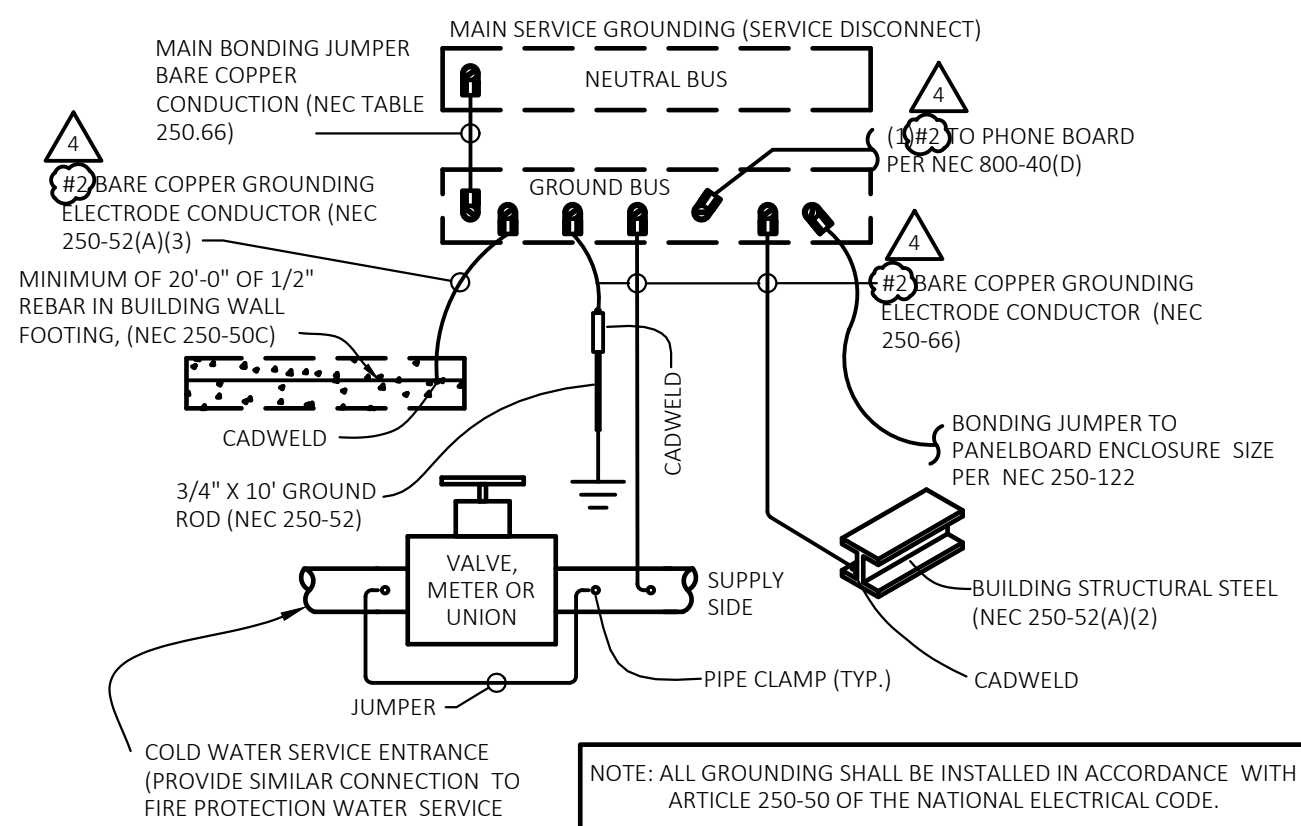


2
E301 **ENLARGED SERVICE ENTRANCE**
SCALE: NOT TO SCALE

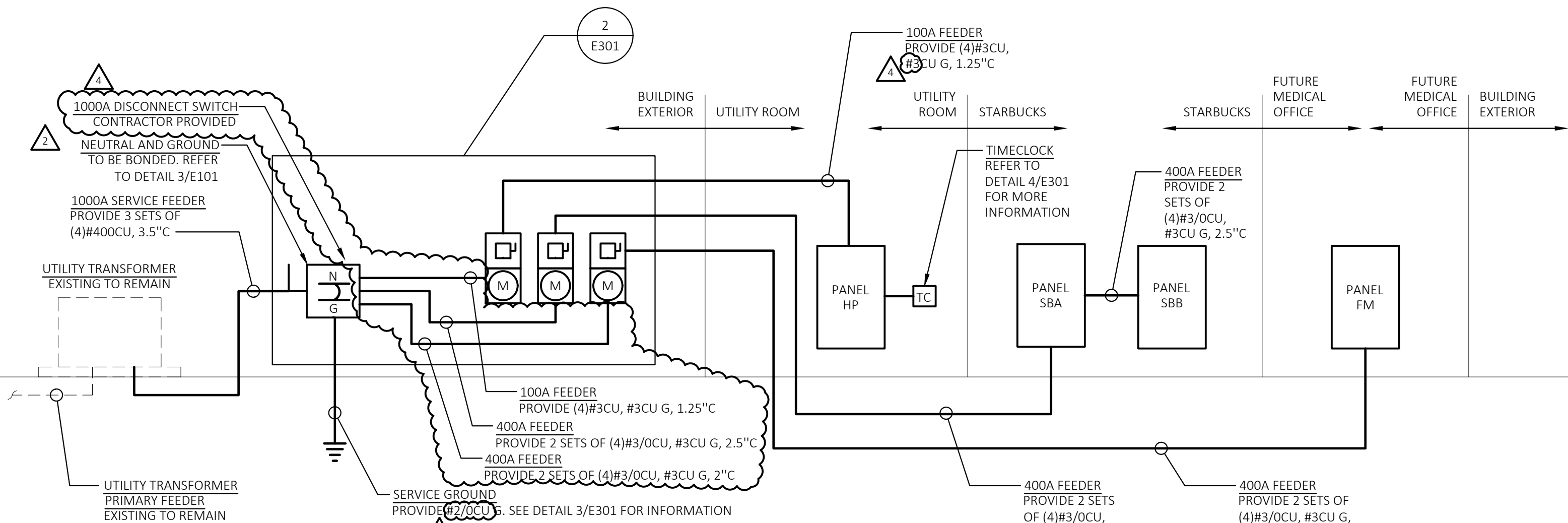
RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE DESIGN PROFESSIONAL CANNOT ASSURE ITS ACCURACY, AND THIS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.
DATE: 10/19/20

GENERAL GROUNDING NOTES

- FULL SIZE GROUND MEANS THAT GROUND CONNECTOR SIZE SHALL BE AS SHOWN ON SERVICE EQUIPMENT ON THE POWER RISER DIAGRAM.
- AFTER GROUNDING SYSTEM IS INSTALLED, GROUND RESISTANCE SHALL BE MEASURED, TO ASSURE THAT GROUND VALUE OF 15 OHM MAXIMUM RESISTANCE IS ACHIEVED. IF NOT, ADDITIONAL GROUNDING SHALL BE PROVIDED TO MEET THE SPECIFIC VALUE.
- ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD CONNECTIONS
- WHERE LOCATED OUTSIDE OF BUILDING, TOP OF GROUND ROD SHALL BE 12" (MINIMUM) BELOW GRADE. PROVIDE NON-METALIC INSPECTION WELL WITH REMOVABLE COVER.
- GROUND CONNECTOR SHALL BE LOCATED WITHIN OR NEAR BOTTOM OF CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH, AND SHALL CONSIST OF AT LEAST 20 FEET OF ONE OR MORE STEEL REINFORCING BARS OR RODS OF NOT LESS THAN 1/2 INCH DIAMETER OR OF AT LEAST 20 FEET OF BARE COPPER CONDUCTOR.
- SEE THE RISER DIAGRAM DETAIL 1/E301 FOR THE SIZE OF THE MAIN BONDING JUMPER AND BARE COPPER GROUNDING ELECTRODE CONDUCTORS.
- NOT ALL GROUNDING OPTIONS MAY APPLY. CONTRACTOR TO VERIFY AVAILABLE GROUNDING METHODS.



3
E301 **GROUNDING DETAIL**
SCALE: NOT TO SCALE



1
E301 **ONE-LINE**
SCALE: NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

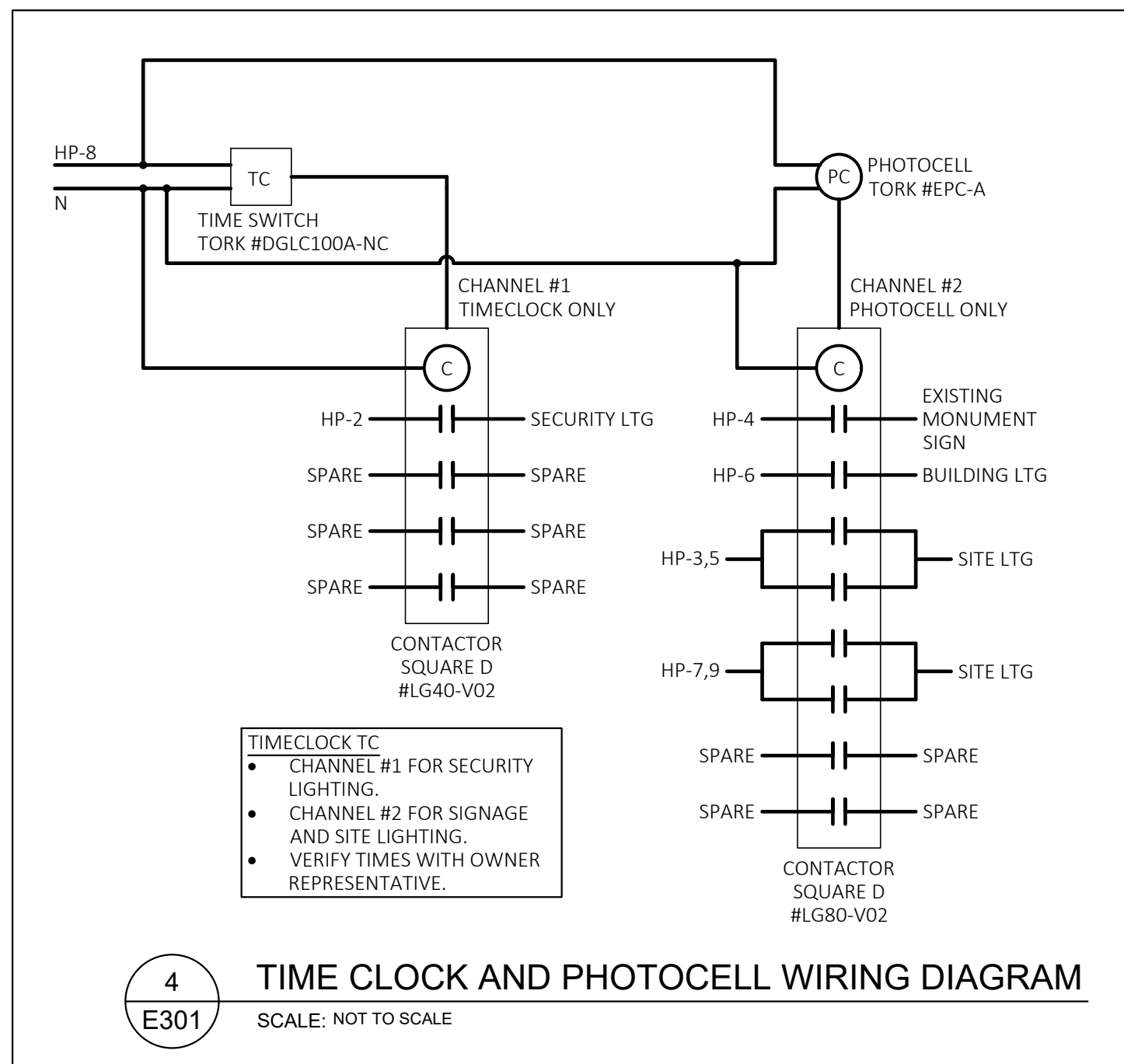
PLAN MARK	MANUFACTURER	CATALOG NO.	LAMP DATA		REMARKS AND MOUNTING HEIGHT TO BOTTOM OF LIGHT FIXTURE	WATTS PER FIXTURE	FIXTURE QUANTITY
			** NO.	WATTAGE & LAMPS			
A	LITHONIA	DSX0 LED-P6-40K-BLC-208-RPA--DDB		LED FURNISHED WITH FIXTURE	13" W x 28" L x 7" H HEAD MOUNTED ON A EXISTING 28" TALL ROUND POLE, 70 CRI, 4000K, 13090 LUMENS, WET LOCATION LISTED. COORDINATE POLE DRILL HOLES WITH THE EXISTING POLES	134	7
B	LITHONIA	DSXW1 LED-20C-530-30K-T2M-INVOLT-DDBXD		LED FURNISHED WITH FIXTURE	14" W x 7" H x 10" D WALL PACK, 70CRI, 3000K, 3887 LUMENS, SURFACE MOUNTED 8'-0" AFF TO BOTTOM OF FIXTURE UNLESS OTHERWISE NOTED.	36	3
C	HINKLEY LIGHTING, INC.	1649SK-LED		LED FURNISHED WITH FIXTURE	9" W x 24" H x 4" D WALL SCONCE, 70CRI, 2700K, 900 LUMENS, SURFACE MOUNTED 8'-0" AFF TO BOTTOM OF FIXTURE UNLESS OTHERWISE NOTED.	11	6
D	PORTFOLIO	LD8B-15-D010-EU6B-1020-80-30-6LB-W-1-MB		LED FURNISHED WITH FIXTURE	7" W x 6" H DOWN LIGHT MOUNTED WITHIN THE CANOPY 10'-0" AFF UNLESS NOTED OTHERWISE	11	12
F	LITHONIA	TWP-150S-TB-LPI		HIGH PRESSURE SODIUM	17" W x 16" H x 8" D WALL PACK, 16,000 LUMENS, SURFACE MOUNTED 8'-0" AFF TO BOTTOM OF FIXTURE UNLESS OTHERWISE NOTED.	150	2
G	LITHONIA	HEAD: DSX0 LED-P6-40K-T5W-208-RPA--DDB POLE: RTS-25-6-5-9B-T20-DM28AS-DDBXD		LED FURNISHED WITH FIXTURE	13" W x 28" L x 7" H HEAD MOUNTED ON A EXISTING 28" TALL ROUND POLE, 70 CRI, 4000K, 166704 LUMENS, WET LOCATION LISTED. COORDINATE POLE DRILL HOLES WITH THE EXISTING POLES	134	HEADS: 2 POLE: 1
X	LITHONIA	AFF-OEL-DDBTXD-UVOLT-LTP-SDRT-WT-CW		LED FURNISHED WITH FIXTURE	7" W x 10" H x 4" D EXTERIOR EMERGENCY LIGHT, SURFACE MOUNT WITH BOTTOM OF FIXTURE AT 8'-0" AFF. LITHIUM ION PHOSPHATE BATTERY, OUTPUTS FOR 90 MINUTES AFTER LOSS OF POWER. LISTED FOR COLD WEATHER AND WET LOCATION	12	4

** LAMPS: LED; I - INCANDESCENT; F - FLUORESCENT; CF - COMPACT FLUORESCENT; MH - METAL HALIDE

- NOTE:**
A. PRIOR TO THE INSTALLATION OF ALL EXIT SIGNS AND EMERGENCY LIGHTS, THE ELECTRICAL CONTRACTOR SHALL VERIFY WITH THE GC AND FIRE DEPARTMENT INSPECTOR THE FINAL APPROVED LOCATIONS.
B. LIGHT FIXTURE QUANTITIES ARE APPROXIMATE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FIXTURE COUNT

EQUIPMENT SCHEDULE								FILE: 320488 LOAD.xlsm	
PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT/ PHASE	FED BY	DISC BY	MCA	MOC PD	FEEDER	REMARKS
RTU 1	ROOF TOP UNIT	19.45KVA	208/3	SBA	EC	54.0A	60A	(3)#4,#8G 1" C	
RTU 2	ROOF TOP UNIT	15.20KVA	208/3	SBA	EC	42.2A	50A	(3)#6,#8G 3/4" C	
FF 1	FLY FAN	0.77KVA	120/1	SBA	EC	6.4A	20A	1/2" C W/ PULL STRINGS	MARS #STD248-1U-OB
DAC 1	DRIVE-THRU AIR CURTAIN	7.07KVA	208/1	SBA	EC	34.0A	40A	(2)#8,#10G 3/4" C	AA300-275 PASS-THRU AIR CURTAIN
DW 1	DRIVE-THRU WINDOW EXHAUST FAN	0.96KVA	120/1	SBA	EC	8.0A	15A	(2)#12,#12G 1/2" C	275 SERIES WINDOW
EF 1		0.12KVA	120/1	SBA	EC	1.0A	20A	(2)#12,#12G 1/2" C	

ABBREVIATIONS (NOTE: NOT ALL ABBREVIATIONS ARE USED)							
AFF	ABOVE FINISHED FLOOR	DIM	DIMMER	IG	ISOLATED GROUND		
AL	ALUMINUM	DISC SW	DISCONNECT SWITCH	JB	JUNCTION BOX		
AMP	AMPERE	DP	DOUBLE POLE	MCB	MAIN CIRCUIT BREAKER		
ATS	AUTO-TRANSFER-SWITCH	DT	DOUBLE THROW	MDP	MAIN DISTRIBUTION PANEL		
BFG	BELOW FINISHED GRADE	DPP	DISTRIBUTION POWER PANEL	MLO	MAIN LUG ONLY		
BLDG	BUILDING	EC	EMPTY CONDUIT	MTD HT	MOUNTING HEIGHT		
CB	CIRCUIT BREAKER	EF	EXHAUST FAN	NF	NON FUSED		
CKT	CIRCUIT	EM	EMERGENCY	NIC	NOT IN CONTRACT		
CLG	CEILING	EWG	ELECTRIC WATER COOLER	RTU	ROOF TOP UNIT		
COND OR "C"	CONDUIT	EXIST'G	EXISTING	SW	SWITCH		
CONN	CONNECT	FL	FLOOR	UG	UNDER GROUND		
CONT	CONTRACTOR	FLUOR	FLUORESCENT	UNO	UNLESS NOTED OTHERWISE		
CU	COPPER	GFCI	GROUND FAULT CURRENT INTERRUPTER	WP	WEATHER-PROOF		
C/T	CURRENT TRANSFORMER	GND OR (G)	GROUND	XFMR	TRANSFORMER		



4
E301 **TIME CLOCK AND PHOTOCELL WIRING DIAGRAM**
SCALE: NOT TO SCALE

ELECTRICAL SYMBOLS (NOT ALL SYMBOLS ARE USED)	
LIGHTNING	
CKT.	FIXT. TYPE
LP-1a	SWITCH
	WALL SCONCE
	CANOPY LIGHT
	WALL PACK
	POLE LIGHT
	EXTERIOR 90 MIN BATTERY BACK-UP EMERGENCY HEADS
CONDUIT	
	CONDUIT CONCEALED IN WALLS OR CEILING
	CONDUIT UNDER GROUND
	HOME RUN
	GROUND
MISCELLANEOUS	
	JUNCTION BOX MOUNT ON WALL AT 18" AFF UNO
	TELEPHONE WALL BOX 18" AFF UNO STUB 3/4" CONDUIT UP INTO ACCESSIBLE CEILING AREA WITH INSULATED BUSHING, PROVIDE PULL WIRE
	PHONE/DATA WALL BOX 18" AFF UNO STUB 3/4" CONDUIT UP INTO ACCESSIBLE CEILING AREA WITH INSULATED BUSHING, PROVIDE PULL WIRE
	DATA WALL BOX 18" AFF UNO STUB 3/4" CONDUIT UP INTO ACCESSIBLE CEILING AREA WITH INSULATED BUSHING, PROVIDE PULL WIRE
	CEILING MOUNTED PHONE BOX
	MOTOR
GENERAL	
RTU 1	EQUIPMENT CALL OUT
	ELECTRICAL KEYED NOTE DESIGNATION
	REVISION SYMBOL
POWER AND CONTROLS	
	PANELBOARD
	DISCONNECT SWITCH
RECEPTACLES	
	DUPLEX RECEPTACLE 16" AFF TO BOTTOM, UNO.
	GFCI DUPLEX RECEPTACLE 16" AFF TO BOTTOM, UNO
	SPECIAL RECEPTACLE

CASCO

12 Summit Drive, Suite 100, St. Louis, MO 63143 T: 314.821.1100

MIDLAND

Starbucks & Medical Office

155 S.W. MO-150 HWY

LEE'S SUMMIT, MO 64802

CONSTR. DOC. & REVISIONS

No.	Description	Date
1	Owner Review	05/12/20
2	Owner Revision 2	06/04/20
3	Owner Revision 3	07/20/20
4	Owner Revision 6	08/20/20
5	Electric Service As-Built	

STATE OF MISSOURI

HARRY J. AJUMAN

NUMBER E-1092

10/19/20

HARRY J. AJUMAN

LIC. #E16827

EXP. 12/31/20

Drawn By/Checked By: EAV/DAW

Project Number 320488

Permit Date 06-17-20

ELECTRICAL ONE-LINE AND DETAILS

E301