



SITE LIGHT FIXTURE SCHEDULE								
LIGHT FIXTURE NAME	MANUFACTURER	CATALOG NUMBER	VOLTAGE	VA PER FIXTURE	LAMP TYPE	MOUNTING	LISTING	FIXTURE DESCRIPTION
C5	LITHONIA LIGHTING	RCNY LED AL01 50K 70CRI ASYC MVOLT BZS XXXXX	120 V	14.107 VA	LED	SURFACE	DLC	FUEL CANOPY LED LIGHTING
E1	LITHONIA LIGHTING	RSX1 LED P4 50K R3 MVOLT SPA FAD EGS XXXXX (DIM SETTINGS 6)	120 V	106.51 VA	LED	SURFACE	DLC	LED AREA LIGHT POLE (1 HEAD)
Q1	LITHONIA LIGHTING	RSX1 LED P4 50K R4 MVOLT SPA FAD EGS XXXXX (DIM SETTINGS 6)	120 V	106.51 VA	LED	SURFACE	DLC	LED AREA LIGHT POLE (1 HEAD)
Q2D	LITHONIA LIGHTING	RSX1 LED P4 50K R4 MVOLT SPA FAD EGS XXXXX (DIM SETTINGS 4)	120 V	143.78 VA	LED	POLE	DLC	LED AREA LIGHT POLE (2 HEAD)
S1	LITHONIA LIGHTING	SONY LED AL02 SWW2 PFL MVOLT DWHXD M3 (SETTINGS 2, CCT: 5000K) + PONYDT XXXXX J12	120 V	37.48 VA	LED	POLE	DLC	BUILDING CANOPY LED LIGHTING
W1	LITHONIA LIGHTING	WPX2 LED 50K MVOLT XXXXX	120 V	46.93 VA	LED	POLE	DLC	BUILDING LED LIGHTING

NOTE: LIGHT POLE FINISH TO MATCH FIXTURE

GENERAL NOTES

- COORDINATE EXACT QUANTITY, TYPE AND SIZE OF FUELING CONDUITS WITH FUELING PLANS.
- REFER TO SHEET E2.1 FOR BUILDING EXTERIOR, CANOPY, AND SITE LIGHTING CONTROLS AND REQUIREMENTS.
- COORDINATE EXACT LOCATION AND QUANTITY OF BUILDING EXTERIOR CANOPY, AND SITE SIGNAGE WITH SIGN PACKAGE.
- REFER TO SHEET E2.0 FOR BUILDING EXTERIOR LIGHTING SCHEDULE.
- REFER TO PHOTOMETRIC DRAWING FOR EXACT LOCATIONS AND SPECIFICATIONS OF SITE LIGHTING.

KEYED NOTES

- FUEL CANOPY. REFER TO FUEL DRAWINGS FOR ADDITIONAL WORK IN THIS AREA UNDER SEPARATE CONTRACT.
- (1) 3/4" TC WITH PULL WIRE FOR DATA. COORDINATE FINAL LOCATION AND ROUTING WITH SIGN CONTRACTOR AND OWNER REPRESENTATIVE PRIOR TO TRENCHING.
- COORDINATE WITH FUEL AND CIVIL PLANS FOR EXACT LOCATION OF AIR PRIOR TO TRENCHING.
- G.C. TO EXTEND INDIVIDUAL PVC COATED GALVANIZED STEEL CONDUITS WITH PULL STRINGS FROM ELECTRICAL ROOM TO 10' PAST THE BUILDING SLAB. FUEL CONTRACTOR TO CONTINUE CONDUITS AND PULL WIRE TO FINAL TERMINATION AT FUEL CANOPY. REF. FUEL DRAWINGS FOR NUMBER AND SIZE OF CONDUITS.
- UTILITY TRANSFORMER. COORDINATE TRANSFORMER PAD AND PRIMARY CONDUIT REQUIREMENTS WITH UTILITY COMPANY.
- G.C. TO COORDINATE BOLLARD INSTALLATION WITH ELECTRICAL CONDUIT RUNS TO FUEL CANOPY. PROVIDE TEMPORARY SLEEVE BOLLARDS AS NECESSARY TO MARK BOLLARD PLACEMENT DURING CONDUIT INSTALLATION.
- APPROXIMATE LOCATION OF TRENCH FOR FUEL CANOPY CONDUITS. COORDINATE WIDTH AND DEPTH OF TRENCH, SIZES OF CONDUITS, AND QUANTITY OF CONDUITS WITH FUEL VENDOR PRIOR TO ROUGH-IN.
- TERMINATE TRENCHING IN ELECTRICAL ROOM.
- FUEL CANOPY SIGNAGE. COORDINATE POWER REQUIREMENTS WITH FUEL DRAWINGS.
- SECONDARY CONDUITS FROM UTILITY TRANSFORMER TO BUILDING SERVICE ENTRANCE. VERIFY EXACT REQUIREMENTS AND LOCATION WITH LOCAL UTILITY COMPANY PRIOR TO INSTALLATION.
- METER ON BUILDING EXTERIOR PER LOCAL UTILITY COMPANY REQUIREMENTS.
- TELECOM ENTRANCE IN ELECTRICAL ROOM. (2) 2" CONDUITS TO BE STUBBED FROM 5' OUTSIDE BUILDING UP TO TELECOM DEMARK LOCATION. ONE MAIN, ONE SPARE. CONFIRM REQUIREMENTS WITH UTILITY PRIOR TO ROUGH-IN.
- VERIFY EXACT LOCATION WITH OWNER FOR MONUMENT SIGN. EC TO PROVIDE WEATHERPROOF JUNCTION BOX AND 30A NEMA 3R DISCONNECT SWITCH 18" AFG. THIS CIRCUIT IS WIRED THROUGH EMS. REFER TO SHEET EMS1.0.
- GFCI TYPE WEATHERPROOF RECEPTACLE MOUNTED ON SIGN SUPPORT +14" AFG. THIS RECEPTACLE SHALL NOT BE SWITCHED. (BYPASS THE CONTACTOR AND SIGN'S DISCONNECT SWITCH). CONNECT TO SIGN CIRCUIT.
- COORDINATE WITH FUEL AND CIVIL PLANS FOR EXACT LOCATION OF AIR/VAC PRIOR TO TRENCHING. REFER TO SHEET CNE1.0 FOR MORE INFORMATION.
- PROVIDE 30A /3P, 240V NEMA 3R DISCONNECT SWITCH FOR LIFT STATION. ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.

FIELD VERIFY ALL CONDITIONS

NOTE: AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

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SEAL:

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2 08/19/25 PHASE 3B COMMENTS

NO DATE REMARKS

REVISIONS

7-ELEVEN

7-ELEVEN

STORE #42659

SWC OF ST JOHNS HERITAGE

PKWY & EMERSON DR

PALM BAY, FL 32904

PROJECT NO: 2024.0313

DATE: APRIL 28, 2024

E0.1

ELECTRICAL SITE PLAN

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ELECTRICAL SPECIFICATION

INTRODUCTION

THE CONTRACTING FOR INSTALLATION OF THE ELECTRICAL SYSTEM WILL BE ACCOMPLISHED IN THE FIELD AT THE DIVISION LEVEL. THESE SPECIFICATIONS ARE TO AID IN PREPARATION OF DIVISION LEVEL STORE PLANS AND CONTRACT DOCUMENTS. IN CASE OF A CONFLICT BETWEEN THIS SPECIFICATION AND THE CONTRACT DOCUMENTS PROVIDED BY THE DIVISION CONSTRUCTION MANAGER, THE DIVISION'S PLANS AND SPECIFICATIONS SHALL PREVAIL.

DEFINITIONS

THE FOLLOWING DEFINITIONS APPLY TO THIS PROJECT.

FURNISH – TO SUPPLY THE MATERIAL NECESSARY TO PERFORM THE TASK.

INSTALL – TO SUPPLY THE LABOR NECESSARY TO COMPLETE THE TASK.

PROVIDE – TO FURNISH AND INSTALL MATERIAL AND LABOR TO COMPLETE THE TASK.

1. SCOPE

- 1.1 E.C. TO PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT (U.N.O.) REQUIRED TO EXECUTE WORK PER NEC AND ALL APPLICABLE ELECTRICAL CODES IN FORCE AT THE TIME OF PROJECT COMPLETION.
- 1.2 THIS WORK INCLUDES, BUT IS NOT LIMITED TO: ELECTRICAL SERVICE AND DISTRIBUTION SYSTEMS, PANELBOARDS, DISCONNECT SWITCHES, LIGHTING FIXTURES, POWER AND CONTROL WIRING WITH FINAL CONNECTIONS TO ALL EQUIPMENT REQUIRED FOR A COMPLETE SYSTEM.
- 1.3 E.C. TO VERIFY TYPE OF POWER SERVICE AVAILABLE (UNDERGROUND OR OVERHEAD) AND MAXIMUM SHORT CIRCUIT CURRENT PRIOR TO SUBMITTING A PROPOSAL.
- 1.4 E.C. TO VERIFY TYPE OF TELEPHONE SERVICE AVAILABLE (UNDERGROUND OR OVERHEAD) PRIOR TO SUBMITTING A PROPOSAL.
- 1.5 E.C. TO VERIFY METERING, IN ACCORDANCE WITH LOCAL ELECTRIC UTILITY COMPANY REQUIREMENTS, FOR GENERAL SERVICE SCHEDULE.
- 1.6 E.C. SHALL INSTALL 3–PHASE, 4–WIRE, 120/208V WYE SERVICE. IF FOR ANY REASON, THIS IS NOT AVAILABLE, THE E.C. SHALL NOTIFY 7–ELEVEN, IN WRITING PRIOR TO SUBMITTING OF PROPOSAL (U.N.O.).
- 1.7 E.C. TO PROVIDE PANELBOARD NAMEPLATES. PROVIDE LAMINATED PLASTIC NAMEPLATES WITH 3/4" INCH MINIMUM CONTRASTING-COLOR ENGRAVED LETTERS IDENTIFYING EACH PANELBOARD.

2. INSTALLATION

- 2.1 THE INSTALLATION SHALL COMPLY WITH ALL LAWS IN EFFECT AT THE TIME OF CONSTRUCTION APPLYING TO ELECTRICAL INSTALLATION, AND WITH THE REGULATIONS OF THE NEC, WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THE LAWS IN EFFECT, AND WITH THE PUBLIC UTILITY COMPANY FURNISHING THE SERVICE.
 - 2.1.1 THE E.C. SHALL UPGRADE THESE SPECIFICATIONS AS REQUIRED TO MEET COMPLIANCE WITH ALL APPLICABLE CODES IN EFFECT; HOWEVER, WHERE THESE SPECIFICATIONS MAKE STIPULATIONS OVER AND ABOVE THE MINIMUM REQUIREMENTS OF APPLICABLE CODES, THE CONTRACTOR SHALL NOT DOWN-GRADE THESE SPECIFICATIONS TO MINIMUM CODE REQUIREMENTS WITHOUT PRIOR WRITTEN APPROVAL FROM 7–ELEVEN.
- 2.2 E.C. SHALL PROVIDE ALL REQUIRED ELECTRICAL CONDUIT AND WIRING FOR ALL MOTORS, MOTOR STARTERS AND ELECTRICAL CONTROLS, U.N.O. E.C. SHALL MAKE ALL LINE VOLTAGE ELECTRICAL CONNECTIONS AS REQUIRED FOR HVAC SYSTEMS.
- 2.3 E.C. SHALL INSTALL THE CONNECTIONS TO ALL RECEPTACLES, SALES COUNTERS, GONDOLAS AND FINAL CONNECTIONS TO ALL FIXTURES AFTER FIXTURES ARE IN PLACE.
- 2.4 E.C. SHALL VERIFY EXACT LOCATION OF ALL SIGNS WITH 7–ELEVEN REPRESENTATIVE. PROVIDE ALL CONDUITS AND WIRES WITH STUB-UPS AS DIRECTED BY THE 7–ELEVEN CORPORATION AND INSTALL FINAL CONNECTIONS AS REQUIRED.

2.5 WIRING

- 2.5.1 ALL WORK SHALL BE COMPLETED IN A NEAT AND WORKMAN–LIKE MANNER. THE E.C. SHALL CONTACT THE 7–ELEVEN CORPORATION REPRESENTATIVE SHOULD THIS PLAN REQUIRE MODIFICATION TO COMPLY WITH LOCAL CODES.
 - 2.5.2 ALL CONDUCTORS SHALL BE RUN IN APPROVED METALLIC RACEWAY OR CONDUIT AND SHALL BE UNIFORMLY COLOR CODED THROUGHOUT THE ENTIRE SYSTEM. SPLICES, TAPS, AND TERMINALS SHALL BE MADE ONLY IN J BOXES, OUTLET BOXES AND PANELBOARDS.
 - 2.5.3 THE E.C. SHALL ENSURE THE CONDUCTORS UTILIZED ARE IN KEEPING WITH GOOD PRACTICE FOR THE CIRCUIT/PROTECTIVE DEVICES EMPLOYED. THE NEUTRAL CONDUCTOR (WHERE USED) SHALL HAVE THE SAME AMPACITY AS THE ASSOCIATED PHASE.
 - 2.5.4 THE E.C. SHALL ENSURE THAT CIRCUIT AMPACITY AND SHORT CIRCUIT/OVERLOAD PROTECTION IS APPROPRIATE FOR THE EQUIPMENT BEING INSTALLED. UL LISTING CONDITIONS SHALL BE OBSERVED.
 - 2.5.5 TO COMPLY WITH NEC/UL LISTING CONDITIONS, ROOFTOP UNITS MAY BE SHOWN WITH FUSED DISCONNECT SWITCHES:
 - 2.5.5.1 ALL FUSES SERVING MOTOR LOADS WILL BE OF THE DUAL ELEMENT TYPE.
 - 2.5.5.2 DUE TO DIFFERENT INTERRUPTING CHARACTERISTICS, PANELBOARD CIRCUIT BREAKERS MAY BE RATED HIGHER THAN THE DUAL ELEMENT FUSES THEY SUPPLY TO ENSURE SUFFICIENT STARTING CURRENT.
 - 2.5.6 WIRE SIZES LISTED ARE MINIMUM. CONDUCTORS SHALL BE SELECTED SUCH THAT THE MAXIMUM VOLTAGE DROP (AT FULL LOAD AMPS) SHALL NOT EXCEED THE FOLLOWING GUIDELINES:
 - 2.5.6.1 PANEL FEEDERS --2% OF CIRCUIT VOLTAGE AT SERVICE.
 - 2.5.6.2 ALL BRANCH LOADS --3% OF CIRCUIT VOLTAGE AT SERVICE.
 - 2.5.6.3 TOTAL VOLTAGE DROP (SERVICE TO LOAD) -- 5% OF CIRCUIT VOLTAGE AT SERVICE.
 - 2.5.7 SPECIAL NOTES ON SERVICES:
 - 2.5.7.1 120/208V, 3–PHASE, WYE: THE E.C. SHALL CHECK THE REQUIREMENTS OF ALL EQUIPMENT AND WILL INSTALL AUTOTRANSFORMERS (BUCK AND BOOST TRANSFORMERS) AS REQUIRED.
 - 2.5.8 THE E.C. SHALL PROVIDE DEDICATED CIRCUITS WITH ISOLATED GROUND FOR ALL CIRCUITS ORIGINATING FROM PANEL S. THE PURITY OF THE ISOLATED GROUND SHALL BE MAINTAINED BY USING ONLY INSULATED GROUNDING CONDUCTORS AND ISOLATED GROUND. THE GROUNDING CONDUCTOR FOR THE ISOLATED GROUND SHALL NOT MAKE ELECTRICAL CONTACT WITH THE COMMON EQUIPMENT GROUND OR ANY ITEM CONNECTED TO THE COMMON EQUIPMENT GROUND (I.E. CONDUITS, "J"–BOXES, SWITCH BOXES, ETC.) AT ANY POINT OTHER THAN AT THE SERVICE GROUNDING TERMINAL. SEE NEC 250.96(B).
- 2.6 WHEN REQUIRED, E.C. TO ENSURE INTEGRITY OF FIRE RATED WALLS WHERE ELECTRICAL EQUIPMENT PENETRATES WALLS. SEAL PER SPECIFICATIONS FOR FIRE STOPPING.
- 2.7 ALL PENETRATIONS THROUGH EXTERIOR WALLS ARE TO BE MADE WITH LB CONDUITS OF THE APPROPRIATE SIZE PER NEC. ALL PENETRATIONS ARE TO BE SEALED PER NEC. HORIZONTAL OR VERTICAL SUPPORTS FOR RACEWAYS ARE TO COMPLY WITH NEC. WIRE TIES ARE NOT TO BE USED, U.N.O.

3. MATERIALS:

- ALL MATERIALS AND DEVICES SHALL BE UL APPROVED AND SHALL CONFORM TO THE STANDARDS OF NEMA, NEC AND IEEE.
- 3.1 LIGHT FIXTURES: PER SCHEDULE ON ELECTRICAL PLAN.
 - 3.2 RACEWAYS: ALL CONDUIT SHALL BE EITHER RIGID STEEL OR ELECTRICAL METALLIC TUBING (EMT). FOR IN SLAB AND UNDERGROUND INSTALLATIONS, PVC OR RIGID STEEL SHALL BE USED. REFER TO FUELING SHEETS FOR APPROVED FUELING SYSTEMS CONDUIT. INSTALL PER NEC.
 - 3.3 FITTINGS AND BUSHINGS: ALL REQUIRED BENDS, FITTINGS, JUNCTION BOXES, ETC., WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS, SHALL BE INSTALLED TO SATISFY ALL APPLICABLE ELECTRICAL CODES AND STANDARDS OF GOOD PRACTICE. ALL CONDUCTORS ENTERING/LEAVING A CONDUIT OR RACEWAY SHALL BE AFFORDED ABRASION PROTECTION BY AN ADEQUATE BUSHING OR OTHER APPROVED MEANS.
 - 3.4 OUTLET BOXES: SHALL BE STANDARD, STAMPED GALVANIZED STEEL BOXES; "J"–BOXES AND OUTLET BOXES USED AS A PULL BOX SHALL BE PROVIDED WITH A SUITABLE COVER OF SAME MATERIALS AS BOX.

3.5 WIRING DEVICES:

- 3.5.1 INSTALL ON EACH AND EVERY OUTLET BOX, A WIRING DEVICE AND/OR COVERPLATE, ALL AS INDICATED BY SYMBOL ON THE DRAWINGS.
 - 3.5.1.1 SINGLE POLE SWITCHES:
SINGLE POLE WALL SWITCHES SHALL BE SIMILAR AND EQUIVALENT TO "LEVITON" #CS120–2W 20A, 120–277VAC TOGGLE SWITCH (WHITE) WITH COVERPLATE FOR SINGLE GANG OR (WHITE) COVERPLATE FOR DOUBLE GANG.
 - 3.5.1.2 3–WAY SWITCHES:
3–WAY SWITCHES SHALL BE SIMILAR AND EQUIVALENT TO "BRYANT" #4503–1 20A, 120–277VAC 3–WAY SWITCH (WHITE HANDLE) AND (WHITE) COVERPLATE FOR SINGLE GANG OR (WHITE) COVER PLATE FOR DOUBLE GANG.
 - 3.5.1.3 SINGLE THROW, DOUBLE POLE EVAPORATOR SWITCH
SINGLE THROW, DOUBLE POLE SWITCHES SHALL BE SIMILAR AND EQUIVALENT TO "BRYANT" #30322D 120–600VAC NEMA 3R ENCLOSED AC MANUAL MOTOR CONTROLLER/DISCONNECT.
- 3.5.2 NOT USED.
- 3.5.3 CONVENIENCE OUTLET (20A):
20A CONVENIENCE OUTLETS SHALL BE SIMILAR AND EQUIVALENTS TO "LEVITON" #CR20–W 2 POLE, 3 WIRE, 20A 125V, DUPLEX GROUNDING RECEPTACLE WITH (WHITE) COVERPLATE SIMILAR AND EQUIVALENT TO "LEVITON" #88003 FOR SINGLE DUPLEX OR "LEVITON" #88016 FOR DOUBLE DUPLEX (QUAD).
- 3.5.4 OUTLET, ISOLATED GROUND (20A):
ISOLATED GROUND OUTLETS SHALL BE SIMILAR AND EQUIVALENT TO "LEVITON" #5362–IG 2 POLE, 3 WIRE, 20A, 125V, SINGLE, ISOLATED GROUND RECEPTACLE (ORANGE) WITH (WHITE) COVERPLATE.
- 3.5.5 GFCI CONVENIENCE OUTLETS (INDOOR & OUTDOOR):
OUTDOOR GFCI OUTLETS SHALL BE WEATHER RESISTANT (WR) LABELED, EQUIVALENT TO "LEVITON" #W809B–W, 20A OUTDOOR COVERPLATE #4500B AND BACK PLATE #63101. INDOOR GFCI OUTLETS SHALL BE EQUIVALENT TO "LEVITON" #7899–W, 20A WITH (WHITE) COVERPLATE.
- 3.5.6 NOT USED.
- 3.5.7 SAFETY SWITCHES:
SAFETY SWITCHES SHALL BE UL APPROVED GENERAL DUTY SAFETY SWITCHES WITH LOCK OFF HANDLES SIMILAR AND EQUIVALENT TO THOSE MANUFACTURED BY "SQUARE–D". SWITCHES WILL BE FUSIBLE OR NON–FUSIBLE AS INDICATED ON PLANS/LOCAL CODES AND WILL BE NEMA TYPE A FOR INDOOR (DRY) INSTALLATION OR NEMA TYPE 3R ENCLOSURE FOR OUTDOOR INSTALLATION. FUSED SWITCHES SHALL HAVE REJECTION STYLE FUSE HOLDERS TO MATCH LPN–RK CLASS RK1 FUSES.
- 3.5.8 NOT USED.
- 3.5.9 PHOTO CELL (OUTDOOR):
ELECTRONIC LIGHT SENSOR SHALL BE THE TORK EPC–1, ENCLOSED IN A LEXAN HOUSING WITH A 1/2" CONDUIT MOUNTING AND 180 DEGREE SWIVEL. INSTALL IN A WEATHER TIGHT JUNCTION BOX ON THE ROOF PER MANUFACTURER'S RECOMMENDATIONS. SET SENSOR TO 100 FOOT–CANDLE LEVEL.
 - 3.5.9.1 LIGHTING CONTROLLER (OUTDOOR LIGHTING CONTROL):
THE LIGHTING CONTROLLER SHALL BE THE TORK LC–200 IN A NEMA 1 ENCLOSURE. THE LC–200 IS USED IN CONJUNCTION WITH THE TORK EPC–1 PHOTOCELL. LIGHTING CONTROLLER HAS A 2 TO 100 FOOT–CANDLE LIGHT ADJUSTMENT.
- 3.5.10 CONTACTOR (OUTDOOR LIGHTING CONTROL):
THE LIGHTING CONTACTORS FOR USE WITH THE OUTDOOR PHOTOCELLS SHALL BE SIMILAR AND EQUIVALENT TO "SQUARE–D" ELECTRICALLY HELD LIGHT CONTACTOR CLASS 8903 TYPE LG–80 FORM F WITH 120V CONTROL COIL, NORMALLY OPEN CONTACTS RATED AT 30 AMPS CONTINUOUS, IN NEMA TYPE 1 ENCLOSURE WITH FUSED CONTROL CIRCUIT. REFERENCE LIGHTING CONTACTOR DETAIL.
- 3.5.11 PHOTO CELL BYPASS SWITCH:
THE PHOTOCELL BYPASS SWITCH SHALL BE A "BRYANT" #4801–L SINGLE POLE LOCK TYPE 15A 120–277 VOLT SWITCH WITH KEY #6006 AND COVERPLATE (WHITE).
- 3.5.12 HEAT TRACE – FREEZER PIPE FREEZE PROTECTION (WHEN REQUIRED):
 - HEATING CABLE: FURNISH RAYCHEM SXL1–OR WITH RAYCLUC–PC ELECTRICAL CONNECTION, XL TRACE BY TYCO THERMAL CONTROLS, LLC. FOR EXTRA INFORMATION CONCERNING HEAT TRACE SYSTEM CONTACT SAN PETERSEN WITH INDUSTRIAL HEATER (901–382–4761).
 - CIRCUIT BREAKER: PROVIDE "SQUARE–D" Q0120EPD OR EQUIVALENT GFCI CIRCUIT BREAKER WITH 30mA TRIP.
- NOTE:MECHANICAL CONTRACTOR TO INSTALL SELF REGULATING HEATING CABLE PER MANUFACTURER'S REQUIREMENTS ON CONDENSATE DRAIN LINES INSIDE FREEZER BOXES THAT ARE TO OPERATE AT OR BELOW 32 DEGREES F.
- 3.6 SERVICE/DISTRIBUTION EQUIPMENT:
PANEL AND DISTRIBUTION PANEL SHALL BE "SQUARE–D", ALL SWITCH GEAR TO BE FURNISHED FROM GRAYBAR, U.N.O. FOR PRICING AND PLACING ORDERS, CONTACT 7–ELEVEN FOR THE APPROPRIATE SALES DEPARTMENT.
- 3.6.1 MAIN POWER SWITCHES:
THE MAIN PANEL POWER SWITCHES/CIRCUIT BREAKERS SHALL BE "SQUARE–D" TYPE I LINE, RATED AT 65,000 A.I.C. (MIN.) SWITCHES OR CIRCUIT BREAKERS SHALL BE LISTED AS INDICATED ON PLANS.
NOTE:PANEL RATINGS REQUIRED FOR HIGHER A.I.C. REQUIREMENTS SHALL BE PRESENTED TO THE DISTRIBUTOR FOR MODIFICATIONS TO THE GEAR SUBMITTAL.
- 3.6.2 PANELBOARDS:
"SQUARE–D" PANELBOARDS USED IN SERIES WITH I–LINE CIRCUIT BREAKERS AND FITTED WITH "SQUARE–D" BRANCH CIRCUIT BREAKERS AS INDICATED ON PLANS. USE AN APPROPRIATE "SQUARE–D" CIRCUIT BREAKER WITH EACH PANEL. CIRCUIT BREAKERS SHALL BE TYPE Q0XXX–"QO"–FRAME.
 - 3.6.2.1 PANEL "I", IF REQUIRED SHALL BE FED BY A "SQAURE–D" NO. 8903SQ2V02 CONTACTOR AND SHALL BE WIRED FOR EMERGENCY SHUT DOWN.
 - 3.6.2.2 UPON COMPLETION OF WORK, E.C. SHALL PROVIDE A TYPED DIRECTORY IN EACH PANELBOARD. INCLUDE SYSTEM VOLTAGE, PHASING, CIRCUIT NUMBERING AND DESCRIPTIONS.
- 3.6.3 WIREWAY:
THE WIREWAY SHALL BE SIMILAR AND EQUIVALENT TO "SQUARE–D COMPANY" WIREWAY WITH APPROPRIATE FITTING FOR THE PARTICULAR INSTALLATION. E.C. SHALL SIZE TO INSTALLATION IN ACCORDANCE WITH NEC, GOOD PRACTICE AND CODES IN EFFECT AT TIME OF INSTALLATION.
- 3.7 OVERCURRENT/SHORT CIRCUIT PROTECTIVE DEVICES:
 - 3.7.1 PANELBOARD BRANCH/FEEDER CIRCUIT BREAKERS:
ALL DOWNSTREAM BREAKERS MUST BE "SQUARE–D" TO MAINTAIN SERIES LISTING. IF FUSIBLE DISCONNECTS ARE USED, "SQUARE–D" PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE USED.
 - 3.7.2 GROUND FAULT CIRCUIT INTERRUPTER (GFCI) BREAKERS:
GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE CIRCUIT BREAKERS SHALL BE SIMILAR TO THE PANELBOARD CIRCUIT BREAKERS BUT WITH GROUND FAULT PROTECTION WITH MATCHING A.I.C. RATING. GFCI BREAKERS SHALL BE UL APPROVED AS CLASS A DEVICES IN ACCORDANCE WITH UL STANDARD *943.
 - 3.7.3 FUSES, MAIN SWITCHBOARD:
MAIN SWITCHBOARD FUSES, IF REQUIRED, SHALL BE CLASS "J" CURRENT LIMITING FUSES AS INDICATED ON PLANS.
 - 3.7.4 FUSES, EQUIPMENT:
EQUIPMENT FUSES, IF REQUIRED, SHALL BE OF THE DUAL ELEMENT, TIME DELAY VARIETY AS INDICATED ON PLANS. FUSES FOR HVAC/REFRIGERATION SHALL BE SIMILAR AND EQUIVALENT TO COOPER BUSSMANN FUSE TYPE LPN–RK–SP, CLASS RK1 FOR THE APPROPRIATE AMPERAGE.
- 3.8 SPD SHALL BE PROVIDED BY GRAYBAR.
- 3.9 CONDUCTORS:

ALL CONDUCTORS SHALL BE COPPER, TYPE THHN. UNO. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG. CONDUCTORS #10 AWG AND LARGER SHALL BE STRANDED. INSULATION TYPE SHALL CONFORM WITH N.E.C. OR MANUFACTURER REQUIREMENTS. LIGHT FIXTURES SOMETIMES REQUIRE 90 DEGREE WIRE. FOR THE PARTICULAR APPLICATION, USE TYPE THHN IN WET LOCATIONS.

3.9.1 NM CABLE (ROMEX) SHALL NOT BE USED.

3.9.2 ALUMINUM CONDUCTORS SHALL NOT BE USED U.N.O.

3.9.3 METAL–CLAD CABLE (MC) SHALL BE PERMITTED FOR USE AS BRANCH CIRCUITS IN WALL, CEILING OR CABINTRY.

4. TESTING AND INSPECTION

4.1 TESTING:

- 4.1.1 THE E.C. SHALL TEST, PRIOR TO ENERGIZING FOR THE FIRST TIME, ALL PIECES OF ELECTRICAL EQUIPMENT TO ASSURE THEY HAVE THE PROPER PHASE TO PHASE AND PHASE TO GROUND INSULATION AND TO BE FREE OF SHORTS. AFTER ENERGIZING, EACH LUMINAIRE SHALL BE LIT AND TESTED.
- 4.1.2 THE VARIOUS CIRCUITS SERVED FROM THE PANELBOARDS VARY IN LOADING. THE E.C. SHALL CAREFULLY BALANCE THE LOAD ON EACH LEG OF THE SERVICE. WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100%, THE INITIAL UNBALANCE SHALL NOT EXCEED 10%.

NOTE:WITH 3 PHASE DELTA, PHASES A AND C SHALL BE BALANCED WITHIN 10% PHASE B (HIGH LEG) SHALL BE BALANCED AS CLOSELY AS POSSIBLE.
- 4.2 INSPECTION:
E.C. SHALL FURNISH AT THE COMPLETION OF THE PROJECT OR EACH INSPECTION POINT OF THE PROJECT, AN INTERMEDIATE OR FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.
- 4.3 PERFORMANCE REQUIRED:
 - 4.3.1 ALL EQUIPMENT AND FIXTURES SHALL BE PROPERLY CONNECTED WITH ADEQUATE POWER AND CHECKED THOROUGHLY FOR PROPER OPERATION.
 - 4.3.2 ALL EXPOSED EQUIPMENT SHALL BE INSTALLED AS PER DRAWINGS AND IS SUBJECT TO INSPECTION FOR WORKMAN–LIKE APPEARANCE.

5. INDUSTRY–STANDARDS:

5.1 THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THE ELECTRICAL NOTES AND SPECIFICATIONS.

NEC. _____ NATIONAL ELECTRIC CODE, REFERENCE COVERSHEET FOR APPLICABLE VERSION
NEMA. _____ NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
UL. _____ UNDERWRITERS LABORATORIES, INC
HVAC. _____ HEATING, VENTILATING AND AIR CONDITIONING
IEEE. _____ INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
GFCI. _____ GROUND FAULT CIRCUIT INTERRUPTER
A.I.C. _____ AMPERES INTERRUPTING CAPACITY
U.N.O. _____ UNLESS NOTED OTHERWISE
A.C. _____ ELECTRICAL CONTRACTOR
G.C. _____ GENERAL CONTRACTOR

6. UTILITY ACCOUNT OPEN PROCESS

- 6.1 GENERAL CONTRACTOR (G.C.) WORKS WITH THE UTILITY COMPANIES TO SET UP ALL REQUIRED METERS AND ACCOUNTS (ELECTRIC, NATURAL GAS, WATER) UNDER THE GC COMPANY NAME.
- 6.2 FOR CORPORATE AND NON BOP FRANCHISEE, G.C. OBTAINS OPEN FACILITY REQUEST FORM FROM DEVELOPMENT PROJECT MANAGER (D.P.M.). BLANK FORM IS LOCATED AT 7–ELEVEN HUB/OPERATIONS/DEVELOPMENT PROGRAM MANAGEMENT QUICK LINKS.
- 6.3 AT LEAST FIFTEEN (15) DAYS PRIOR TO THE STORE OPEN DATE, G.C. MAELS COMPLETED OPEN FACILITIES REQUEST FORM TO ECOVA AT 7–ELEVENDPOB@ECOVA.COM WITH A COPY TO THE D.P.M.
- 6.4 BOP FRANCHISEES SET UP THEIR OWN UTILITIES AND THIS SET UP DOES NOT GO THROUGH 7–ELEVEN, INC.

7. ELECTRICAL POWER AND LIGHTING SYSTEMS

7.1 ELECTRICAL POWER (COMPLETION REQUIREMENTS):

- 7.1.1 DRAWINGS
CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING:
 - A SINGLE–LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM
 - FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.

- 7.1.2 MANUALS
CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
 - SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
 - OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
 - NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.

NOTE:ENFORCEMENT AGENCIES SHOULD ONLY CHECK TO BE SURE THAT THE CONSTRUCTION DOCUMENTS REQUIRE THIS INFORMATION TO BE TRANSMITTED TO THE OWNER AND SHOULD NOT EXPECT COPIES OF ANY OF THE MATERIAL.

7.2 LIGHTING SYSTEM FUNCTIONAL TESTING
CONTROLS FOR AUTOMATIC LIGHTING SYSTEMS SHALL COMPLY WITH THIS SECTION.

- 7.2.1 FUNCTIONAL TESTING:
 - PRIOR TO PASSING FINAL INSPECTION, THE REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS C408.3.1.1 AND C408.3.1.2 FOR THE APPLICABLE CONTROL TYPE.

7.2.2 OCCUPANT SENSOR CONTROLS:
WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

- CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
- FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY, WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10%, BUT IN NO CASE LESS THAN ONE OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED.

FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:

- WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
- THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.