Depatment of Labor and Training - BMS Upgrade

1511 Pontiac Avenue
Cranston, RI 02910

Architect:
Engineer:

Contractor:

Project Number: OI004183

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ENE SYSTEMS
480 NEPONSET ST.
CANTON, MA. 02021
(781) 828-6770
www.enesystems.com

Revision: SUBMITTED

#	Change:	Date:
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Depatment of Labor and Training
- BMS Upgrade
1511 Pontiac Ave
Cranston, RI

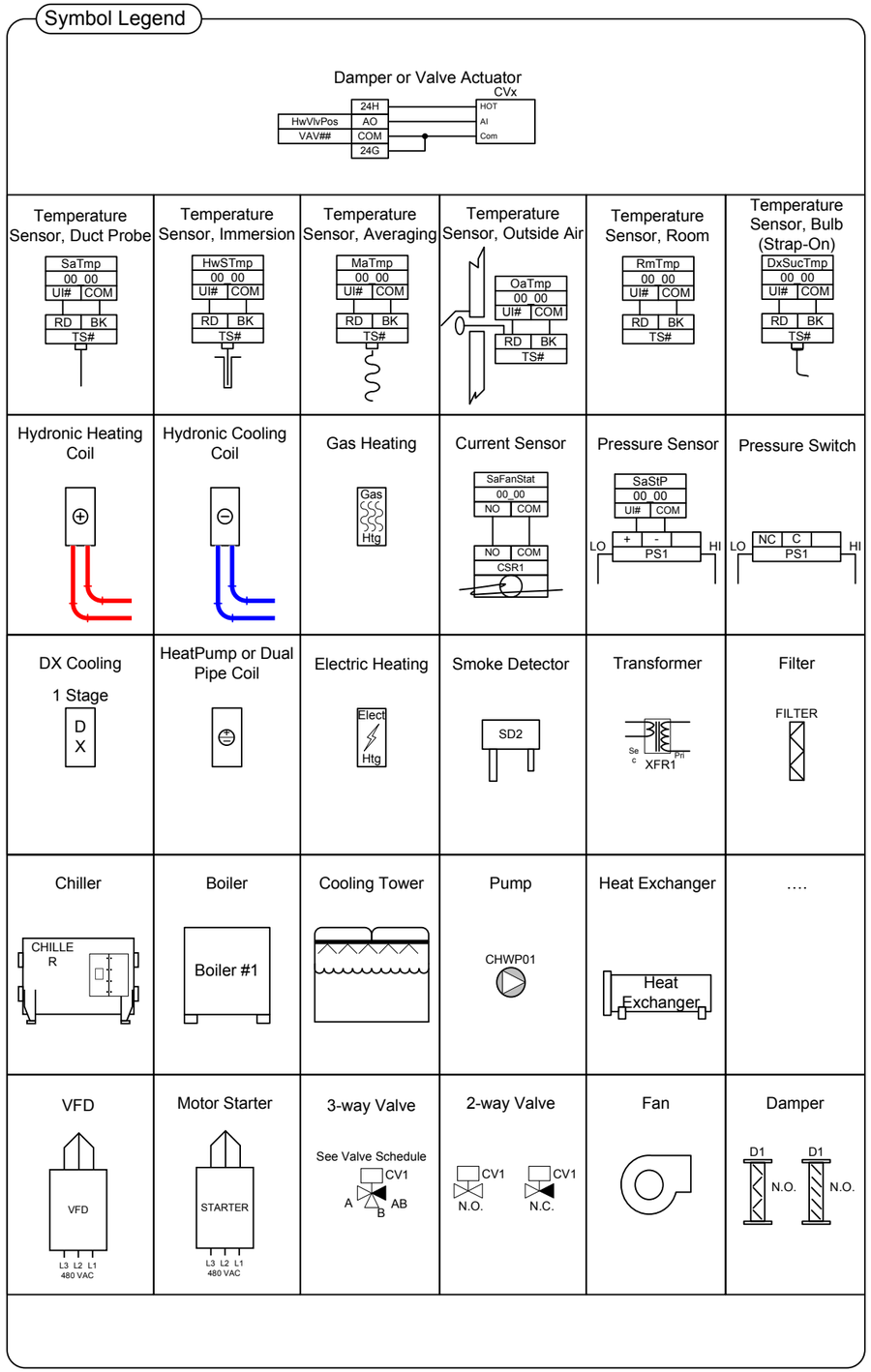
Title Page

Architect:
Engineer:
Contractor:
Designed by: Date: 9/1/2016
Software by: Date:
Checked by: Date:

Job Number: OI004183
File Name
Last Saved: 9/7/2016
Last Printed: 9/7/2016
Sheet Number: 1 OF 4

Legends

Symbol Legend



1. All wiring to be confirmed in field prior to installation

2. All room thermostats/sensors/controllers shall be installed at 54" above fixed floor for ADA compliance for new installations.

3. All thermowells shall be filled with heat conductive compound that is provided.

4. Wiring Terminations designated as 'XX' or 'TBD' indicate information was unavailable at time of submittal and is to be determined. Please inform ENE Systems before making field terminations.

5. Remote control devices, not in local panels, shall be accessible for adjustment and service - below 7' above fixed floor whenever possible or as shown on the provided Construction prints.

6. Only prints marked Construction are to be used during installation. If the prints are not marked Construction, the installer will correct any discrepancies between prints used for Construction at no cost to ENE Systems.

7. All new BAS controller panels shall have an uninterruptable 120Vac power source. This source shall be located and marked in the electrical panel as well as on the control prints returned to ENE Systems for Record prints.

8. Installer responsible for maintaining existing safeties into new BAS control – electrically or pnuematically connected.

Unique Device Naming

UNIQUE CONTROLLING DEVICE NAMING STANDARD (LON)

L###_FFCCC_

- DEVICE TYPE
- DEVICE FLOOR LOCATION AND UNIQUE CONTROLLER NUMBER

LON DEVICE TYPE KEY	
LV1	MNL-V1
LV2	MNL-V2
L050	MNL-50
L100	MNL-100
L150	MNL-150
L200	MNL-200
L800	MNL-800

OTHER DEVICES	
AS	AUTOMATION SERVER
ASP	AUTOMATION SERVER PREMIUM
ASB	AUTOMATION SERVER BASIC
UDS	LANTRONIX UDS1100
SW	ETHERNET SWITCH
LSW	LOYTEC L-SWITCH
LMTR	LonWorks METER
i100	ECHELON i.LON-100 LonWorks SCHEDULER & NETWORK INTERFACE
i600	ECHELON i.LON-600 LonWorks /IP TO FTT-10 ROUTER

UNIQUE CONTROLLING DEVICE NAMING STANDARD (BACnet)

B####_FFCCC_

- DEVICE TYPE
- DEVICE FLOOR LOCATION AND UNIQUE CONTROLLER NUMBER

BACnet DEVICE TYPE KEY	
BV1	MNB-V1
BV2	MNB-V2
B070	MNB-70
B300	MNB-300
BPC	MNB-1000
BPC15	MNB-1000-15

OTHER DEVICES	
AS	AUTOMATION SERVER
ASP	AUTOMATION SERVER PREMIUM
ASB	AUTOMATION SERVER BASIC
UDS	LANTRONIX UDS1100
SW	ETHERNET SWITCH
BRT	BASRT-B ROUTER
BMTR	BACnet METER

Device Termination Coding

DEVICE TERMINATION CODING (VERTICAL)

EX.

Fan##Cmd	SOFTWARE TAG
####_#####	CONTROLLING DEVICE NAME
UI1 COM	CONTROLLER POINT

DEVICE TERMINATION CODING (HORIZONTAL)

EX.

UI1	Fan##Cmd
COM	####_#####

- SOFTWARE TAG
- CONTROLLING DEVICE NAME
- CONTROLLER POINT

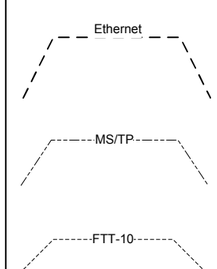
PANEL NOMENCLATURE

EX. *FEP-##-##*

- PANEL #
- PANEL FLOOR LOCATION
- PANEL TYPE:
  - FEP= FIELD EQUIPMENT PANEL
  - NCP= NETWORK COMMUNICATIONS PANEL
  - NETSW= NETWORK SWITCH PANEL

General Notes

Wiring Legend



Low Voltage (50 volts or less) control wiring for inputs and outputs shall be 18 AWG or larger rated for 600-volt service. Terminate any shields or drains for input/outputs at the controller only.

Ethernet Wiring: Unless stated differently by the client or the ENE systems Site Technician, network cable shall meet or exceed all requirements of Category 5e cable as specified in ANSI/TIA/EAI 568-A. No other devices other than stated in these drawings will be added to or removed from the client's Ethernet backbone or WAN.

MS/TP BACnet: Wiring to be installed using 22 AWG – 2 conductor stranded, 12.5 pF/ft. Maximum length is 2000'. End of Line resistor (120Ω 1/4W) to be installed at both ends of network segments. All communication cabling to be installed in a daisy chain configuration, no T's or stars are permitted. Shield on communication cable is to remain continuous and grounded at first controller only. Polarity of the conductors must be observed. Splicing of communication cable is not permitted.

LON or FFT-10 Wiring to be installed using Level IV network cable. Level IV network cable is 22 AWG, 2 conductor stranded. The same cable shall be used through out the project to avoid impedance issues. Maximum length is 1476' or 32 controllers without use of repeater. Terminator to be installed at both ends of network segments. All LON/FFT-10 cabling to be installed in a daisy chain configuration, no T's or stars are permitted. This cable is not to run in the same conduit with power for more than 5'.

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Architect:
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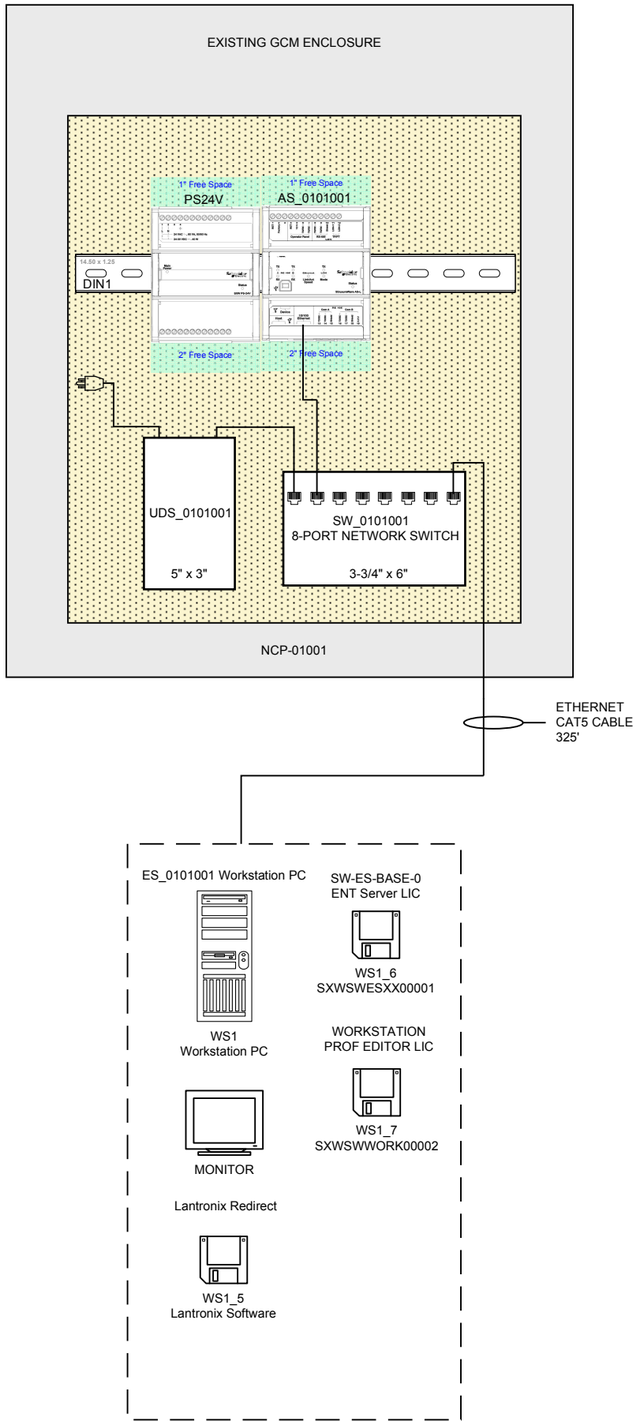
Designed by: Date: 10/13/2015
Software by: Date:
Checked by: Date:

RI Dept of Labor
1511 Pontiac Ave
Cranston, RI

Legends

Job Number OI004183
File Name
Last Saved 8/29/2016
Last Printed 9/7/2016
Sheet Number 2 OF 8

Front End Devices



Device	Qty	Part Number	Description	Vendor
MONITOR	1	Monitor	24" LCD Display	CDW
WS1	1	Workstation PC	ES_0101001 Workstation PC	CDW
WS1_1	1	Windows 8.1 64 Bit	Windows 8.1 64 Bit	CDW
WS1_2	1	Excel	Microsoft Excel	CDW
WS1_3	0	XPSI	XPSI for Windows	Schneider Electric
WS1_4	1	Antivirus	Antivirus	CDW
WS1_5	1	Lantronix Software	Lantronix Redirect	Lantronix
WS1_6	1	SXWSWESXX00001	ENTERPRISE SERVER MAINTENANCE	Schneider Electric
WS1_7	1	SXWSWWORK00002	WORKSTATION PROFESSIONAL SOFT	Schneider Electric

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1	Submitted	7/30/15
2	Revised	8/18/15
3	Revised	8/31/15
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Architect:
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Front End Devices

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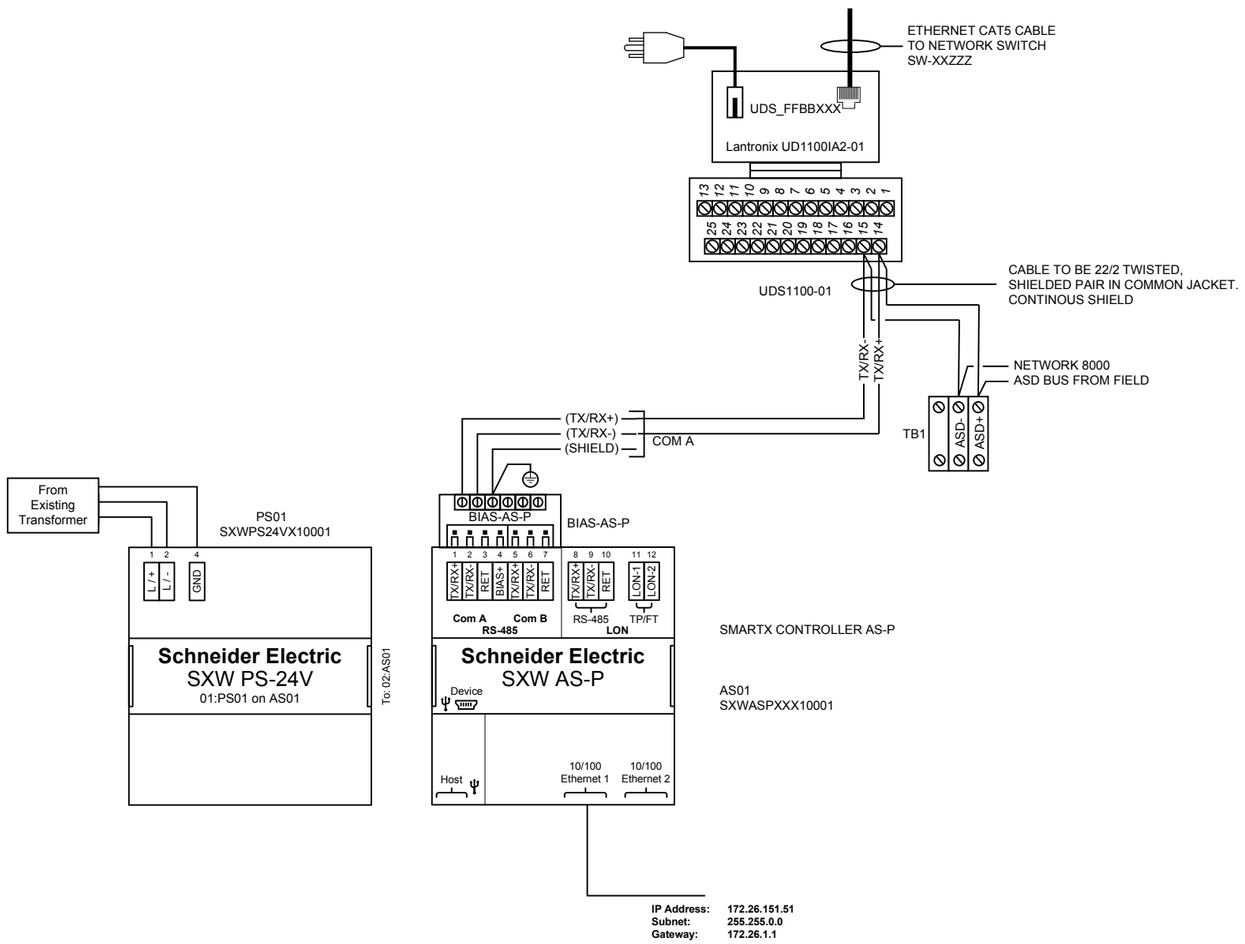
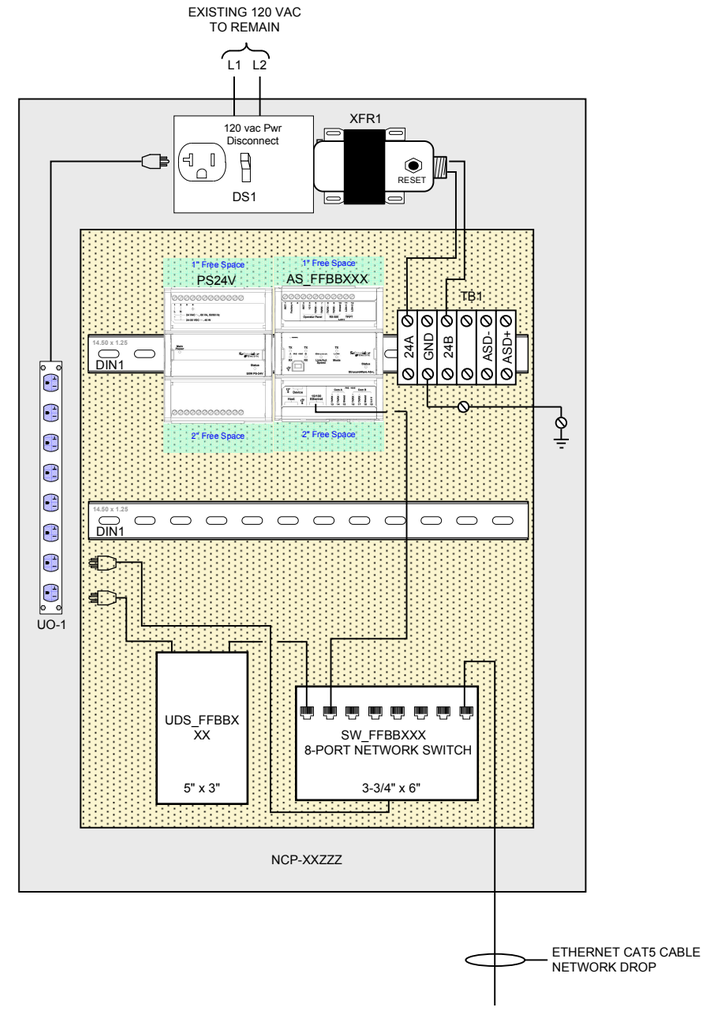
File Name
Sheet Number: 3 OF 8

Automation Server Panel NCP_XXZZZ

GCM CONVERSION
(Typical Of 1)





NCP_XXZZZ	GCM#	Location	AS_XXZZZ
NCP_0101001	GCM1	1st Floor	AS_0101001

Name	IP Address	Net Mask	Gateway	DNS1	DNS2
ES_0101001 LAN	172.26.151.100	255.255.0.0	172.26.1.1	8.8.8.8	8.8.4.4
ES_0101001 WAN	TBD	TBD	TBD	TBD	TBD
AS_0101001	172.26.151.51	255.255.0.0	172.26.1.1	8.8.8.8	8.8.4.4
UDS_0101001	172.26.151.31	255.255.0.0	172.26.1.1	8.8.8.8	8.8.4.4

Device	Qty	Part Number	Description	Vendor
AS01	1	SXWASPXXX10001	SMARTX CONTROLLER AS-P	Schneider Electric
AS01_1	1	SXWTBASW110002	TB-ASP-W1 TERM BASE ASP W1	Schneider Electric
BIAS-AS-P	1	BIAS-AS-P	AS-P BIASING RESISTOR BOARD	ENE Systeme, Inc.
DS1	1	EXISTING DISCONNECT	DISCONNECT SWITCH	EXISTING REUSED
NCP-XXZZZ	1	EXISTING GCM ENCLOSURE	EXISTING ENCLOSURE	EXISTING REUSED
PS01	1	SXWPS24VX10001	PS-24V POWER SUPPLY 24 VAC/VDC	Schneider Electric
PS01_1	1	SXWTBPSW110001	TB-PS-W1 TERM BASE PWR SUP W1	Schneider Electric
SW_FFBBXXX	1	J9559A#ABA	8-PORT NETWORK SWITCH	HP
TB1	1	LOCAL PURCHASE	TERMINAL BLOCK	LOCAL PURCHASE
UDS_FFBBXXX	1	UDS1100-01	Lantronix UD1100IA2-01	PC Connection
UDS_FFBBXXX_1	1	500-171-R	DB-25M to RS-485 Screw Terminal Adaptor	PC Connection
XFR1	1	EXISTING TRANSFORMER	TRANSFORMER 96 VA 120P:24S	EXISTING REUSED

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Automation Server Panel
NCP_BBFFXXX

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File Name
GCM to SBO.vsd

Sheet Number
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