	Panel ID: A				Voltage:	208	/	120	Panel	Type: 1	NQOD	
	Location: B.O.H./HALL				Phase:	3			Type 1	Encl.:	NEMA-1	
	Mounting:	SURFAC	E		Wire:	4						
	Main Type:	200A M	ICB	Ma	in Size:	225	Amps					
P	All phases to be balanced to w	vithin	10% using	g actual	connected	d loads						
		CKT	CKT	N.E.C.	ACTUAL		ACTUAL	N.E.C.	CKT	CKT		
CKT	BRANCH CIRCUIT	BKR	BKR	LOAD	LOAD	PHASE	LOAD	LOAD	BKR	BKR	BRANCH CIRCUIT	CI
NO.	DESCRIPTION	SIZE	OPTION	(KVA)	(KVA)		(KVA)	(KVA)	OPTION	SIZE	DESCRIPTION	NO
1	RTU-1	30/3	HR	2.352	2.352	Α	4.308	4.308	HR	50/3	RTU-2	
3	221 22	122		2.352	2.352	В	4.308	4.308				- 4
5				2.352	2.352	С	4.308	4.308				
7	P.O.S. REC	20/1		0.900	0.900	A	0.400	0.400	LC-1	20/1	SHOW WINDOW LED MONITOR	- 13
9	BACKWRAP REC	20/1		0.180	0.180	В	0.000	0.000		20/1	SPARE	1
11	SPARE	20/1		0.000	0.000	С	0.000	0.000		20/1	SPARE	1
13	BACKWRAP REC	20/1		0.180	0.180	A	0.360	0.360		20/1	WRITING DESK REC	1
15	BACKWRAP TV REC	20/1		0.400	0.400	В	0.540	0.540		20/1	WRITING DESK REC	1
17	TC-1/LC-1	20/1	LO	0.200	0.200	С	0.044	0.044	LC-1	20/1	SHOW WINDOW LIGHTS	1
19	SALES WALL LIGHTS	20/1		0.561	0.561	A	1.200	1.200	LC-1	20/1	EXTERIOR SIGN	2
21	SALES LIGHTS (EM/EX)	20/1	LO	1.152	1.152	В	2.844	2.844	HR	35/3	RTU-3	2
23	LABORATORY LTS (EM/EX)	20/1	LO	0.320	0.320	С	2.844	2.844				2
25	SHOW WINDOW REC	20/1	LC-1	0.540	0.540	A	2.844	2.844				2
27	SALES GENERAL RECS	20/1		0.360	0.360	В	0.000	0.000		20/1	SPARE	2
29	INTERIOR SIGN	20/1		0.400	0.400	С	0.000	0.000			SPACE	3
31	DISPLAY CASE REC	20/1		0.900		A	0.000	0.000			SPACE	3
33	DISPLAY CASE REC	20/1		1.260	1.260	В	0.000	0.000			SPACE	3
35	RTU REC	20/1		0.360	0.360	С	0.000	0.000			SPACE	3
37	PANEL 'C'	100/3		8.760		A	5.396	5.396		100/3	PANEL 'B'	3
39				5.580	5.580	В	4.860	4.860				4
41				6.800	6.800	С	4.800	4.800				4
	Actual Load Panel Summary			N.E	.C. Load		-				ker Options (If Used):	
	Phase A:				Phase A:			239.2			Wire Thru Lighting Contactor	#
	Phase B:				Phase B:			198.6			ock-On Device	
	Phase C:		THE STREET STREET		Phase C:	_		186.9	TOTAL CONTRACTOR		olated Ground Conductor	
	m - L - 7 -	75.0	TAT AT		Total:	75.0	7.77 7.78	208.1	TAKE	IT OH	Wire Thru Lighting Contactor	11

	Phase C: Total:			-	Phase C: Total:	22.4 75.0		186.9 208.1		LC# -	solated Ground Conductor Wire Thru Lighting Contactor HACR Rated Circuit Breaker	r#
	Panel ID:	В			Voltage:	208	/	120	Panel	Type:	NQOD	
	Location:	B.O.H	/HALL		Phase:	3			Type I	Encl.:	NEMA-1	
	Mounting:	SURFA	CE		Wire:	4						
	Main Type:	MLO		Ma	ain Size:	100	Amps					
	All phases to be balanced to w	_ 0.1111				L 10aus						
		CKT	CKT	N.E.C.	ACTUAL		ACTUAL	N.E.C.	CKT	CKT		
KT	BRANCH CIRCUIT	BKR	BKR	LOAD	LOAD	PHASE	LOAD	LOAD	BKR	BKR	BRANCH CIRCUIT	C
0.	DESCRIPTION	SIZE	OPTION	(KVA)	(KVA)		(KVA)	(KVA)	OPTION	SIZE	DESCRIPTION	N
1	WAITING ROOM REC	20/1		0.540	0.540	A	0.700	0.700		20/1	REFRIGERATOR REC	1
3	SPARE	20/1		0.000	0.000	В	1.200	1.200		20/1	MICROWAVE REC	
5	HALL #105 REC	20/1		0.360	0.360	C	0.100	0.100		20/1	SECURITY ALARM	
7	BOH/HALL #110, 110b, 111 REC	20/1		0.540	0.540	A	0.400	0.400		20/1	RECEPTION TV REC	
9	RR/OFFICE/HALL LTS&FANS	20/1		0.560	0.560	В	0.720	0.720		20/1	RECEPTION REC	
1	STORG/HALL/RECPTN/WTG LTS	20/1	LO	0.320	0.320	C	0.540	0.540		20/1	PRETEST ROOM REC	
3	RESTROOM REC	20/1		0.720	0.720	A	0.720	0.720		20/1	CONTACT ROOM REC	:
5	OFFICE 119 REC	20/1		0.720	0.720	В	1.260	1.260		20/1	EXAM RM #1 REC	
7	TELEPHONE BD REC	20/1	LO	0.720	0.720	C	1.260	1.260		20/1	EXAM RM #2 REC	
9	EXAM LTS & FANS	20/1	LO	0.276	0.276	A	0.000	0.000		20/1	SPARE	:
1	SPARE	20/1		0.000	0.000	В	0.000	0.000		20/1	SPARE	
3	WATER HEATER	20/2		1.500	1.500	C	0.000	0.000		20/1	SPARE	
5				1.500	0.000.000.000	A	0.000	0.000			SPACE	:
7	EWC REC	20/1		0.400	0.400	В	0.000	0.000			SPACE	- 1
9	SPACE			0.000	0.000	C		0.000			SPACE	
1	SPACE			0.000		A	0.000	0.000			SPACE	
	SPACE			0.000	0.000	В	0.000	0.000			SPACE	
	SPACE			0.000	0.000	С		0.000			SPACE	:
5		1		0.000	0.000	A	0.000	0.000			SPACE	
13 15 17	SPACE				77.							1
35 37 39	SPACE			0.000	0.000	В	0.000	0.000			SPACE	4
5 7				0.000	0.000 0.000 c.C. Load	С	0.000	0.000			SPACE SPACE aker Options (If Used):	

Phase B: 4.9 KVA

Phase C: 4.8 KVA

Total: 15.1 KVA

40.5 AMPS LO - Lock-On Device

41.8 AMPS

40.0 AMPS IG- Isolated Ground Conductor

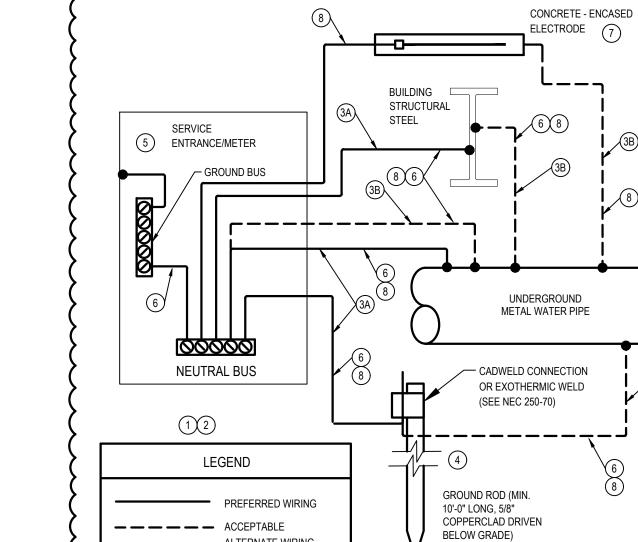
Connnected to Building Steel

HR - HACR Rated Circuit Breaker

(A) ELECTRIC RISER DIAGRAMS

Panel ID: C					Voltage:	208	/	120	Panel	Type:	NQOD	
	Location: LAB				Phase:	3			Type	Encl.:	NEMA-1	
	Mounting: SURFACE				Wire:	4						
	Main Type: MLO			Bus A	Amperage:	100	Amps					
	All phases to be balanced to w	ithin	10% usinç	g actual	connecte	d loads						
		CKT	CKT	N.E.C.	ACTUAL		ACTUAL	N.E.C.	CKT	CKT		
CKT	BRANCH CIRCUIT	BKR	BKR	LOAD	LOAD	PHASE	LOAD	LOAD	BKR	BKR	BRANCH CIRCUIT	CK
NO.	DESCRIPTION	SIZE	OPTION	(KVA)	(KVA)		(KVA)	(KVA)	OPTION	SIZE	DESCRIPTION	NO
1	SPARE	20/1		0.000	, ,	A	1.000	1.000		20/1	LENS CENTER LOCATE #L04	2
3	VERTOMETER #L30	20/1		0.200	0.200	В	0.180	0.180		20/1	COMPUTER #L01	4
5	BEAN PAN #L34 & FRAME BFR #L54			1.240	1.240	С	0.180	0.180		20/1	EMPLOYEE TIME CLOCK #L02	6
7	STKG KIT #L52 & FLEX DRILL #L51	•		1.300	1.300	A	1.000	1.000		20/1	LENS MAKER #L09 (CS-7)	8
9	DBI DYE TANK #L41	20/1		1.800	1.800	В	1.000	1.000		20/1	LAP SERVICE SAVER #L05	10
11	CERAMIC HAND EDGER #L37	20/1		0.780	0.780	С	0.720	0.720		20/1	BLOCKER #L07 (SUREFACE)	13
13	440 WECO EDGER #L35	20/1		1.200	1.200	A	1.560	1.560		20/1	LENS REC #L16	14
15	CS-7 BLKR #L31 & VERTMTR #L30	20/1		0.440	0.440	В	1.600	1.600		20/1	CYLINDER MACHINE #L18	16
17	LENS COATING #L38	20/1		0.720	0.720	С	1.600	1.600		20/1	CYLINDER MACHINE #L18	18
19	BACKSIDE COATER #L40	20/1		0.960	0.960	A	0.180	0.180		20/1	CHILLER #L23 (OM-003-8)	20
21	SPACE	20/1		0.000	0.000	В	0.180	0.180		20/1	RECLAIN TANK #L20	22
23	SPACE	20/1		0.000	0.000	С	1.560	1.560		20/2	AIR COMPRESSOR	24
25	SPACE	20/1		0.000	0.000	A	1.560	1.560				26
27	SPACE	20/1		0.000	0.000	В	0.180	0.180		20/1	GENREAL LAB REC	28
29	SPACE	20/1		0.000	0.000	С	0.000	0.000		20/1	SPARE	30
31	SPACE	20/1		0.000	0.000	A	0.000	0.000		20/1	SPARE	32
33	SPACE	20/1		0.000	0.000	В	0.000	0.000		20/1	SPARE	34
35	SPACE	20/1		0.000	0.000	С	0.000	0.000		20/1	SPARE	36
37	SPACE	20/1		0.000	0.000	A	0.000	0.000			SPACE	38
39	SPACE	20/1		0.000	0.000	В	0.000	0.000			SPACE	40
41	SPACE	20/1		0.000	0.000	С	0.000	0.000			SPACE	42
	Actual Load Panel Summary	il .		N.E	.C. Load	Panel	Summary			Brea	aker Options (If Used):	
	Phase A:	8.8	KVA		Phase A:	8.8	KVA	73.0	AMPS	TC - V	Wire Thru TimeClock	
	Phase B:	5.6	KVA		Phase B:	5.6	KVA	46.5	AMPS	LO - 1	Lock-On Device	
	Phase C:	6.8	KVA		Phase C:	6.8	KVA	56.7	AMPS	IG- Is	solated Ground Conductor	
	Total:	21.1	KVA	-	Total:	21.1	KVA	58.7	AMPS	Connne	ected to Building Steel	
										HR - H	HACR Rated Circuit Breaker	

	ELEC	TRICA	L LOAD	SUMMA	RY	
DESCRIPTION	CONNECTED KW	POWER FACTOR	CONNECTED DEMAND KVA	N.E.C. CONNECTED KVA	N.E.C. DEMAND FACTOR	N.E.C. FEEDER DEMAND KVA
LIGHTING	4.435	1.0	4.435	4.435	1.25	5.544
0 LF OF TRACK LIGHTING	0.000	1.0	0.000	0.000	1.25	0.000
RECEPTACLES	30.440	1.0	30.440	30.440	1.0 < 10 KW 0.5 RMNDR	20.220
MOTORS	7.880	0.9	8.756	8.756	125% OF LARGEST MOTOR	8.756
HXED ELEC. SPACE HEATING *	0.000	1.0	0.000	0.000	1.0	0.000
AIR CONDITIONING SYSTEM *	28.512	1.0	28.512	28.512	125% OF LARGEST MOTOR	29.587
ELECTRIC WATER HEATER	3.000	1.0	3.000	3.000	1.25	3.750
MISCELLANEOUS	0.698	1.0	0.698	0.698	1.0	0.698
TOTALS:	74.965		75.841	75.841		68.554
NOTES: * USE GREATER OF THE LF - LINEAR FEET				N.E.C. DEMAND KV SYSTEM VOLTAG		=MIN FEEDER AMPS
MINIMU	ELECTRICAL SI			208 V - 3 PHASE 200 AMPS	68.554 KVA x 1000 208 x 1.73	190.4 AMPS



ALTERNATE WIRING

·

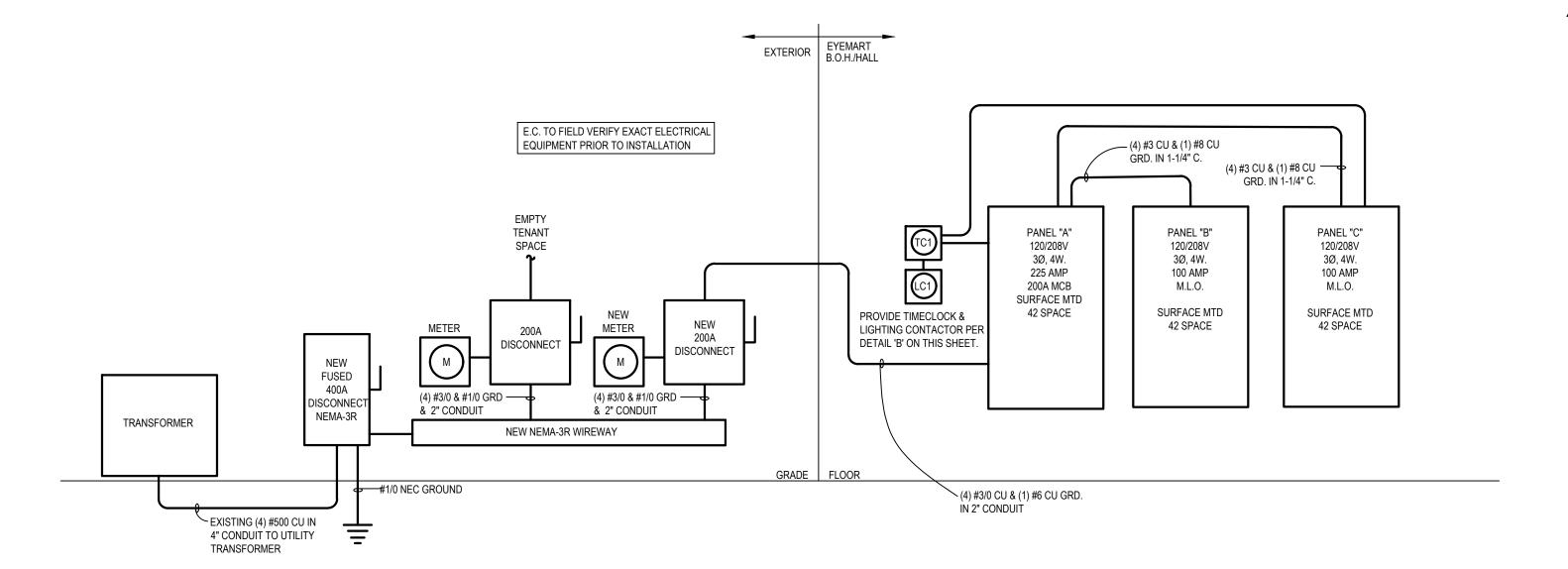
SERVICE ENTRANCE GROUNDING DETAIL

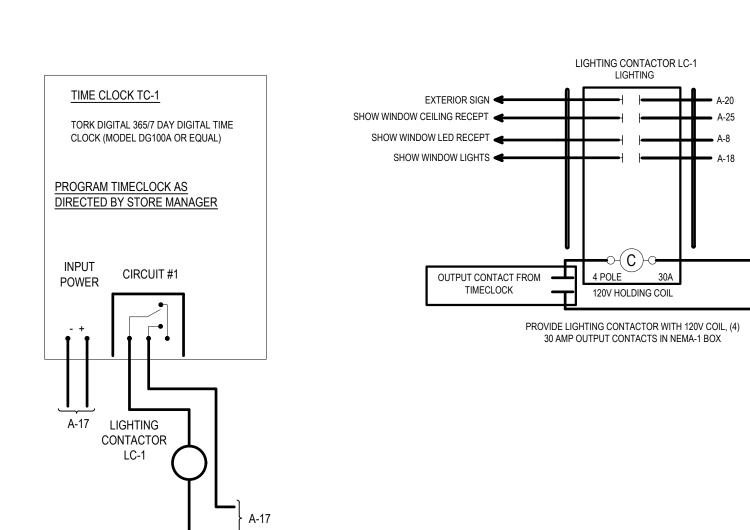
1) ALL GROUNDING AND BONDING MUST COMPLY WITH NEC ARTICLE 250 AND/ OR LOCAL ORDINANCES.

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

- 2) USE NEC TABLE 250-66 TO SIZE BONDING CONDUCTORS/JUMPERS, BONDING
- JUMPERS MUST BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 250-68. (3A) BOND GROUND ROD, METAL WATER PIPE, BUILDING STEEL OR METAL (WHERE
- EFFECTIVELY GROUNDED) AND CONCRETE-ENCASED ELECTRODE (SEE CODED NOTE 7). CONNECTION TO METAL WATER PIPE SHALL BE MADE WITHIN 5 FEET OF POINT OF ENTRANCE OF PIPE PER NEC 250.52 (A) (1).
- (3B) ALTERNATE BONDING SCHEME: BOND GROUND ROD, BUILDING STEEL OR METAL (WHERE EFFECTIVELY GROUNDED) AND CONCRETE-ENCASED ELECTRODE (SEE CODED NOTE 7) TO METAL WATER PIPE. CONNECTIONS TO METAL WATER PIPE SHALL BE MADE WITHIN 5 FEET OF POINT OF ENTRANCE OF PIPE PER NEC 250.52
- (4) LOCATE GROUND ROD OUTSIDE BUILDING WALL NEAR SERVICE ENTRANCE. IF MEASURED RESISTANCE BETWEEN GROUND ROD AND EARTH IS 25 OHMS OR LESS, A SINGLE GROUND ROD IS REQUIRED. IF MEASURED RESISTANCE IS GREATER THAN 25 OHMS, INSTALL SUPPLEMENTAL ELECTRODE, NOT LESS THAN 6'-0" APART FROM ORIGINAL GROUND ROD, PER NEC 250.53 (A) (2) & (3).
- 5 PROTECT GROUNDING AND BONDING CONDUCTORS WHERE THEY PENETRATE CONCRETE FOUNDATIONS.
- (6) SIZE CONDUCTOR PER NEC TABLE 250.66 AND NEC ARTICLE 250.66.
- (7) CONCRETE-ENCASED ELECTRODE ENCASED WITHIN AT LEAST 2 INCHES OF CONCRETE, LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING IN DIRECT CONTACT WITH THE EARTH, MINIMUM 20 FOOT LENGTH OF ELECTRICALLY CONDUCTIVE MATERIAL. SEE NEC 250.52 (A) (3).
- (8) SEE ELECTRICAL RISER FOR MINIMUM SIZE AWG COPPER PER NEC 250.52 (A) (3).

250.50 GROUNDING ELECTRODE SYSTEM - ALL GROUNDING ELECTRODES AS DESCRIBED IN 250.52(A)(1) THROUGH (A)(7) THAT ARE PRESENT AT EACH BUILDING OR STRUCTURE SERVED SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. WHERE NONE OF THESE GROUNDING ELECTRODES EXIST, ONE OR MORE OF THE GROUNDING ELECTRODES SPECIFIED IN 250.52(A)(4) THROUGH (A)(8) SHALL BE INSTALLED AND USED.





(B) LIGHTING CONTROL WIRING DIAGRAM

ENGINEER OF RECORD

Point One Design, Ltd.
Consulting Engineers

2800 Corporate Exchange Dr. Suite 270 Columbus, Ohio 43231 614-540-3500 Fax 614-540-3502 columbus@pointonedesign.com

9941 York Theta Drive North Royalton, Ohio 44133 440-230-1800 Fax 440-230-1831 cleveland@pointonedesign.com

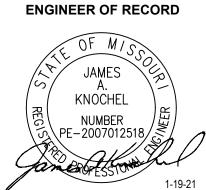
CONSULTANT

PROJECT NAME

EYEMART EXPRESS STORE #:

SITE LOCATION:

1041 NE **SAM WALTON DR** LEE'S SUMMIT, MO



★ ■ 10-28-2020 Permit

★ ■ 10-29-2020 Bldg. Dept. Comments

★ ■ ∕₂ 01-14-2021 ackslash Revision

★ ■ <u>3</u> 01-19-2021 Revision

* INDICATES AFFECTED SHEETS

ELECTRICAL DETAILS

01-19-2021

PROJECT NUMBER EYEM101520LSMO SHEET NUMBER

E4.1

Phase B: 4.9 KVA

Phase C: 4.8 KVA

Total: 15.1 KVA