Senior Center Lighting Replacement

Sheetlist

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001	Cover
A 200	Paint and Surface Repairs
EL 001	General Lighting
EL 200	Demolition
EL 210	Lighting Level 1 East
EL 220	Lighting Level 1 West and Stairs
EL 230	Lighting Level 2
EL 300	Details and Schedules

The above sheets were provided and certified by Kay Schindel, P.E.

A. General Conditions:
1. All scheduled numbers and amounts of material and equipment are for contractor's convenience only. Contractor shall count and measure independently for bidding and ordering purposes. All scheduled numbers, lengths and other amounts may be incorrect and owner is not liable for mismatch.
2. Notes applied to single items may apply to all like items on view.
3. Before bidding contractor shall familiarize with existing conditions, scope of work and means and methods required. Contractor shall inquire about any missing or apparently incomplete details and specifications before bidding.
4. Entire contract includes all specifications, plan sheets and other documents issued by owner. Bid documents don't intend to detail which subcontractor is responsible for what type of work. Any trade shall be familiar with the entire contract. Division of work is responsibility of contractor.
5. UTILITY CONNECTIONS: where work indicated includes installation of utilities (Gas, Power, Water, Sewer, Phone etc.) provide all the required work that normally is not done by the Utility. Contractor shall inquire with Utilities to learn about the Scope of the Utility's work.

B. Drawing Conventions
1. To be demolished items are shown in dashed line. Some items necessary for removal may not be shown and removal is part of the contract.
2. Count of devices. lengths, areas and volumes are given for convenience only. Actually required numbers may be different and contractor is responsible to determine the actual need prior bidding.
3. Details will require items that will not be shown for every instance in the model. For example, a shut-off valve may be shown for a specific detail but the plans don't show this valve for every single instance - this valve will be required for each such device.

A. PROJECT DESCRIPTION:Included are wall and ceiling surface finish repairs
1. Replacement of all lighting fixtures, controls and emergency lighting.
2. Included are wall and ceiling repair work. All walls and ceilings where lighting fixtures or devices are removed of shall be repaired and painted completely to match original conditions. Include painting of the entire wall or ceiling to avoid patched look. Each surface shall be painted and textured to match the original surface.

B. SPECIAL SITE CONDITIONS:
1. Existing Ceilling tiles are Armstrong item 794 (24x24), 793 (24x48), and Cirrus 584HRC on 15/16"grid. Contractor shall provide new ceiling and grid as required to close ceiling openings and modify grid as required to accommodate new layout.
2. Work around scheduled facility rentals and coordinate with staff. Rooms are booked for events on occasion. Plan work to avoid work in these rooms for the time of the event. Keep the rooms in respectable condition.
3. Surface repair and paint work in each area shall be done speedily with least interruption to facility operation.
4. Conduit Color:
   a. Finished Spaces: Use factory-painted white conduit and raceway. Aesthetics shall be suitable for finished spaces similar to the existing wire-mold and raceway. New ceiling paint shall be matched to this color.
   b. Exterior conduit: field paint is acceptable. See Section 09 90 00 for paint requirements.

C. WORK HOURS
1. Meet requirements of local ordinances, rules and laws.
2. Hours of operation are limited to 7 a.m. to 7 p.m. Monday through Saturday and Sunday 10 a.m. through 7 p.m. unless approved otherwise.
3. Senior Center will provide a loaner key to contractor.
4. Note that the surrounding apartments are sensitive to noise and noisy work outside allowable times is not allowed.

D. WORK PROVIDED BY OWNER (DON'T INCLUDE IN BID PRICE):
1. Fire Alarm (FA) panel relay will be provided and programmed by owner's FA contractor. This relay shall be installed by the electrical contractor (FA contractor will not install!). Coordinate with FA contractor.

E. EQUIPMENT PROVIDED BY OWNER (DON'T INCLUDE IN BID PRICE):
1. NA

F. SPECIAL WARRANTIES:
1. NA

G. PROVISIONS FOR FUTURE WORK
1. NA

H. PERMIT REQUIREMENTS:
1. Contractor is responsible to obtain all permits. See specification section 00 31 46 for details.

I. UTILITIES:
1. Contractor may use owner's power and water at no cost.

J. CONTINUITY OF SERVICE:
1. Plan work in staff-occupied offices with local supervisor to minimize disruption.
2. Coordinate work in public spaces with local supervisor. Rooms are scheduled for events.

K. SEQUENCING REQUIREMENTS:
1. NA

L. ALTERNATES:
1. NA

General Abbreviations

AFF	Above Finished Floor
ACT	Acoustical Ceiling Tile
ADDL	Additional
AFC	Above Finished Counter
AFG	Above Finished Grade
ALUM	Aluminum
APPD	Approved
ASC	Above Suspended Ceiling
BB	Baseboard
BFF	Below Finished Floor
BFG	Below Finished Grade
BLDG	Building
BLW	Below
BO	Bottom of
BOC	Bottom of Concrete
BOS	Bottom of Steel
BPL	Base Plate
CB	Catch Basin
CBT	Ceramic Tile Base
CF/CI	Contractor Furnished / Contractor Installed
CF/OI	Contractor Furnished / Owner Installed
CG	Corner Guard
CIP	Cast-In-Place
CJ	Control Joint
CL	Center Line
CLG	Ceiling
CMU	Concrete Masonry Unit
CO	Cleanout
COL	Column
CONC	Concrete
CONT	Continuous
CORR	Corridor
CPT	Carpet
CSWK	Casework
CT	Ceramic Tile
CW	Cold Water
DEMO	Demolition
DF	Drinking Fountain
DIA	Diameter
DR	Door
DS	Downspout
DW	Dishwasher
DWG	Drawing
E	East
EA	Each
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
EPS	Expanded Polystyrene Board
EQ	Equal (Distance)
EST	Estimated
EXP	Expand, Expansion
EXT	Exterior
F	Female
FA	Fire Alarm
FAB	Fabric
FD	Floor Drain
FEC	Fire Extingulsher Cabinet
FHC	Fire Hose Cabinet
FLR	Floor
FM	Floormat
FND	Foundation
FO	Finished Opening
FP	Fire Protection
FTG	Footing
GA	Gauge
GALV	Galvanized
GB	Grab Bar
GR	Grade
GT	Grout
GYP	Gypsum Board
HB	Hose Bib
HC	Hollow Core
HGT	Height
HM	Handicapped
HM	Hollow Metal
HVAC	Heating, Ventilation & Air Conditioning
HW	Hot Water
ID	Inside Diameter
INT	Interior
JHA	Jurisdiction Having Authority
LAV	Lavatory
LL	Live Load
M	Male
MAX	Maimum
MFR	Manufacturer
MIN	Minimum
MISC	Miscellaneous
MO	Masonry Opening
N	North
NA	Not Applicable
NIC	Not in Contract
NM	Nominal
NTS	No to Scale
OC	on center
OD	Outside Diameter
OF / CI	Owner Furnished / Contractor Installed
OF / OI	Owner Furnished / Owner Installed
OHD	Over Head Door
OPNG	Opening
OPP	Opposite
PERP	Perpendicular
POLYISO	Polyisocyanurate Board
PT	Paint, Painted
PTN	Partition
RCP	Reflected Ceiling Plan
RD	Roof Drain
REBAR	Reinforcing Steel Bars
REF	Reference
REV	Revision
RO	Rough Opening
S	South
SAN	Sanitary
SST	Stainless Steel
TEMP	Temperature
TFF	Top of Finished Floor
TO	Top of
TOB	Top of Beam
TOC	Top of Concrete
TOJ	Top of Joist
TYP	Typical
UNO	Unless Noted Otherwise
VIF	Verified in Field
W	West
WI	With
WO	Without
WC	Water Closet
WD	Wood
WH	Water Heater
XPS	Extruded Polystyrene Board
XTG	Existing

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Facilities Management
City-County Building, Room 115
210 Martin Luther King Jr. Boulevard
Madison, WI 53703

Client:
Senior Center

Senior Center Lighting Replacement

Location:
330 W Mifflin St.
Madison, WI 53703

Contract: 9159
Project: 13369

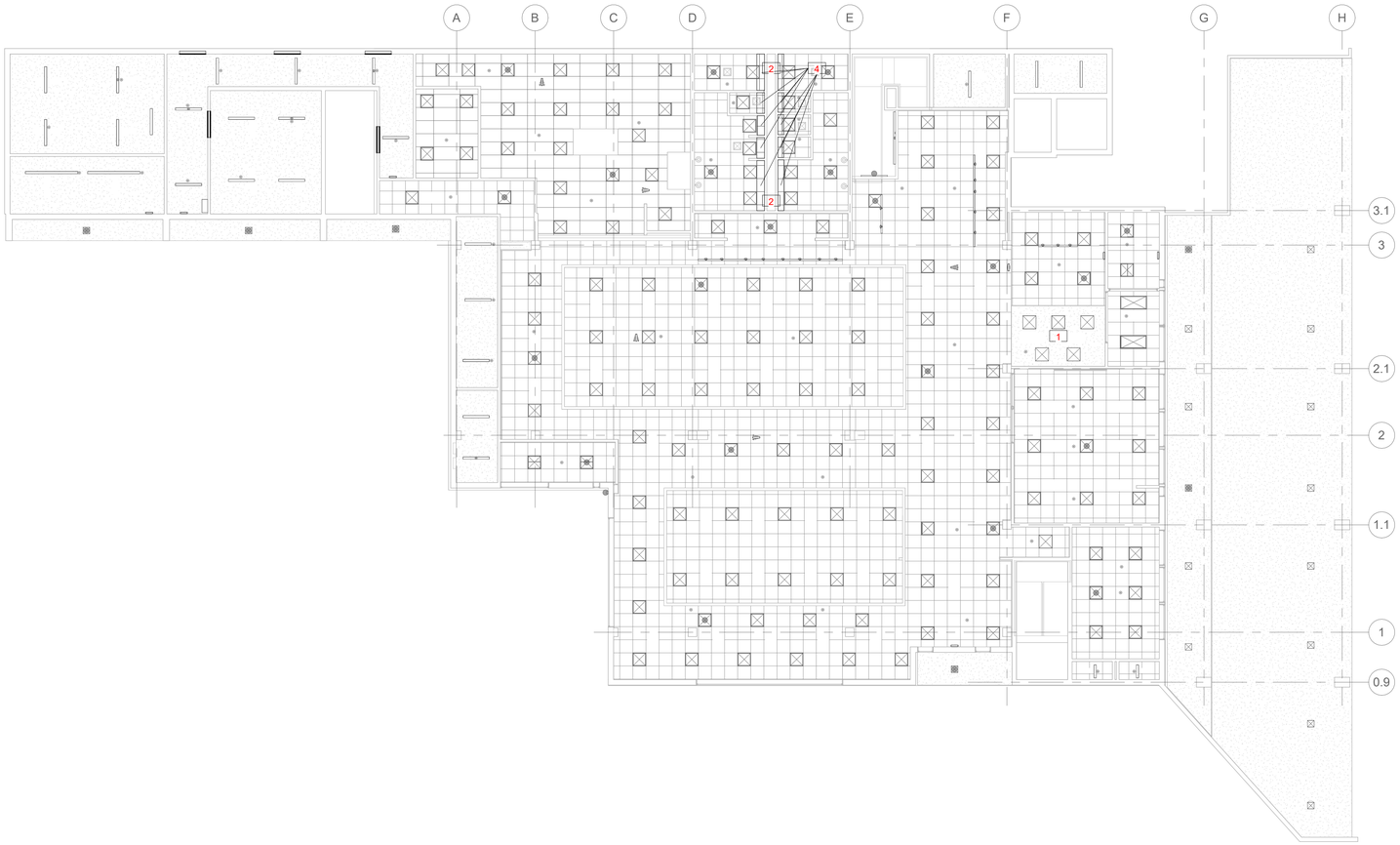
Revisions

No.	Description

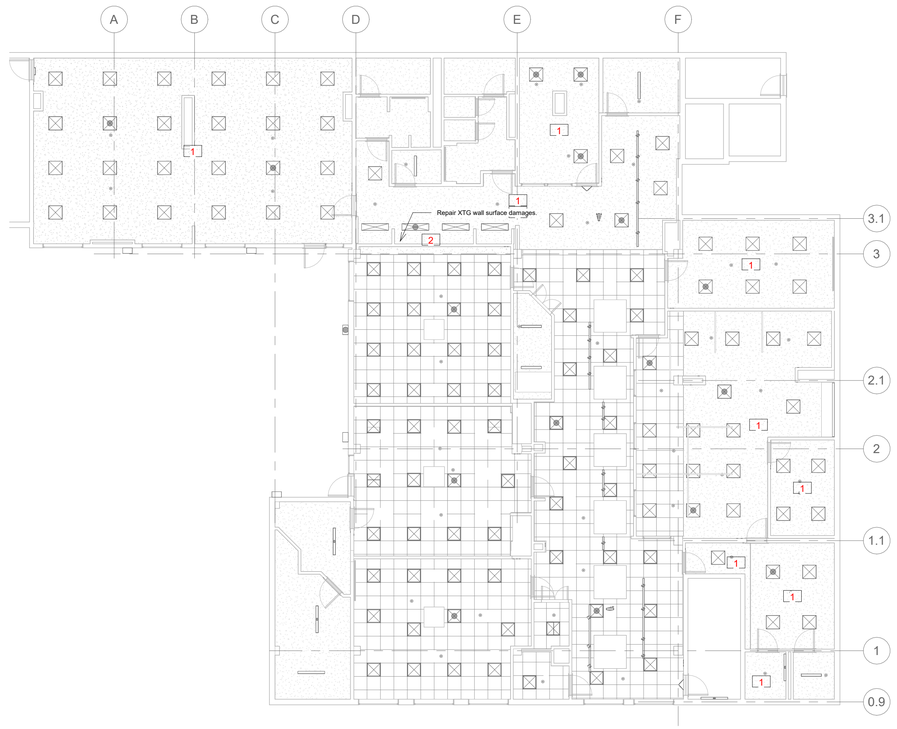
Cover

001

Print Date:
2/18/2022 08:40:03
Print in color on 36" x 24"



1 A Finishes Level 1
3/32" = 1'-0"



2 A Finishes Level 2
3/32" = 1'-0"

General Notes:
1. Repair all openings and damages caused by removal of existing lighting fixtures, controls and wireways.
2. Cover all openings and repair wall and ceiling. Match texture to adjacent texture and paint type. Make the repair not obvious.
3. Paint entire ceiling and wall that required above repair. Match the paint color of existing paint.
4. New wire raceway (e.g. conduit) shall be painted to match surface color.
5. Protect all surfaces and equipment.

Keynote Legend

Key Value	Keynote Text
1	Repair hard surface and paint entire ceiling. Close all openings from removal of devices.
2	Repair hard surface and paint entire wall. Close all openings from removal of devices.
3	Keep space usable by occupants at all times. Provide protection to allow safe foot traffic while work is performed.
4	Remove lighting grate. Extend grid ceiling and tiles to wall. Repair and paint wall as required for finished appearance.

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A 200

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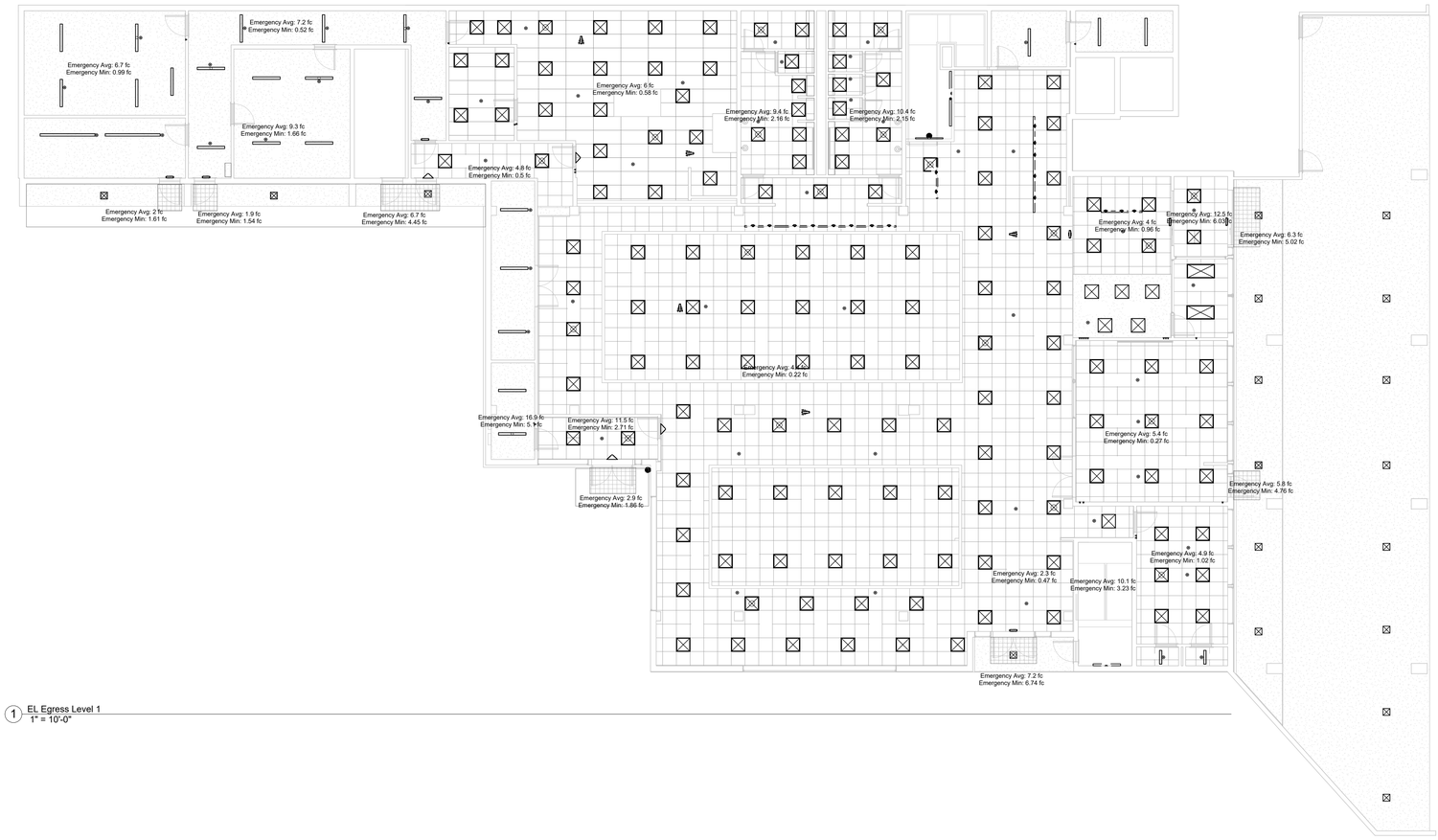
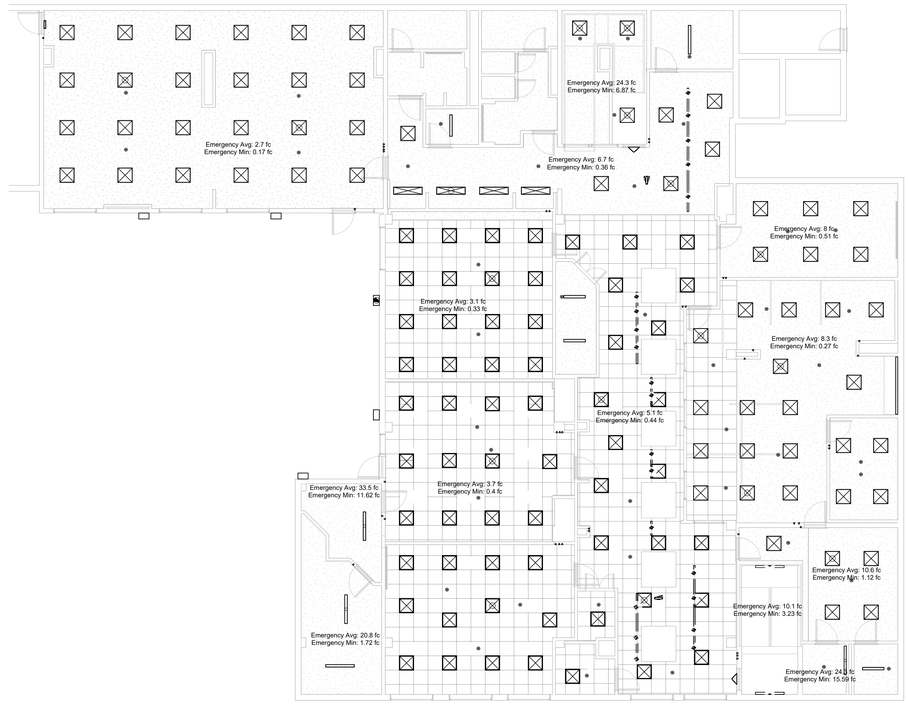


1 EL Egress Level 1
1" = 10'-0"



2 EL Egress Level 2
1" = 10'-0"

Emergency Lighting Load

Type Mark	Space: Number	Space: Name	Apparent Load
EC-2K-W			14 VA
EC-2K-W			14 VA
EC-2K-W			14 VA
EC-2K-W			14 VA
EC-3.2K-W	130	Driveway	23 VA
EC-3.2K-W	130	Driveway	23 VA
EW-1.2K-B			9 VA
EW-3-3.2K-B	224	Patio	28 VA
EX-3-AC	110	Corridor	4 VA
EX-3-AC	109	Kitchen	4 VA
EX-3-AC	107	Entry SW	4 VA
EX-3-AC	115	Open Area	4 VA
EX-3-AC	201	Corridor	4 VA
EX-3-AC	206	Lobby	4 VA
EX-AC	102	Corridor	1 VA
EX-AC	101	Storage	1 VA
EX-AC	102	Corridor	1 VA
EX-AC	109	Kitchen	1 VA
EX-AC	109	Kitchen	1 VA
EX-AC	108	Entry S	1 VA
EX-AC	117	Vestibule	1 VA
EX-AC	116	Lobby	1 VA
EX-AC	115	Open Area	1 VA
EX-AC	116	Lobby	1 VA
EX-AC	115	Open Area	1 VA
EX-AC	115	Open Area	1 VA
EX-AC	200	Craft	1 VA
EX-AC	206	Lobby	1 VA
EX-AC	201	Corridor	1 VA
PR22-2K	115	Open Area	16 VA
PR22-2K	115	Open Area	16 VA
PR22-2K	108	Entry S	16 VA
PR22-2K	111	Bathroom Male	16 VA
PR22-2K	111	Bathroom Male	16 VA
PR22-2K	112	Bathroom Female	16 VA
PR22-2K	112	Bathroom Female	16 VA
PR22-2K	116	Lobby	16 VA
PR22-2K	120	Conference Room	16 VA
PR22-2K	209	Conference 3	16 VA
PR22-2K	208	Conference 2	16 VA
PR22-2K	207	Conference 1	16 VA
PR22-2K	110	Corridor	16 VA
PR22-3.4K	109	Kitchen	27 VA
PR22-3.4K	109	Kitchen	27 VA
PR22-3.4K	115	Open Area	27 VA
PR22-3.4K	115	Open Area	27 VA
PR22-3.4K	115	Open Area	27 VA
PR22-3.4K	115	Open Area	27 VA
PR22-3.4K	115	Open Area	27 VA
PR22-3.4K	119	Conference Room	27 VA
PR22-3.4K	206	Lobby	27 VA
PR22-3.4K	206	Lobby	27 VA
PR22-4K	107	Entry SW	33 VA
PR22-4K	117	Vestibule	33 VA
PS14-4.8K	201	Corridor	31 VA
PS22-2K	200	Craft	16 VA
PS22-2K	200	Craft	16 VA
PS22-2K	219	Office	16 VA
PS22-3.4K	216	Conference	27 VA
PS22-3.4K	219	Office	27 VA
PS22-3.4K	219	Office	27 VA
PS22-3.4K	222	Computer	27 VA
PS22-3.4K	201	Corridor	27 VA
PS22-4.8K	202	Stairs North	36 VA
PS22-4.8K	202	Stairs North	36 VA
PS22-4.8K	202	Stairs North	36 VA
S4-4K	102	Corridor	25 VA
S4-4K	102	Corridor	25 VA
S4-4K	106	Electrical	25 VA
S4-5K	100	Mechanical	32 VA
S4-5K	103	Storage	32 VA
S4-5K	218	Toilet	32 VA
S4-5K	114	Stairs South	32 VA
S4-5K	214	Stairs South	32 VA
S4-5K	214	Stairs South	32 VA
S4-7K	210	Mechanical	45 VA
S4-7K	211	Mechanical	45 VA
S4-6K	113	Stairs North	36 VA
WW4-2.5K	113	Stairs North	24 VA
			1466 VA

Interior Lighting Levels

Space Number	Space Name	Area	Space Type	Workplane Height	Min. Required Avgerage Illumination	Actual Average Illumination	Illumination Goal	Max. Allowed Power Density IECC 2015	Actual Power Density	Actual Power Density compared to Code	Allowed Lighting Load	Actual Lighting Load
100	Mechanical	358 ft²	Electrical / Mechanical	2' - 6"	20 fc	38.6 fc	193%	0.95 W/ft²	0.42 W/ft²	45%	340 VA	152 VA
101	Storage	207 ft²	Warehouse - small Items hand-carried	2' - 6"	30 fc	37.8 fc	126%	0.95 W/ft²	0.47 W/ft²	49%	196 VA	97 VA
102	Corridor	380 ft²	Corridor - otherwise	0' - 0"	10 fc	23.5 fc	235%	0.66 W/ft²	0.41 W/ft²	62%	251 VA	156 VA
103	Storage	319 ft²	Electrical / Mechanical	2' - 6"	20 fc	37.8 fc	189%	0.95 W/ft²	0.4 W/ft²	42%	303 VA	127 VA
104	Office	129 ft²	Office - enclosed	2' - 6"	35 fc	42.9 fc	123%	1.11 W/ft²	0.74 W/ft²	66%	144 VA	95 VA
105	Storage	165 ft²	Warehouse - small Items hand-carried	2' - 6"	30 fc	38 fc	127%	0.95 W/ft²	0.58 W/ft²	61%	156 VA	95 VA
106	Electrical	88 ft²	Electrical / Mechanical	2' - 6"	20 fc	34.8 fc	174%	0.95 W/ft²	0.56 W/ft²	59%	84 VA	50 VA
107	Entry SW	109 ft²	Lobby - otherwise	0' - 0"	20 fc	23.1 fc	116%	0.90 W/ft²	0.61 W/ft²	67%	98 VA	66 VA
108	Entry S	322 ft²	Lobby - otherwise	0' - 0"	20 fc	24.1 fc	120%	0.90 W/ft²	0.34 W/ft²	38%	290 VA	109 VA
109	Kitchen	845 ft²	Food Preparation	2' - 6"	50 fc	53.9 fc	108%	1.21 W/ft²	0.63 W/ft²	52%	1,022 VA	535 VA
110	Corridor	144 ft²	Corridor - otherwise	0' - 0"	10 fc	16.3 fc	163%	0.66 W/ft²	0.29 W/ft²	44%	95 VA	42 VA
111	Bathroom Male	254 ft²	Restroom - otherwise	2' - 6"	20 fc	35.8 fc	179%	0.98 W/ft²	1.36 W/ft²	139%	249 VA	347 VA
112	Bathroom Female	256 ft²	Restroom - otherwise	2' - 6"	20 fc	32.2 fc	161%	0.98 W/ft²	1.41 W/ft²	144%	251 VA	362 VA
114	Stairs South	141 ft²	Stairwell	0' - 0"	10 fc	10.1 fc	101%	0.69 W/ft²	0.23 W/ft²	33%	97 VA	32 VA
115	Open Area	4,697 ft²	Conference / Multipurpose	2' - 6"	35 fc	42.5 fc	122%	1.23 W/ft²	0.44 W/ft²	35%	5,777 VA	2,044 VA
116	Lobby	349 ft²	Lobby - otherwise	2' - 6"	20 fc	44.8 fc	224%	0.90 W/ft²	0.6 W/ft²	67%	314 VA	210 VA
117	Vestibule	91 ft²	Lobby - otherwise	0' - 0"	20 fc	23.9 fc	120%	0.90 W/ft²	0.72 W/ft²	80%	82 VA	66 VA
118	Office	90 ft²	Office - enclosed	2' - 6"	35 fc	40.5 fc	116%	1.11 W/ft²	0.87 W/ft²	78%	100 VA	78 VA
119	Conference Room	520 ft²	Conference / Multipurpose	2' - 6"	35 fc	41 fc	117%	1.23 W/ft²	0.51 W/ft²	41%	640 VA	264 VA
120	Conference Room	268 ft²	Conference / Multipurpose	2' - 6"	35 fc	38.7 fc	110%	1.23 W/ft²	0.51 W/ft²	42%	329 VA	137 VA
121	Closet	17 ft²	Storage	2' - 6"	10 fc	20.5 fc	205%	0.63 W/ft²	0.8 W/ft²	126%	11 VA	13 VA
122	Closet	17 ft²	Storage	2' - 6"	10 fc	20.3 fc	203%	0.63 W/ft²	0.8 W/ft²	126%	11 VA	13 VA
123	Storage	89 ft²	Warehouse - small Items hand-carried	2' - 6"	30 fc	32.3 fc	108%	0.95 W/ft²	0.5 W/ft²	53%	85 VA	45 VA
124	Elevator Equipment	85 ft²	Electrical / Mechanical	2' - 6"	20 fc	29.7 fc	149%	0.95 W/ft²	0.58 W/ft²	61%	81 VA	50 VA
130	Driveway	2,540 ft²	Exterior Entry Canopy	0' - 0"	5 fc	11.5 fc	231%	0.25 W/ft²	0.12 W/ft²	49%	635 VA	310 VA
200	Craft	1,282 ft²	Conference / Multipurpose	2' - 6"	35 fc	47.6 fc	136%	1.23 W/ft²	0.48 W/ft²	39%	1,577 VA	618 VA
201	Corridor	563 ft²	Lobby - otherwise	0' - 0"	20 fc	40.3 fc	201%	0.90 W/ft²	0.64 W/ft²	71%	507 VA	361 VA
202	Stairs North	209 ft²	Stairwell	0' - 0"	10 fc	24.3 fc	243%	0.69 W/ft²	0.52 W/ft²	76%	145 VA	109 VA
203	Janitor	37 ft²	Electrical / Mechanical	2' - 6"	20 fc	30.7 fc	154%	0.95 W/ft²	0.54 W/ft²	57%	35 VA	20 VA
206	Lobby	1,123 ft²	Lobby - otherwise	2' - 6"	20 fc	41.5 fc	208%	0.90 W/ft²	0.66 W/ft²	73%	1,011 VA	736 VA
207	Conference 1	544 ft²	Conference / Multipurpose	2' - 6"	35 fc	49.5 fc	141%	1.23 W/ft²	0.54 W/ft²	44%	669 VA	293 VA
208	Conference 2	548 ft²	Conference / Multipurpose	2' - 6"	35 fc	47.9 fc	137%	1.23 W/ft²	0.5 W/ft²	41%	674 VA	274 VA
209	Conference 3	527 ft²	Conference / Multipurpose	2' - 6"	35 fc	46.3 fc	132%	1.23 W/ft²	0.48 W/ft²	39%	648 VA	253 VA
210	Mechanical	105 ft²	Electrical / Mechanical	2' - 6"	20 fc	33.8 fc	169%	0.95 W/ft²	0.42 W/ft²	45%	100 VA	45 VA
211	Mechanical	217 ft²	Electrical / Mechanical	2' - 6"	20 fc	40.6 fc	203%	0.95 W/ft²	0.41 W/ft²	43%	206 VA	89 VA
212	AV	35 ft²	Warehouse - small Items hand-carried	2' - 6"	30 fc	36.1 fc	120%	0.95 W/ft²	0.75 W/ft²	79%	34 VA	27 VA
213	Closet	52 ft²	Storage	2' - 6"	10 fc	31.3 fc	313%	0.63 W/ft²	0.51 W/ft²	80%	33 VA	27 VA
216	Conference	252 ft²	Conference / Multipurpose	2' - 6"	35 fc	45 fc	129%	1.23 W/ft²	0.48 W/ft²	39%	309 VA	122 VA
217	Closet	43 ft²	Storage	2' - 6"	10 fc	30.2 fc	302%	0.63 W/ft²	0.46 W/ft²	74%	27 VA	20 VA
218	Toilet	43 ft²	Restroom - otherwise	2' - 6"	20 fc	30.6 fc	153%	0.98 W/ft²	0.74 W/ft²	76%	42 VA	32 VA
219	Office	806 ft²	Office - open	2' - 6"	35 fc	50.6 fc	145%	0.98 W/ft²	0.56 W/ft²	57%	790 VA	449 VA
220	Closet	84 ft²	Storage	2' - 6"	10 fc	26.6 fc	266%	0.63 W/ft²	0.48 W/ft²	76%	53 VA	40 VA
221	Director	135 ft²	Office - enclosed	2' - 6"	35 fc	54.6 fc	156%	1.11 W/ft²	0.7 W/ft²	63%	150 VA	95 VA
222	Computer	313 ft²	Conference / Multipurpose	2' - 6"	35 fc	48.9 fc	140%	1.23 W/ft²	0.51 W/ft²	41%	385 VA	159 VA
223	Storage	94 ft²	Storage	2' - 6"	10 fc	24.3 fc	243%	0.63 W/ft²	0.26 W/ft²	42%	59 VA	25 VA
224	Patio	1,344 ft²	Exterior Building Surrounds	0' - 0"	1 fc	6.3 fc	628%	0.14 W/ft²	0.09 W/ft²	66%	188 VA	124 VA
		20,836 ft²									19,282 VA	9,410 VA

A. Demolition:
1. Demolish all existing lighting fixtures and controls. This includes all items not needed for new installation function. This includes, but is not limited to emergency, exit, track, architectural and spot lights, switches, sensors, inverters, batteries and control panels. Demolition drawings may not show all existing items.
2. Remove all unused raceways, boxes, conduit and wiring
3. Patch wall, ceiling and other surfaces damaged by removal. Use adjacent surface matching cover for electrical boxes.

B. Installation:
1. Install new raceways, boxes, conduit and wiring as required for new lighting fixtures and controls. Install conduit inside walls and above ceiling.
2. Modify Grid Ceiling to accommodate new fixtures. Fill in openings with new tiles of existing type. Contractor will provide grid elements and tiles. In some locations
3. Install in even pattern. Where sprinkler, diffuser or other permanent obstruction prevents even layout, relocate after consultation with engineer.
4. Install fixtures at indicated height and provide required suspension. A height typically applies to all fixtures in a space, even if only a single fixture has an indicated height shown. If no height is provided, ceiling surface height can be assumed.
5. Surface wiring raceway in finished areas is only allowed where the structure does not allow installation behind ceiling or wall. Raceway shall be neatly routed and hidden in corners to the greatest extend possible. Paint to match adjacent surface.

C. Control:
1. Locate sensors to enable good detection within controlled zone and in between partitions. In enclosed rooms minimize detection of motion in adjacent rooms.
2. Lighting zones are indicated by wire annotations and/or switchleg (SL) numbering. Wire annotations are schematic only to indicate control relationships and don't necessarily equal actually required physical wire runs.
3. Spaces with electrical panels shall have at least one light be controlled by a manual switch only (no automatic control) per code-requirement.
4. Fixture-mounted sensors shall be installed to allow 360° detection and bottom of sensor lens shall be at or below bottom of fixture.
5. Size analog 0-10V wiring to limit voltage drop. At 100% position the light fixture shall be 100% bright.

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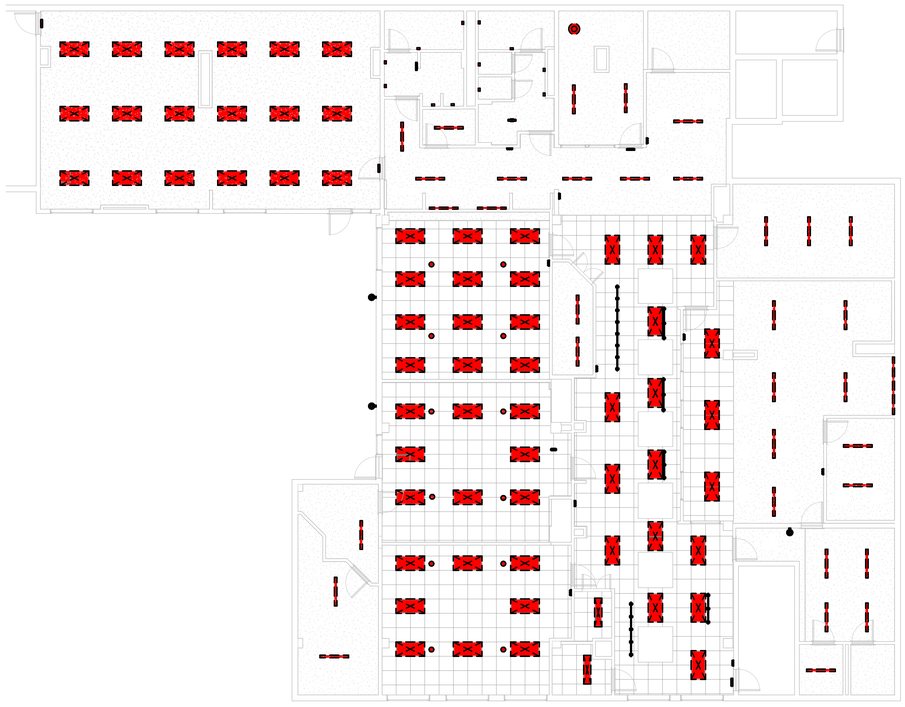
10 0 10 20
SCALE FEET



2 EL Demo Level 2
1" = 10'-0"

1" = 10'-0"

10 0 10 20
SCALE FEET

Designed by:
City of Madison
Facilities Management
City-County Building, Room 115
210 Martin Luther King Jr. Boulevard
Madison, WI 53703

Client:
Senior Center

Senior Center Lighting Replacement

Location:
330 W Mifflin St.
Madison, WI 53703

Contract: 9159
Project: 13369

Revisions

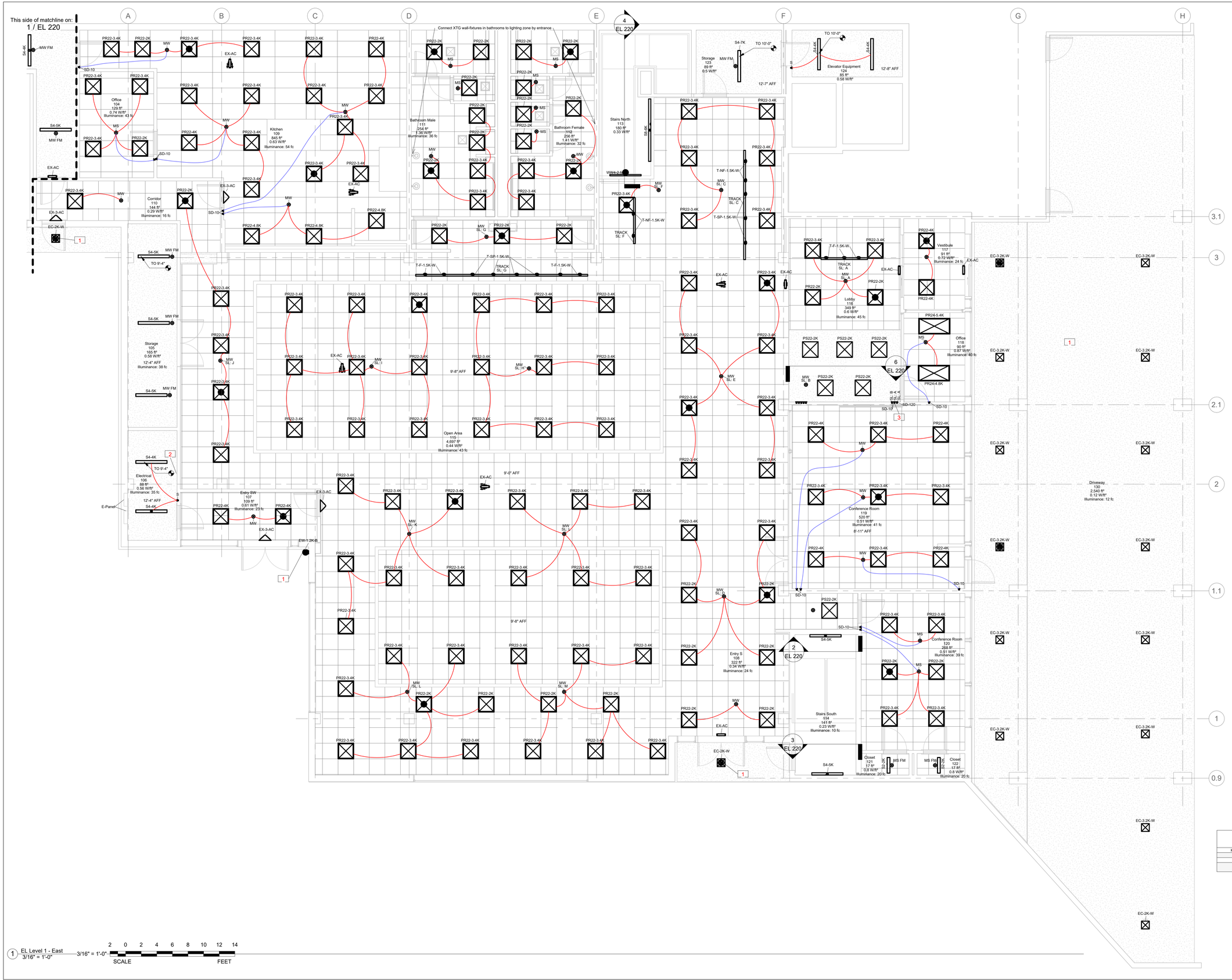
No.	Description

Project North
TRUE

Demolition

EL 200

Print Date:
2/18/2022 08:40:12
Print in color on 36" x 24"



Keynote Legend

Key Value	Keynote Text
1	Connect all new exterior fixtures to existing exterior lighting control.
2	XTG Fire Alarm Panel. Wire from here to the UL 924 relays in the spaces.
3	Disable manual dimmer-sw/ch/leg (only allow manual dimming). Motion sensor switch/leg shall be functional.

1 EL Level 1 - East
3/16" = 1'-0"

3/16" = 1'-0"
SCALE
2 0 2 4 6 8 10 12 14
FEET

Designed by:
City of Madison
Facilities Management
City-County Building, Room 115
210 Martin Luther King Jr. Boulevard
Madison, WI 53703

Client:
Senior Center

Senior Center Lighting Replacement

Location:
330 W Mifflin St.
Madison, WI 53703

Contract: 9159
Project: 13369

Revisions

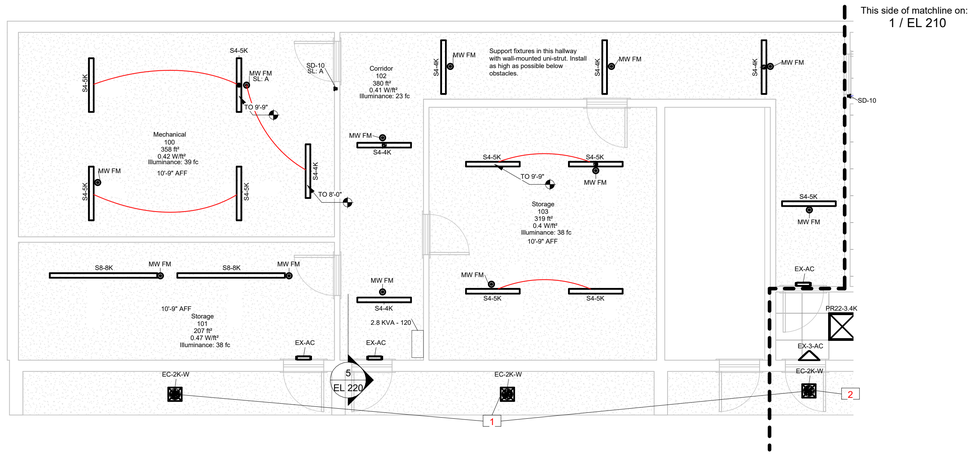
No.	Description

Project North
TRUE

Lighting Level 1 East

EL 210

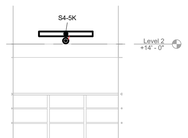
Print Date:
2/18/2022 08:40:15
Print in color on 36" x 24"



1 EL Level 1 - West
3/16" = 1'-0"

3/16" = 1'-0"

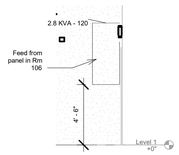
2 0 2 4 6 8 10 12 14
SCALE FEET



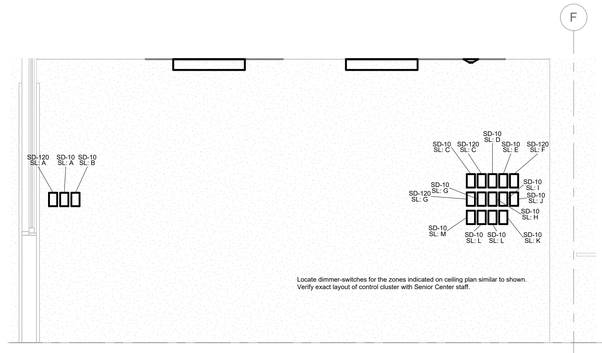
2 EL Section Stair South facing North
3/16" = 1'-0"

3 EL Section Stair South facing Sounth
3/16" = 1'-0"

4 EL Section Stairs North facing East
3/16" = 1'-0"



5 EL Section Inverter
3/16" = 1'-0"



6 EL Section Lighting Control
1/2" = 1'-0"

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330 W Mifflin St.
Madison, WI 53703

Contract: 9159
Project: 13369

Revisions

No.	Description

Project North
TRUE

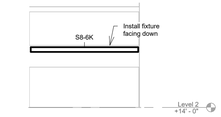
Lighting Level 1 West and Stairs

EL 220

Print Date:
2/18/2022 08:40:17
Print in color on 36" x 24"

2 EL Level 2
3/16" = 1'-0"

SCALE 3/16" = 1'-0" 2 0 2 4 6 8 10 12 14 FEET



1 EL Section Office Cabinet
3/16" = 1'-0"

Keynote Legend

Key Value	Keynote Text
1	3/4-way switching system including all shown switches.
2	Install lockable cover over manual switches and dimmers in entire public area. Disable manual dimmer-switch/eg (only allow manual dimming). Motion sensor switch/eg shall be functional.

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Madison, WI 53703

Client:
Senior Center

Senior Center Lighting Replacement

Location:
330 W Mifflin St.
Madison, WI 53703

Contract: 9159
Project: 13369

Revisions

No.	Description

Project North
TRUE

Lighting Level 2

EL 230

Print Date:
2/18/2022 08:40:18
Print in color on 36" x 24"

Emergency Power Battery Inverters

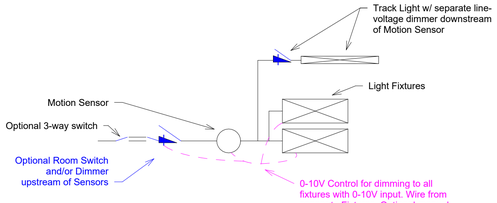
Type Mark	Description	Manufacturer	Model	Remark	URL	Output Rating @ 90 Minutes	In / Out Voltage	Weight	Specifications
2.8 KVA - 120	Emergency Lighting Battery Inverter	Myers	1-EM-4-S-B-A	For floor mount use option -F. For wall-mount use option -W.	www.myerspes.com	2800 VA	120 V	335 lbf	26 52 00 – Safety Lighting

Lighting Device Schedule

Type Mark	Description	Est. Count	Model	URL	Specification
H	Motion Sensor High Bay	2	Sensorswitch CMR-6-D-P-VLP	www.acuitybrands.com	26 09 23 – Lighting Control Devices
MS	Motion Sensor short Range	24	Sensorswitch CMR-9-PDT-ADC-VLP	www.acuitybrands.com	26 09 23 – Lighting Control Devices
MS FM	Motion Sensor short Range; Fixture-mount	4	Sensorswitch LSXR-9-ADC-VLP	www.acuitybrands.com	26 09 23 – Lighting Control Devices
MW	Motion Sensor wide Range	57	Sensorswitch CMR-10-PDT-ADC-VLP	www.acuitybrands.com	26 09 23 – Lighting Control Devices
MW FM	Motion Sensor wide Range; Fixture-mount	16	Sensorswitch LSXR-10-ADC-VLP	www.acuitybrands.com	26 09 23 – Lighting Control Devices
S	Single Pole Switch	4			26 09 23 – Lighting Control Devices
S3	3-Way Switch	4			26 09 23 – Lighting Control Devices
SD-10	Switch w/ 0-10V Dimmer	53	Wattstopper RH4FBL3PW	www.legrand.us	26 09 23 – Lighting Control Devices
SD-120	Switch w/ Line-Voltage Dimmer	9	Acuity ISD-400E-ELV--120-WH	www.acuity.com	26 09 23 – Lighting Control Devices

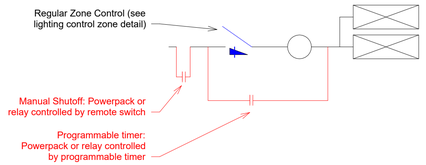
Lighting Fixture Schedule

Type Mark	Description	Est. Count	Model	URL	Apparent Load	Luminous Flux	Color Temperature	Efficacy	Lumen Maintenance	Specification
EC-2K-W	Exterior Canopy surface-mounted; White	5	RAB VANLED-10-F-W	www.rablighting.com	14 VA	2009 lm	5000 K	149 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EC-3.2K-W	Exterior Canopy surface-mounted; White	13	RAB VANLED-20-F-W	www.rablighting.com	23 VA	3184 lm	5000 K	140 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EW-1.2K-B	Exterior Wall - Bronze	1	RAB BRISK-S11L	www.rablighting.com	9 VA	1212 lm	5000 K	135 lm/W	L80 @ 60K hours	26 56 00 – Exterior Lighting
EW-2-3.5K-B	Exterior Wall Type 2 – Black	1	Gardco 121-16L-530-CW-G4-2-UNV-DD-BK	www.signify.com	28 VA	3465 lm	5000 K	124 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EW-3-3.2K-B	Exterior Wall Type 3 - Black	2	Gardco 121-16L-530-CW-G4-3-UNV-DD-BK	www.signify.com	28 VA	3205 lm	5000 K	114 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EW-4-1.4K-B	Exterior Wall Type 4 - Black	1	Gardco 121-16L-200-CW-G4-4-UNV-DD-BK	www.signify.com	12 VA	1391 lm	5000 K	116 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EW-4-3.2K-B	Exterior Wall Type 4 - Black	1	Gardco 121-16L-530-CW-G4-4-UNV-DD-BK	www.signify.com	28 VA	3214 lm	5000 K	115 lm/W	L70 @ 100K hours	26 56 00 – Exterior Lighting
EX-3-AC	AC-powered triangular Exit Fixture	6	Big Beam TRXL-2-G-W-W	www.bigbeam.com	4 VA					26 52 00 – Safety Lighting
EX-AC	AC-powered Exit Fixture	15	Lithonia LQM-S-W-3-G-M-VOLT	www.acuitybrandslighting.com	1 VA					26 52 00 – Safety Lighting
PR22-2K	Panel Recessed 2x2	57	Lithonia EPANL-2x2-2000LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	16 VA	1972 lm	4000 K	126 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PR22-3.4K	Panel Recessed 2x2	133	Lithonia EPANL-2x2-3400LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	27 VA	3399 lm	4000 K	128 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PR22-4.8K	Panel Recessed 2x2	3	Lithonia EPANL-2x2-4800LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	36 VA	4697 lm	4000 K	129 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PR22-4K	Panel Recessed 2x2	10	Lithonia EPANL-2x2-4000LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	33 VA	4117 lm	4000 K	125 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PR24-4.8K	Panel Recessed 2x4	1	Lithonia EPANL-2x4-4800LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	37 VA	4773 lm	4000 K	128 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PR24-5.4K	Panel Recessed 2x4	1	Lithonia EPANL-2x4-5400LMHE-40K-80CRI-MIN1-ZT-MVOLT	www.acuitybrands.com	41 VA	5645 lm	4000 K	139 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PS14-4.8K	Panel Surface 1x4	4	Lithonia EPANL-1x4-4800LMHE-40K-80CRI-MIN1-ZT-MVOLT-1x4SMKSH	www.acuitybrands.com	31 VA	4612 lm	4000 K	151 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PS22-2K	Panel Surface 2x2	13	Lithonia EPANL-2x2-2000LMHE-40K-80CRI-MIN1-ZT-MVOLT-2x2SMKSH	www.acuitybrands.com	16 VA	1972 lm	4000 K	126 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PS22-3.4K	Panel Surface 2x2	50	Lithonia EPANL-2x2-3400LMHE-40K-80CRI-MIN1-ZT-MVOLT-2x2SMKSH	www.acuitybrands.com	27 VA	3399 lm	4000 K	128 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PS22-4.8K	Panel Surface 2x2	3	Lithonia EPANL-2x2-4800LMHE-40K-80CRI-MIN1-ZT-MVOLT-2x2SMKSH	www.acuitybrands.com	36 VA	4697 lm	4000 K	129 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
PS22-4K	Panel Surface 2x2	4	Lithonia EPANL-2x2-4000LMHE-40K-80CRI-MIN1-ZT-MVOLT-2x2SMKSH	www.acuitybrands.com	33 VA	4117 lm	4000 K	125 lm/W	L91 @ 60K hours	26 51 00 - Interior Lighting
S2-2K	Strip 2'	2	Lithonia CLX-L24-2000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	13 VA	1981 lm	4000 K	147 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S3-3K	Strip 3'	4	Lithonia CLX-L36-3000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	20 VA	3004 lm	4000 K	150 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S4-4K	Strip 4'	11	Lithonia CLX-L48-4000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	25 VA	3868 lm	4000 K	156 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S4-5K	Strip 4'	16	Lithonia CLX-L48-5000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	32 VA	4839 lm	4000 K	152 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S4-7K	Strip 4'	4	Lithonia CLX-L48-7000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	45 VA	7009 lm	4000 K	157 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S8-6K	Strip 8'	2	Lithonia CLX-L96-6000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	38 VA	5697 lm	4000 K	160 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
S8-8K	Strip 8'	2	Lithonia CLX-L96-8000LM-HEF-RDL-MVOLT-EZ1-40K-80CRI	www.acuitybrands.com	49 VA	7602 lm	4000 K	157 lm/W	L70 @ 100K hours	26 51 00 – Interior Lighting
T-F-1.5K-W	Track 38" - White	11	Juno T262L-G2-40K-97CRI-PDIM-FL-WH	juno.acuitybrands.com	16 VA	1454 lm	4000 K	91 lm/W	L70 @ 50K hours	26 51 00 – Interior Lighting
T-NF-1.5K-W	Track 23" - White	18	Juno T262L-G2-40K-97CRI-PDIM-NFL-WH	juno.acuitybrands.com	16 VA	1466 lm	4000 K	92 lm/W	L70 @ 50K hours	26 51 00 – Interior Lighting
T-SP-1.5K-W	Track 10" - White	10	Juno T262L-G2-40K-97CRI-PDIM-SP-WH	juno.acuitybrands.com	16 VA	1466 lm	4000 K	92 lm/W	L70 @ 50K hours	26 51 00 – Interior Lighting
TRACK	Track compatible with scheduled track fixtures	11								26 51 00 – Interior Lighting
WW4-2.5K	Linear Wall-Wash LED Light Fixture	1	Focal Point FSM1W-AS-625-40K-1C-UNV-L11-WM-WH-4ft	www.focalpointlights.com	24 VA	2500 lm	4000 K	104 lm/W	L90 @ 115K hours	26 51 00 – Interior Lighting
		416								



A. Lighting zones with lighting-devices and light-fixtures are indicated by wire lines and/or switch leg (SL) numbers.
B. Where devices allow, dimming shall be accomplished by 0-10V wiring of all devices.
C. Where shown on plans, a zone may have 3-way and 4-way switches. Enable 3-way function on dimmer switch and wire appropriately to enable control from all switch locations.
D. Motion sensor with local switch will be de-energized when switch is off (sensor downstream of switch);
   1. Light will be on upon activation of local switch regardless of actual motion detection (sensor is ON upon power-up)
   2. Sensors will not click when local switch is off (nuisance avoidance in quiet rooms)
E. Line-voltage dimmers (i.e. track lighting) shall be downstream of local motion sensor.
F. Notes on plans or switchleg naming will indicate exceptions. For example:
   1. Disable Switchleg: A dimmer will only dim the lighting level to the allowable minimum. The line voltage switch in the dimmer will not be used. This prevents lights turning off entirely. Hallways are an example.
   2. One light fixture shall be controlled by switch only: Switchleg parameters indicate that some lights are controlled by switch and sensor, and some lights by switch only. This prevents the latter lights from turning off upon loss of motion detection. Electrical or mechanical rooms are examples.
G. Sensor Programming Instructions:
   1. The below is based on Sensorswitch Instructions at the time of design. Amend if different sensors are used or if manufacturer changes procedure. Confirm any deviation with engineer. Sensorswitch support#: 1-800-535-2465
   2. If sensors are equipped with VLC programming option, a smartphone app shall be used. Note that sensors needs to be initialized and set with a PIN within 45 minutes of powering up. Program is sent to sensor via flashlight. Lights will blink to acknowledge successful programming.
   3. Verify settings with engineer prior programming. Certain settings may be different in certain zones.
   4. Sensors shall be programmed depending on availability of daylight . Save presets to avoid deviations.
   5. No daylight available:
      a. Enable "Time Delay" - Set to 15 minutes
      b. Disable Trim
      c. Enable "Dim to Off Delay" - set to 5 minutes
      d. Disable Photocell
   6. Daylight available (inc. spaces with overhead doors, skylights, windows within 20' of sensor)
      a. Enable "Photocell" and set to "On/Off and Auto Dimming"
      b. Enable "Auto Set Point"
   7. After programming, all functions shall be tested to verify desired function. Adjust as required for intended function. Discuss problems with engineer.

2 EL Lighting Control Zone
1" = 1'-0"



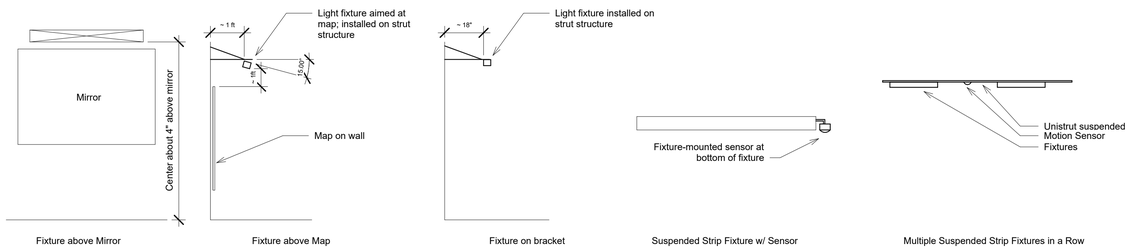
Local Lighting Control Override

A. Plan will indicate which zones will be overriden.
B. Manual shut-off:
   1. Staff can remotely turn off selected zones regardless of local lighting control. the remote switch is shown on plans (typically in a non-public location)
C. Programmable timer:
   1. A central timer forces lights in zone on regardless of local control setting
D. Wiring from programmable timer and remote switch can be accomplished in line-voltage wiring or with low-voltage wiring and power-pack near lighting zone.

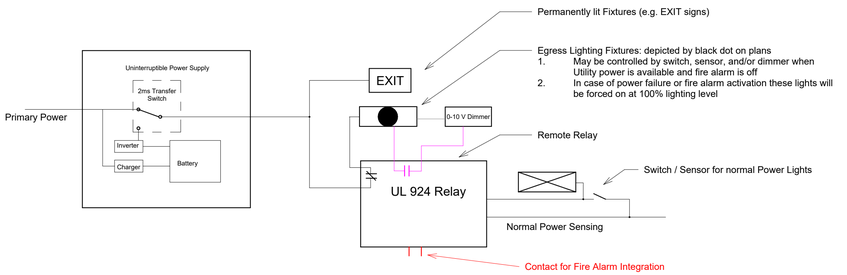
3 EL Local Lighting Control Overrides
1" = 1'-0"

A. Some spaces don't employ automatic lighting control and use manual switches only. These include but are not limited to mechanical, electrical, or crawl spaces.
B. In these spaces, adhere a sign to the exit door indicating that lights shall be shut off upon leaving the space.
C. Above sign is an example and similar signs can be used upon approval.

1 EL Manual Lighting Control - Not to Scale



4 EL Typical Installation Details
1" = 1'-0"



Objective:
1. Emergency light fixtures (indicated by a black dot) and Exit signs will be powered by the Uninterruptible AC Power Supply (UPS). Wiring has to be extended from UPS to all devices.
2. When normal power is present and fire alarm is OFF, lighting will be controlled by lighting control system. Local switches, timers, dimmers and sensors control on/off and dimming.
3. When normal power is not present, the emergency fixtures and exit signs will be powered by the battery for over 90 minutes. These fixtures will be forced on at 100% (no dimming)
4. When fire alarm is active, all emergency light fixtures will be forced on at 100% (no dimming).
5. Contractor shall verify availability of contacts in fire alarm panel and add relay(s) if required.
6. Wiring shall meet NEC 700.10 requirements. This includes, but is not limited to:
   a. Separate emergency raceway. Raceway shall be marked.
   b. Any junctions shall be labeled "Warning - 2 power sources" or as required by code
   c. Label indicates panel, circuit, and voltage
7. Conduit for emergency lighting shall be color-coded as specified in Division 26
8. When accessible installation of UL 924 relay is not possible (e.g. drywall, exterior), install the relay in near-by accessible location. Verify location with engineer.
9. fixtures with built-in sensor shall be re-wired for UL 924 relay to bypass sensor (e.g. exterior fixture with included photocell)

5 EL Egress Lighting Control w/ UPS and Fire Alarm Integration
1" = 1'-0"

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Facilities Management
City-County Building, Room 115
210 Martin Luther King Jr. Boulevard
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Contract: 9159
Project: 13369

Revisions

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Project North
TRUE

Details and Schedules

EL 300

Print Date:
2/18/2022 08:40:18
Print in color on 36" x 24"