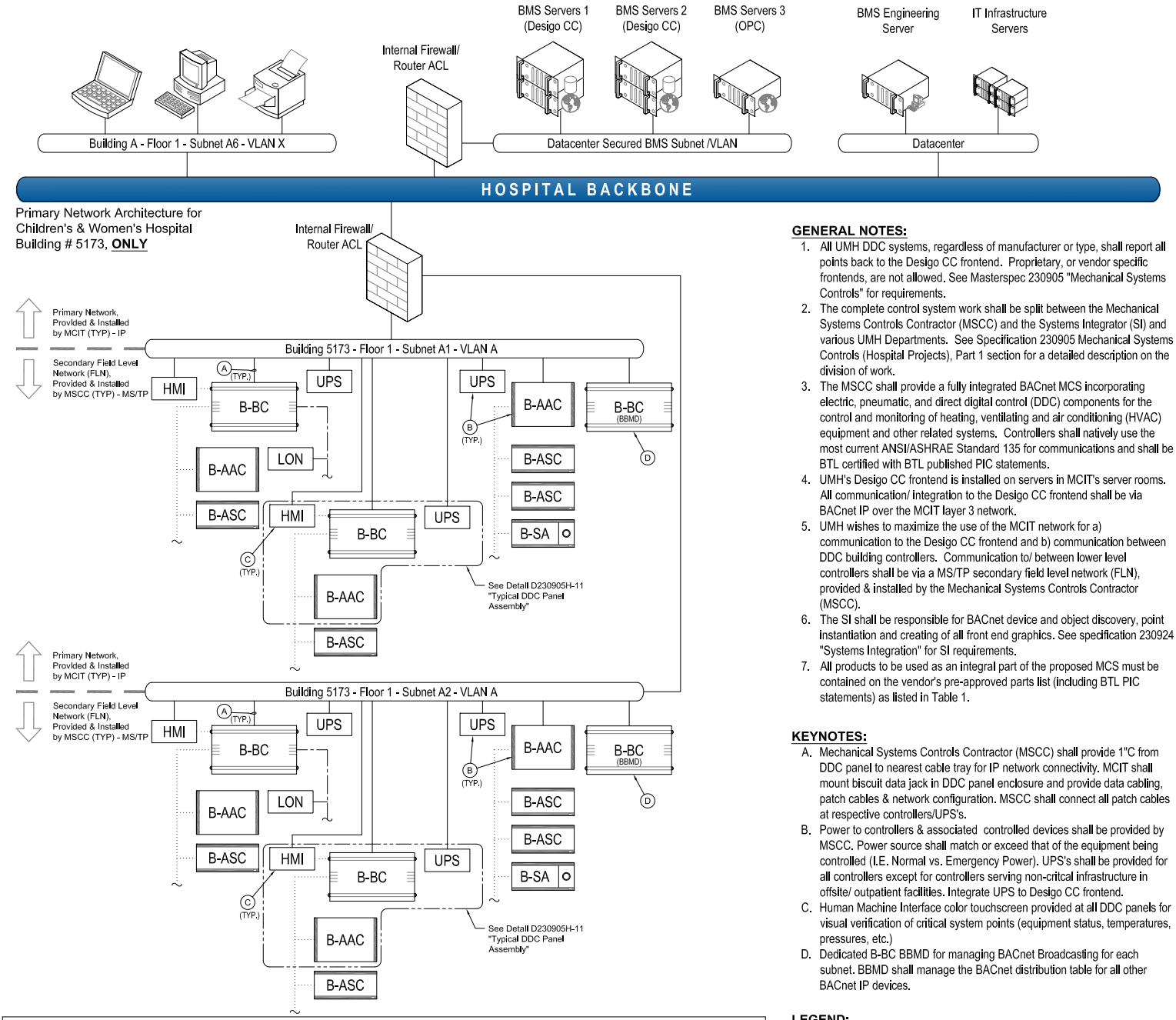

GENERAL NOTES:

1. All UMH DDC systems, regardless of manufacturer or type, shall report all points back to the Desigo CC frontend. Proprietary, or vendor specific frontends, are not allowed. See Masterspec 230905 "Mechanical Systems Controls" for requirements.
2. The complete control system work shall be split between the Mechanical Systems Controls Contractor (MSCC) and the Systems Integrator (SI) and various UMH Departments. See Specification 230905 Mechanical Systems Controls (Hospital Projects), Part 1 section for a detailed description on the division of work.
3. The MSCC shall provide a fully integrated BACnet MCS incorporating electric, pneumatic, and direct digital control (DDC) components for the control and monitoring of heating, ventilating and air conditioning (HVAC) equipment and other related systems. Controllers shall natively use the most current ANSI/ASHRAE Standard 135 for communications and shall be BTL certified with BTL published PIC statements.
4. UMH's Desigo CC frontend is installed on servers in MCIT's server rooms. All communication/ integration to the Desigo CC frontend shall be via BACnet IP over the MCIT layer 3 network.
5. UMH wishes to maximize the use of the MCIT network for a) communication to the Desigo CC frontend and b) communication between DDC building controllers. Communication to/ between lower level controllers shall be via a MS/TP secondary field level network (FLN), provided & installed by the Mechanical Systems Controls Contractor (MSCC).
6. The SI shall be responsible for BACnet device and object discovery, point instantiation and creating of all front end graphics. See specification 230924 "Systems Integration" for SI requirements.
7. All products to be used as an integral part of the proposed MCS must be contained on the vendor's pre-approved parts list (including BTL PIC statements) as listed in Table 1.

KEYNOTES:

A. Mechanical Systems Controls Contractor (MSCC) shall provide 1"C from DDC panel to nearest cable tray for IP network connectivity. MCIT shall mount biscuit data jack in DDC panel enclosure and provide data cabling, patch cables & network configuration. MSCC shall connect all patch cables at respective controllers/UPS's.

B. Power to controllers & associated controlled devices shall be provided by MSCC. Power source shall match or exceed that of the equipment being controlled (I.E. Normal vs. Emergency Power). UPS's shall be provided for all controllers except for controllers serving non-critcal infrastructure in offsite/ outpatient facilities. Integrate UPS to Desigo CC frontend.

C. Human Machine Interface color touchscreen provided at all DDC panels for visual verification of critical system points (equipment status, temperatures, pressures, etc.)

D. Dedicated B-BC BBMD for managing BACnet Broadcasting for each subnet. BBMD shall manage the BACnet distribution table for all other BACnet IP devices.

TABLE 1: ACCEPTABLE BACNET CONTROLLERS

Manufacturer	Acceptable DDC Controller	BACnet Device Profile				Primary Network	Secondary Network
		B-BC	B-AAC	B-ASC	B-SA		
Siemens	PXC Modular	X				X	
	PXC Compact	X	X			X	X
	Unitary Controller		X				X
	PTEC			X			X
	BACnet VAV Actuator				X		X
DISTECH	ECLYPSE ECY-303	X				X	
	ECLYPSE 400 SERIES	X				X	
	ECLYPSE 600 SERIES	X				X	
	ECLYPSE S1000 SERIES	X				X	
	ECLYPSE ECY-PTU/TU SERIES	X				X	
	ECLYPSE ECY-VAV SERIES	X				X	

LEGEND:

BMS	Building Management System
B-AAC	BACnet Advanced Application Controller
B-ASC	BACnet Application Specific Controller
B-AWS	BACnet Advanced Workstation
B-BC	BACnet Building Controller
B-SA	BACnet Smart Actuator
B-SS	BACnet Smart Sensor
BBMD	BACnet Broadcast Management Device
FPD	Facilities Planning & Development (UMHHC)
HMI	Human Machine Interface
MCIT	Medical Center Information Technology
MCS	Mechanical Control System
MSCC	Mechanical Systems Controls Contractor
SI	Systems Integrator

———— BACnet IP
..... BACnet MS/TP
——-—— LON MS/TP

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