fold) or blackout blinds will be required for these windows to make it possible to display video or use a video camera in this location. In all cases, the use of sheer draperies or standard vertical or horizontal blinds will be avoided, due to their inherent inefficiency in blocking sound and light, and the fine lines they create within the camera field of view.

Air Conditioning

All air-handling equipment (blowers, heat exchangers, solenoid valves, etc.) will be located outside the physical meeting room space. This will prevent the noise burden associated with such equipment from affecting the participants of any meetings held in the room. Location of air-handling equipment within the ceiling space of a conference room often renders that room unusable for video or audio-only conferencing. Air vents will be of open construction to eliminate "wind noise" while the system is running. These vents normally are specified as "low-velocity" diffusers. The number of air vents within the room will be sufficient to maintain a consistent temperature throughout the space. All HVAC ducts and diffusers will be oversized for the general application in the space, with minimum 2' diameter insulated flexible ducts and matching 2' noise dampening diffusers generally best. All ducts will be installed with gradual bends and curves rather than rigid 90-degree corners. This will minimize "thunder" sounds as the initial air pushes through the ductwork and into the room. Provide a thermostat to control this specific room system independently of the rest of the building, and that control will be located within the room. Important: Allow

an additional 5,000 BTU of cooling capacity for a standard “roll-about” single monitor VC system with extended in-room peripherals (PC, document camera, scan converter, etc.) and a minimum of 10,000 BTU for a dual display multimedia presentation system with large screen displays. For the comfort of the participants, the room must accommodate these heat loads, plus the heat load of a room full of people, with minimal temperature rise.

Interior Design and Finishes

Wall colors within the field of view of the camera have a significant impact on the far-end perception of the room video quality. Certain colors are better suited to video rooms than others. The electronics and software of the videoconferencing room “builds” the images at the far-end from a gray/blue reference image. When there is a minimal difference between the room background and the reference image color, the codec has an easier time turning the image into numbers, with the result that the far-end will see a much higher quality video presentation. In general, light gray with just a touch of blue seems to work best. For rooms that have marginal lighting, slightly darker colors are quite useful.

Furniture

VC rooms should be slightly on the large side for the typical number of attendees. The placement of furniture should present a natural rapport with the videoconference system, but shouldn't preclude the local interaction of conference participants. Doorways used for access to the space usually should be within the view of one of the camera presets to prevent the perception from the far-end that people could come into their meeting unseen. Doorways should not, however, be in constant, direct view of the camera system, as this may cause unwanted distractions and movement of people in the picture field.

Any tables within the conference environment should have a light top surface. Glossy tops should be avoided, as should strong colors or any bold wood grain. If glossy or saturated color surfaces are unavoidable, then proper lighting can help reduce (but not necessarily eliminate) their ill effects. The best table surface color is a flat satin finish, in neutral gray. In cases where the worst possible surfaces are present, the proper surface color effect can be achieved by using a table covering, put in place only when the room is being used for videoconferencing. This will, create problems related to the use of access ports in the tables or movement of end-user items across the surface.

Room Lighting

The brightness of the lighting in a videoconference room plays an important role in determining the far-end view of the meeting. When there are low to moderate amounts of light, the distance of “in focus” objects (depth-of-field) usually is only 2' or 3' from nearest in-focus to furthest in-focus. With bright light the range of in-focus objects can more than double. Participants at the far-end will see more people in sharp focus, and the codec will have an easier time encoding the image. Bright standard direct fluorescent lighting has the undesirable side effect of being harsh for the local participants. In addition, the direct down lighting casts significant “drop shadows”. The result is undue stress among participants. The best plan for videoconferencing is to use indirect lighting for 80 to 85 percent of the light, and evenly distributed direct lighting for the remaining 15 to 20 percent. The indirect light will help minimize shadows on the faces of the participants, and make the room more comfortable for viewing the far-end on the TV monitor. The direct light can be used to create backlight separation between foreground and background objects or surfaces. There will be not less than 55fc (foot-candles) and ideally as much as 75fc of light (770lux) on the faces of the participants in the facial field as viewed by the camera in the conference space. The light must be completely even across the field of measure or view, and of one consistent color temperature. To best meet these requirements, indirect fluorescent lighting most often is recommended. This type of lighting works by using the upper walls and ceiling as diffuse reflectors for the light. The usual recommended color temperature for these is 3,000 to 3,800 degrees Kelvin. The regular lighting system will be zoned on separate circuits and controls, from the video

lighting. Dimming is also required. If there is a significant quantity of outdoor light entering the room, the lamps will be more than 5,5000 degrees Kelvin.

Hardware

The A/V equipment rack requires a suitable lockable storage room or lockable millwork within the room. The cameras require wall/ceiling positioning for appropriate image angles and complete visual coverage for all different educational usage scenarios. Specifically designated positions in the walls & ceilings are required to accommodate the cameras. The room front wall width will be adequate to accommodate two displays or projection screens in a side by side layout. For a typical seminar room, each screen of the two side-byside screens will require the width being equal to one fifth of the room depth (to the most distant viewer, typically the back row) in order to provide adequate legibility for all viewers. The nominal optimum horizontal viewing angle is +/-45 degrees from the centre-line to provide good legibility for the audience, including the most distant viewer & the front row. The vertical viewing angle will not exceed 30 degrees from any of the audience seating positions. This will require the front row to be located at least 1.5 times the display width from the front wall. The vertical viewing angle will not exceed 30 degrees from any of the audience seating positions. This will require the front row to be located at least 1.5 times the display width from the front wall. All component connections and power outlets will be easily accessible for participants while trying to eliminate cables being draped across walking pathways to prevent tripping hazards.

**APPENDIX 3D(ix)
DATA NETWORK ELECTRONICS**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the LAN/WAN Data Network. It includes requirements for Network Equipment, Network Systems, and auxiliary equipment to support VoIP Communication Systems, Video distribution systems, Wireless Network Systems, Security Systems, Clinical systems and systems as designated by the Authority.
- B. Network Switching Equipment:
 - 1. Edge Switches for each Telecommunications Room and Data Rack, with all related components and associated equipment;
 - 2. Core Switching Equipment: Provide Redundant Core Switch in Main Telecommunications Room to provide connectivity to the edge switches.
- C. Provide components and physical installation of network electronics.
- D. The Authority will program, configure and implement protocols, VLANs, subnets, etc....

1.2 PRODUCTS FURNISHED

- A. Local Area Network (LAN): Provide labor, materials, network equipment, services, and operations required for the installation of the Data Network.
- B. The network equipment package shall include:
 - 1. Redundant Core Switches in the main telecom room to provide redundant 10GB connectivity to the edge switches. Provide redundant 10GB connection to PNRHA Battleford Data Center for connection to router and firewalls via Sasktel LANSPAN connection. Coordinate service with the Authority and Sasktel.
 - 2. Stackable edge switches in the Telecommunications rooms with redundant 10GB uplinks to the building core switches and 10/100/1000 Base-TX PoE plus ports for work area outlets.
 - 3. Network shall support, video, VoIP and QoS.
- C. Provide labor, materials, equipment and services for Data Network to accommodate new users/equipment and new VoIP phone system. Furnish, Install, Configure, Test and Commission all network equipment, software, accessories, and materials in accordance with these specifications. Provide a complete and operating network system.

1.3 SUBMITTALS

- A. Product Data: Submit for each type of product specified to the Authority for review.

1. Provide manufacturer's literature to include all information necessary to confirm that the proposed system is in complete compliance with the Specifications.
2. Table of Contents identifying equipment lists with numbered pages corresponding to equipment/device locations within submittal for quick reference.
3. System Scope of Work narrative including intent of system operation, Authority meetings, Authority reviews, programming approval, milestones, and testing.
4. Equipment Information:
 - a. All equipment shall be specific to this section only unless required for integration.
 - 1) Manufacturer's specifications and descriptive literature.
 - 2) Manufacturer's recommended installation procedures, grounding requirements and loading specifications.
 - 3) Equipment/device quantities.
 - 4) Equipment/device product information sheets with submission designated, installation information, color/finish options, etc.
 - 5) Program information sheets.
 - 6) Coordination requirements with all trades.
 - 7) Program layout diagrams, riser diagrams, wiring diagrams, rack elevations, seismic requirements, etc.
 - 8) Manufacturer required information for base and extended warranties including submission requirements and timeframes.
 - 9) Submit qualifications based on quality assurance requirements for manufacturer, supplier, installer, trainer, etc.
 - 10) Provide secondary submittal for systems requiring programming and Authority input, review, and approval after Programming meeting, sequence of operations review, etc. Provide all information in spreadsheet format in electronic and hardcopy.

B. Submittals: Submit for each:

1. Layout Drawings:
 - a. Submit scaled diagrams indicating head end equipment layout and dimensions. Include layout of equipment in relation to room size and other existing and new system equipment in that room. Include equipment layout and rack elevations.
 - 1) Indicate connections to equipment supplied by others.
2. Wiring Diagrams:
 - a. Detailed wiring for connectivity of other interfaces. Differentiate clearly inter-system connections.
 - b. Wiring Diagrams detailing wiring for power, signal, and control differentiating clearly between manufacturer-installed wiring and field-installed wiring. Identify terminal numbers and wiring color codes to facilitate installation, operation, and maintenance.
3. Integration: Detail interconnections to other systems.
4. Installer Qualifications:

- a. Provide documentation of certification of manufacturer, supplier, installers, project managers, and instructors to be utilized on this project. Documentation to include the following:
 - 1) Manufacturer training and certifications.
 - 2) Industry training and certifications.
 - 3) Similar projects identifying three (3) years of relevant experience with installation duties.
 - 4) Project Manager Resume'.
- b. Submit contractual relationship or technical certification by the respective equipment manufacturers that installer is authorized by that equipment manufacturer to pass through the manufacturer's certification and equipment warranty to the Authority. Additionally, the equipment manufacturer and Project Co shall accept complete responsibility for the design, installation, certification, operation, and physical support for the system.

1.4 QUALITY ASSURANCE

- A. The products provided by this Specification shall be the products of one manufacturer. All items of equipment including wire and cable shall be designed by the manufacturer to function as a complete system and shall be accompanied by the manufacturers complete service notes and drawings detailing all interconnections.
- B. Qualifications:
 1. Suppliers:
 - a. Engage an experienced product supplier who is a factory-authorized sales and service representative regularly engaged in the design and installation of such systems to oversee the installation, trouble-shoot and make final connections at headend equipment.
 - b. Supplier shall have represented the product and components being installed for a minimum of two (2) years.
 2. Installers:
 - a. Shall be fully capable and experienced in the installation of the systems specified, and have a minimum of five (5) years experience on similar systems.
 - b. Qualified and certified installers and technicians on staff and assign them to this project. The project shall be staffed at all times by Installers and Technicians who, in the role of lead crafts persons, will be able to provide leadership and technical resources for the remaining crafts persons on the project.
 - c. Shall be certified by the manufacturing company(-ies) in all aspects of installation and testing of the products described within the systems specifications.
 - 1) Wireless Certification.
 - 2) Network Certification for LAN/WAN.
 - 3) Security Certification for Router/Firewall.
 - 4) VoIP Certification.

- d. Firms with at least five (5) years of successful installation experience with projects installing such systems equipment similar to that required for this project.
- C. The Installer shall agree to work on behalf of the Authority in all dealings with the operating Network Service Provider, Telco and 3rd party groups where regards service problems. Authority will report the problem to the agency. It is up to the agency to make a determination if the problem exists outside of the Network and report the trouble to the operating Company, and work with them to resolve issues.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. It is the intent of this specification to establish a standard of quality, features and functionality. In addition, it is intended to standardize on one manufacture for the system. Acceptance of manufacture does not exempt them from meeting the specification in its entirety. Acceptable manufacturers are:
 1. Hewlett Packard ProCurve.

2.2 LAN EQUIPMENT

- A. This Project is the LAN/WAN Network to support the Video Distribution System, Clinical Operations System, Data Center, Wireless System, VoIP System and other systems as indicated by the Authority.
- B. All equipment provided must support QoS for Voice and Video Traffic on the Data Network. Provide all necessary equipment, software and labor in conjunction with Video and VoIP Telephone System to have a complete, seamless functioning system.
- C. Project Co shall include the following equipment in the package:
 1. Coordinate configuration and installation with the Authority, Authority's representative and IT staff.
 2. Installation shall include rack mounting all equipment, installation of all modules and connection of equipment cords.
 3. Provide data cable run schedule to the Authority and provide patch cables from the patch panel to the network electronics.
- D. Local Area Network (LAN): Provide labor, materials, network equipment, services and operations required for the expansion of the existing Nortel network.
- E. The Authority will be responsible for implementation of the Authority's IP mapping of the new network equipment. Authority will implement IP subnets, subnet masks, gateway settings, and IP addresses. Project Co shall meet with Authority to coordinate physical installation of equipment.
- F. Performance Requirements:

1. Comply with applicable Authority requirements and both TIA/EIA Standards and BICSI standards.
2. The system must provide for pluggable and fixed transponders depending on the overall requirements of the functions, features and networking quantities.
3. GBIC (Gigabit Interface Converter) and SFP (Small Form Pluggable) pluggable modules must be "hot swappable".
4. Modules must be able to be used and be able to be plugged into other networking equipment in the manufacturer's family of equipment used.
5. Optical SFPs must include a digital diagnostic function, according to SFF-8472, including but not limited to:
 - a. Alarm/Warning thresholds which allow preemptive actions.
 - b. Transmit/Receive power monitoring in real-time.
 - c. Temperature/Voltage monitoring in real-time.
 - d. Database of configuration parameters and inventory.
6. Modules must be available for both fiber optic and copper connection for a variety of protocols, including but not limited to:
 - a. Ethernet:
 - 1) Fast Ethernet (100Base-FX).
 - 2) Gigabit Ethernet (1000Base-SX, -LX).
 - 3) 10GE WAN PHY.
 - 4) 10GE LAN PHY.
 - b. Private / Leased Line Services:
 - 1) ATM, SONET (OC-1 TO OC-48).
 - 2) ATM, SDH (STM-1 TO STM-16).
 - 3) T1.
 - 4) POS (Packet over SONET).
 - 5) Digital Video (SDI SMPTE 270Mbps, HDTV).
 - c. Storage Connectivity Protocol Support:
 - 1) ESCON.
 - 2) SBCON.
 - 3) FICON / FICON Express / FC-SB-2.
 - 4) Sysplex Timer: ETR (External Throughput Rate), and CLO (Control Link Oscillator).
 - 5) Coupling Link - ISC, ISC-2, ISC-3.
 - 6) Fiber Channel - FC-12, -25, -50, -100, -200.
7. Transponders must provide for the following physical interfaces:
 - a. Copper (RJ-45 or Fiber-Optic (FC/SC/LC/MT-RJ).
 - b. Multi-mode or Single-mode.
 - c. Single Fiber.
 - d. Colored optics for CWDM and DWDM applications.
8. The system must provide for Sub-rate Multiplexing allowing several data streams onto a single wavelength, with methods including TDM, FDM and Statistical Multiplexing.

9. Specify network equipment system derived from recommendations in recognized telecommunications industry standards, including following documents in their most current revision and version incorporated by reference:
 - a. ANSI/TIA/EIA – 606, Administration Standard for Telecommunications Infrastructure of Commercial Buildings.
 - b. ANSI/TIA/EIA – 607, Commercial Building Grounding and Bonding Requirements for Telecommunications.
 - c. BICSI – TDMM, Building Industries Consulting Services International, Telecommunications Distribution Methods Manual (TDMM).
 - d. National Fire Protection Agency (NFPA – 70), National Electrical Code (NEC).

10. Network Switching Equipment shall support the following Ethernet standards:
 - a. IEEE 802.3, 10BaseT, and 10Base F.
 - b. IEEE 8023u, 100BaseTX, 100BaseFX.
 - c. IEEE 802.3z, 802.3x, & 802.3ab Gigabit Ethernet.
 - d. IEEE 802.3af Power over Ethernet.
 - e. IEEE 802.3at Power over Ethernet
 - f. VLAN Trunking/Tagging: IEEE 802.1q.
 - g. Spanning-Tree Protocol: IEEE 802.1d.
 - h. 802.1p Priority Queuing.
 - i. Gigabit Ethernet Channel.

11. Networking Switching Equipment shall support the following management standards:
 - a. SNMP agent V.1 (RFCs 1155-1157).
 - b. SNMP v2c.
 - c. Ethernet MIB (RFC 1643).
 - d. Ethernet repeater MIB (RFC 1516).
 - e. SNMP MIB II (RFC 1213) RMON (RFC 1757).
 - f. Interface table (RFC 1573).
 - g. Bridge MIB (RFC 1493).
 - h. SMT 7.3 (RFC 1285).
 - i. RADIUS.
 - j. Resource Reservation Protocol (RSVP and RSVP+.
 - k. Dynamic Host Configuration Protocol (DHCP), and Domain Name System (DNS).
 - l. Telnet, TFTP, and BOOT P for management access.

G. Switch Configurations:

1. Redundant Core Switches – Fixed port routing switch with wire speed routing and non-blocking switch fabric. The layer 3 switch shall support the following features:
 - a. (12) SFP cables.
 - b. (2) 10 gigabit Ethernet XFP's.
 - c. (24) 10/100/1000 Base T Port.
 - d. Switch fabric bandwidth 192 Gbps.
 - e. Frame forwarding rate 65.5 Mbps.
 - f. Redundant power supplies.
 - g. Split multi-link trunking.
 - h. 802.3ad link aggregation.
 - i. 4 priority QoS queues.

- j. Protocols Supported: 802.1d, 802.1p, 802.1Q, 802.1s, 802.w, 802.1x, 802.3 CSMA/CD.
- k. IPv4 layer 3/4 intelligence.
- l. IPv4 multicast.
- m. Manufacturer: HP Procurve.

2. Powered Ethernet Switch 10/100/ 1000 PoE plus:

- a. To provide high-quality switch for the deployments of converged applications. The switch will take advantage of the full voice feature set and high density Gigabit Ethernet deployments. The access layer switches should provide support for:
 - 1) 10 / 100 / 1000 auto sensing stackable Ethernet switch with 48 powered ports.
 - 2) 802.1Q trunking and 802.1p for proper treatment of Layer 2 QoS packet marking on ports with phones connected.
 - 3) Multiple egress queues to provide priority queuing of RTP voice packet streams.
 - 4) Automated QoS configuration in VoIP networks that detects IP phone devices, classifies traffic, and helps enable egress queue configuration.
 - 5) Must comply with the 802.3at Power over Ethernet plus standard.
 - 6) Provide adjustable power management on a per port basis.
 - 7) Provide two 10 Gigabit uplink GBIC's / SFP's for connection to Core switch.
 - 8) Support the following standards: 802.1s, 802.1w, 802.1x, 802.3ad, and 802.1D spanning tree protocol.
 - 9) Auto configuration of new stack units. DHCP auto configuration of multiple switches.
 - 10) Switches will be managed from a single platform that will also manage the Core Switch and the Router.
 - 11) 72 Mbps forwarding rate.
 - 12) 160 Gbps Switch Architecture.
- b. Manufacturer: HP Procurve.
- c. Provide type and quantity of SFP's as required to network edge switches to the core.

2.3 SYSTEM MANAGEMENT

- A. The system proposed must have a single management platform. All equipment must be manageable from one source, including the core switch, edge switches, routers, VPN and firewalls. Provide server and associated licensing as recommended by the manufacturer.

2.4 PROTOCOLS

- A. The following protocols are in addition to any others previously listed.

- 1. Each of the network switches provided must:
 - a. Support IEEE 802.1d Spanning Tree Protocol.
 - b. Support a "fast port startup" option to Spanning Tree for user ports.
 - c. Support IEEE 802.1Q Virtual LANS (VLANS) with the ability to tag multiple VLANS across a single physical link and must support at least 1024 VLANS.

- d. Support Quality of Service, based on IEEE standards, and/or DiffServ, based on Internet Requests for Comments (RFCs).
- e. Support MAC addresses based access control lists (ACLs).
- f. Be capable to support IP based ACLs when other Layer 3 functionality is disabled.
- g. Provide IEEE Spanning Tree protocol optimizations including Rapid Spanning Tree Protocol (802.1w) Multiple Spanning Tree Protocol (802.1s), and Per VLAN Spanning Tree feature-sets.
- h. Provide 802.1X port-level authentication including required support for "Guest Mode" feature-sets.
- i. Be capable to provide support for clientless (web browser-based) authentication for non-802.1X-based network access control for clients without X-Supplicant capabilities.
- j. Support multicast traffic reduction using IGMP snooping.
- k. Be capable to provide DHCP Snooping feature-sets up to and including DHCP spoofing prevention, ARP inspection to prevent gratuitous ARP exploits and other related local subnet attacks.
- l. Support a native IPv7 environment including:
 - 1) IPv7 addressing for the management interface. This would include neighbor- and router-discovery so that the management interface can be accessed from other subnets.
 - 2) IPv7-based ACLs.
 - 3) MLDv2 multicast traffic reduction.
 - 4) DHCP snooping or other DHCP features for IPv6 clients.
 - 5) 802.1X features specified in 10.2.2.9 for IPv6 clients.

2.5 FIBER TO COPPER MEDIA CONVERTERS

A. Rack Chassis Based:

- 1. Chassis supports 1.2 or 17 slots/line cards.
- 2. Dual power supplies.
- 3. 19" rack mount kit.
- 4. Line cards supported.
 - a. 1000 base - TRJ-45.
 - b. Multimode fiber.
 - c. Single mode fiber.
 - d. SFP modules.
 - e. Distance as required.
- 5. SNMP management.

B. Standalone End Point:

- 1. Support 1 fiber SFP input.
- 2. 1000 base-T RJ-45 jack.
- 3. Distance as required.
- 4. Power supply.

PART 3 - EXECUTION

3.1 INSTALLERS

- A. Provide experienced and qualified technicians to carry out installation of system equipment and programming
- B. Provide cutting and patching necessary to perform work per appropriate Sections.

3.2 EXAMINATION

- A. Verification of Conditions:
 - 1. Examine areas and conditions under which work is to be performed. Confirm suitability of conditions for installation of products to avoid latent defects in quality of work and function
 - 2. Verify that conditions are satisfactory for installation of system, cable and components.
 - 3. Ensure components and conditions are in compliance with manufacturer's requirements, installation tolerances and other conditions affecting performance.
- B. Pre-Installation Testing:
 - 1. Identify and document conditions detrimental to proper or timely completion.
- C. Evaluation and Assessment:
 - 1. Correct unsatisfactory conditions.
 - 2. Do not proceed until unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Meeting with Authority:
 - 1. Prior to beginning the installation Project Co will coordinate with the Authority to review installation.

3.4 INSTALLATION

- A. General:
 - 1. Install equipment in accordance with manufacturer's written instructions.
 - 2. Install system per all applicable BICSI and ANSI/EIA/TIA standards.
 - 3. Install equipment per Authority's direction.
- B. Installation shall conform to all applicable codes.
- C. Install the systems to the satisfaction of the Authority.
- D. The equipment supplier shall be trained and authorized by the manufacturer of the equipment he supplies, and shall furnish proof of his qualifications in the form of franchise agreements signed by the manufacturer.

- E. Install equipment properly to avoid causing mechanical stresses, twisting or misalignment of equipment being exerted by clamps, supports, and cabling.
- F. Tighten connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torque requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL Standards 486A and B, and the National Electrical Code.
- G. Provide front and rear rack mount kits to support network electronics from a 19" rack.

Appendix 3D (v) Door Operations Matrix		Emergency Power		Door Operator	Card Reader	Latch			Closer	Door	Hold Open		Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.
		Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress			Lever Set	Privacy Set							
Corridors & Departments (Non-Secure)	Exterior Perimeter - Main Entry Points				A										X				Main Entry will have remote release from the OSC and the Reception Desk
	Exterior Perimeter - Non-secure Client Admissions Entry Point														X				Non-secure Admissions entry will have remote release from the OSC and the non-secure admissions desk
	Exterior Perimeter - Non Entry				A														
	Interior Department Perimeter				C														
	Double Egress - Public Zone - Corridors																		Provide door operator with motion sensor if doors need to remain in closed position.
	Double Egress - Staff/Client Zone - Corridors				C														Provide door operator with motion sensor if doors need to remain in closed position.
	Interior Exit Stair Doors - Public Zone				B														
	Interior Exit Stair Doors - Staff/Client Zone (Departments) - Corridors				C														override/reset
	Exterior Exit Stair Doors				A														override/reset
	Client Care Unit Secure Vestibule				C										X				Secure Vestibule will have Remote Release control by the OSC and the Client Care Unit Nurse Station
Sallyport to Exterior				C														Overhead rolling door & man-door	

Appendix 3D (v) Door Operations Matrix

Room or Zone Type	Emergency Power		Door Operator	Card Reader	Latch			Closer	Door		Hold Open	Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	<p>For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.</p>
	Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress		Lever Set	Privacy Set								
Private Client Room				A														Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side.
Client Washroom - Barrier Free				A														
Private Client Room - Bariatric				A														Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side.
Client Washroom - Bariatric - Barrier Free				A														
Private Client Room - Medical				A														Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side.
Nurse Stations				C														
Client Washroom - Medical - Barrier Free				A														
Intensive Psych. Care Room				C														Recessed handles
Intensive Psych. Care - Washroom - Barrier Free				C														Recessed handles
Intensive Psych. Care - Vestibule				C														Recessed handles, man trap function
Therapy Room				A														Two entries to room, capable of remaining in locked/unlocked position
Interview Room				A														Two entries to room, capable of remaining in locked/unlocked position
Tub Room				A														Capable of remaining in locked/unlocked position
Treatment Room				A														Capable of remaining in locked/unlocked position
Activity Room (if doors required)				A														Capable of remaining in locked/unlocked position
Dining Room (if doors required)				A														Capable of remaining in locked/unlocked position
Nutrition Centre				A														Capable of remaining in locked/unlocked position
Washroom, Barrier Free				A														
Client Laundry				A														Capable of remaining in locked/unlocked position

Appendix 3D (v) Door Operations Matrix

Room or Zone Type	Emergency Power		Door Operator	Card Reader	Card Reader Placement	Latch			Closer	Door		Hold Open	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	
	Secure	Fail Safe				Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress		Lever Set	Privacy Set							Closer
Dispensary/Medication					A													For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.
Charting/Conference Room / Meeting Room					A													
Staff Break/Locker					A													
Staff Washroom					A													
Staff Washroom - Barrier Free					A													
Office					A													
Copy/File Storage					A													
Storage					A													
Clean Storage					A													
Soiled Linen					A													
Housekeeping Closet					A													

Appendix 3D (v) Door Operations Matrix		Emergency Power		Door Operator	Card Reader	Latch			Closer	Door	Hold Open	Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.
		Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress										
Corridors & Departments (Secure)	Exterior Perimeter - Main Entry Point -Admissions & Discharge				C									X				Remote Release from OSC and A&D Reception Desk
	Exterior Perimeter - Main Visitor Centre Entry Point													X				Remote Release from OSC and Visitor Centre Reception Desk
	Exterior Perimeter - Non Entry				C													
	Interior Department Perimeter				C													
	Double Egress - Public Zone - Corridors				C													
	Double Egress - Staff/Client Zone - Corridors				C													
	Interior Exit Stair Doors - Public Zone				C													
	Interior Exit Stair Doors - Staff/Client Zone (Departments) - Corridors				C													
	Client Care Unit Secure Vestibule				C										X			
Sallyport to Exterior				C														Overhead rolling door and man-door

Appendix 3D (v) Door Operations Matrix

Room or Zone Type	Emergency Power		Door Operator	Card Reader	Latch			Closer	Door	Hold Open	Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	<p>For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.</p>		
	Secure	Fail Safe			Card Reader Placement	Panic Hardware	Panic Hardware - Delayed Egress											Lever Set	Privacy Set
Private Client Room				A													Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Client Washroom - Barrier Free				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Private Client Room - Bariatric				A													Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Client Washroom - Bariatric - Barrier Free				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Private Client Room - Medical				A													Locking capability from hallway, patient lock release from inside room, door override function to allow access should door be blocked on inswing side.		
Client Washroom - Medical - Barrier Free				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Intensive Psych. Care Room				C													Recessed handles		
Intensive Psych. Care - Washroom - Barrier Free				C													Recessed handles		
Intensive Psych. Care - Vestibule				C													Recessed handles, man trap function		
Therapy Room				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Interview Room				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Tub Room				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Treatment Room				A													All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Exercise Room				A													Capable of remaining in locked/unlocked position. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Activity Room (if doors required)				A													Capable of remaining in locked/unlocked position. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Dining Room (if doors required)				A													Capable of remaining in locked/unlocked position. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Nutrition Centre				A													Capable of remaining in locked/unlocked position. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		
Washroom, Barrier Free				A															
Client Laundry				A													Capable of remaining in locked/unlocked position. All doors can be centrally locked from Monitoring Station simultaneously with single switch.		

Appendix 3D (v) Door Operations Matrix

Room or Zone Type	Emergency Power		Door Operator	Card Reader	Latch			Closer	Door		Hold Open	Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	
	Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress		Lever Set	Privacy Set								
Operations Security Centre				C														
Nurse Stations				C														
Emergency Operations Centre				C														
Backup Operations Security Centre				C														
Dispensary/Medication				C														
Charting/Conference Room / Meeting Room				A														
Staff Break/Locker Rooms				A														
Staff Washroom				A														
Staff Washroom - Barrier Free				A														
Office				A														
Copy/File Storage				A														
Storage				A														
Clean Storage				A														
Soiled Linen				A														
Housekeeping Closet				A														
Mechanical/Service Rooms				A														

For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.

Appendix 3D (v) Door Operations Matrix

Room or Zone Type		Emergency Power		Door Operator	Card Reader	Latch			Closer	Door	Hold Open		Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm		
		Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress			Lever Set	Privacy Set							Electric Hold Open
Central Programs (Secure)	Multipurpose Room/Classroom				A														For ESS functionality refer to 7.9.3. For Facility access Control, refer to 5.14. For Movement Control, refer to 5.15. Since this is an integrated care facility, clients have different levels of security; therefore movement controls will vary.
	Interview Room / Observation Room				C														
	Client Washroom - Barrier Free				A														
	Client Holding Room				C														
	Video Court Room				C														
	Visiting Station				A														
	Family Visiting Unit				A														

Appendix 3D (v) Door Operations Matrix

Room or Zone Type	Emergency Power		Door Operator	Card Reader Placement	Latch			Closer	Door		Hold Open	Door Positioning Switch	Video Intercom	Remote Lock & Release	CCTV	Request to Exit (Pushbutton)	Audible Alarm	
	Secure	Fail Safe			Fail Secure	Panic Hardware	Panic Hardware - Delayed Egress		Lever Set	Privacy Set								
Therapy Spaces (e.g. Quality of Life, Music/Art, Library/Resource, Vocational Therapy, Cardio/Weight Room / Games Room / Chapel, Multi-purpose)				A														
Washroom, Barrier Free				A														
Storage / Therapy Support (e.g. Shredding Room)				A														
Office				A														
Soiled Holding				A														
Pharmacy/Med Room				C														
Pharmacy/Narcotics Vault				C														
X-Ray Room				A														
Housekeeping Closet				A														
Outdoor Storage				A														
Public Washrooms				A														Capable of remaining in locked/unlocked position
Meeting Room				A														
Gymnasium				C														Capable of being Fail Safe/Fail Secure depending on Non-Secure or Secure Occupancy
Sweat Lodge				A														

Notes

- Matrix identifies representative door operations.
- All door hardware to be ligature resistant typical.
- Secure = Door is capable of being locked with an electronic door lock
- Emergency Power - Fail Safe = Door moves to unlocked position in event of power failure
Emergency Power - Fail Secure = Door moves to locked position in event of power failure
If Emergency power requirements are in conflict with any regulatory requirements, the regulatory requirements will govern.
- Door Operator = Powered automatic door operator
- Card Reader Placement
A = Single Card Reader on the outside of room/space side of door
B = Single Card Reader on the inside of room/space side of door
C = Dual Card Readers on both sides of door
- Electric Hold Open = Hold open tied to Fire Alarm and releases door on Fire Alarm.
- Remote Release = Door can be unlocked from the **Operations Security Centre**.
- Cells shaded in grey indicate that the applicable item is required for that room or zone type
- Some specific doors can be unlocked remotely by both the OSC and another post (see rooms marked with "X" and green shaded in "Remote Lock & Release" column above)

APPENDIX 3D(vi)
VoIP COMMUNICATION SYSTEM

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and services to perform operations required for the complete installation of a new VoIP communication network, with centralized voice mail, unified messaging and related work as required to provide VoIP Communication services to the Authority. Project Co telephone system services will be separate from the Authority and have its own infrastructure, servers, devices, etc. but have the ability to integrate with the Authority system.

1.2 QUALITY ASSURANCE

- A. All methods of construction, details of workmanship that are not specifically described or indicated in the contract documents, will be subject to the control and acceptance of the Authority. Equipment and materials will be of the quality and manufacturer indicated in their respective sections of the specifications. All equipment will be tested at the factory.
- B. Unless specified elsewhere, standard factory inspection and operational tests will be acceptable.
- C. Equipment will be designed, manufactured, assembled, and tested in accordance with the latest revisions of applicable published ANSI, NEMA and IEEE Standards.
- D. Each item will bear the UL Label.
- E. Project Co must:
 - 1. Provide equipment from manufacturers for which they maintain a contract, distributorship, are an agent, or other formal arrangement for which documentation can be produced showing authorization to sell and service the equipment in this territory.

2. Demonstrate that they have successfully installed these systems, utilizing their standard products, for a period of five (5) years.
3. Own and demonstrate proficiency in the use of the required test equipment, tools, etc. for the proper installation, set-up, and testing of the system. If requested, must provide a listing of tools and/or equipment and where appropriate, certifications in the proper training and use of the tools and/or equipment.

1.3 PROJECT DESCRIPTION

A. General Scope of Work:

1. The VoIP Communication system will provide telephone service to the entire Facility including remote buildings. Provide new IP telephone devices connected to the data network. Provide analog telephones connected to the VoIP system with associated analog voice gateways. The VoIP Communication system will serve as the hub and will receive and route all communications between buildings and secure / non-secure areas.
 - a. Provide new VoIP telephone system that is networked to the remote buildings with 4 digit dialing, voicemail, unified messaging, incoming telephone company service, caller ID and (DID).
2. All equipment must be:
 - a. New and unused.
 - b. Of the latest design offered by the manufacturer.
 - c. Field-proven (not in the alpha or beta testing phases).
3. Provide interface to the Public Address / Fire Alarm systems for all call paging including all wiring between PA / Fire Alarm system and VoIP system.
4. Provide redundant Mitel VoIP Controller's with redundant power supplies and RAID hard drives.
5. Provide IP and Analog Telephones
6. Provide user licensing for telephones, software, voicemail, unified messaging and management.

- B. Installation of the VoIP Communication system and telephone instruments with the features, options, performance levels and capacities as noted herein. Systems with a TDM backplane are not acceptable. TDM is acceptable for connection of analog devices and Telco services only
- C. The VoIP Communication system provided will be installed with the latest software release or version at the time system is installed.
- D. All equipment, material and personnel necessary for the installation and operation of the system will be deemed to be a part of this specification.
- E. Project Co will install all devices and headend equipment. Project Co will transfer warranties to the Authority for ongoing maintenance.
- F. The Authority will program, configure, and train on the VoIP system.

1.4 GENERAL REQUIREMENTS

- A. Provide a pure VoIP communication system solution that provides enterprise TDM telephony features and capabilities to packet telephony network devices such as IP phones, media processing devices, voice over internet protocol (VoIP) gateways and multimedia applications.
- B. The system must include all call processing software and hardware, power supplies, inter-wiring and all other equipment and software to provide performance as outlined in these specifications plus the capacity for 25% growth.
- C. The system must provide the ability to use IP telephones in addition to analog devices including faxes, modems, telephones, etc.
- D. Auxiliary systems will be fully integrated to VoIP communication system to allow the following:
 - 1. Links to the PA / Fire Alarm system for distribution of emergency announcements to all speakers from any authorized telephone (any phone will be authorized using a 3 digit access code).
 - 2. Wireless Telephone System

3. Wireless Network
 4. Additional systems as determined by the Authority
- E. Provide direct lines from the various locations within the Facility that provide service for emergency phones, fire dial to municipal fire department, security dial to remote central monitoring, pay phones, etc..
- F. Integrate to the Master Clock system. This integration will allow for a common time display across all system devices.
- G. Order Telco services to meet Authority and system requirements. Order installation and cutover of services to coincide with system installation schedule. Authority to provide configuration of required services.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The QoS components of the VoIP solution are provided through the IP traffic management, queuing, and shaping capabilities of the IP network infrastructure. Key elements of this infrastructure that enable QoS for IP Telephony include:
1. Traffic marking.
 2. Enhanced queuing services.
 3. Link fragmentation and interleaving (LFI).
 4. Compressed RTP (CRTP).
 5. Low-latency queuing (LLQ).
 6. Link efficiency.
 7. Traffic shaping.
 8. Call admission control.

- B. To provide high-quality voice and to take advantage of the full voice feature set, access layer switches should provide support for:
1. 802.1Q trunking and 802.1p for proper treatment of Layer 2 QoS packet marking on ports with phones connected.
 2. Multiple egress queues to provide priority queuing of RTP voice packet streams.
 3. The ability to classify or reclassify traffic and establish a network trust boundary.
 4. Switches must be powered in order to provide UPS failover in case of building power loss.
 5. Layer 3 awareness and the ability to implement QoS access control lists.
- C. The VoIP Communication System will contain the following capabilities / features:
1. All equipment provided must comply with the standard 802.3af and 802.3at Power over Ethernet standards. Any equipment that does not comply is unacceptable.
 2. The system will provide self-diagnostics including:
 - a. Listing of system activity.
 - b. I/O diagnostics of each line and device.
 3. The VoIP solution will provide for a distributed call processing architecture across the WAN. Each building in the Facility will have its own Call Processor. This includes all IP phones connected to the Call Processor that was lost.
 - a. Remote equipment within a location will be fully survivable and connected over the data network to the core processor. Survivability includes the ability to process calls internally to telephones connected to the remote cabinet in addition to having the ability to process calls externally over the PSTN for emergency.
 4. Call processor will use TCIP protocol for call signaling and media control with IP phones, H.323 gateways, and media devices. The voice processing software will support the following features:
 - a. JTAPI / TAPI call processing redundancy support.
 - b. Simple Network Management Protocol (SNMP) and serviceability.
 - c. Wideband audio coder / decoder (codec) support.

- d. Call Processor administration software.
 - e. Music on Hold service.
 - f. Survivable Remote Site Telephony support.
 - g. Call processor configuration database.
 - h. Call Processor call control applications and call processing.
 - i. Session Initiation Protocol (SIP).
5. The system will be installed with all system software and firmware provided. When features are added, it will only require enabling of the software with a soft key.

2.2 MANUFACTURERS

- A. The standard for the Authority is Mitel Unified Communications platform. Provide Mitel VoIP communication equipment program and configure. Review with the Authority for integration and implementation.
- B. System Architecture:
 - 1. Only new, unused equipment of the latest digital design, including the latest software version available and in current production by manufacturers
 - 2. The system must provide universal port architecture permitting the flexible configuration of station, trunk and/or peripheral card combinations.
- C. Provide the most comprehensive software package offered by the manufacturer. Include advanced business applications with networking.
- D. Provide the capability for offsite / remote diagnostics by manufacturer and the Authority for the purpose of software faults, software repairs, downloadable software patches or firmware upgrades.
- E. System will be able to dynamically converting incoming Telco ISDN PRI resources into BRI channels for video conferencing. Video conferencing units are not part of this specification.

- F. Provide connection to the Authority's Network for access to data storage for database back up. System will run automatic scheduled database backups as defined by the Authority.

2.3 SYSTEM CONFIGURATION

- A. Configuration Requirements are defined as follows:

1. Capacity – The minimum acceptable size that the VoIP system can expand to.
2. Wired – quantity of devices supported without the addition of software, licenses, hardware.
3. Equipped – Circuit cards, modules, licenses, etc. will be provided for the stated quantities.

<u>VOIP</u>	<u>COMMUNICATION</u>			<u>SYSTEM</u>
<u>ITEM</u>	<u>EQUIPPED</u>	<u>WIRED</u>		<u>CAPACITY</u>
Single Line Analog Ports	300	300		1000
IP Telephone Ports	700	800	1000	
Trunk Ports (Universal)	16	16	56	
PRI Trunk Interface (24 Ckts./T1)	6	6	8	
Auto Attendant/Voice Mail Ports	24	24	96	
Voice Mail Storage Hours	unlimited	Unlimited	Unlimited	
Mail Boxes	1000	1000	4,000	
Paging/ System Interface	4	4	4	
Central Answering Position (CAP)	18	18	36	

- C. IP Networking:
1. Networking between locations will utilize Succession Initiation Protocol (SIP) or H.323 protocol.
- D. The VoIP communication system will be capable of supporting all T-1's without blockage.
- E. A caller at one building must have the capability of calling another extension at another building over the VoIP network. If this call is from an IP phone to an IP phone it will not utilize any system resources. A call from an analog device will not require more than one (1) DSP resource / channel / trunk on the VoIP network per call.
- F. Once the auto attendant has answered a call, it will be able to transfer that call to an extension number located across the network. This call will not take more than a total of one (1) channel / trunk on the VoIP network. Should this call be redirected or transferred to an extension back across the network, again, it will not require an additional channel / trunk. The intent of this specification is that the proposed system will have the ability to transfer calls back and forth across the network, while only utilizing one (1) channel / trunk in the process.
- G. Call Accounting / Tracking information from all VoIP communication switches will be passed over the network to the hub VoIP Communication System where it will be collected and sorted by a separate software package.
- H. The network systems utilize SIP or will select a H.323/Virtual trunk as a first choice for call routing across the network. Should the call encounter technical difficulties such as a partial or complete outage; the system will be required to redirect calls over the PSTN. This change over must be done on an automatic basis; manual switches or Authority intervention will not be acceptable.
- I. The VoIP communication system will support various IP phone registration protocols depending on the Authority's data infrastructure. Coordinate with the Authority to determine what is the best method (Domain Name Service, Dynamic Host Protocol, Trivial File Transfer Protocol).

2.4 TELEPHONE EQUIPMENT

- A. IP telephone equipment will automatically register to alternate servers / call processors if connectivity to the main call processor is lost. When connectivity is lost, active calls will maintain their audio connection for the duration of the telephone call.

- B. Type Of Phones:
 - 1. Administration IP telephone
 - a. Multi line IP telephone with a minimum 24 programmable line and feature keys.
 - b. Desk or Wall mountable.
 - c. LED message waiting indicator.
 - d. Two-port GB Ethernet switch allows for a direct connection to a GB Ethernet network via an RJ-45 interface.
 - e. Powered over the Ethernet or locally.
 - f. Dedicated headset jack removing the need for an additional amplifier.
 - g. 120x324 dimmable LCD display screen for date, time, CPND, CID and XML applications from the internet.
 - h. Support H.323, SIP (Secession Initiation Protocol), Mitel IP (MiNet) Protocol
 - i. Corporate Directory that integrates Lightweight Directory Access Protocol (LDAP) standard Directory.
 - j. Full Duplex Speaker phone.
 - k. Automatic / manual configuration for Dynamic Host Control Protocol (DHCP), Trivial File Transfer protocol (TFTP), call processor and any backup call processors.
 - l. Support of separate VLANs segmenting the IP voice traffic from the COMPUTER data traffic utilizing 802.1Q.
 - m. Support DHCP client or statically configured IP addresses.
 - n. Downloadable firmware updates from Call processor.
 - o. Redial Directory listing the last 20 numbers dialed.

- p. Incoming call log of the last 20 calls received. A minimum of Caller ID and Calling Party name will be displayed in Call Log.
- q. Manufacturer: Mitel
- r. Quantity: 700. Provide additional as required to support the program. Include a spare stock of 5%

2. Central Answering Position:

- a. Provide integration with Mitel Unified Communicator to allow integration with PC.
- b. Multi line IP telephone with a minimum 48 programmable line and feature keys.
- c. Desk or Wall mountable.
- d. LED message waiting indicator.
- e. Two-port GB Ethernet switch allows for a direct connection to a GB Ethernet network via an RJ-45 interface.
- f. Powered over the Ethernet or locally.
- g. Dedicated headset jack removing the need for an additional amplifier.
- h. 120x324 dimmable LCD display screen for date, time, CPND, CID and XML applications from the internet.
- i. Support H.323, SIP (Session Initiation Protocol), Mitel IP (MiNet) Protocol
- j. Corporate Directory that integrates Lightweight Directory Access Protocol (LDAP) standard Directory.
- k. Full Duplex Speaker phone.
- l. Automatic / manual configuration for Dynamic Host Control Protocol (DHCP), Trivial File Transfer protocol (TFTP), call processor and any backup call processors.
- m. Support of separate VLANs segmenting the IP voice traffic from the COMPUTER data traffic utilizing 802.1Q.
- n. Support DHCP client or statically configured IP addresses.
- o. Downloadable firmware updates from Call processor.
- p. Redial Directory listing the last 20 numbers dialed.

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- q. Incoming call log of the last 20 calls received. A minimum of Caller ID and Calling Party name will be displayed in Call Log.
- r. Manufacturer: Mitel
- s. Quantity: 18. Provide additional as required to support the program. Include a spare stock of 5%.

3. Analog 2500 Telephone Sets:

- a. Analog sets will be capable of generating DTMF (Dual Tone Multi Frequency) signals for dialing and miscellaneous signaling. DTMF registers within the VoIP will support DTMF signaling for digital instruments, after call connection (end-to-end signaling).
- b. 2500/Telephone Sets:
 - 1) The system will utilize single-line 2500-type (push button dial telephones). These phones can access most of the systems calling features by dialing simple access codes of one or two digits. All sets will offer a message-waiting indicator light for voicemail messages.
 - 2) All of the terminals will be available in ash, gray or black; they will feature a parallel line jack for fax, modem or extensions, and are desk or wall-mountable.
 - 3) The standard analog single line set will have convenient features like Redial, Flash and Mute buttons that make it useful in any environment. This set will allow the user to access all of the features with the touch of a single button. The flash button allows the user to access Custom Calling Features without the risk of disconnecting the call. The redial button allows the user to call the last number dialed and the mute button will have the user privacy while on the phone.
 - 4) LED Message Waiting Indicator will operate on 96 volts.
- c. Quantity: 50. Provide additional as required to support the program. Include a spare stock of 5%.

C. Provide VoIP Telephones at all Administration / staff areas including but not limited to offices, workstations, conference rooms, reception areas and as directed by the Authority. Provide Analog telephones in support spaces including mechanical, electrical equipment rooms and as

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designated by the authority. Client room telephones will be connected to a separate telephone system.

2.5 APPLICATIONS

A. Provide licensing for expansion of the automated attendant / voicemail system at the Battleford Data Center. Provide Mitel MAS NuPoint Voicemail Box Licenses

B. System Administration Tools:

1. For the Authority VoIP Communication system, System Administration Tools will be centrally managed from the Battleford Data Center. Software will utilize a windows based operating system with an easy to use GUI interface that allows for station administration, system administration, routine maintenance, and traffic reports. Provide licensing to expand software at the Battleford Data Center to accommodate the system at this Facility.

2. System Administration will include the following:

- a. Telephone move, adds, changes.
- b. Call party name display configuration.
- c. Configuration of feature buttons.
- d. Telephone templates / wizards for easy addition of new devices.
- e. Trunk configurations.
- f. Route configurations.
- g. Class of service changes.
- h. System Alarm monitoring.
- i. Station selection and search.
- j. System Traffic Analysis.

3. System Administration will be Web based and accessible from any Computer on the Authority's Network. If dedicated Computer /Server is required by the Authority, provide a dedicated Computer located in the Main Telecom room. Provided all necessary hardware / software to connect Computer to the Authority's LAN / WAN. Any

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software provided must be compatible with the Authority's network, software and virus protection. Review with the Authority's technology staff prior to purchase of the Computer.

4. System administration accomplished via a web based browser, access will only be provided to authorized personnel as directed by the Authority.
- C. Call Detail Reporting is centralized at the Battleford Data Center. Computer based Call detail reporting system designed to interface to the VoIP system to track all incoming and outgoing calls. The system will interface to the VoIP system via an Ethernet connection. The CDR system will collect, store, analyze, and process SMDR information. Information will be converted into reports that will be customizable depending on the Authority's needs and requirements. Software will utilize a Windows based operating system with a GUI interface for easy Authority use. Provide all necessary licensing and hardware to expand existing Authority Call Detail Reporting System.
1. Call detail reporting will be web based and accessible from any Computer on the network if dedicated Computer is required by the Authority provide a dedicated Computer located in the main telecom room. Provide all necessary hardware/software to connect Computer to the Authority's LAN/WAN. Any software provided must be compatible with the Authority's network, software and virus protection. Coordinate with the Authority's technology staff prior to purchase of Computer.
- D. Internal 911 Notification:
1. The system will provide for in-building notification of any extension dialing 911 or 9-911.
 2. At the same time the VoIP Communication system processes the 911 call to the local PSAP through the dedicated local CO lines, the system will provide audible and visual notification to a designated location of an emergency 911 call having been placed. This will be annunciated and displayed via the display located on the designated telephones.
 3. The Internal 911 Notification will be displayed on minimum of (5) five telephones per system.
 4. The system will determine the exact station location that dialed 911 identified by extension number, user name, time of call and trunk line accessed to dial the call.
 5. Upon termination of the call, the system will mark and log the following information in a CDR packet with a stamp to include:
 - a. Day, Month, Year.

- b. Time of day.
 - c. Extension and party name initializing "9-1-1" feature.
 - d. Calling line identification, if provided by Telco.
 - e. Telco trunk line.
6. The tagged CDR packet information will be available through the system Call Accounting / Tracking software.
 7. The system will transport above information to the operating telephone company for identification at the local PSAP via 10/20 digit ANI. The 10/20 digit ANI on 911 calls will handle any number of valid Numbering Plan Areas within a single PSAP through 10 digit ANI, and identifies the physical location of caller dialing 9-1-1 by using 20 digit ANI.
 8. System will notify additional responders in case of a 911 call. Automatic messages will be sent to predetermine devices when a 911 call is placed. (pagers, cell phones, email)

2.6 SYSTEM ACCESSORIES

- A. The following items are major components that are required to complete the system. It is not intended that this list be totally comprehensive as there are many small items that are required for a complete system. If additional items are necessary that are not detailed here, they will be provided as part of the complete working system
 1. Channel Service Units (CSU):
 - a. Provide a Channel Service Unit (CSU) for each T-1 link having the capability of local and remote loop back testing. The unit will provide a complete T-1 diagnostics and network protection for the links between data switches and the local Central Office equipment. It will have external testing capability. CSU's will meet standard Bellcore specifications for connection to 1.54 mbs (North American Standard) T-1 in a D4 or extended super frame (ESF) format.
 - b. CSU's will be capable of supplying clocking or free run from external clocking source.
 - c. CSU's will be capable of supporting ISDN type signaling 23 B+D for future Data/Voice Application.

- d. CSU's banks will be independently powered from 110/120 AC outlet. If special electrical requirements such as separate grounding are necessary, Project Co will furnish all equipment as required.
 - e. Channel service units must:
 - 1) Be equipped for and provide line ringing, i.e., ring generators.
 - 2) Self enclosed with locking case.
 - 3) Be capable of software configures.
 - 4) Be equipped with DTE/DCE maintenance ports.
 - 5) Be equipped with alarm status indicators.
 - 6) Be equipped with local and remote loopback.
 - 7) Operate in an environment of 32 degrees to 100 degrees Fahrenheit and up to 95% humidity, non-condensing.
 - 8) U.L. listed.
 - 9) Equipment to be supplied: Adtran or approved equal.
 - f. The UPS systems will be line interactive.
 - g. UPS systems will have batteries sized to provide complete operation for number of hours as specified above.
2. Remote System Monitoring:
- a. Systems will be remotely monitored 24x7x365 for alarms that may affect the system performance or functionality. Such alarms will be captured and generate a service call without the Authority's intervention.
 - b. A report will be generated and provide to Authority of notification alarms, actions taken to repair plus time spent repairing. Provide report on a quarterly basis.
3. Remote Diagnostics, Maintenance and Moves, Adds, Changes:
- a. Provide network connection that will allow Authority or manufacturer to access the telephone system remotely

PART 3 - EXECUTION

3.1 GENERAL

- A. Provide a schedule of deliverables. The schedule will provide an outline of the project with time table for completion of work. Schedule will be submitted to the Authority. Updated schedules will be provided as substantial milestones are met or changes occur. The schedule will include the following:
1. Kick off meeting with Authority
 2. Ordering of Telco circuits / services.
 3. Final review / Authority acceptance
 4. Equipment delivery.
 5. Equipment installation.
 6. Installation of Telco circuits.
 7. Training schedule.

3.2 TELEPHONE SET LOCATIONS

- A. Actual locations within designated rooms will be as directed by the Authority during system design.

3.3 SYSTEM GROUNDING

Provide a #6 bare grounding conductor from the VoIP communication system and each equipment backboard to the TMGB in the Main Telecom Room. Each gas tube protector will also be connected to ground with a #6 insulated copper conductor.

Construction Period																
Section Ref #	Information System Heading	Current Vendor/System	Infrastructure			System Components (Head-end and Edge)			System Programming	Integration (a)	System Commissioning (b)	Maintenance including updates	Project Co Refresh	Project Co Service Level (c)	Vendor Service Level (d)	Vendor Service Agreement Duration
			Design & Specify	Procure, Install & Warranty	Warranty Normal/Extended	Specify	Procure	Install								
7.8.6	Telecommunications Infrastructure		Pro Co	Pro Co	N/A	Pro Co	Pro Co	Pro Co	N/A	N/A	Pro Co	N/A	N/A	Platinum		
7.8.7	Site Utilities/Access Provider	SaskTel	Pro Co	Pro Co	N/A	Pro Co	Pro Co	Pro Co	Auth/Pro Co	Pro Co	Pro Co	Pro Co	N/A	Platinum		
7.8.8	Telecommunication Equipment Rooms		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Auth/Pro Co	Pro Co	Pro Co	Pro Co	N/A	Platinum		
7.8.8.2	Equipment Racks	APC Racks	Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	N/A	N/A	Pro Co	Pro Co	25 Years	Platinum		
7.8.9	Structured Cabling		Pro Co	Pro Co	20 Years	Pro Co	Pro Co	Pro Co	N/A	N/A	Pro Co	Pro Co	15 Years	Gold		
7.8.9	Equipment Residing on the Network		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
7.8.11	Authority Network	HP Switches	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Auth/Pro Co	Auth/Pro Co	Auth	N/A	N/A	7x24 NBD	Lifetime
7.8.12	Authority Servers	Nutanix	Auth	Auth	N/A	Auth	Auth	Auth	Auth	Auth	Auth	Auth	N/A	N/A		
7.8.13	Project Co Servers	Nutanix	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	7 Years	Highest level of any system dependant on the server	7x24 NBD	3YR
7.8.14	Telephone Equipment	Mitel	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Auth/Pro Co	Auth/Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.15	Cellular Services		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	14 Years	Gold		
7.8.16	Wireless Network	Aruba	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Auth/Pro Co	Auth/Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.17	Wireless Staff Communication system	Spectralink	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.18	Intercommunication System	Cyberdata	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.19	Video Conferencing	Polycomm/Tanberg	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth/Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
	- Telehealth		Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth	Pro Co	Auth	Auth	N/A	N/A	7x24 NBD	3YR
	- Video Court		Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Auth	Pro Co	Auth	Auth	N/A	N/A	7x24 NBD	3YR
7.8.20	Real Time Location Systems (RTLs)	Elpass	Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.21	Equipment and Asset Tracking	Elpass	Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.22	Client Tracking / Wandering	Elpass	Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.23	Client Entertainment System		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.8.24	Client Education System		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
	-Content Management		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.8.25	Nurse Call System	Ascom - Telligence	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.8.26	Integration Engine		Pro Co	Pro Co	5 Years	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.9.2	Fire Alarm System		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	20 Years	Platinum		
7.9.4	Access Controls	S2 Enterprise Security	Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.9.5	Staff Duress system		Pro Co	Pro Co	5 Year	Auth	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.9.6	Intrusion Detection and Perimeter Security		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.9.7	Video Surveillance	Milestone VMS	Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A	7x24 NBD	3YR
7.7.17	Clock System		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Auth	N/A	N/A		
7.6.1	Building Automation System		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	20 Years	Silver		
7.7.8	Metering		Pro Co	Pro Co	5 Year	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	Pro Co	20 Years	Silver		
	Electronic Patient Record		Auth	N/A	N/A	N/A	N/A	N/A	N/A	Auth/Pro Co	Auth	Auth	N/A	N/A		
	Inmate Record		Auth	N/A	N/A	N/A	N/A	N/A	N/A	Auth/Pro Co	Auth	Auth	N/A	N/A		
	Human Resources/Finance		Auth	N/A	N/A	N/A	N/A	N/A	N/A	Auth/Pro Co	Auth	Auth	N/A	N/A		
	Authentication		Auth	N/A	N/A	N/A	N/A	N/A	N/A	Auth/Pro Co	Auth	Auth	N/A	N/A		

(a) All integrations will require consultation with Authority to describe intent and design and final-sign off by Authority (per the Schedule 3 specifications)

(b) Final commissioning to include demonstration by ProjectCo to the Authority and final sign-off by the Authority (as per Schedule 3 specifications)

(c) Service Levels:

Platinum Service

- 100% business hours uptime 7X24 support including service request facilitation
- Fully redundant production environment with no single points of failure in the architecture and/or downtime/failover
- Platinum service not available where solution architecture/technology prevents achievement of 100% uptime target.
- Separate production, test and development environments

Gold Service

- 99.94% business hours uptime target, 7X24 break/fix support, client business hour service request facilitation of Architecture appropriate to uptime target (4 hours of planned downtime per month for 7X24 systems)
- Separate test environment that duplicates core production architecture
- Separate development environment if SHNB responsible for development

Silver

- 99.94% client business hours uptime target, client business hours break/fix support, IMIT business hours service request facilitation (24x5 M-F excluding statutory holidays)
- Architecture appropriate to uptime target. 4 hours of planned downtime per month for 7X24 systems.

Bronze Service

- 99.94% regular business hours uptime target (M-F 8am-5pm), regular business hour break/fix and service request support. 4 hours of planned downtime per month for 7X24 systems.

(d) NBD - Next Business Day

Appendix 3D(viii): IMIT Systems Integration Matrix

Saskatchewan Hospital North Battleford IMIT Systems Integration Matrix	Telecommunications Infrastructure	Telecommunication Equipment Rooms	Equipment Racks	Structured Cabling	Authority Network	Authority Servers	Project Co Servers	Telephone Equipment, incl. UC	Cellular Services	Wireless Network	Wireless Staff Communication system	Messaging Broker	Intercommunication System	Video Conferencing and Telehealth	Real Time Location Systems (RTLS)	Equipment and Asset Tracking	Client Tracking / Wandering	Client Entertainment System	Client Education System	Nurse Call System	Fire Alarm System	Access Controls	Staff Duress system	Intrusion Detection	Video Surveillance	Perimeter Security	Clock System	Building Automation System	Metering	Electronic Patient Record	Inmate Record	Admissions	Clinical Information System	Human Resources/Finance	Authentication	Staff Workstations	Content Management System			
Telecommunications Infrastructure																																								
Telecommunication Equipment Rooms																																								
Equipment Racks																																								
Structured Cabling																																								
Authority Network																																								
Authority Servers						X																																		
Project Co Servers						X																																		
Telephone Equipment, incl. UC						X																																		
Cellular Services																																								
Wireless Network						X	X																																	
Wireless Staff Communication system	X							X	X																															
Messaging Broker	X							X			X																													
Intercommunication System	X										X	X																												
Video Conferencing and Telehealth																																								
Real Time Location Systems (RTLS)	X							X	X	X	X	X																												
Equipment and Asset Tracking											X	X				X																								
Client Tracking / Wandering	X							X	X	X	X	X				X																								
Client Entertainment System						X				X																														
Client Education System						X				X																														
Nurse Call System	X							X	X	X	X					X	X																							
Fire Alarm System																																								
Access Controls						X							X			X	X																							
Staff Duress system	X					X				X	X					X																								
Intrusion Detection						X				X						X																								
Video Surveillance						X				X	X	X	X			X	X	X																						
Perimeter Security						X				X	X	X	X			X	X	X																						
Clock System						X										X																								
Building Automation System						X				X																														
Metering																																								
Electronic Patient Record																																								
Inmate Record																																								
Admissions																																								
Clinical Information System																																								
Human Resources/Finance																																								
Authentication																																								
Staff Workstations											X																													
Content Management System													X																											

LEGEND	
X	Authority Integration
X	ProjectCo Integration
X	ProjectCo/Auth Integration

APPENDIX 3E WAYFINDING AND SIGNAGE

WAYFINDING

A. Intent

Project Co will design the wayfinding system to be fully integrated with the design of the Facility and to be site specific. Project Co will meet and coordinate with the Authority to determine standard wayfinding language and requirements. Consider the following when designing the wayfinding system:

- For persons visiting or entering the hospital environment it can be a disorienting and confusing experience.
- Clients and visitors alike are usually going through a worrisome experience involving themselves, a friend or family member, and can be easily lost or misdirected by poor or inadequate wayfinding signage.
- Anxiety can be greatly reduced when there is order and clarity while moving through the Facility and specific destinations can be easily found.
- Universal access is an integral part of universal design and includes more than addressing physical barriers. It is critical to look beyond physical barriers in the built environment to uncover the hidden barriers to universal access. One hidden barrier to universal access is inadequate and inappropriate wayfinding information.

B. Key Factors in Wayfinding Design

Project Co will apply the following concepts to articulate wayfinding for all users of the built environment:

Cognitive Mapping

Cognitive mapping is an individual's internal spatial representation of points, lines, areas and surfaces that are learned, experienced and recorded in quantitative and qualitative forms serving to spatially orient the wayfinder. Cognitive maps assist the wayfinder in determining paths in new and never visited spaces because individuals can apply previously learned information from a particular environment to a new but similar environment. Buildings with design features that help build a good cognitive map for individuals can be highly important to wayfinding as it applies to remembering a space if the wayfinder revisits it. They can also assist in returning people to their point of origin. Building a robust cognitive map is also critical to building evacuation in emergencies. In emergencies people tend to remember distinct features in a built environment that can help them exit.

Spatial Organization

Spatial organization or building layout is considered the first major component in wayfinding design. It not only defines the wayfinding problems of users but also affects the ease or difficulty with which users will move around within the Facility.

Spatial organization includes:

- architectural features that define different areas, such as columns, varied ceiling heights and fenestration differentialization;
- destination zones, such as atria and corridor hubs;
- overall layout using simple and straightforward plans to eliminate confusion and disorientation; and
- landmarks that are distinct in shape and colour and are appropriately lit.

C. Overriding Principles

Design wayfinding signage to direct all Facility Users by way of clearly configured and easily understood lettering and/or graphic pictograms. Provide well labeled directories to help identify major traffic corridors, building and department entrances and clinical zones, and to indicate primary, secondary and interdepartmental paths of travel. These directories will include orientation clues such as "YOU ARE HERE" labels and colour coded zone indicators. Use major site components such as street names, parking lots and north arrows help to orient the user.

Design wayfinding signage in accordance with the basic requirements of Section 3.6 of Schedule 3 [Design and Construction Specifications], as well as meet all the regulations and requirements of the National Building Code of Canada with respect to accessibilities for persons with physical disabilities, including indication of potential hazards in and adjacent to the travel paths.

Design wayfinding signage that is flexible and economically changeable as departments may evolve and change throughout the life of the Facility.

Design public entrance areas to accommodate the potential addition of a "Donor Wall" in a prominent location and that can be dynamic through the life of the Facility.

SIGNAGE

D. Exterior Signage

Exterior signage will meet or exceed the following requirements:

- Provide formal identification of the Facility as well as identify the different building entrances.
- Be located appropriately for readability and address aesthetic considerations for the architectural design of the Facility.
- Use high contrast lettering on plain backgrounds. Lettering will have a stroke width to height ratio from 1:6 to 1:10 and a character width to height ration of 3:5 to 1:1. Lettering will be in Arabic numerals and sans-serif letters.
- Be lighted at night, by integral light source or floodlighting.
- Provide continuous path references from arrival points to building access points.
- Accessibility signage will include the International Symbol of Accessibility for Persons with disabilities, and include additional wording and symbols necessary to convey full understanding.
- Be located and constructed to minimize vandalism and vehicular damage, while maintaining maintenance and cleaning access.
- Meet all requirements of applicable Governmental Authorities for location, clarity and accessibility.

D. Interior Signage

Interior signage will meet or exceed the following requirements:

- Provide formal identification of the Facility as well as identify the different building entrances.
- Include a building directory with subdirectories indicating the locations of all departments that can be reached from the "YOU ARE HERE" point and meeting the requirements set out in Section C of this Appendix.
- Be appropriately located for readability and take in aesthetic considerations for the architectural design of the Facility.

- Use high contrast lettering on plain backgrounds. Lettering will have a stroke width to height ratio from 1:6 to 1:10 and a character width to height ratio of 3:5 to 1:1. Lettering will be in Arabic numerals and sans-serif letters.
- Accessibility signage will include the International Symbol of Accessibility for Persons with disabilities, and include additional wording and symbols necessary to convey full understanding.
- Use consistent language and terminology that uses everyday terminology instead of technical medical terminology.
- Be installed at all points where a directional decision must be made.
- Provide continuous path references from arrival points to final destinations and inner circulation routes.
- Be located and constructed to minimize damage caused by normal operations of the Facility, such as impact from rolling equipment and maintenance equipment.
- Be designed and constructed of suitable materials to stand up to repeated and routine cleaning and maintenance cycles.
- Meet all requirements of applicable Governmental Authorities for location, clarity and accessibility, and exit signage requirements.
- Door signage to identify every space (e.g. rooms, alcoves, corridors and stairwells) in the Facility. Door signage will:
 - indicate restrictions on entry and warn of hazards, including “Radiology in use” signage; and
 - not be obscured by the emergency systems and code blue system call.

E. Door Signage

Door signage will meet or exceed the following requirements:

- Identify every room with a number and name or graphic.
- Be installed at consistent location and height.
- Be integrated with existing building signage design and colour philosophies.
- Use internationally recognized pictograms where appropriate.
- Identify fire-separations, smoke separations and other hazardous conditions.
- Identify all exits.
- Meet all requirements of applicable Governmental Authorities for location, clarity and accessibility, and exit signage requirements.

F. Signage General

Exterior sign types may include the following:

- Building mounted.
- Free-standing.
- Individual letters or pictograms.

Interior sign types may include the following:

- Engraved plastic laminate
- Sandblasted acrylic or glass
- Silk-screened plastic or acrylic
- Injection moulded letters or characters
- Cast aluminum letters or characters
- Raised letter signs on metal or plastic material.

APPENDIX 3F(I)
FOOD SERVICES TECHNICAL SPECIFICATIONS

1. FOOD SERVICES

1.1 Design Consultant

- (a) Project Co will retain as part of its professional design team a qualified food service consultant that is a professional member of Food Service Consultant Society International, has a minimum of 10 years' experience managing food service designs for hospitals of similar size or has specifically managed and designed a minimum of 5 food service facilities for hospitals of similar size and scope as the Facility.
- (b) Project Co will provide the Authority with the food service consultant's qualifications documenting this experience.
- (c) As part of the design process described in Schedule 2 [Design and Construction Protocols], and without limiting any provision of Schedule 2, Project Co will provide the following in relation to food services:
 - (1) food service equipment plans;
 - (2) food service specifications;
 - (3) catalogue specifications sheets for all buy-out type equipment items;
 - (4) elevations and section details for custom fabricated food service equipment items; and
 - (5) connection point drawings

1.2 Scope of Work

- (a) Project Co will design, supply, install, inspect and test the following:
 - (1) all food service equipment (buy-out and custom fabricated);
 - (2) refrigerated and frozen storage room assemblies;
 - (3) mechanical refrigeration systems for refrigerated and frozen storage room assemblies;
 - (4) conveyors; and
 - (5) warewashing and waste handling equipment.
- (b) All electrical equipment must conform to the Canadian Electrical Code, the Electrical Inspection Department Bulletins, and the Canadian Standards Association. All equipment must have a C.S.A. approval label.

- (c) Electrical work related to all food service equipment will be in liquid tight flexible conduit and concealed within building walls or ceilings wherever possible.
- (d) Supply and installation of all internal wiring on custom fabricated items will be concealed.
- (e) Supply emergency power to food service equipment to maintain food service during power outages.
- (f) Mechanical work and electrical work related to the food service equipment, refrigerated and frozen storage room assemblies, mechanical refrigeration systems for refrigerated and frozen storage room assemblies, conveyors, waste handling equipment and warewashing equipment will be concealed within building walls or ceilings wherever possible.
- (g) Gas equipment will conform to the Canadian Gas Association, the Gas Utilization Code of the Department of Energy and Resources Management, Saskatchewan and Canadian Standard Association standards.
- (h) Plumbing or drainage systems will conform to the Saskatchewan Plumbing Code.
- (i) All mechanical refrigeration systems will be supplied with safety relief valves, shut-off valves for each piece of equipment, refrigerant leak detectors and other safety guards required by law.
- (j) All welded pressure vessels will be constructed to ASME Code. The vessels will bear the stamp and certificates framed under glass and hung adjacent to the vessel.
- (k) Supply, install and connect all exhaust ductwork from exhaust fans to foodservice equipment, exhaust ventilators hoods or dishwashing and cart washing equipment in compliance with NFPA-96 and the Saskatchewan Natural Gas and Propane Code.
- (l) The supply and installation of remote fire suppression system will be in accordance with all requirements and regulations of the ULC and NFPA96.
- (m) Provide all floor depressions as required for the foodservice equipment.
- (n) Provide all building floor slab depressions, slab insulation, expansion joints and slab ventilation systems for prefabricated, insulated walk-in refrigerated or frozen room assemblies where specified.
- (o) Supply and install extruded Styrofoam insulation in floor depressions or under concrete slab for all prefabricated, insulated walk-in type refrigerated and frozen room assemblies.
- (p) Supply and install in-fill concrete topping inside prefabricated, insulated walk-in refrigerated and frozen room assemblies which have depressed prefabricated insulated floor panels or extruded styrofoam so as to make floor level with outside floors.

- (q) Supply and install all floor tile or other specified flooring finishes inside prefabricated, insulated walk in type refrigerated and frozen room assemblies including coving up inside and outside of prefabricated walls.
- (r) Supply and set sleeves in floors, walls and ceiling (as well as any related core drilling) for electrical, mechanical refrigeration, plumbing, gas, beverage and other lines.
- (s) Supply and install structural supports or sleepers for rooftop condensing units, condensers or evaporative condensers, exhaust and make-up air units as specified.
- (t) Supply and install structural support beams to anchor hanging rods for roof panels of all prefabricated, insulated walk-in refrigerated and frozen room assemblies and exhaust hoods.
- (u) Architectural design will accommodate and enable the removal and replacement of large food service equipment following the end of its useful life.

1.3 Equipment

- (a) All equipment will be inspected by the local electrical authority and carry CSA and ULC approval.
- (b) Each piece of equipment will be accompanied by a label or certificate of approval.
- (c) Equipment design and fabrication must conform to the National Sanitation Foundation.
- (d) Work related to the pre-fabricated insulated walk-in refrigerated and frozen storage room assemblies and mechanical refrigeration systems will be and include:
 - (1) supply and installation of all prefabricated insulated panels required to insulate building structural columns that occur within walk-in type refrigerated and frozen room assemblies;
 - (2) supply and installation of internal and external bumpers as required;
 - (3) supply and installation of low temperature fluorescent lights with quick start;
 - (4) supply and installation of stainless steel flashings as required to conceal openings in prefabricated insulated walk-in type panels;
 - (5) supply and installation of stainless steel corner guards for all corners and insulated panels around structural columns;
 - (6) supply and installation of viewing windows (heated for freezers) on sliding and hinged doors;
 - (7) supply and installation of removable enclosure panels from top of insulated walk-in type refrigerated and frozen storage room assemblies to finished ceiling. Color and finish to match color and finish of room assemblies;

- (8) supply and installation of insulated liquid refrigerant supply, hot gas and suction return lines required to interconnect mechanical refrigeration system components, including piping runs from indoor or outdoor air cooled condensing units, compressors, compressor parallel packs to evaporator coils within prefabricated, insulated walk-in type refrigerated and frozen room assembly, required in order to form a complete operating mechanical refrigeration system; and
- (9) refrigerator door hardware: self closing, heavy duty stainless steel offset pivot hinges with magnetic gaskets and 430 stainless steel door frame and tamper proof cylinder locks.
- (e) Ensure electrical equipment is accompanied by label or certification of approval by the Canadian Standards Association, Electrical Power Commission or local authority.
- (f) Ensure steam pressure equipment is accompanied by a "Certificate of Boiler Inspection".
- (g) Identify equipment with permanently secured metal plates or labels which include, where applicable, the manufacturer's name or recognized trademark, complete model identification, model, serial number and CSA, ULC or NSF identifications, electrical characteristics, direction of drive, controls, circuits, lines and specific operating instructions.
- (h) Flexibility and Adaptability
 - (1) To the extent possible, mobile equipment will be used in the main kitchen so as to allow for movement and repositioning, easy replacement and ease of cleaning.
 - (2) A variety of mechanical and electrical sources including gas, electrical and steam will be provided so as to ensure production and service capabilities during power loss.
 - (3) Automation and staff efficiency will be taken into account when selecting food service equipment.
- (i) Energy Star equipment will be utilized wherever possible.

1.4 Materials and Finishes

- (a) Finished work must be perfectly true and plumb with no warping, buckling or open seams. All edges, hidden or exposed, must be ground smooth and rounded. Rivet heads, weld marks, or other imperfections are not acceptable.
- (b) Materials for fixed surfaces will be impervious to moisture, corrosion resistant, smooth and able to withstand regular cleaning and sanitizing.
- (c) Stainless steel will be ASTM-A167-81A, (18-8 Analysis) type 304 cold rolled and annealed, No. 4 finish one side, 180 grit finish, and free of buckles, pits, warps and imperfections. Ensure that the direction of grain matches throughout the units.

- (d) Receptacles will be waterproof and have stainless steel cover plates and screws. Cords and caps will be an approved type and match the receptacles for which they are intended. Receptacles, junction boxes and breaker panels will be easily accessible without dismantling equipment.
- (e) All welding will conform to the requirements of CSA specifications and be performed by fabricators who are approved by the Canadian Welding Bureau and CSA standards. Exposed welds will be filed or ground smooth and flush and polished to match surfaces. All exposed welds will be continuous.
- (f) The gauge of metal and methods of construction will in all cases be adequate for the intended purposes of the equipment or structure. Finished equipment will be rigid when assembled and installed.
- (g) Stainless steel worktables and counters
 - (1) Stainless steel worktables and counters will be constructed using a minimum of 2.0mm thick stainless steel continuous sheets.
 - (2) Reinforcing will be a minimum 3.0mm Satin Coat subtop arranged so that forms are concealed from view. Secure reinforcing to tops with stud welding and appropriate silicone.
 - (3) Tables and counters over 1,799mm in length will have a minimum of 4 legs.
 - (4) Tables and counters with sinks will have a marine edge.
 - (5) For worktables and counters with a sink, work tops will slope towards the sink at a slope of 20mm per metre. For worktables and counters with a dishwashing machine, work tops will slope toward the dishwashing machine at a slope of 8mm per metre. The front edge will be level for the full length.
 - (6) Sheet material for counter tops, tables, shelves and similar forms will be straight lengths in one continuous sheet (unless over 3 metres long).
 - (7) Backsplashes will be an integral section of table or counter top turned up on a 19mm radius to the height specified, then boxed or splayed. Enclose, fill and weld all exposed ends and back. Exposed backs at upturns and splash backs will be faced with 1.2mm stainless steel back panel to the bottom of the splash back. Such panels will be removable as required for access to mechanical and electrical parts. Seal backsplashes to the wall with clear silicone.
 - (8) Legs and bracing will be 1.6mm wall, 41mm O.D. tubular stainless steel. Leg spacing will be a maximum of 1600mm apart, 760mm front to back. Provide bullet feet of Component Hardware Model A10-0851. If a table has service connections, dowel and secure to the floor using Component Hardware Model A10-0854. Secure to one set of feet only when bridging a structural expansion

joint. Braces will be continuously welded to legs, polished with minimum reduction in volume.

- (9) Sink bowls will be 2.0mm stainless steel integrally welded into the table or counter. Interior corners will be constructed with a 19mm radius both vertically and horizontally, and all corners are to be welded and polished. Slope the bottom of the sink bowl to the drain fitting. Undercoat the sink bowl with sound deadening compound when sinks are not exposed. Multiple sinks to have an 18 gauge stainless steel apron to conceal gap between bowls.
 - (10) Plastic laminate should be fabricated and constructed using a minimum $\frac{3}{4}$ " (19MM) thick plywood applied under high pressure. All edges will be carefully sanded to smooth finish, removing burrs, nicks and cut marks. Plastic laminate joints are to be finished without wavy and unsightly joints.
- (h) Pre-fabricated insulated walk in type refrigerated and frozen storage rooms
- (1) All pre-fabricated insulated wall and ceiling panels will bear a stamp indicating ULC approval and be fabricated to comply with Canadian Standards Association. The CSA label will be affixed to the interior door jamb.
 - (2) Insulation will be foamed-in-place polyurethane injected into the panels to form a rigid wall without the use of wood or metal structural members. Insulation will have a "K" thermal conductivity factor of not more than 0.86 watts per square metre per degree Kelvin for a temperature difference of 38°C (100°F) and will be rated as self extinguishing, fire retardant type.
 - (3) Wall thickness will be a minimum of 100mm (4"), having a density of 40 kg per cubic metre.
 - (4) Panel sections will be of modular design, assembled with eccentric locking devices, or approved equivalent, actuated from the interior of any of the rooms and enabling sections to be erected within 38mm of any building room, column and ceiling.
 - (5) Wiring will terminate in a junction box on top of the prefabricated walk-in room, ready for connection by electrical trades. Use three-way switches if more than one door is specified.
 - (6) Provide L.E.D. readout thermometers to provide temperature readings from -40 C to +15 C and mount on latch side of door panel approximately 1525mm from floor. Cover sensing bulb with protective metal cover of the same finish as walk-in refrigerated storage room.
 - (7) Where walk-in rooms are floorless, wall panels are to be fastened to screeds in lieu of floors. 76mm high screeds are to be of similar construction material and insulation to wall and ceiling panels. Screeds are to be installed plumb and level and secured to the finished building floor.

- (8) Supply and install an alarm system for each prefabricated walk-in refrigerated and frozen storage room.

(i) Mechanical Refrigeration Systems

- (1) Each individual system will be sized to suit the internal space, ambient temperatures and humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product in order to maintain the specified holding temperatures.
- (2) Design refrigeration equipment for use with Freon R404 for refrigerators and freezers (high, medium, and low temperature applications). Refrigeration equipment for use with Freon R22 will not be accepted.
- (3) All condensing units 3/4 horse power or greater if specified will be semi-hermetic complete with motor, water cooled condenser, receiver, compressor, suction and discharge valves, oil separator, high/low pressure controls and all other necessary components mounted in a flexible manner on a common base with all service valves and controls readily accessible and easily serviceable.
- (4) Evaporator (coil) to be forced convection unit cooler type, made to be suspended from ceiling panels. Forced air discharge to be parallel to ceiling. Air circulation motor, multi-fin with tube type coil and grill to be assembled within protective housing. Expansion valve, with strainer, heat exchanger inlet and outlet service valve connections also to be contained within housing.

(j) Exhaust Ventilators, Hoods and Fire Suppression Systems

- (1) The basic requirements of the design and installation of exhaust systems components including ventilators (hoods with or without dampers), exhaust ducts, air moving devices, fire suppression systems and auxiliary equipment will be supplied and installed in accordance with the current edition of the NFPA-96 and NFPA-17a, and ULC standard ULC-S646-98.
- (2) Fabricate hoods of 1.25 mm stainless steel type 304 and No. 4 finish, with joints and seams fully welded and liquid tight.
- (3) The basic requirements for the design, installation and use of a pre-engineered fire suppression system will be governed by the current edition of the NFPA-17a, NFPA-96, ULC listed.

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																										
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3			
Main Kitchen	Receiving	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser	EAGLE MASTERS OR EQUAL	HSA-10-FE	120	1	2	60																							
Main Kitchen	Receiving	Eyewash	1	3	Floor or sink mounted emergency eyewash complete with safety mixing valve	SPEAKMAN OR EQUAL	SE-580-ADA																											
Main Kitchen	Receiving	Utility Cart	2	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers, Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD																											
Main Kitchen	Receiving	Platform Truck	1	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers, Cart washable casters, 180kg capacity	HATCH OR EQUAL	HPT2448																											
Main Kitchen	Dry Storage	Shelving, plastic, louvered	8	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL METROMAXQ	METROMA XQ																											
Main Kitchen	Dry Storage	Dunnage Rack	4	1	Constructed of polymer with anti-microbial properties or stainless steel, Minimum dimensions to be 560mm wide x 910mm long. 1,500lb capacity minimum.	INTERMETRO OR EQUAL	MHP53K3																											
Main Kitchen	Refrigerated Storage	Walk-In cooler (Dairy/Milk/Juice)	1	3	ULC listed pre-fabricated insulated wall and ceiling panels, 100mm thick with polyurethane insulation, Panels to have a tongue and groove configuration and fastened together with a mechanical cam-lock fastener, Finish to be either white baked enamel, pvc or stainless steel	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM	120	1	12											YES	208	3	12							YES			
Main Kitchen	Refrigerated Storage	Temperature Alarm	1	3	Hi-low temperature alarm, recessed in wall panels, with dry contacts for remote monitoring, rechargeable battery having operating range of -50C to +50C, Capillary temperature bulbs to be positioned behind evaporator coils (no visible wires)	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Evaporator Coil	1	3	Sized and balanced to match the compressor(s) and must be capable of maintaining internal room temperature (max. +3C for coolers, min. -18C for freezers) while considering humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product Corrosion free assembly, Time initiated air defrost cycles for coolers, Electric or hot gas defrost for freezers. Chilled water cooled compressors.	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Shelving, plastic, louvered	4	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL METROMAXQ	METROMA XQ																											
Main Kitchen	Refrigerated Storage	Dunnage Rack	1	1	Constructed of polymer with anti-microbial properties or stainless steel, Minimum dimensions to be 560mm wide x 910mm long. 1,500lb capacity minimum.	INTERMETRO OR EQUAL	MHP53K3																											
Main Kitchen	Refrigerated Storage	Walk-In cooler (Meat)	1	3	ULC listed pre-fabricated insulated wall and ceiling panels, 100mm thick with polyurethane insulation, Panels to have a tongue and groove configuration and fastened together with a mechanical cam-lock fastener, Finish to be either white baked enamel, pvc or stainless steel	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM	120	1	12											YES	208	3	12							YES			
Main Kitchen	Refrigerated Storage	Temperature Alarm	1	3	Hi-low temperature alarm, recessed in wall panels, with dry contacts for remote monitoring, rechargeable battery having operating range of -50C to +50C, Capillary temperature bulbs to be positioned behind evaporator coils (no visible wires)	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Evaporator Coil	1	3	Sized and balanced to match the compressor(s) and must be capable of maintaining internal room temperature (max. +3C for coolers, min. -18C for freezers) while considering humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product Corrosion free assembly, Time initiated air defrost cycles for coolers, Electric or hot gas defrost for freezers. Chilled water cooled compressors.	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											

ITEM DESCRIPTION	ELECTRICAL NOTE
Hand Sink	
Eyewash	
Utility Cart	
Platform Truck	
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Dairy/Milk/Juice)	Emergency power to be provided.
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Meat)	Emergency power to be provided.
Temperature Alarm	
Evaporator Coil	

Appendix 3F(ii) SHNB Foodservice Equipment List

ITEM DESCRIPTION	PLUMBING																																																													
	FLUID 1	ID 1				CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2				OD 2	CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3				OD 3	CODE 3	CONN 3	FLOW 3																						
		AVERAGE		PEAK				LOW		HIGH		AVERAGE		PEAK			LOW		HIGH					AVERAGE		PEAK		LOW		HIGH			AVERAGE		PEAK																											
		GAL/MIN	LPS	GAL/MIN	LPS			PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN	LPS		PSI	KPA	PSI	KPA				GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI	KPA		GAL/MIN	LPS	GAL/MIN	LPS				GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS	GAL/MIN	LPS			
INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM															
Hand Sink	CW		13											HW		13															ID		38																													
Eyewash	CW		19											HW		19																																														
Utility Cart																																																														
Platform Truck																																																														
Shelving, plastic, louvered																																																														
Dunnage Rack																																																														
Walk-In cooler (Dairy/Milk/Juice)	IDR	3/4	19																																																											
Temperature Alarm																																																														
Evaporator Coil																																																														
Shelving, plastic, louvered																																																														
Dunnage Rack																																																														
Walk-In cooler (Meat)	IDR	3/4	19																																																											
Temperature Alarm																																																														
Evaporator Coil																																																														

ITEM DESCRIPTION	PRESSURE 3		
	LOW		HI
	PSI	KPA	PSI
Hand Sink			
Eyewash			
Utility Cart			
Platform Truck			
Shelving, plastic, louvered			
Dunnage Rack			
Walk-In cooler (Dairy/Milk/Juice)			
Temperature Alarm			
Evaporator Coil			
Shelving, plastic, louvered			
Dunnage Rack			
Walk-In cooler (Meat)			
Temperature Alarm			
Evaporator Coil			

ITEM DESCRIPTION	HVAC NOTE
Hand Sink	
Eyewash	
Utility Cart	
Platform Truck	
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Dairy/Milk/Juice)	
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Meat)	
Temperature Alarm	
Evaporator Coil	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																										
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3			
Main Kitchen	Refrigerated Storage	Shelving, plastic, louvered	4	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL METROMAXQ	METROMAXQ																											
Main Kitchen	Refrigerated Storage	Dunnage Rack	1	1	Constructed of polymer with anti-microbial properties or stainless steel, Minimum dimensions to be 560mm wide x 910mm long. 1,500lb capacity minimum.	INTERMETRO OR EQUAL	MHP53K3																											
Main Kitchen	Refrigerated Storage	Walk-In cooler (Vegetables)	1	3	ULC listed pre-fabricated insulated wall and ceiling panels, 100mm thick with polyurethane insulation, Panels to have a tongue and groove configuration and fastened together with a mechanical cam-lock fastener, Finish to be either white baked enamel, pvc or stainless steel	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM	120	1	12											YES	208	3	12					YES					
Main Kitchen	Refrigerated Storage	Temperature Alarm	1	3	Hi-low temperature alarm, recessed in wall panels, with dry contacts for remote monitoring, rechargeable battery having operating range of -50C to +50C, Capillary temperature bulbs to be positioned behind evaporator coils (no visible wires)	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Evaporator Coil	1	3	Sized and balanced to match the compressor(s) and must be capable of maintaining internal room temperature (max. +3C for coolers, min. -18C for freezers) while considering humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product Corrosion free assembly, Time initiated air defrost cycles for coolers, Electric or hot gas defrost for freezers. Chilled water cooled compressors.	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Shelving, plastic, louvered	4	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL METROMAXQ	METROMAXQ																											
Main Kitchen	Refrigerated Storage	Dunnage Rack	1	1	Constructed of polymer with anti-microbial properties or stainless steel, Minimum dimensions to be 560mm wide x 910mm long. 1,500lb capacity minimum.	INTERMETRO OR EQUAL	MHP53K3																											
Main Kitchen	Refrigerated Storage	Mobile Angle Racks	4	1	Stainless steel construction, type 304, #4 finish, Open all sides with stainless steel base, Base to include marine edge and drain hole, Corner or donut bumpers, Cart washable casters, Slide stops																													
Main Kitchen	Refrigerated Storage	Walk-In Freezer	1	3	ULC listed pre-fabricated insulated wall and ceiling panels, 100mm thick with polyurethane insulation, Panels to have a tongue and groove configuration and fastened together with a mechanical cam-lock fastener, Finish to be either white baked enamel, pvc or stainless steel	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM	120	1	12											YES	208	3	12					YES					
Main Kitchen	Refrigerated Storage	Temperature Alarm	1	3	Hi-low temperature alarm, recessed in wall panels, with dry contacts for remote monitoring, rechargeable battery having operating range of -50C to +50C, Capillary temperature bulbs to be positioned behind evaporator coils (no visible wires)	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Evaporator Coil	1	3	Sized and balanced to match the compressor(s) and must be capable of maintaining internal room temperature (max. +3C for coolers, min. -18C for freezers) while considering humidity levels of surrounding areas, product type and load, heat infiltration and temperature of incoming product Corrosion free assembly, Time initiated air defrost cycles for coolers, Electric or hot gas defrost for freezers. Chilled water cooled compressors.	CURTIS/NORBEC/HUSSMAN/HILL PHOENIX	CUSTOM																											
Main Kitchen	Refrigerated Storage	Shelving, plastic, louvered	5	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL METROMAXQ	METROMAXQ																											

ITEM DESCRIPTION	ELECTRICAL NOTE
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Vegetables)	Emergency power to be provided.
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Mobile Angle Racks	
Walk-In Freezer	Emergency power to be provided.
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	

ITEM DESCRIPTION	PRESSURE 3		
	LOW		HI
	PSI	KPA	PSI
Shelving, plastic, louvered			
Dunnage Rack			
Walk-In cooler (Vegetables)			
Temperature Alarm			
Evaporator Coil			
Shelving, plastic, louvered			
Dunnage Rack			
Mobile Angle Racks			
Walk-In Freezer			
Temperature Alarm			
Evaporator Coil			
Shelving, plastic, louvered			

ITEM DESCRIPTION	FLOW 4											PRESSURE 4				FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC													
	GH	FLUID 4	ID 4		CODE 4	CONN 4	AVERAGE		PEAK		LOW		HIGH		FLUID 5	ID 5		CODE 5	CONN 5	AVERAGE		PEAK			LOW		HIGH		BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA
			KPA	INCH			MM	MBTUH	LPS	GAL/MIN	LPS	PSI	KPA	PSI		KPA	INCH			MM	GAL/MIN	LPS	GAL/MIN		LPS	PSI	KPA	PSI			KPA	INCH	MM	INCH				
	IN				IN										IN			IN																				
Shelving, plastic, louvered																																						
Dunnage Rack																																						
Walk-In cooler (Vegetables)																																						
Temperature Alarm																																						
Evaporator Coil																																						
Shelving, plastic, louvered																																						
Dunnage Rack																																						
Mobile Angle Racks																																						
Walk-In Freezer																																						
Temperature Alarm																																						
Evaporator Coil																																						
Shelving, plastic, louvered																																						

ITEM DESCRIPTION	HVAC NOTE
Shelving, plastic, louvered	
Dunnage Rack	
Walk-In cooler (Vegetables)	
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Mobile Angle Racks	
Walk-In Freezer	
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	

ITEM DESCRIPTION	ELECTRICAL NOTE
Dunnage Rack	
Walk-In Freezer (Dairy)	Emergency power to be provided.
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Mechanical Refrigeration Condensing Units	
Hand Sink	
S.S. work table w/double sink	Emergency power to be provided.
S.S. over shelves	
Refrigerated prep table	
Manual can opener	

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
Dunnage Rack			
Walk-In Freezer (Dairy)			
Temperature Alarm			
Evaporator Coil			
Shelving, plastic, louvered			
Dunnage Rack			
Mechanical Refrigeration Condensing Units			
Hand Sink			
S.S. work table w/double sink			
S.S. over shelves			
Refrigerated prep table			
Manual can opener			

ITEM DESCRIPTION	GH	FLUID 4	ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC										
			KPA	INCH			MM	AVERAGE		PEAK		LOW		HIGH		INCH	MM			AVERAGE		PEAK		LOW		HIGH			BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA	
								MBTUH	LPS	GAL/MIN	LPS	PSI	KPA	PSI						KPA	GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI				KPA	INCH	MM	INCH					MM
Dunnage Rack																																							
Walk-In Freezer (Dairy)																																							
Temperature Alarm																																							
Evaporator Coil																																							
Shelving, plastic, louvered																																							
Dunnage Rack																																							
Mechanical Refrigeration Condensing Units																																							
Hand Sink																																							
S.S. work table w/double sink																																							
S.S. over shelves																																							
Refrigerated prep table																																							
Manual can opener																																							

ITEM DESCRIPTION	HVAC NOTE
Dunnage Rack	
Walk-In Freezer (Dairy)	
Temperature Alarm	
Evaporator Coil	
Shelving, plastic, louvered	
Dunnage Rack	
Mechanical Refrigeration Condensing Units	
Hand Sink	
S.S. work table w/double sink	
S.S. over shelves	
Refrigerated prep table	
Manual can opener	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																										
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3			
Main Kitchen	Preparation	S.S. Mobile work table	2	1	Stainless steel construction, type 304, #4 finish, Maximum 1800mm long x 610mm – 910mm wide x 910mm high, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Boxed or marine edges, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Cart washable casters, two locking	CUSTOM	CUSTOM																											
Main Kitchen	Preparation	Digital Scale	2	1	NSF approved plastic construction or stainless steel base, Minimum of 5kg capacity with 28gram increments, Digital display, Metric and imperial, Electric and battery operated	GLOBE OR EQUAL	GPS15	120	1	2	60																							
Main Kitchen	Preparation	Automatic slicer	1	1	Stainless steel construction, 13" stainless steel blade, 1/3HP motor.	HOBART OR EQUAL	3613	120	1	12	60																							
Main Kitchen	Preparation	Mixer, Floor, 60qt	1	1	Stainless steel construction, type 304, Gear driven or belt drive transmission will be considered, Adjustable timer, Multiple speeds, Bowl guard, Flat beater, whip and dough hook, 60 qt capacity	HOBART OR EQUAL	HL-600	208	3	25	60																							
Main Kitchen	Preparation	Mixer, Floor, 40qt	2	1	Stainless steel construction, type 304, Gear driven or belt drive transmission will be considered, Adjustable timer, Multiple speeds, Bowl guard, Flat beater, whip and dough hook, 40 qt capacity	HOBART OR EQUAL	HL-400	208	3	20	60																							
Main Kitchen	Preparation	Food Processor	1	1	All aluminum, continuous feed food processor complete with shredder, dicer, slicer and julienne plates; planetary drive, 430 RPM plate speed	ROBOT COUPE OR EQUAL	R2N ULTRA	120	1	12	60																							
Main Kitchen	Preparation	Vegetable Prep Machine	1	1	Continuous feed, half-size hopper food processor with angled front, planetary drive and on/off switch. All aluminum hopper and housing capable of processing a minimum of 16 pounds of product per minute. Complete with cord and plug.	HOBART OR EQUAL	FP-300	120	1	10	60																							
Main Kitchen	Preparation	Mixer Blender	1	1	7 qt capacity, stainless steel construction with stainless steel cutter, bowl and accessories, variable speed drive.	ROBOT COUPE OR EQUAL	Blixer 6V	120	1	12	60																							
Main Kitchen	Preparation	Mobile Angle Racks	7	1	Stainless steel construction, type 304, #4 finish, Open all sides with stainless steel base, Base to include marine edge and drain hole, Corner or donut bumpers, Cart washable casters, Slide stops	CUSTOM	Z-TYPE/NESTING																											
Main Kitchen	Preparation	Waste Bin w/dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																											
Main Kitchen	Preparation	Recycle Bin w/Dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																											
Main Kitchen	Preparation	Organics Bin w/Dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																											
Main Kitchen	Preparation	Ice Maker	1	2	Self contained air cooled ice machine capable of producing min. of 400lbs of ice in 24hours. Stainless steel exterior, automatic flush, bin, water filter and pre-filter. Cubed ice	HOSHIZAKI OR EQUAL	KM-515-MAH	120	1	13	60																							
Main Kitchen	Preparation	Ice Bin	1	2	Stainless steel ice bin compatible with ice maker, complete with built in drain. 1000lb capacity.	HOSHIZAKI OR EQUAL	B-800-SF																											
Main Kitchen	Production	S.S. Work Table w/Sink	2	2	Stainless steel construction, type 304, #4 finish, Length to suit design x 760mm wide x 910mm high, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Sink to be minimum 506mm x 406mm x 305mm deep complete with hot and cold water faucet with swing spout, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Backsplash to include 19mm radius coved corner, splayed to wall where required, Bullet feet for tables without m/e services, flanged feet secured to floor with s.s. fasteners for tables with m/e services, S.S. drawers	CUSTOM	CUSTOM																											

ITEM DESCRIPTION	ELECTRICAL NOTE
S.S. Mobile work table	
Digital Scale	
Automatic slicer	
Mixer, Floor, 60qt	
Mixer, Floor, 40qt	
Food Processor	
Vegetable Prep Machine	
Mixer Blender	
Mobile Angle Racks	
Waste Bin w/dolly	
Recycle Bin w/Dolly	
Organics Bin w/Dolly	
Ice Maker	
Ice Bin	
S.S. Work Table w/Sink	

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
S.S. Mobile work table			
Digital Scale			
Automatic slicer			
Mixer, Floor, 60qt			
Mixer, Floor, 40qt			
Food Processor			
Vegetable Prep Machine			
Mixer Blender			
Mobile Angle Racks			
Waste Bin w/dolly			
Recycle Bin w/Dolly			
Organics Bin w/Dolly			
Ice Maker			
Ice Bin			
S.S. Work Table w/Sink			

ITEM DESCRIPTION	GH	FLUID 4	ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC										
			KPA	INCH			MM	AVERAGE		PEAK		LOW		HIGH		INCH	MM			AVERAGE		PEAK		LOW		HIGH			BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA	
								MBTUH	LPS	GAL/MIN	LPS	PSI	KPA	PSI						KPA	GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI				KPA	INCH	MM	INCH					MM
S.S. Mobile work table																																							
Digital Scale																																							
Automatic slicer																																							
Mixer, Floor, 60qt																																							
Mixer, Floor, 40qt																																							
Food Processor																																							
Vegetable Prep Machine																																							
Mixer Blender																																							
Mobile Angle Racks																																							
Waste Bin w/dolly																																							
Recycle Bin w/Dolly																																							
Organics Bin w/Dolly																																							
Ice Maker																																							
Ice Bin																																							
S.S. Work Table w/Sink																																							

ITEM DESCRIPTION	HVAC NOTE
S.S. Mobile work table	
Digital Scale	
Automatic slicer	
Mixer, Floor, 60qt	
Mixer, Floor, 40qt	
Food Processor	
Vegetable Prep Machine	
Mixer Blender	
Mobile Angle Racks	
Waste Bin w/dolly	
Recycle Bin w/Dolly	
Organics Bin w/Dolly	
Ice Maker	
Ice Bin	
S.S. Work Table w/Sink	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																											
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3				
Main Kitchen	Production	S.S. Work Table w/Utility rack and sink	2	2	Stainless steel construction, type 304, #4 finish, Length to suit design x 760mm wide x 910mm high, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Sinks to be minimum 506mm x 406mm x 305mm deep complete with hot and cold water faucet with swing spout, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Backsplash to include 19mm radius coved corner, splayed to wall where required, Bullet feet for tables without m/e services, flanged feet secured to floor with s.s. fasteners for tables with m/e services, S.S. drawers	CUSTOM	CUSTOM																												
Main Kitchen	Production	Pot Rack	4	2	Constructed or reinforced polymer or stainless steel, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 610mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL	PR48VX2																												
Main Kitchen	Production	Kettle, Twin Steam Jacketed 40 gal with Mixer Arm	1	2	High performance gas-fired kettle, Manual tilting mechanism, 40 gallon capacity, Steam jacketed, 50psi rating minimum, Stainless steel construction, type 304, Spring assisted cover, Double pantry faucet, Tangent draw off valve, Automatic ignition system, Solid state controls for temperature and low water safety. Vertical mixer arm attachment.	CLEVELAND OR EQUAL	HA-MKGL-40-T	208	3	15	60																								
Main Kitchen	Production	Kettle, steam jacketed 25 gallon, tilting	1	2	High performance gas-fired kettle, Manual tilting mechanism, 25 gallon capacity, Steam jacketed, 50psi rating minimum, Stainless steel construction, type 304, Spring assisted cover, Double pantry faucet, Tangent draw off valve, Automatic ignition system, Solid state controls for temperature and low water safety	CLEVELAND OR EQUAL	KGL-25-T	120	1	15	60																								
Main Kitchen	Production	Tilt Skillet 40 Gallon	1	2	Heavy duty gas skillet, Tilting mechanism (manual or power), 150litre capacity, High efficiency heating system, Stainless steel construction, type 304, Tangent draw off valve, Adjustable electronic thermostat, Spring assisted cover, Double pantry faucet, Electronic spark ignition	CLEVELAND OR EQUAL	SGL-40T	120	3	10	60																								
Main Kitchen	Production	Kettle, 12 Gallon With Stand	1	2	High performanceelectric kettle, Manual tilting mechanism, 12 gallon capacity, Steam jacketed, 50psi rating minimum, Stainless steel construction, type 304, Solid state controls for temperature and low water safety	CLEVELAND OR EQUAL	TKET-12-T	208	3	34.1	60																								
Main Kitchen	Production	Immersion blender	1	1	Commercial grade, hand held immersion blender, 450 mm shaft, continuous on feature, complete with cord and plug	WARING OR EQUAL	WSB 60	120	1	5	60																								
Main Kitchen	Production	Full Size Oven-Steamer, Combination, Gas	2	2	Full size combination convection/steam oven, Sized to accept full size baking sheets and gastronorm 1/1 pans (20), Programmable cooking modes, Core temperature probe, High performance steam generator, Haccp data memory and output capabilities, Water conditioning kit, Safety door lock. Chicken roasting racks.	CLEVELAND OR EQUAL	OGS 20.20	208	3	25	60																								
Main Kitchen	Production	Double Deck Convection Oven	1	2	Double deck electric convection oven with 11KW heating elements, 2 speed 1/2 hp motor and interior lights. Complete with standard solid state controls.	SOUTHBEND OR EQUAL	ES-20	208-240	3	35	60																								
Main Kitchen	Production	Double Compartment Steamer	1	1	2 compartment stacked on eachother, 12 pan high efficiency boilerless convection steamer.	CLEVELAND OR EQUAL	24-CGA-10	208-240	3	45	60																								
Main Kitchen	Production	Deep Fryer, Gas	2	2	High production, gas fired standalone fryer with tube burner, stainless steel cabinet, millivolt thermostat, high temperature safety limit switch. 50 lb capacity.	PITCO OR EQUAL	SG-14R																												
Main Kitchen	Production	Heavy Duty Range, griddle	2	2	Heavy duty gas griddle range w/oven below (standard or convection oven), Minimum 860mm wide, Separate controls for each burner, Flame failure protection and electronic spark ignition, Stainless steel exterior construction, type 304 with either porcelain or stainless steel interior, Unit can	SOUTHBEND OR EQUAL	P-36A-GGG	120	1	5	60																								
Main Kitchen	Production	Heavy Duty Range	1	2	Heavy duty gas range w/oven below (standard or convection oven), Minimum 860mm wide, Separate controls for each burner, Flame failure protection and electronic spark ignition, Stainless steel exterior construction, type 304 with either porcelain or stainless steel interior, Unit can be	SOUTHBEND OR EQUAL	P-36A-BBB	120	1	5	60																								

ITEM DESCRIPTION	ELECTRICAL NOTE
S.S. Work Table w/Utility rack and sink	
Pot Rack	
Kettle, Twin Steam Jacketed 40 gal with Mixer Arm	
Kettle, steam jacketed 25 gallon, tilting	
Tilt Skillet 40 Gallon	
Kettle, 12 Gallon With Stand	Emergency power to be provided.
Immersion blender	
Full Size Oven-Steamer, Combination, Gas	Emergency power to be provided.
Double Deck Convection Oven	
Double Compartment Steamer	
Deep Fryer, Gas	
Heavy Duty Range, griddle	
Heavy Duty Range	

ITEM DESCRIPTION	PLUMBING																																																	
	FLUID 1	ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3		OD 3		CODE 3	CONN 3	FLOW 3												
		INCH	MM	INCH	MM			AVERAGE	PEAK	LOW	HIGH	LOW	HIGH	INCH	MM		INCH	MM	AVERAGE	PEAK			LOW	HIGH	AVERAGE	PEAK	LOW	HIGH	INCH	MM		INCH	MM	AVERAGE	PEAK															
							GAL/MIN		LPS		PSI		KPA																																					
S.S. Work Table w/Utility rack and sink	CW		13												HW		13												IND		38																			
Pot Rack																																																		
Kettle, Twin Steam Jacketed 40 gal with Mixer Arm	CW		13												HW		13																																	
Kettle, steam jacketed 25 gallon, tilting	CW		13												HW		13																																	
Tilt Skillet 40 Gallon	CW		13												HW		13																																	
Kettle, 12 Gallon With Stand			13														13																																	
Immersion blender																																																		
Full Size Oven-Steamer, Combination, Gas			2@19																																															
Double Deck Convection Oven																																																		
Double Compartment Steamer	CW		19																																															
Deep Fryer, Gas	NG		19																																															
Heavy Duty Range, griddle	NG		38																																															
Heavy Duty Range	NG		38																																															

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
S.S. Work Table w/Utility rack and sink			
Pot Rack			
Kettle, Twin Steam Jacketed 40 gal with Mixer Arm			
Kettle, steam jacketed 25 gallon, tilting			
Tilt Skillet 40 Gallon			
Kettle, 12 Gallon With Stand			
Immersion blender			
Full Size Oven-Steamer, Combination, Gas			
Double Deck Convection Oven			
Double Compartment Steamer			
Deep Fryer, Gas			
Heavy Duty Range, griddle			
Heavy Duty Range			

ITEM DESCRIPTION	GH KPA	FLUID 4	ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC																					
			AVERAGE				PEAK		LOW		HIGH		AVERAGE			PEAK				LOW		HIGH		DUCT WIDTH		DUCT HEIGHT			CFM	IN (WG)	LPS	KPA																		
			MBTUH	LPS			GAL/MIN	LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS		GAL/MIN	LPS			PSI	KPA	PSI	KPA	INCH	MM	INCH	MM																							
			INCH				MM																																											
S.S. Work Table w/Utility rack and sink																																																		
Pot Rack																																																		
Kettle, Twin Steam Jacketed 40 gal with Mixer Arm																																																		
Kettle, steam jacketed 25 gallon, tilting																																																		
Tilt Skillet 40 Gallon																																																		
Kettle, 12 Gallon With Stand																																																		
Immersion blender																																																		
Full Size Oven-Steamer, Combination, Gas				19			49																																											
Double Deck Convection Oven																																																		
Double Compartment Steamer																																																		
Deep Fryer, Gas																																																		
Heavy Duty Range, griddle																																																		
Heavy Duty Range																																																		

ITEM DESCRIPTION	HVAC NOTE
S.S. Work Table w/Utility rack and sink	
Pot Rack	
Kettle, Twin Steam Jacketed 40 gal with Mixer Arm	
Kettle, steam jacketed 25 gallon, tilting	
Tilt Skillet 40 Gallon	
Kettle, 12 Gallon With Stand	
Immersion blender	
Full Size Oven-Steamer, Combination, Gas	
Double Deck Convection Oven	
Double Compartment Steamer	
Deep Fryer, Gas	
Heavy Duty Range, griddle	
Heavy Duty Range	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																											
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3				
Main Kitchen	Production	S.S. service wall	1	2	38mm steel angle frame construction with removable s.s. panels. 1.6mm s.s. service chase at both ends complete with 1.25mm s.s. removable panels. Removable access panels with recessed handles. Provide all necessary service openings for connection of services to equipment. Provide s.s. grommets to conceal all openings for services. Recessed switches and receptacles as required for equipment. Hinged, louvered door with magnetic closers at top and bottom at each end.	CUSTOM	CUSTOM																												
Main Kitchen	Production	Trench Drain	3	3	Stainless steel construction, type 304, #4 finish, Length and width to suit design x 150mm deep, All radius corners, 1.6mm stainless steel pan Honeycomb or other patterned grating, removable	CUSTOM	CUSTOM																												
Main Kitchen	Production	Exhaust Hood w/Fire Protection System	1	3	Box type or island type high efficiency ventilator with integral make-up air plenum. Sized to suit equipment below (ensure minimum 200mm overhang on all sides), ULC listed and CGA approved, Meets NFPA-96 standards (most recent version), Stainless steel liquid tight construction, Easy access to all components, Fire dampers, Fire dampers activated by thermostatic or mechanical detection, Mechanical gas valve, Interconnection to building automation and/or fire systems	HALTON OR SPRING AIR	VAR	120	1	15	60																								
Main Kitchen	Production	Control Panel w/Fire Protection System	1	3	ULC listed wet chemical fire suppression system to provide full coverage of ventilator, plenums, ducts and appliances, Remote pull stations as required, Variable speed type ventilators shall be considered, Ventilator types which reduce exhaust volumes shall be considered, Exhaust air shall filter through an ecology unit, Fire protection systems	HALTON OR SPRING AIR	VAR	120	1	15	60																								
Main Kitchen	Production	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser	EAGLE MASTERS OR EQUAL	HSA-10-FE																												
Main Kitchen	Production	Eyewash	1	3	FLOOR OR SINK MOUNTED EMERGENCY EYEWASH COMPLETE WITH HAND CONTROL AND SAFETY MIXING VALVE	SPEAKMAN OR EQUAL																													
Main Kitchen	Bulk Meal Assembly	S.S. Mobile Work Table	2	1	Stainless steel construction, type 304, #4 finish, Maximum 1800mm long x 610mm – 910mm wide x 910mm high, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Boxed or marine edges, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Cart washable casters, two locking	CUSTOM	CUSTOM																												
Main Kitchen	Bulk Meal Assembly	Roll in hot holding cabinet, double door with racks	1	1	Mobile holding oven. Two individually controlled oven compartments. Stainless steel interior and exterior. Pass through doors. Digital controls. Door venting. Solid state electronic control. Window doors.	ALTO-SHAAM	1000-UP	120	1	16	60																								
Main Kitchen	Bulk Meal Assembly	Roll in refrigerator, double door with racks	1	2	Two full door section roll-in refrigerator, Minimum 1.5 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE	STA2RR1-2S	120	1	12	60																								
Main Kitchen	Bulk Meal Assembly	Waste Bin w/dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																												
Main Kitchen	Bulk Meal Assembly	Insulated Transport Cart	12	1	All stainless steel construction insulated meal cart, pass thru door design. Complete with top rail. This cart to be compatible with meal delivery heating system, tray and plate systems. Size and capacity to be confirmed with users.	HATCH OR EQUAL	VAR																												
Main Kitchen	Bulk Meal Assembly	Secure Insulated Transport Cart	4	1	All stainless steel construction insulated meal cart, complete with correctional security package, complete with top rail. This cart to be compatible with meal delivery heating system, tray and plate systems. Size and capacity to be confirmed with users.	HATCH OR EQUAL	VAR																												
Main Kitchen	Bulk Meal Assembly	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser	EAGLE MASTERS OR EQUAL	HSA-10-FE																												

ITEM DESCRIPTION	ELECTRICAL NOTE
S.S. service wall	
Trench Drain	
Exhaust Hood w/Fire Protection System	
Control Panel w/Fire Protection System	
Hand Sink	
Eyewash	
S.S. Mobile Work Table	
Roll in hot holding cabinet, double door with racks	
Roll in refrigerator, double door with racks	
Waste Bin w/dolly	
Insulated Transport Cart	
Secure Insulated Transport Cart	
Hand Sink	

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
S.S. service wall			
Trench Drain			
Exhaust Hood w/Fire Protection System			
Control Panel w/Fire Protection System			
Hand Sink			
Eyewash			
S.S. Mobile Work Table			
Roll in hot holding cabinet, double door with racks			
Roll in refrigerator, double door with racks			
Waste Bin w/dolly			
Insulated Transport Cart			
Secure Insulated Transport Cart			
Hand Sink			

ITEM DESCRIPTION	HVAC NOTE
S.S. service wall	
Trench Drain	
Exhaust Hood w/Fire Protection System	HVAC REQUIREMENTS TO BE CONFIRMED BASED ON EQUIPMENT LOCATED UNDER EXHAUST HOOD.
Control Panel w/Fire Protection System	
Hand Sink	
Eyewash	
S.S. Mobile Work Table	
Roll in hot holding cabinet, double door with racks	
Roll in refrigerator, double door with racks	
Waste Bin w/dolly	
Insulated Transport Cart	
Secure Insulated Transport Cart	
Hand Sink	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																											
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3				
Main Kitchen	Janitor Closet	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser	EAGLE MASTERS OR EQUAL	HSA-10-FE																												
Main Kitchen	Janitor Closet	Mop Sink	1	3	Floor mounted stainless steel sink, type 304	ADVANCE TABCO	OP-40																												
Main Kitchen	Janitor Closet	Shelving, plastic, louvered	1	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL	METROMA XQ																												
Main Kitchen	Warewashing	Mobile Soak Sink	2	1	Stainless steel construction, type 304, #4 finish, 760mm wide x 760mm long x 800mm high (sink bowl to be 380mm deep), All radius corners, S.S. wire removable grate with maximum 6mm openings in grate, Lever waste with drain extension, Wrap around bumper, Cart washable casters, two locking	CUSTOM	CUSTOM																												
Main Kitchen	Warewashing	S.S. Soiled Scrapping Table w/pre-rinse, conveyor and disposer	1	2	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Dimensions to suit design and dishwasher selected and to provide access all around for cleaning. 2.0mm stainless steel top and integral waste trough, waste trough to be interconnected to waste disposer. Waste disposer to be piped to digester for automatic discharge of organic waste into digester. Swing out type clean up station with heavy duty hose, All welded stainless steel angle frame with 41mm diameter legs, Belt wash system, Variable speed conveyor, Dish rack stations, Auxillary start/stop stations as required by design, Integral backsplashes as required by design, Slope all areas to waste trough, Hat channel reinforcement as required by design, Sound deadening as required, Coved corners, S.S. wall panels, 760mm high fixed to wall above soiled dish tabling at all sides. Automatic dishrack conveyor, Moveable ss platform/landing stations x3 along length of tabling. Complete with disposer system at trough end. Disposer waste to be automatically discharged into Digester. Design system so that stacks of plates can be automatically conveyed to	AEROWERKS OR EQUAL	CUSTOM WITH WX300	208-230	3	9.4	60																CW	0.5							Direct
Main Kitchen	Warewashing	Washer, Rack Conveyor	1	2	Stainless steel rack conveyor-type dishwasher with pre-wash, wash and final rinse and blower dryer. Electric heat, blower dryer and booster. Auto fill, common hot water fill connection. Manifold drains wherever possible. Self draining pumps, water proof on/off switches and water tight controls. Insulated to reduce heat and sound levels. SS pumps and wash nozzles. Easily removable wash arms and screens. Controls inter-connected to exhaust fan and soiled dish table. Complete with remote temperature monitoring capabilities. S.S. clean dish table at discharge end to hold minimum of 5 dishracks. Provide all necessary limit switches and interconnections to dish machine and soiled dish table. Provide stainless steel duct connections from dish machine exhaust collars to above the finished ceiling for final connection to exhaust system. Complete with energy recovery system.	HOBART OR EQUAL/AEROWERKS OR EQUAL	CLE-66	208	3	81																									
Main Kitchen	Warewashing	S.S. Clean Unload Table	1	2	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Dimensions to suit design and dishwasher selected and to provide access all around for cleaning. 2.0mm stainless steel top, boxed and dished edges as required. Provide all necessary interconnections to limit switch and dishwasher.	CUSTOM	CUSTOM																												
Main Kitchen	Warewashing	Tray lowerators	4	1	Stainless steel construction complete with casters. Filed adjustable self levelling tray dispenser capable of holding up to 150 trays of 15"x20". To be included as part of meal delivery system. Confirm tray size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN																												

ITEM DESCRIPTION	ELECTRICAL NOTE
Hand Sink	
Mop Sink	
Shelving, plastic, louvered	
Mobile Soak Sink	
S.S. Soiled Scrapping Table w/pre-rinse, conveyor and disposer	
Warewasher, Rack Conveyor	Emergency power to be provided.
S.S. Clean Unload Table	
Tray lowerators	

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
Hand Sink			
Mop Sink			
Shelving, plastic, louvered			
Mobile Soak Sink			
S.S. Soiled Scrapping Table w/pre-rinse, conveyor and disposer			Direct
Warewasher, Rack Conveyor			
S.S. Clean Unload Table			
Tray lowerators			

ITEM DESCRIPTION	HVAC NOTE
Hand Sink	
Mop Sink	
Shelving, plastic, louvered	
Mobile Soak Sink	
S.S. Soiled Scrapping Table w/pre-rinse, conveyor and disposer	
Warewasher, Rack Conveyor	
S.S. Clean Unload Table	
Tray lowerators	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																							
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3
Main Kitchen	Warewashing	Dish rack lowerators	4	1	Stainless steel construction complete with casters. Fied adjustable self levelling dish dispenser. To be included as part of meal delivery system. Confirm rack size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN																								
Main Kitchen	Warewashing	Dish dispensers, heated	3	1	Convected air plate heater. Stainless steel construction complete with casters. Fied adjustable self levelling plate dispenser capable of holding up to 180 plates (3 stacks of 60). To be included as part of meal delivery system. Confirm plate size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN	120	1	12	60																				
Main Kitchen	Warewashing	Dish dispensers, unheated	3	1	Stainless steel construction complete with casters. Fied adjustable self levelling plate dispenser capable of holding up to 180 plates (3 stacks of 60). To be included as part of meal delivery system. Confirm plate size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN																								
Main Kitchen	Warewashing	Trench Drain	1	3	Stainless steel construction, type 304, #4 finish, Length and width to suit design x 150mm deep, All radius corners, 1.6mm stainless steel pan Honeycomb or other patterned grating, removable in sections, Provide strainer at all drains	CUSTOM	CUSTOM																								
Main Kitchen	Warewashing	Hose Reel with Gun complete with control box	1	2	Hot and cold water mixing valve (hose bib connection), Capable of automatic chemical injection, Spray gun with adjustable nozzles	FISCHER OR EQUAL	29629																								
Main Kitchen	Warewashing	Soiled pot wash table with sinks and Disposer	1	2	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Length to suit design x 760mm wide x 910mm high, Sinks to be minimum 610mm x 508mm x 350mm deep for wash and rinse sinks and 760mm x 508mm x 350mm deep for soak sinks complete with hot and cold water faucet with swing spout and one pre-rinse faucet, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, bHat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Tops to include rolled edges, Slope landing areas to sink, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Backsplash to be minimum 300mm high and include 19mm radius coved corner, splayed to wall where required, Bullet feet for tables without m/e services, flanged feet secured to floor with s.s. fasteners for tables with m/e services, S.S. wall panels, 760mm high fixed to wall above backsplash at all sides	CUSTOM + WASTE EXPRESS	CUSTOM + WX300	208	3	12	60																				
Main Kitchen	Warewashing	Pot washer, ELECTRIC	1	2	Self-contained, automatic cart washer complete with stainless steel tank, chamber, frame and feet. Heavy duty 5 hp motor, door interlock switch and low water protection. Chamber capable of accomodating 16 full sized sheet pans and capable of processing 19 racks per hour.	HOBART OR EQUAL	UW 50	208	3	94	60																				
Main Kitchen	Warewashing	Condensate Hood	1	3	Box type, Sized to suit machine (ensure minimum 200mm overhang on sides and 450mm in front of unit), Stainless steel liquid tight construction, Condensate baffles, Drain outlet	HALTON OR SPRING AIR	VAR	120	1	10	60																				
Main Kitchen	Warewashing	S.S. clean dish table	1	1	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Dimensions to suit design and dishwasher selected and to provide access all around for cleaning. 2.0mm stainless steel top and integral drain. Provide all necessary interconnections to limit switch and dishwasher.	CUSTOM	CUSTOM																								
Main Kitchen	Warewashing	Organic Waste Digester Connected to Disposers	1	2	self-contained, continual feed, organic food waste elimination system to convert food waste into water using a combination of mechanical processing, heat, oxygen and all-natural additives to accelerate the natural aerobic decomposition process. Organic waste to be reduced to a gray water effluent that can be safely disposed of into existing municipal waste water systems.	ENVIROPURE	EPW	208-230	3	40	60																				

ITEM DESCRIPTION	ELECTRICAL NOTE
Dish rack lowerators	
Dish dispensers, heated	
Dish dispensers, unheated	
Trench Drain	
Hose Reel with Gun complete with control box	
Soiled pot wash table with 3 sinks and Disposer	
Pot washer, ELECTRIC	
Condensate Hood	
S.S. clean dish table	
Organic Waste Digester Connected to Disposers	

ITEM DESCRIPTION	PLUMBING																																								
	FLUID 1	ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3		OD 3		CODE 3	CONN 3	FLOW 3			
		AVERAGE		PEAK				LOW		HIGH		AVERAGE		PEAK			LOW		HIGH				AVERAGE		PEAK		LOW		HIGH			AVERAGE		PEAK							
		GAL/MIN	LPS	GAL/MIN	LPS			PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN	LPS		PSI	KPA	PSI	KPA			GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI	KPA		GAL/MIN	LPS	GAL/MIN	LPS						
INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM												
Dish rack lowerators																																									
Dish dispensers, heated																																									
Dish dispensers, unheated																																									
Trench Drain	ID		75																																						
Hose Reel with Gun complete with control box	CW		19											HW	19																										
Soiled pot wash table with 3 sinks and Disposer	CW		1@13 : 2@29											HW	1@13 : 2@29																										
Pot washer, ELECTRIC	HW		13											ID	50																										
Condensate Hood																																									
S.S. clean dish table	ID		19																																						
Organic Waste Digester Connected to Disposers	CW		19											ID	100																										

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
Dish rack lowerators			
Dish dispensers, heated			
Dish dispensers, unheated			
Trench Drain			
Hose Reel with Gun complete with control box			
Soiled pot wash table with 3 sinks and Disposer			
Pot washer, ELECTRIC			
Condensate Hood			
S.S. clean dish table			
Organic Waste Digester Connected to Disposers			

ITEM DESCRIPTION	PLUMBING																					HVAC																		
	GH	FLUID 4	ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA		
			INCH	MM			AVERAGE		PEAK		LOW		HIGH			AVERAGE				PEAK		LOW		HIGH		INCH	MM				INCH	MM								
			MBTUH	LPS			GAL/MIN	LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS		GAL/MIN	LPS			PSI	KPA	PSI	KPA																	
Dish rack lowerators																																								
Dish dispensers, heated																																								
Dish dispensers, unheated																																								
Trench Drain																																								
Hose Reel with Gun complete with control box																																								
Soiled pot wash table with 3 sinks and Disposer																																								
Pot washer, ELECTRIC																																								
Condensate Hood																																						1000		
S.S. clean dish table																																								
Organic Waste Digester Connected to Disposers																																								

ITEM DESCRIPTION	HVAC NOTE
Dish rack lowerators	
Dish dispensers, heated	
Dish dispensers, unheated	
Trench Drain	
Hose Reel with Gun complete with control box	
Soiled pot wash table with 3 sinks and Disposer	
Pot washer, ELECTRIC	
Condensate Hood	
S.S. clean dish table	
Organic Waste Digester Connected to Disposers	

TO DEPARTMENT	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ELECTRICAL																											
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CONN 3	PLUG 3	DATA 3				
Main Kitchen	Warewashing	Pot Rack	4	1	Constructed or reinforced polymer or stainless steel, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 610mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable. Provide pot/pan inserts.	INTERMETRO OR EQUAL	PR48VX2																												
Main Kitchen	Warewashing	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser	EAGLE MASTERS OR EQUAL	HSA-10-FE	120	1	5	60																								
Main Kitchen	Warewashing	Eyewash	1	3	Floor or sink mounted emergency eyewash complete with safety mixing valve	SPEAKMAN OR EQUAL	SE-580-ADA																												
Main Kitchen	Warewashing	Waste Bin w/Dolly	4	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																												
Main Kitchen	Cart Wash	Hose Reel with Gun complete with control box	1	2	Hot and cold water mixing valve (hose bib connection), Capable of automatic chemical injection, Spray gun with adjustable nozzles	FISCHER OR EQUAL	29629																												
Main Kitchen	Cart Wash	Trench Drain	1	3	Stainless steel construction, type 304, #4 finish, Length and width to suit design x 150mm deep, All radius corners, 1.6mm stainless steel pan Honeycomb or other patterned grating, removable in sections, Provide strainer at all drains	CUSTOM	CUSTOM																												
Main Kitchen	Cart Wash	Stainless steel wall cladding	1	3	2.0mm stainless steel wall panels applied to the complete interior (walls and ceiling) of cart wash area, Stainless steel trim where panels join together to form a water tight joint	CUSTOM	CUSTOM																												

ITEM DESCRIPTION	ELECTRICAL NOTE
Pot Rack	
Hand Sink	
Eyewash	
Waste Bin w/Dolly	
Hose Reel with Gun complete with control box	
Trench Drain	
Stainless steel wall cladding	

ITEM DESCRIPTION	PRESSURE		
	LOW		HIGH
	PSI	KPA	PSI
Pot Rack			
Hand Sink			
Eyewash			
Waste Bin w/Dolly			
Hose Reel with Gun complete with control box			
Trench Drain			
Stainless steel wall cladding			

ITEM DESCRIPTION	HVAC NOTE
Pot Rack	
Hand Sink	
Eyewash	
Waste Bin w/Dolly	
Hose Reel with Gun complete with control box	
Trench Drain	
Stainless steel wall cladding	

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	ELECTRICAL																					FLUID 1	ID 1				
					VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CONN 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CONN 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3		CONN 3	PLUG 3	DATA 3	INCH	MM
					Cafeteria/Servery	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin.	120	1	2	60																		
Cafeteria/Servery	Eyewash	1	3	Floor or sink mounted emergency eyewash complete with safety mixing valve																								CW		19	
Cafeteria/Servery	Cart, Utility	1	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers. Cart washable casters, 180kg capacity																											
Cafeteria/Servery	Coffee brewer	1	2	Hard wired automatic pourover coffee maker complete with airpots. Twin brew head system capable of brewing 56 litres per hour. Complete with hot water faucet	240	1	28	60																				CW		9	
Cafeteria/Servery	Hot Water Dispenser	1	2	Hot water boiler with faucet, Capacity 2 gallons,complete with water filter	240	1	28	60																				CW		9	
Cafeteria/Servery	Ice/Water Dispenser	1	2	Compact, touch free ice/water dispenser capable of producing up to 520 pounds of nugget ice per day with a 26 pound storage capacity.	120	1	20	60																				CW		2@9	
Cafeteria/Servery	Milk Dispenser	1	1	Self contained refrigerated bag in box, portion control milk dispenser complete with stainless steel construction and digital display.	120	1	1	60																							
Cafeteria/Servery	Juice Dispenser	1	2	4 flavor cold beverage dispenser, self contained refrigerated cabinet capable of holding 15 litres of concentrate. Complete with cord and plug.	120	1	15	60																				CW		9	
Cafeteria/Servery	Roll in hot holding cabinet, single door with racks	1	1	Mobile holding oven. Single roll-in compartment, Stainless steel interior and exterior. Digital controls. Door venting. Solid state electronic control. Solid doors.	120	1	8	60																							
Cafeteria/Servery	Roll in refrigerator, double door with racks	1	1	Two full door section roll-in refrigerator, Minimum 1.5 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, No R22 refrigerant, Coved interior corners	120	1	16	60																							
Cafeteria/Servery	Self Serve Air Screen Wall Refrig. Showcase	1	1	Vertical upright refrigerated air curtain merchandiser complete with adjustable shelving and self contained refrigeration.	208	1	12	60																							
Cafeteria/Servery	Display Case, Non-Refrigerated, Countertop	1	1	Self serve ambient merchandiser complete with adjustable shelving.																											
Cafeteria/Servery	Drop-In, Soup Well	2	1	Deep drawn stainless steel round warming pan complete with tubular element, dial thermostat, built in drain, and recessed controls. Capable of wet or dry operation	208/240	1	16	60																				ID		13	
Cafeteria/Servery	4 Well Hot/Cold Convertible Food Unit	1	1	Convertible hot/cold drop in pan complete with electric immersion heating system and self-contained air cooled condensing unit. ULC listed and NSF-7 compliant with auto fill feature and built in drain. Complete with adapter bars.	208/240	1	35	60																				ID		13	
Cafeteria/Servery	Plate lowerator, built in	2	1	Stainless steel construction, field, adjustable self levelling plate dispenser, capacity to be confirmed with users. To be included as part of meal delivery system. Confirm plate size with Owner.																											
Cafeteria/Servery	Toaster, Conveyor	1	1	Stainless steel construction, type 304, High volume toast and bagel toaster (minimum 75mm opening), Multiple heating elements, Insulated construction, Toast collector pan, toast feed ramp and removable crumb tray	208	1	22	60																							
Cafeteria/Servery	Griddle, Double-Sided, Electric	1	1	double sided, electric griddle with cast iron plates, stainless steel base, spring counter balanced top detachable drip tray and scraper, thermostatically controlled to 570 degrees F. Complete with on/off switch and cord and plug/.	208/240	1	27	60																							
Cafeteria/Servery	Microwave	1	1	Commercial grade, 10 touch pad control panel shall be programmable, 5 power level, 1800 watt output., 1.2 cubic foot capacity.	208/240	1	20	60																							
Cafeteria/Servery	Sandwich/Salad Prep Unit	1	1	Self contained sandwich prep unit with forced air refrigeration system, stainless steel construction complete with removable foam insulated lid and hood, full length removable cutting board, and heavy duty PVC coated wire shelves.	120	1	9	60																							
Cafeteria/Servery	Trash Can W/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											
Cafeteria/Servery	Recycle Bin w/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											
Cafeteria/Servery	Organics Bin w/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											
Cafeteria/Servery	Sneeze guard	2	2	Fully adjustable modular glass panel sneeze guards capable of 360° adjustment. UL and NSF listed.																											
Cafeteria/Servery	Millwork Counter, Front	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.																											
Cafeteria/Servery	Millwork Counter, Rear	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.																											
Cafeteria/Servery	Millwork Condiment Counter	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.																											
Cafeteria/Servery	Microwave oven	2	1	Commercial grade, 10 touch pad control panel shall be programmable, 5 power level, 1800 watt output., 1.2 cubic foot capacity.	208/240	1	20	60																							
Cafeteria/Servery	Millwork Trash Station	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.																											
Cafeteria/Servery	Millwork Cash Station	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.																											
Cafeteria/Servery	Trash Can W/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											
Cafeteria/Servery	Recycle Bin w/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											
Cafeteria/Servery	Organics Bin w/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters																											

ITEM DESCRIPTION	PLUMBING																																					
	OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3		OD 3		CODE 3	CONN 3	FLOW 3			
	INCH	MM			AVERAGE		PEAK		LOW		HIGH			INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH			INCH	MM	INCH	MM			AVERAGE		PEAK	
			GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN					LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN	LPS	PSI											
Hand Sink											HW		13										ID		38													
Eyewash											HW		19																									
Cart, Utility																																						
Coffee brewer																																						
Hot Water Dispenser																																						
Ice/Water Dispenser											ID		1@19 ; 1@13																									
Milk Dispenser																																						
Juice Dispenser																																						
Roll in hot holding cabinet, single door with racks																																						
Roll in refrigerator, double door with racks																																						
Self Serve Air Screen Wall Refrig. Showcase																																						
Display Case, Non-Refrigerated, Countertop																																						
Drop-In, Soup Well																																						
4 Well Hot/Cold Convertible Food Unit																																						
Plate lowerator, built in																																						
Toaster, Conveyor																																						
Griddle, Double-Sided, Electric																																						
Microwave																																						
Sandwich/Salad Prep Unit																																						
Trash Can W/Dolly																																						
Recycle Bin w/Dolly																																						
Organics Bin w/Dolly																																						
Sneeze guard																																						
Millwork Counter, Front																																						
Millwork Counter, Rear																																						
Millwork Condiment Counter																																						
Microwave oven																																						
Millwork Trash Station																																						
Millwork Cash Station																																						
Trash Can W/Dolly																																						
Recycle Bin w/Dolly																																						
Organics Bin w/Dolly																																						

ITEM DESCRIPTION	PRESSURE 3		
	LOW	HIGH	
	KPA	PSI	KPA
Hand Sink			
Eyewash			
Cart, Utility			
Coffee brewer			
Hot Water Dispenser			
Ice/Water Dispenser			
Milk Dispenser			
Juice Dispenser			
Roll in hot holding cabinet, single door with racks			
Roll in refrigerator, double door with racks			
Self Serve Air Screen Wall Refrig. Showcase			
Display Case, Non-Refrigerated, Countertop			
Drop-In, Soup Well			
4 Well Hot/Cold Convertible Food Unit			
Plate lowerator, built in			
Toaster, Conveyor			
Griddle, Double-Sided, Electric			
Microwave			
Sandwich/Salad Prep Unit			
Trash Can W/Dolly			
Recycle Bin w/Dolly			
Organics Bin w/Dolly			
Sneeze guard			
Millwork Counter, Front			
Millwork Counter, Rear			
Millwork Condiment Counter			
Microwave oven			
Millwork Trash Station			
Millwork Cash Station			
Trash Can W/Dolly			
Recycle Bin w/Dolly			
Organics Bin w/Dolly			

ITEM DESCRIPTION	PLUMBING																																								
	OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2				OD 2	CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3				OD 3	CODE 3	CONN 3	FLOW 3				L
	INCH	MM			AVERAGE		PEAK		LOW		HIGH			INCH	MM	INCH	MM				AVERAGE		PEAK		LOW		HIGH			INCH	MM	INCH	MM				AVERAGE		PEAK		
			GAL/MIN	LPS	GAL/MIN	LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN					LPS	PSI	KPA	PSI	KPA	GAL/MIN	LPS	GAL/MIN	LPS	PSI														
Tray Return Carts																																									
Point of Sale System																																									
Digital Menu Board																																									

ITEM DESCRIPTION	PRESSURE 3		
	LOW	HIGH	
	KPA	PSI	KPA
Tray Return Carts			
Point of Sale System			
Digital Menu Board			

TO RM#	TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL
FOH	Canteen	Millwork Counter	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM
FOH	Canteen	Refrigerated Display Case	1	1	Vertical upright refrigerated air curtain merchandiser complete with adjustable shelving and self contained refrigeration.	STRUCTURAL CONCEPTS OR EQUAL	B4732
FOH	Canteen	Ambient Display Case	2	1	Self serve ambient merchandiser complete with adjustable shelving.	STRUCTURAL CONCEPTS OR EQUAL	CGS3830
FOH	Canteen	Coffee Maker, Automatic	1	2	Hard wired automatic pourover coffee maker complete with airpots. Twin brew head system capable of brewing 56 litres per hour. Complete with hot water faucet	BUNN OR EQUAL	CWTF TWIN
FOH	Canteen	Hot Water Dispenser	1	2	Hot water boiler with faucet, Capacity 2 gallons, complete with water filter	BUNN OR EQUAL	HW-2
FOH	Canteen	Hot Powdered Drink Dispenser	1	1	3 flavor hot powdered drink dispenser complete with variable speed motors and automatic rinse mechanism	BUNN OR EQUAL	FMD-3
FOH	Canteen	Undercounter Refrigerator	1	1	single door undercounter refrigerator, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE OR EQUAL	TUC-36
BOH	Canteen	Reach-in Refrigerator	1	1	One full door section refrigerator, Minimum 0.74 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE OR EQUAL	T-23
BOH	Canteen	Reach-in Freezer	1	1	One full door section freezer, Minimum 0.74 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, coved interior corners	TRUE OR EQUAL	T-23-F
BOH	Canteen	Back counter with sink	1	3	Custom fabricated millwork counter, complete with stainless steel sink, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM
BOH	Canteen	Over cupboards	1	3	Custom fabricated millwork overcupboards, dimensions and accessories to suit design.	CUSTOM	CUSTOM
BOH	Canteen	Hands Free Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin,	EAGLE MASTERS OR EQUAL	HSA-10-FE
BOH	Canteen	Waste Bin w/dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640
BOH	Canteen	Undercounter Warewasher, hi temp	1	2	Undercounter warewasher capable of washing 30 racks per hour, hot water wash with built in booster heater capable of 70° rise.	HOBART or EQUAL	Lxi
BOH	Canteen	Point of Sale System	1	2	By Others. Data drops to be provided by GC.		
BOH	Canteen	Millwork Condiment Counter	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.		
BOH	Canteen	Digital Menu Board	1	2	By Others. Data drops to be provided by GC.		

ITEM DESCRIPTION	ELECTRICAL																							
	VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3	DATA 3
Millwork Counter	120	1	15																					
Refrigerated Display Case	208	1	12	60																				
Ambient Display Case																								
Coffee Maker, Automatic	240	1	28	60																				
Hot Water Dispenser	240	1	28	60																				
Hot Powdered Drink Dispenser	120	1	15	60																				
Undercounter Refrigerator	120	1	9	60																				
Reach-in Refrigerator	120	1	8	60																				
Reach-in Freezer	120	1	8	60																				
Back counter with sink																								
Over cupboards																								
Hands Free Hand Sink	120	1	2	60																				
Waste Bin w/dolly																								
Undercounter Warewasher, hi temp	208/240	1	38	60																				
Point of Sale System																								
Millwork Condiment Counter																								
Digital Menu Board																								

ITEM DESCRIPTION	FLUID 1	ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2												
		INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH			INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH										
								GAL/LPS	LPS	GAL/LPS	LPS	PSI	KPA	PSI	KPA								PSI	KPA	PSI	KPA	PSI	KPA	PSI	KPA	PSI	KPA							
Millwork Counter																																							
Refrigerated Display Case																																							
Ambient Display Case																																							
Coffee Maker, Automatic	CW		9																																				
Hot Water Dispenser	CW		9																																				
Hot Powdered Drink Dispenser																																							
Undercounter Refrigerator																																							
Reach-in Refrigerator																																							
Reach-in Freezer																																							
Back counter with sink																																							
Over cupboards																																							
Hands Free Hand Sink	CW		13												HW		13																						
Waste Bin w/dolly																																							
Undercounter Warewasher, hi temp	HW		19												ID		19																						
Point of Sale System																																							
Millwork Condiment Counter																																							
Digital Menu Board																																							

ITEM DESCRIPTION	FLUID 5		ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				HVAC								
	5	5	INCH	MM			AVERAGE		PEAK		LOW		HIGH		BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS
					GAL/	LPS	GAL/	LPS	PSI	KPA	PSI	KPA	PSI	KPA			PSI	KPA	INCH	MM			
Millwork Counter																							
Refrigerated Display Case																							
Ambient Display Case																							
Coffee Maker, Automatic																							
Hot Water Dispenser																							
Hot Powdered Drink Dispenser																							
Undercounter Refrigerator																							
Reach-in Refrigerator																							
Reach-in Freezer																							
Back counter with sink																							
Over cupboards																							
Hands Free Hand Sink																							
Waste Bin w/dolly																							
Undercounter Warewasher, hi temp																							
Point of Sale System																							
Millwork Condiment Counter																							
Digital Menu Board																							

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL									
							VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1	
Servery's	Millwork Back Counter w/ Sink	1	3	Custom fabricated millwork counter, complete with stainless steel sink, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM									
Servery's	Millwork Overcupboards	1	3	Custom fabricated millwork overcupboards, dimensions and accessories to suit design.	CUSTOM	CUSTOM									
Servery's	Hands Free Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin,	EAGLE MASTERS OR EQUAL	HSA-10-FE	120	1	2	60					
Servery's	Millwork Front Counter	1	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM									
Servery's	Drop-In, Soup Wells	1	1	Deep drawn stainless steel round warming pan complete with tubular element, dial thermostat, built in drain, and recessed controls. Capable of wet or dry operation	WELLS OR EQUAL	SS-10-ULTD	208/240	1	16	60					
Servery's	4 Well hot/cold food table	1	1	Convertible hot/cold drop in pan complete with electric immersion heating system and self-contained air cooled condensing unit. ULC listed and NSF-7 compliant with auto fill feature and built in drain. Complete with adapter bars.	WELLS OR EQUAL	HRCP-7400	208/240	1	35	60					
Servery's	Plate lowerator, built in	1	1	Stainless steel construction, field, adjustable self levelling plate dispenser, capacity to be confirmed with users. To be included as part of meal delivery system. Confirm plate size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN									
Servery's	Pass Through Refrigerated Display	1	1	Vertical upright pass-through refrigerated air curtain merchandiser complete with adjustable shelving and self contained refrigeration.	STRUCTURAL CONCEPTS OR EQUAL	B4732P	208	1	12	60					
Servery's	Toaster, Conveyor	1	1	Stainless steel construction, type 304, High volume toast and bagel toaster (minimum 75mm opening), Multiple heating elements, Insulated construction, Toast collector pan, toast feed ramp and removable crumb tray	HATCO OR EQUAL	TO-1800	208	1	22	60					
Servery's	Coffee Maker, Airpot, Automatic	1	2	Hard wired automatic pourover coffee maker complete with airpots. Twin brew head system capable of brewing 56 litres per hour. Complete with hot water faucet	BUNN OR EQUAL	CWTF TWIN	240	1	28	60					
Servery's	Dispenser, Hot Water	1	2	Hot water boiler with faucet, Capacity 2 gallons, complete with water filter	BUNN OR EQUAL	HW-2	240	1	28	60					
Servery's	Reach-In Refrigerator	1	1	One full door section refrigerator, Minimum 0.74 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE OR EQUAL	T-23	120	1	8	60					
Servery's	Microwave Oven	1	2	Commercial grade, 10 touch pad control panel shall be programmable, 5 power level, 1800 watt output., 1.2 cubic foot capacity.	AMANA OR EQUAL	MFS-18TS	208/240	1	20	60					
Servery's	Sneeze Guards	2	1	Fully adjustable modular glass panel sneeze guards capable of 360° adjustment. UL and NSF listed.	BSI OR EQUAL	Z-Guard									
Servery's	Utility Cart	1	2	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers, Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD									
Servery's	Washer, Undercounter, High Temp	1	1	Undercounter warewasher capable of washing 30 racks per hour, hot water wash with built in booster heater capable of 70° rise.	HOBART or EQUAL	Lxi	208/240	1	38	60					
Servery's	Waste Bin W/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640									
Servery's	Cart, Utility	1	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers, Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD									
Servery's	Tray Return Cart	2	1	Stainless steel construction, type 304, #4 finish, Open all sides with stainless steel base, Base to include marine edge and drain hole, Corner or donut bumpers, Cart washable casters, Slide stops. Confirm tray or pan sizes with owner.	HATCH OR EQUAL	TO SUIT DESIGN									

ITEM DESCRIPTION	ELECTRICAL															FLUID 1	ID 1		OD 1		CODE 1	CONN 1	FLOW 1		PRESSURE 1				
	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3		DATA 3	INCH	MM	INCH			MM	AVERAGE	PEAK	LOW	HIGH		
																								GAL/ LPS	GAL/ LPS	PSI	KPA	PSI	KPA
Millwork Back Counter w/ Sink																													
Millwork Overcupboards																													
Hands Free Hand Sink																	CW		13										
Millwork Front Counter																													
Drop-In, Soup Wells																	ID		13										
4 Well hot/cold food table																	ID		13										
Plate lowerator, built in																													
Pass Through Refrigerated Display																													
Toaster, Conveyor																													
Coffee Maker, Airpot, Automatic																	CW		9										
Dispenser, Hot Water																	CW		9										
Reach-In Refrigerator																													
Microwave Oven																													
Sneeze Guards																													
Utility Cart																													
Warewasher, Undercounter, High Temp																	HW		19										
Waste Bin W/Dolly																													
Cart, Utility																													
Tray Return Cart																													

ITEM DESCRIPTION	PLUMBING																																			
	FLUID 2		ID 2		OD 2		CODE 2		CONN 2		FLOW 2				PRESSURE 2				FLUID 3		ID 3		OD 3		CODE 3		CONN 3		FLOW 3				PRESSURE 3			
	INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH		INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH									
							GAL/	LPS	GAL/	LPS	PSI	KPA	PSI	KPA							GAL/	LPS	GAL/	LPS	PSI	KPA	PSI	KPA								
Millwork Back Counter w/ Sink																																				
Millwork Overcupboards																																				
Hands Free Hand Sink	HW		13											ID	38																					
Millwork Front Counter																																				
Drop-In, Soup Wells																																				
4 Well hot/cold food table																																				
Plate lowerator, built in																																				
Pass Through Refrigerated Display																																				
Toaster, Conveyor																																				
Coffee Maker, Airpot, Automatic																																				
Dispenser, Hot Water																																				
Reach-In Refrigerator																																				
Microwave Oven																																				
Sneeze Guards																																				
Utility Cart																																				
Warewasher, Undercounter, High Temp	ID		19																																	
Waste Bin W/Dolly																																				
Cart, Utility																																				
Tray Return Cart																																				

ITEM DESCRIPTION	FLUID 4	ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				HVAC									
		INCH	MM			AVERAGE		PEAK		LOW		HIGH			INCH	MM			AVERAGE		PEAK		LOW		HIGH		BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA
						MBTUH	LPS	GAL/ LPS	LPS	PSI	KPA	PSI	KPA						PSI	KPA	PSI	KPA	PSI	KPA	PSI	KPA			INCH	MM	INCH	MM				
Millwork Back Counter w/ Sink																																				
Millwork Overcupboards																																				
Hands Free Hand Sink																																				
Millwork Front Counter																																				
Drop-In, Soup Wells																																				
4 Well hot/cold food table																																				
Plate lowerator, built in																																				
Pass Through Refrigerated Display																																				
Toaster, Conveyor																																				
Coffee Maker, Airpot, Automatic																																				
Dispenser, Hot Water																																				
Reach-In Refrigerator																																				
Microwave Oven																																				
Sneeze Guards																																				
Utility Cart																																				
Warewasher, Undercounter, High Temp																																				
Waste Bin W/Dolly																																				
Cart, Utility																																				
Tray Return Cart																																				

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL								
							VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1
Nutrition Centre	Millwork Counter w/ Sink	1	3	Custom fabricated millwork counter, complete with stainless steel sink, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM								
Nutrition Centre	Millwork Overcupboards	1	3	Custom fabricated millwork overcupboards, dimensions and accessories to suit design.	CUSTOM	CUSTOM								
Nutrition Centre	Domestic refrigerator/freezer	1	1	Domestic type, stand-up style refrigerator with top freezer section	DOMESTIC	DOMESTIC								
Nutrition Centre	Domestic kettle	1	1	Plug in type dometic kettle.	DOMESTIC	DOMESTIC								
Nutrition Centre	Ice/Water Dispenser	1	2	Compact, touch free ice/water dispenser capable of producing up to 520 pounds of nugget ice per day with a 26 pound storage capacity.	SCOTSMAN OR EQUAL	MDT5N25	120	1	20	60				
Nutrition Centre	Domestic toaster	1	1	Plug in type dometic toaster	DOMESTIC	DOMESTIC								
Nutrition Centre	Domestic coffee brewer	1	1	Plug in type dometic coffee brewer	DOMESTIC	DOMESTIC								
Nutrition Centre	Waste Bin W/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640								

ITEM DESCRIPTION	ELECTRICAL															
	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3	DATA 3
Millwork Counter w/ Sink																
Millwork Overcupboards																
Domestic refrigerator/freezer																
Domestic kettle																
Ice/Water Dispenser																
Domestic toaster																
Domestic coffee brewer																
Waste Bin W/Dolly																

ITEM DESCRIPTION	FLUID 1	ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2										
		AVERAGE		PEAK				LOW	HIGH	AVERAGE		PEAK		LOW	HIGH		AVERAGE		PEAK				LOW	HIGH													
		GAL/LPS	GAL/LPS	PSI	KPA			PSI	KPA	GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA		GAL/LPS	GAL/LPS	PSI	KPA			PSI	KPA													
		INCH	MM	INCH	MM			INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM	INCH	MM			INCH	MM													
Millwork Counter w/ Sink																																					
Millwork Overcupboards																																					
Domestic refrigerator/freezer																																					
Domestic kettle																																					
Ice/Water Dispenser	CW		2@9											ID		1@19; 1@13																					
Domestic toaster																																					
Domestic coffee brewer																																					
Waste Bin W/Dolly																																					

ITEM DESCRIPTION					FLOW 5				PRESSURE 5				HVAC										
	FLUID 5	ID 5		CODE 5	CONN 5	AVERAGE		PEAK		LOW		HIGH		BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA
		INCH	MM			GAL/	LPS	GAL/	LPS	PSI	KPA	PSI	KPA			INCH	MM	INCH	MM				
Millwork Counter w/ Sink																							
Millwork Overcupboards																							
Domestic refrigerator/freezer																							
Domestic kettle																							
Ice/Water Dispenser																							
Domestic toaster																							
Domestic coffee brewer																							
Waste Bin W/Dolly																							

Appendix 3F(ii) SHNB Foodservice Equipment List

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL									
							VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1	
Acute Care Servery	Millwork Back Counter w/ Sink	2	3	Custom fabricated millwork counter, complete with stainless steel sink, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM									
Acute Care Servery	Millwork Overcupboards	1	3	Custom fabricated millwork overcupboards, dimensions and accessories to suit design.	CUSTOM	CUSTOM									
Acute Care Servery	Hands Free Hand Sink	2	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin,	EAGLE MASTERS OR EQUAL	HSA-10-FE	120	1	2	60					
Acute Care Servery	Millwork Front Counter	2	3	Custom fabricated millwork counter, dimensions, accessories and convenience receptacles to suit design.	CUSTOM	CUSTOM									
Acute Care Servery	Drop-In, Soup Wells	2	1	Deep drawn stainless steel round warming pan complete with tubular element, dial thermostat, built in drain, and recessed controls. Capable of wet or dry operation	WELLS OR EQUAL	SS-10-ULTD	208/24	1	16	60					
Acute Care Servery	4 Well hot/cold food table	2	1	Convertible hot/cold drop in pan complete with electric immersion heating system and self-contained air cooled condensing unit. ULC listed and NSF-7 compliant with auto fill feature and built in drain. Complete with adapter bars.	WELLS OR EQUAL	HRCP-7400	208/24	1	35	60					
Acute Care Servery	Plate lowerator, built in	2	1	Stainless steel construction, field, adjustable self levelling plate dispenser, capacity to be confirmed with users. To be included as part of meal delivery system. Confirm plate size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN									
Acute Care Servery	Pass Through Refrigerated Display	2	1	Vertical upright pass-through refrigerated air curtain merchandiser complete with adjustable shelving and self contained refrigeration.	STRUCTURAL CONCEPTS OR EQUAL	B4732P	208	1	12	60					
Acute Care Servery	Toaster, Conveyor	2	1	Stainless steel construction, type 304, High volume toast and bagel toaster (minimum 75mm opening), Multiple heating elements, Insulated construction, Toast collector pan, toast feed ramp and removable crumb tray	HATCO OR EQUAL	TO-1800	208	1	22	60					
Acute Care Servery	Coffee Maker, Airpot, Automatic	2	2	Hard wired automatic pourover coffee maker complete with airpots. Twin brew head system capable of brewing 56 litres per hour. Complete with hot water faucet	BUNN OR EQUAL	CWTF TWIN	240	1	28	60					
Acute Care Servery	Dispenser, Hot Water	1	2	Hot water boiler with faucet, Capacity 2 gallons, complete with water filter	BUNN OR EQUAL	HW-2	240	1	28	60					
Acute Care Servery	Reach-In Refrigerator	1	1	Two full door sections refrigerator, Minimum 0.74 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE or EQUAL	T-49	120	1	11	60					
Acute Care Servery	Ice/Water Dispenser	1	2	Compact, touch free ice/water dispenser capable of producing up to 520 pounds of nugget ice per day with a 26 pound storage capacity.	SCOTSMAN OR EQUAL	MDT5N25	120	1	20	60					
Acute Care Servery	Microwave Oven	1	1	Commercial grade, 10 touch pad control panel shall be programmable, 5 power level, 1800 watt output., 1.2 cubic foot capacity.	AMANA OR EQUAL	MFS-18TS	208/24	1	20	60					
Acute Care Servery	Sneeze Guards	2	2	Fully adjustable modular glass panel sneeze guards capable of 360° adjustment. UL and NSF listed.	BSI OR EQUAL	Z-Guard									
Acute Care Servery	Utility Cart	4	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers. Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD									
Acute Care Servery	Waste Bin W/Dolly	1	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640									
Acute Care Servery	Cart, Utility	1	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers. Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD									
Acute Care Servery	Tray Return Cart	6	1	Stainless steel construction, type 304, #4 finish, Open all sides with stainless steel base, Base to include marine edge and drain hole, Corner or donut bumpers, Cart washable casters, Slide stops. Confirm tray or pan sizes with owner.	HATCH OR EQUAL	TO SUIT DESIGN									

ITEM DESCRIPTION	ELECTRICAL																FLUID 1	ID 1				OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1			
	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3	DATA 3		INCH	MM	INCH	MM	AVERAGE	PEAK			LOW	HIGH	PSI	KPA	PSI	KPA		
																						GAL/ LPS	GAL/ LPS			PSI	KPA	PSI	KPA				
Millwork Back Counter w/ Sink																																	
Millwork Overcupboards																																	
Hands Free Hand Sink																	CW		13														
Millwork Front Counter																																	
Drop-In, Soup Wells																	ID		13														
4 Well hot/cold food table																	ID		13														
Plate lowerator, built in																																	
Pass Through Refrigerated Display																																	
Toaster, Conveyor																																	
Coffee Maker, Airpot, Automatic																	CW		9														
Dispenser, Hot Water																	CW		9														
Reach-In Refrigerator																																	
Ice/Water Dispenser																	CW		2@9														
Microwave Oven																																	
Sneeze Guards																																	
Utility Cart																																	
Waste Bin W/Dolly																																	
Cart, Utility																																	
Tray Return Cart																																	

ITEM DESCRIPTION	PLUMBING																																					
	FLUID 2		ID 2		OD 2		CODE 2		CONN 2		FLOW 2				PRESSURE 2				FLUID 3		ID 3		OD 3		CODE 3		CONN 3		FLOW 3				PRESSURE 3					
											AVERAGE		PEAK		LOW		HIGH										AVERAGE		PEAK		LOW		HIGH					
			INCH MM		INCH MM						GAL/ LPS		GAL/ LPS		PSI KPA		PSI KPA		ID		INCH MM		INCH MM						GAL/ LPS		GAL/ LPS		PSI KPA		PSI KPA			
Millwork Back Counter w/ Sink																																						
Millwork Overcupboards																																						
Hands Free Hand Sink	HW			13															ID			38																
Millwork Front Counter																																						
Drop-In, Soup Wells																																						
4 Well hot/cold food table																																						
Plate lowerator, built in																																						
Pass Through Refrigerated Display																																						
Toaster, Conveyor																																						
Coffee Maker, Airpot, Automatic																																						
Dispenser, Hot Water																																						
Reach-In Refrigerator																																						
Ice/Water Dispenser	ID			1@1 9; 1@1 3																																		
Microwave Oven																																						
Sneeze Guards																																						
Utility Cart																																						
Waste Bin W/Dolly																																						
Cart, Utility																																						
Tray Return Cart																																						

ITEM DESCRIPTION	FLUID 4		ID 4		CODE 4	CONN 4	FLOW 4				PRESSURE 4				FLUID 5		ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				HVAC											
	INCH	MM	INCH	MM			AVERAGE		PEAK		LOW		HIGH		INCH	MM			AVERAGE		PEAK		LOW		HIGH		BTU/HR	MAX BTU/HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA				
							MBTUH	LPS	GAL/	LPS	PSI	KPA	PSI	KPA					GAL/	LPS	PSI	KPA	PSI	KPA	INCH	MM			INCH	MM										
Millwork Back Counter w/ Sink																																								
Millwork Overcupboards																																								
Hands Free Hand Sink																																								
Millwork Front Counter																																								
Drop-In, Soup Wells																																								
4 Well hot/cold food table																																								
Plate lowerator, built in																																								
Pass Through Refrigerated Display																																								
Toaster, Conveyor																																								
Coffee Maker, Airpot, Automatic																																								
Dispenser, Hot Water																																								
Reach-In Refrigerator																																								
Ice/Water Dispenser																																								
Microwave Oven																																								
Sneeze Guards																																								
Utility Cart																																								
Waste Bin W/Dolly																																								
Cart, Utility																																								
Tray Return Cart																																								

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ARCHITECTURAL NOTE	ELECTRICAL																																		
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3												
AC Support Kitchen	Hand Sink	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin.	EAGLE MASTERS OR EQUAL	HSA-10-FE		120	1	2	60																															
AC Support Kitchen	Eyewash	1	3	Floor or sink mounted emergency eyewash complete with safety mixing valve	SPEAKMAN OR EQUAL	SE-580-ADA																																				
AC Support Kitchen	Utility Cart	2	1	Stainless steel construction, type 304, #4 finish, Corner or donut bumpers Cart washable casters, 180kg capacity	HATCH OR EQUAL	C444-T-HD																																				
AC Support Kitchen	S.S. Work Table w/sink	1	2	Stainless steel construction, type 304, #4 finish, Length to suit design x 760mm wide x 910mm high, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Sink to be minimum 506mm x 406mm x 305mm deep complete with hot and cold water faucet with swing spout, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Backsplash to include 19mm radius coved corner, splayed to wall where required, Bullet feet for tables without m/e services, flanged feet secured to floor with s.s. fasteners for tables with m/e services, S.S. drawers	CUSTOM	CUSTOM	Bullet feet fastened to floor.	2@120	2@1	2@12																																
AC Support Kitchen	Roll in hot holding cabinet, double door with rack	1	1	Mobile holding oven. Two individually controlled oven compartments. Stainless steel interior and exterior. Pass through doors. Digital controls. Door venting. Solid state electronic control. Window doors.	ALTO-SHAAM	1000-UP		120	1	16	60																															
AC Support Kitchen	Roll in refrigerator, double door with racks	1	1	Two full door section roll-in refrigerator, Minimum 1.5 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, Casters, two locking, PVC coated interior shelves, No R22 refrigerant, Coved interior corners	TRUE	STA2RRI-2S		120	1	12	60																															
AC Support Kitchen	Reach-in Refrigerator	1	1	Two full door section reach-in refrigerator, Minimum 1.5 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, No R22 refrigerant, Coved interior corners	TRUE	T-49		120	1	11	60																															
AC Support Kitchen	Reach-in Freezer	1	1	Two full door section reach-in refrigerator, Minimum 1.5 cubic metre capacity, Stainless steel interior and exterior, type 304, +3C operating temperature, No R22 refrigerant, Coved interior corners	TRUE	T-49-F		120	1	11	60																															
AC Support Kitchen	Soiled dish Table w/pre-rinse and 3 comp. sink	1	2	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Length to suit design x 760mm wide x 910mm high, Sinks to be minimum 610mm x 508mm x 350mm deep for wash and rinse sinks and 760mm x 508mm x 350mm deep for soak sinks complete with hot and cold water faucet with swing spout and one pre-rinse faucet, 1.6mm stainless steel top with 2.0mm stainless steel or galvanized steel sub-top, Hat channel reinforcement to be 3.0mm stainless steel or galvanized steel on centre, Tops to include rolled edges, Slope landing areas to sink, Legs to be stainless steel 1.6mm thick, 41mm tubing or square welded to subtop, Stainless steel cross bracing as required, Sound deadening as required, Backsplash to be minimum 300mm high and include 19mm radius coved corner, splayed to wall where required, Bullet feet for tables without m/e services, flanged feet secured to floor with s.s. fasteners for tables with m/e services, S.S. wall panels, 760mm high fixed to wall above backsplash at all sides	CUSTOM	CUSTOM																																				

ITEM DESCRIPTION	ELECTRICAL NOTE		PLUMBING																																																				
			FLUID 1		ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2		ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3		ID 3		OD 3		CODE 3	CONN 3	FLOW 3				PRESSURE 3				FLUID 4		ID 4		CODE 4
	INCH	MM	INCH	MM	INCH	MM	AVERAGE	PEAK			LOW	HIGH	LOW	HIGH	INCH	MM	INCH	MM	AVERAGE	PEAK	LOW	HIGH	INCH	MM			INCH	MM	AVERAGE	PEAK	LOW	HIGH	INCH	MM	INCH	MM	AVERAGE	PEAK	LOW	HIGH			INCH	MM											
	DATA 3							GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA					GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA					GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA					GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA												
Hand Sink			CW		13																																																		
Eyewash			CW		19																																																		
Utility Cart																																																							
S.S. Work Table w/sink		Emergency power to be provided.			13																																																		
Roll in hot holding cabinet, double door with racks																																																							
Roll in refrigerator, double door with racks																																																							
Reach-in Refrigerator																																																							
Reach-in Freezer																																																							
Soiled dish Table w/pre-rinse and 3 comp. sink			CW		2@19																																																		

ITEM DESCRIPTION	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC											
		AVERAGE		PEAK		LOW		HIGH			INCH	MM			AVERAGE		PEAK		LOW		HIGH			BTU/ HR	MAX BTU/ HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA	HVAC NOTE	
		MBTUH	LPS	GAL/	LPS	PSI	KPA	PSI	KPA						GAL/	LPS	PSI	KPA	PSI	KPA	INCH	MM				INCH	MM								
Hand Sink																																			
Eyewash																																			
Utility Cart																																			
S.S. Work Table w/sink																																			
Roll in hot holding cabinet, double door with racks																																			
Roll in refrigerator, double door with racks																																			
Reach-in Refrigerator																																			
Reach-in Freezer																																			
Soiled dish Table w/pre-rinse and 3 comp. sink																																			

TO ROOM NAME	ITEM DESCRIPTION	QTY	CAT	SYNOPSIS / DESCRIPTION NOTE	MANUFACTURER	MODEL	ARCHITECTURAL NOTE	ELECTRICAL																										
								VOLT 1	PHASE 1	AMP 1	FREQ 1	WATT 1	CON N 1	PLUG 1	DATA 1	VOLT 2	PHASE 2	AMP 2	FREQ 2	WATT 2	CON N 2	PLUG 2	DATA 2	VOLT 3	PHASE 3	AMP 3	FREQ 3	WATT 3	CON N 3	PLUG 3				
AC Support Kitchen	Door Type Warewasher	1	2	Stainless steel single door-type dishwasher with electric heat, blower dryer and booster. Auto fill, common hot water fill connection. Manifold drains wherever possible. Self draining pumps, water proof on/off switches and water tight controls. Insulated to reduce heat and sound levels. SS pumps and wash nozzles. Easily removable wash arms and screens. Controls interconnected to exhaust fan and soiled dish table. Complete with remote temperature monitoring capabilities. S.S. clean dish table at discharge end to hold minimum of 2 dishracks. Provide stainless steel duct connections from dish machine exhaust collars (if applicable) to above the finished ceiling for final connection to exhaust system. Complete with energy recovery system.	HOBART OR EQUAL	AM-15		208-240	1	43	60						208-240	1	37	60														
AC Support Kitchen	Condensate Hood	1	3	Box type, Sized to suit machine (ensure minimum 200mm overhang on sides and 450mm in front of unit), Stainless steel liquid tight construction, Condensate baffles, Drain outlet	HALTON OR SPRING AIR	VAR		120	1	10	60																							
AC Support Kitchen	Clean Dish Table	1	1	Stainless steel construction. Complete with sound deadening materials between sheets of stainless steel and support membranes. Type 304, #4 finish, Dimensions to suit design and dishwasher selected and to provide access all around for cleaning. 2.0mm stainless steel top and integral drain. Provide all necessary interconnections to limit switch and dishwasher.	CUSTOM	CUSTOM																												
AC Support Kitchen	Tray lowerators	2	1	Stainless steel construction, cantilever design with self levelling feature. Confirm tray size with owner	HATCH OR EQUAL	TO SUIT DESIGN																												
AC Support Kitchen	Dish rack lowerators	2	1	Stainless steel construction, cantilever design with self levelling feature. Confirm tray size with owner	HATCH OR EQUAL	TO SUIT DESIGN																												
AC Support Kitchen	Dish dispensers	3	1	Convected air plate heater. Stainless steel construction complete with casters. Filed adjustable self levelling plate dispenser capable of holding up to 180 plates (3 stacks of 60). To be included as part of meal delivery system. Confirm plate size with Owner.	HATCH OR EQUAL	TO SUIT DESIGN		120	1	12	60																							
AC Support Kitchen	Pot Rack	2	2	Constructed or reinforced polymer or stainless steel, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 610mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable. Provide pot/pan inserts.	INTERMETRO OR EQUAL	PR48VX2																												
AC Support Kitchen	Shelving, Plastic Louvered	4	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL	METROMAX Q																												
AC Support Kitchen	Waste Bin w/dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																												
AC Support Kitchen	Recycle Bin w/Dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																												
AC Support Kitchen	Organics Bin w/Dolly	2	1	Heavy duty refuse container, One piece plastic body construction, Moulded in handles and lift points, Heavy duty cart washable casters	RUBBERMAID OR EQUAL	2640																												
AC Support Kitchen	Hand Sink, Janitor	1	3	Hands free operation, Stainless steel construction, Mixing valve for hot and cold water, High enough above the rim of the sink bowl to enable the washing of arms and hands, Soap dispenser, Single use towel dispenser, Waste bin.	EAGLE MASTERS OR EQUAL	HSA-10-FE		120	1	2	60																							
AC Support Kitchen	Mop Sink	1	3	Floor mounted stainless steel sink, type 304	ADVANCE TABCO	OP-40																												
AC Support Kitchen	Shelving, plastic, louvered, Janitor	1	2	Constructed of steel with removable polypropylene overlays or polyester, thermoplastic/polypropylene construction, Construction to be corrosion resistant and coated with ant-microbial substance, Minimum dimensions to be 530mm wide x 1220mm long, All units to include cart washable casters, two locking, Minimum four tiers of shelves, Shelves to be adjustable	INTERMETRO OR EQUAL	METROMAX Q																												

ITEM DESCRIPTION	DATA 3	ELECTRICAL NOTE	PLUMBING																																																					
			FLUID 1		ID 1		OD 1		CODE 1	CONN 1	FLOW 1				PRESSURE 1				FLUID 2	ID 2		OD 2		CODE 2	CONN 2	FLOW 2				PRESSURE 2				FLUID 3	ID 3		OD 3		CODE 3	CONN 3	FLOW 3				PRESSURE 3				FLUID 4	ID 4		CODE 4				
			INCH	MM	INCH	MM	AVERAGE	PEAK			LOW	HIGH	PSI	KPA	PSI	KPA	AVERAGE	PEAK		LOW	HIGH	PSI	KPA			PSI	KPA	AVERAGE	PEAK	LOW	HIGH	PSI	KPA		PSI	KPA	INCH	MM			INCH	MM	AVERAGE	PEAK	LOW	HIGH	PSI	KPA		PSI	KPA					
			GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA	INCH	MM	INCH	MM	GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA	INCH	MM	INCH	MM	GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA	INCH	MM	INCH	MM	GAL/LPS	GAL/LPS	PSI	KPA	PSI	KPA																		
Door Type Warewasher			HW		2@19																																																			
Condensate Hood																																																								
Clean Dish Table			ID		19																																																			
Tray lowerators																																																								
Dish rack lowerators																																																								
Dish dispensers																																																								
Pot Rack																																																								
Shelving, Plastic Louvered																																																								
Waste Bin w/dolly																																																								
Recycle Bin w/Dolly																																																								
Organics Bin w/Dolly																																																								
Hand Sink, Janitor			CW		13																																																			
Mop Sink			ID		75																																																			
Shelving, plastic, louvered, Janitor																																																								

ITEM DESCRIPTION	CONN 4	FLOW 4				PRESSURE 4				FLUID 5	ID 5		CODE 5	CONN 5	FLOW 5				PRESSURE 5				PLUMBING NOTE	HVAC										
		AVERAGE		PEAK		LOW		HIGH			INCH	MM			AVERAGE		PEAK		LOW		HIGH			BTU/ HR	MAX BTU/ HR	DUCT WIDTH		DUCT HEIGHT		CFM	IN (WG)	LPS	KPA	HVAC NOTE
		MBTUH	LPS	GAL/LPS	LPS	PSI	KPA	PSI	KPA						GAL/LPS	LPS	GAL/LPS	LPS	PSI	KPA	PSI	KPA				INCH	MM	INCH	MM					
Door Type Warewasher																																		
Condensate Hood																													1000					
Clean Dish Table																																		
Tray lowerators																																		
Dish rack lowerators																																		
Dish dispensers																																		
Pot Rack																																		
Shelving, Plastic Louvered																																		
Waste Bin w/dolly																																		
Recycle Bin w/Dolly																																		
Organics Bin w/Dolly																																		
Hand Sink, Janitor																																		
Mop Sink																																		
Shelving, plastic, louvered, Janitor																																		

The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility. The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.

Common Rooms

Room Name	MILLWORK / MODULAR CASEWORK																									
	Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
CLIENT SPACES																										
Unit Sallyport																								X		X
Private Client Room	X	X	X			X																				
Client Washroom				X		X																				
Private Client Room, Medical	X	X	X																							
Client Washroom, Medical				X		X																				
Therapy Room	X																									
Interview Room																										
Tub Room				X		X																				
Clean Storage											X			X	X											
Soiled Holding																										
Soiled Utility																										
Client Laundry									X			X														
Treatment Room								X			X			X	X											
Exam Room								X			X			X	X						X					
Nurses Station								X																		
Dispensary/Medication									X	X	X				X											
Intensive Psych. Care Room																										
Intensive Psych. Care Washroom, Barrier Free				X																						
Intensive Psych. Care Vest.								X																		
Zen/Activity Room								X						X	X											
Dining Room																										
Nutrition Centre							X	X			X			X	X	X										
Servery									X	X				X	X	X										
Client Washroom, Barrier Free				X																						
Classroom								X			X			X	X											
Male Changing/Locker Room/Shower/Washroom				X		X		X											X							
Female Changing/Locker Room/Shower/Washroom				X		X		X											X							
STAFF SPACES																										
Charting/Conference Room								X			X	X										X				
Meeting Room, Large								X						X	X											
Meeting Room, Medium								X						X	X											

A1.1 - ACUTE CLIENT CARE SERVICES																												
24 BED UNIT																												
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																										
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
UNIT ENTRY																												
.01	Unit Sallyport																											
.02	Housekeeping Room																											
.03	Storage																											
12 BED CLUSTER																												
.04	Private Client Room																											
.05	Client Washroom, Barrier Free																											
.06	Private Client Room, Bariatric																											
.07	Client Washroom, Bariatric, Barrier Free																											
.08	Private Client Room, Medical																											
.09	Client Washroom, Medical, Barrier Free																											
.10	Therapy Room																											
.11	Interview Room																											
12 BED CLUSTER																												
.12	Private Client Room																											
.13	Client Washroom																											
.14	Therapy Room																											
.15	Interview Room																											
BED ZONE SUPPORT																												
.16	Tub Room																											
.17	Clean Storage																											
.18	Soiled Holding																											
.19	Client Laundry																											
.20	Treatment Room																											
TEAM CENTER																												
.21	Nurses Station																											
.22	Dispensary/Medication																											
.23	Charting/Conference Room																											
.24	Staff Break/Locker																											
.25	Staff Washroom																											
.26	Intensive Psych. Care Room																											
.27	Intensive Psych. Care																											
.28	Intensive Psych. Care Vest.																											
COMMON ACTIVITY AREAS																												
.29	Zen/Activity Room																											
.30	Dining Room																											
.31	Nutrition Centre																											
.32	Client Washroom, Barrier Free																											
.33	Exterior Courtyard																											
.34	Exterior Courtyard																											
ACUTE SHARED SERVICES																												
ACUTE DINING																												
.35	Dining/Cafeteria								X																			
.36	Servery									X				X	X													
.37	Client Washroom, Barrier Free										X																	
ACUTE OFFICE AREA																												
.38	Office, Clinical																											
.39	Workstation																											
.40	Copy/Files																											
.41	Staff Washroom, Barrier Free																											

The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility. The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.

A2 THERAPY MALL - NON-SECURE CLIENTS

Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Cost Reducing, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
QUALITY OF LIFE & CANTEEN																											
.01	Quality of Life	X						X	X			X			X	X											
.02	Client Washroom, Barrier Free																										
.03	Canteen								X			X	X		X	X	X					X					
.04	Kitchen							X	X			X	X		X	X	X										
.05	Canteen Storage												X														
.06	Indoor Courtyard								X						X	X											
MUSIC/ART THERAPY																											
.07	Music/Art Therapy Room	X										X			X												
EDUCATION CENTRE																											
.08	Classroom, Large																										
.09	Internet Café																										
.10	Library/Resource Center									X			X										X				
APPAREL SHOP/BOUTIQUE																											
.11	Apparel Shop												X													X	
.12	Sewing Area/Marking								X																		
.13	Change Booth																		X								
.14	Check Out																						X				
GIFT SHOP																											
.15	Gift Shop								X			X		X									X				
HAIR CARE																											
.16	Salon								X			X		X	X								X				
CLIENT BUSINESS CENTER																											
.17	Client Business Center								X			X		X	X												
.18	Office																										
.19	Office																										
REHABILITATION LAB & ADDICTIONS																											
.20	Group Room																										
.21	Office, Rehab Lab																										
.22	Office, Rehab Lab - Large	X							X			X		X	X												
.23	Office, Addictions Councillor																										
.24	Office, Addictions Councillor																										

PHYSICAL THERAPY												
.25	Physio Therapy											
.26	Client Washroom, Barrier Free											
.27	PT Storage					X			X		X	
.28	Soiled Holding											
.29	Clean Linen											
VOCATIONAL AREA 1												
.30	Vocational Therapy Area 1	X					X		X		X	
.31	Paint Room											
.32	Client Washroom, Barrier Free											
VOCATIONAL AREA 2												
.33	Office											
.34	Sorted Container Storage											
.35	Vocational Work Area	X					X		X		X	
.36	Shredding Room											
.37	Conf. Docum. Store											
.38	Shredding Bag Storage											
.39	Cans, Milk Carton Storage											
.40	Container Storage											
.41	Client Coffee Room					X	X		X		X	X
.42	Client Washroom Barrier Free											
VOCATIONAL THERAPY 3												
.43	Outside Garden Storage						X		X		X	
.44	Vocational Therapy Area 3	X					X		X		X	
.45	Office, Staff											
PRINT SHOP												
.46	Workroom	X					X		X		X	
.47	Storage						X		X			
.48	Workstation											
SHARED SUPPORT												
.49	Office, Therapy Supervisor											
.50	Kitchenette											
.51	Staff Break/Lounge											
.52	Storage, Shared											
.53	Washrooms, Staff , Barrier Free											
.54	Housekeeping Room											

A large grid of empty cells, likely for data entry or calculation. The grid consists of 20 columns and 30 rows, forming a rectangular area that occupies most of the page.

B1.1 - FORENSIC CLIENT CARE SERVICES		
Room ID	Room Name	MILLWORK / MODULAR CASEWORK
		Client Wardrobe, fixed shelving Client Desk Night Table, lockable Washroom Vanity, Solid Surface with Sink Lockable Narcotic Cabinet/Drawer Supply Cabinet, KanBan Laminate Counter - no Sink Solid Surface Counter with Sink Solid Surface Counter Stainless steel Counter with Sink Stainless Steel Counter Upper Cabinets with Doors & Fixed Shelves Open Upper Shelves Lower Cabinets with Doors - No Shelves Lower Cabinets with Doors & Fixed Shelves Lower Cabinets with Flush Pull Drawers Microwave Shelf Bench - Locker Room Workbench Lab Casework c/w Upper & Lower Cabinets / Open Shelves Pharmacy Casework Custom Workstation / Reception Desk Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf Lockers Closer Shelf and "J" Hanging Rod Mail Slots
30 BED UNIT		
.01	Unit Sallyport	
.02	Housekeeping Room	
.03	Storage	
12 BED CLUSTER		
.04	Private Client Room	
.05	Client Washroom, Barrier Free	
.06	Private Client Room, Bariatric	
.07	Client Washroom, Bariatric, Barrier Free	
.08	Private Client Room, Medical	
.09	Client Washroom, Medical, Barrier Free	
.10	Therapy Room	
.11	Interview Room	
12 BED CLUSTER		
.12	Private Client Room	
.13	Client Washroom, Barrier Free	
.14	Therapy Room	
.15	Interview Room	
6 BED CLUSTER		
.16	Private Client Room	
.17	Client Washroom, Barrier Free	
.18	Therapy Room	
.19	Interview Room	
BED ZONE SUPPORT		
.20	Tub Room	
.21	Clean Storage	
.22	Soiled Holding	
.23	Client Laundry	
.24	Treatment Room	
TEAM CENTER		
.25	Nurses Station	
.26	Dispensary/Medication	
.27	Charting/Conference Room	
.28	Staff Break/Locker	
.29	Staff Washroom	

.30 Intensive Psych. Care Room																			
.31 Intensive Psych. Care Washroom, Barrier Free																			
.32 Intensive Psych. Care Vest.																			
COMMON ACTIVITY AREAS																			
.33 Zen/Activity Room																			
.34 Dining Room																			
.35 Nutrition Centre																			
.36 Servery																			
.37 Smudging Room																			
.38 Client Washroom, Barrier Free																			
.39 Exterior Courtyard Sallyport/Airlock																			
.40 Exterior Courtyard																			
ASSESSMENT UNIT - 12 BEDS																			
UNIT ENTRY																			
.41 Unity Sallyport																			
.42 Housekeeping Closet																			
.43 Storage																			
12 BED CLUSTER																			
.44 Private Client Room																			
.45 Client Washroom, Barrier Free																			
.46 Private Client Room, Specialty																			
.47 Client Washroom, Specialty Barrier Free																			
.48 Therapy Room																			
.49 Interview Room																			
BED ZONE SUPPORT																			
.50 Tub Room																			
.51 Clean Storage																			
.52 Soiled Holding																			
.53 Client Laundry																			
.54 Treatment Room																			
TEAM CENTER																			
.55 Nurses Station																			
.56 Dispensary/Medication																			
.57 Charting/Conference Room																			
.58 Staff Break/Locker																			
.59 Staff Washroom																			
.60 Intensive Psych. Care Room																			
.61 Intensive Psych. Care Washroom, Barrier Free																			
.62 Intensive Psych. Care Vest.																			
COMMON ACTIVITY AREAS																			
.63 Zen/Activity Room																			
.64 Dining Room																			
.65 Nutrition Centre																			
.66 Servery																			
.67 Exercise Room						X				X	X		X						
.68 Smudging Room																			

.69	Client Washroom, Barrier Free																																					
.70	Exterior Courtyard																																					
FORENSIC SHARED SERVICES																																						
FORENSIC OFFICE AREA																																						
.71	Office, Clinical																																					
.72	Workstation																																					
.73	Copy/Files																																					
.74	Staff Washroom, Barrier Free																																					

B1.2 - SECURE CLIENT CARE SERVICES																													
24 BED UNIT																													
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																											
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminite Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots		
UNIT ENTRY																													
.01	Unit Sallyport																												
.02	Housekeeping Room																												
.03	Storage																												
12 BED CLUSTER																													
.04	Private Client Room																												
.05	Client Washroom, Barrier Free																												
.06	Private Client Room, Bariatric																												
.07	Client Washroom, Bariatric, Barrier Free																												
.08	Private Client Room, Medical																												
.09	Client Washroom, Medical, Barrier Free																												
.10	Therapy Room																												
.11	Interview Room																												
12 BED CLUSTER																													
.12	Private Client Room																												
.13	Client Washroom, Barrier Free																												
.14	Therapy Room																												
.15	Interview Room																												
BED ZONE SUPPORT																													
.16	Tub Room																												
.17	Clean Storage																												
.18	Soiled Holding																												
.19	Client Laundry																												
.20	Treatment Room																												
TEAM CENTER																													
.21	Nurses Station																												
.22	Dispensary/ Medication																												
.23	Charting/Conference Room																												
.24	Operations Control Post							X		X	X										X	X							
.25	Staff Break/Locker																												
.26	Staff Washroom																												
.27	Intensive Psych. Care Room																												
.28	Intensive Psych. Care Washroom, Barrier Free																												
.29	Intensive Psych. Care Vest.																												
.30	Exercise Room							X		X	X																		

B2 CENTRAL PROGRAMS		MILLWORK / MODULAR CASEWORK																										
Room ID	Room Name	Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
CENTRAL PROGRAMS																												
.01	Book Repository with Workstation								X							X							X					
.02	Storage Room																											
.03	Classroom, Medium																											
.04	Classroom, Large																											
.05	Interview Room																											
.06	Observation Room																											
.07	Client Washroom, Barrier Free																											
.08	Recycling Program								X						X													
.09	Housekeeping Closet																											
STAFF OFFICE AREA																												
.10	Shared Office, Vocational																											
.11	Workstation, Clinical Nutritionist																											
.12	Shared Office, Teacher																											
.13	Meeting Room																											
.14	Copy/Workroom																											
.15	Coffee Room																											
.16	Washroom, Staff																											
.17	Recycle Room/Alcove																											

B3 OPERATIONS SECURITY CENTRE																											
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
OPERATIONS SECURITY CENTRE																											
.01	Central Control Post							X							X							X					
.02	Central Control Post Washroom																										
.03	Equipment Room																										
.04	Staff Break Room																										
.05	Staff Washroom																										
.06	Housekeeping Closet																										

B4 VIDEO COURT																												
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																										
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
VIDEO COURT																												
.01	Staff Station/Video System Control																						X					
.02	Staff Washroom																											
.03	Secure Client Lobby																											
.04	Secure Client Holding Room																											
.05	Secure Client Holding Room, Large																											
.06	Client Washroom, Barrier Free																											
.07	Interview Room, Non-Contact																											
.08	Video Court Room																							X				
.09	Video Court Room, Large																							X				
.10	Video Court Data Room																											
.11	Visitor Lobby																											
.12	Interview Room, Non-Contact																											
.13	Housekeeping Closet																											

C1 ENTRANCE																											
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, <i>Cost Hanging, file storage, bookshelf</i>	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
ENTRANCE LOBBY -- SHARED MENTAL HEALTH																											
.01	Entry Vestibule																										
.02	Entrance Lobby							X														X					
.03	Public Washrooms																										
.04	Coat/Boot Closet																									X	
.05	Family Visiting Room							X						X	X												
.06	Family Room																										
RECEPTION/ SWITCHBOARD																											
.07	Switchboard/Info/Reception							X														X					
.08	Alarm Monitoring Panels																										
MUSEUM																											
.09	Display Area										X	X										X					
CONFERENCE CENTRE																											
.10	Multi- Purpose Room																										
.11	Meeting Room																										
.12	Meeting Room																										
SUPPORT																											
.13	Housekeeping Closet																										

The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility. The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.

C2 ADMINISTRATION

Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
SENIOR ADMINISTRATION																											
.01	Waiting																										
.02	Office, Director																										
.03	Workstation, Admin																										
.04	Office, Deputy Director Operations/Administration																										
.05	Shared Office, Assist. Deputy Director, Operations																										
.06	Office, Senior Nurse Manager																										
.07	Office, Psychology Department Head																										
.08	Meeting Room, Large																										
PERSONNEL, ACCOUNTING & CLERICAL SERVICES																											
.09	Office, Deputy Director, Personnel																										
.10	Workstation, Supervisor Administration																										
.11	Office, Shift Scheduler																										
.12	Counting Area																							X			
.13	Trust Accounts																							X			
.14	Workstation, Administrative Assistants/Clerks																										
SHARED SUPPORT																											
.15	Meeting Room, Medium																										
.16	Copy/Workroom																										
.17	Coffee Room																										
.18	Washroom, Staff																										
.19	Office, IT Workroom																										
.20	Server Room																										
.21	Storage																										
.22	Recycle Room/Alcove																										

C3 THERAPY MALL - SHARED																											
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
RECREATION THERAPY																											
.01	Gymnasium/Multi-purpose Room																										
.02	Sports Equipment Storage	X																							X		
.03	AV Room/Storage																										
.04	Chairs/Table Storage																										
.05	Cardio/Weight Room	X											X												X		
.06	Staff Exercise Room																										
.07	Games Room	X						X			X		X														
.08	Rec Therapy Office																							X			
.09	Male Changing/Locker Room/Shower/Washroom																										
.10	Female Changing/Locker Room/Shower/Washroom																										
SPIRITUAL/CULTURAL CARE																											
.11	Chapel	X																						X			
.12	Multi-Disciplinary Spiritual Centre	X																						X			
.13	Multipurpose Programs Room/Cultural Centre	X																						X			
.14	Multipurpose Room, Chaplaincy (deleted)																										
.15	Sweat Lodge (separate structure)																										

C4 ADMISSIONS AND DISCHARGE		MILLWORK / MODULAR CASEWORK																										
Room ID	Room Name	Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
SALLYPORT																												
.01	Enclosed Sallyport/Garage																											
.02	Open Parking (Compound)																											
A & D POST																												
.01	Office, A & D Supervisor																											
.02	Workstation, Classification/Admitting																											
.03	Coffee Room																											
.04	Copy/Workroom																											
.05	Active Files																											
.06	Storage Room, Records Registry (deleted)																											
.07	Washroom, Staff																											
.08	Recycling Alcove																											
.09	Property Transfer, Secure Vestibule																											
ADMISSIONS AND DISCHARGE																												
.10	Entry Vestibule																											
.11	A&D Lobby																											
.12	Holding Room																											
.13	Holding Room, Soft																											
.14	Housekeeping Closet																											
.15	Client Search/Change																											
.16	Shower/Change																											
.17	Interview Room																											
.18	Exam Room																											
.19	Washroom, Client, Barrier Free																											
.20	Storage Property																											
.21	Storage, Valuables																											
.22	Institutional Clothing Issue and Storage																											
.23	Discharge Vestibule																											

C5 VISITING CENTRE																											
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
SECURE ENTRANCE																											
.01	Secure Public Lobby																										
.02	Reception Desk																						X				
.03	Public Property Pick up								X														X				
.04	Drop-off/Client Accounts								X														X				
.05	Public Change Room																	X									
VISITING AREAS																											
.06	Secure Vestibule																										
.07	Visitor Locker																									X	
.08	Washroom, Visitor Barrier Free																										
.09	Security Vestibule																										
.10	Control Desk																										
.11	Reception Waiting														X		X	X					X				
.12	Visitor Search Room																										
.13	Post Scan Waiting																										
.14	Security Vestibule																										
.15	Staff Station																							X			
.16	Client Search																										
.17	Washroom, Client, Barrier Free																										
.18	Visiting Centre Waiting Area (public)																										
.19	Professional Visiting Station																							X			
.20	General Visiting Station																							X			
.21	Family Visiting Station																							X			
.22	Open Visiting Station (contact)																							X			
.23	Washroom, Public, Barrier Free																										
.24	Outdoor Visiting Area																										
FAMILY VISITING UNIT (2)																											
.25	Entry Vestibule																		X								X
.26	Kitchen/Dining Room							X				X		X	X	X											
.27	Living Room								X					X													
.28	Master Bedroom	X	X	X		X																					
.29	Bedroom	X	X	X		X	X																				
.30	Washroom, Client																										
.31	Storage																										

C6 HEALTH CARE CLINIC																													
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																											
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots		
	HEALTH CARE CLINIC																												
.01	Lobby																												
.02	Client Holding (Wet)																												
.03	Client Waiting																												
.04	Nursing Station/Reception																					X							
.05	Office, Physician																												
.06	Office, Nurse Pract.																												
.07	Copy Alcove																												
.08	Storage, Health Care Files																												
.09	Medication Room						X					X																	
.10	Pharmacy, Narcotics Vault				X											X													
.11	Storage, Dry																												
.12	Storage, Equipment & Oxygen Tanks																												
.13	Team Meeting Room																												
.14	Coffee Alcove																												
.15	Workstation, Nurse Drop-in																												
.16	Workstation, X-ray Technician																												
.17	Washroom, Staff																												
.18	Exam/Treatment Room, Physician																												
.19	Exam/Treatment Room, Nurse/Interview																												
.20	X-Ray Room																												
.21	X-Ray Machine Room																												
.22	Dental Procedures																												
.23	X-Ray Machine Room																												
.24	Optometrist/Exam Room																												
.25	Specimen Collection/Washroom																												
.26	Soiled Utility Room																												
.27	Clean Holding																												
.28	Soiled Holding																												
.29	Recycle Alcove																												
.30	Housekeeping Closet																												

C7 STAFF RESOURCES/ERT																											
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
	STAFF TRAINING/ MUSTER ROOM																										
.01	Storage, Staff Programs																										
.02	Emergency Operations Centre/Muster Room																										
.03	Back Up Operations Security Centre																										
	STAFF LOUNGE/ LOCKER																										
.04	Female Staff Lockers																										
.05	Washroom, Staff																										
.06	Shower, Staff																										
.07	Shower, Staff, Barrier-Free																										
.08	Male Staff Lockers																										
.09	Washroom, Staff																										
.10	Shower, Staff																										
.11	Shower, Staff, Barrier-Free																										
.12	Staff Lounge																										
.13	Staff Outdoor Deck																										
	ERT																										
.14	ERT Lockers																									X	
.15	Laundry Area								X						X												
.16	Shower/Change Room/WC																	X									
.17	Storage, ERT Supplies and Gear																										

C8 SUPPORT SERVICES		MILLWORK / MODULAR CASEWORK																										
Room ID	Room Name	Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
C8.1	DIETARY																											
	Kitchen																											
	.01 Dairy Freezer																											
	.02 Milk Cooler																											
	.03 Vegetable Cooler																											
	.04 Beverage Holding Fridge																											
	.05 Freezer																											
	.06 Cooler																											
	.07 Dry Storage																											
	.08 Meat Prep Area																											
	.09 Cooking/Baking Area																											
	.10 Salad Prep Area																											
	.11 Meal Prep Area																											
	.12 Dietary Office																											
	.13 Dietary Workstation																											
	.14 Dish Washing																											
	.15 Cart Holding																											
	.16 Cart Wash																											
	Dining Area																											
	.17 Cafeteria																											
	.18 Servery																											
	.19 Condiments										X																	
	.20 Drink Island								X						X		X											
	.21 Washroom, Client								X			X			X		X											
C8.2	MATERIAL MANAGEMENT																											
	.01 Enclosed Loading Dock																											
	.02 Waste Compactor (Soiled)																											
	.03 Recycling Staging Area (Soiled)																											
	.04 Materials Management Workroom										X								X				X					
	.05 Receiver's Workstation																											
	.06 Cart Storage																											
	.07 Cart/Bin Wash																											
	.08 Mail Room																							X			X	
	.09 Medical Gas Storage Room																											
	.10 Auxiliary Storage Central																											

SHNB 3G Millwork Casework and Systems Furniture

.11 Storage, Office Supplies					X					X		X									
C8.3 LAUNDRY/LINEN																					
.01 Clean Linen Holding																					
.02 Soiled Linen Holding																					
.03 Storage, Staff Clothing																					
.04 Client Clothing Washing																					
.05 Client Clothing Drying									X									X			
.06 Cart Wash																					
.07 Housekeeping Closet																					
C8.4 HOUSEKEEPING																					
.01 Central Equipment Holding																					
.02 Storage, Janitorial Supplies and Equipment																					
.03 Cart Wash																					
.04 Office																					
C8.5 CLIENT STORAGE																					
.01 Client Belongings Storage																				X	
.02 Storage, Secure Items																				X	
C8.6 PHARMACY																					
.01 Workstations, Techs																					
.02 Workstation, Pharmacist																					
.03 Office, Manager																					
.04 Cart Parking																					
.05 Ante Room/Checking																					
.06 Sterile Products Room																					
.07 Packing/Compounding																					X
.08 Label Printers																					X
.09 Unit Dose Dispensing																					X
.10 Refrigerator/Freezer																					X
.11 Narcotic Station																					X
.12 Shipping/Receiving																					X
.13 Storage																					X
.14 Washroom, Staff																					
.15 Staff Break Room																					
.16 Housekeeping Closet																					
C8.7 MAINTENANCE																					
.01 Storage																					
.02 Equipment Repair Shop																					X
.03 Office, Supervisor																					

The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility.
 The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.

D1 BUILDING & GROUNDS

		MILLWORK / MODULAR CASEWORK																											
Room ID	Room Name	Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, Kantan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves. <i>Coat Hanging, file storage, bookshelf</i>	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots		
OFFICE AREA																													
.01	Project Co. Office																												
BUILDING & GROUNDS																													
.02	Equipment Storage																			X									
.03	Office, Supervisor																												
.04	Machine Shop																				X								
MAINTENANCE																													
.05	Shop, Maintenance																				X								
.06	Storage, Equipment & Oxygen Tanks																												

A large empty grid table with 25 columns and 25 rows, intended for detailed specifications or calculations.

D2 OUTDOOR SPACES & SITE																												
Room ID	Room Name	MILLWORK / MODULAR CASEWORK																										
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots	
	VOCATIONAL THERAPY																											
.01	Outside Equipment Storage	X																										
	RECREATION THERAPY																											
.02	Volleyball court (grass)																											
.03	Basketball Pad																											
.04	Horseshoe pits																											
.05	Flooded Grass Skating Rink																											
.06	Picnic Area																											
	GARDEN THERAPY																											
.07	Greenhouse																											
	BUILDING SUPPORT																											
.08	Main Generator Fuel Tank																											
	CENTRALIZED COURTYARDS																											
.09	Secure Central Courtyard																											
.10	Non-Secure Central Courtyard																											
.11	Outdoor Storage																											
	PARKING																											
.11	Parking																											
	CLIENT CARE UNIT COURTYARDS																											
.12	Outdoor Courtyard/Exercise																											
.13	Walking Path																											
.14	Basketball pad, backboard/net																											
.15	Raised Gardens																											

The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility. The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.

D3 COMMUNITY REINTEGRATION UNITS

Room ID	Room Name	MILLWORK / MODULAR CASEWORK																									
		Client Wardrobe, fixed shelving	Client Desk	Night Table, lockable	Washroom Vanity, Solid Surface with Sink	Lockable Narcotic Cabinet/Drawer	Supply Cabinet, KanBan	Laminate Counter - no Sink	Solid Surface Counter with Sink	Solid Surface Counter	Stainless steel Counter with Sink	Stainless Steel Counter	Upper Cabinets with Doors & Fixed Shelves	Open Upper Shelves	Lower Cabinets with Doors - No Shelves	Lower Cabinets with Doors & Fixed Shelves	Lower Cabinets with Flush Pull Drawers	Microwave Shelf	Bench - Locker Room	Workbench	Lab Casework c/w Upper & Lower Cabinets / Open Shelves	Pharmacy Casework	Custom Workstation / Reception Desk	Systems Furniture c/w Upper Storage / Open Shelves, Coat Hanging, file storage, bookshelf	Lockers	Closet Shelf and "J" Hanging Rod	Mail Slots
APARTMENT 1, 2, 3																											
.01	Entry Vestibule																										X
.02	Closet																									X	
.03	Private Client Room	X	X	X		X	X																				
.04	Client Washroom				X		X																				
.05	Living Room								X						X												
.06	Dining Room/Activity Room																										
.07	Kitchen							X				X		X	X	X											
.08	Client Laundry/Housekeeping							X				X															
.09	Staff Work Area/Medication					X			X			X												X			
.10	Exterior "Porch"																										

SHNB 3G Millwork Casework and Systems Furniture

*The following Matrix indicates the various millwork, casework and systems furniture requirements for the spaces listed in the Functional Program for each Component (Department) of the Facility.
The white cells in the Matrix are locations where the same millwork is provided for common rooms. The information for common rooms is shown in the first page of the matrix. Only the information that is unique and located in unique rooms is shown in color in each page of the matrix.*

Appendix 3H Plant List

1. COURT YARD PLANT LIST

TREES

Prairie Dream Paper Birch / *Betula papyrifera* 'Varen' - Native selection with improved qualities against birch borer.

Princess Kay Plum / *Prunus nigra* 'princess Kay' - Native Minnesota selection; sterile

Skybound Pyramidal Cedar / *Thuja occidentalis* 'Skybound'

DECIDUOUS SHRUBS AND VINES

Clematis Multi Blue, henryi -white: these die back to the ground, but should return each spring.

Hardy Clematis / *Clematis macropetala* x *C. alpina* Rosy O' Grady'

Ivory Halo Dogwood / *Cornus alba* 'Baihalo' - If considered too tall, use Little Rebel Dogwood / *Cornus alba* 'Jefreb'.

Winged Burning Bush / *Euonymus alatus*

McKay's White Potentilla / *Potentilla fruticosa* 'McKay's White'

Magic Carpet Spirea / *Spiraea japonica* 'Magic Carpet'

CONIFEROUS AND EVERGREEN SHRUBS

Kinnikinnik / *Arctostaphylos uva-ursi* - Needs good drainage to survive. Plant 400 o/c.

Paxistima / *Paxistima canbyi* Plant 400 o/c.

Nest Spruce *Picea abies* 'Nidiformis'; plant 1 metre on centre

Blue Globe Spruce / *Picea pungens* 'Glauca Globosa'

GROUNDCOVERS AND PERENNIALS

Provide all native plant material from seed collected within the Regina ecoregion or from divisions taken from nursery stock material that was originally derived within Saskatchewan. Comply with ecologically acceptable practices for seed collection. Collected plant material will not be accepted.

Provide bushy healthy bedding plants with fully developed root systems and, unless otherwise noted below, in 100mm pots 400 on centre.

Canada Anemone / *Anemone canadensis*

Snowdrop Anemone / *Anemone sylvestris*

Columbine / *Aquilegia brevistyla*

Bergenia / *Bergenia cordifolia* #1 pot 500 o/c

Wild Strawberry / *Fragaria glauca*

False Sunflower / *Heliopsis helianthoides* 'Summer Sun' #1 pot; 600 o/c

Hosta varieties such as: / *Hosta fortunei aureomarginata*; *Hosta Elegans* / *Hosta sieboldiana* 'Elegans' or

Hosta 'Guacamole' #1 pot; 500 to 700 o/c. Slug resistant varieties preferred and *Hosta virux* 'X' free.

Lime creeping Jenny / *Lysimachia nummularia* "Aurea"

Husker's Red Penstemon / *Penstemon digitalis* 'Husker Red' #1 pot; 500 o/c

Maynight Salvia / *Salvia* x 'Superba' May Night #1 pot; 500 o/c

Royal Candles Speedwell / *Veronica spicata* 'Royal Candles' #1 pot; 600 o/c

Western Canada Violet / *Viola rugulosa* (*Viola canadensis*)

2. PARKING LOT AND GROUNDS

TREES

Baron Manitoba Maple / *Acer negundo* 'Baron' (seedless varieties)

Green Ash / *Fraxinus pennsylvanica* (seedless varieties, Summit, Patmore, Prairie Spire)

White Spruce / *Picea glauca* also consider non-native Scots Pine / *Pinus sylvestris*

Trembling Aspen / *Populus tremuloides* (suckers)

TREES (requiring irrigation or located at downspouts or parking lots)

Prairie Dream Paper Birch / *Betula papyrifera* 'Varen'
Black Ash / *Fraxinus nigra* 'Fall Gold' (seedless varieties)
Cottonwood / *Populus deltoides* 'Sky fest' (seedless varieties) large tree; grow where there is space
Bur Oak / *Quercus macrocarpa*
Basswood / *Tilia americana*
American Elm / *Ulmus Americana*

SHRUBS - tall - # 5 pot. These can be used in small quantities or pruned up into small trees

Red Osier Dogwood / *Cornus stolonifera* (requires moisture)
Silverberry / *Elaeagnus commutata* (requires moisture)
Canada Plum / *Prunus nigra*
Nannyberry / *Viburnum lentago*
Highbush Cranberry / *Viburnum trilobum* (requires moisture)

SHRUBS under 5' - all container grown in # 2 or 3 pot

Potentilla varieties
Depressa Aurea Juniper / *Juniperus communis* 'Depressa Aurea'
Blue Chip Juniper / *Juniperus horizontalis* 'Blue Chip' (any of the J.horizontalis selections)
Consider hardy non –native *Juniperus sabina* species for winter colour eg. Calgary Carpet Juniper.
Raspberry / *Rubus idaeus*
Western Snowberry / *Symphoricarpos occidentalis* (S. albus is poisonous and therefore not allowed)
Riverbank Grape / *Vitis riparia* (some moisture)

HERBACEOUS UNDERSTORY

Canada Anemone / *Anemone canadensis*
Western Canada Violet / *Viola rugulosa* (*Viola canadensis*)
Northern Bedstraw / *Gallium boreale*
Star flowered Solomon's Seal / *Maianthemum stellatum*

TREE SIZES

Large Deciduous trees to be:

- 50 cal. min.; 3500 ht. min.; 7 branches in well branched head above 1500 ht.; container grown # 20 pot or B&B min. ball diam. 700; stake. All plants must be consistent in size and form.

Small Deciduous trees to be:

- 30 cal. min.; 2000 ht. min.; single-stem with 4 branches in well branched head above 1000 ht.; B&B or container grown; min. ball diam. 450; stake.

Coniferous trees to be:

- 3000 ht. min.; full, evenly branched; broken leaders unacceptable; B&B or tree mover; min. ball **diam.** 900. Guy. And/or 2000 ht. min, ball diam. 750 min.; B&B; 4 Stakes.

SEEDING MIXES (ADAPTED FROM THE CITY OF REGINA STANDARD SEED MIXES)

Seed must be locally sourced (no greater than 200 km North of the Site and 100 km South of the Site) and from the same plant hardiness zone. Review seed certificates for Pure Live Seed prior to placement.

GRASS SEED MIX - Some irrigation (every 14 days)

Hard fescue (*Festuca duriscul*) Var. Spartan, Aurora
SeaLink Creeping Red fescue / *Festuca rubra litoralis*
Creeping red fescue (*Festuca rubra*) Var: Aberdeen, Jasper 2,
Kentucky bluegrass var. Baroness, Royale, Mallard, Moonlight, Unique, Lily, Langara, Bedazzled

NATIVE GRASSES mowed once or twice per year or not at all

Mat Muhly / *Muhlenbergia richardsonis*
(If not available increase Blue Grama and Rocky Mtn Sheep's fescue.)
Blue Grama / *Bouteloua gracillis*
Plains rough fescue / *Festuca hallii*

June grass / *Koeleria macrantha*
Rocky Mountain Sheeps fescue (*Festuca ovina* var. *saximontana*)
 Sheep's fescue (*Festuca ovina*) is not acceptable.
Northern wheatgrass / *Agropyron dasystachyum*
Western wheatgrass / *Agropyron smithii*

NATIVE GRASSES in periodically wet areas such as swales

Fowl bluegrass / *Poa palustris*
Desert Salt grass / *Distichlis stricta*
Tufted hairgrass / *Deschampsia caespitosa*
Green needle grass / *Stipa viridula*
Streambank wheatgrass / *Agropyron riparium*
Western wheatgrass / *Agropyron dasystachyum*
Canada reed grass / *Calamagrostis canadensis*
Slender wheatgrass / *Agropyron trachycaulum*

NATIVE FORBS Overseeding Mix -- In areas where native flowers are desired. This would only be planted as a stage two overseeding mix after the grasses have first been established and weeds controlled.

Yarrow / *Achillea millefolium*
Many-flowered Aster / *Aster ericoides*
Pussytoes / *Antennaria aprica* (*parvifolia*)
Gaillardia / *Gaillardia aristata*
Rhombic-leaved Sunflower / *Helianthus laetiflorus* (unclear whether this species is poisonous)
Blazing Star / *Liatrus ligulistylis* or *Liatris punctata*
Blue Flax / *Linum lewisii*
Purple Prairie Clover / *Petalostemon purpureum*
Prairie Coneflower / *Ratabida columnifera*
Low Goldenrod / *Solidago missouriensis* (unclear whether this species is poisonous)
Indian bread-root / *Psoralea esculenta*