GENERAL NOTES

I. BUILDING AUTOMATION SYSTEM (BAS) INSTALLER SHALL FURNISH AND INSTALL A DIRECT DIGITAL CONTROL BAS THAT TIES IN TO THE EXISTING BAS FRONT-END. THE NEW BAS SHALL UTILIZE ELECTRONIC SENSING, MICROPROCESSOR-BASED DIGITAL CONTROL, AND ELECTRONIC ACTUATION OF DAMPERS, VALVES AND DEVICES TO PERFORM CONTROL SEQUENCES AND FUNCTIONS SPECIFIED. REFER ALSO TO CONTROL DRAWINGS, SEQUENCES OF OPERATION, AND POINT LISTS ELSEWHERE IN THE CONTRACT DOCUMENTS.

2. ALL MATERIALS SHALL BE NEW. THE BEST OF THEIR RESPECTIVE KINDS WITHOUT IMPERFECTIONS OR BLEMISHES AND SHALL NOT BE DAMAGED IN ANY WAY. AND SHALL CONSIST OF THE MANUFACTURER'S LATEST PROVEN TECHNOLOGY AT THE TIME OF EQUIPMENT SUBMITTAL. USED EQUIPMENT SHALL NOT BE USED IN ANY WAY FOR THE PERMANENT INSTALLATION EXCEPT WHERE DRAWINGS OR SPECS SPECIFICALLY ALLOW EXISTING MATERIALS TO REMAIN IN PLACE.

3. THE SYSTEM MUST BE FULLY BACNET (ASHRAE 135-2010 OR LATER) COMPLIANT AT THE TIME OF INSTALLATION. THE SYSTEM MUST USE BACNET AS THE NATIVE COMMUNICATION PROTOCOL BETWEEN THE BAS DEVICES AND UNIVERSITY NETWORK SERVERS.

4. THE FOLLOWING ARE THE ONLY ACCEPTABLE MANUFACTURERS FOR BUILDING AUTOMATION SYSTEM EQUIPMENT: AUTOMATED LOGIC CORPORATION (WEBCTRL), JOHNSON

CONTROLS, INC. (METASYS). 5. ALL CONTROLS WORK SHALL BE INSTALLED BY THE BAS INSTALLER, UNLESS SPECIFIED OTHERWISE. ALL EQUIPMENT SHALL BE DIRECTLY CONTROLLED BY THE BAS

6. THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND INSTALLATION BOOK.

PRODUCTS, BY THE SAME DISTRIBUTION CHANNEL AS TO DEALERS OR BRANCHES THROUGHOUT THE WARRANTY PERIOD OF THE PROJECT.

7. CRITICAL SAFETY INTERLOCKS, SUCH AS FREEZESTATS, HIGH LIMIT PROTECTORS, END SWITCHES ETC., SHALL BE DIRECTLY CONNECTED, THROUGH WIRE OR PNEUMATIC TUBING, SO AS NOT TO DEPEND ON ANY DIGITAL CONTROL SYSTEM "SEQUENCE OF OPERATION" TO PERFORM THEIR SAFETY FUNCTION. CONTACTS SHALL BE PROVIDED SO THE SAFETY CAN BE MONITORED BY THE BAS.

8. LAMINATED CONTROL DRAWINGS INCLUDING SYSTEM CONTROL SCHEMATICS, SEQUENCES OF OPERATION AND PANEL TERMINATION DRAWINGS, SHALL BE PROVIDED IN EACH PANEL FOR THE EQUIPMENT SERVED BY THAT PANEL. TERMINAL UNIT DRAWINGS SHALL BE LOCATED IN THE CENTRAL PLANT EQUIPMENT PANEL OR MECHANICAL ROOM PANEL. THE DRAWINGS SHALL ACCURATELY RECORD THE ACTUAL CONTROLLER PROGRAMMING AND SETTINGS AT THE TIME OF BUILDING TURNOVER.

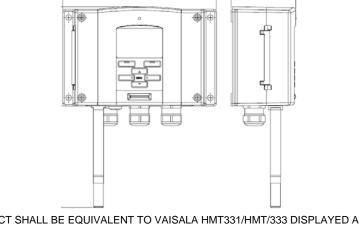
9. ELECTRONIC COPIES, INCLUDING EDITABLE AUTOCAD OR VISIO FILES, OF THE RECORD DRAWINGS SHALL BE PROVIDED TO THE INSTRUMENTATION & CONTROLS DEPARTMENT AND SHALL INCLUDE COPIES OF THE ABOVE NOTED SCHEMATICS, CONTROLLER SCHEMATICS, AS WELL AS INDIVIDUAL FLOOR PLANS WITH CONTROLLER LOCATIONS WITH ALL INTERCONNECTING ROUTING WIRING, SPACE SENSORS, LAN WIRING, POWER WIRING, AND LOW VOLTAGE POWER WIRING.

10. CONTROLS INSTALLER SHALL PROVIDE UNIVERSITY WITH ALL PRODUCT LINE TECHNICAL MANUALS AND TECHNICAL BULLETINS, TO INCLUDE NEW AND UPGRADED

11. THE SYSTEM PROVIDED SHALL INCORPORATE HARDWARE RESOURCES SUFFICIENT TO MEET THE FUNCTIONAL REQUIREMENTS OF THE PROJECT PLUS 10% ADDITIONAL CAPACITY. THIS ADDITIONAL CAPACITY SHALL BE SPECIFICALLY REFLECTED IN ADDITIONAL CONTROLLER UNIVERSAL INPUTS/OUTPUTS.

12. THE UNIVERSITY RESERVES THE RIGHT TO MAKE CHANGES TO THE BAS DURING THE WARRANTY PERIOD. SUCH CHANGES DO NOT CONSTITUTE A WAIVER OF WARRANTY. THE INSTALLER SHALL WARRANT PARTS AND INSTALLATION WORK REGARDLESS OF ANY SUCH CHANGES MADE BY THE UNIVERSITY, UNLESS THE INSTALLER PROVIDES CLEAR AND INDISPUTABLE EVIDENCE THAT A SPECIFIC PROBLEM IS THE RESULT OF SUCH CHANGES TO THE BAS. ANY DISAGREEMENT BETWEEN THE UNIVERSITY AND THE floor INSTALLER ON SUCH MATTERS SHALL BE SUBJECT TO RESOLUTION THROUGH THE CONTRACT 'DISPUTES' CLAUSE.

<u>lbbreviation</u>

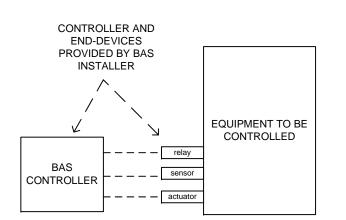


PRODUCT SHALL BE EQUIVALENT TO VAISALA HMT331/HMT/333 DISPLAYED ABOVE

1 VIVARIUM LABORATORY TEMPERATURE AND HUMIDITY SENSOR

1. A NIST TRACEABLE TEMPERATURE AND HUMIDITY DISPLAY WITH A NEMA TYPE 2 OR HIGHER ENCLOSURE, AS REQUIRED BY THE ROOMS APPLICATION, SHALL BE PROVIDED FOR EACH ANIMAL HOLDING ROOM AND OTHER ROOMS AS SPECIFIED BY THE UNIVERSITY. 2. IF SENSOR IS LOCATED INSIDE THE ANIMAL ROOMS THEY SHALL HAVE A WATER PROOF

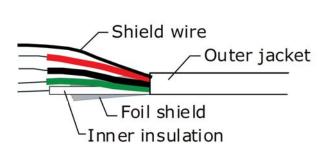
ENCLOSURE SUITABLE FOR PERIODIC WASH DOWNS. 3. THE SENSORS FOR THESE DISPLAYS SHALL BE THE CONTROLLING SENSORS AND SHOULD BE SUITABLE FOR HIGH HUMIDITY ENVIRONMENTS WITH QUICK RECOVERY FOR SATURATION EVENTS, EQUIVALENT TO HMT337 SERIES.



2 THIRD-PARTY INTEGRATION

1. THE BAS INSTALLER SHALL BE RESPONSIBLE FOR DIRECTLY CONNECTING AND CONTROLLING ALL EQUIPMENT AND ASSOCIATED SYSTEMS WITH THE BUILDING AUTOMATION SYSTEM. EQUIPMENT MANUFACTURER PROVIDED CONTROL OF EQUIOPMENT IS NOT ACCEPTABLE UNLESS PRE-APPROVED BY

2. WHERE A THIRD-PARTY INTERFACE IS APPROVED FOR THE EQUIPMENT CONTROL AND SEQUENCING, THE INTERFACE SHALL BE NATIVE BACNET AS PROVIDED BY THE MANUFACTURER. ALL CONTROL AND MONITORING POINTS SHALL BE MADE AVAILABLE TO THE BAS WITH READ AND WRITE AUTHORIZATION AS APPLICABLE.



3 WIRING

NOTES:

DEPARTMENT

REQUIRED OTHERWISE BY MANUFACTURER.

1. ALL CONTROL WIRING SHALL BE PLENUM RATED SHIELDED CABLE. 2. THE TERM "CONTROL WIRING" IS DEFINED TO INCLUDE THE PROVIDING OF WIRE. CONDUIT, AND MISCELLANEOUS MATERIALS AS REQUIRED FOR MOUNTING AND CONNECTING ELECTRIC OR ELECTRONIC CONTROL DEVICES IN PILOT CIRCUITS OF

CONTACTORS, STARTERS, RELAYS, ETC., AND WIRING FOR VALVE AND DAMPER ACTUATORS AND METERS. 3. WIRE TERMINATIONS AND JOINTS SHALL BE MADE VIA SCREW TERMINALS. TERMINATIONS AND JOINTS AT COMMON JUNCTION BOX AREAS SHALL BE MADE UTILIZING

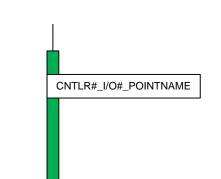
4. WIRE NUTS ARE ONLY ACCEPTABLE WITHIN 6 INCHES OF AN END DEVICE AND WHERE THE END DEVICE IS NOT AVAILABLE WITH SCREW TERMINALS FOR TERMINATING FIELD

DIN RAIL MOUNTED TERMINAL STRIPS WITH SCREW TERMINALS. DOUBLE STACKING OF

CONNECTIONS MUST BE APPROVED IN WRITING BY THE INSTRUMENTATION & CONTROLS

5. ALL EXPOSED CONTROL WIRING AND CONTROL WIRING IN THE MECHANICAL, ELECTRICAL, TELEPHONE, AND SIMILAR ROOMS SHALL BE INSTALLED IN RACEWAYS. ALL OTHER WIRING SHALL BE INSTALLED NEATLY AND INCONSPICUOUSLY ABOVE CEILINGS.

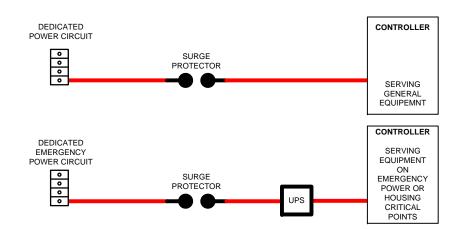
6. #22 OR #18 GAGE WIRING SHALL BE USED FOR ALL 4-20MA AND PULSE SIGNALS, UNLESS



4 CONTROL WIRE LABELING

1. ALL CONTROL WIRING SHALL BE LABELED INSIDE THE CONTROL PANEL AND AT THE END-DEVICES USING VINYL TAPE. BOTH ENDS OF WIRES SHALL HAVE IDENTICAL LABELS USING THE CONVENTION IN

2. LABELING SHALL INCLUDE, THE CONTROLLER NAME ABBREVIATION WITH ADDRESS, THE POINT TYPE (AI, AO, BI, BO), THE CONTROLLER INPUT/OUTPUT NUMBER, AND THE POINT ABBREVIATION. EXAMPLE: CTRL-1 _AI-1 _RA-T (CONTROLLER ADDRESS 1, ANALOG INPUT 1, RETURN AIR TEMPERATURE)



5 POWER WIRING

1. ALL CONTROL PANELS SHALL BE SERVED BY DEDICATED POWER CIRCUITS FROM THE SAME SOURCE AND SERVICE LEVEL PROVIDED TO THE EQUIPMENT CONTROLLED. THE CONTROL PANEL SHALL BE LABELED WITH THE ELECTRICAL PANEL NAME AND CIRCUIT

2. BAS INSTALLER SHALL FURNISH AND INSTALL ANY POWER SUPPLY SURGE PROTECTION, FILTERS, ETC...AS NECESSARY FOR PROPER OPERATION AND PROTECTION OF ALL CONTROLLERS. ALL CONTROL EQUIPMENT MUST BE TOLERANT OF VOLTAGE VARIATIONS 10% ABOVE OR BELOW SCHEDULED NOMINAL WITH NO IMPACT ON HARDWARE,

3. FOR EQUIPMENT ON EMERGENCY OR STANDBY POWER THE BAS CONTROLLERS SHALL BE PROVIDED WITH AN EXTERNAL UNINTERRUPTABLE POWER SUPPLY (UPS). THE UPS SHALL BE CONFIGURED TO PROVIDE UNINTERRUPTED SERVICE TO THE CONTROLLERS

DURING TRANSITION TO/FROM NORMAL AND EMERGENCY/STANDBY POWER.

<u>Description</u> "A" - "B" Phase "A" - "C" Phase ccumulator

WHERE POSSIBLE IN LIEU OF THIRD-PARTY OR FACTORY CONTROLS.

ADJ	Adjust
AHU	Air Handling Unit
ALA	Alarm
AMPS	Amperage
AN	"A" - "N" Phase (N is Neutral)
ANG	Angle
APH	A Phase
APP	Application
ATMZR	Atomizer
AUTO	Auto
AVAL	Available
AVG	Average
В	Basement
BA	"B" - "A" Phase
BATT	
	Battery
BATT-L-VOLTS	Battery low voltage
BATT-OPRT	Battery operational
BC	"B" - "C" Phase
BD	Blowdown
BLD-D	Bleed Damper
BLDG	Building
BLR	Boiler
BN	"B" - "N" Phase (N is Neutral)
BPH	B Phase
BRDG	Bridge
ВҮР	Bypass
С	Command
CA	"C" - "A" Phase
CAP	Capacity
СВ	"C" - "B" Phase
CC	Cooling Coil
CD	Cold Deck
CDTVTY	Conductivity
CDW	Condenser Water
CHLR	Chiller
CHW	Chilled Water
CHWUVXXXXY	Chilled Water Meter
CL	Closed
CLG	Cooling
CLN	Clean
CLN-STM-GEN	Clean Steam Generator
CMN	Common
CMPR	Compressor
CN	"C" - "N" Phase (N is Neutral)
CNT	Count
CO2	Carbon Dioxide
COMB	Combustion
COMM	Communication
COND	Condensate
CORR	Corridor
СРН	C Phase
CR	Credit
CRAC	Computer Room Air Conditioner
СТ	Cooling Tower
CUH	Cabinet Unit Heater
CYC	Cycle
	7
D	
D DC	Damper
DC	Damper Direct Current
DC DCPL	Damper Direct Current Decouple
DC DCPL DD	Damper Direct Current Decouple Down Duct
DC DCPL DD DEL	Damper Direct Current Decouple Down Duct Delta
DC DCPL DD DEL DEWPT	Damper Direct Current Decouple Down Duct Delta Dew Point
DC DCPL DD DEL	Damper Direct Current Decouple Down Duct Delta
DC DCPL DD DEL DEWPT DH	Damper Direct Current Decouple Down Duct Delta Dew Point
DC DCPL DD DEL DEWPT DH DHUM	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier
DC DCPL DD DEL DEWPT DH DHUM DIFF	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential
DC DCPL DD DEL DEWPT DH DHUM DIFF	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay
DC DCPL DD DEL DEWPT DH DHUM DIFF	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency
DC DCPL DDD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric
DC DCPL DDD DEL DEWPT DH DHUM DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR EMP	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter Empty
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR EMP ENA	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter Empty Enable
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR EMP	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter Empty
DC DCPL DD DEL DEWPT DH DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR EMP ENA	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter Empty Enable
DC DCPL DD DEL DEWPT DH DHUM DHUM DIFF DLVRY DLY DMD DOM DP DRNPN DTW E ECON EFF EFFI EGEN ELE ELEUVXXXXY ELVTR EMP ENA ENT	Damper Direct Current Decouple Down Duct Delta Dew Point Dehumidification Dehumidifier Differential Delivery Delay Demand Domestic Water Differential Pressure Drain Pan Dual Temperature Water East Economize Effective Efficiency Emergency Generator Electric Electric Meter Empty Enable Entering

F FACE FAIL FALT FB FCU FIN FLAME FLTR	Flow Face Failure
FAIL FALT FB FCU FIN FLAME FLTR	Failure
FALT FB FCU FIN FLAME FLTR	
FB FCU FIN FLAME FLTR	I
FCU FIN FLAME FLTR	Fault
FCU FIN FLAME FLTR	Feedback
FIN FLAME FLTR	Fan Coil Unit
FLAME FLTR	
FLTR	Final
	Flame
	Filter
FN	Fan
FREQ	Frequency
FSVR	Protocol Converter (Field Server, Data Station)
FUEL	Fuel
G	Ground
GAS	Gas
GASUVXXXXY	Gas Meter
GEN	
	Generator
GLY	Glycol
GND	Ground (electrical)
Н	Humidity
HAND	Hand
HD	Hot Deck
HI	High
HRC	Heat Recovery Coil
HT	Heat Trace
HTG	Heating
HTR	Heater
HUM	Humidifier
HW	Hot Water
HX	Heat Exchanger
ID	ID
IN	In or Input
INTERVAL	Interval
INVTR	Inverter
ISO	Isolation
KVA	Kilo Volt Amps
KVAR	Kilo Volt Amps Reactive
KW	Kilowatts
KWH	Kilowatt Hours
L	Low
LAG	Lag
LD	Lead
LGTH	Length
LIM	Limit
LL	Line Line
LN	Line to Neutral
LOAD	Load
LOAD-ON-BYP	Load on bypass
LOAD-ON-INVTR	Load on inverter
LOCAL	Local
LOOP	Loop
LS	Loss
LTCH	Latch
LTHWUVXXXXY	Low Temp Meter
	Level
	Leaving
LVL	
LVL LVN	ΙΜΙΧΡΟ ΔΙΓ
LVL LVN MA	Mixed Air
LVL LVN MA MAX	Maximum
LVL LVN MA MAX	Maximum Medical
LVL LVN MA MAX MED	Maximum
LVL LVN MA MAX MED MER	Maximum Medical Mechanical Room
LVL LVN MA MAX MED MER MIN	Maximum Medical Mechanical Room Minimum
LVL LVN MA MAX MED MER MIN MODE	Maximum Medical Mechanical Room Minimum Mode
LVL LVN MA MAX MED MER MIN MODE MOIST	Maximum Medical Mechanical Room Minimum Mode Moisture
LVL LVN MA MAX MED MER MIN MODE MOIST	Maximum Medical Mechanical Room Minimum Mode
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR	Maximum Medical Mechanical Room Minimum Mode Moisture Motor
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Negative N Phase
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative N Phase Out or Output
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Nake Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Nake Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON OPN	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter ON Open
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON OPN	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter ON Open Operational
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON OPN OPRT	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter ON Open Operational Override
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON OPN OPRT OVRD P	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter ON Open Operational Override Pressure
LVL LVN MA MAX MED MER MIN MODE MOIST MOTOR MP MS MTHW MTHWUVXXXXY MTR MU MUV NEG NPH O O2 OCC OFF OIL OILUVXXXXY ON OPN OPRT	Maximum Medical Mechanical Room Minimum Mode Moisture Motor Medium Pressure Maintenance Switch Medium Temp Hot Water Medium Temp Meter Meter Make Up Make Up Make Up Valve Negative N Phase Out or Output Oxygen Occupancy/Occupied OFF Oil Oil Meter ON Open Operational Override

Primary Chilled Water

Power Factor Pheaheat

PIL	Pilot
PK	Peak
PLANT	Plant
PMP	Pump
PNL	Panel
PNTHSE	Pent House
POS	Positive
PRCS	Process
PRE	Pre
PRM	Parameter
PRVS	Previous
PWR	Power
Q	Heat Transfer (BTU/Hr)
R	Return
RA	Return Air
RAD	Radiation
RCFYR	Rectifier operational
RCFYR-OPRT	Rectifier operational
RCVR	Receiver
RDGS	Readings
REFG	Refrigerant
REM	Remote
RES	Reserve
REV	Reversal
RLF-FN	
	Relief Fan
RMS	Root Mean Square
ROT	Rotate
RST	Reset
RTU	Roof Top Unit
RUNT	Run Time
S	Supply
SA	Supply Air
SCHED	Schedule
SCHED	Secondary Chilled Water
	·
SEC	Secondary
SEQ	Sequence/Order
SEW	Sewage
SEWUVBDXXXXY	CDW Blowdown Meter
SEWUVCRXXXXY	Sewer Credit Meter
SEWUVMUXXXXY	CDW Make Up Meter
SFTNR	Softener
SHW	Secondary Hot Water
SLR	Solar
SMK	Smoke
SN	Serial Number
SP	Set Point
SPD	Speed
START	Start
STBY	Standby
STEUVXXXXY	Steam Meter
STG	Stage
STM	Steam
	Station
STN	
STOP	Stop
STP	Static Pressure
STS	Status
SUB	Sub
SUMP	Sump or Basin etc.
SUPP	Supplemental
SW	Switch
SYS	System
TCHM	Temperature Tertiany Chilled Water
TCHW	Tertiary Chilled Water
TK	Tank
TOL	Tolerance
TONS	Tonnage
TOT	Total
TST	Test
TWR	Tower
U	Unit
UH	Unit Heater
UNBLC	Unbalanced
UPS	Uninterruptable Power Supply
V	Valve
V VAC	Valve Vaccum
VAC	Vaccum
VAC VAL	Vaccum Value Velocity
VAC VAL VEL VFD	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive
VAC VAL VEL VFD VIB	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration
VAC VAL VEL VFD VIB VOLTS	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage
VAC VAL VEL VFD VIB VOLTS	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West
VAC VAL VEL VFD VIB VOLTS W WAT	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water
VAC VAL VEL VFD VIB VOLTS	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West
VAC VAL VEL VFD VIB VOLTS W WAT	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water
VAC VAL VEL VFD VIB VOLTS W WAT	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter
VAC VAL VEL VFD VIB VOLTS W WAT WATUVIRXXXXY WATUVMUXXXXY	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter Make Up Meter Domestic Water Meter
VAC VAL VEL VFD VIB VOLTS W WAT WATUVIRXXXXY WATUVMUXXXXY WATUVXXXXY	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter Make Up Meter Domestic Water Meter Wireless
VAC VAL VEL VFD VIB VOLTS W WAT WATUVIRXXXXY WATUVMUXXXXY WATUVXXXXY WATUVXXXXY	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter Make Up Meter Domestic Water Meter Wireless Transformer
VAC VAL VEL VFD VIB VOLTS W WAT WATUVIRXXXXY WATUVMUXXXXY WATUVXXXXY WRLSS XFMR XMTR	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter Make Up Meter Domestic Water Meter Wireless Transformer Transmitter
VAC VAL VEL VFD VIB VOLTS W WAT WATUVIRXXXXY WATUVMUXXXXY WATUVXXXXY WATUVXXXXY	Vaccum Value Velocity Variable Frequency Drive or Variable Speed Drive Vibration Voltage West Water Irrigation Meter Make Up Meter Domestic Water Meter Wireless Transformer

A BUILDING LEVEL GRAPHIC SHALL BE PROVIDED THAT DISPLAYS ALL FLOORS AND AREAS SERVED ON ONE SCREEN. FLOOR PLANS SHALL DYNAMICALLY UPDATE TO VISUALLY DEPICT THE ZONE ALARM (EVENT) STATUS OF THE SPACES BEING SERVED. THE MAIN BUILDING GRAPHIC SHALL INCLUDE LINKS AND ALARM STATUS INDICATORS FOR EACH PIECE OF CENTRAL EQUIPMENT (E.G. AIR HANDLERS, PUMPS, ETC) AS FLOOR 3 FLOOR 4 WELL AS BUILDING EQUIPMENT SUCH AS GENERATOR, ELEVATOR BUILDING LEVEL **GRAPHIC** FLOOR 2 HYPERTEXT BACK THE CONTROLS INSTALLER SHALL PROVIDE AN INDIVIDUAL FLOOR PLAN GRAPHIC FOR ALL FLOORS REPRESENTING THE SPACES SERVED BY EACH PIECE OF PRIMARY EQUIPMENT. THE FLOOR PLAN GRAPHIC WILL INCLUDE THE ROOM NUMBERS OF THE SPACES BEING SERVED AND THE SPACES SHALL BE COLOR-SHADED TO INDICATE THEY ARE SERVED BY THE NOTED PRIMARY EQUIPMENT. EQUIPMENT LOCATIONS AND SPACE TEMPERATURES SHALL BE DISPLAYED ON THE FLOOR PLAN GRAPHIC. FCU-100 FCU-101 FLOOR PLANS SHALL DYNAMICALLY UPDATE TO VISUALLY DEPICT THE LEVEL ZONE ALARM (EVENT) STATUS OF THE SPACES BEING SERVED. GRAPHIC 105 106 FCU-107 FCU-104 FCU-106 ALL EQUIPMENT SHALL HAVE AN INTERACTIVE LINK ON THE CONDITIONS FROM UVA SEQUENCE FOR THIS EQUIPMENT EQUIPMENT GRAPHIC PAGE THAT LINKS TO THE LOGIC H CENTRAL STATION PROGRAMMING. THE PROGRAMMING LOGIC SHALL BE SHOWN WITH REAL-TIME VALUES, ACCESSIBLE VIA THE STANDARD THIN-CLIENT USER INTERFACE PROGRAM. A VENDOR-SUPPLIED TOOLSET THAT ALLOWS THE UNIVERSITY TO VIEW THE LOGIC PROGRAMMING WITH REAL TIME VALUES WILL BE BE ADJUSTABLE FROM ACCEPTABLE, BUT IS NOT PREFERRED. **EQUIPMENT** LEVEL **GRAPHIC** LINK TO COOL SOURCE LINK TO HEAT SOURCE ZONE SENSOR(S) LINK TO PROGRAMMING 1. ALL CONTROLLED EQUIPMENT SHALL HAVE A REPRESENTATIVE EQUIPMENT GRAPHIC. 2. AT A MINIMUM, THE LEVEL OF DETAIL DISPLAYED ON THE GRAPHIC SCREENS SHALL BE EQUIVALENT TO THE EXAMPLE SHOWN IN THIS DETAIL 3. ALL HARDWARE POINTS AND SETPOINTS SHALL BE DISPLAYED ON EACH EQUIPMENT GRAPHIC ALONG WITH THE POINT DISPLAY NAME. ALL SETPOINTS SHALL BE ADJUSTABLE OR WITH MANUAL OVERRIDE CAPABILITY FROM THE 4. THE LATEST VERSION OF THE BAS VENDOR'S ADVANCED ANIMATED GRAPHICS SOFTWARE SHALL BE USED TO ITS FULLEST EXTENT IN THE CREATION OF THE EQUIPMENT GRAPHICS. FANS, DAMPERS, COILS, PUMPS, ETC. SHALL BE RENDERED AS ANIMATED GRAPHICS. 5. POINT NAMES DISPLAYED ON GRAPHIC SHALL ADHERE TO THE POINT NAMING STANDARD SHOWN IN DETAIL 6. ELECTRIC METER DOMESTIC WATER METER

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INCLUDING A BALL VALVE ON EACH LINE.

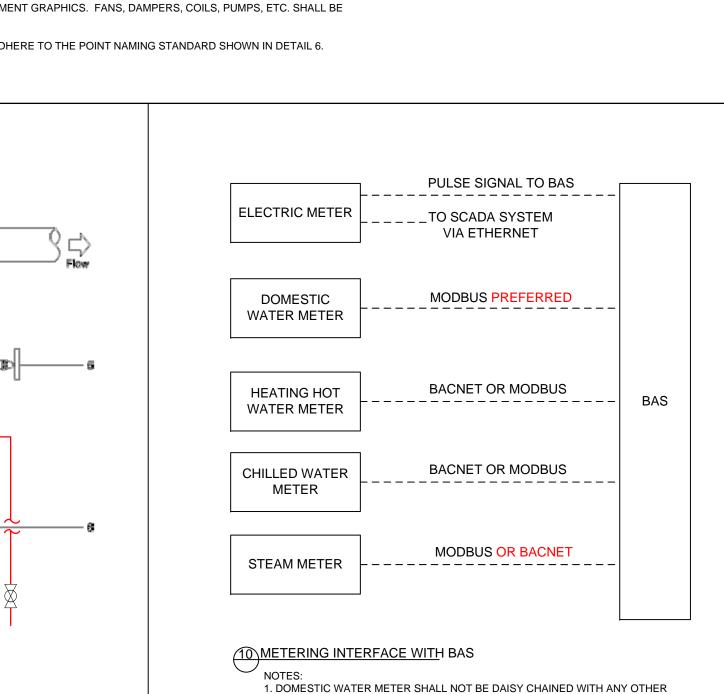
1. BLOWDOWN LINES SHALL BE INSTALLED AS SHOWN IN THIS DETAIL,

FOR THE CORRECT PSI OF THE STEAM. TUBE SIZE SHOULD BE 3/8" OR

2. ALL TUBING SHALL BE STAINLESS STEEL WITH SWAGELOK FITTINGS RATED

9 STEAM METER INSTALLATIONS

GREATER.



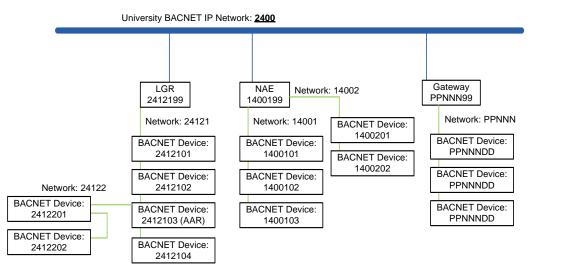
1. DOMESTIC WATER METER SHALL NOT BE DAISY CHAINED WITH ANY OTHER INTEGRATION DEVICES. 2. COMMUNICATIONS PROTOCOL CONVERTERS SHALL NOT BE INSTALLED BETWEEN ANY METER AND THE BAS.

Designated Network and Device Address Ranges

SOFTWARE, COMMUNICATIONS OR DATA STORAGE.

- o Address space reserved for devices with instance ID limitations (contact University staff for
- consideration and approval prior to using): Device Address Range: 10001-19999
- UVA BAS
- Network Range: 1100-11999 Device Address Range: 110001-1199999
- o UVA Metering (Devices not integrated through another BAS)
 - Network Range: 1200-12999
- Device Address Range: 120001-1299999 JCI Construction Jobs
- Network Range: 14000-14999
- Device Address Range: 1400000-1499999
- ALC Construction Jobs
- Network Range: 24000-24999
- Device Address Range: 2400000-2499999
- o Phoenix Construction Jobs (typically connected via another BAS vendor) Network Range: 34000-34999
- Device Address Range: 3400000-3499999

Gateway device addressing (PPNNN99): PP is based on the allocated address space and PPNNN is the network number for the first BACNET trunk extending from the gateway. The following illustration is to serve as a



*In the event that more than 98 addresses are needed for a particular network, the next available network address may be reserved for additional space. However, in that case, the additional network number will not be

For example Network: 123

Gateway: 12399 Devices: 12301, 12302, 12303.....12398

 Network address 124 may be reserved and additional devices may be addressed as 12400, 12401, 12402, 12402....and assigned to the 123 network.

BAS NETWORKING

1. FOR BAS INSTALLATIONS THE ADDRESSING STANDARD OUTLINED IN THIS DETAIL SHALL BE ADHERED TO. PLEASE CONTACT THE AUTOMATION SERVICES DEPARTMENT FOR NEXT AVAILABLE BACNET

2. UNIVERSITY IP ADDRESSES SHALL BE REQUESTED THROUGH THE INSTRUMENTATION & CONTROLS

3. BACNET BROADCAST MANAGEMENT DEVICES (BBMDS) ARE CONFIGURED MANUALLY BY THE UNIVERSITY. WHEN A NEW NETWORK CONTROLLER IS BROUGHT ON TO THE PRODUCTION SERVER, THE

BAS INSTALLER SHALL WORK WITH THE SYSTEMS ENGINEER TO CONFIGURE ANY NECESSARY BBMDS. AUTOMATIC MANAGEMENT OF THE BBMDS SHALL BE DISABLED.

4. THE NETWORK TREE ON THE CONTROL SYSTEM SHALL USE THE FOLLOWING NAMING CONVENTION FOR THE TOP LEVEL NETWORK CONTROLLERS: [DEVICE TYPE][BUILDING NUMBER][A,B,C]-[IP ADDRESS][(BACNET ADDRESS/LOCATION)]. EXAMPLE: LGR0001A - 172.16.55.55 (2410199/RM020] OR NAE0002A - 172.16.55.55 (1410199/RM020).

CHWUV[Building #][A]-MMBtu	Totalization	MMBtu	Υ	Υ	15 min	4				
CHWUV[Building #][A]-S-F	Flow	GPM	Υ	Υ	15 min	4				
CHWUV[Building #][A]-kBth	Demand	kBtu/Hr	Y	Y	15 min	4				
CHWUV[Building #][A]-SIG	Signal Amplitude	%	Υ	Y	15 min	4				
CHWUV[Building #][A]-S-T	Supply Temperature	F	Υ	Y	15 min	4				
CHWUV[Building #][A]-R-T	Return Temperature	F	Υ	Υ	15 min	4				
MTWUV[Building #][A]-MMBtu	Totalization	MMBtu	Υ	Y	15 min	4				
MTWUV[Building #][A]-S-F	Flow	GPM	Υ	Υ	15 min	4				
MTWUV[Building #][A]-kBth	Demand	kBtu/Hr	Υ	Υ	15 min	4				
MTWUV[Building #][A]-SIG	Signal Amplitude	%	Y	Y	15 min	4				
MTWUV[Building #][A]-S-T	Supply Temperature	F	Y	Y	15 min	4				
MTWUV[Building #][A]-R-T	Return Temperature	F	Y	Y	15 min	4				
MILMONERATION #1[V]-IV-1	Return remperature		'		15111111	7	Intermediate total and			
STEUV[Building #][A]-kLbs	Totalization	kLbs	Υ	Y	15 min	4	calculation needed for			
STEUV[Building #][A]-P	Pressure	PSIG	Υ	Υ	15 min	4				
STEUV[Building #][A]-PPH	Demand	PPH	Y	Υ	15 min	4				
STEUV[Building #][A]-GPM	Demand	GPM	Υ	Υ	15 min	4	Condensate Meter only			
STEUV[Building #][A]-S-T	Supply Temperature	F	Υ	Υ	15 min	4				
WATUV[IR,HY][Building #][A]-hGals	Totalization	hGals	Y	Y	15 min	4				
WATUV[IR,HY][Building #][A]-GPM	Demand	GPM	Y	Y	15 min	4				
SEWUV[MU or BD][Building #][A]-hGals	Totalization	hGals	Υ	Υ	15 min	4				
SEWUV[MU or BD][Building #][A]-GPM	Demand	GPM	Y	Υ	15 min	4				
ELEUV[Building #][A]-kWh	Totalization	kWh	Υ	Υ	15 min	4				
ELEUV[Building #][A]-kW	Demand	kW	Υ	Υ	15 min	4				
ify that all point display, reference, and obje	y that all point display, reference, and object names match and that they are unique within each controller									
↑ METERING POINTS										

METERING POINTS

1. WHERE POINTS ARE NETWORKED TO THE BAS THROUGH THE METER (E.G. VIA BACNET, MODBUS), THE POINTS NAMES SHALL BE AS DEFINED IN THIS DETAIL. IF POINTS USED FOR METERING ARE DIRECTLY WIRED

TO THE BAS (E.G. ANALOG INPUTS), THE POINT NAMES SHALL FOLLOW THE TYPICAL POINT NAMING STANDARD IN DETAIL 6. CONTROL SYSTEM STANDARDS - : SCALE NTS SHEET

6 POINT NAMING STANDARD

1.ALL POINT NAMES, INCLUDING DISPLAY NAMES, REFERENCE NAMES, AND BACNET OBJECT NAMES, SHALL USE A COMBINATION OF THE ABBREVIATIONS SHOWN IN THIS DETAIL WITH A DASH (-) SEPARATING THE ABBREVIATIONS. FOR EXAMPLE, A SUPPLY AIR TEMPERATURE SENSOR WOULD BE INDICATED AS SA-T (SEE THE "BAS POINT NAME CONVENTION" REFERENCE DOCUMENT FOR ADDITIONAL CLARIFICATION). ALL FULLY QUALIFIED OBJECT NAME, WHERE APPLICABLE, SHALL INCLUDE THE RESPECTIVE BUILDING NUMBER, CONTROLLER IDENTIFICATION, AND APPROPRIATE POINT ABBREVIATION SEPARATED BY A PERIOD. FOR EXAMPLE, "0001.VAV-01.SA-T" WOULD REPRESENT A SUPPLY AIR

TEMPERATURE ASSOCIATED WITH VARIABLE AIR VOLUME CONTROLLER NUMBER 01 IN BUILDING NUMBER 0001.

2. THE DETAILS/DESCRIPTION FIELD, WHERE APPLICABLE, SHOULD CONTAIN FLOOR, ROOM, AND ASSOCIATED COOLING/HEATING SOURCE IN THAT ORDER. FOR EXAMPLE, ROOM ZONE TEMPERATURE - "FLR 3 : RM 321 : AHU-06" THIS WOULD INDICATE THE LOCATION OF THE POINT AND ITS RESPECTIVE HEATING/COOLING SOURCE, WHICH IS AIR HANDLER 06.