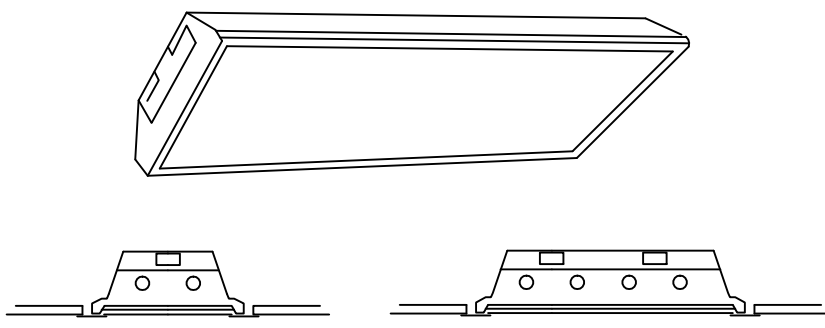


LUMINAIRE REQUIREMENTS



- HOUSING SHALL BE 0.026" MIN. THICKNESS. HEIGHT SHALL BE 4" MIN. AND SHALL NOT PERMANENTLY DEFORM WHEN LIFTED BY ONE CORNER WITH LENS DOOR IN PLACE NOR WITH LENS DOOR REMOVED. LENS DOOR SHALL NOT OPEN WHEN LUMINAIRE IS LIFTED BY ONE CORNER. LUMINAIRE SHALL HAVE LESS THAN THE FOLLOWING DEFLECTION WHEN LIFTED BY ONE CORNER WITH LENS DOOR REMOVED.

TYPE:	A	B	C, D & E.
	3'	2 1/2'	4'

- HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND HAVE BAKED WHITE ENAMEL FINISH 85% MIN. REFLECTANCE (INTERIOR). PAINT ENTIRE HOUSING AND LENS DOOR WHITE, AFTER FABRICATION. INTERNAL GROUNDING TERMINAL.
- LATCHES SHALL BE A 0.030" MINIMUM THICKNESS STEEL OR 0.015" MINIMUM THICKNESS SPRING STEEL.
- LENS DOOR SHALL BE 0.023" MINIMUM THICKNESS STEEL, SHALL BE ASSEMBLED WITH SCREWS (FOR LENS REPLACEMENT). PROVIDE LIGHT TIGHT FIT WITHOUT MOVABLE BAFFLES. GASKETING SHALL NOT BE A MEANS OF ACHIEVING LIGHT TIGHT DOOR.
- LENS SHALL BE 0.156", PATTERN 19 (FOR TYPES A, C, D, E) AND 0.125", PATTERN 12 (FOR TYPE B) PLUS OR MINUS 10% OVERALL (0.09 MAX, PRISM PENETRATION) CLEAR PRISMATIC 100% ACRYLIC.
- DOOR SHALL BE CAPABLE OF HINGING AND LATCHING FROM EITHER SIDE OF LUMINAIRE. PROVIDE SAFETY TYPE HINGES.
- BALLAST SHALL BE HIGH POWER FACTOR (> .95) INSTANT CLASS P ELECTRONIC BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS ONE AT EACH END.

8. PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3150L LAMP WITH AVG-MAX RATIO NOT TO EXCEED 1.5

ROOM CAVITY RATIO	TYPE:	A	B	C	D	E	AVG. LUMINANCE (FL)
1	CU	0.67	0.59	0.71	0.66	0.67	45 - 2250
2		0.60	0.53	0.65	0.60	0.59	55 - 1605
3		0.54	0.48	0.57	0.54	0.53	65 - 1125
4		0.49	0.44	0.51	0.48	0.47	75 - 750
MIN. 5/MH		1.2	1.1	1.3	1.3	1.3	85 - 495

- PROVIDE MOUNTING HARDWARE COMPATIBLE WITH CEILING MATERIAL IN WHICH LUMINAIRE IS TO BE INSTALLED.
 - TYPE A - 2'X2' 2 F40/T5 LONG TWIN TUBE LAMPS
 - TYPE B - 1'X4' 2 F32/T-8 LAMPS
 - TYPE C - 2'X4' 2 F32/T8 LAMPS
 - TYPE D - 2'X4' 3 F32/T8 LAMPS
 - TYPE E - 2'X4' 4 F32/T8 LAMPS W/ 2 TWIN TUBE BALLASTS

FLUORESCENT TROFFER LUMINAIRE LENS TYPE

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- THE CONTRACTOR SHALL INSTALL ALL CEILING LIGHTS ON IN THE PROXIMITY OF THE EXISTING TROFFER LIGHTS. PROVIDE NL-3, TYPE D, 120 VOLT, CEILING RECESSED
- REMOVE ALL EXISTING EXIT LIGHTS TO NEAREST JUNCTION BOX.
- INSTALL (2) COMBINATION EMERGENCY/EXIT LIGHT - NL-61A, USING EXISTING CIRCUITS.
- REPLACE EXISTING FLUORESCENT LIGHT FIXTURE ABOVE THE SINKS IN MEN'S ROOM WITH (2) TUBE 4'-0" FLUORESCENT WALL MOUNTED LIGHT. SIMILAR TO LITHONIA LIGHTING, GENERAL GRADE CONTEMPORARY LIGHT, MODEL # 5YA87.
- Replace all existing receptacles, switches and covers. Install brown receptacles, switches with stainless steel covers.

ELECTRICAL NOTES

- ALL WORK & MATERIALS, UNLESS NOTED OTHERWISE AS EXISTING, ARE NEW & SHALL BE PROVIDED BY THE CONTRACTOR. ELECTRICAL INSTALLATION SHALL CONFORM TO

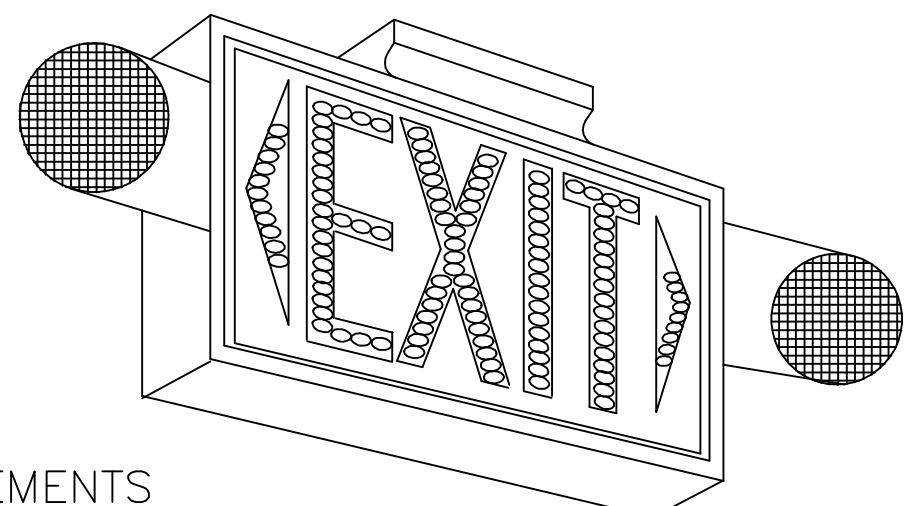
- REQUIREMENTS OF NFPA 70, & REQUIREMENTS SPECIFIED HEREIN. WORK PLACE SHALL MEET REQUIREMENTS OF NFPA 70E.
- ELECTRICAL PLANS ARE PARTIALLY DIAGRAMMATIC. REFER TO ARCHITECTURAL & MECHANICAL DRAWINGS FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, FINISHES, DETAILS, LOCATION OF DUCTS, PIPES, & STRUCTURAL SUPPORTS, & BUILDING ORIENTATION. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURES, OTHER SYSTEMS.
 - PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, RACEWAYS, & OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING. PROVIDE MINIMUM 1/4 INCH AIR SPACE BETWEEN CONCRETE/MASONRY SURFACE & ELECTRICAL DEVICES & OUTLETS. VERIFY ALL EQUIPMENT CHARACTERISTIC & MOUNTING REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE PROPER ACCESSORIES, TRIMS, ETC., TO SUIT THE MOUNTING SYSTEM.
 - CUT EXISTING SURFACES AS REQUIRED TO INSTALL CONDUIT, RACEWAYS & OTHER

- ELECTRICAL WORK; REPAIR ALL DAMAGE CAUSED BY WORK CUTTING SHALL BE DONE BY SAWING ALONG STRAIGHT LINES. THE AMOUNT OF CUTTING SHALL BE THE MINIMUM NECESSARY TO ACCOMMODATE NEW WORK. NO FLAME CUTTING SHALL BE PERMIT WITHOUT THE WRITTEN PERMISSION OF THE CONTRACTING OFFICER. HOLES SHALL BE ROTARY DRILLED & THE SIZE SHALL BE THE MINIMUM NECESSARY TO ACCOMMODATE THE WORK.
- WHERE CONDUIT & WIRING HAS NOT BEEN SHOWN ON DRAWINGS, THE ARRANGEMENT & ROUTING OF THE BRANCH CIRCUITS WILL BE AT CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED GOOD PRACTICE FOR COMMERCIAL WORK & N.E.C. CODE REQUIREMENT
 - ALL CONDUCTORS SHALL BE COPPER. PROVIDE INSULATED CONDUCTORS WITH EQUIPMENT GROUNDING (E.G.) CONDUCTOR IN CONDUIT & RACEWAYS; WIRE & CONDUIT SIZES AS INDICATED. COLOR CODING OF 208/120 VOLT, THREE PHASE SYSTEM UNGROUNDED CONDUCTORS: PHASE A - BLACK; PHASE B - RED; PHASE C - BLUE. INSULATION SHALL BE 600- VOLT, TYPE THWN-2/THHN-2 EXCEPT TYPE

- TW FOR GROUNDING CONDUCTOR.
- PROVIDE INSULATED CONDUCTORS INSTALLED IN ELECTRICAL METALLIC TUBING (EMT) EXCEPT PROVIDE FLEXIBLE METALLIC CONDUIT BETWEEN 3 & 6 FEET IN LENGTH FOR RECESSED & SEMI-RECESSED LIGHTING FIXTURES
 - TOGGLE SWITCHES: 20 AMP, 120-277 V; NEMA WD-1; SINGLE POLE - NO. 1121; BROWN HANDLES, SCREW-TYPE, SIDE-WIRING. MOUNT IN EXISTING BACKBOXES.
 - DUPLEX RECEPTACLES: 20 AMP, 125 V, NEMA WD 1; SPECIFICATION GRADE NO. 5250; BROWN BODIES GROUNDING TYPE, SCREW-TYPE, SIDE-WIRING TERMINALS. MOUNT 18 INCHES ABOVE FINISHED FLOOR OR ABOVE COUNTER TOPS CENTER IN SPACE ABOVE COUNTER TOP AND SERVICE COUNTER.
 - VERIFY CIRCUIT NUMBERS & DE-ENERGIZE CIRCUITS PRIOR TO BEGINNING WORK. EXISTING WIRING TO BE REMOVED SHALL BE DISCONNECTED FROM ITS SOURCE. WIRING & CONDUIT/RACEWAYS MAY VARY FROM THAT SHOWN.

LUMINAIRE REQUIREMENTS

- ALUMINUM, STEEL, THERMOPLASTIC OR POLYCARBONATE HOUSING.
- BRUSHED ALUMINUM, THERMOPLASTIC OR STEEL STENCIL WITH LETTERS 6 INCHES TALL & 3/4 INCH WIDE STROKES AND PUNCH-OUT FACE FOR LED'S OR INTERNAL LED ILLUMINATION.
- RED ILLUMINATION PROVIDED BY LIGHT EMITTING DIODES (LED). APPROXIMATELY 120 LED'S PER FACE. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS.)
- CLEAR PROTECTIVE NON-BREAKABLE LENS TO PROTECT LED'S. (NOT REQUIRED FOR INTERNALLY ILLUMINATED SIGNS.)
- PROVIDE FAILURE, BROWN OUT PROTECTION & SURGE PROTECTION.
- PROVIDE NI-CAD BATTERY POWER & SOLID STATE TYPE CHARGER.
- PROVIDE UNIVERSAL ARROWS & BLANK-OFF PLATES.
- PROVIDE SINGLE OR DOUBLE FACE AS INDICATED ON PLANS.
- PROVIDE UNIVERSAL MOUNTING.
- UNITS MOUNTED EXPOSED TO THE ELEMENTS OR IN CLASSIFIED AREAS SHALL HAVE UL LABEL AS INDICATED.
- PROVIDE INTERNAL GREEN GROUNDING SCREW.
- PROVIDE TEST BUTTON IN BOTTOM OF HOUSING.
- PROVIDE INDICATOR LIGHTS IN FACE TO INDICATE WHEN UNIT IS ON NORMAL POWER OR ON BATTERY POWER.
- HOUSING SHALL HAVE A MATTED WHITE FINISHED, EXCEPT AS SPECIFIED OTHERWISE.
- LAMP HEADS (ROUND OR RECTANGULAR) AND SHALL BE FULLY ADJUSTABLE
- SWITCHING AND CONTROLS-FULLY AUTOMATIC, 90 MINUTE OPERATION. COMPLETELY SOLID STATE WITH AUTO TRANSFER AND LOW VOLTAGE CUTOFF. TEST SWITCH AND HIGH RATE INDICATING LIGHT.
- UNIT SUITABLE TO OPERATE ADDITIONAL REMOTE HEAD.



LIGHT EMITTING DIODE EXIT SIGN

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BLDG# 1700 SHEET 7 OF 7
 CONTRACT# N40085-09B-0513
 DWG. DAVID BELEDNARD
 MACC# 09-0513
 PARTIAL RENOVATION
 USMC CAMP LEBUNNE
 E1