ORANGE COUNTY CONVENTION CENTER

ORANGE COUNTY MAYOR

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Orange County Convention Center

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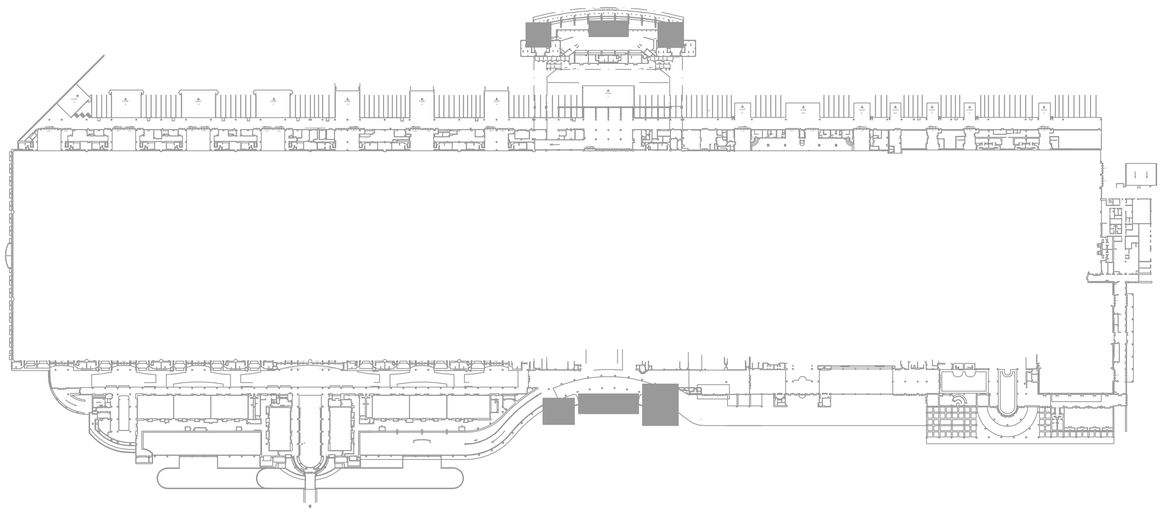
WEST BUILDING PHASE I RELAY CABINET REPLACEMENT



WEST BLDG

KEY PLAN
N.T.S.

MATERN PROFESSIONAL ENGINEERING, INC.
ENG. BUS. No. EB-0005096
CERT. OF AUTH. No. 5096
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Maitland, FL 32751-3331
PHONE (407) 740-5020
FAX (407) 740-0365

MPE PROJECT # 2014-028

BID DOCUMENTS

JULY 23, 2014

GENERAL NOTES

1. ALL 277V, 20A CIRCUIT HOMERUNS OVER 100 FT. SHALL BE #10 CU. MINIMUM, UNLESS OTHERWISE NOTED.
2. NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
3. COORDINATE EXACT LOCATION OF LIGHTING FIXTURES IN ALL MECH. ROOMS, AND SPACES WITH NO CEILING (EXPOSED STRUCTURE AREAS), SPACES, ETC., WITH DUCTWORK INSTALLER PRIOR TO ROUGH-IN. LOCATE BELOW DUCTWORK (8'-0" A.F.F. MINIMUM) CENTERED IN ROOM AS MUCH AS FEASIBLE.
4. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
5. READ SPECIFICATIONS.
6. WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT. THE ROUTINGS SHOWN ARE PROPOSED CONDUIT ROUTINGS. CONTRACTOR TO COORDINATE ALL ROUTING WITH OTHER TRADES PRIOR TO BID. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ROUTING OF CONDUIT PRIOR TO BID. CONTRACTOR IS RESPONSIBLE FOR RELOCATING CONDUIT FROM THE PROPOSED ROUTING SHOWN TO THE ROUTING REQUIRED TO FACILITATE INSTALLATION PER SPECIFICATIONS AND APPLICABLE CODES, COMPLETE WITH ALL COORDINATION AND EXISTING CONDITIONS TAKEN INTO ACCOUNT. CONTRACTOR IS RESPONSIBLE FOR ALL CEILING AND WALL REPAIR/REPLACEMENT AFTER ROUTING OF CONDUIT.
7. SPLICES IN POWER AND LIGHTING OUTLET BOXES SHALL BE KEPT TO A MINIMUM, PULL CONDUCTORS THROUGH TO DEVICES, EQUIPMENT CABINETS/PANELBOARDS. SPLICING IN WIREWAYS IS NOT PERMITTED UNLESS SPECIAL WRITTEN PERMISSION IS GRANTED BY A/E.
8. CONTRACTOR SHALL INCLUDE IN HIS BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE. CONTRACTOR SHALL COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS. LAMPS, BALLASTS AND OTHER MATERIALS SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES APPLICABLE AT TIME OF DISPOSAL. CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN CERTIFICATION OF ACCEPTED DISPOSAL.
9. EXISTING CONDITIONS AND UTILITIES INDICATED ARE TAKEN FROM EXISTING CONSTRUCTION DOCUMENTS, VARIOUS SURVEYS, AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND/OR BURIAL DEPTHS AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED A PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN ON PLANS OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK. THE CONTRACTOR SHALL LOCATE ALL UTILITIES (BOTH KNOWN AND UNKNOWN) IN AREA OF WORK PRIOR TO EXCAVATION WITH THE USE OF ELECTRONIC LOCATOR/TRACER DEVICES AND EQUIPMENT SUITABLE FOR SUCH USE. REFLECT LOCATED UTILITIES ON AS-BUILT DOCUMENTS.
11. REMOVE EXISTING POWER, LIGHTING, SYSTEMS, MATERIAL AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT.
12. REINSTALL ANY SUCH POWER, LIGHTING, SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE REQUIRED TO REMAIN ACTIVE FOR THE FACILITY TO BE FULLY FUNCTIONAL.
13. ALL EXISTING ELECTRICAL IS NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID, AND INCLUDE IN HIS BID THE REMOVAL OF ALL ELECTRICAL EQUIPMENT, WIRE, CONDUIT, DEVICES, FIXTURES, ETC. THAT IS NOT BEING REUSED, BACK TO ITS SOURCE.
14. ALL RECEPTACLES, DEVICES AND EQUIPMENT NOT SHOWN, AND IN AREAS OUTSIDE OF REMODELING SHALL REMAIN ACTIVE UNLESS OTHERWISE NOTED. FURNISH AND INSTALL ACCESSIBLE JUNCTION BOXES AND REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLES, DEVICES AND EQUIPMENT REMAINING.
15. ALL CONDUIT TO BE CONCEALED UNLESS IMPOSSIBLE DUE TO EXISTING CONDITIONS (I.E. EXPOSED CEILINGS, BUILDING EXTERIOR WALL RUNS, IMPOSSIBLE UNDERGROUND RUNS). CONCEAL ALL CONDUITS ABOVE CEILINGS OR IN WALL/COUNTERS.
16. FURNISH AND INSTALL JUNCTION BOX(S) ABOVE ACCESSIBLE CEILING WITH FLEXIBLE CONDUIT FLUSH/CONCEALED DOWN EXISTING WALL(S) TO NEW FLUSH WALL DEVICES. REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLE, DEVICES AND EQUIPMENT REMAINING. CUT AND PATCH WALL TO LIKE NEW CONDITION AS REQUIRED. (IF CONCEALING CONDUIT DOWN EXISTING WALL IS NOT FEASIBLE, EXPOSED WIREMOLD DROPPED DOWN WALL, UNLESS OTHERWISE NOTED BY SPECIFICATIONS, IS ACCEPTABLE. PAINT TO MATCH MOUNTING SURFACE.) METHOD OF ROUTING WIREMOLD SHALL BE SUBMITTED TO A/E FOR APPROVAL. A/E RESERVES THE RIGHT TO CONTROL SURFACE APPLICATIONS.
17. ELECTRICAL CONTRACTOR SHALL INCLUDE ALL EXISTING PANELBOARD SCHEDULES FOR PANELBOARDS RELATED/ASSOCIATED WITH OR WITHIN CONTRACT LIMITS WHETHER SHOWN ON PLANS OR NOT AS PART OF A COMPLETE AS-BUILT SET OF DRAWINGS. SCHEDULES SHALL SHOW FINAL CONFIGURATION, ETC. OF CIRCUITS, CIRCUIT BREAKERS, DIRECTORY, ETC.
18. ALL EXISTING BRANCH CIRCUITS AND FEEDERS (REMAINING ACTIVE) WHICH ARE CONNECTED TO EXISTING PANELBOARDS THAT ARE AFFECTED BY THIS CONTRACT, SHALL BE TRACED-OUT AND PROPERLY NOTED AND IDENTIFIED ON NEW PANEL DIRECTORIES.
19. ALL PANELS, CIRCUIT BREAKERS, JUNCTION BOXES, ETC. THAT ARE WITHIN AREA OF REMODEL SHALL BE PROPERLY IDENTIFIED AS PER SPECIFICATIONS.
20. ALL EXISTING CONDUIT, WIRE, FITTINGS, BOXES, ETC. REMAINING AND/OR UTILIZED WITHIN AREA OF REMODEL/RENOVATION MUST COMPLY WITH SPECIFICATIONS. ELECTRICAL COMPONENTS WHICH DO NOT COMPLY WITH SPECIFICATIONS, AND IS NOT IN COMPLIANCE WITH NATIONAL ELECTRICAL CODE AND LOCAL CODES SHALL BE REPLACED AND/OR REWORKED AT NO ADDITIONAL COST TO OWNER UNDER THIS CONTRACT (I.E. CONDUIT SIZING, ROUTING, SUPPORTS, ETC.).
21. PROVIDE NEW TYPED PANEL DIRECTORIES FOR ALL EXISTING AND NEW PANELBOARDS FOR PANELBOARDS ASSOCIATED WITH CONTRACT WHETHER SHOWN ON PLANS OR NOT REGARDLESS IF SCHEDULES/CIRCUITRY HAS BEEN CHANGED.
22. ALL EXISTING AND NEW CIRCUIT BREAKERS WITHIN EACH EXISTING PANELBOARD SHALL BE THE SAME MFG. TYPE, STYLE AND A.I.C. RATING OF EXISTING PANELBOARD REGARDLESS OF WHAT IS SHOWN ON PANEL SCHEDULE. FIELD VERIFY ALL EXISTING PANELBOARD(S) RELATED WITH CONTRACT AND REPLACE CIRCUIT BREAKERS AS NECESSARY TO COMPLY WITH THIS REQUIREMENT.
23. ALL CONCRETE, WALL PATCHING, CEILING REPAIR, WALL FINISHES, AND OTHER GENERAL WORK REQUIRED FOR INSTALLING ELECTRICAL SYSTEMS SHALL BE REPAIRED TO "LIKE NEW/ORIGINAL CONDITION." (COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BID.)
24. PAINT ALL EXPOSED CONDUIT, BOXES, ETC. TO MATCH WALL SURFACE. PAINT COLOR SHALL BE DARK IN COLOR AND MATCH EXISTING CEILING AND WALL COLORS. COORDINATE WITH OCCC STAFF PRIOR TO PAINTING TO OBTAIN FINAL APPROVAL.
25. ALL OPENINGS IN FIRE RATED WALLS AND FLOORS, ETC. MADE BY RENOVATION SHALL BE SEALED AND FIREPROOFED. PROVIDE AND INSTALL FIRESTOPPING ON ALL NEW OR EXISTING CONDUIT AND/OR CABLE THAT PENETRATES ANY FIRE RATED NEW OR EXISTING WALL IN ALL AREAS AFFECTED BY THIS PROJECT. VERIFY LOCATION OF FIRE RATED WALLS WITH ARCHITECTURAL PLANS PRIOR TO BID. FIRESTOPPING SYSTEM SHALL BE AS REQUIRED BY UL FOR RATING OF WALL AND CONDUIT/CABLE PENETRATION.
26. PROVIDE ALL ELECTRICAL REQUIRED TO REMOVE AND REPLACE CEILING LIGHT FIXTURES AS REQUIRED TO FACILITATE INSTALLATION OF NEW DUCTWORK OR FIRE PROTECTION SYSTEMS. COORDINATE WITH ALL TRADES AND CONTRACTOR PRIOR TO BID. LIGHT FIXTURES ARE TO BE REPLACED IN CONDITION TO MATCH EXISTING.
27. DASHED ITEMS INDICATE EXISTING TO REMAIN.
28. ALL ITEMS REMOVED AND NOT RE-USED SHALL BE IMMEDIATELY TURNED OVER TO OWNER AS THEY ARE MADE AVAILABLE BY RENOVATION. REMOVE ITEMS FROM JOB SITE AND DELIVER TO OWNERS STORAGE LOCATION(S) AS DIRECTED BY PROJECT MANAGER. DISCARD COMPLETE ITEMS WHICH OWNER ELECTS TO REFUSE.
29. WORK TO BE PERFORMED IN STRICT COMPLIANCE WITH ESTABLISHED WORK SCHEDULE BEING SET FORTH BY OWNER/TENANT. COORDINATE ALL WORK. THE CONTRACTOR SHALL FURNISH ADEQUATE FORCES, CONSTRUCTION PLANT, AND EQUIPMENT, AND SHALL WORK SUCH HOURS, INCLUDING NIGHT SHIFTS, OVERTIME OPERATIONS, SUNDAY, AND HOLIDAYS IN ACCORDANCE WITH THE OWNERS OPERATIONAL SCHEDULE. IF THE CONTRACTOR FALLS BEHIND PROGRESS REQUIRED IN THE OPERATIONAL SCHEDULE, THE CONTRACTOR SHALL TAKE SUCH STEPS AS MAY BE NECESSARY TO IMPROVE HIS PROGRESS, AND THE OWNER MAY REQUIRE HIM TO INCREASE THE NUMBER OF SHIFTS AND/OR OVERTIME OPERATIONS, DAY OF WORK AND/OR THE AMOUNT OF CONSTRUCTION PLANT, AT NO ADDITIONAL COST TO THE OWNER UNDER THIS CONTRACT. (IT SHALL BE UNDERSTOOD THAT SEVERAL BID PACKAGES MAY BE CONSTRUCTED BY VARIOUS CONTRACTOR/SUB-CONTRACTORS WITHIN THE SAME WORK SPACE SIMULTANEOUSLY.)
30. CONTRACTOR MAY REUSE EXISTING CONDUIT (MIN. OF 10' LENGTHS) AND ASSOCIATED FITTINGS, PULL BOXES, ETC., WHICH ARE IN "LIKE NEW CONDITION" AND WHICH MEET THE INTENT OF THE SPECIFICATIONS FOR NEW PRODUCTS. WHERE EXISTING RACEWAYS ARE REUSED, THE CONTRACTOR SHALL REMOVE EXISTING WIRING, PULL IN NEW WIRING, AND CONNECT TO NEW DEVICES AS SHOWN ON THE DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS. REUSE OF EXISTING DEVICES AND WIRING SHALL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED OTHERWISE. ALL EXISTING CONDUITS THAT ARE REUSED SHALL BE PERMANENTLY IDENTIFIED IN ACCORDANCE WITH THE SPECIFICATIONS.

SYMBOL LEGEND					
SYMBOL	DESCRIPTION	DESIGN SELECTION	APPROVED SUBSTITUTION	APPROVED SUBSTITUTION	REMARKS
	OUTLET BOX AND FLUIORESCENT FIXTURE IN COVE OR MILLWORK. COORDINATE WITH ARCHITECTURAL PLANS	SEE FIXTURE SCHEDULE			d
	CEILING OUTLET BOX AND FLUORESCENT FIXTURE	SEE FIXTURE SCHEDULE			d
	WALL OUTLET BOX AND HID, FLUORESCENT OR INCANDESCENT FIXTURE	SEE FIXTURE SCHEDULE			d
	WALL OUTLET BOX AND HID, FLUORESCENT OR INCANDESCENT FIXTURE ON EMERGENCY SYSTEM BRANCH CIRCUIT	SEE FIXTURE SCHEDULE			d
	120/208V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED	SQUARE "D"	G.E.	SIEMENS	i
	277/480V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED	SQUARE "D"	G.E.	SIEMENS	i
	LIGHTING CONTROL OR DIMMER PANEL – SURFACE MOUNTED				
T	TRANSFORMER	SQUARE "D"	G.E.	SIEMENS	i
R	RELAY, AS NOTED				
C	CONTROL AND/OR POWER CONNECTION ON EQUIPMENT				i
	DISCONNECT SWITCH, SIZE AS NOTED	SQUARE "D"	G.E.	SIEMENS	g, i
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. SLASH MARKS INDICATE NUMBER OF CONDUCTORS (GROUND WIRE NOT SHOWN). TWO CONDUCTORS PLUS GROUND REQUIRED (UNLESS OTHERWISE NOTED OR MARKED)				
	120V BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL.				
	HOME RUN WIRING. ONE CIRCUIT PER ARROW HEAD				

NOTES:

1) ALL DEVICES TO BE GREY WITH SMOOTH METAL #302 S.S. PLATES UNLESS OTHERWISE NOTED.
2) DASHED ITEM DENOTES "EXISTING".
3) "R" BY DEVICE DENOTES EXISTING TO BE REMOVED COMPLETELY.
4) "H" BY DEVICE DENOTES DEVICE TO BE MOUNTED HORIZONTALLY.
5) MOUNT SWITCHES AT 48" AFF TO TOP.
6) SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7) ALL ITEMS NOTED ON THE LEGENDS DO NOT NECESSARILY APPEAR ON PLANS.

REMARKS:

b) SUPPORT OUTLET BOX FROM STRUCTURE WITH (1) 3/8" ALL THREADS MINIMUM. BOXES LARGER THAN 25 SQUARE INCHES SHALL BE SUPPORTED WITH (2) 3/8" ALL THREADS MINIMUM.

d) JUNCTION/OUTLET BOX SHALL BE SIZED AS REQUIRED FOR CONDUCTOR/DEVICE FILL PER N.E.C.

g) PROVIDE KINDORF MTG. RACK FOR FREE STANDING APPLICATIONS. KINDORF SHALL BE PVC COATED FOR EXTERIOR APPLICATIONS. ALL CUT ENDS ARE TO BE SEALED.

h) WHEN SURFACE JUNCTION BOX SYMBOL IS COMBINED WITH DEVICE SYMBOL, PROVIDE APPROPRIATE SURFACE PLATE FOR OUTLET APPLICATION.

i) MAINTAIN WORKING CLEARANCES IN STRICT ACCORDANCE WITH N.E.C. COORDINATE EXACT LOCATION OF EQUIPMENT WITH ALL DISCIPLINES (I.E. STRUCTURAL, HVAC, PLUMBING, FIRE PROTECTION, KITCHEN, MILLWORK, ETC.) PRIOR TO ROUGH-IN TO MAINTAIN CLEARANCES.

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ENG. BUS. No. EB-0005096 CERT. OF AUTH. No. 5096

ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT

Revisions

No.	Date	Description

MPE PROJ#: 2014-028

Designed By:	CT
Drawn By:	AG/LM
Checked By:	CT
Issue Date:	JULY 23, 2014
Drawing Scale:	NONE

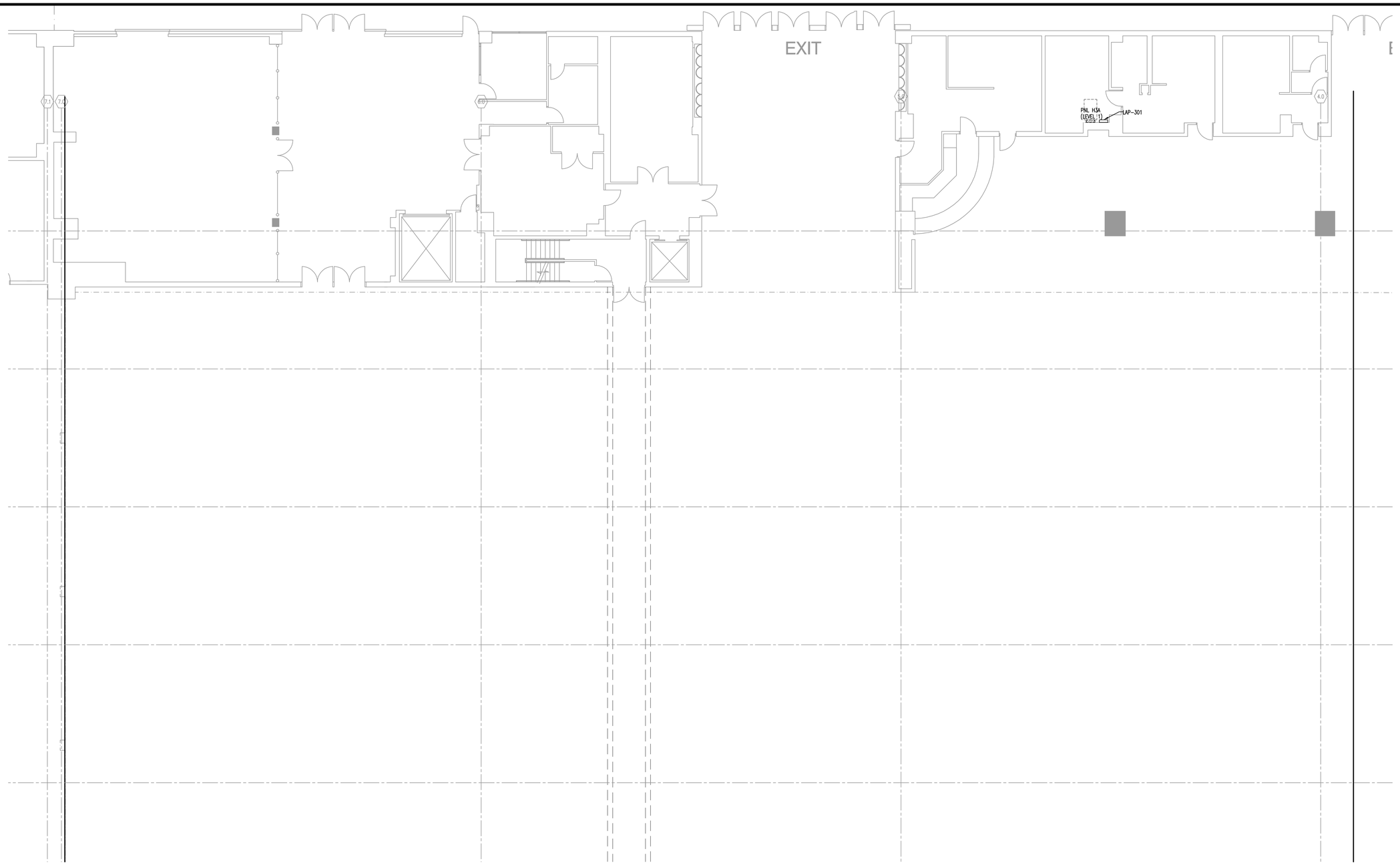
Drawing Title:

GENERAL NOTES AND LEGENDS

BID DOCUMENTS

Drawing No.

E0.0.1



PARTIAL LIGHTING PLAN - AREA 29 - LEVEL 1

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) ALL HEX NOTES NOT NECESSARILY USED ON ALL SHEETS.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
6) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
7) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

HEX NOTES

1. RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.
2. EXISTING RELAY PANEL DOES NOT HAVE AN EXISTING WIREWAY AS INDICATED ON DETAIL. REPLACE EXISTING CABINET WITH NEW WIREWAY AND RECONNECT AS INDICATED IN DETAIL.

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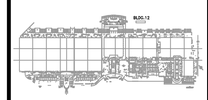
ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT



Key Plan-West

Revisions

No.	Date	Description

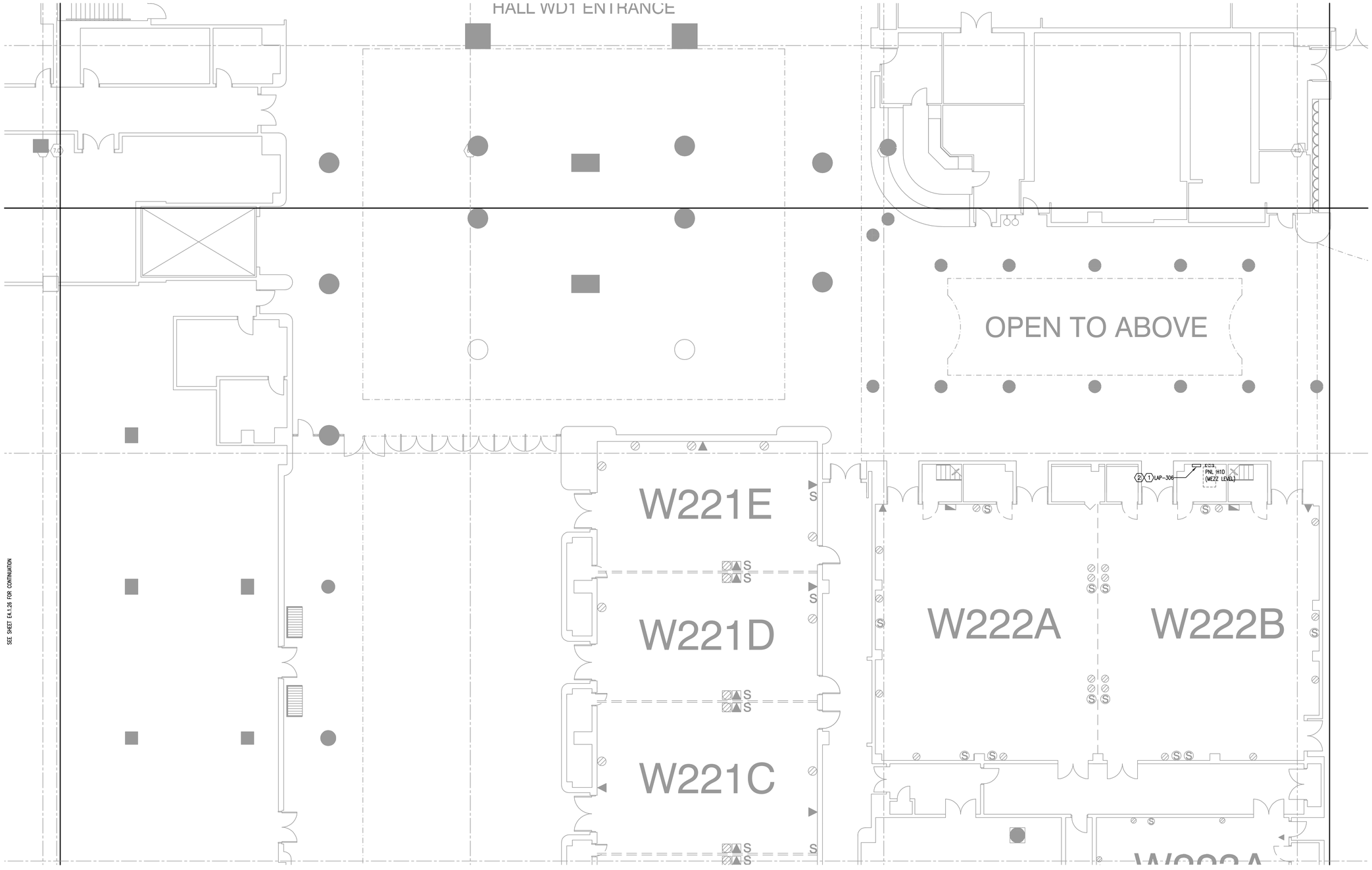
MPE PROJ#: 2014-028

Designed By:	LM
Drawn By:	AG/LM
Checked By:	CT
Issue Date:	JULY 23, 2014
Drawing Scale:	1/8"=1'-0"

Drawing Title:
PARTIAL LIGHTING PLAN - AREA 25 LEVEL 1

BID DOCUMENTS

Drawing No.
E4.1.25



PARTIAL LIGHTING PLAN - AREA 29 - MEZZANINE LEVEL

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) ALL HEX NOTES NOT NECESSARILY USED ON ALL SHEETS.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
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6) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
7) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

HEX NOTES

(1) RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.

(2) EXISTING RELAY PANEL DOES NOT HAVE AN EXISTING WIREWAY AS INDICATED ON DETAIL. REPLACE EXISTING CABINET WITH NEW WIREWAY AND RECONNECT AS INDICATED IN DETAIL.

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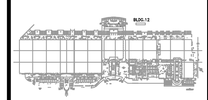

Key Plan-West

Revisions

No.	Date	Description

MPE PROJ#: 2014-028	
Designed By:	LM
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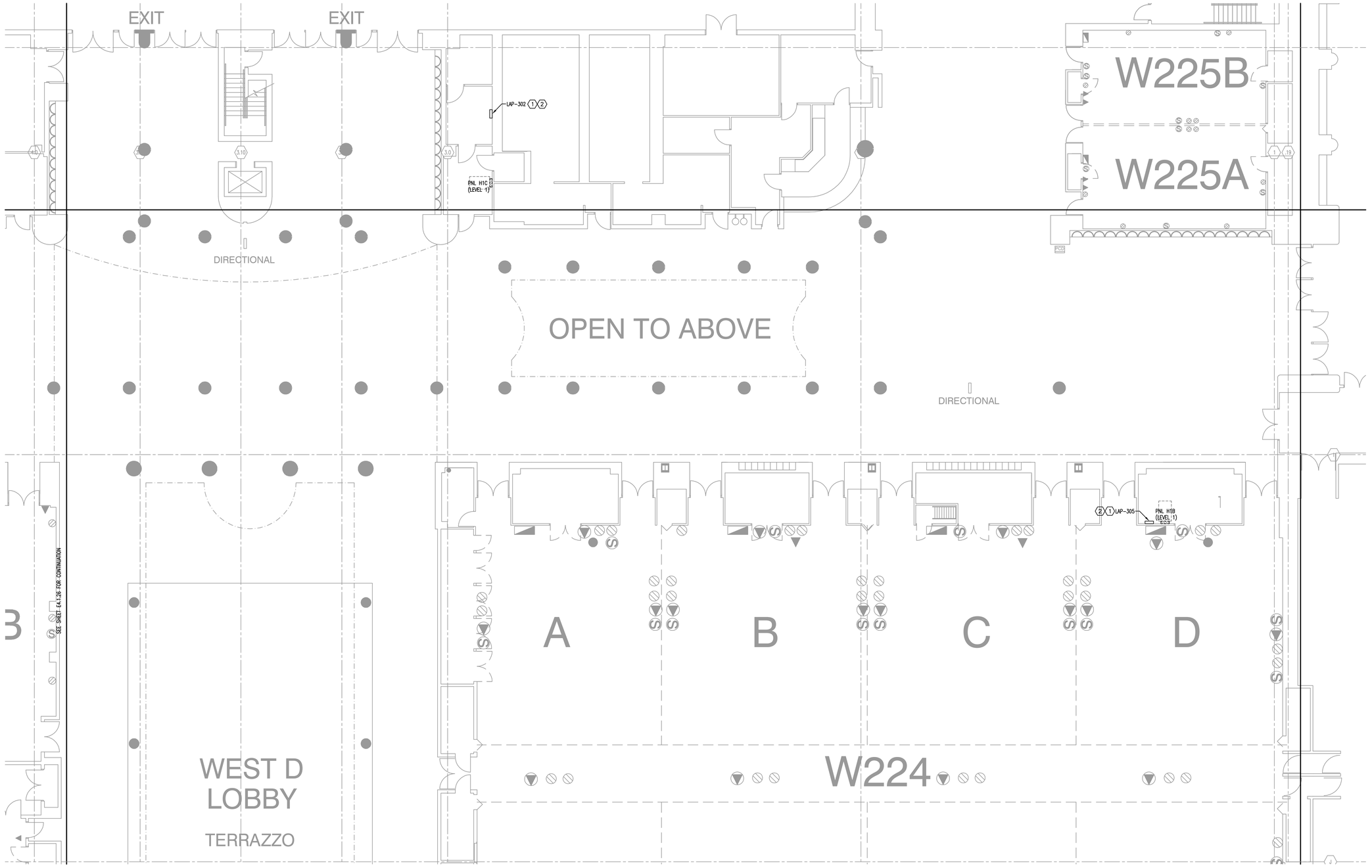
Checked By:	CT
Issue Date:	JULY 23, 2014
Drawing Scale:	1/8"=1'-0"

Drawing Title: PARTIAL LIGHTING PLAN - AREA 29 MEZZANINE LEVEL

BID DOCUMENTS

Drawing No.

E4.1.29M



PARTIAL SYSTEMS PLAN - AREA 30 - LEVEL 1

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) ALL HEX NOTES NOT NECESSARILY USED ON ALL SHEETS.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
6) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
7) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

HEX NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.

2 EXISTING RELAY PANEL DOES NOT HAVE AN EXISTING WIREWAY AS INDICATED ON DETAIL. REPLACE EXISTING CABINET WITH NEW WIREWAY AND RECONNECT AS INDICATED IN DETAIL.

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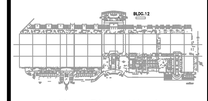

Key Plan-West
N.T.S.

Revisions

No.	Date	Description

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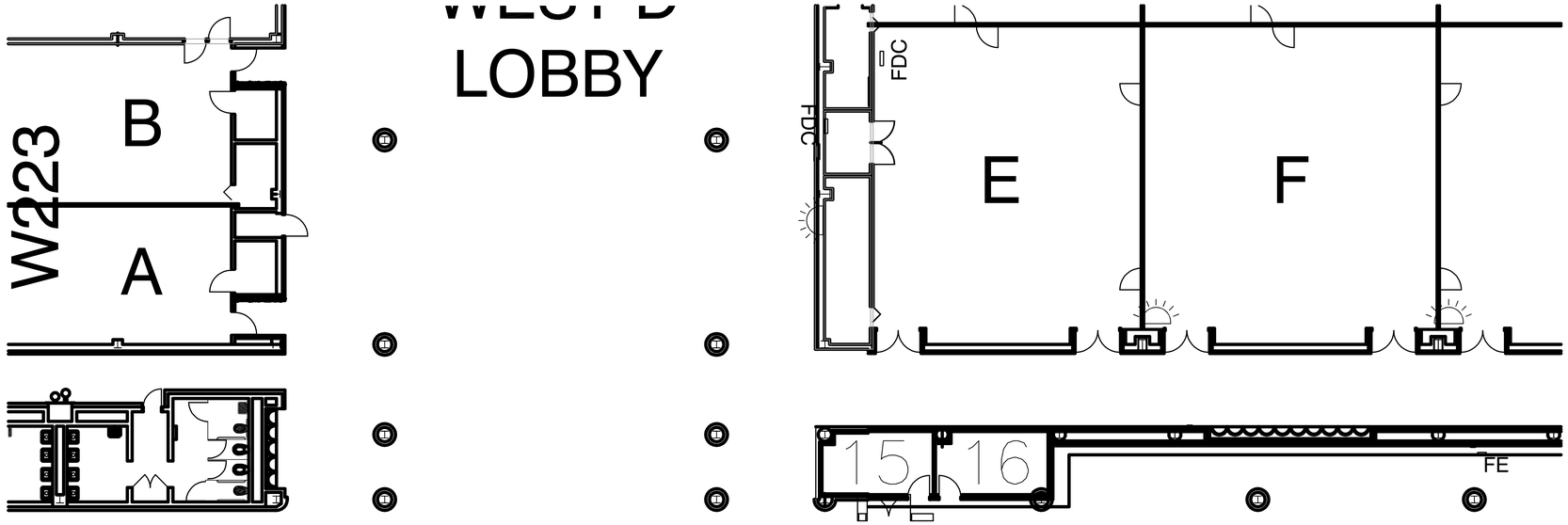
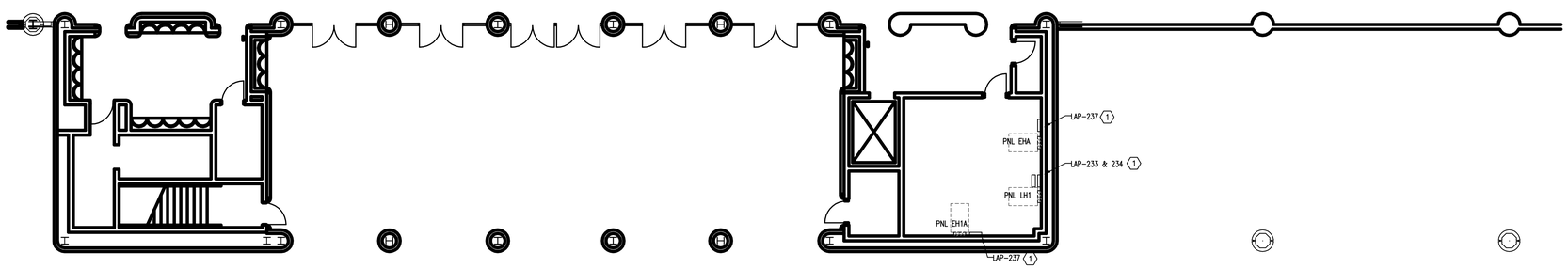
Drawing Title:
PARTIAL LIGHTING PLAN - AREA 30 LEVEL 1

BID DOCUMENTS

Drawing No.
E4.1.30





PARTIAL LIGHTING PLAN - AREA 31 - LEVEL 2

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) ALL HEX NOTES NOT NECESSARILY USED ON ALL SHEETS.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
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6) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
7) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

HEX NOTES

(1) RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.

(2) EXISTING RELAY PANEL DOES NOT HAVE AN EXISTING WIREWAY AS INDICATED ON DETAIL. REPLACE EXISTING CABINET WITH NEW WIREWAY AND RECONNECT AS INDICATED IN DETAIL.

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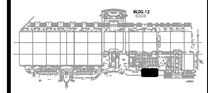
ENG. BUS. No. EB-0005096 CERT. OF AUTH. No. 5096

ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT



Key Plan–West

Revisions

No.	Date	Description

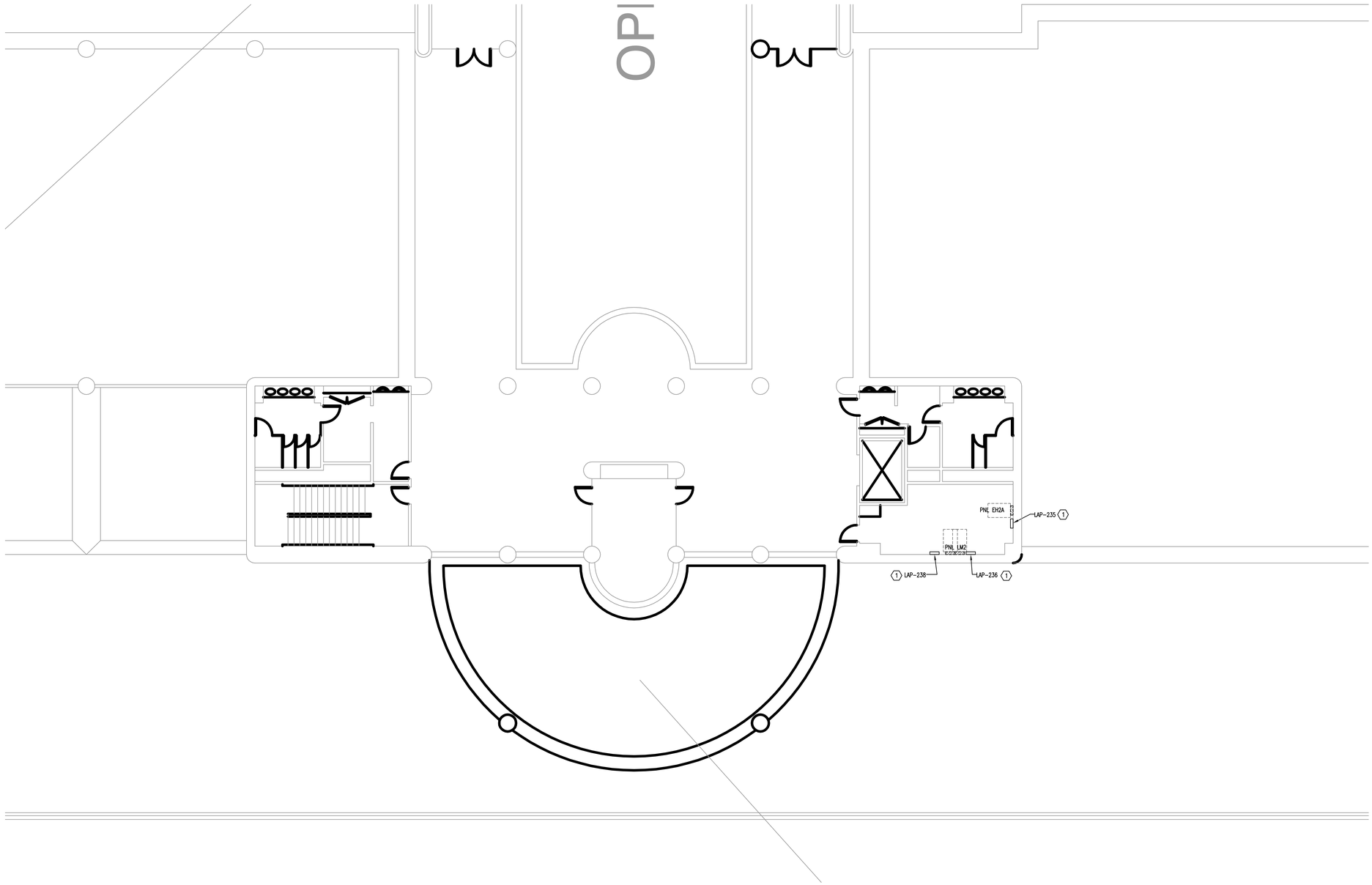
MPE PROJ#: 2014-028
Designed By: LM
Drawn By: AG/LM
Checked By: CT
Issue Date: JULY 23, 2014
Drawing Scale: 1/8"=1'-0"

Drawing Title: PARTIAL LIGHTING PLAN - AREA 31 LEVEL 2

BID DOCUMENTS

Drawing No.

E4.2.31



PARTIAL LIGHTING PLAN - AREA 31 - LEVEL 3

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) ALL HEX NOTES NOT NECESSARILY USED ON ALL SHEETS.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
6) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
7) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

HEX NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.

2 EXISTING RELAY PANEL DOES NOT HAVE AN EXISTING WIREWAY AS INDICATED ON DETAIL. REPLACE EXISTING CABINET WITH NEW WIREWAY AND RECONNECT AS INDICATED IN DETAIL.

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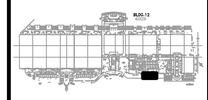


Key Plan-West
N.T.S.

Revisions

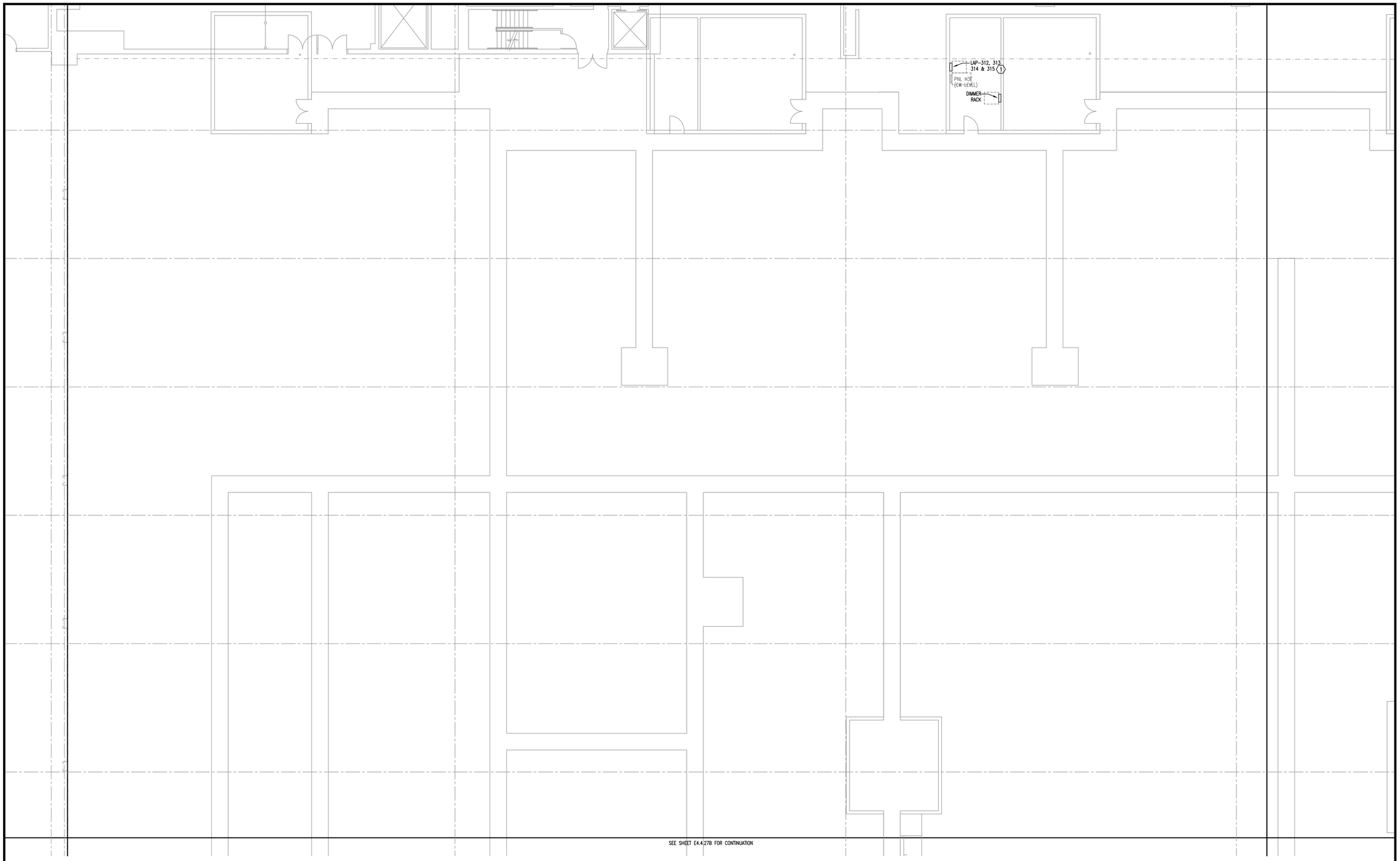
No.	Date	Description

MPE PROJ#: 2014-028
Designed By: LM
Drawn By: AG/LM
Checked By: CT
Issue Date: JULY 23, 2014
Drawing Scale: 1/8"=1'-0"

Drawing Title:
PARTIAL LIGHTING PLAN - AREA 31 LEVEL 3

BID DOCUMENTS

Drawing No.
E4.3.31



SEE SHEET E4.4.27B FOR CONTINUATION

PARTIAL LIGHTING PLAN - AREA 25 CATWALK

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.

2) REFER TO SPECIFICATIONS.

3) NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.

4) EXISTING CONDUIT ROUTING IS UNKNOWN.

5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.

6) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. (ABOVE NEW CEILINGS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

7) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.

8) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.

9) CONTRACTOR SHALL SUPPORT ALL EXISTING CONDUITS AND CABLES (ABOVE NEW CEILINGS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

10) EXISTING FIXTURE LOCATION AND COUNTS BASED ON AS-BUILT DRAWINGS AND SITE VISITS. CONTRACTOR TO VERIFY EXACT FIXTURE COUNT AND LOCATIONS PRIOR TO FIXTURE PURCHASE.

11) SLAVE LAMPS/BALLASTS PER FLORIDA ENERGY EFFICIENCY CODE, BY USING 2, 3, OR 4 LAMP BALLASTS.

12) CONTRACTOR SHALL MOUNT LIGHTS IN OPTIMUM LOCATIONS TO AVOID OBSTRUCTIONS, MECHANICAL DEVICES, STRUCTURE, ETC.

HEX NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAILS ON E9.0.1 FOR REPLACEMENTS.

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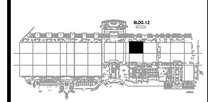


Key Plan-West
N.T.S.

Revisions

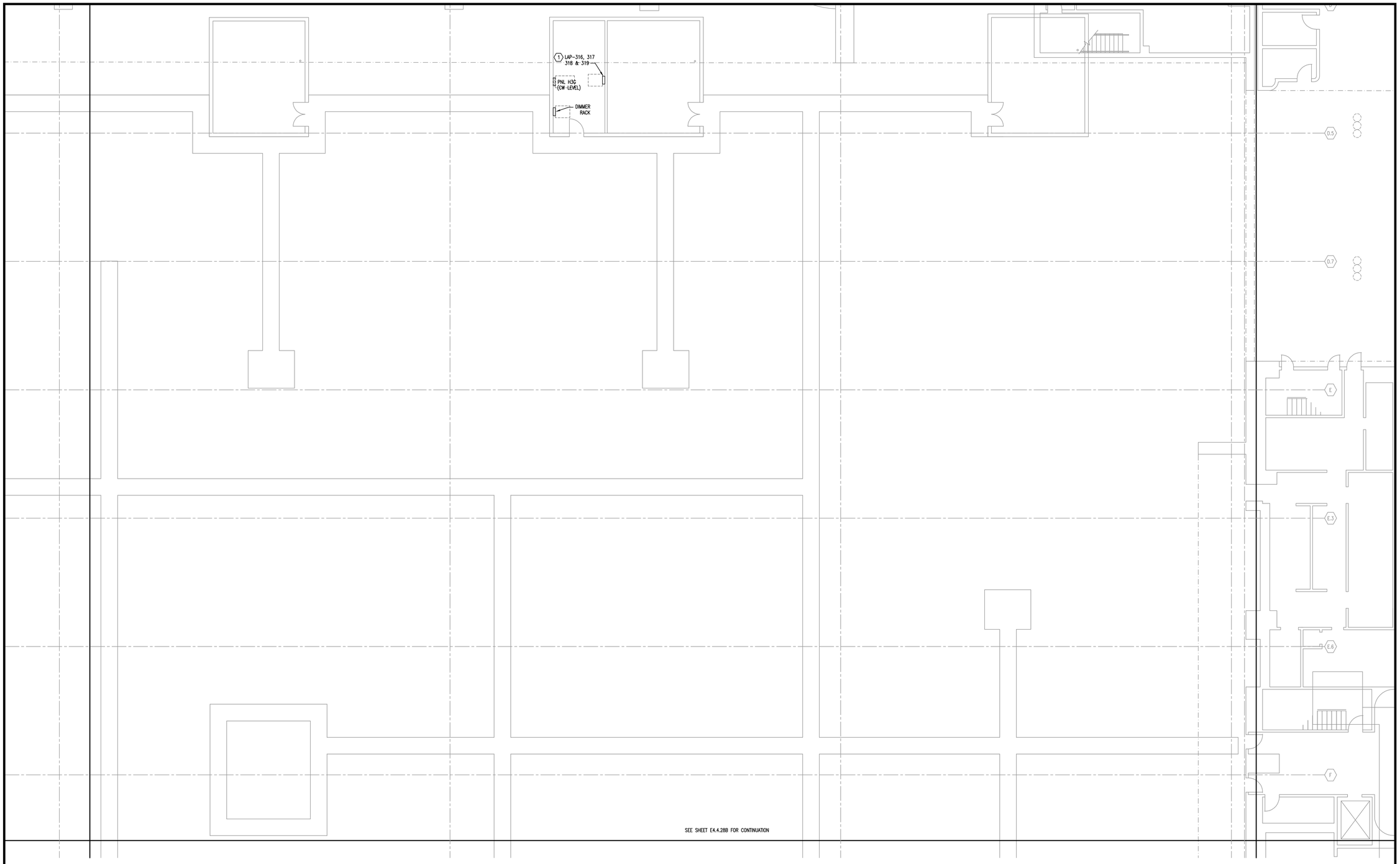
No.	Date	Description

MPE PROJ#: 2014-028	
Designed By:	LM
Drawn By:	AG/LM
Checked By:	CT
Issue Date:	JULY 23, 2014
Drawing Scale:	1/8"=1'-0"

Drawing Title:
PARTIAL LIGHTING PLAN - AREA 25 CATWALK

BID DOCUMENTS

Drawing No.
E4.4.25



PARTIAL LIGHTING PLAN - AREA 26 CATWALK

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
6) CONTRACTOR SHALL IDENTIFY ALL EXISTING CONDUITS, JUNCTION BOXES, ETC. (ABOVE NEW CEILINGS) IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
7) RELOCATE/REWORK EXISTING ELECTRICAL AS REQUIRED TO FACILITATE RENOVATION.
8) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING FIXTURES AND/OR DEVICES REMAINING.
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10) EXISTING FIXTURE LOCATION AND COUNTS BASED ON AS-BUILT DRAWINGS AND SITE VISITS. CONTRACTOR TO VERIFY EXACT FIXTURE COUNT AND LOCATIONS PRIOR TO FIXTURE PURCHASE.
11) SLAVE LAMPS/BALLASTS PER FLORIDA ENERGY EFFICIENCY CODE, BY USING 2, 3, OR 4 LAMP BALLASTS.
12) CONTRACTOR SHALL MOUNT LIGHTS IN OPTIMUM LOCATIONS TO AVOID OBSTRUCTIONS, MECHANICAL DEVICES, STRUCTURE, ETC.

KEY NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAIL ON E9.0.1 FOR REPLACEMENTS.

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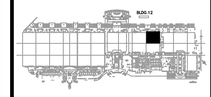
ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT



Key Plan-West

Revisions

No.	Date	Description

MPE PROJ#: 2014-028

Designed By:	XX
Drawn By:	AG/
Checked By:	XX
Issue Date:	JULY 23, 2014
Drawing Scale:	1/8"=1'-0"

Drawing Title: PARTIAL LIGHTING PLAN - AREA 26 CATWALK

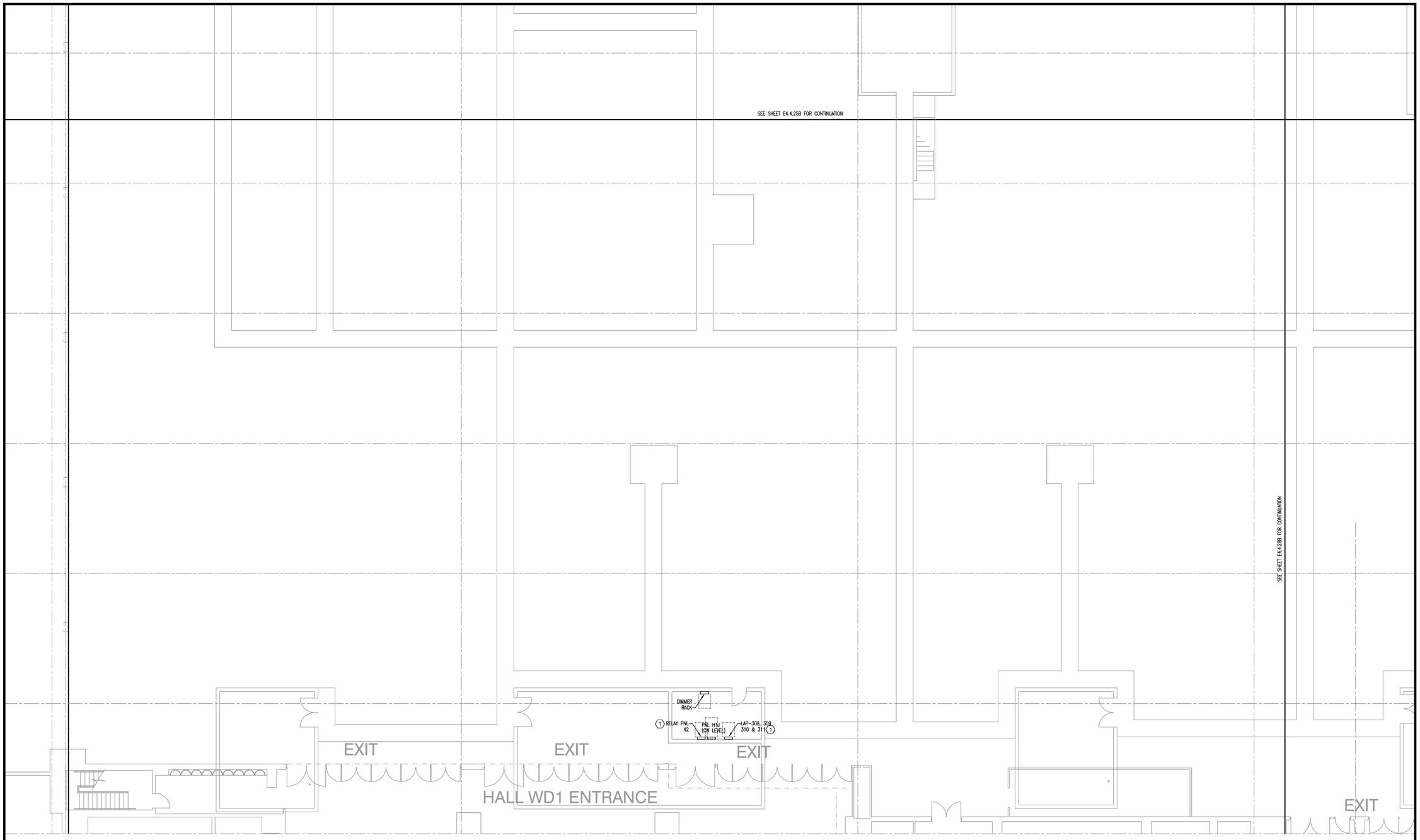
BID DOCUMENTS

Drawing No.

E4.4.26

SEE SHEET E4.4.25B FOR CONTINUATION

SEE SHEET E4.4.26B FOR CONTINUATION



PARTIAL LIGHTING PLAN - AREA 27 CATWALK

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
5) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
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11) SLAVE LAMPS/BALLASTS PER FLORIDA ENERGY EFFICIENCY CODE, BY USING 2, 3, OR 4 LAMP BALLASTS.
12) CONTRACTOR SHALL MOUNT LIGHTS IN OPTIMUM LOCATIONS TO AVOID OBSTRUCTIONS, MECHANICAL DEVICES, STRUCTURE, ETC.

KEY NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAIL ON E9.0.1 FOR REPLACEMENTS.

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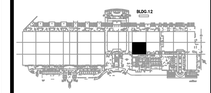

Key Plan-West

Revisions

No.	Date	Description

MPE PROJ#: 2014-028

Designed By:	CT
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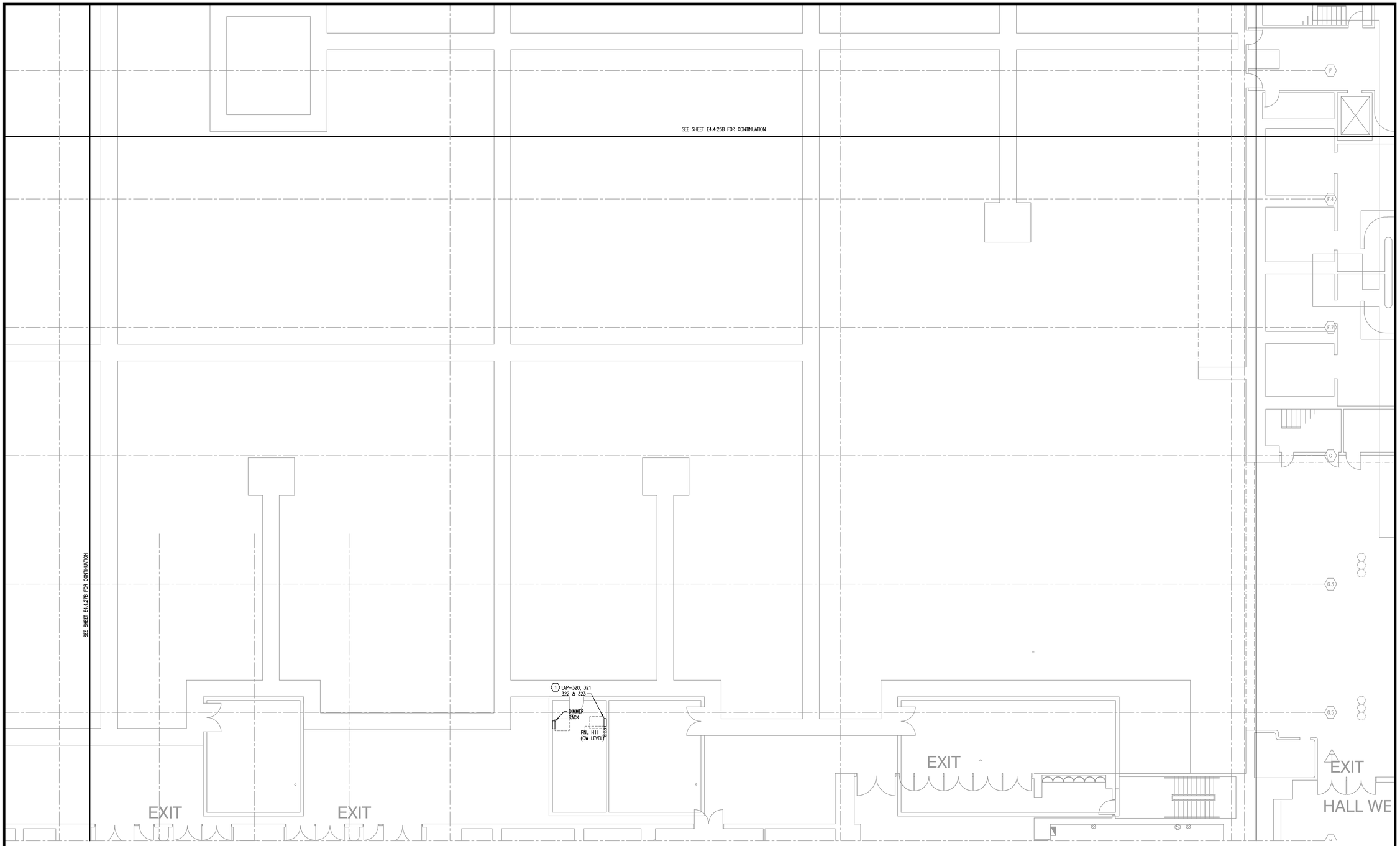
Issue Date:	JULY 23, 2014
Drawing Scale:	1/8"=1'-0"

Drawing Title: PARTIAL LIGHTING PLAN - AREA 27 CATWALK

BID DOCUMENTS

Drawing No.

E4.4.27



PARTIAL LIGHTING PLAN - AREA 28 CATWALK

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
2) REFER TO SPECIFICATIONS.
3) NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
4) EXISTING CONDUIT ROUTING IS UNKNOWN.
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12) CONTRACTOR SHALL MOUNT LIGHTS IN OPTIMUM LOCATIONS TO AVOID OBSTRUCTIONS, MECHANICAL DEVICES, STRUCTURE, ETC.

HEX NOTES

1 RELAY CABINET TO BE REPLACED. REFER TO DETAIL E9.0.1 FOR REPLACEMENTS.

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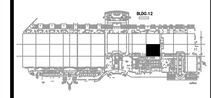
ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT



Key Plan-West

Revisions

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Drawing Scale:	1/8"=1'-0"

Drawing Title: PARTIAL LIGHTING PLAN - AREA 28 CATWALK

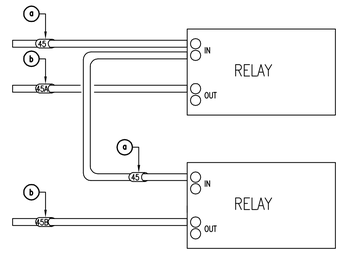
BID DOCUMENTS

Drawing No.

E4.4.28

EXISTING DATALINE ROUTING:

PHASE III CONTROL ROOM VIA TUNNEL TO ROOM 222
ROOM 222 TO SE ELECTRICAL ROOM. SEE AREA 27 CATWALK.
AREA 25 TO NE ELECTRICAL ROOM. SEE AREA 28 CATWALK.
AREA 28 CATWALK TO NW ELECTRICAL ROOM. SEE AREA 26 CATWALK.
AREA 26 CATWALK TO SW ELECTRICAL ROOM. SEE AREA 25 CATWALK.
AREA 25 CATWALK TO LEVEL 1 AREA 25.



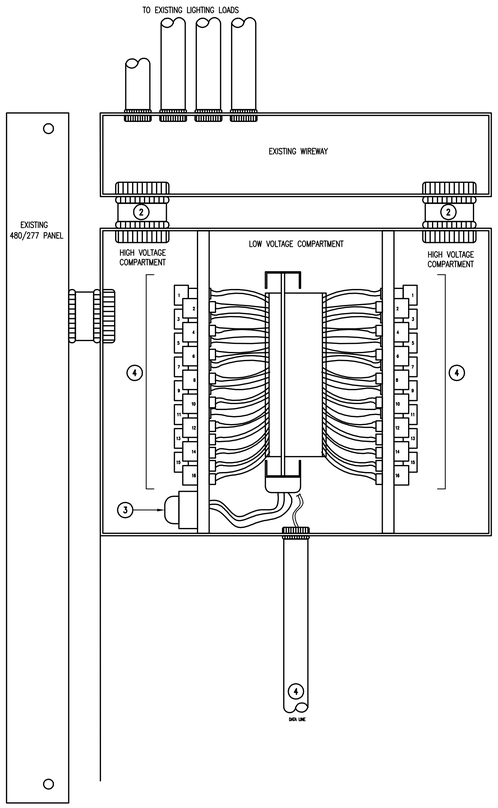
CIRCLE NOTES (EXISTING RELAY PANEL NOMENCLATURE):

(a) NUMBER INDICATES CIRCUIT# IN ADJACENT PANEL.

(b) NUMBER INDICATES CIRCUIT#, LETTER INDICATES SWITCH LEG # IN ASSENDING ORDER.

EXISTING RELAY PANEL NOMENCLATURE

N.T.S



GENERAL NOTES (EXISTING RELAY PANEL):

1. DETAIL INDICATES TYPICAL MINIMAL REQUIREMENTS AND DOES INDICATE EXACT REQUIREMENTS OF EACH RELAY PANEL. EACH RELAY PANEL REPLACEMENT SHALL VARIED TO MATCH EXACT EXISTING FIELD CONDITIONS.
2. PANEL ADDRESS SHALL BE NOTED AND PHOTOGRAPHED TO VERIFY NEW PANEL HAS EXACT SAME ADDRESS.
3. ALL WORK SHALL BE COORDINATED WITH GREG CYR AND ORANGE COUNTY PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK IN THAT AREA. ALL LIGHTS MUST BE FULLY FUNCTIONING WHEN EC LEAVES SITE FOR THE DAY.
4. ALL RELAYS SHALL KEEP SAME NUMBER AS PREVIOUS "LAP" PANEL. WHERE DUPLICATE NUMBERS EXIST NOTIFY ORANGE COUNTY CONVENTION CENTER IMMEDIATELY.

CIRCLE NOTES (EXISTING RELAY PANEL):

(1) REMOVE EXISTING FEEDER CIRCUITS AND JUMPERS BACK TO BREADER FEEDING. TAKE PHOTOS AND NOTE WHICH CIRCUITS FEEDS EACH RELAY.

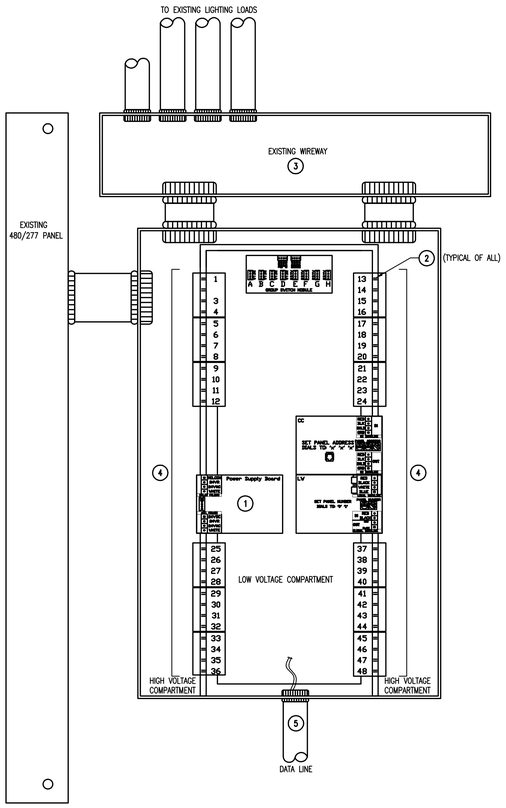
(2) REMOVE EXISITNG NIPPLES.

EXISTING POWER SUPPLY. TAKE PHOTOS AND NORE WHICH CIRCUIT IS CURRENTLY FEEDING POWER SUPPLY. REMOVE EXISTING FEEDERS BACK TO PANEL.

(4) EXISTING DATALINE AND CONDUIT. CONDUIT SHALL BE SHORTENED/LENGTHENED TO MATCH NEW DIMENSION OF NEW PANEL. DATA LINE SHALL BE REMOVED BACK TO NEXT UPSTREAM/DOWN STREAM PANEL.

EXISTING RELAY PANEL (TYPICAL)

N.T.S



GENERAL NOTES (REPLACEMENT RELAY PANEL):

1. DETAIL INDICATES TYPICAL MINIMAL REQUIREMENTS AND DOES INDICATE EXACT REQUIREMENTS OF EACH RELAY PANEL. EACH RELAY PANEL REPLACEMENT SHALL VARIED TO MATCH EXACT EXISTING FIELD CONDITIONS.
2. PANEL ADDRESS SHALL BE SET TO MATCH EXISTING PANEL SCHEDULE BEING REMOVED.
3. ALL WORK SHALL BE COORDINATED WITH GREG CYR AND ORANGE COUNTY PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK IN THAT AREA. ALL LIGHTS MUST BE FULLY FUNCTIONING WHEN EC LEAVES SITE FOR THE DAY.
4. ALL RELAYS SHALL KEEP SAME NUMBER AS PREVIOUS "LAP" PANEL. WHERE DUPLICATE NUMBERS EXIST NOTIFY ORANGE COUNTY CONVENTION CENTER IMMEDIATELY.
5. PROVIDE ENGRAVED PHENOLIC LABEL AT EACH NEW RELAY PANEL WITH NEW STATING "LAP" AND CORRESPONDING NUMBER. LABELS SHALL BE BLACK WITH WHITE LETTERING.
6. WIRING SHALL BE IDENTIFIED AS INDICATED BY EXISTING PANEL NOMENCLATURE DETAIL.

CIRCLE NOTES (REPLACEMENT RELAY PANEL):

(1) CONNECT NEW POWER SUPPLY TO CIRCUIT PREVIOUSLY FEEDING OLD POWER SUPPLY. PROVIDE NEW #12GA CU PHASE CONDUCTORS AND GROUND.

(2) NEW 30A, 14K SSCR LATCHING RELAYS. RATED FOR A MINIMUM OF 300,000 CYCLES.

(3) EXISTING WIREWAY TO BE REUSED, UNLESS OTHERWISE NOTED. PROVIDE NEW NIPPLES TO NEW RELAY PANEL ENCLOSURE. WHERE EXISTING LOCATIONS DO NOT MATCH PROVIDE COVERS/CAPS. PROVIDE NEW COVERS AND REPLACE MISSING SCREWS AS REQUIRED.

(4) PROVIDE NEW FEEDER CIRCUITS AND JUMPSER FROM BREAKER TO NEW RELAY. PROVIDE WIRE/CIRCUIT MARKERS TO MATCH EXISTING NOMENCLAUTRE EXACTLY. WHERE PHYSICAL SWITCH LEGS DO NO REACH NEW RELAY LOCATION POSITION EC SHALL PROVIDE EXTENTSION FROM WITHIN THE WIREWAY TO THE NEW RELAY. NO SPLICES SHALL BE MADE WITHIN RELAY ENCLOSURE.

(5) MODIFY EXISTING DATALINE CONDUIT TO NEW ENCLOSURES. PROVIDE INSULATED THROAT BUSINGS. PULL NEW DATALINE FROM NEXT UPSTREAM/DOWNSTREAM DEVICES. REFER TO EXISTING DATALINE ROUTING.

REPLACEMENT RELAY PANEL (TYPICAL)

N.T.S

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ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT

Revisions

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MPE PROJ#: 2014-028	
Designed By:	CT
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Issue Date:	JULY 23, 2014
Drawing Scale:	NONE

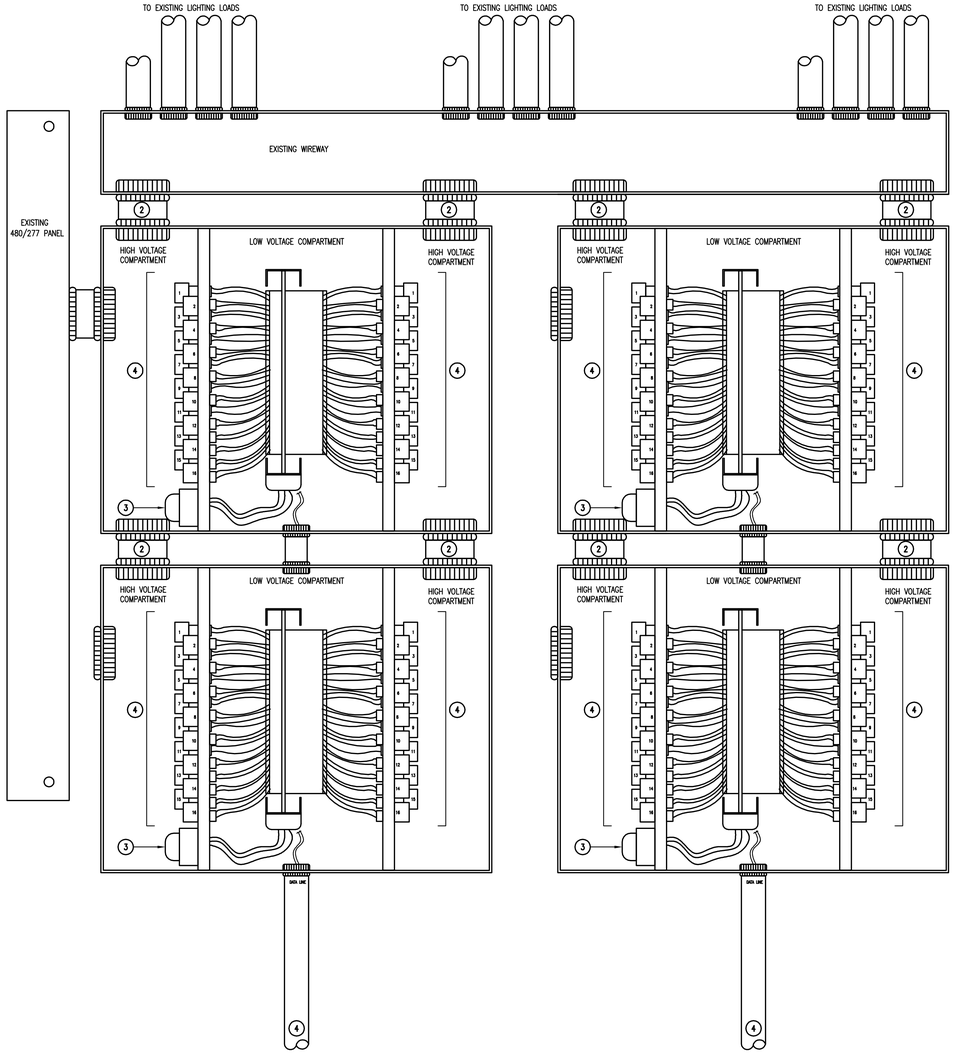
Drawing Title:

DETAILS

BID DOCUMENTS

Drawing No.

E9.0.1



GENERAL NOTES (EXISTING RELAY PANEL):

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3. ALL WORK SHALL BE COORDINATED WITH GREG CYR AND ORANGE COUNTY PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK IN THAT AREA. ALL LIGHTS MUST BE FULLY FUNCTIONING WHEN EC LEAVES SITE FOR THE DAY.
4. ALL RELAYS SHALL KEEP SAME NUMBER AS PREVIOUS "LAP" PANEL. WHERE DUPLICATE NUMBERS EXIST NOTIFY ORANGE COUNTY CONVENTION CENTER IMMEDIATELY.

CIRCLE NOTES (EXISTING RELAY PANEL):

(1) REMOVE EXISTING FEEDER CIRCUITS AND JUMPERS BACK TO BREADER FEEDING. TAKE PHOTOS AND NOTE WHICH CIRCUITS FEEDS EACH RELAY.

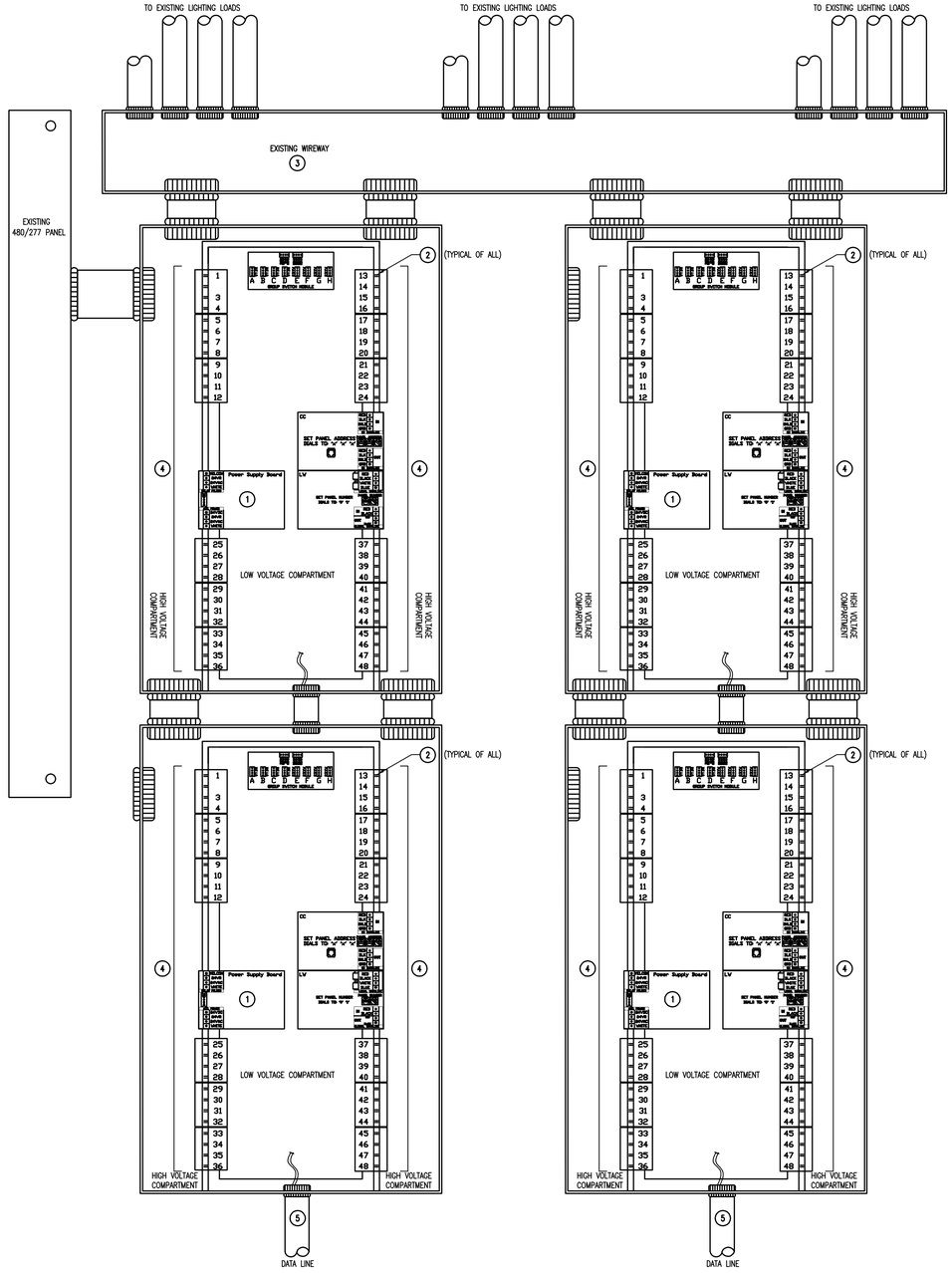
(2) REMOVE EXISTING NIPPLES.

EXISTING POWER SUPPLY. TAKE PHOTOS AND NORE WHICH CIRCUIT IS CURRENTLY FEEDING POWER SUPPLY. REMOVE EXISTING FEEDERS BACK TO PANEL.

(4) EXISTING DATALINE AND CONDUIT. CONDUIT SHALL BE SHORTENED/LENGTHENED TO MATCH NEW DIMENSION OF NEW PANEL. DATA LINE SHALL BE REMOVED BACK TO NEXT UPSTREAM/DOWN STREAM PANEL.

EXISTING RELAY PANEL (TYPICAL)

N.T.S



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2. PANEL ADDRESS SHALL BE SET TO MATCH EXISTING PANEL SCHEDULE BEING REMOVED.
3. ALL WORK SHALL BE COORDINATED WITH GREG CYR AND ORANGE COUNTY PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK IN THAT AREA. ALL LIGHTS MUST BE FULLY FUNCTIONING WHEN EC LEAVES SITE FOR THE DAY.
4. ALL RELAYS SHALL KEEP SAME NUMBER AS PREVIOUS "LAP" PANEL. WHERE DUPLICATE NUMBERS EXIST NOTIFY ORANGE COUNTY CONVENTION CENTER IMMEDIATELY.
5. PROVIDE ENGRAVED PHENOLIC LABEL AT EACH NEW RELAY PANEL WITH NEW STATING "LAP" AND CORRESPONDING NUMBER. LABELS SHALL BE BLACK WITH WHITE LETTERING.
6. WIRING SHALL BE IDENTIFIED AS INDICATED BY EXISTING PANEL NOMENCLATURE DETAIL.

CIRCLE NOTES (REPLACEMENT RELAY PANEL):

(1) CONNECT NEW POWER SUPPLY TO CIRCUIT PREVIOUSLY FEEDING OLD POWER SUPPLY. PROVIDE NEW #12GA CU PHASE CONDUCTORS AND GROUND.

(2) NEW 30A, 14K SSCR LATCHING RELAYS. RATED FOR A MINIMUM OF 300,000 CYCLES.

(3) EXISTING WIREWAY TO BE REUSED, UNLESS OTHERWISE NOTED. PROVIDE NEW NIPPLES TO NEW RELAY PANEL ENCLOSURE. WHERE EXISTING LOCATIONS DO NOT MATCH PROVIDE COVERS/CAPS. PROVIDE NEW COVERS AND REPLACE MISSING SCREWS AS REQUIRED.

(4) PROVIDE NEW FEEDER CIRCUITS AND JUMPSER FROM BREAKER TO NEW RELAY. PROVIDE WIRE/CIRCUIT MARKERS TO MATCH EXISTING NOMENCLAUTRE EXACTLY. WHERE PHYSICAL SWITCH LEGS DO NO REACH NEW RELAY LOCATION POSITION EC SHALL PROVIDE EXTENTSION FROM WITHIN THE WIREWAY TO THE NEW RELAY. NO SPLICES SHALL BE MADE WITHIN RELAY ENCLOSURE.

(5) MODIFY EXISTING DATALINE CONDUIT TO NEW ENCLOSURES. PROVIDE INSULATED THROAT BUSINGS. PULL NEW DATALINE FROM NEXT UPSTREAM/DOWNSTREAM DEVICES. REFER TO EXISTING DATALINE ROUTING ON SHEET E9.0.1.

REPLACEMENT RELAY PANEL (TYPICAL)

N.T.S

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ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT

Revisions

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DETAILS

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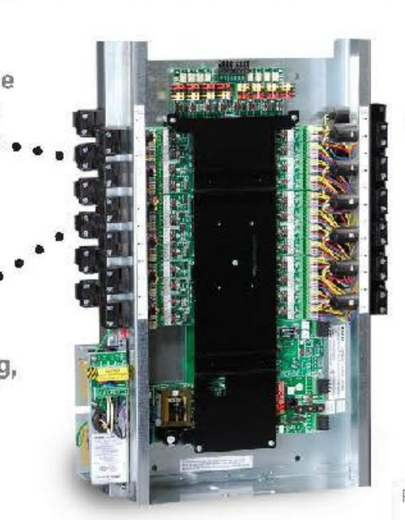
Drawing No.

E9.0.2

LIGHTING CONTROL PANEL SYSTEMS | System & Enclosures

LI Complete Control Level Interior
(LIC8, LIC24, LIC48, LICA8, LICA24, LICA48)



PROJECT

LOCATION/TYPE

Product Overview

Description

The WattStopper Lighting Integrator Complete Control (LIC) system is a full featured networked control system that provides the maximum flexibility for lighting control by providing both panel based and distributed load control options. A digital communication bus allows user programming generated at the WinControl workstation to be transferred to the panels where it runs autonomously. Once loaded into the panels, the lighting automation features operate without the need for an online PC. This distributed processing capability ensures a high degree of reliability. LIC incorporates all the base features of the Lighting Integrator hardware platform including the HDR mechanically latching, heavy duty relay.

LICA panels, with local dataline support, provide local Dataline Switch functionality.

Operation

Each LIC panel stores the user generated programming in non volatile memory housed within the Complete Control intelligence card. This controller monitors all inputs and uses a unique priority array based logic engine to generate the appropriate load response (relay control) based on simple or complex combinations of input triggers that can include schedules, override switches, occupancy sensors, photocells and signals from other building systems.

LIC features a library of scenario based control schemes that provide powerful control options without the complexity of low level user programming. These control scenarios include provisions for common area logic with egress, cleaning crew overrides, load shed, force on, force off, blink warn, and after hour time delay.

Features

- Network up to 500 panels via open topology digital data bus
- Create user programming offline using WinControl software and transfer to panels
- Import site documentation from WinControl Designer project design and documentation software
- Programmable group codes with scenario based logic provide system-wide control
- Powerful data logging feature with manual and automatic log transfer to PC
- Option for seamless building system integration using BACnet protocol
- Supports WattStopper occupancy sensors directly without power packs
- Generate detailed documentation reports of all aspects of system hardware and software via WinControl software
- Programmable analog inputs provide multiple set points for photocells or other analog devices
- Programmable dataline switches connect to panel with 4 wire open topology digital data bus
- Provides full support for WattStopper AS series Automatic Wall Switch
- Remote network supervision and programming via TCP/IP connection using optional WebLink device
- Qualifies for use on ARRA-funded projects

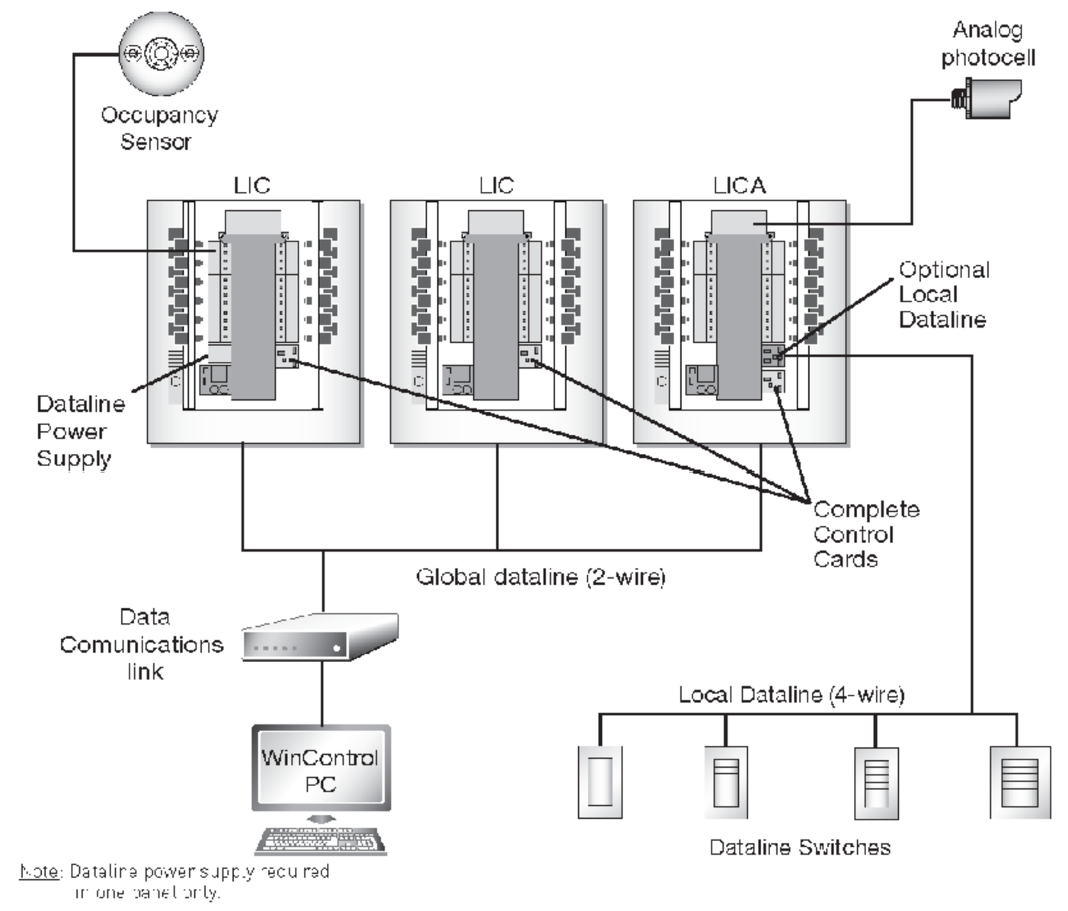
WattStopper
www.wattstopper.com
800.879.8585

LIC Specifications

- Panel configurations provide 8, 24, or 48 relay size interiors
- Standard relay, individually replaceable WattStopper HDR series, latching SPST, meets new NEMA electronic ballast requirements, 14,000 Amps SCCR, with integral manual override
- Digital network dataline, one pair twisted and shielded, open topology allows linear, star, and T network configurations for panels/connectivity 4000' max length
- Network link device provides RS-232 connection to digital dataline for PC or WebLink and visual indication of system operation
- Analog input, 12 VDC source provided, 0 – 4 VDC input, 8 inputs provided per group switching card
- Optional local dataline, two pair twisted, open topology allows linear, star, and T configurations, 63 HDLS series switch addresses available per dataline, 1500' max length (LICA option)
- Analog set points, 32 maximum per panel, high set/low set with individual high/low time delays
- Direct wire switch inputs, one each per relay and group switch channel, automatically configure for occupancy sensor operation
- Pilot light output per relay and group switch channel, configurable for any Class 2 voltage
- DIN rail mounting for automation modules
- UL listed, one year warranty

LIC System Layout

Panel System Layout and Configuration



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LIGHTING CONTROL PANEL SYSTEMS | System & Enclosures

General LI Information

Description

WattStopper's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. Panel interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior mounts into the appropriate enclosure. The LI panel enclosure and cover are shipped separately from the panel interior to facilitate project rough-in requirements.

Operation

LI relays are driven to a latched on or off position via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay to manually toggle the relay's state with each button press. An isolated contact in the relays provides positive status feedback to the relay driver circuits, which are annunciated by an LED associated with each relay. Removable terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

Operation (cont'd.)

Inputs can be wired to accommodate maintained or momentary three wire or two wire inputs. The switch input circuits are auto sensing and will automatically configure appropriately when WattStopper occupancy sensors are connected.

Group Switching

Group switching, also referred to as Smartwired switching, is a simple button press interface that allows any quantity of relays in a panel to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. An eight or 24 size panel can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels (8 controllable by scheduling, eight by switching only).

- Interior provides complete isolation between line and low voltage when used with an LI enclosure (LENC)
- Individual plug-in, latching style single pole HDR relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards
- Supports WattStopper low voltage occupancy sensors without need for separate sensor power packs
- Smartwiring feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits

WattStopper
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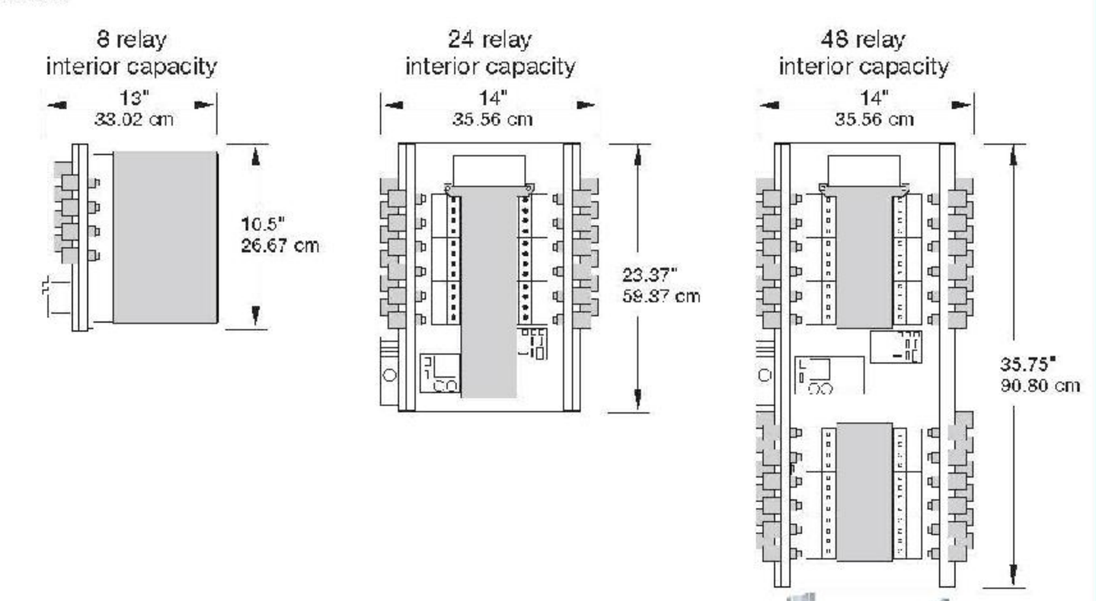
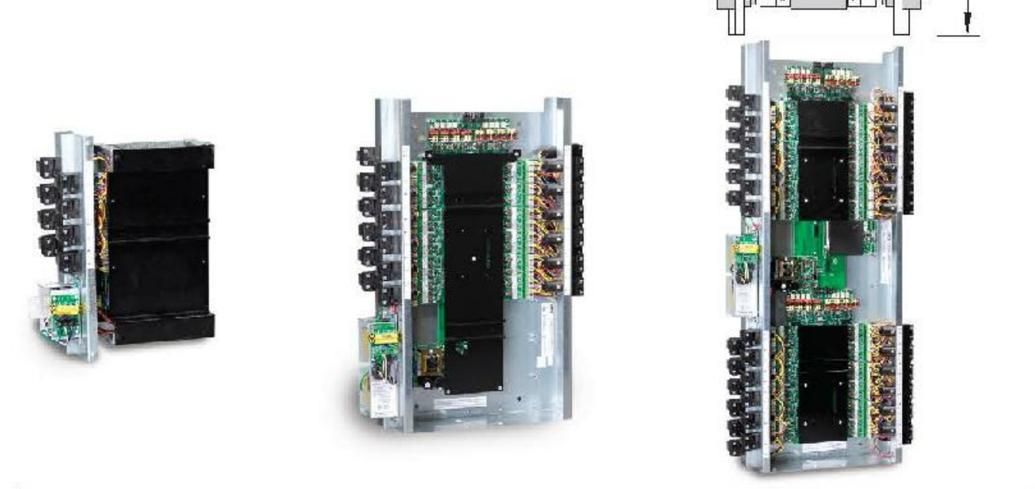
General LI Specifications

- Interior capacity:
  - 8 SPST relays
  - 24 SPST relays
  - 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- Low voltage switch inputs, removable terminal blocks with tool-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or WattStopper occupancy sensors.
- Accessory power available
  - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
  - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- HDR SPST relays:
  - Coil voltage, 24 VDC, pulse ON and pulse OFF
  - Mechanically latched contacts
  - ½" K.O. mounting, LV plug-connection, individually replaceable
  - Contact ratings
    - 30 amps ballast @ 277V
    - 20 amps ballast @ 347V
    - 20 amps tungsten @ 120V
    - 30 amps resistive @ 347V
    - 1.5 HP @ 120V
  - Endurance: 300,000 mechanical cycles
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- One year warranty

Panel Interior Dimensions





Ordering Information

Interior Capacity	Installed Options: Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage	Dataline Power Supply
☐ LIC8	☐ 115/277	___ DR relays installed (max of interior capacity)	___ GS cards (max 1 in 8, 24; 2 in 48)	___ EM relay count (Not available in 8-relay size panels; max. of 24 in 24-relay or 48-relay size interior)	☐ 115	___ DP dataline power supply (one required per each network)
☐ LIC24	☐ 115/347				☐ 240	
☐ LIC48	☐ 240				☐ 277	
☐ LICA8					☐ 347	
☐ LICA24						
☐ LICA48						

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AIA DIVISION 16 SPECIFICATIONS - SECTION 16950
LIGHTING INTEGRATOR
LIGHTING CONTROL SYSTEM

LIGHTING INTEGRATOR COMPLETE CONTROL

AIA DIVISION 16 SPECIFICATIONS - SECTION 16950

PART 1 GENERAL

1.01 INTRODUCTION

THE WORK COVERED IN THIS SECTION IS SUBJECT TO THE REQUIREMENTS IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS. CONTRACTOR SHALL COORDINATE THE WORK IN THIS SECTION WITH THE TRADES COVERED IN OTHER SECTIONS OF THE SPECIFICATION TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. SYSTEM SHALL BE COMPLETELY CAPATIABLE WITH EXISTING HSOFT CONTROLS NETWORK, AND BE UPGRADABLE TO NEW LIGHTING CONTROL NETWORK CURRENTLY BEING DEVELOPED BY WATTSTOPPER AND INSTALLED BY CANDELLA CONTROLS.

1.02 SYSTEM DESCRIPTION

EXTENT OF LIGHTING CONTROL SYSTEM WORK IS INDICATED BY DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. IT IS THE INTENT OF THIS SECTION TO PROVIDE AN INTEGRATED, ENERGY SAVING LIGHTING CONTROL SYSTEM INCLUDING LIGHTING CONTROL PANELS FROM A SINGLE SUPPLIER. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT THE PANELS INTEROPERATE AS A SINGLE SYSTEM.

1.03 QUALITY ASSURANCE

MANUFACTURERS: FIRMS REGULARLY ENGAGED IN THE MANUFACTURE OF LIGHTING CONTROL EQUIPMENT AND ANCILLARY EQUIPMENT, OF TYPES AND CAPACITIES REQUIRED, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 5 YEARS.

COMPLY WITH NEC, NEMA, AND FCC EMISSION REQUIREMENTS FOR CLASS A APPLICATIONS.

UL APPROVALS: RELAY PANELS AND ACCESSORY DEVICES ARE TO BE UL LISTED UNDER UL 916 ENERGY MANAGEMENT EQUIPMENT. CONFIGURED TO ORDER OR CUSTOM RELAY PANELS SHALL BE UL LISTED UNDER UL 508, INDUSTRIAL CONTROL PANELS.

1.04 SUBMITTALS

SUBMIT MANUFACTURER'S DATA ON LIGHTING CONTROL SYSTEM AND COMPONENTS INCLUDING SHOP DRAWINGS, DETAILED POINT TO POINT WIRING DIAGRAMS, AND FLOOR PLANS SHOWING LOCATIONS AND DATA LINE ROUGTING. PROVIDE TYPICAL MOUNTING DETAILS FOR FOR THIS APPLICATION.

1.05 MANUFACTURERS

THIS SPECIFICATION IS BASED ON PRODUCTS FROM WATTSTOPPER, SANTA CLARA, CA. ANY OTHER SYSTEM WISHING TO BE CONSIDERED MUST SUBMIT DESCRIPTIVE INFORMATION 10 DAYS PRIOR TO BID. PRIOR APPROVAL DOES NOT GUARANTEE FINAL APPROVAL BY THE ELECTRICAL ENGINEER. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR PROVIDING A SYSTEM MEETING THIS SPECIFICATION IN ITS ENTIRETY. ALL DEVIATIONS FROM THIS SPECIFICATION MUST BE LISTED AND INDIVIDUALLY SIGNED OFF BY THE CONSULTANT.

PART 2 PRODUCTS

2.02 LIGHTING CONTROL PANELS

PROVIDE LIGHTING CONTROL PANELS IN THE LOCATIONS AND CAPACITIES AS INDICATED ON THE PLANS AND SCHEDULES. EACH PANEL SHALL BE OF MODULAR CONSTRUCTION AND CONSIST OF THE FOLLOWING COMPONENTS:

1) ENCLOSURE/TUB SHALL BE NEMA 1, NEMA 3R, OR NEMA 4 AS INDICATED ON THE PLANS, SIZED TO ACCEPT AN INTERIOR WITH 1-8 RELAYS, 1-24 RELAYS AND SIX (6) FOUR POLE CONTACTORS, OR 1-48 RELAYS WITH SIX (6) FOUR POLE CONTACTORS.
2) COVER SHALL BE CONFIGURED FOR SURFACE OR FLUSH WALL MOUNTING OF THE PANEL AS INDICATED ON THE PLANS. THE PANEL COVER SHALL HAVE A HINGED AND LOCKABLE DOOR WITH RESTRICTED ACCESS TO LINE VOLTAGE SECTION OF THE PANEL.
3) INTERIOR ASSEMBLY SHALL BE SUPPLIED AS A FACTORY ASSEMBLED COMPONENT SPECIFICALLY DESIGNED AND LISTED FOR FIELD INSTALLATION. THE INTERIOR CONSTRUCTION SHALL PROVIDE TOTAL ISOLATION OF HIGH VOLTAGE (CLASS 1) WIRING FROM LOW VOLTAGE (CLASS 2) WIRING WITHIN THE ASSEMBLED PANEL. THE INTERIOR ASSEMBLY SHALL INCLUDE INTELLIGENCE BOARDS, POWER SUPPLY, DIN RAILS FOR MOUNTING OPTIONAL CLASS 2 CONTROL DEVICES, AND INDIVIDUALLY REPLACEABLE LATCHING TYPE RELAYS. THE PANEL INTERIORS SHALL INCLUDE THE FOLLOWING FEATURES:
   a) PROVISION FOR ONE OR TWO OPTIONAL CONTROL AND AUTOMATION CARDS.
   b) REMOVABLE, PLUG-IN TERMINAL BLOCKS WITH SCREW-LESS CONNECTIONS FOR ALL LOW VOLTAGE TERMINATIONS.
   c) INDIVIDUAL TERMINAL BLOCK, OVERRIDE PUSH BUTTON, AND LED STATUS LIGHT FOR EACH RELAY
   d) SWITCH INPUTS ASSOCIATED WITH EACH RELAY AND GROUP CHANNEL SHALL SUPPORT TWO OR THREE WIRE, MOMENTARY OR MAINTAINED CONTACT SWITCHES OR 24VDC INPUT FROM OCCUPANCY SENSORS.
   e) AUTOMATIC SUPPORT FOR OCCUPANCY SENSOR SEQUENCE OF OPERATION. LOW VOLTAGE INPUTS AUTOMATICALLY RECONFIGURE WHEN CONNECTED TO A WATTSTOPPER OCCUPANCY SENSOR HEAD. OCCUPANCY SENSOR SHALL SWITCH LIGHTING ON AND OFF DURING UNOCCUPIED PERIODS BUT SHALL NOT TURN LIGHTING OFF DURING SCHEDULED OCCUPANCY PERIODS.
   f) ISOLATED CONTACTS WITHIN EACH RELAY SHALL PROVIDE TRUE RELAY STATE TO THE ELECTRONICS. TRUE RELAY STATE SHALL BE INDICATED BY THE ON-BOARD LED AND SHALL BE AVAILABLE TO EXTERNAL CONTROL DEVICES AND SYSTEMS.
   g) AUTOMATIC SEQUENCED OPERATION OF RELAYS REDUCES IMPACT ON THE ELECTRICAL DISTRIBUTION SYSTEM WHEN LARGE LOADS ARE CONTROLLED SIMULTANEOUSLY.
   h) GROUP, CHANNEL, AND PATTERN CONTROL OF RELAYS SHALL BE PROVIDED THROUGH A SIMPLE BUTTON-PRESS INTERFACE WITHIN THE PANEL. ANY GROUP OF RELAYS CAN BE ASSOCIATED WITH A CHANNEL FOR DIRECT ON/OFF CONTROL OR PATTERN (SCENE) CONTROL VIA A SIMPLE PROGRAMMING SEQUENCE USING THE RELAY AND CHANNEL OVERRIDE PUSH BUTTONS AND LED DISPLAYS.
   i) RELAY GROUP STATUS FOR EACH CHANNEL SHALL BE PROVIDED THROUGH BI-COLOR OPERATION OF THE LED INDICATORS. SOLID RED INDICATES THAT ALL RELAYS IN THE GROUP ARE ON, SOLID GREEN INDICATES THAT THE GROUP IS IN A MIXED STATE, AND BLINKING GREEN INDICATES THAT THE RELAYS HAVE BLINK WARNED AND ARE CURRENTLY TIMING OUT.
   j) EACH RELAY AND CHANNEL TERMINAL BLOCK SHALL PROVIDE A 24V PILOT LIGHT SIGNAL. IT SHALL BE POSSIBLE TO CONFIGURE THE SYSTEM FOR SUPPORT FOR ANY CLASS 2 PILOT LIGHT VOLTAGE WITH THE USE OF AN AUXILIARY POWER SUPPLY.
   k) SINGLE POLE LATCHING RELAYS WITH MODULAR PLUG-IN DESIGN. RELAYS SHALL PROVIDE THE FOLLOWING RATINGS AND FEATURES:
   i) ELECTRICAL:
      (1) 30 AMP BALLAST AT 277V
      (2) 20 AMP BALLAST AT 347V
      (3) 20 AMP TUNGSTEN AT 120V
      (4) 30 AMP RESISTIVE AT 347V
      (5) 1.5 HP MOTOR AT 120V
      (6) 14,000 AMP SHORT CIRCUIT CURRENT AT 347V
   ii) MECHANICAL:
      (1) INDIVIDUALLY REPLACEABLE, ½" KO MOUNTING WITH REMOVABLE CLASS 2 WIRE HARNESS
      (2) ACTUATOR ON RELAY HOUSING PROVIDES MANUAL OVERRIDE AND VISUAL STATUS INDICATION, ACCESSIBLE FROM CLASS 2 SECTION OF PANEL
      (3) DUAL LINE AND LOAD TERMINALS EACH SUPPORT TWO #14 - #12 SOLID OR STRANDED CONDUCTORS
      (4) TESTED TO 300,000 MECHANICAL ON/OFF CYCLES
      (5) ISOLATED LOW VOLTAGE CONTACTS PROVIDE FOR TRUE RELAY STATUS FEEDBACK AND PILOT LIGHT INDICATION.
   l) POWER SUPPLY SHALL BE A MULTI-VOLTAGE TRANSFORMER ASSEMBLY WITH RATED POWER TO SUPPLY ALL ELECTRONICS, OCCUPANCY SENSORS, SWITCHES, PILOT LIGHTS, AND PHOTOCELLS AS NECESSARY TO MEET THE PROJECT REQUIREMENTS. POWER SUPPLY TO HAVE INTERNAL OVER-CURRENT PROTECTION WITH AUTOMATIC RESET AND METAL OXIDE VARISTOR PROTECTION.
4) THE DATALINE WIRE WILL BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AND WILL INCLUDE THE MANUFACTURER'S NAME, CATALOG NUMBER PRINTED ON THE WIRE JACKET. THE CONTRACTOR, AT ITS OWN EXPENSE, WILL REPLACE AN IMPROPER DATALINE WIRE.
5) PANELS SHALL BE DIGITALLY ADDRESSED AND SUPPORT BI-DIRECTIONAL COMMUNICATION BETWEEN EACH OTHER AND OTHER INTELLIGENT FIELD DEVICES SPECIFIED ELSEWHERE.

2.20 ADVANCED COMMUNICATIONS, INTEGRATION AND PC CONNECTIVITY

PROVIDE AN ADVANCED COMMUNICATIONS NETWORK THAT SUPPORTS OPTIONAL FEATURES LIKE PC CONNECTIVITY, TCP/IP CONNECTIONS, ADVANCED PROGRAMMING SYSTEM DOCUMENTATION, ENHANCED DIAGNOSTICS, HISTORICAL AND RUNTIME ACCUMULATION, AND GRAPHIC PROGRAMMING AND CONTROL. SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING SYSTEM AND UPGRADABLE TO NEW SYSTEM CURRENTLY BEING INSTALLED AT THE ORANGE COUNTY CONVENTION CENTER.

1) THE SYSTEM SHALL SUPPORT THE FOLLOWING ADVANCED OPERATING SCENARIOS:
   a) ADJUSTABLE OVERRIDE PERIODS FOR AFTER HOUR USE BASED UPON THE DAY OF THE WEEK.
   b) PREEMPTIVE OVERRIDE BEFORE OFF TO PREVENT BLINK WARNING AND TO START A NEW OVERRIDE TIME DELAY.
   c) ALLOW COMMON AREAS TO REMAIN ON WHEN SPECIFIC RELAYS IN A PANEL ARE ON. EGRESS TIMER STARTS A COUNTDOWN WHEN THE LAST WATCHED RELAY TURNS OFF.
   d) MASTER SWITCH CONTROL WITH BLINK OPTION TO PROVIDE A BLINK WARNING AND FIVE MINUTE COUNTDOWN FOR OCCUPANTS WHEN A MASTER SWITCH IS TURNED OFF
   e) INTERIOR DAYLIGHTING CONTROL TO TURN OFF LIGHTS WHEN AVAILABLE NATURAL LIGHT MEETS OCCUPANTS' LIGHTING NEEDS. LIGHTS WILL ONLY COME ON DURING OCCUPIED PERIODS WHEN ENOUGH NATURAL LIGHT IS NOT AVAILABLE.
   f) OCCUPANCY SENSOR INTEGRATION: ALLOWS RELAYS TO AUTOMATICALLY FOLLOW OCCUPANCY SENSORS' STATUS, OR INTERLOCK THE SENSORS WITH DAILY SCHEDULES (RELAYS STAY ON DURING SCHEDULED ON TIME, AND FOLLOW SENSORS ONLY DURING AFTER HOURS).
2) COMMUNICATIONS
   a) EACH PANEL SHALL SUPPORT RS232 TWISTED PAIR AND OPTIONAL RS-485 CONNECTIONS. EITHER PROTOCOL MAY BE USED FOR PROGRAMMING, MONITORING, AND CONTROL. THE DATALINE SHALL ALLOW SIMULTANEOUS OPERATION OF MULTIPLE COMMUNICATIONS ACCESS POINTS TO SUPPORT MULTIPLE OPERATOR TERMINALS AND COMMUNICATIONS WITH OTHER BUILDING AUTOMATION SYSTEMS.
   b) EACH PANEL SHALL BE CAPABLE OF STAND-ALONE AUTOMATIC OPERATION AND THE NETWORK SHALL ACHIEVE FULL DISTRIBUTED PROCESSING.
   c) ALL PROGRAMMING SHALL BE ACCOMPLISHED WITH A WINDOWS BASED PC RUNNING COMPATIBLE SOFTWARE PACKAGE.
3) HARDWARE FEATURES
   a) EACH COMMUNICATION CONTROL CARD SHALL BE CAPABLE OF PROVIDING ALL LOGIC, CONTROL, RUNTIME DATA, STATUS INFORMATION, AND COMMUNICATIONS FUNCTIONS FOR UP TO 48 RELAYS IN A PANEL.
   b) EEPROM POWER LOSS MEMORY AND CLOCK HOLDUP TIME: 30 DAYS
   c) SELF-DIAGNOSTICS: AUTOMATIC DIAGNOSTICS ON ALL MEMORY, INPUT/OUTPUT CARD MODULES, RELAYS, AND DATALINE.
   d) CLOCK: DIGITAL WITH TIME, DAY OF WEEK, AND DATE. AUTOMATIC LEAP YEAR COMPENSATION. PROGRAMMABLE DAYLIGHT SAVINGS TIME AND STANDARD TIME ADJUSTMENT.
4) WINCONTROL SOFTWARE (IS SYSTEM THAT IS CURRENTLY BEING INSTALLED UNDER SEPERATE CONTRACT) PANELS MUST BE FULLY COMPATIBLE AND CAPABLE OF BEING INTERFACING WITH WINCONTROL SOFTWARE WITH OUT USE OF ADDITIONAL INTERFACES AND HAVE CAPABILITY SHOWN IN THIS SECTION.
   a) SCHEDULES
   i) EACH COMMUNICATION CONTROL CARD SHALL SUPPORT UP TO 24 UNIQUE WEEKLY SCHEDULES OUT OF A TOTAL OF 1,000 AVAILABLE PER SYSTEM. EACH SCHEDULE SHALL ALLOW UP TO EIGHT EVENTS PER DAY FOR A REPEATING SEVEN DAY WEEK.
   ii) UP TO 32 HOLIDAYS MAY BE DEFINED FOR ANY SPECIFIC DATE. ON THAT DATE ANY OF THE THREE HOLIDAY SCHEDULES MAY BE ASSIGNED.
   iii) RELAYS MAY BE PROGRAMMED TO SWITCH TO A DIFFERENT WEEKLY SCHEDULE ON ANY SPECIFIC DATE, AND THEN REVERT BACK TO NORMAL AT ANOTHER TIME. THIS ALLOWS FOR FUTURE SCHEDULE CHANGES TO BE PROGRAMMED AHEAD OF TIME.
   iv) "SPRING AHEAD" AND "FALL BACK" DATES FOR DAYLIGHT SAVINGS TIME CHANGES MAY BE ENTERED FULL TWO YEARS AHEAD. SOFTWARE ALSO SUPPORTS THE ABILITY TO "AUTO FILL" IN THE NEXT TWO OCCURRENCES OF EACH OF THESE DATES.
   b) TIME DELAY / BLINK WARNING
   i) USED DURING UNOCCUPIED PERIODS, ASSIGNABLE FOR EACH RELAY.
      (1) TIME DELAYS FROM 2 TO 1,440 MINUTES.
      (2) BLINK WARNING: 1-SECOND OFF BLINK FOLLOWED BY A 5 MINUTE GRACE PERIOD BEFORE OFF.
      (3) AN OPTIONAL SECOND BLINK WARNING ONE MINUTE BEFORE OFF.
   ii) OPERATES AUTOMATICALLY FOR ALL SCHEDULED OFFS AND TIME DELAY OVERRIDES.
   iii) OCCUPANT OVERRIDES MAY BE ENTERED BEFORE THE BLINK WARNING TO PREVENT A SCHEDULED BLINK AND SHUTDOWN.
   c) ANALOG PHOTOCELL CONFIGURATION
   i) ENABLE ANY GROUP SWITCH CARD INPUT (EIGHT PER GROUP SWITCH CARD) TO ACT AS AN ANALOG INPUT INTO THE PANEL FOR USE WITH PHOTOCELLS OR OTHER ANALOG DEVICES
   ii) ESTABLISH TRIGGER PARAMETERS FOR EACH ANALOG INPUT WITH:
      (1) SEPARATE ON AND OFF SET POINTS
      (2) SEPARATE ON AND OFF TIME DELAYS
      (3) LOAD TO BE CONTROLLED BY THE INPUT
   d) A TOTAL OF 32 SETS OF TRIGGER PARAMETERS MAY BE ESTABLISHED PER PANEL
   e) ANALOG PHOTOCELL MONITORING
   i) TELEPHONE OVERRIDE
   i) EACH RELAY SHALL RESPOND TO UP TO EIGHT DIFFERENT TELEPHONE OVERRIDE CODES. MAXIMUM OF 9999 TELEPHONE CODES CAN BE PROGRAMMED.
   g) RUNTIME COUNTERS FOR EACH RELAY
   i) CUMULATIVE RUNTIME (UP TO 31 YEARS) AND NUMBER OF CYCLES (UP TO 17 MILLION) SINCE LAST RESET. USER RE-SETTABLE.
   ii) DAILY RUNTIME FOR THE CURRENT DAY AND EACH OF THE PRIOR 40 DAYS.
   iii) MONTHLY RUNTIME FOR CURRENT AND 14 PRIOR MONTHS.
   h) ACTIVITY LOGS
   i) STORE PREVIOUS RELAY EVENTS INCLUDING THE TIME, NEW STATE, AND CAUSE FOR THE CHANGE IN STATE.
   ii) ANNUNCIATE OVER THE DATALINE AND RS232 PORT WHEN THE TABLE IS 25%, 50%, 75% AND 100% FULL.

2.21 OPERATOR'S SOFTWARE

1) USER PROGRAMMING AND EDITING MAY BE CONDUCTED BOTH ONLINE OR OFFLINE IN A WINDOWS BASED SOFTWARE APPLICATION. CURRENTLY CONTROL IS VIA HSOFT SOFTWARE AND CONTRACTOR MUST COORDINATE TAKEN OFF AND BRING ON NEW RELAY PANELS WITH OCCC STAFF AND VERIFY THE OPERATION BEFORE USAGE OF THE SPACE.
2) 2.24 CENTRAL PROGRAMMING, MONITORING, AND CONTROL WORK STATION
   a) SYSTEM IS EXISTING.

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ENG. BUS. No. EB-0005096 CERT. OF AUTH. No. 5096

ORANGE COUNTY CONVENTION CENTER - WEST BUILDING PHASE I RELAY CABINET REPLACEMENT

Revisions

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RELAY PANEL SPECIFICATIONS

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