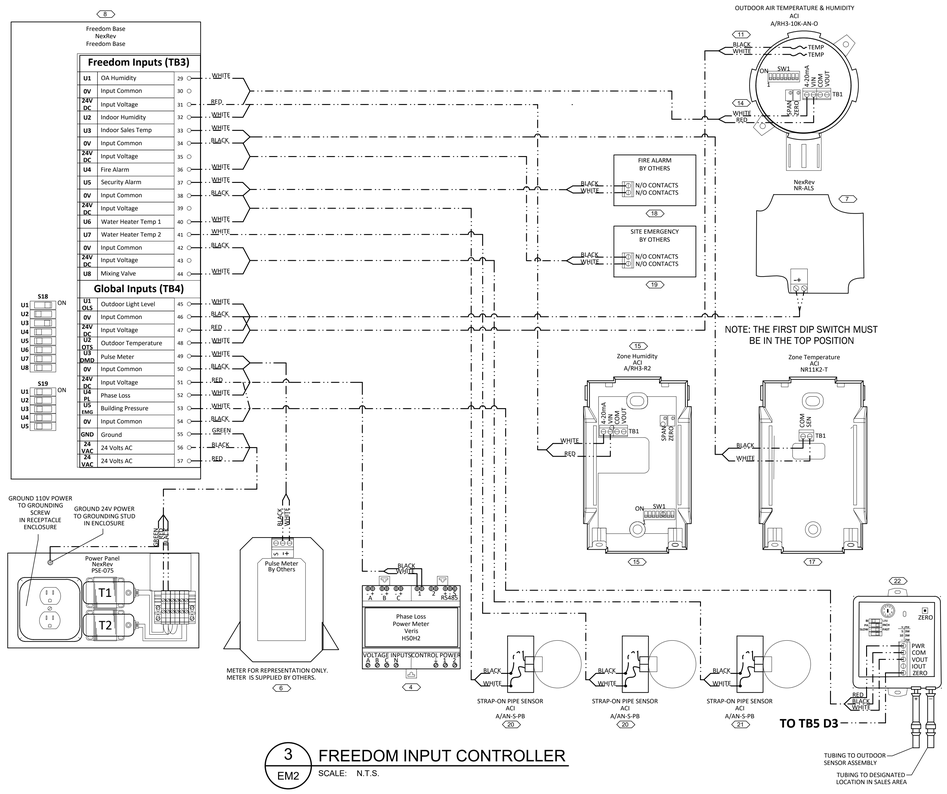
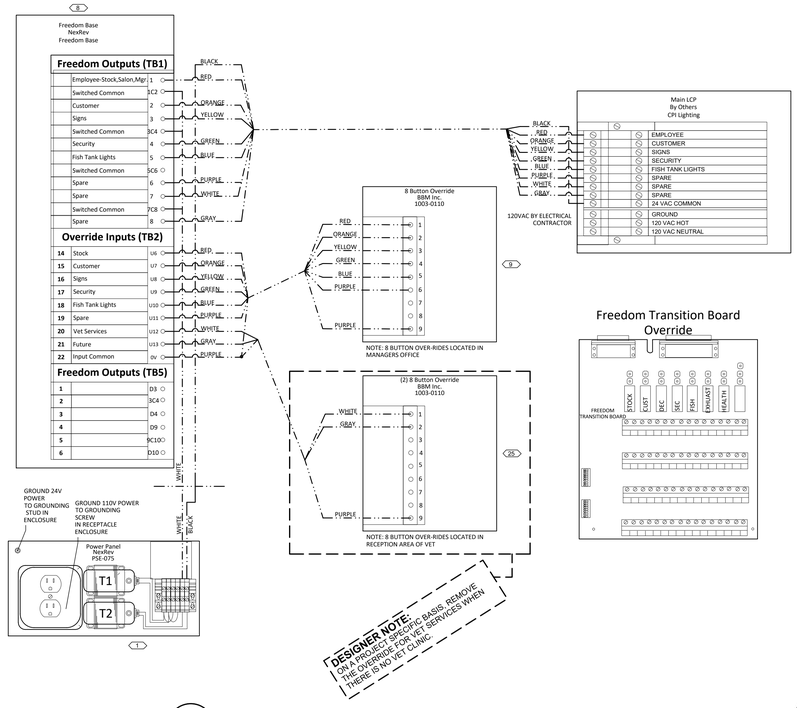


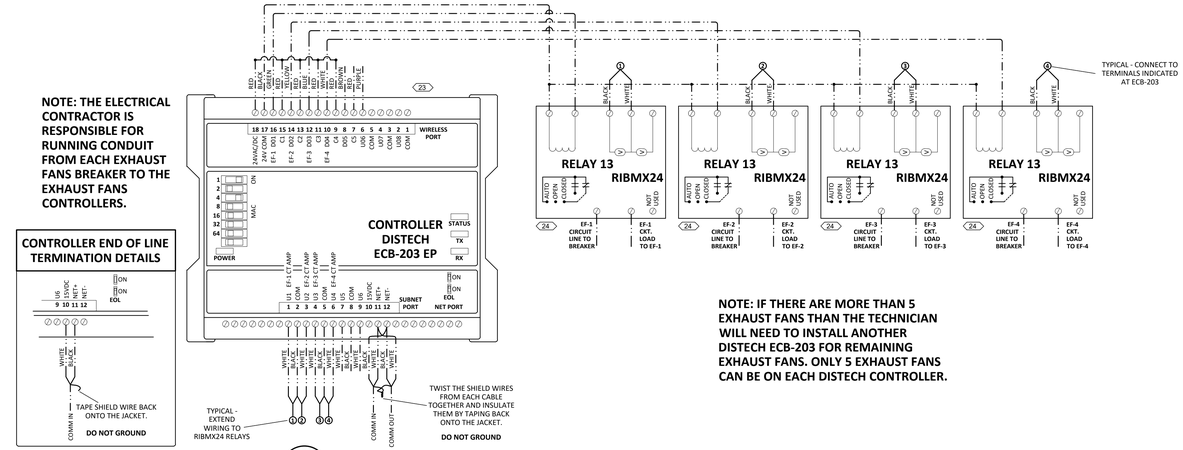
3 EM2 FREEDOM INPUT CONTROLLER

SCALE: N.T.S.



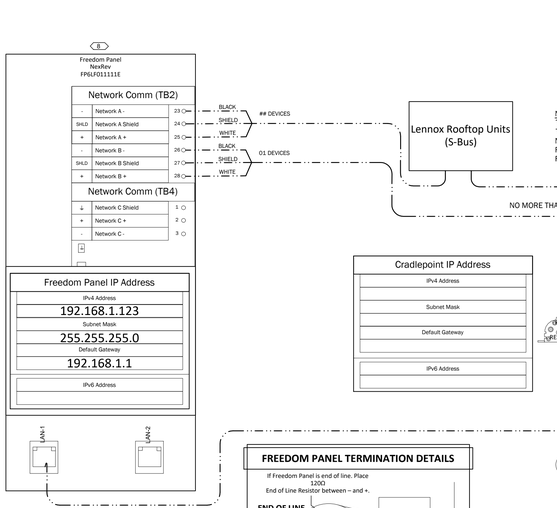
4 EM2 FREEDOM OUTPUT CONTROLLER

SCALE: N.T.S.



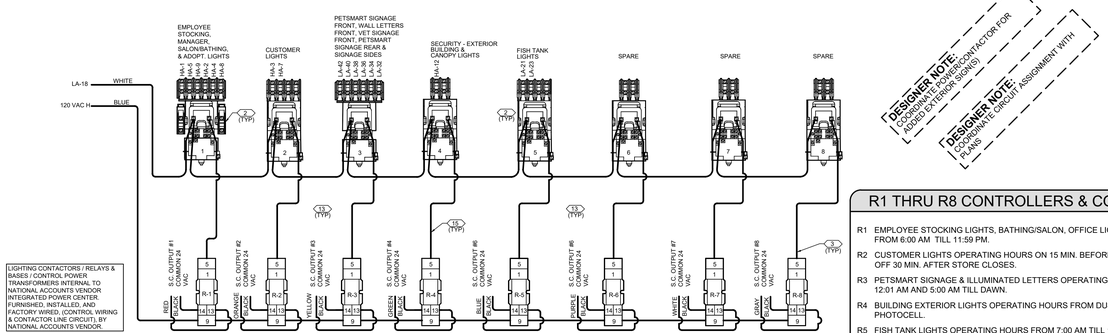
2 EM2 EXHAUST FAN MONITOR AND CONTROL

SCALE: N.T.S.



5 EM2 FREEDOM COMMUNICATION CONTROLLER

SCALE: N.T.S.



1 EM2 FREEDOM LIGHTING CONTROLLER

SCALE: N.T.S.

R1 THRU R8 CONTROLLERS & CONTROL TIMES

R1 EMPLOYEE STOCKING LIGHTS, BATHING/SALON, OFFICE LIGHTS OPERATING HOURS FROM 6:00 AM TILL 11:59 PM.

R2 CUSTOMER LIGHTS OPERATING HOURS ON 15 MIN. BEFORE STORES OPENING AND OFF 30 MIN. AFTER STORE CLOSES.

R3 PETSMART SIGNAGE & ILLUMINATED LETTERS OPERATING HOURS FROM DUSK TILL 12:01 AM AND 5:00 AM TILL DAWN.

R4 BUILDING EXTERIOR LIGHTS OPERATING HOURS FROM DUSK TILL DAWN, FROM PHOTOCELL.

R5 FISH TANK LIGHTS OPERATING HOURS FROM 7:00 AM TILL 10:00 PM.

R6 SPARE.

R7 SPARE

R8 SPARE.

KEYED NOTES

1. 40 VA TRANSFORMER TO SUPPLY POWER TO CONTROL RELAYS LOCATED IN NATIONAL ACCOUNTS EMS VENDOR INTEGRATED POWER CENTER (IPC) - EMS SELECTION.
2. CONTACTOR BY NATIONAL ACCOUNTS EMS VENDOR, NUMBER OF POLES NORMALLY CLOSED AS DETAILED PER LIGHTING CONTACTOR ONE-LINE (TYP.).
3. IDEC SPDT 24 VAC RELAY AND BASE MOUNTING BY NATIONAL ACCOUNTS VENDOR.
4. VERIS WATT TRANSDUCER METER MODEL H8153 PROVIDED AND INSTALLED BY EMS NATIONAL ACCOUNTS VENDOR.
5. EMS NATIONAL ACCOUNTS VENDOR TO PROVIDE CIRCUIT BREAKER IN PANEL 'MDP' FOR PHASE LOSS MONITOR.
6. PHASE LOSS MONITOR PROVIDED, INSTALLED AND FACTORY WIRED IN.
7. OLS, OUTDOOR LIGHT SENSOR- SEE SHEET EM2.
8. FREEDOM BASE AND CONTROL POWER EQUIPMENT PRODUCT PROVIDED, - SEE EM2 FOR LAYOUT.
9. (8) BUTTON OVERRIDE PANEL LOCATED IN MANAGERS OFFICE 104, SEE E2.0.
10. FURNISHED BY ROOFTOP UNIT MANUFACTURER, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
11. OTS, OUTDOOR TEMPERATURE SENSOR - SEE SHEET EM2.
12. S.A.C.P./F.A.C.P., NO RTU SHUT DOWN TO BE SOFTWARE DRIVEN ON SMOKE DETECTION - UNITS MUST HAVE HARD WIRED SMOKE DETECTORS. CHECKPOINT IS TO PROVIDE A SPDT RELAY MODULE MOUNTED NEXT TO THE S.A.C.P./F.A.C.P. ON A DOUBLE - GANG BOX FOR CONNECTION TO THE EMS SYSTEM BY THE E.C. THIS RELAY MODULE WILL BE LABELED EMS TO PREVENT CONFUSION WITH OTHER MODULES THAT MAY BE MOUNTED NEARBY. THE E.C. WILL BE RESPONSIBLE FOR INSTALLING CONDUIT & TWO CONDUCTORS BETWEEN THE MODULE (COM& N/O) AND THE EMS SYSTEM EMERGENCY STATUS INPUT.
13. ALL CONTACTORS, RELAYS & LOW VOLTAGE WIRING PROVIDED, INSTALLED AND FACTORY WIRED BY NATIONAL ACCOUNTS VENDOR IN THE INTEGRATED POWER CENTER (IPC).
14. OHS, OUTDOOR HUMIDITY SENSOR- SEE SHEET EM2.
15. ALL INTERNAL CONTROL WIRING SHALL BE RUN IN NEAT - AND - WORKMAN - LIKE MANNER, LABEL ALL WIRES WITH NUMBERS.
16. ZONE HUMIDITY SENSOR - SEE SHEET EM2.
17. INDOOR TEMPERATURE SENSOR - COORDINATE WITH EMS NATIONAL VENDOR.
18. SECURITY PANEL: ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING CONDUIT & TWO CONDUCTORS BETWEEN THE MODULE AND THE NATIONAL ACCOUNTS EMS VENDOR STATUS INPUT.
19. FIRE PANEL: ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING CONDUIT & TWO CONDUCTORS BETWEEN THE MODULE AND THE EMS NATIONAL ACCOUNTS VENDOR STATUS INPUT.
20. WATER HEATER OUTLET - COORDINATE WITH EMS NATIONAL ACCOUNTS VENDOR.
21. MIXING VALVE SENSOR - COORDINATE WITH EMS NATIONAL ACCOUNTS VENDOR.
22. BUILDING PRESSURE SENSOR - COORDINATE WITH NATIONAL ACCOUNTS VENDOR.
23. DISTECH CONTROLLER - COORDINATE WITH EMS NATIONAL ACCOUNTS VENDOR.
24. RELAY CONTROLLER - COORDINATE WITH EMS NATIONAL ACCOUNTS VENDOR.
25. (8) BUTTON OVERRIDE PANEL LOCATED IN VET SERVICES CHECK-IN, SEE E2.1.

GENERAL NOTES

1. ENERGY MANAGEMENT COMPONENTS ARE FURNISHED BY EMS NATIONAL ACCOUNTS VENDOR CONTROLS (WITH THE EXCEPTION OF EQUIPMENT INTERNAL TO NATIONAL ACCOUNTS VENDOR INTEGRATED POWER CENTER (IPC).
2. ALL WIRING AND TERMINATIONS SHOWN ARE BY THE ELECTRICAL CONTRACTOR.
3. ALL LOW VOLTAGE WIRING EXTERNAL TO THE ENCLOSURE MAY BE OPEN CABLE (PLENUM CABLE WHEN REQUIRED) IF LOCAL CODES PERMIT.
4. ALL COMPONENTS SHOWN EXTERNAL TO "FREEDOM PANEL" ENCLOSURE ARE MOUNTED AND WIRED BY THE ELECTRICAL CONTRACTOR (WITH THE EXCEPTION OF EQUIPMENT INTERNAL TO NATIONAL ACCOUNTS VENDOR INTEGRATED POWER CENTER (IPC).
5. ALL COMPONENTS SHOWN EXTERNAL TO NATIONAL ACCOUNTS VENDOR INTEGRATED POWER CENTER (IPC) - EMS SECTION IS MOUNTED AND WIRED BY NATIONAL ACCOUNTS VENDOR.
6. LOW VOLTAGE CONDUCTORS SHALL MAINTAIN A MINIMUM 1/4" CLEARANCE FROM POWER CONDUCTORS.

NOTE:
EMS NATIONAL ACCOUNTS VENDOR TO FURNISH SITE SPECIFIC DRAWINGS TO CONTRACTOR. VERIFY FINAL WIRING REQUIREMENTS WITH EMS NATIONAL ACCOUNTS VENDOR SITE-SPECIFIC DRAWINGS.

FREEDOM PANEL TERMINATION DETAILS

If Freedom Panel is end of line. Place 120Ω End of Line Resistor between – and +.

END OF LINE

Terminate shield wire to terminal

COMM WIRE TERMINATION DETAILS

.125 in. (.3 cm)

Correct
Incorrect
Incorrect

When stripping the outer jacket, take care not to nick the inner insulation. The wire's outer jacket is brittle enough to work free after being nicked or partially cut. **Do not strip more than 1 inch (2.5 cm) of the outer jacket.** Strip about 1/4 inch (6 mm) of the inner insulation. Do not allow more than 1/8 inch (3 mm) bare communication wire to protrude from the connector.

If bare communication wire contacts the cable's foil shield, shield wire, or a metal surface other than the terminal block, communications may fail.

WIRE LEGEND

LOW VOLTAGE (<25 VAC)

- MINIMUM 22GA. TWISTED SHIELDED PAIR (PLENUM RATED AS REQUIRED BY CODE)
- 18 GA.
- 18 GA. 9C CONDUCTOR
- LINE VOLTAGE (>25 VAC):

TENANT:

PETSMART

19601 North 27th Avenue
Phoenix, Arizona 85027 - (623) 580-6100

PROJECT:

16K 2026 U.S. INSTRUCTION SET

AUGUST 10, 2026

ARCHITECT:

CONSULTANT:

SEAL:

CITY SEAL:

DISCLAIMER:

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THIS DRAWING IS NOT TO BE SCALED.

ISSUED FOR:

#	DESCRIPTION	DATE

PROJECT NO: 16K 2026 US INSTRUCTION SET

ORIGINAL SCALE: AS INDICATED

DRAWN BY: XXX

CHECKED BY: XXX

PAGE #: 01 OF: 47

IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE 1"

DISCIPLINE: ELECTRICAL

TITLE:

ENERGY MANAGEMENT

SHEET NUMBER:

EM2