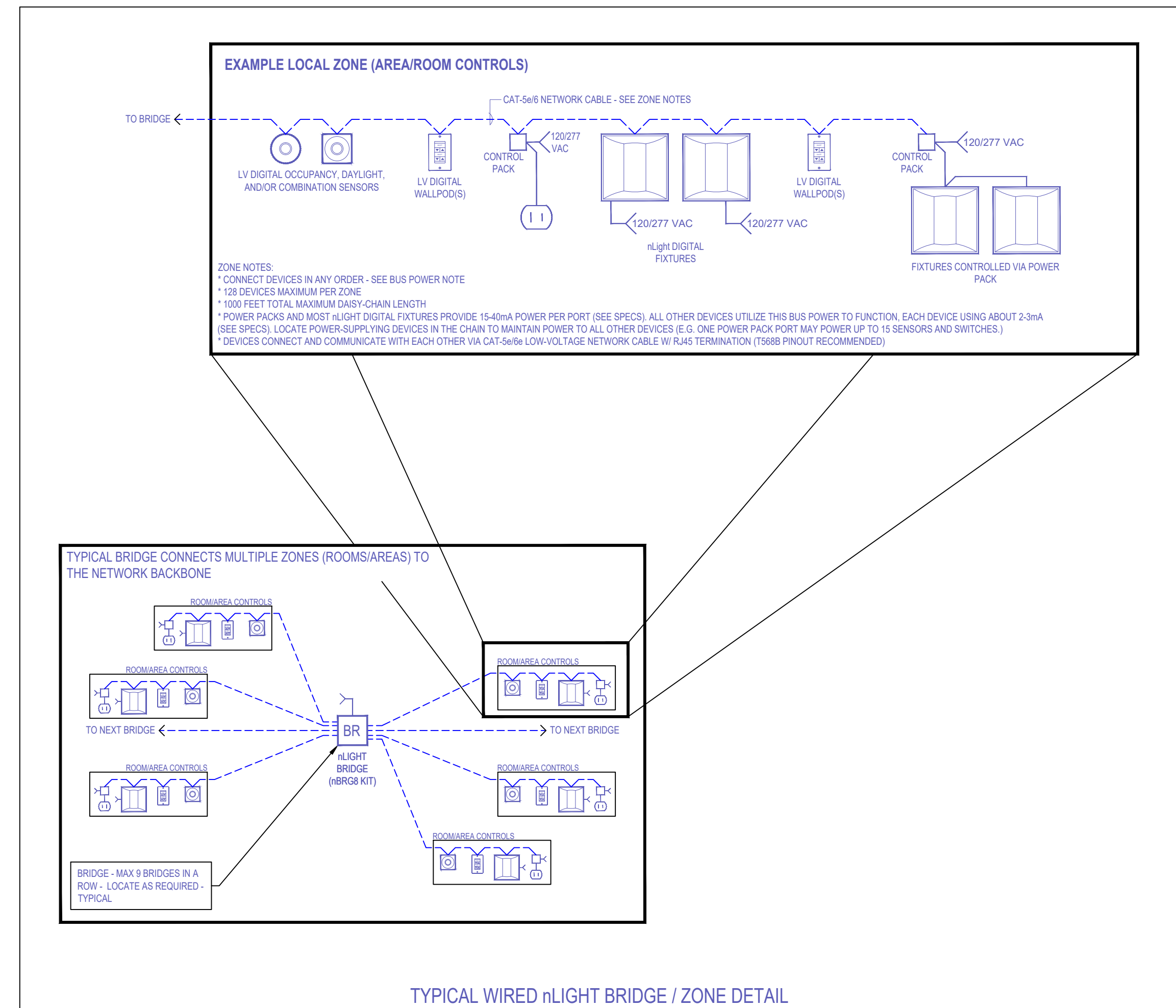
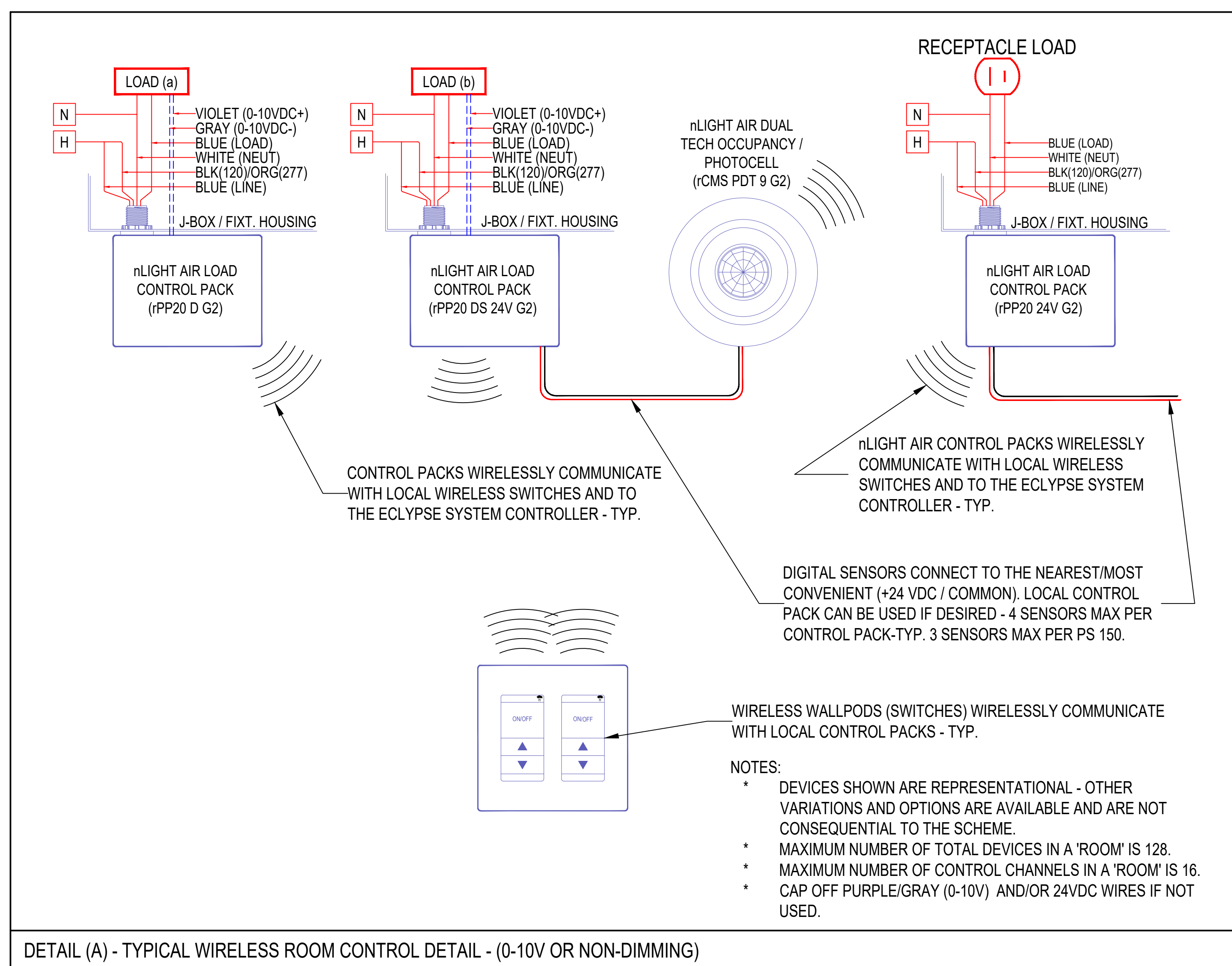
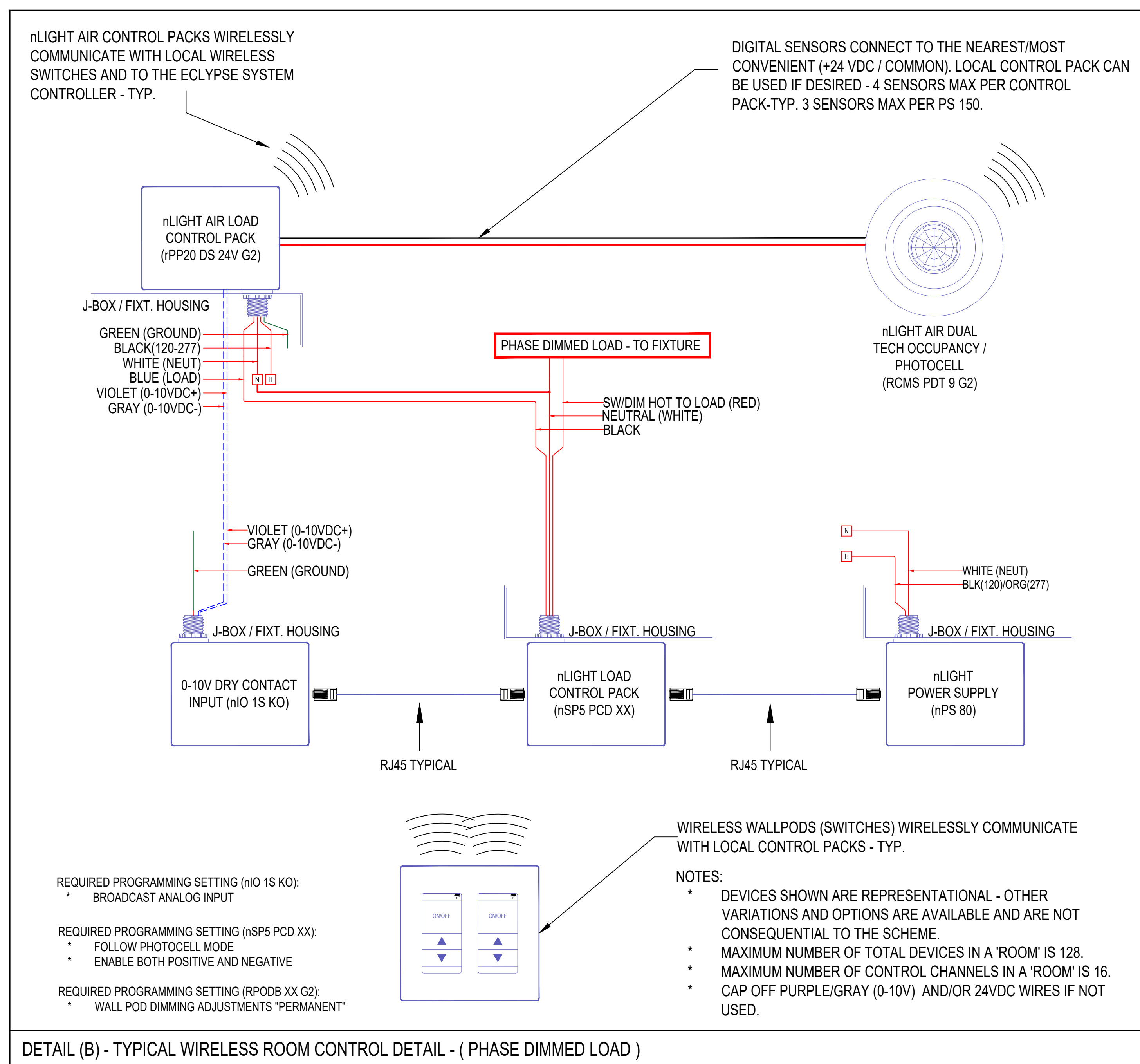


INCLUDES FIXTURE EMBEDDED CONTROLS

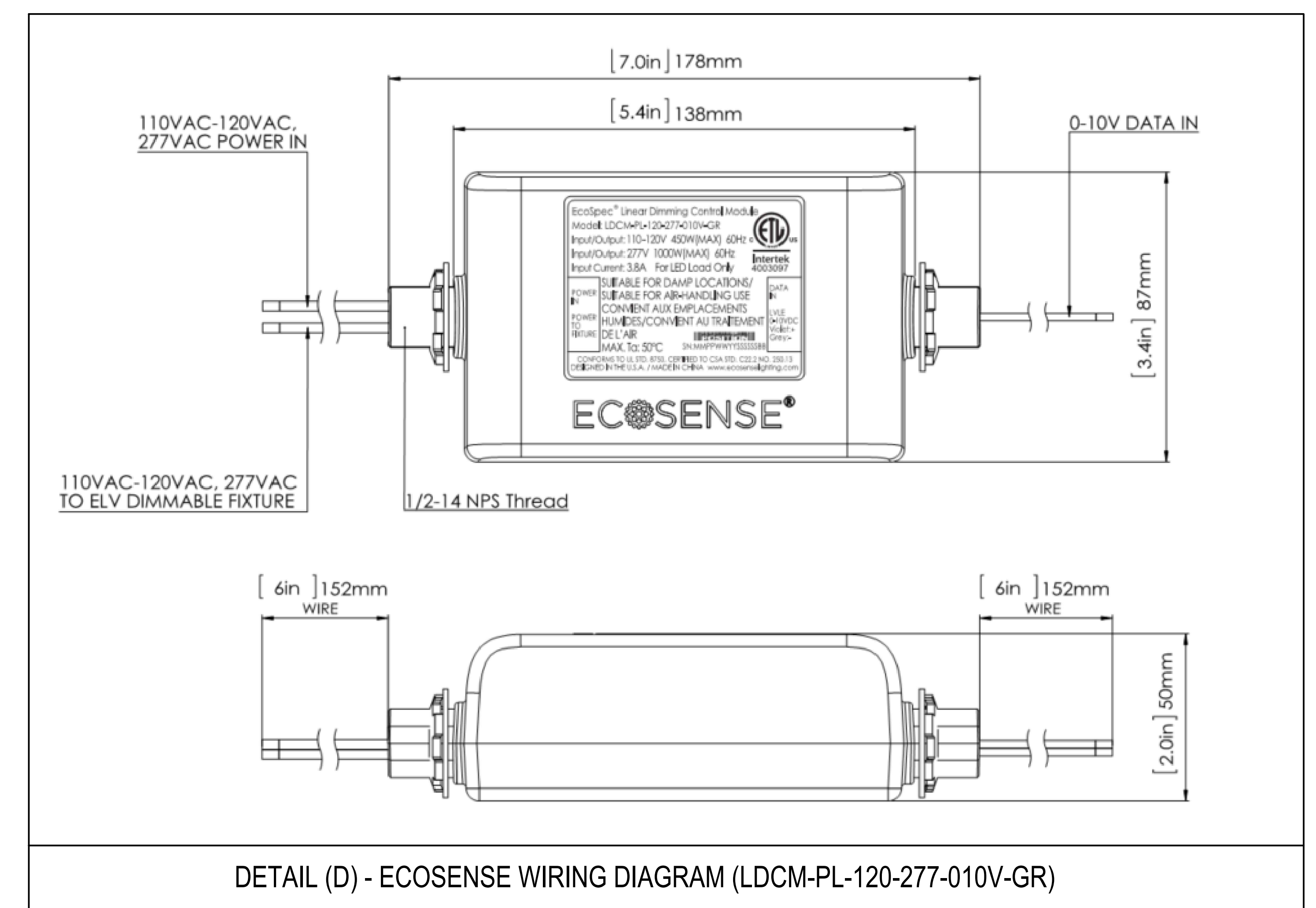
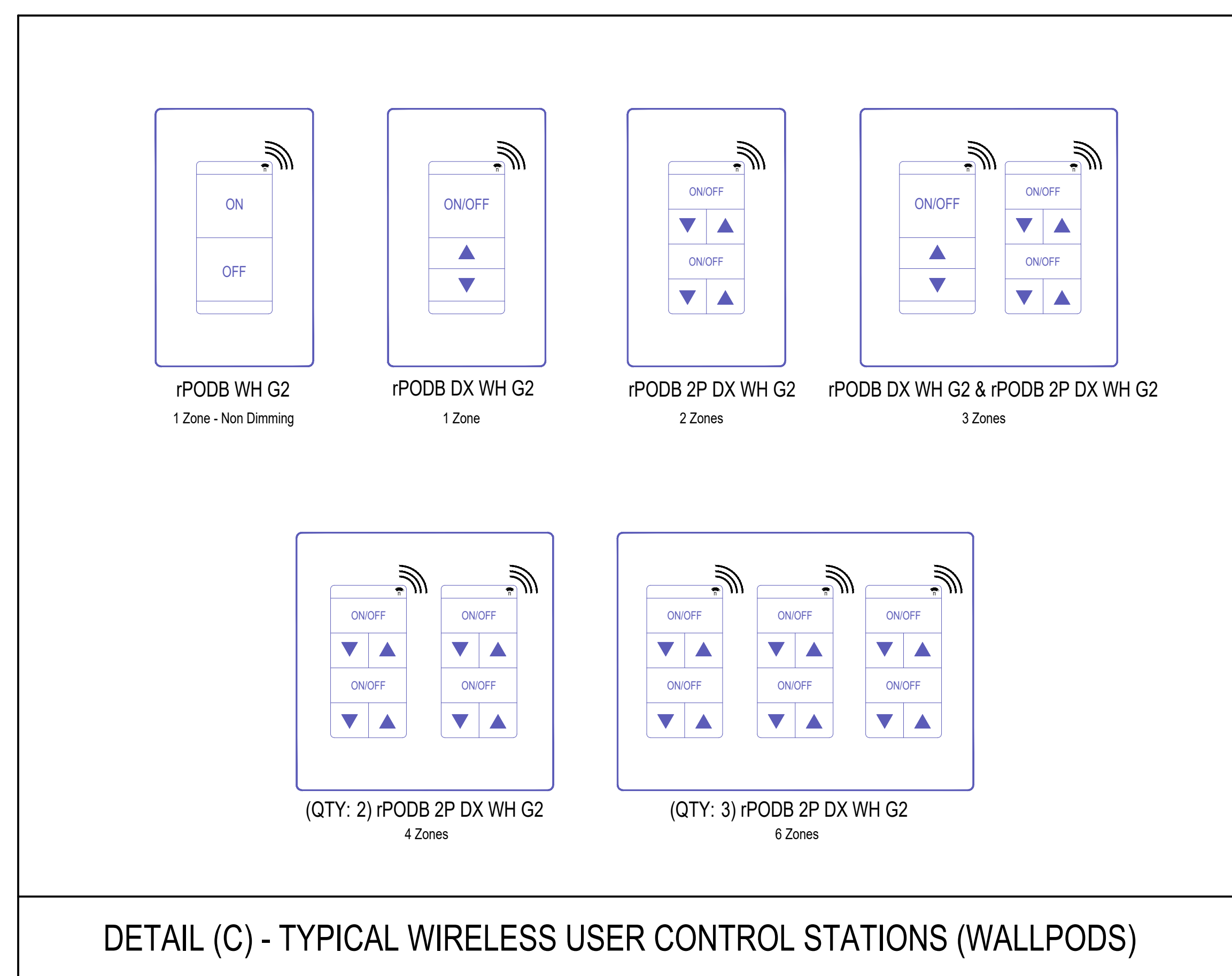
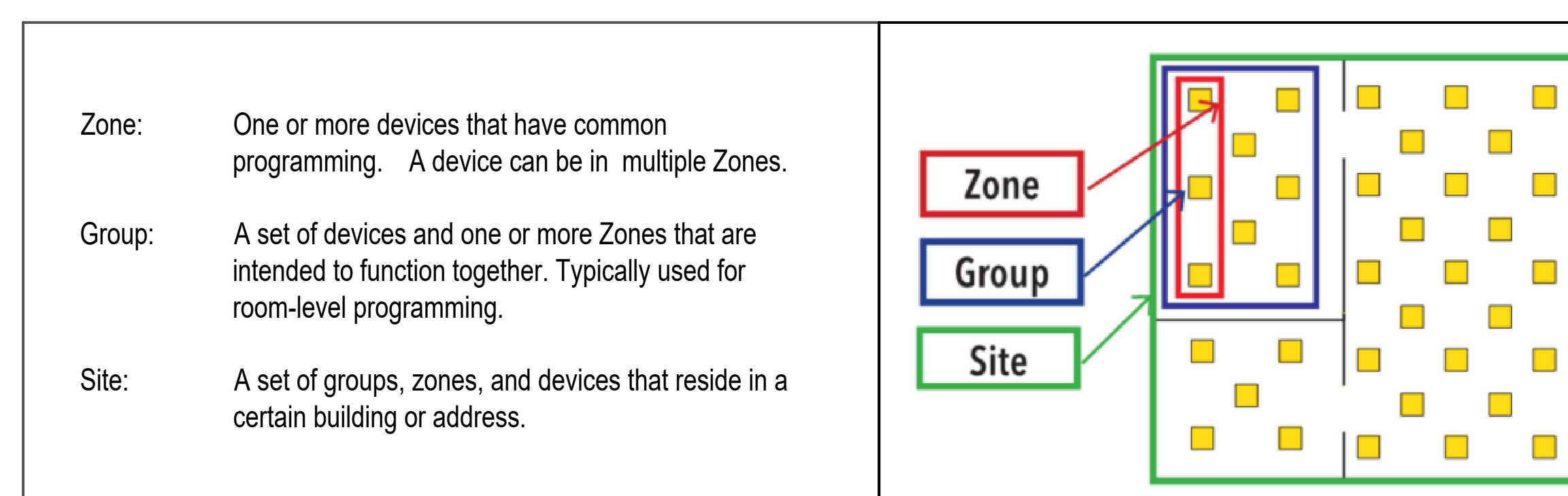
4. ALL CONTROLLED LIGHTING FIXTURES DESIGNATED FOR PATH OF EGRESS ILLUMINATION AND CONNECTED TO A GENERATOR/INVERTER CIRCUIT SHALL BE CONTROLLED BY CONTROLS THAT, UPON SENSING LOSS OF UTILITY POWER, AUTOMATICALLY BYPASS SUCH CONTROL SO AS TO ENSURE GENERATOR/INVERTER POWER TO REACH THE FIXTURE FOR A MINIMUM 90 CONTINUOUS MINUTES DURING SUCH LOSS OF UTILITY POWER.



ISSUE / REVISION		DATE
0	PROPOSAL	03/27/19
1	PROPOSAL - R1	04/11/19
2	PROPOSAL - R2	04/12/19
3	SUBMITTAL	05/22/19
4	SUBMITTAL-R1	05/30/19
5	SUBMITTAL-R2	12/19/19



WIRING DIAGRAMS
(SEE CUTSHEETS FOR ADDITIONAL INFORMATION)



SCALE: $1/8" = 1'-0"$

NEW BUILDING STANDARD EXIT SIGN

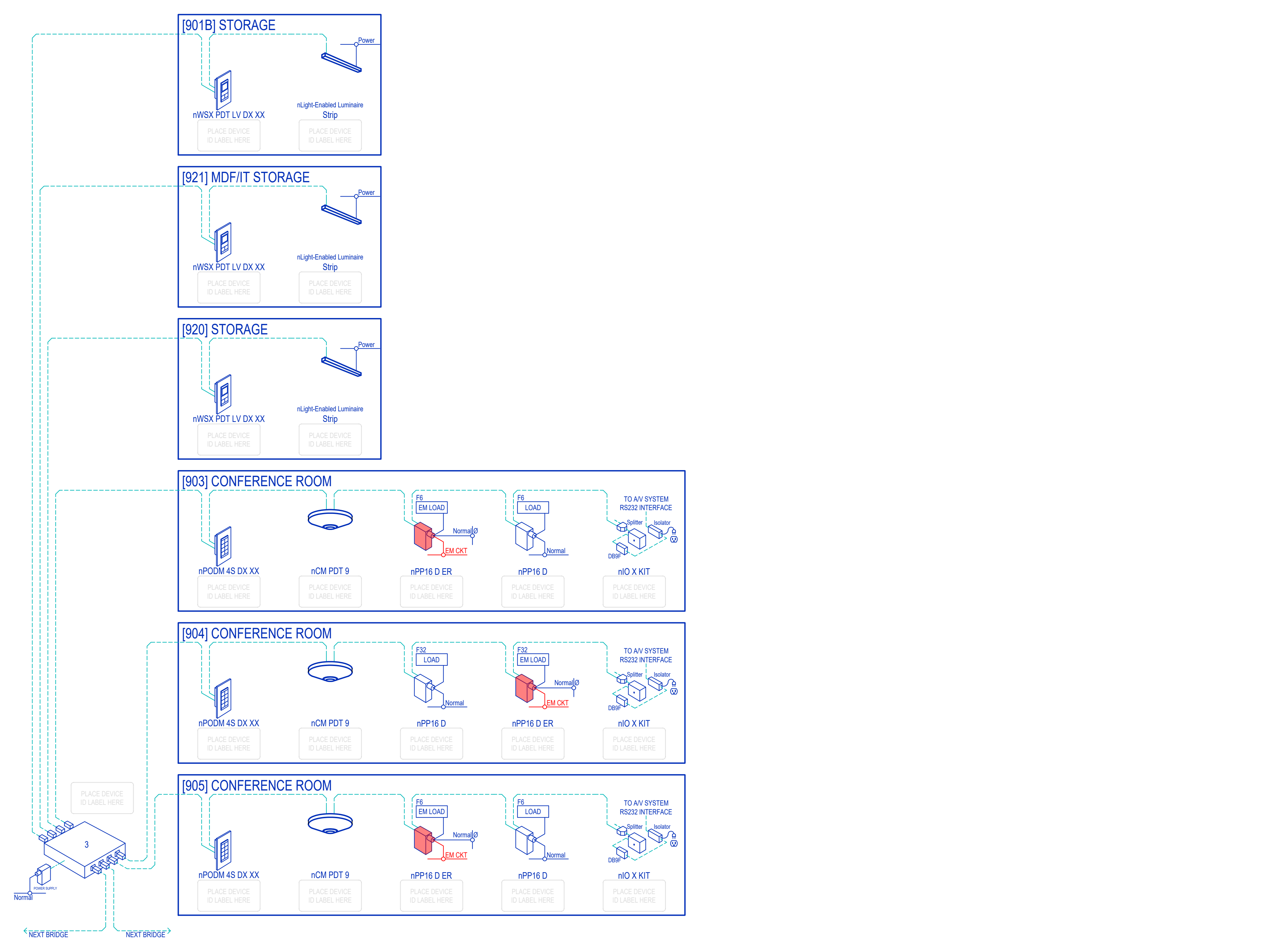
NEW EXIT SIGN (ARROWS INDICATE DIRECTION AND SHADED QUADRANTS INDICATE SIGN FACE(S)).

- ① ALL NEW LUMINAIRES SHALL BE CIRCUITED TO (E) PANEL L9 UON.
- ② SHADU LUMINAIRE WITH "EM" DESIGNATION SHALL BE CIRCUITED FROM NEAREST EMERGENCY CIRCUIT. WHEN SHOWN SWITCHED, PROVIDE AUTOMATIC TRANSFER RELAY. ON LOSS OF NORMAL POWER, SWITCHED "EM" LUMINAIRES SHALL GO TO FULL-ON BRIGHTNESS. PROVIDE EXTRA DRIVER OR BALLAST FOR EMERGENCY SECTION AS REQUIRED. TYPICAL FOR ALL EMERGENCY FIXTURE.
- ③ ROOM CONTROLLER SHALL BE LOCATED IN CEILING DIRECTLY ABOVE DIMMER/SWITCH AND ABOVE ACCESSIBLE CEILING OR IN NON-PUBLIC/ LEAST VISIBLE AREAS. PROVIDE ADDITIONAL WIRING TO ACCOMPLISH THIS AS REQUIRED. FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION. PROVIDE SEPARATE ROOM CONTROLLERS FOR LUMINAIRES OF DIFFERENT CIRCUITS. DIFFERENT SYSTEM VOLTAGES AND LAMP SOURCE BUT CONTROLLED BY COMMON SWITCH, DIMMER, OCCUPANCY SENSOR SWITCH AND DAY LIGHT SENSOR.
- ④ ALL LOCATION OF WALL DIMMERS, WALL SWITCHES, CEILING DAY LIGHT SENSORS AND CEILING OCCUPANCY SENSORS SHALL BE COORDINATED WITH ARCHITECT.
- ⑤ ALL EXIT SIGN "EM" LIGHTING SHALL BE CONNECTED TO NEAREST EXIST "EMERGENCY EGRESS LIGHTING CIRCUIT."
- ⑥ SEGMENT MANAGER WITH BMS NETWORK POINT OF CONNECTION. CONFIRM WITH CHIEF BUILDING ENGINEER. PROVIDE UNISTRUT ASSEMBLY TO MOUNT "SM" CABINET, ACCESSORIES, ETC. INTERFACE / NETWORK ALL WIRING WITH SEGMENT MANAGER.
- ⑦ AT RECEPTION/Lounge, and CONFERENCE ROOMS, PROVIDE WATTSOPPER LMD-100 SERIAL DATA INTERFACE RS-232 FOR CONNECTION TO THE AV SYSTEM. IN ADDITION TO THE MANUAL AND AUTOMATIC DAYLIGHT DIMMING CONTROLS, LIGHTS SHALL BE CONTROLLABLE/DIMMABLE VIA THE AV CONTROLLER. COORDINATE WITH THE AV VENDOR.
- ⑧ PROVIDE SCENE CONTROLLER SWITCH. PROGRAM PER OWNER REQUIREMENTS.

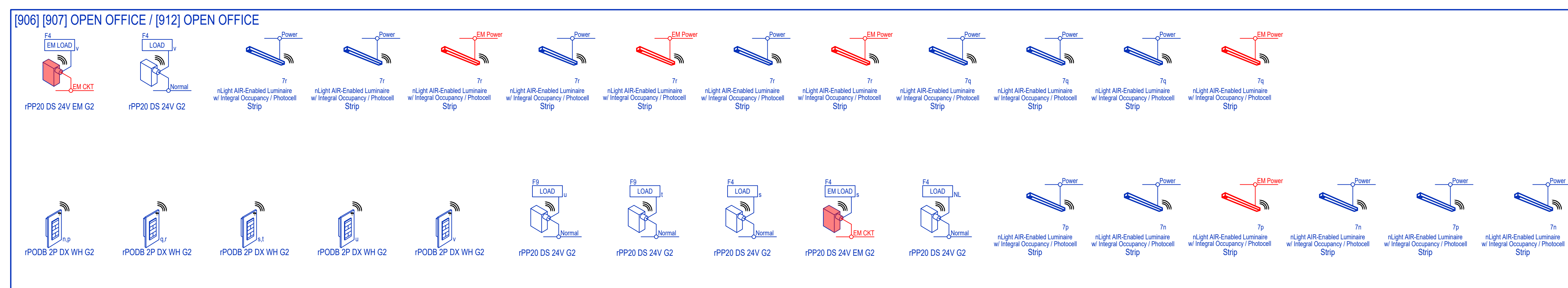
RCP01	ALL VISUALLY EXPOSED STRUCTURAL MECHANICAL AND ELECTRICAL ELEMENTS INCLUDING EXPOSED METAL FLOOR AND UNDERSIDE OF DECK ABOVE, ARE TO BE PAINTED UNLESS OTHERWISE NOTED. THIS INCLUDES ELEMENTS THAT MAY BE VISIBLE THROUGH GRILLES, LOUVERS, OR CEILING. COLORS AND PAINT MATERIALS ARE DEFINED IN THE FINISH SCHEDULE AND THE DRAWINGS AS APPLICABLE TO THE CONSTRUCTION DOCUMENTS.
RCP04	PROVIDE ACCESS PANEL IN WOOD SLAT CEILING SYSTEM WITH MINIMAL GAP AS REQUIRED BELOW MECHANICAL EQUIPMENT AND LIGHTING JUNCTION BOXES. SEE MECHANICAL PLANS FOR LOCATIONS. COORDINATE WITH MECH SUB-CONTRACTOR.
RCP09	LINEAR FIXTURE TO ALIGN WITH WORKSTATION SPINE. COORDINATE WITH FURNITURE VENDOR DRAWINGS.
RCP10	FIXTURE TO BE CENTERED IN THE STALL (PLAN) NORTH-SOUTH DIRECTION.
RCP11	PROVIDE 4" HIGH AXIOM TRIM ALL SIDES. ARMSTRONG OR EQUAL, FINISH WHITE TO MATCH TILES.
RCP12	108" AFF TO THE BOTTOM OF THE WOOD SLAT CEILING.

2. WHERE SWITCHES ARE SHOWN ADJACENT TO EACH OTHER, THEY SHALL BE GANGED AND COVERED BY A SINGLE PLATE. SWITCH COVER PLATES TO BE WHITE.
3. PROVIDE SEISMIC BRACING FOR ALL LUMINAIRES AS REQUIRED.
4. THE DIMMING DRIVERS SHALL BE COMPATIBLE WITH DIMMER/ LIGHTING CONTROL SYSTEM.
5. SHADED LUMINAIRE WITH "EM" DESIGNATION SHALL BE CIRCUITED FROM NEAREST EMERGENCY CIRCUIT. WHEN SHOWN SWITCHED, PROVIDE AUTOMATIC TRANSFER RELAY.
6. IF LUMINAIRES ARE SHOWN ON THE PLAN CONTROLLED BY DIMMERS, PROVIDE COMPATIBLE DIMMING BALLAST/ DRIVERS POWER SUPPLIES WHETHER THE EXACT LUMINAIRE SPECIFICATION NUMBER INCLUDES DIMMING PROVISION OR NOT.
7. PROVIDE AUTOMATIC DAYLIGHT DIMMING (PRIMARY/SECONDARY) FOR ALL PERIMETER LIGHTING ADJACENT TO WINDOWS.
8. DISTANCE OF THE DAY LIGHT SENSORS FROM THE WINDOW SHALL BE PER MANUFACTURER'S RECOMMENDATIONS BASED ON THE WINDOW AND CEILING HEIGHT.
9. PROVIDE ALL LOW VOLTAGE INTERCONNECTION WIRING BETWEEN ALL ROOM CONTROLLERS, SENSORS, WALL SWITCHES, AND NETWORK HUBS FOR COMPLETE WORKING SYSTEM. REFER TO EQUIPMENT INSTALLATION MANUALS FOR DETAILED INFORMATION.
10. PROVIDE 0-10V DIMMABLE DRIVER FOR ALL LED FIXTURE. DIMMABLE DRIVER OR DIMMING BALLAST EVEN IF LUMINAIRE SCHEDULE SPECIFICATION NUMBER INCLUDES DIMMING PROVISION OR NOT.
11. FOR ALL DEVICE MOUNTING HEIGHTS, SAD.
12. LOCATION OF ALL DEVICES IN OPEN CEILING AREAS SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT. DEVICES SHALL NOT BE LOCATED IN OPEN OFFICE AREAS THAT ARE OBVIOUSLY VISIBLE. ALL DEVICES SHALL BE ACCESSIBLE FOR MAINTENANCE.
13. LOCATION OF ALL DEVICES (SWITCHES, DIMMERS, RECEPTACLES, THERMOSTATS, STROBES, ETC) SHALL BE COORDINATED WITH AND APPROVED IN THE FIELD BY THE ARCHITECT. DO NOT INSTALL/ ROUGH-IN WITHOUT ARCHITECT'S REVIEW AND APPROVAL. NO EXCEPTION.
14. ALL SENSORS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. LOCATIONS SHOWN ON PLANS FOR REFERENCE ONLY. COORDINATE PRE-INSTALLATION MEETING WITH MANUFACTURER'S REPRESENTATIVE TO VERIFY EXIST DEVICE LOCATIONS PRIOR TO ROUGH-IN.
15. SUSPENDED LUMINAIRES IN EXPOSED CEILING AREAS THAT ARE LOCATED UNDER DUCTWORK SHALL BE SUPPORTED USING SLIM PROFILE UNISTRUT ASSEMBLY ATTACHED TO THE DECK AND SPANNING BELOW THE DUCTWORK. COORDINATE INSTALLATION DETAILS WITH ARCHITECT. PAINT SUPPORT ASSEMBLY PER ARCHITECT'S DIRECTION.
16. WHERE NO SUSPENDED CEILING IS SHOWN, PROVIDE PENDANT MOUNTING USING THREADED ROD AND SMALL J-B-BOX, OCCUPANCY SENSOR SWITCHES, AND DAY-LIGHT SENSOR SWITCHES. PAINT THE ENTIRE ASSEMBLY PER ARCHITECT'S DIRECTION. MOUNTING HEIGHT OF DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
17. ALL CONDUTITS, DISCONNECT SWITCHES, ROOM CONTROLLERS, ETC IN ALL EXPOSED CEILING AREA SHALL BE PAINTED AS DIRECTED BY ARCHITECT.
18. INTERCONNECT ALL ROOM CONTROLLERS TO BUILDING BMS SYSTEM. PROVIDE DEDICATED 20A/120V CONTROL CIRCUIT POWER FOR EQUIPMENT. PROVIDE GROUNDING VIA 3/4" C, 1#6 G TO NEAREST BUILDING GROUND SYSTEM. LIGHTING CONTROL SYSTEM HUB SHALL INTERFACE-READY WITH THE BUILDING BMS FOR FULL REMOTE OPERATION AND CODE REQUIRED DEMAND RESPONSE CAPABILITY. BMS PROVIDER SHALL BE HIRED BY ELECTRICAL CONTRACTOR TO PROVIDE MAPPING, PROGRAMMING, ETC. AT THE FRONT END PC. COORDINATE WITH LANDLORD OR CHIEF BUILDING ENGINEER.
19. FOR PENDENT FIXTURES IN OPEN CEILINGS, ALL J-BOXES SHALL BE LOCATED AT THE DECK ABOVE AND THE POWER/CONTROL CONDUTITS SHALL BE LOCATED UP HIGH AND ATTACHED TO THE DECK.
20. IN OPEN CEILING SUPPLY, ALL CONDUTITS SHALL BE ATTACHED TO THE DECK ABOVE. THERE SHALL NO FLOATING HORIZONTAL CONDUTITS AT THE BOTTOM OF THE BEAMS.

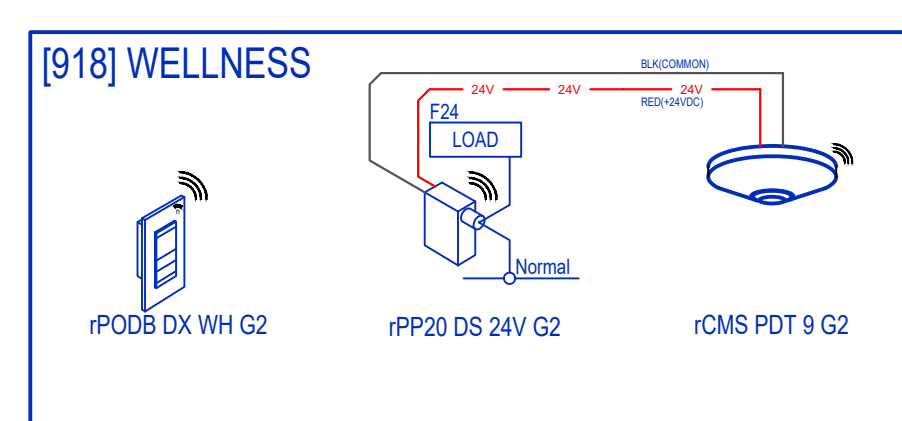
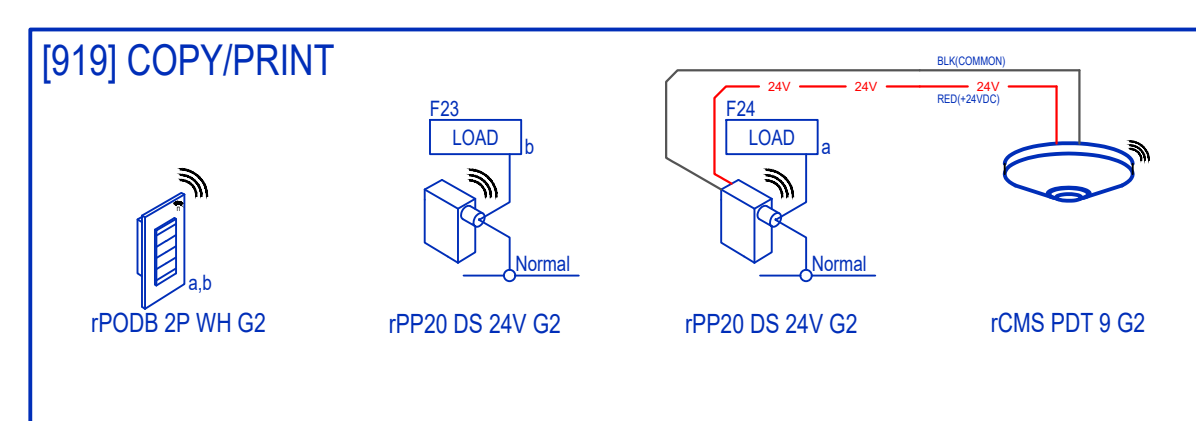
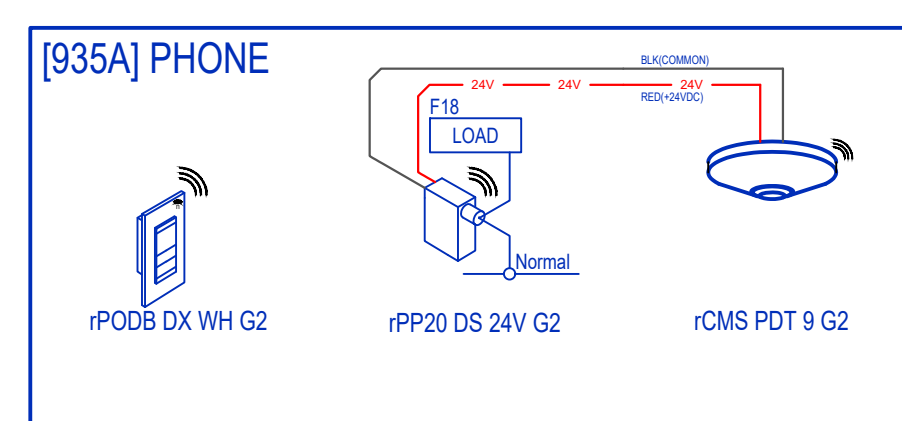
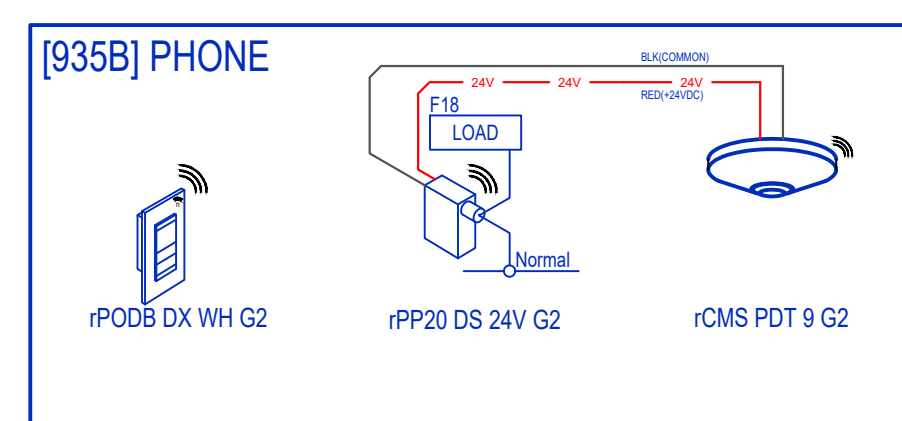
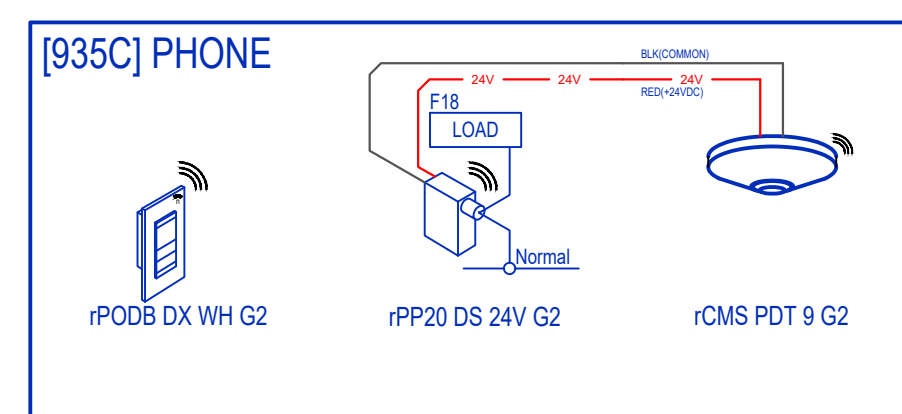
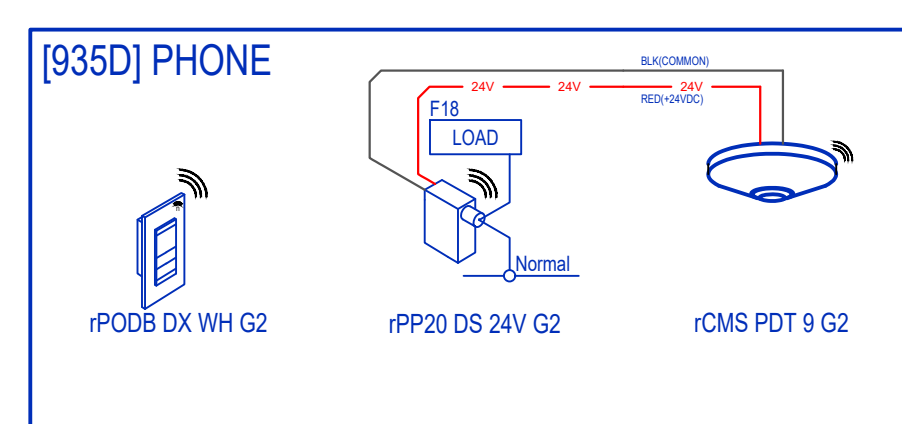
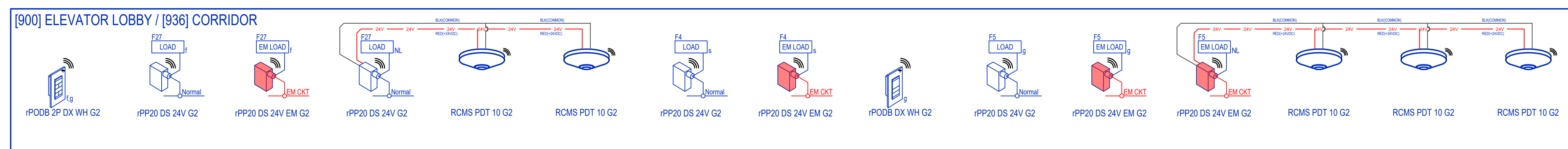
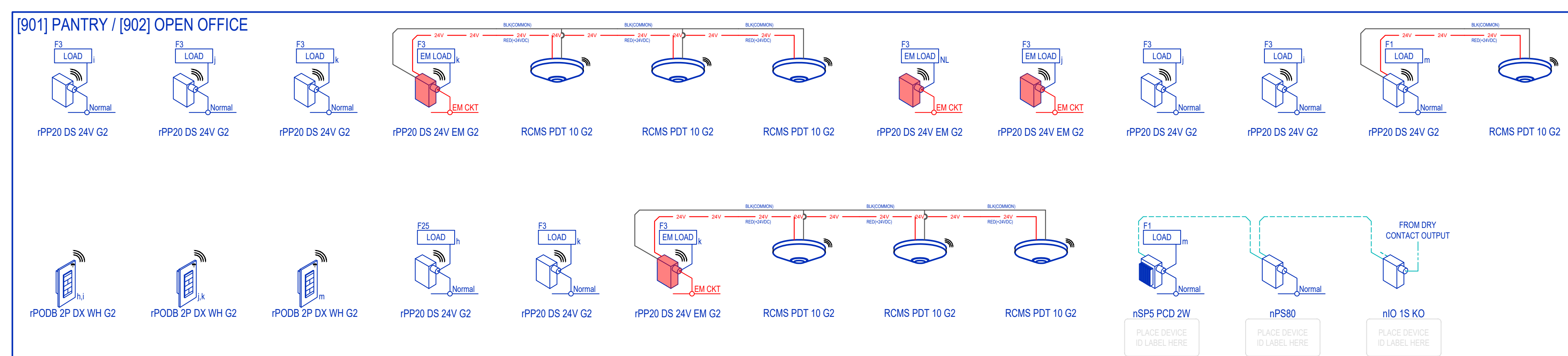
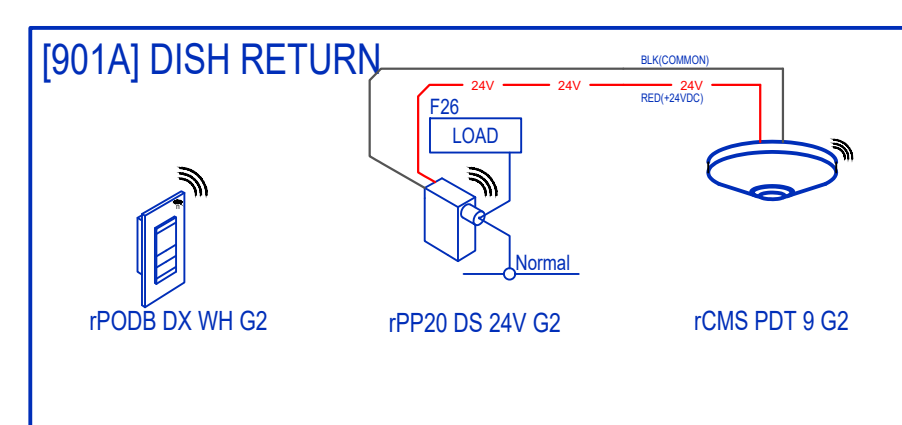
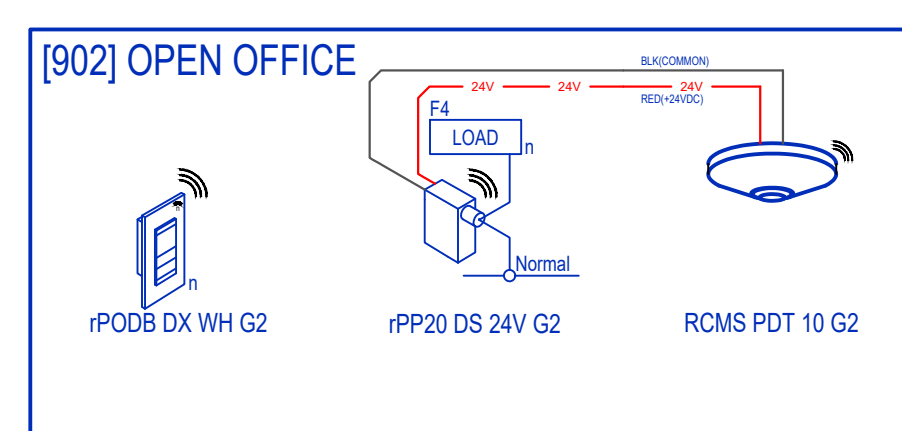
eCoSense	
04. LIGHTING CONTROL PACKS	
4	400V LODMV120-277-010V-GR 0-10V LEDVANCE® Remote Headless Dimming for Electronic Loads, 3.9A Input, 120/277VAC
nLight	
4	BRC 8-Port Network Switch for Power Supply (150/277VAC)
1	ECY BAC ADR NEC® MVDLT BAC ENIG GFSX nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure
1	ECY AIR NEC® NLTAR 02 nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure nLight® MVDLT™ nTouchless interface and NEMA 1 Enclosure
02. USER WALL STATIONS	
1	GFX nLight® GFX nLight® GFX nLight® GFX nLight® GFX
1	HSC 8-Button Scene Selection, Each of 8 Buttons Local or Remote 8-Button Scene Selection, Each of 8 Buttons Local or Remote 8-Button Scene Selection, Each of 8 Buttons Local or Remote 8-Button Scene Selection, Each of 8 Buttons Local or Remote
3	HSD nLight® HSD nLight® HSD nLight® HSD
1	LD nLight® LD nLight® LD nLight® LD
15	L2D nLight® L2D nLight® L2D nLight® L2D
14	L1D nLight® L1D nLight® L1D nLight® L1D
03. SENSORS	
1	JCS nLight® JCS nLight® JCS nLight® JCS
1	TD nLight® TD nLight® TD nLight® TD
1	D nLight® D nLight® D nLight® D
23	TD nLight® TD nLight® TD nLight® TD
13	D nLight® D nLight® D nLight® D
04. LIGHTING CONTROL PACKS	
21	D nLight® D nLight® D nLight® D
18	D nLight® D nLight® D nLight® D
1	ZW nLight® ZW nLight® ZW nLight® ZW
22	D nLight® D nLight® D nLight® D
36	RD nLight® RD nLight® RD nLight® RD
06. POWER SUPPLIES	
1	PS nLight® PS nLight® PS nLight® PS
07. LOCAL I/O DEVICES	
1	CCI nLight® CCI nLight® CCI nLight® CCI
17	Z32 nLight® Z32 nLight® Z32 nLight® Z32
11. NOT INCLUDED IN QUOTE - FOR INFORMATION ONLY	
9	IABL nLight® IABL nLight® IABL nLight® IABL
3	IABL nLight® IABL nLight® IABL nLight® IABL
1	IABL nLight® IABL nLight® IABL nLight® IABL
1	IABL nLight® IABL nLight® IABL nLight® IABL
26	IABL nLight® IABL nLight® IABL nLight® IABL
21	IABL nLight® IABL nLight® IABL nLight® IABL



ALL OTHER LIGHTING: DURING DAYLIT HOURS - LIGHTING OFF. DURING DARK HOURS - ON.



ALL OTHER LIGHTING: DURING DAYLIT HOURS - LIGHTING OFF. DURING DARK HOURS - ON.



TYPICAL SEQUENCE OF OPERATIONS (INDOOR):

THIS QUOTE PROVIDES FOR THE FOLLOWING SEQUENCE OF OPERATIONS AS APPLICABLE BY SPACE USE:

OFFICES: MANUAL-ON, AUTO-OFF VIA OCC. SENSOR. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF/DIM. TIMECLOCK PROFILE. PLUG LOADS AUTO-OFF VIA OCC SENSOR.

OPEN OFFICES: AUTO-ON/OFF VIA OCC. SENSOR. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF/DIM. TIMECLOCK PROFILE. PLUG LOADS AUTO-OFF VIA OCC SENSOR AND/OR TIMECLOCK. AUTOMATIC DAYLIGHT-BASED DIMMING IN PRIMARY DAYLIT ZONE.

CONFERENCE ROOMS: AUTO-ON/OFF VIA OCC. SENSOR. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF/DIM. FOUR (4) PUSHBUTTON LIGHTING PRESETS (ONLY AT SELECT LOCATIONS - SEE LAYOUTS). TIMECLOCK PROFILE. PLUG LOADS AUTO-OFF VIA OCC SENSOR. NOTE: AT SOME CONFERENCE LOCATIONS, COLOR TOUCH SCREEN CONTROLLER PROVIDED.

STAIRS/CORRIDORS/CIRCULATION: AUTO-ON VIA OCC. SENSOR. DIM TO 50% DURING VACANCY. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF/DIM. TIMECLOCK PROFILE FOR AUTO-OFF AFTER HOURS.

RECEPTION LOBBIES: AUTO-ON VIA OCC. SENSOR. DIM TO 50% DURING VACANCY. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF/DIM. TIMECLOCK PROFILE. PLUG LOADS AUTO-OFF VIA OCC SENSOR.

PARKING GARAGE (INTERIOR): LIGHTING IN VICINITY OF OCCUPANT (UP TO 500W) AUTOMATICALLY ON UPON OCCUPANCY DETECTION. UPON VACANCY DIM TO 50%.

ALL OTHER INDOOR SPACES (WITH OCCUPANCY SENSOR): AUTO-ON/OFF VIA OCC. SENSOR. SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF WITH DIMMING PER PLANS. TIMECLOCK PROFILE.

ALL OTHER INDOOR SPACES (WITHOUT OCCUPANCY SENSOR): SINGLE-CHANNEL MANUAL OVERRIDE ON/OFF WITH DIMMING PER PLANS. TIMECLOCK PROFILE ENABLES LIGHTING DURING TYPICALLY OCCUPIED TIMES. AUTO OFF VIA TIMECLOCK.

DAYLIGHT ZONES: IN ALL AREAS WHERE LIGHTING POWER WITHIN PRIMARY SIDELIT ZONES EXCEEDS 120W, SUCH LIGHTING SHALL AUTOMATICALLY DIM BASED ON DAYLIGHT CONTRIBUTION TO MAINTAIN DESIGN ILLUMINANCE AND DISTRIBUTION. HOWEVER, LIGHTING IN THESE ZONES SHALL NOT BE INDEPENDENTLY MANUALLY CONTROLLED.

DEMAND RESPONSE: SYSTEM QUOTED IS CAPABLE OF RECEIVING RECEIVING OpenADR 2.0a COMMAND SIGNAL FROM UTILITY DEMAND-RESPONSE-AUTOMATION-SERVER (DRAS) AND REDUCING LIGHTING POWER IN ACCORDANCE WITH CEC T24 PART 6, 130.1(e).

TIMECLOCK & USER SCHEDULES VIA DRY CONTACT(S): SYSTEM QUOTED PROVIDES DIGITAL ASTRONOMICAL TIMECLOCK. USER PROFILES AND SCHEDULES ARE PROGRAMMED VIA PC COMPUTER CONNECTION AND STORED AT THE GATEWAY(S). OWNER TO PROVIDE DESIRED SCHEDULE PRIOR TO SYSTEM STARTUP.

NOTES:

1. ALL CONTROLLED LIGHTING SHALL BE AUTOMATICALLY SHUT OFF DURING TYPICALLY UNOCCUPIED HOURS. AUTO-OFF VIA OCC. SENSOR AT LOCATIONS WHERE SUCH SENSOR IS PROVIDED.
2. NON-GENERAL CONTROLLED LIGHTING (E.G. TASK) SHALL BE INDEPENDENTLY CONTROLLED AND SHALL NOT AUTOMATICALLY TURN ON VIA OCC. SENSOR.
3. OCCUPANCY SENSOR TIME DELAY SHALL BE 10 MINUTES UNLESS NOTED OTHERWISE.
4. ALL CONTROLLED LIGHTING FIXTURES DESIGNATED FOR PATH OF EGRESS ILLUMINATION AND CONNECTED TO A GENERATOR/INVERTER CIRCUIT SHALL BE CONTROLLED BY CONTROLS THAT, UPON SENSING LOSS OF UTILITY POWER, AUTOMATICALLY BYPASS SUCH CONTROL SO AS TO ENSURE GENERATOR/INVERTER POWER TO REACH THE FIXTURE FOR A MINIMUM 90 CONTINUOUS MINUTES DURING SUCH LOSS OF UTILITY POWER.

SEQUENCE OF OPERATIONS (OUTDOOR):

PARKING GARAGE ROOF, PARKING AREAS, WALKWAY LIGHTING, AND ALL LIGHTING MOUNTED UNDER 24' AFG; DURING DAY/LIT HOURS - LIGHTING OFF. DURING DARK HOURS - LIGHTS 50% DIM WITH VACANCY; LIGHTS AUTO-ON TO 100% UPON MOTION DETECTION.

ALL OTHER LIGHTING: DURING DAYLIT HOURS - LIGHTING OFF. DURING DARK HOURS - ON.