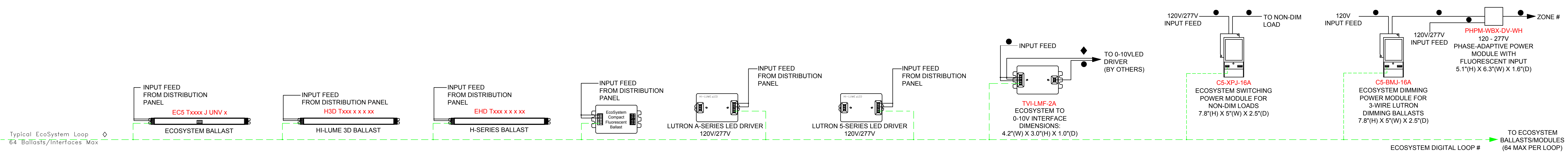
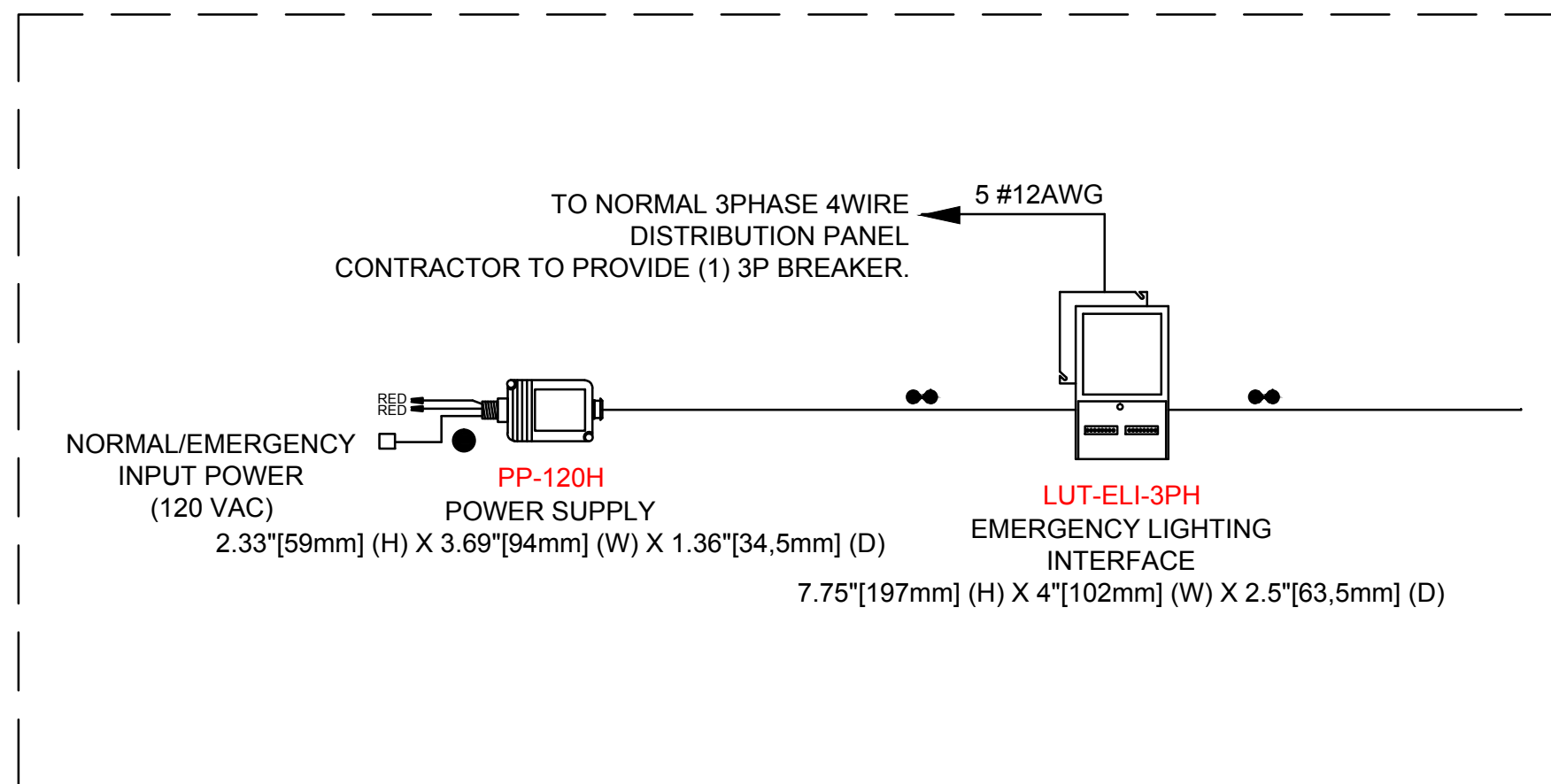


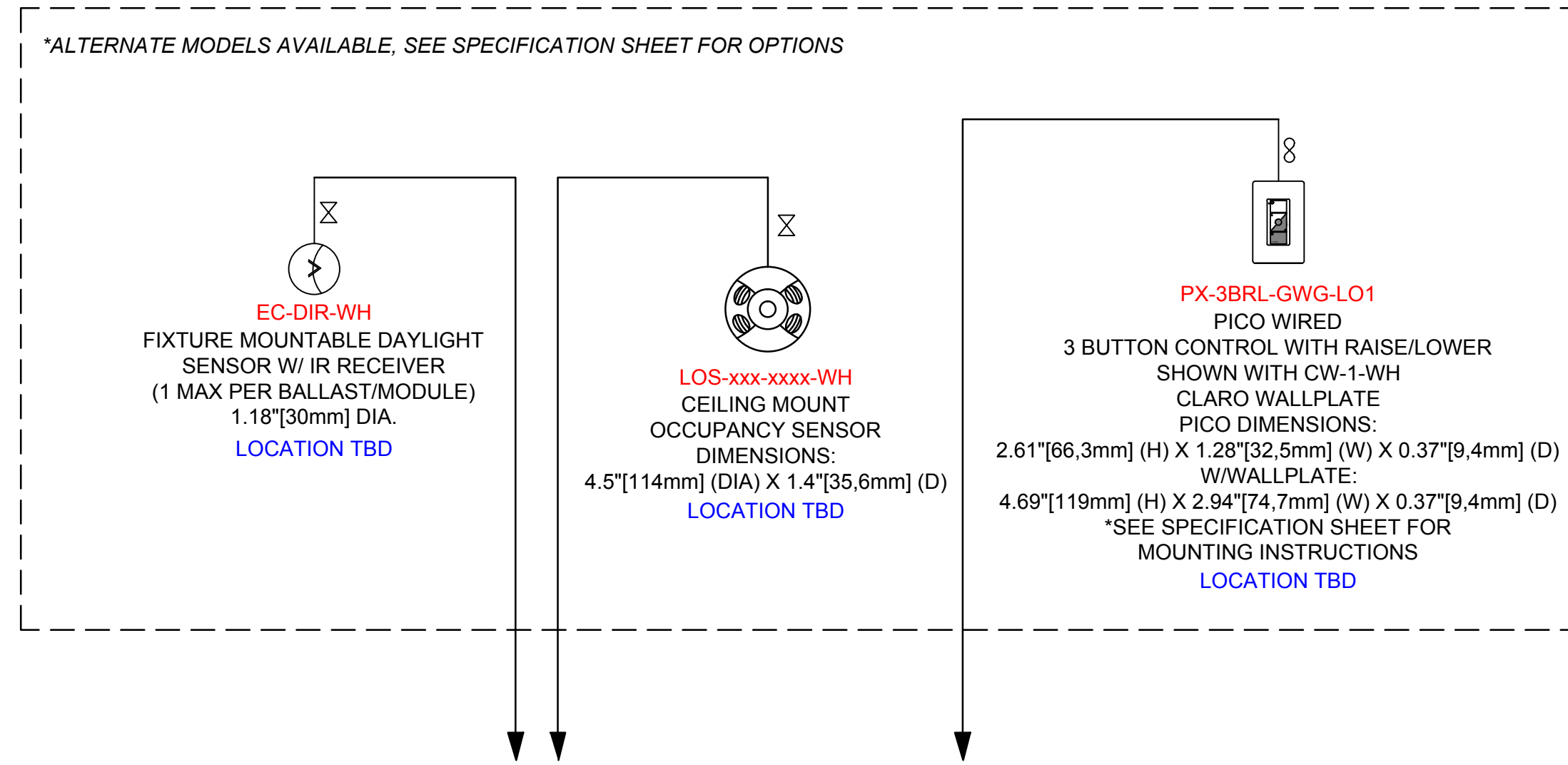
TYPICAL ECOSYSTEM LOOP DETAIL



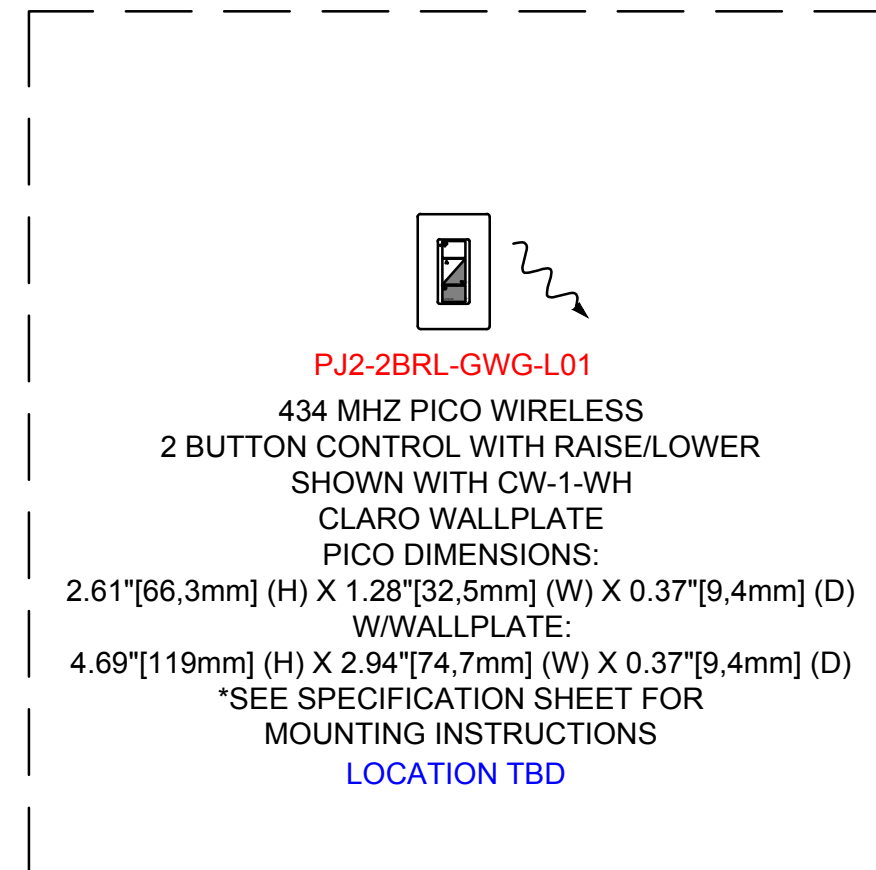
UL924 EMERGENCY COMPLIANCE (AS REQUIRED, EE TO VERIFY EMERGENCY REQUIREMENTS)



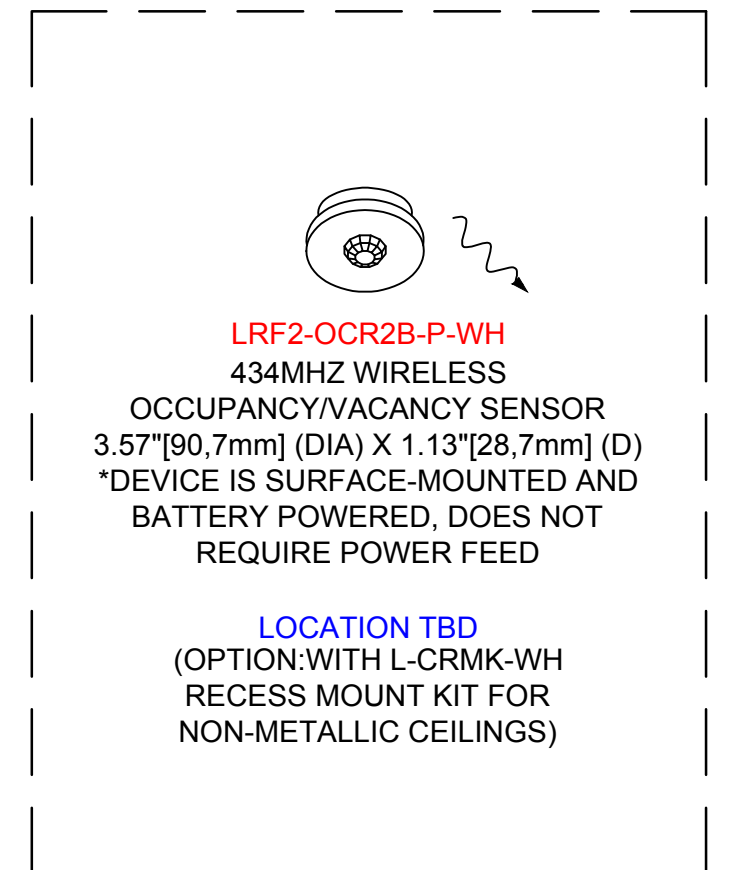
TYPICAL OF X SEE SPECIFICATION SHEET FOR WIRED DEVICE LIMITS PER QSM AND ESN



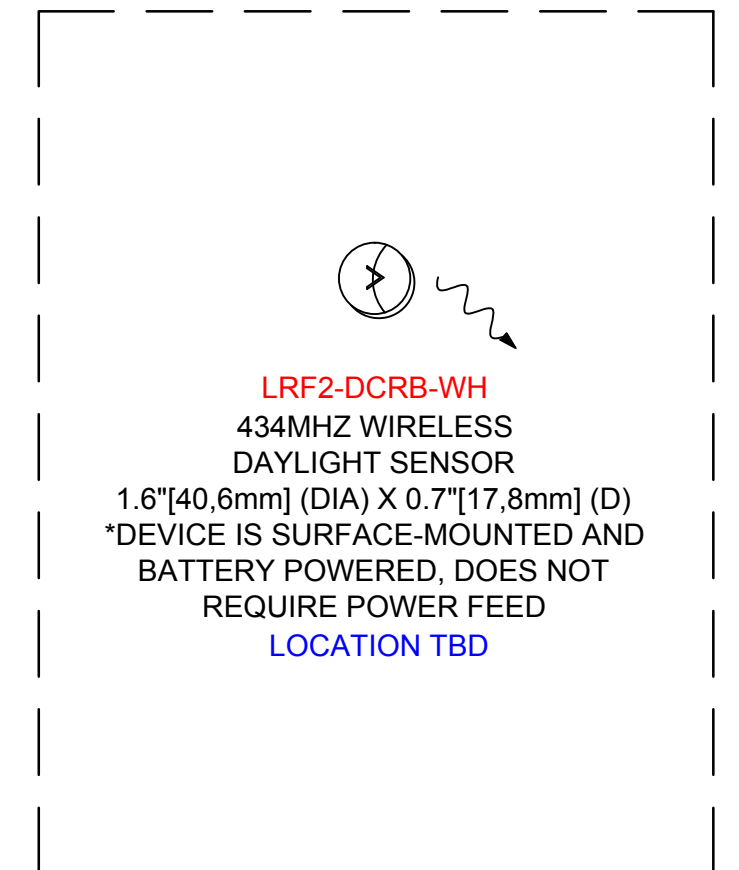
MAXIMUM OF 10 PER QSM (OTHER BUTTON CONFIGURATIONS AVAILABLE)



MAXIMUM OF 10 PER QSM



MAXIMUM OF 10 PER QSM



WIRING LEGEND:

- △ QS CONTROL LINK (SEE WIRE DESCRIPTION BELOW)
- ▲ QS CONTROL LINK (SEE WIRE DESCRIPTION BELOW) (CONNECT WIRES 1, 3 AND 4. DO NOT CONNECT WIRE # 2)

QS WIRING AS REQUIRED BY CONTROL LINK LENGTH (REFER TO QS SMART PANEL POWER SUPPLY WIRING GUIDE FOR SHADE WIRING NOTES):

TOTAL CONTROL LINK LENGTH	Wire Gauge	AVAILABLE FROM LUTRON IN ONE CABLE:
LESS THAN 500ft (153 m)	POWER (TERMINALS 1&2): 1 PAIR 18 AWG (1.0 mm ²) DATA (TERMINALS 3 & 4): 1 PAIR 22 AWG (0.5 mm ²), TWISTED AND SHIELDED*	GRX-CBL-346S OR GRX-PCBL-346S
500ft (153 m) TO 2,000ft (600 m)*	POWER (TERMINALS 1&2): 1 PAIR 12 AWG (4 mm ²) DATA (TERMINALS 3 & 4): 1 PAIR 22 AWG (0.5 mm ²), TWISTED AND SHIELDED*	GRX-CBL-48L OR GRX-PCBL-48L

*ALTERNATE DATA-ONLY CABLE: USE APPROVED DATA LINK CABLE (22 AWG [0.5 mm²] TWISTED/SHELD) FROM BELDEN (MODEL # 9461).

**TOTAL LENGTH OF THE QS LINK MUST NOT EXCEED 2,000 ft (600 m).

- INPUT POWER (NORMAL)
- 2 #12AWG (4 mm²)
- ◇ 3 #12AWG (4 mm²)
- ECOSYSTEM BUSLOOP: LUTRON CABLE C-CBL-216-GR-1 (2 #16 CONDUCTOR NON-PLENUM) OR C-PCBL-216-CL-1 (2 #16 CONDUCTOR PLENUM RATED). OTHERWISE USE 2 #16 AWG (1.5 mm²) BY OTHERS.
- ⊠ CAT5E OR BETTER CABLE FOR LUTRON NETWORK TERMINATED WITH RJ45 CONNECTORS (TO BE PROVIDED BY OTHERS). 328 ft (100 m) MAXIMUM RUN.
- ↔ 1-WAY RF COMMUNICATION
- ↔ 2-WAY RF COMMUNICATION
- 2 #18AWG (1.0 mm²)
- 3 #18AWG (1.0 mm²)
- ⊠ LUTRON SENSOR CABLE C-CBL-522S OTHERWISE USE 3 #22 AWG (1.0 mm²)
- ◆ 0-10V SIGNAL: 2 #18AWG (1.0 mm²)

WIRING NOTES:

QS LINK RULES: THE FOLLOWING LINK RULES MUST BE OBSERVED FOR PROPER OPERATION:

- THIS IS A TOPOLOGY-FREE LINK (T-TAP, HOME-RUN, ETC. IS OK). REFER TO TABLE BELOW FOR WIRE RUN LIMITS.
- IF WIRED DIFFERENTLY THAN WHAT IS SHOWN, POWER DRAW UNIT REQUIREMENTS NEED TO BE CONFIRMED. SEE POWER DRAW UNITS (PDUs) SPECIFICATION SHEET INCLUDED IN THIS SUBMITTAL.
- MAXIMUM OF 512 OUTPUTS (BALLASTS, SHADES, CONTACT CLOSURES, ETC).
- MAXIMUM OF 100 OCCUPANCY SENSORS, 100 DAYLIGHT SENSORS/RADIO SHADOW SENSORS AND 100 KEYPADS.
- MAXIMUM OF 100 QS DEVICES (SUCH AS A GRAFIK EYE® QS, SEETOUGH® QS KEYPAD, SMART PANEL POWER SUPPLY (QSPS-PK-10-60), ESN, OR SIVOA® QS SHADE / DRAPERY DRIVE UNIT), QUANTUM PROCESSOR COUNTS AS 1 DEVICE PER LINK.
- MAXIMUM OF 100 ZONES - SUCH AS A SIVOA QS SHADE / DRAPERY DRIVE UNIT, OR A LIGHTING ZONE ON A GRAFIK EYE QS (DOES NOT APPLY TO QUANTUM SYSTEMS).
- THE 10 OUTPUTS ON A QSPS-PK-10-60 CANNOT EXCEED A COMBINED LENGTH OF 2,000 ft (600 m).

ECOSYSTEM BUSLOOP RULES: THE FOLLOWING LOOP RULES MUST BE OBSERVED FOR PROPER OPERATION:

- THIS IS TOPOLOGY-FREE AND POLARITY FREE WIRING (T-TAP, HOME-RUN, ETC. IS OK).
- KEEP ALL THE BALLASTS/MODULES IN ONE ROOM ON THE SAME LOOP WHENEVER POSSIBLE.
- WIRE DAYLIGHT SENSORS, OCCUPANCY SENSORS AND PERSONAL CONTROLS TO THE CLOSEST ECOSYSTEM BALLAST/SENSOR MODULE IN THE SAME ROOM.
- ECOSYSTEM LOOPS ARE SHOWN ON THE LIGHTING PLANS. IF THERE IS A DISCREPANCY, AND ROOMS ARE WIRED TO A DIFFERENT LOOP THAN THE ONE SHOWN, LUTRON NEEDS TO BE NOTIFIED. THIS INFORMATION IS IMPORTANT FOR PROGRAMMING THE SYSTEM.
- UP TO 64 BALLASTS/MODULES PER ECOSYSTEM LOOP
- UP TO 64 IR CONTROLS PER LOOP
- UP TO 16 DAYLIGHT SENSORS PER LOOP
- UP TO 32 OCCUPANT SENSORS PER LOOP

LED dimming requires an exact match between the LED array, driver and control. Lutron cannot guarantee compatibility or performance without testing this combination.

To confirm what products Lutron has available or what interfaces may be required, call 1-877-DIM-LED6 or check Lutron's Product Compatibility Matrix on-line at www.lutron.com/LED.

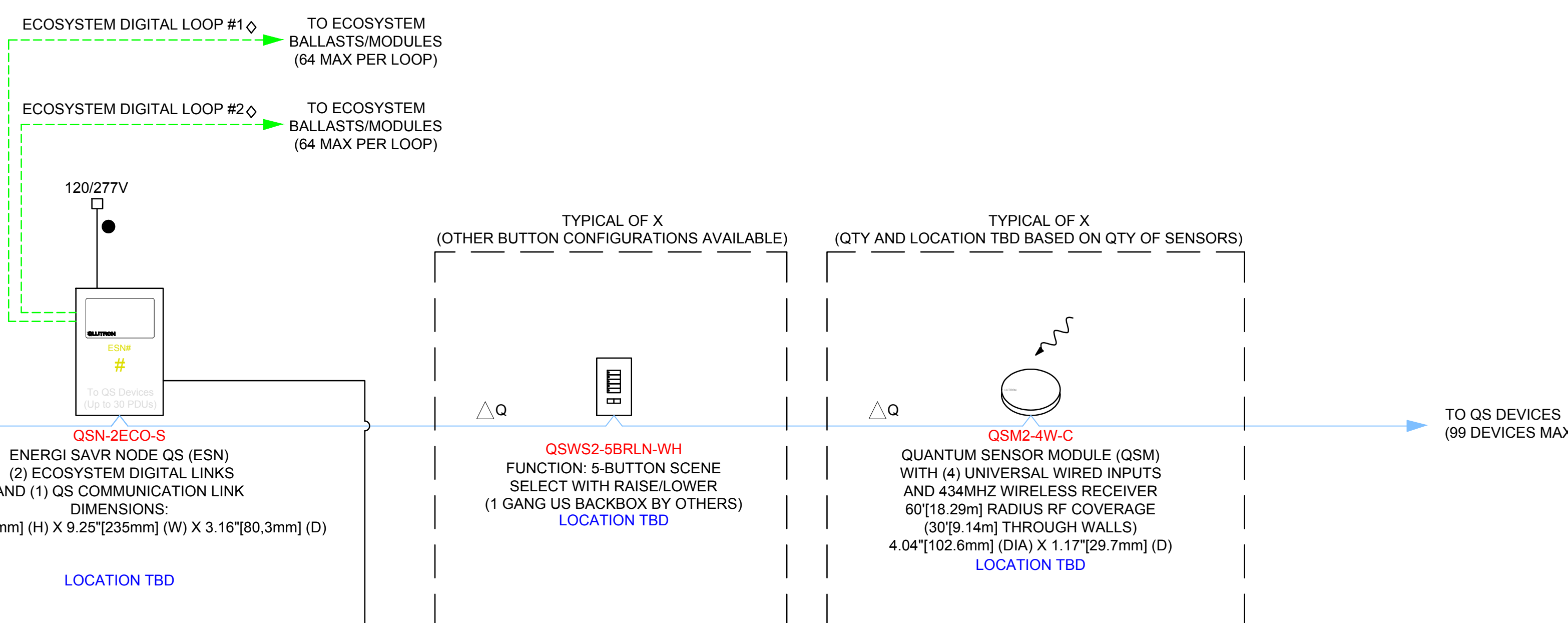
To request the testing of an LED product by Lutron manufacturers can fill out an LED Evaluation Request Form on-line at www.lutron.com/LED or contact LEDs@lutron.com.

Lutron can guarantee compatibility and performance of Lutron Hi-Lume A-Series LED Drivers used with appropriate Lutron controls. The Hi-Lume A-Series LED Driver can be used on products under 40 Watts with suitable mounting locations. Please refer to the Specification Submittal Sheet for further information.

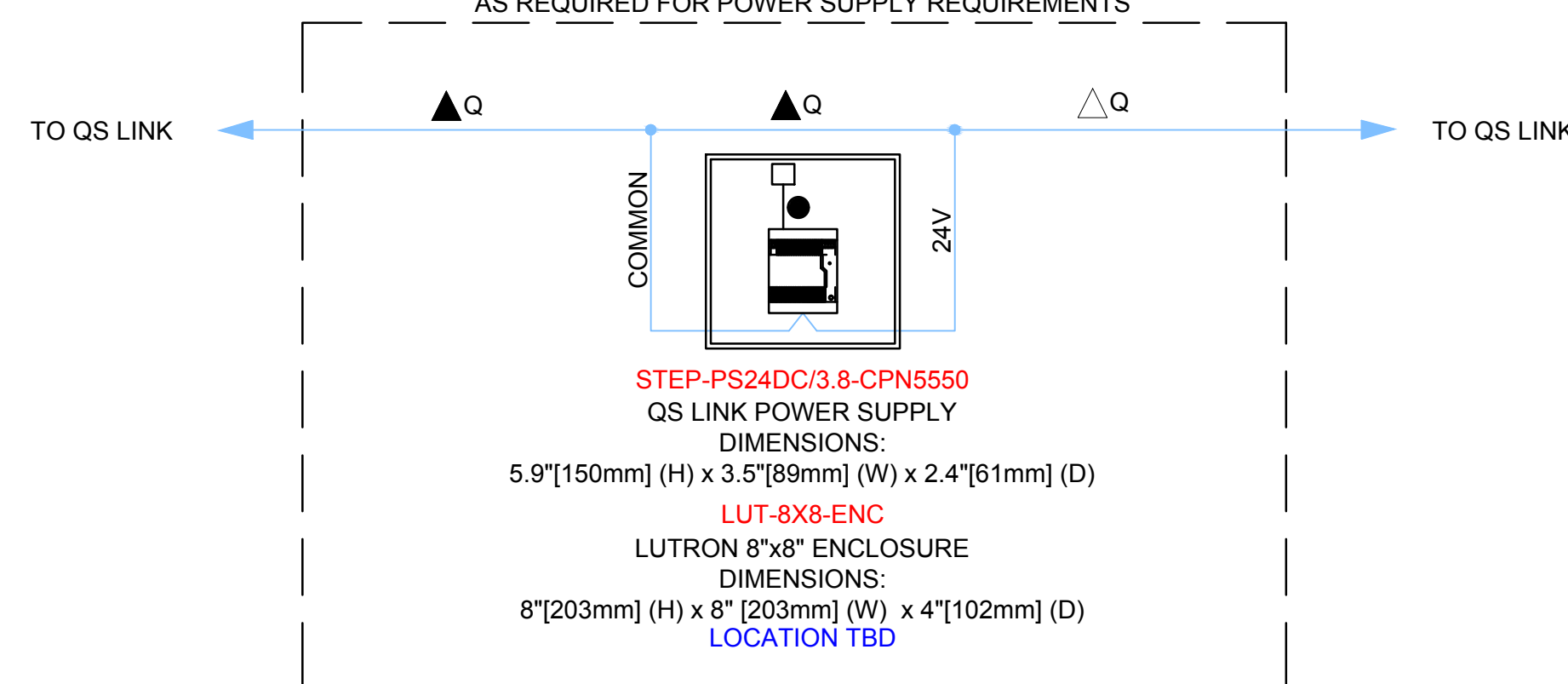
If using untested, non-Lutron LED drivers requiring 0-10V control, performance and compatibility cannot be guaranteed by Lutron. Products following the IEC Standard 60929 are more likely to provide acceptable performance results. Determination of result acceptability is up to the user's discretion.

If using untested, non-Lutron LED drivers requiring phase control, performance and compatibility cannot be guaranteed by Lutron. A-Series or ELV products providing high end and low end trim adjustments are more likely to provide acceptable performance results. Determination of result acceptability is up to the user's discretion.

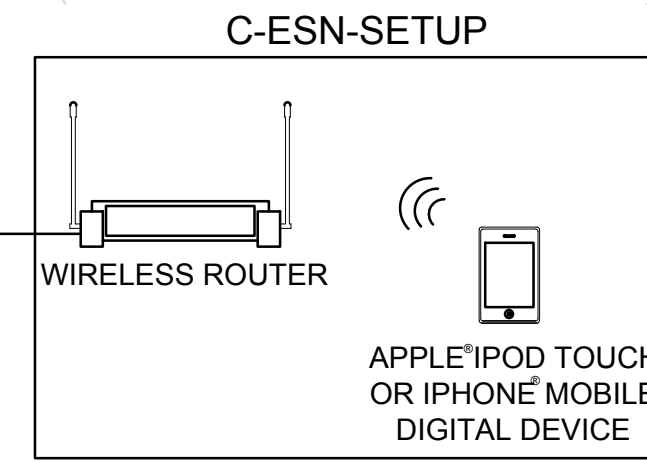
Concept Drawing Notes: Control system drawing is provided for conceptual purposes only and is not intended for construction. Exact equipment requirements, including locations and quantities, should be verified in accordance with the most up-to-date lighting/electrical reflected ceiling plans, lighting future schedules, panel schedules, control intent and specifications. Shade equipment should be verified in accordance with architectural plans, specifications and window schedules/details.



TYPICAL OF X AS REQUIRED FOR POWER SUPPLY REQUIREMENTS



(FOR US INSTALLATIONS ONLY) C-ESN-SETUP



TYPICAL ECOSYSTEM ESN WITH QS TIMECLOCK

LOCATION: TBD

CONCEPT DRAWING

NOT FOR CONSTRUCTION

Project Number:	#####
Drawn By:	XXX
Drawing Revision:	#
Drawing Date:	xx.xx.12
Sheet:	x of x