

# **TENDER ADDENDUM**

UHNBC Fluoroscopy Replacement – Phase 2 – General Fluoro	Tender Addendum #:	02
University Hospital of Northern British	DCTYA Project #:	2009
Columbia	NHA Project #:	N662150007
1475 Edmonton Street,	Issued By:	Douglas Cheung
Prince George, BC V2M 1S2		
All Bidders	Issue Date:	June 16, 2021
	UHNBC Fluoroscopy Replacement – Phase 2 – General Fluoro University Hospital of Northern British Columbia 1475 Edmonton Street, Prince George, BC V2M 1S2 All Bidders	UHNBC Fluoroscopy Replacement – Phase 2 – General FluoroTender Addendum #:University Hospital of Northern British ColumbiaDCTYA Project #:1475 Edmonton Street,Issued By:Prince George, BC V2M 1S2Issue Date:

Copies To: Leah Joseph / Northern Health Authority

The following information supplements and/or supersedes the "Issued for Tender" drawings issued for the above project dated June 4, 2021.

This Addendum forms part of the contract documents and is to be read, interpreted, and co-ordinated with all other parts. The cost of all contained herein is to be included in the contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above-named project to the extent referenced and shall become part thereof.

#### ITEM: DESCRIPTIONS

1. Architectural :

- 1.1. For a list of bidders who attended the mandatory site visit, see attached scanned document
- 1.2. See attached Asbestos Survey for reference only
- 1.3. See attached Dwg A2.02 – Framing Plan, for addition of curtain backing note to drawing and key notes.
- 1.4. See attached Dwg A2.03 – Finishes & Fixture Plan, for revisions.
- 1.5. See attached Dwg A4.02 – Interior Elevations, for revisions.
- See attached Dwg A5.03 Room, Finishes & Fixtures Schedules, for 1.6. revision to Finishes & Fixtures Schedule and Room Finish Schedule.
- See attached Dwg A6.01 & A6.03 Millwork Plans & Elevations, for revision 1.7. to millwork drawings.
- 1.8. See attached Dwg A6.04 – Millwork Sections, for revisions to millwork drawings.

#### 2. Mechanical :

2.1. See attached Mechanical Addendum 1 for details

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DWGS OR PAGES

ATTACHED



#### 3. **Electrical** :

- 3.1. See attached Electrical Addendum 1 for details
- See attached Northern Health IT standards document "IMIT 3.2. Communications Infrastructure Standards 1.2"

#### Attachments :

а.	List of Bidders, dated June 11, 2021	1 page
b.	Northern Health "IMIT Communications Infrastructure Standards 1.2", Last edited September 21, 2021	36 pages
С.	Asbestos Survey	3 pages
d.	Dwg A2.02 – Framing Plan	1 drawing
e.	Dwg A2.03 – Finishes & Fixture Plan	1 drawing
f.	Dwg A4.02 – Interior Elevations	1 drawing
g.	Dwg A5.03 – Room, Finishes & Fixtures Schedules	1 drawing
h.	Dwg A6.01 & A6.03 – Millwork Plans & Elevations	3 drawings
i.	Dwg A6.04 – Millwork Sections	1 drawing
j.	Mechanical Addendum 1	2 pages
k.	Electrical Addendum 1	2 pages

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# **Tender Mandatory Site Tour Attendance List**

Project:	UHNGEN	FLUORO	Date:	JUNE 11/21
Consultant:	DCYT AR	CHITECTURE	Project Manager:	LEAH JOSEPH

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# IMIT Communications Infrastructure Standards 1.2

Document Owner:IMIT Portfolio ManagementCreate Date:September 10, 2020Edit Date:September 21, 2020

#### **Revision History**

Version	Contributor(s)	Date	Change Notes
1.1	IMIT Tech Service	Sept 10, 2020	Initial Document
1.2	Jesse Priseman Nathan Riley	Sept 21, 2020	Combined with Telehealth

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# 1 Introduction

#### 1.1 Purpose

This document is intended to be used by all staff, consultants, and contractors working with any of the Northern Health (NH) IMIT and communications infrastructure projects. This includes renovations, new communication rooms in existing buildings as well as new facility builds. This document serves as a baseline specification for all future NH facilities. NH IMIT reserves the right to alter or customize the specification as required.

This document is provided to ensure the overall communications infrastructure that is designed and delivered is capable of meeting current and future operational and clinical needs of NH. The design and delivery emphasizes the importance of utilizing industry best practices, considers the impacts of multiple technologies, networks and cabling systems, addresses moves, adds and changes (MACs), anticipates and accommodates the future needs of complex healthcare environments and considers the type or area and zone density needs as per ANSI/TIA-1179.

#### 1.2 Scope

This document serves as the standard of quality and performance to the overall communications infrastructure design and installation at any facility owned, leased or operated by NH, unless otherwise noted. This document focuses on new projects using CAT 6A for horizontal cabling and OM5 fiber for backbone capable of supporting Ethernet speeds of 100Gbit/s and future higher speed data rates as defined by ANSI/TIA/CSA/IEEE/IEC/ISO and other major standards organizations regardless of delivery method (P3, Design-Build, Design-Bid-Build, Construction Management).

This document identifies, describes and provides requirements for designing, procuring, furnishing and installing a communications infrastructure to support a high availability fault tolerant wired and wireless infrastructure in new constructions as well as renovations, upgrades and maintenance/renewal work

For any existing communications rooms or closets that use CAT5E or CAT6, all references to CAT6A can be replaced with CAT6. CAT5E cabling is now obsolete and may not be used on any further installations, thus any requests to use CAT5E for any low voltage cabling will be denied.

### 1.3 Referenced Codes & Standards

All materials, workmanship and/or installation practices and activity shall meet or exceed the following reference standards:

• Comply with the latest British Columbia Building Code and Canadian Electrical Code, including all provincial and other amendments, any local by-laws or rules and regulations that regulate the installation of Communications facilities.

- Equipment and materials shall bear the approval of the Canadian Standards Association and where applicable, the Underwriters Laboratories of Canada or alternately shall bear local approval from the Electrical Inspection Department having jurisdiction.
- If there is a conflict between the Drawings and Specifications and the above noted codes, by-laws, rule and orders, the codes, by-laws, rules and orders shall govern.
- Install and test telecommunications cabling networks as per the latest manufacturer's requirements and in accordance with the following standards:
  - ANSI/TIA Standards:
    - ANSI/TIA 568-D.1-2015 Generic Telecommunications Cabling for Customer Premises standard.
    - ANSI/TIA -568-0-D-2015 Commercial Building Telecommunications Cabling Standard
    - ANSI/TIA-568-C.2-2009 Commercial Building Telecommunications Cabling Standard – Balanced Twisted Pair Cabling Components.
    - ANSI/TIA-568-C.3-2008 Optical Fiber Cabling Components Standard.
    - ANSI/TIA-569-D-2015 Commercial Building Standard for Telecommunications Pathways and Spaces.
    - ANSI/TIA-606-B-2011 Administration Standard for Commercial Telecommunications Infrastructure.
    - ANSI/TIA-758-B-2012 Customer Owned Outside Plant Telecommunications Cabling Standard.
    - ANSI/TIA-1179-2010 Health Care Telecommunications Cabling Standard.
    - ANSI/TIA-942-A-2012 Telecommunications Infrastructure Standard for Data Centers.
    - ANSI/TIA-TSB-162-A-2013 Telecommunications Cabling Guidelines for wireless Access Points.
- BICSI latest technical manuals:
  - ANSI/BICSI 002-2014, Data Centers Design and Implementation Best Practices.
  - ANSI/BICSI 003-2014 Building Information Modeling (BIM) Practices for Information Technology Systems
  - ANSI/BICSI 004-2012, Information Technology Systems Design and Implementation Best Practices for Healthcare Institutions and Facilities
  - ANSI/BICSI 005-2013, Electronic Safety and Security (ESS) System Design and Implementation Best Practices
  - ANSI/BICSI-006-2015 Distributed Antenna System (DAS) Design and Implementation Best Practices
  - ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling

- CSA 2318.7-95 Commissioning of Communications Systems in Health Care Facilities.
- IEEE 802.3 series of Ethernet Standards.
- IEEE 802.11 series of Wireless Standards.
- Conform to current safety and security standards, codes, and practices in effect at NH including, but not limited to:
  - Workers Compensation Act Part 3 Occupational Health & Safety.
  - BC Electrical Safety Act.
  - The British Columbia Building Code with Amendments.

# 2 Communication Equipment Rooms

### 2.1 Communication Rooms

All communication rooms require a CAT 6A distribution system. All data and voice runs are to terminate on the same universal patch panel system with no differentiation between voice and data ports. This will permit all ports to be used for either voice or data applications by means of labelled patch cords which connect to the network hardware (data) or voice patch panel (voice). A voice patch panel and tie cable will be used to provide a cross-connect between the universal patch panel system and the BIX telephone infrastructure.

Listed below are requirements for all communication rooms including:

Main Cross Connect (MCC), Back-up Cross Connect (BCC) and Telecommunications Rooms (TR).

- Furnish all walls with (3/4in trade size) A-C plywood, 2.44 m (8 ft.) high starting at 300 mm (12 in) AFF capable of supporting attached equipment. Plywood shall be either fire rated or covered with two coats of CSA approved fire retardant paint.
- False ceiling shall not be provided
- The access door shall be a minimum of 1m (36in) wide and 2m (80in) high and shall be locked and accessible via Northern Health (NH) card access system providing secure access. In the event of a power failure, the rooms shall remain secure and only be accessed via key override.
- Provide a UPS branch panel board and an essential branch panel board where each panel board is capable of independently supporting all the active telecommunications equipment, which will be dual corded with dual power supplies and simultaneously connect to the UPS branch panel and the essential branch panel such that an interruption in either power branch will not affect the telecommunication equipment.
- Provide a minimum of two dedicated 30A, 208V AC L6-30P electrical outlets, one on essential and one on UPS power, for equipment power. Consideration shall be given to identify dedicated telecommunications equipment outlets.

- In communication rooms that require multiple relay racks in hospital settings, each relay rack, including unloaded spare capacity racks, require a minimum of two dedicated 30A, 208V AC L6-30P electrical outlets, one on essential and one on UPS power, mounted directly above the rack.
- Be accessible from a common hallway, located in a low traffic area, and not located near office locations.
- Must not be located in a sterile core or high security area with limited access (such as a pharmacy).
- Camera and room environmental controls must be installed, matching IMIT standards
- Air handling must maintain a continuous and dedicated environmental control with:
  - a temperature range of 20°C to 25°C;
  - a humidity range of 40% to 55% relative humidity;
  - o minimum dew point: 5.5°C and;
  - o maximum dew point: 15°C

### 2.2 Entrance Facility (EF)

The EF consists of the telecommunications service entrance, including the entrance point through the building wall, and continuing to the entrance room or space. The demarcation point between service providers and NH premise cabling will be located here.

All carriers and telecommunications providers involved in providing service to the building shall be contacted to establish their requirements and explore alternatives for delivering service. The location of other utilities, such as electrical, water, gas, and sewer shall be considered in the site selection of the EF.

Service entrance pathways shall be provided. The basic methods for provisioning are underground, buried, and aerial pathways. For hospitals over 20,000 square meters, redundant and diverse pathways are used for incoming wide area network services.

The entrance room or space is the component of the EF that provides space for the termination of the entrance backbone cable. Where telecommunications equipment (i.e. PBX) is located in the entrance room or space, the entire room or space shall meet the requirements for an equipment room as specified in TIA/EIA-569-A.

For buildings exceeding 6096 m (20,000 SF) usable floor space, an enclosed and secure room must be provided.

The EF overall design will follow that of **<u>2.1 Communication Rooms</u>**, and will also be designed to support various telecommunication service providers.

2.3 Main Cross Connect (MCC) and Back-up Cross Connect (BCC) The MCC and BCC can be located on the same floor however preference is to have each room located on different floors. If located on the same floor they must be a minimum of 30m apart. The MCC must be located above ground. Copper and fiber backbone cables extend from the MCC/BCC to each Telecommunications Room (TR).

The MCC/BCC includes termination hardware, equipment racks, patch panels, cable management hardware, network equipment and servers that are part of other building services. The BCC to be designed to accommodate hot swapping of all services in the event of a failure in the MCC.

The MCC/BCC overall design will follow that of **<u>2.1 Communication Rooms</u>**. The BCC will be used for all redundant network and communications requirements.

### 2.4 Telecommunications Rooms (TR)

Telecommunications Rooms (TR) provide many different functions for the cabling systems and are often treated as a distinct sub-system within the hierarchical cabling system. The TR is the location for cross-connecting the backbone cable and horizontal station cable. Similarly, recognized types of backbone cable are also terminated in the TR on compatible connecting hardware.

The cross-connection of horizontal and backbone cable using jumper or patch cords allows flexible connectivity when extending various services to telecommunications outlet/connectors. Connecting hardware, jumpers, and patch cords used for this purpose are collectively referred to as "horizontal cross-connect". Patch cords used for horizontal cross-connect must be CAT 6A. The TR may also contain the IC or the MC connections for different portions of the backbone cabling system.

TR minimum recommended size requirements are based on distributing telecommunications service to one individual work area per 100 sq ft (10 sq m) of usable floor space as follows. Areas with high density wiring where more than 60% of one relay rack is used must be increased in size to accommodate a second relay rack.

Serving Area	Recommended Room Size
< or = 500 sq m	3.0 m depth x 2.5 m width
> 500 sq m and < 800 sq m	3.0 m depth x 2.8 m width
> 800 sq m and < 1000 sq m	3.0 m depth x 3.4 m width

2.4.1 Communication Room Sizes

The TR overall design will follow that of **<u>2.1 Communication Rooms</u>**. Further provisions to be considered are as follows:

- TR should be centrally located (both vertically and horizontally) within the building area served.
- TR must be stacked vertically on multi-floor buildings.
- TR shall be dedicated for IMIT services and can NOT be co-located with any other services unless approved by NH IMIT.

- The maximum wiring run from the TR to the most distant data outlet served from the room/closet cannot exceed 90m (295ft).
- The TR will be the origination point for wiring to all communications outlets within the area served.
- TR to be designed without any pillars, posts, or windows that will interfere with the placement of equipment or reduce available wall space.

# 3 Backbone and Riser Cabling Requirements

### 3.1 General Backbone Cabling Requirements

The function of the backbone cabling is to provide interconnections between the EF, MCC, BCC, and TRs.

All exposed fiber in telecommunications pathways and between the points where the EMT conduit enters the communications room, and the fiber enters the terminating enclosure, including a service loop, shall be protected with riser or plenum rated corrugated High Density Polyethylene Innerduct (HDPEI). The HDPEI must be securely fastened to the wall or vertical cable management system in order to ensure it is not hanging down in the middle of the closet.

Furthermore:

- Intra backbone cables shall be installed and bundled separately from entrance and horizontal distribution cables.
- In accordance with TIA/EIA-568-C the backbone cabling consists of the backbone cables, intermediate and main cross-connects, mechanical termination, and patch cords or jumpers used for backbone to backbone cross-connection.
- Backbone cabling also includes cabling between buildings. During each planning period, growth and changes in service requirements should be accommodated without installation of additional cabling.
- The backbone distribution system shall follow the conventional hierarchical extended star topology
- Backbone distances are not to exceed the maximums in accordance with TIA/EIA 568-C.
- All pathway requirements as per **<u>5 Pathway Requirements</u>** are applicable.

#### 3.2 Optical Fiber Data Backbone Requirements

Twenty-four (24) strand multimode fiber optic cables shall be utilized to provide primary backbone connectivity between the Main Cross Connect (MCC) and each Telecommunications Rooms (TR). Twenty-four (24) strand multimode fiber optic cables shall be utilized to provide redundant backbone connectivity between the BCC and each TR. If the distance limitation for multimode fiber is exceeded, single mode fiber will be required as approved by NH IMIT.

The optical fiber data backbone cable shall be:

- 50/125µm multimode OM5 850nm laser-optimized fiber surrounded by a jacket with UL rating of OFNR/OFNP or will meet the requirements of FT4/FT6.
- Both ends of the cable will be terminated to LC-LC connectors.
- Each fiber optic cable shall be terminated in the MCC/BCC and each TR in 24 port rack mount fiber enclosures providing protection to the terminated fibers

#### 3.3 Analog Backbone Requirements

50 pair CAT3 cu shall be utilized to provide primary analog backbone connectivity between the Main Cross Connect (MCC) and each Telecommunications Rooms (TR).

50 pair CAT3 cu shall be utilized to provide redundant analog backbone connectivity between the Main Cross Connect (MCC) and each Telecommunications Rooms (TR). Requirement for multiples of 50 pair will be determined during the design phase of each project. Multiple 50 pair cables if requests exceeds 50 pairs unless specified by NH.

The analog backbone cable shall be:

- 24 AWG, 50-pair UTP CMR/FT4, or CMP/FT6 rated as required by the BCBC
- Cable termination to use BIX or Panduit Cat5e RJ45 modules, white. Termination equipment to be determine at time of build.
- All pairs must be tested once terminated.

For the general layout rules the following parameters should be observed:

- Layout rules to follow existing network cabling format.
- Any copper cable run underground including via conduit must be underground rated and have solid metal shielding.
- Cable must be grounded on both ends to minimum 24 AWG ground source. Ground source cannot include hot/cold water or natural gas pipes.

# 4 Horizontal Cabling Requirements

#### 4.1 Wire Product Specifications

CAT 6A horizontal cabling shall be:

- CAT 6A UTP, 4 pair
- Must meet the performance requirements outlined in EIA/TIA 568-C in addition to all other standard CAT 6A performance requirements.

#### 4.2 Telecommunications Outlets (TO)

Each telecommunication outlet location shall

- Consist of a minimum two (2) CAT 6A cables as per <u>4.1 Wire Product</u>
   <u>Specifications</u> unless otherwise specified and mount to the appropriate hardware depending on the use of the cables and
- Be supplied with two (2) allocated data ports and one (1) unallocated data port. Refer to <u>Appendix B</u> for definitions.

The following shall be maintained during Telecommunications Outlet Installation:

- Cables shall be coiled in the in-wall or surface-mount boxes if adequate space is present to house the cable coil without exceeding the manufacturer's bend radius.
- No more than 30cm of slack shall be stored in an in-wall box, modular furniture raceway, or insulated walls. Excess slack may be neatly stored in the ceiling above each drop location in a figure-eight coil when there is not enough space present in the outlet box to store slack cable. Coiled slack in the ceiling space should not exceed 2m of cable.
- Cables shall be dressed and terminated in accordance with the recommendations made in the TIA/EIA-568-C document, manufacturer's recommendations and/or best industry practices.
- Bend radius of the UTP cable in the termination area shall not be less than 4 times the outside diameter of the cable as per the TIA/EIA 568-C standard.
- The cable jacket shall be maintained as close as possible to the termination point. .
- Modular jacks shall occupy the top position(s) on the faceplate.
- Cables shall be installed in continuous lengths from origin to destination. Consolidation points are not permitted without written authorization from NH.
- Horizontal distribution cables shall be bundled in groups of no greater than 24 cables.
- Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the Contractor prior to final acceptance at no cost to NH.
- Cables shall be identified by a self-adhesive label in accordance with <u>7.3 Horizontal</u> <u>Cables Labelling and Termination</u>.

# 5 Pathway Requirements

- Horizontal pathways, conduit, raceways and cable trays, shall not be filled to greater than 40% of fill capacity during initial installation
- Cable trays shall
  - o Be aluminum or steel wire mesh, ladder type with manufactured fittings.
  - House only data, wireless, patient monitoring, video, and nurse call cabling.
  - Have clearance above the tray as per TIA and BICSI standards so work can be done in cable tray without any hindrance due to conduit, duct or other obstacles.
  - Have soft 90 degree bends as per TIA/EIA cabling standards.
  - Have continuous #6AWG minimum green insulated copper bond wire.
  - Have #6 AWG green insulated copper bonding jumper between the cable tray and every associated conduit.
  - Follow the same path as the corridor and not cross over or into any rooms other than the MCC/BCC/TR
  - Not pass through fire rated walls.

- Wall mounted vertical cable tray is required for any vertically run cables along any wall surface
- Minimum conduit size shall be 28mm (1 inch). All empty conduits shall include a 3mm polypropylene pull cord continuously from outlet to outlet, through conduit and fastened at each box.
- If a J-hook or trapeze system is used to support cable bundles all horizontal cables shall be supported at a maximum of four-foot intervals. At no point shall cable(s) rest on acoustic ceiling grids or panels.
- Cable shall be installed above fire-sprinkler and systems and shall not be attached to the system or any ancillary equipment or hardware.
- The cabling system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.
- Cables shall not be attached to ceiling grid or lighting support wires. Where light supports for drop cable legs are required, the Contractor shall install clips to support the cabling.
- Where cables are housed in EMT conduits, the backbone and horizontal cables shall be installed in separate EMT conduits or in separate HDPEI within EMT conduits.
- Where backbone cables and distribution cables are installed in a cable tray or wire way, backbone cables shall be installed first and bundled separately from the horizontal distribution cables. The fiber must be installed inside corrugated HDPEI, and the HDPEI is to be attached to the outer or under side of the cable tray.
- When a cable enters or exits a junction or pull box or other such enclosure the appropriate connector, grommet, or bushing needs to be used.
- Cables run through conduit will not pass through more than two 90 degree corners (or equivalent) without the use of an intermediate pull box as outlined in EIA/TIA 568-C.
- Minimum space requirements in pull boxes having one 28 mm conduit each in opposite ends of the pull box shall be 100 mm wide, 400 mm long, and 75 mm deep. For each additional 28mm conduit, increase width of pull box by 50 mm.
- Minimum space requirements in pull boxes having 28 mm conduit for 90° pulls shall be 200 mm wide, 400 mm long, 150 mm deep. For each additional conduit, increase width of pull box by 50 mm.
- Consult TIA/EIA-569-C for pathway and floor penetration and conduit stub heights for all topologies.
- If cable needs to go through a wall, be it drywall, concrete, wood or other, and an existing pathway does not exist, the created pathway must use electrical conduit as a sleeve with EMT connectors with nylon throats at each end of the conduit. Poking a hole in the wall and running the cable through is not acceptable. All penetrations through fire rated building structures (walls and floors) shall be sealed with an appropriate firestop system

• If cable is to be terminated in an open office location with modular furniture and termination within a wall is not a viable option, then the cables are to terminate within PAC poles, not the modular furniture.

# 6 Patch and Interconnection Cabling Requirements

#### 6.1 Horizontal Data Cross-Connect

The horizontal cross-connect for data circuits shall consist of patch cords from the horizontal CAT 6A termination panels to the network equipment within the same or adjacent racks. Short patch cords (1 foot) must be used in a stacked switch configuration. Vertical mount cable management must be used in each rack.

# 7 Labelling

#### 7.1 General

All documentation and labelling must follow the TIA/EIA 606A Standard. All labels must be machine printed, smudge-resistant and water-resistant.

#### 7.2 Panel Labelling

Fiber patch panels will be labelled "Panel 1", continuing in a top-to-bottom, left-to-right approach. This label must be followed by a description of the fiber strand count and fiber type (12 Strand MM or 12 Strand SM) and where the other end of the fiber is located. For example "Panel 1 – 12 Strand MM to TR A1A".

Copper patch panels will be labeled "Panel A" for the first panel, "Panel B" for the next panel and continuing top-to-bottom, left-to-right. The label is to be placed on the left side of the front face of each 48-port patch panel. There should be no other labeling added to the patch panel. Each port on each patch panel comes pre-labeled with numbers 1 - 48 and therefore ports are identified at the wall-plate using a combination of the patch panel letter and port number. For example port 45 on patch panel B would be identified as B45

#### 7.3 Horizontal Cables Labelling and Termination

Horizontal cables are labelled sequentially from each communications room. Data patch panels will be labelled in a left-to-right, top-to-bottom fashion. With all new builds the cables must be terminated in a logical fashion so that all data drops from a room or area in the building are sequentially located on the patch panel(s). BIX positions will be labelled left-to-right, top-to-bottom within a BIX column; numbering will continue at the top of the next (to the right) column. Voice patch panels will be labelled, "To BIX 1-50", and "To BIX 51-100" and so on.

Self-laminating labels must be wrapped around the ends of horizontal cable runs 10 cm from the end of the sheath, marked with; communications room, patch panel location, room, installer, and usage. For example; a cable used for Patient Monitoring coming from patch panel B, location 17, in TR A1A terminating to Room 2745 on faceplate A would have this label at both the head and field end A1A.B17.2745.A.PM.

The last few letters indicate what the cable is used for.

# 7.4 Telecommunications Outlet Labelling

At the telecommunications outlet, each jack of the faceplate will show the associated communications room or closet (such as A1B or A1C) followed by the patch panel letter and port number such as A21 or B45.



The above telecommunications outlet indicates that there are 3 cables coming from the A1B location, and 1 cable coming from A1C. All of the telecommunications outlets must also be labelled with their position in the room to match the label on the cable, be that A, B, C, D etc. The locations start from the primary entry, then clockwise around the room.

### 7.5 Backbone Cable Labelling

Backbone cables will be labelled showing the communications rooms at each end and where within those rooms the fiber is terminated. For example, a fiber bundle connecting rooms S5A (in fiber panel 2) and R1A (in fiber panel 1) would be labelled "S5A-2 R1A-1". The specific labelling to be applied will be specified for the job. Both the port where the cable is terminated and the cable itself must be labelled. The cable must be labelled with self-laminating labels wrapped around the sheath of the cable.

### 7.6 Patch Cable Labelling

Patch cables used at the workstation or within a communications room or closet do not need to be labelled.

# 8 Network

### 8.1 Design

At a very high level, the network functions as part of an existing enterprise network management system, providing secure access to NH applications and systems, using Cisco-based hardware for routing, switching, and wireless services. The system design includes a high level of physical and logical redundancy that promotes continuity of service even if individual components fail. The Building Management System network is separated through logical design.



#### 8.2 Infrastructure

- 8.2.1 Router
- Cisco-branded
- Must be equipped with redundant power supply
  - Aggregate throughput of 500Mbps 1000Mbps
  - 2 GigE and 2 SFP ports
  - One rack unit (RU)
  - Supports all routing protocols (e.g., OSPF, BGP)
  - Network monitoring and accounting support (e.g., SNMP, syslog, Netflow, NBAR)
  - o Equivalent or similar to Cisco 4431 ISR

#### 8.2.2 Switch

Cisco branded

#### 8.2.2.1 Core

- Dual design Primary and Secondary Cores
  - Primary Core located in the Main Cross Connect (MCC)
  - Secondary Core located in the Backup Cross Connect (BCC)
- Core switches inter-connected via fiber
- Each core switch fiber-connected to each Access switch stack via diverse paths

• Core equipment must include redundant power supply

8.2.2.2 Access

- Access switches must have sufficient power to provide full POE+ on all ports simultaneously
- 10Gbps uplink capable
- Licensed for network advantage
- Where multiple switches are located in a single closet, stacking must be used
- Each Access switch stack must be connected via 10Gbps capable fiber uplink to each Core switch (primary and secondary), via diverse path

# 9 Wireless

# 9.1 Wireless Network Design



### 9.2 Wireless Infrastructure

- A wireless survey shall be performed to accurately record coverage levels for the wireless system The survey should include:
  - o a predictive survey prior to any installation of system;
  - $\circ$   $\,$  an active survey at completion of project and prior to owner move in
- The wireless system shall be the same communications protocol throughout the entire facility to ensure coverage and roaming from one area of the facility to another
- A single Cisco wireless LAN extends across all facilities
- The wireless system supports wireless applications inside the facility and provides 100% coverage throughout the Facility including auditoriums and cafeterias, elevators cabs, mechanical spaces, service areas, facility exterior, and stairwells, secured exterior courtyards, connected walkways, helipad, and gardens.
- Wireless system shall run on the structured cabling plant
- Intelligent wireless access points (APs) are mounted throughout the facility, connected to switches using CAT6A
- APs to be controlled via wireless controllers as per NH IMIT recommendations
- PoE shall be used to power wireless access points
- Wireless data security encryption shall be used on any wireless communication system to protect privacy
- The wireless system must have sufficient wireless access points to support the Wireless Staff Communication system in accordance with Vocera standards to a level of -60db at 12mw
- Wireless access points must be named and labelled, following NH IMIT standards.
   o City-Site-Floor-AP# (e.g., PRG-UHNBC-1<sup>st</sup>-AP01)

#### 9.3 Wireless Outlet locations

- Provide two (2) CAT 6A UTP cable, terminated at both the head and field ends
- Provide 5m slack for each cable, at the field end, coiled neatly, suspended in the ceiling space with proper support and cable management. Coil radius must be within acceptable bend radius for the cable as per EIA/TIA 568-C.
- Support cables with Velcro wraps or equivalent. Tie-wraps are NOT to be used.
- Follow the standards and best practices as per <u>4 Horizontal Cabling</u> <u>Requirements</u>.
- The wireless infrastructure shall support a Cisco Based system and will service 802.11b (2.4Ghz), 802.11g (2.4Ghz), 802.11a (5Ghz), 802.11n (5Ghz and 2.4Ghz), 802.11ac (Wave 3) and 802.11ax (Wi-Fi 6).

# 10 Wireless Staff Communication System (Vocera)

- Vocera is the regional solution for wireless staff communication
- Vocera is centrally administered from Prince George

- Vocera SIP servers are centrally located at the Kamloops Data Center (KDC)
- Telephony Gateway supports non-SIP enabled PBXs via Dialogic Media Gateway or other SIP/TDM gateway products.
- The Vocera SIP Telephony Gateway are configured to provide the following key benefits:
  - Call to and from PBX extensions, voicemail, and the public telephone network
  - Nurse call back to badge, where nurse call integration is configured
  - Direct inward dialing (DID)
  - Speech-to-touch-tone dialing
  - Supports installation of multiple telephony servers for N + 1 redundancy, scalability, and load balancing
  - Support for deployment in a VMware virtualized environment
  - Vocera Access Anywhere (phone access to the Vocera Genie) is configured only for sites that using telephony integration
- Vocera telephony servers are currently located at UHNBC, FJN Hospital, Lakes District Hospital and Dawson Creek Hospitals
- Vocera B3000 and B3000n badges are used
- Vocera integrates with the wireless network, and can integrate with local nurse call and telephony systems where required
- Vocera complies with IEEE 802.11i for wireless data security encryption
- Vocera is not used as a primary life safety system
- Connexall is the standard 3rd party integration software for sites that subscribe to this service



# 11 Telephony

- The telephone system to be Cisco Based VoIP, connecting to the NH enterprise Cisco Unified Communications Manager (CUCM) system
- Telephone system will be a leaf node off of the existing CUCM environment deployed in one of four clusters located in key regional sites, as per NH IMIT
- Voice gateways are deployed to connect existing analog and digital phones to the Cisco VoIP solution
- Cisco Integrated Services Router (ISR) with Survivable Remote Site Voicemail (SRSV) and Survivable Remote Site Telephony (SRST), are directly connected to the network, a dedicated PSTN, and the WAN.
- Endpoint devices are Cisco VoIP; NH IMIT to define quantities of each model used throughout (e.g., a mixture of Cisco 7841 IP Phones, Cisco 8831 Conference Phones, and Cisco 8851 with key expansion modules could be used)

• Cisco Unified Communications Manager and Cisco Unity Publisher are provided with enough licensing to support existing and new phones.

# 12 Power

### 12.1 UPS

- For all new hospital builds, equipment to be attached to building UPS
- For renovations or existing builds, UPS:
  - Must be equipped with management card
  - Must be of type "double conversion on-line"; not of type "line interactive"
  - Model dependent on load of protected devices. Generally, this means:
    - 1000VA for <3 devices</li>
      - 1500VA for 3-6 devices
    - 2200VA for 7-9 devices

#### 12.2 PDU

- 2 x PDUs per rack (one per power supply per device)
- Vertically mounted
- Each PDU to on separate power circuit
- Power outlet installed directly above rack
- PDUs should have 20% excess capacity
- PDUs to employ remote power management (each port capable of being managed via distinct credentials)

## 13 Rack

- For TRs, floor mounted 483mm (19") two-post, frame style racks shall be installed. Rack shall be 2134mm (84") high. Racks shall have EIA universal hole spacing
- For MCC or BCC, 4 post racks to be used (in addition to 2 post rack for network equipment) if either a telephone system or servers are being installed in the room
- Layout:
  - Fiber tray installed at top of rack
  - Leave 4U for Internet provider gear directly below fiber tray
  - o NH router to be installed directly below Internet provider gear
  - Patch panel / Switch:
    - 24 port patch panel directly below NH router
    - 48 port switch directly below patch panel
    - 24 port patch panel directly below 48 port switch
  - Repeat Patch panel / Switch section above, for each 48 ports needed



# 14 Server

- NH server environment is virtualized, centralized out of data centres in Prince George (UHNBC DC1 or DC2) or KDC.
- Local servers installations will only be considered via approval of an exception, through NH IMIT Technology Services
- Servers must follow NH IMIT Technology Services standards for operating system and patching
  - Operating System (current as of Aug 2020)
    - Minimum Windows Server 2016 Standard
    - Recommended: Windows Server 2019
  - Patching:
    - Per NHA ITS Server Patching standard

# 15 Video Conferencing / Audio Visual

#### 15.1 Video Conferencing System

The video conferencing solution is centrally administered from Prince George

The video conference solution is based on a Unified Videoconferencing platform for the facility which integrates traditionally disparate point-to-point CODEC IP endpoints into a holistic, centrally managed solution.

The solution leverages USB-based high resolution cameras and high fidelity microphones as inputs into a hardware CODEC appliance that also supports up to 4K video resolution.

The Unified Videoconferencing solution is CODEC endpoint device agnostic and will support any 3rd party hardware CODEC endpoint vendors such as Cisco, Polycom and Lifesize as well as any software based CODECs should the Province decide to support software client CODECs in the future.

The term "unified" refers to the ability to centrally manage and schedule the solution as one holistic solution as opposed to managing standalone CODEC



#### 15.2 Video Conferencing Room Standards

Rooms are defined as Large, Medium, or Small

- Large Room Meeting room to up to 16+ people (approx. 400 sq. ft. in size)
- Medium Room Meeting room to up to 10 people (approx. 200 sq. ft. in size)
- Small Room Meeting room to up to 7 people (approx. 100 sq. ft. in size)

All video conferencing rooms are designed for privacy and prevent exterior sound from interfering with the interior sound.

All rooms have an ambient sound level of NC-30 or less.

Acoustic tiles are used with an absorption rate of NRC .9 or greater.

Acoustic absorption panels are used on walls

Echo or reverberation are between .3 to .4 seconds

Walls are made with ½" QuietRock gypsum

Walls are insulated with safe'n'sound RockWool

Doors hold Rw of 35dB – No Standard door, door must meet an Rw rating of 35db

All video conferencing rooms are painted CL 3092W-Urchin from General Paint

There are no reflective wall decorations in any video conferencing rooms to avoid echoing or reflections

All video conferencing rooms use 4' x 2' three (3) lamp fixtures with separate wall switches. Bulbs are 4000k lamps T8.

All video conferencing rooms use Cisco Telepresence Omnidirectional Microphones along the center line of the table.

Spacing between microphones is between 1145-1525 mm, and a maximum of 1145 mm, in from participants



Ceiling microphones are mounted 1825 mm from the floor

Microphone spacing is determined by the acoustics, spaced between 2135 - 3660 mm

	Audio Science	Audio Science	
Endpoint	8'-14' (2.4-4.3 m) about 7' (2.15 m) above the floor		

Table and seating arrangement is based on Cisco's best practice



15.2.1 Table standard None

15.2.2 Table colour Neutral colors, such as grey or light brown

#### 15.2.3 Floor boxes

Only used for floors that can be cored. If a floor box can be used install one for HDMI, Data, Microphones and an additional cat6 cable for VC control panel. All cables are from codec to table.

#### 15.2.4 Table boxes

No preference to manufacturer, each box should be available for four seats, with 2 power and one HDMI. Cisco is limited to the amount of HDMI connectors that can be used in a codec, two HDMI's per table one at either end. 2 data ports per box. 1 box per 4 seats.

15.2.5 Window Treatments:

a) Windows that allow light into the room, which then interferes with the overall room lighting, will require blackout blinds.

#### 15.2.6 Privacy

b) Privacy may also need to be addressed which will require blinds or curtains.

# 15.3 Large Standard room example



#### 15.4 Standard Room Layout - Medium







# 15.6 Ergotron StyleView Cart w/ LCD Pivot, SLA Powered (SC42-6301)



/	/ LB		$\bigcirc$	$\square$	0	
Scre	en Capac	ity Lift	Tilt	Pan	Rotation	VESA
≤ 24	4" ≤ 35 li 16 k	bs* 25"† g 63 cm	25°	24°	90° ‡	MIS-D
	VESA	Screen Size	Disp Weig	ay ht	Hole Mou Pattern	nt
	MIS-B	4-7.9"	≤4.4 ≤2 }	lbs (g	50 x 20 m	ım
	MIS-C	8-11.9"	≤10 ≤4.5	lbs kg	75 x 35 m	ım
	MIS-D	12-22.9"	≤30.8 ≤14	lbs kg	75 x 75 m 100 x 100	m; mm
	MIS-E	23-30.9"	≤50 ≤23.7	lbs ′kg	200 × 100	mm
	MIS-F	≥31"	≤250 ≤113.	lbs 6 kg	200 mm incremen	1 ts

# 15.7 Television Sizing Matrix

	General=8	Detail=6	Inspection=4		
	Factors and viewing distance in feet			Dimens	sions "
LED size	8	6	4	Height	Width
(inches)					
46"	15.03	11.28	7.52	22.56	40.10
52"	17.00	12.75	8.50	25.50	45.33
55"	17.98	13.48	8.99	26.97	47.94
60"	19.61	14.71	9.81	29.42	52.30
65"	21.24	15.93	10.62	31.87	56.66
	Factors an	d viewing dis	tance in feet	Dimens	sions "
Projection	8	6	4	Height	Width
Screen Size					
(inches)					
60"	19.61	14.71	9.81	29.42	52.3
80"	26.15	19.61	13.07	39.22	69.73
92"	30.07	22.55	15.03	45.1	80.19
100"	32.68	24.51	16.34	49.03	87.16
106'	34.65	25.98	17.32	51.97	92.39
110'	35.95	26.96	17.98	53.93	95.88
119"	38.89	29.17	19.45	58.34	103.7
133"	43.47	32.60	21.73	65.2	115.9
160"	52.29	39.22	26.15	78.44	139.5
215"	70.27	52.70	35.14	105.41	187.4

# Appendix A – Current Technologies

Technology	Manufacturer	Vendor
Racks	Middle Atlantic	
Phone System	Cisco	Charter
Communication Room Environmental Controls	Netbotz	
Network Switch/Router	Cisco	Telus
Wireless	Cisco	Telus
UPS	APC	Telus
Staff to Staff Communications	Vocera	Vocera
Clinical Information System	Cerner	Cerner
PACS	AGFA	AGFA

Appendix B – Definitions

**Allocated data port**: A CAT6A cable that has been installed tested and certified with proper terminations at both the field and head ends that can be patched into a provisioned switch port in the same rack in the communication room without the need for additional infrastructure.

**Administration**: The method for labelling, identification, documentation and usage needed to implement moves, additions, and changes of the telecommunications and low voltage cabling infrastructure

**Backbone**: a facility (i.e. pathway, cable, or conductors) between telecommunications closets, or floor distribution terminals, the entrance facilities, and the equipment rooms within or between buildings.

**BIX block**: a type of punch block used to connect sets of CAT 3, 5e, or 6 wires in a structured cabling system for telephony

**Bonding**: a low impedance path obtained by permanently joining all non-current-carrying metal parts to assure electrical continuity and having the capacity to conduct safely any current likely to be imposed on it.

**Cable**: an assembly of one or more conductors or optical fibers with an enveloping sheath, constructed so as to permit use of the conductors singly or in groups.

Cable tray: a type of raceway

Cabling: a combination of all cables, wire, cords, and connecting hardware.

**Coax**: electrical cable with an inner conductor surrounded by a tubular insulating layer typically of a flexible material covered with a thin insulating layer on the outside.

**Conduit**: a raceway of circular cross-section of the type permitted under the electrical code and this Profile. Includes EMT (electrical-metallic tubing) conduit.

**Consolidation point**: a location for interconnection between horizontal cables that extend from building pathways, and horizontal cables that extends into work area pathways.

**Cross-connect**: a facility enabling the termination of cable elements and their interconnection, and/or cross-connection, primarily by means of a patch cord or jumper.

**Cross-connection**: a connection scheme between cabling runs, subsystems, and equipment using patch cords or jumpers that attach to connecting hardware on each end.

**Demarcation point**: a point where the operational control, or ownership changes.

**Device** (as related to a workstation): an item such as a telephone, computer, graphic or video terminal.

#### Duct:

a) a single enclosed raceway for wires or cables. See also conduit, raceway;

b) a single enclosed raceway for wires or cables usually buried in soil or concrete;

c) an enclosure in which air is moved. Generally part of the HVAC system of a building.

**Electrical code**: the most current edition of the Canadian Electrical Code, BC amendments, Safety Standards, local by-laws and amendments issued by other authorities having jurisdiction.

**Entrance facility, telecommunications**: an entrance to a building for both public and private network service cables (including antennae) including the entrance point at the building wall and continuing to the entrance room or space.

**Entrance point, telecommunications**: the point of emergence of telecommunications conductors through an exterior wall, a concrete floor slab, or from a rigid metal conduit or intermediate metal conduit.

**Entrance room or space, telecommunications**: a space in which the joining of inter- or intrabuilding telecommunications backbone facilities takes place. An entrance room may also serve as an equipment room.

**Equipment cable (cord)**: a cable or cable assembly used to connect telecommunications equipment to horizontal or backbone cabling.

**Equipment room, telecommunications**: a centralized space for telecommunications equipment that serves the occupants of the building. An equipment room is considered distinct from a telecommunications closet because of the nature or complexity of the equipment.

**Ground**: a connection to earth obtained by a grounding electrode.

**HDPEI**: a corrugated, flexible duct, typically of 1 to 3" diameter, made of High Density Polyethylene used to protect fiber optic cabling.

**Horizontal cabling**: the cabling between, and including, the telecommunications outlet/connector and the horizontal cross-connect.

**Horizontal cross-connect**: a cross-connect of horizontal cabling to other cabling, i.e., horizontal, backbone, or equipment.

Install: synonymous with provide

**Infrastructure, telecommunications**: a collection of those telecommunications components, excluding equipment, that together provides the basic support for distribution of all information within a building or campus.

**Interconnection**: a connection scheme that provides for the direct connection of a cable to another cable or to an equipment cable without a patch cord or jumper.

**Intermediate cross-connect**: a cross-connect between first level and second level backbone cabling.

**Jumper**: an assembly of twisted wires without connectors, used to join telecommunications circuits/links at the cross-connect.

**Link**: a transmission path between two points, not including terminal equipment, work area cables, and equipment cables.

**Main Cross-Connect**: a cross-connect for first level backbone cables, entrance cables, and equipment cables.

Media, telecommunications: wire, cable, or conductors use for telecommunications

**Modular jack**: a telecommunications female connector. A modular jack may be keyed or unkeyed, and may have six or eight contact positions, but not all positions need to be equipped with jack contacts.

**Multimode optical fiber**: an optical fiber that will allow many bound modes to propagate. The fiber may be graded-index or step-index fiber. See, also, optical fiber cable.

**Open office**: a floor space division provided by furniture, movable partitions, or other means, instead of building walls.

Optical fiber cable: an assembly of one or more optical fibers.

**Outlet box, telecommunications**: a metallic or non-metallic deep box mounted within a wall, floor, or ceiling, used to hold telecommunications outlet/connectors, or transition devices.

**Outlet/connector, telecommunications**: a connecting device in the work area, on which the horizontal cable terminates.

**Patch cord**: a length of cable with connectors on one or both ends used to join telecommunications circuits/links at the cross-connect.

Patch panel: a cross-connect system of mate-able connectors that facilitates administration.

Pathway: a facility for the placement of telecommunications cable.

Premise: the facilities, leased or owned by NH, where Work is to be performed.

**Provide**: to supply and install.

**Raceway**: any channel designed for holding wires, cables, or busbars, and, unless otherwise qualified in the rules of the CE Code, the term includes conduit (rigid and flexible, metallic and non-metallic), electrical metallic and non-metallic tubing, under floor raceways, cellular floors, surface raceways, cable trays, busways, and auxiliary gutters.

**Riser**: the pathway to link multiple communication rooms, closets, satellites, and/or floors.

**Single-mode optical fiber**: an optical fiber that will allow only one mode to propagate; such fiber is typically a step-index fiber.

Site: synonymous with Premise.

**Space, telecommunications**: an area used to house the installation and termination of telecommunications equipment and cable, i.e., telecommunications closets, work areas, and access holes/handholes.

**Star topology**: a topology in which each telecommunications outlet/connector is directly cabled to the distribution device.

Supply: means supply only; no other material or labour cost is involved.

**Switch port**: An active port on a network switch in the MCC, BCC, or TR that can be connected to a data jack to change the status of a data jack from unallocated to allocated.

**Telecommunications**: any transmission, emission, or reception of signs, signals, writings, images, and sounds, that is information of any nature by cable, radio, optical, or other electromagnetic systems.

**Telecommunications closet**: an enclosed space for housing telecommunications equipment, cable terminations, and cross-connect cabling. The closet is the recognized location of the cross-connect between the backbone and horizontal facilities.

**Telecommunications outlet**: a 4-port faceplate. Top 2 ports are populated with allocated CAT 6/6A ports, and bottom ports are left blank for future.

#### Terminal:

a) a point at which information may enter or leave a communications network; or

- b) the input-output associated equipment; or
- c) a device by means of which wires may be connected to each other.

Topology: the physical or logical arrangement of a telecommunications system.

**Unallocated data port or data jack**: A CAT6A cable that has been installed, tested and certified with proper terminations at both the field and head ends and does not have a provisioned network switch port in the same rack in the communications room, but has the ability to become active if required post substantial completion and/or construction.

**Work**: means the furnishings of all labour, material and equipment to perform the services described in this document.

**Work area (work station):** a building space where the occupants interact with a workstation device(s).



# **Bulk Sample Report**

Project #:	1952
Client:	Northern Health
Site:	1475 Edmonton Street, PG
PO#:	

Sampled by: Date Sampled: Analyst: CA 18-Nov-2020 GW 1962 Quinn St. South Prince George, BC 250.563.8484 gwong@cascadiaohs.ca

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
				1	Metallic Silver Foil	7	None Detected	-	Non-fibrous	100
	Fluoro 2 At Wall			2	Cream Fibre Mesh Weave	3	None Detected	-	Fiberglass	100
1	Above Ceiling Tile	Pipe Insulation	18-Nov-2020	3	Beige Fibre Mat	10	None Detected	-	Cellulose Non-fibrous	90 10
	– wrap on Pipe			4	Loose Yellow Fibre Mix	80	None Detected	-	Fiberglass	100
				1	Metallic Silver Foil	7	None Detected	-	Non-fibrous	100
	Fluoro 2 At Wall			2	Cream Fibre Mesh Weave	3	None Detected	-	Fiberglass	100
2	Above Ceiling Tile	Pipe Insulation	18-Nov-2020	3	Beige Fibre Mat	10	None Detected	-	Cellulose Non-fibrous	90 10
	– wrap on Pipe			4	Loose Yellow Fibre Mix	80	None Detected	-	Fiberglass	100
3	IR1 At Wall with Sink – Above Ceiling Tile – Rectangular Ductwork	Mastic	18-Nov-2020	1	Red-Brown Mastic	100	Chrysotile	3	Cellulose Non-fibrous	1 96
4	IR1 At Wall with Sink – Above Ceiling Tile – Rectangular Ductwork	Mastic	18-Nov-2020	1	Red-Brown Mastic	100	Chrysotile	3	Cellulose Synthetics Non-fibrous	1 1 95
5	Patient Care Room – Above Ceiling Tile – Rectangular Ductwork	Mastic	18-Nov-2020	1	Grey Mastic	100	None Detected	-	Cellulose Non-fibrous	1 99



# Bulk Sample Report

Sample #	Location	Material	Analysis Date	Layer	Description	%	Asbestos	%	Other Materials	%
6	Patient Care Room – Above Ceiling Tile – Rectangular Ductwork	Mastic	18-Nov-2020	1	Grey Mastic	100	None Detected	-	Cellulose Non-fibrous	2 98
				1	Metallic Silver Foil	7	None Detected	-	Non-fibrous	100
	Patient Care Room			2	Cream Fibre Mesh Weave	3	None Detected	-	Fiberglass	100
7	Tile – Pipe/Duct	Pipe Insulation	18-Nov-2020	3	Beige Fibre Mat	10	None Detected	-	Cellulose Non-fibrous	90 10
	Wiap			4	Loose Yellow Fibre Mix	80	None Detected	-	Fiberglass	100
				1	Metallic Silver Foil	7	None Detected	-	Non-fibrous	100
	Patient Care Room			2	Cream Fibre Mesh Weave	3	None Detected	-	Fiberglass	100
8	Tile – Pipe/Duct	Pipe Insulation	18-Nov-2020	3	Beige Fibre Mat	10	None Detected	-	Cellulose Non-fibrous	90 10
	wiap			4	Loose Yellow Fibre Mix	80	None Detected	-	Fiberglass	100



#### Cascadia OHS Chain of Custody

SAMPLE A	NALYSIS:
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CASCADIA PROJECT # :	1952	SAMIFLE ANALISIS.	5
PROJECT ADDRESS:	1475 Edmonton Street, PG	ASBESTOS BU	JLK
CLIENT:	Northern Health	REGULAR (5-DAY)	12
CONTACT NAME:	Glenn Steiniger	NEXT DAY RUSH	
DATE SAMPLED:	18-Nov-20	SAME DAY RUSH	

ASBESTOS AIR	FUNGAL	
REGULAR 24HR	REGULAR (3-DAY)	
AIR CLEARANCE	NEXT DAY RUSH	

SPECIAL INSTRUCTIONS:

REPORT RESULTS BY: PHONE

EMAIL

EMAIL ADDRESS: Glenn.Steiniger@northernhealth.ca PLEASE SUBMIT EACH FLOORING LAYER AS A SEPARATE SAMPLE

All asbestos samples are analyzed in accordance with the National Institute for Occupational Safety and Health (NIOSH) Analytical Method #9002, "Asbestos (bulk) by Polarized Light Microscopy."

SAMPLE NO.	Floor	LOCATION / ROOM	SAMPLE MATERIAL	FLOW RATE (L/MIN)	NOTES
1		Fluoro 2 At Wall with Bathroom - Above Ceiling Tile - Wrap on Pipe	PI		Silver foil, yellow fiberglass
2		Fluoro 2 At Wall with Bathroom - Above Ceiling Tile - Wrap on Pipe	PI		Silver foil, yellow fiberglass
3		IR1 At Wall with Sink - Above Ceiling Tile - Rectangular Ductwork	Μ		Red
4		IR1 At Wall with Sink - Above Ceiling Tile - Rectangular Ductwork	M		Red
5		Patient Care Room - Above Ceiling Tile - Rectangular Ductwork	М		Grey
6		Patient Care Room - Above Ceiling Tile - Rectangular Ductwork	М		Grey
7		Patient Care Room - Above Ceiling Tile - Pipe/Duct Wrap	PI		Silver foil, yellow fiberglass
8		Patient Care Room - Above Ceiling Tile - Pipe/Duct Wrap	PI		Silver foil, yellow fiberglass
		0			
Drywall Joint Co	ompound ( <b>DJC</b> ), P	aster (P), Window Putty (WP), Textured Ceiling (TC), Ceiling Tile (CT), Vinyl Floor Tile (VFT) Cemen Board (CB), Tar Shingles (TS), Tar & Gravel (TG), Gasket (G), Cement (C), Grout	, Sheet Vinyl Flooring ( <b>S</b> ( <b>Gr</b> ), Vermiculite ( <b>V</b> ), Cor	VF), Mastic (M) struction Pape	, Pipe Insulation (PI), Pipe Elbow (PE), Stucco (S), r (CP), Duct Tape (DT)
RELINQUISH	HED BY:	DATE: 18-Nov-2020	RECE	IVED BY:	DATE: NOV 18/2
Page <u>1</u>	0f1		CUSTODY SEA	L INTACT?	YES / NO INITIALS DATE: DOL 18



		DC ARCHITEC	<b>YT</b> CTURE							
M	WWW.DCYTARCHITECTURE.CA									
D	DRAWING LEGEND									
-		PROJECT AREA								
Z		EXISTING WALL TO BE RI ELEC, MECH, PLUMB & S WITHIN WALL)	EMOVED (INCL PRINKLER WOR	к						
E		EXISTING WALL TO REM	AIN							
Z		NEW WALL								
-		NEW WALL WITH ACOU	ST INSULATION							
E 	EX DOOR (EX01) EXISTING DOOR & FRAME TO REMAIN (SEE DOOR SCHEDULE) EX DOOR									
-		REMOVED OR RELOCAT SCHEDULE)	ED (SEE DOOR							
c	D1 NEW DOOR & FRAME (SEE DOOR SCHEDULE)									
	1 A6.01	INTERIOR ELEVATION #	/ DWG #							
	1 A1.01	CROSS SECTION # / DW	G #							
	$\langle W1 \rangle$	WALL TYPE (SEE WALL S	CHEDULE)							
	(W1)	WINDOW TYPE (SEE WI SCHEDULE)	INDOW							
	(GP1)	GLAZING PARTITION TY PARTITION SCHEDULE)	PE (SEE GLAZIN	IG						
	CG2 J	90° CORNER GUARD 135° (OR CUSTOM ANG	LE) CORNER GU	IARD						
	FD	FLOOR DRAIN								
	GB HMI MI	GRAB BAR HANDICAPPED MIRROR MIRROR	<u>.</u>							
	*****	EXTENT OF ACCENT WA FINISH SCHEDULE) - ALL COLOUR	LL (SEE ROOM OW FOR 1							
		EXTENT OF LEAD LINING EXTENT OF FIRE RETARD PLYWOOD BACKING	) (SEE RAD. REP DANT TREATED	URT)						
	FE	FIRE EXTINGUISHER (36' OF CABINET) - SEE MECH	' A.F.F. TO BOTT I DWGS	ОM						
9	TENDER ADDEN		JUNE 16, 2021	RC						
8	NOT ISSUED		-	-						
7	ISSUED FOR TEN	NDER	JUNE 4, 2021	RC						
6	6 ISSUED FOR 80% CD MAY 21, 2021 RC									
5	5 ISSUED FOR BP SUBMISSION MAY 7, 2021 RC									
4	4 ISSUED FOR DESIGN REVISION 2 REVIEW APR 21, 2021 RC									
2	2         ISSUED FOR DD REVIEW         APR 19, 2021         RC									
1	ISSUED FOR SCHEMATIC DESIGN REVIEW MAR 19, 2021 RC									
No.	REVISION		DATE	BY						
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**ARCHITECT:** 



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# **FLUOROSCOPY** REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 2 - GEN FLUORO LEVEL 1 FRAMING PLAN

SCALE:	
1:50	
DATE:	-
OCTOBER 2020	
DRAWN:	
RC	
CHECKED:	-

DC

JOB No.:

DCYT2009

 PHASE 2
 A2.02





JUNE 16, 2021 RC

JUNE 4, 2021

MAY 7, 2021

APR 9, 2021

DATE

MAY 21, 2021 RC





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			R	OOM F	INISH S	SCHEDULE			
	LOCATION		W	ALL (SEE NOT	TE 2 & 3)	FLOOR	BASE	CEILING	NOTES 2
RM #	ROOM NAME	NORTH	EAST	SOUTH	WEST	(SEE NOTE 1)			
01	GENERAL FLUORO ROOM	PAINT PT1	PAINT PT1	PAINT PT1	PAINT PT2	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE DWG A2.03 FOR ACCENT WALL EXTENT
02	CONTROL ROOM	PAINT PT1	PAINT PT2	PAINT 1	PAINT PT1	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE DWG A2.03 FOR ACCENT WALL EXTENT
03	EQUIPMENT ROOM	PAINT PT1	PAINT PT1	PAINT PT1	PAINT PT1	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	
04	CORRIDOR 1110	PAINT PT8	PAINT PT8	PAINT PT8	PAINT PT8	SHEET VINYL SV2	INTEGRAL COVE BASE SV2	MATCH EXISTING	
05	RECOVERY ROOM	PAINT PT2	PAINT PT1	PAINT PT2	PAINTPIA	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE DWG A2.03 FOR ACCENT WALL EXTENT
06	CLERICAL SPACE	PAINT PT1	PAINT PT1	PAINT PT(1	PAINT PT1	SHEET VINYL SV4	INTEGRAL COVE BASE SV4	SUSP CEILING ATC	-
07	CLERICAL OFFICE	PAKITRI1	PAINT PT1	PAINT PT1	PAINLETT	SHEET VINYL SV4	INTEGRAL COVE BASE SV4	SUSP CEILING ATC2	
08	CORRIDOR & SERVICE ELEVATOR	PAINT PT8	PAINT PT8	PAINT PT8	PAINT PT8	SHEET VINYL SV5	INTEGRAL COVE BASE SV5	MATCH EXISTING	
GENIEDAL			I	1	1			1	1

1. PATCHT& SKIM COAT TO LEVEL EX FLOOR BEFORE WISTALLING SHEET MINYL FLOOR 2. ALLOW 1 ACCENT WALL PAINT COLOR - FINAL LOCATIONS TO BE DETERMINED ON SITE 3. PATCH& MAKEGOOD EXWALLS BEFORE PROVIDING NEW PAINT FINISH 4. SEE DWG 4/A5.04 FOR INTEGRAL SHEET VINYL WALL BASE DETAIL

# 

						SCHEDOLL	
	DESCRIPTION	ТҮРЕ	SIZE	BRAND	MODEL	COLOR/FINISH	NOTES
PAINT	WALL - FIELD COLOR	PT1	-	DULUX	LIFEMASTER (ZERO VOC)	ENDURING ICE - DLX1102-1	SHEEN : EGGSHELL
	WALL-ACCENT COLORI	PTZ		DULUX	LIPEMASTER (ZERO VOC)	EMBELLISHMENT - DEX/151-2	SHEEN : EGGSHELL PROVIDE 3' X 3' MOCK UP OF THE ACCENT COLOR ON SITE FOR FINAL DECISION
	WALL - ACCENT COLOR 2 (NOT USED)	РТ3	-	DULUX	LIFEMASTER (ZERO VOC)	-	SHEEN : EGGSHELL PROVIDE 3' X 3' MOCK UP OF THE ACCENT COLOR ON SITE FOR FINAL DECISION
	DOOR & FRAME (PHASE 2B & 2C)	/PT4/		DAFRX	HEEKIASTER (ZERQ VOC)	MOIH GRAY - DLX 1824-K	SHIEEN: SEMI-GLOSS
	DOOR & FRAME (PHASE 2A)	PT5	-	DULUX	LIFEMASTER (ZERO VOC)	MOTH GRAY - DLX1024-4	SHEEN : SEMI-GLOSS
	CEILING	PT6	_	DULUX	LIFEMASTER (ZERO VOC)	-DENCATE WHITE-DEX 1091-1	SHEEN : FLAT
	WOOD WINDOW FRAME	PT7	-	DULUX	LIFEMASTER (ZERO VOC)	ENDURING ICE - DLX1102-1	SHEEN : SEMI-GLOSS
	WALL - CORRIDOR	PT8	-	DULUX	LIFEMASTER (ZERO VOC)	MATCH EXISTING	SHEEN. MATCH EXISTING
FLOORING	SHEET VINYL - FIELD COLOUR	SV1	2mm THICK	JOHNSONITE	IQ GRANIT	770 SOFT FLEECE WB	SEE FINISHES PLAN DWG A2.03 FOR EXTENT
	SHEET VINYL - CORRIDOR	SV2	2mm THICK	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	SEE FINISHES PLAN DWG A2.03 FOR EXTENT
	SHEET VINYL - EX REPORT 2	SV3	2mm THICK	MATCH EXISTING	MATCHEXISTING	MARCHEXISTING	SEE FINISHES PLAN DWG A2.03 FOR EXTENT
	SHEET VINYL - FIELD COLOUR	SV4	2mm THICK	IOHNSONITE	IQ GRANIT	445 VINTAGE	SEE FINISHES PLAN DWG A2.03 FOR EXTENT
	(PHASE 2A) SHEET VINYL - CORRIDOR	SV5	2mm THICK			MATCH EXISTING	SEE FINISHES PLAN DWG A2.03 FOR EXTENT
MILLWORK	BORDER INFILL (PHASE 2A)	PI 1	-	NEVAMAR	HIGH PRESSURE	GRAPHITE BILLE \$3073-T	( Z/W INTEGRAL COVE BASE TO MATCH EXISTING HEIGHT
		DI 7					EINISH: ARP (T_)
		DL2	-				
			-		THRUCOLOR		
		PL4	-		THRUCOLOR	DRY CREEK PLUM TREE W26001	
2	PLAS LAM-UPPER CABINET	PL5		NEVAMAR	THRUCOLOR	CHALK WHITE S7024-1	
(	PLAS LAM-COUNTER TOP SOLID SURFACING	PL6		NEVAMAR	THRUCOLOR	WILD OATS MATRIX MR7002	HNISH: ARP (1-)
	COUNTERTOP (NOT USED)	SC1	1/2" THICK	DUPONT CORIAN			
	DOORHANDLE	DH1		RICHELIED	1076CV	CHROME	
WALL PROTECTION	CORNER GUARD 90 DEG	CG1a	3" LEG	C/S ACROVYN 4000	SM-20N	#934 PEARL	SEE DWG A2.03 FOR HEIGHT & LOCATION
	CORNER GUARD 90 DEG	CG1b	3" LEG	C/S ACROVYN 4000	SM-20N	MATCH CORRIDOR WALL	SEE DWG A2.03 FOR HEIGHT & LOCATION
	CORNER GUARD 90 DEG	CG1c	3" LEG	C/S ACROVYN 4000	SM-20N	#934 PEARL	SEE DWG A2.03 FOR HEIGHT & LOCATION
	CORNER GUARD 135 DEG	CG2	3" LEG	C/S ACROVYN 4000	SM-20MN	MATCHCORRIDORWALL	SEE DWG A2.03 FOR HEIGHT & LOCATION
	CRASH RAIL	CR1	8" H	C/S ACROVYN	SCR-80	#934 PEARL 2	ALUMINUM CLIP, SURFACE MOUNTED
	CRASH RAIL	CR2	5" H	C/S ACROVYN	SCR-50	#934 PEARL	ALUMINUM CLIP, SURFACE MOUNTED
	CRASH RAIL	CR3	MATCH EX	C/S ACROVYN	MATCH EX	MATCH EX	ALUMINUM CLIP, SURFACE MOUNTED
	WALL PROTECTION	WP1	0.06" THK	C/S ACROVYN 4000	-	#934 PEARL	COMPLETE WITH COLOUR MATCHING CAULKING AT BUTT JOINT & WAINSO ON EXPOSED TOP & SIDES
	WALL PROTECTION	WP2	0.09" THK	PANOLAM	FRP	WHITE (CLASSIC COLLECTION)	COMPLETE WITH COLOUR MATCHING CAULKING AT BUTT JOINT & WAINS( ON EXPOSED TOP & SIDES
	WALL PROTECTION	WP3	0.06" THK	C/S ACROVYN 4000	_	MATCH EX	COMPLETE WITH COLOUR MATCHING CAULKING AT BUTT JOINT & WAINSG
CEILING	SUSPENDED T-BAR		15/16"	ARMSTRONG	15/16" CLEAN ROOM	WHITE	-
	ACOUSTIC CEILING PANEL	ATC1	24" X 24"	ARMSTRONG	ULTIMA HEALTH ZONE	WHITE	SQUARE LAY-IN PANELS
	SUSPENDED T-BAR		15/16"	ARMSTRONG	HIGH NRC PRELUDE XL 15/16"	WHITE	NKL: U.8U / LAL: 35
	ACOUSTIC CEILING PANEL	ATC2	24" X 24"	ARMSTRONG	EXPOSED TEE ULTIMA HIGH NRC SQUARE LAY-IN	WHITE	SQUARE LAY-IN PANELS
PATIENT BAY	CURTAIN	CU1	TBD	TBD	TBD	TBD	PURCHASED BY OWNER AND INSTALLED BY VENDOR.
CURTAIN	CURTAIN TRACK	CT1	TBD	TBD V	TBD	TBD	PURCHASED BY OWNER AND INSTALLED BY VENDOR.
GLAZING	TRANSLUCENT FILM	TF1	-	ЗМ	FASARA	MILKY MILKY SH2MAMM	SEPMILLWORK FOR DIMENSIONS AND LOCATION
MISCELLARSEOUS	LEADAPRONHOOK	ATTI		BOBRICK	HEAVY-DUTY	SATIN ANCKEL PLATEDEINISA	COMPLETE WITH CONCEALED MOUNTING
	ROLLBOARD HOOK	RH1	-	SAMARIT	ROLLBOARD WALL	WHITE	PROVIDE BACKING AS REQUIRED
	UNDER DESK CABLE TRAY ORGANIZER	СТО1	23.6" W	PROGRESSIVE DESK	D0-06-BLACK	BLACK POWDER COATED STEEL	MOUNT TO UNDERSIDE OF DESK
	SPEAK-THRU	ST1	5" DIAM.	CRL	TTU1DJB1	SATIN ANODIZED	THRU-GLASS TWO-WAY ELECTRONIC COMMUNICATOR 115V AC MODEL
	HEADWALL SYSTEM	RR-EQ04	4' LONG	AMICO	MAJESTIC SERIES	TBD	MAJESTIC SERIES HORIZONTAL HEADWALL SYSTEM - SINGLE TIER - NO CHA

ARCHITECT :



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9	TENDER ADDENDUM 2	JUNE 16, 2021	RC				
8	TENDER ADDENDUM 1	JUNE 10, 2021	RC				
7	ISSUED FOR TENDER	JUNE 4, 2021	RC				
6	NOT ISSUED	-	-				
5	NOT ISSUED	-	-				
4	NOT ISSUED	-	-				
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DC JOB No.: DCYT2009





![](_page_46_Figure_5.jpeg)

![](_page_47_Figure_0.jpeg)

![](_page_48_Figure_0.jpeg)

![](_page_48_Figure_1.jpeg)

	<ol> <li>ALL WORKS BELOW ARE NEW INCLUDING SUPPLY &amp; INSTALLATION OF MATERIALS U.N.O.</li> <li>SEE DWG A5.03 FOR FINISHES.</li> <li>ALL WOOD GRAIN FINISHES TO BE ORIENTED VERTICALLY WITH CLEAR LACQUERED FINISH &amp; TO BE BOOK-MATCHED U.N.O.</li> <li>ALL CABINETRY DOOR HINGES AND DRAWER SLIDES TO BE SOFT-CLOSING U.N.O.</li> <li>CASEWORK BACKS NOTED AS 'DOWEL CONSTRUCTION' MUST BE SCREWED TO CASE BODY &amp; NAILED OR STAPLED TO DIVISIONS &amp; FIXED SHELVES.</li> <li>ALL GAPS BETWEEN DOORS OR BETWEEN DOORS AND FIXED PANEL TO BE 1/16" WIDE.</li> </ol>	DCV EDCV EDCV EDCV EDCV EDCV EDCV EDCV E
	A6.01 PAINTED DRYWALL	
	A6.02 INTEGRAL SHEET VINYL BASE WITH TOP CAP	
	A6.03 WALL PROTECTION	
	A6.04 COVER PLATE FOR PLUMB VALVE - SEE PLUMB DWGS	WWW.DCYTARCHITECTURE.CA
	A6.05 FILLER PANEL WITH MATCHING FINISH	
	A6.06 CABINET DOOR OR DRAWER HANDLE	
	A6.07 1 1/2" THK COUNTERTOP WITH PLASTIC LAMINATE FINISH & PVC ACCENT EDGING	
	A6.08 BASE CABINET WITH DOORS, DRAWERS OR SHELVING	
	A6.09 1 PIECE CONT 3/4" X 3" SUPPORTING STEEL SECTION UNDER COUNTERTOP	
	A6.10 BLACK SPEEDBRACE METAL BRACKET	
	A6.11 1 1/2" THK DESKTOP WITH PLAS LAM FINISH & C/W MATCHING PLAS LAM EDGE BAND	
	A6.12 ADJUSTABLE 3/4" THK PLYWOOD SHELF WITH PLAS LAM FINISH AND 3MM THK RIGID PVC ACCENT EDGE	
	A6.13 1/16" ROUTED SEAM TO BE PAINTED BLACK	
	A6.14 UPPER CABINET WITH DOORS	
	A6.15 FINISHED END, SIDE OR TOP PANEL	
	A6.16 FULL HEIGHT CABINET WITH ADJUSTABLE SHELVING	
	A6.17 36"W WIRE POWDER COATED STEEL BASKET CABLE TRAY MOUNTED TO UNDERSIDE OF DESK	
	A6.18 6"H MEDICAL STORAGE CABINET BASE PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS	
	A6.19 KEYLOCK	
	A6.20 1/2" MONOLITHIC CLEAR, TEMPERED GLASS - SEE WINDOW SCHEDULE A5.02	
$\geq$	A6.21 RESERVED	
$\geq$	A6.22 THRU-GLASS TWO-WAY ELECTRONIC COMMUNICATOR (ST1)	
(	A6.23 3/4" THICK PLYWOOD PANEL	
$\left( \right)$	A6.24 0.75"W X 0.43"H WHITE PVC PLASTIC CABLE RACEWAY "KABLE KONTROL ECONOMICAL CABLE RACEWAY"	
$\rangle$	A6.25 TRANSLUCENT FILM (TF1) INSTALLED ON	
	A6.26 4" H X 3/4" THK PLYWOOD BACK SPLASH	
2		

INTERIOR KEY NOTES

ARCHITECT :

9 TENDER ADDENDUM 2 JUNE 16, 2021 RC 8 NOT ISSUED 7 ISSUED FOR TENDER JUNE 4, 2021 RC 6 NOT ISSUED 5 NOT ISSUED 4 NOT ISSUED 3 NOT ISSUED 2 NOT ISSUED 1 NOT ISSUED No. REVISION DATE BY THIS DRAWING IS THE PROPERTY OF DCYT ARCHITECTURE. REPRODUCTION OF THIS DRAWING IN WHOLE OR IN PART IS PROHIBITED UNLESS WITH WRITTEN PERMISSION. \* northern health the northern way of caring UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 152

PHASE 2 - GEN FLUORO MILLWORK PLANS & ELEVATIONS

SCALE: AS NOTED DATE: OCTOBER 2020 DRAWN: RC CHECKED: DC JOB No.: DCYT2009 U/S OF CEILING

![](_page_49_Figure_1.jpeg)

![](_page_49_Figure_2.jpeg)

![](_page_50_Picture_0.jpeg)

# Addendum

Client: Northern Health	Project Number: 20_002		
Project Name: UHN General Fluoro	Attention: Douglas Cheung		
	<b>Date:</b> June 15, 2021		
Addendum No: 1	Number of Pages: 1		

#### **Drawings**

- 1. CLARIFICATION: Drawing M1.200 Mechanical Demo
  - a. Drawing note #4. The existing cooling units above the existing equipment room and above the current General Fluoro room are a domestic water once through cooling unit. Contractor to demo existing cooling unit and remove the DCW pipe back to the main.

#### 2. NOTE: Drawing M5.200 Specifications

- a. Controls
  - i. The base building controls contractor is Houle
    - Contact: Nick Hauff
    - <u>Nick@houle.ca</u>
  - ii. Mechanical contractor to carry Houle Controls as the controls contractor. Contact Nick Hauff for the controls pricing.
- b. Controls Points list attached to this document.

End of Document

Attachments:

• Points List

Jason Le, P.Eng., CEM Senior Mechanical Engineer P: 604 992 5920 E: jle@impacteng.ca

![](_page_51_Picture_0.jpeg)

#### Project: UHN General Fluoro

Date: 2021.06.03 Rev 0

#### Points List

Point Name	Point Description	H	Hardware Points			Notes	Device Type
		AI	AO	DI	DO		· · ·
VAV BOXES							
Supply VAV (3)	Supply Fan Airflow	Х					Airflow Sensor
	Space C02	Х					C02
	Damper		Х				VAV Damper
	Heating Control Valve		Х			2-Way Control Valve	Control Valve
	Supply Water Temp	Х					Temp Sensor
	Return Water Temp	Х					Temp Sensor
	Space Temp	Х					Room Temperature Sensor
Return VAV (3)	Fan Airflow	Х					Airflow Sensor
	Space C02	Х					C02
	Damper		Х				VAV Damper
FAN COIL							
Equipment Room Fan Coil	Enable/Disable	Х					Airflow Sensor
	Fan Speed Setting		Х				
	Chilled Control Valve		Х			3-Way Control Valve	Control Valve
	Supply Water Temp	Х					Temp Sensor
	Return Water Temp	Х					Temp Sensor
	Space Temp	Х					Room Temperature Sensor
ROOF TOP EXHAUST FAN							
EF-1	Start/Stop	Х					Pressure Sensor
	Speed Control		Х				Fan terminal strip

![](_page_52_Picture_0.jpeg)

#### PROJECT: UHNBC General Fluoroscopy – Phase 2

PROJECT No: 2674

PRIME CONSULTANT: DCYT Architecture

DATE: June 16, 2021

This addendum information is to be included as part of the tender documents, and the cost of this work shall be included in the tender amount. Indicate receipt of this addendum on the Tender Form.

- 1. Drawing #E2.01 Clerical Space
  - a. Printer has been relocated refer to revised Architectural Drawings and relocate printer power and data accordingly.
  - b. A new two way electronic communicator will be installed on the glass window refer to revised Architectural drawings. Provide a 120 VAC power supply for the communicator. Refer to shop drawings for location and installation instructions. Provide a receptacle if required for plug in power supply or a junction box for a hard wired power supply.
  - c. Confirm locations of receptacles with Architect prior to installation.
- 2. Drawing #E1.01 Clerical Space
  - a. There is an existing payphone telephone outlet, fire alarm pull station and receptacle on the existing wall opposite the elevators.
  - b. Telephone outlet is to be removed.
  - c. Pull station and receptacle to be relocated as shown below.

![](_page_52_Figure_15.jpeg)

PHASE 2A - LEVEL 1 - DEMOLITION PLAN

![](_page_53_Figure_0.jpeg)

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