

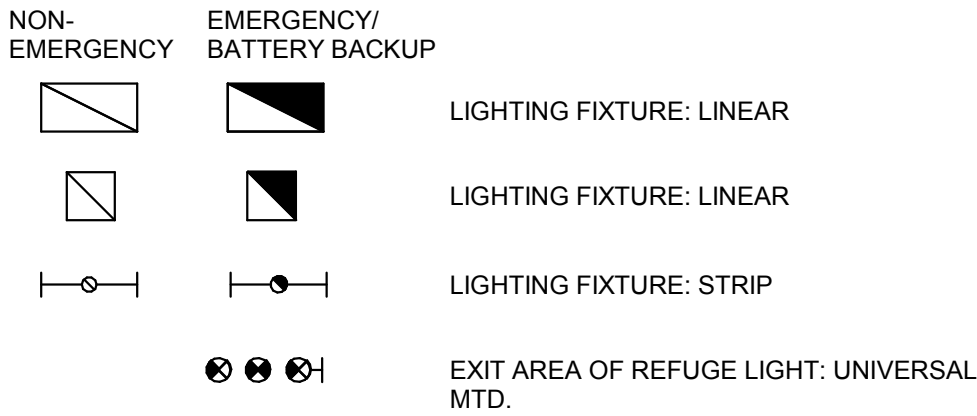
LEGEND:

LIGHTING FIXTURES:

UPPERCASE LETTER ADJACENT TO FIXTURE DENOTES DESIGNATION PER THE LIGHTING FIXTURE SCHEDULE. LOWERCASE LETTER DENOTES SWITCHLEG. THE RESPECTIVE SWITCH WILL HAVE THE SAME DESTINATIONS. NUMERAL DENOTES BRANCH CIRCUIT CONNECTION.

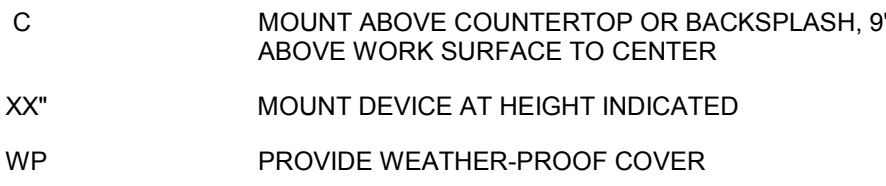
REFER TO THE FIXTURE SCHEDULE FOR THE SPECIFIC FIXTURE INFORMATION.

EMERGENCY FIXTURES SHALL HAVE FACTORY INSTALLED INTERNAL BATTERIES, PER SPECIFICATIONS.



DEVICE IDENTIFIER TAGS:

NUMERAL ADJACENT TO DEVICE DENOTES BRANCH CIRCUIT CONNECTION. IDENTIFIER TAGS ADJACENT TO DEVICES INDICATE:



RECEPTACLES:

NOMINAL MOUNTING HEIGHT OF RECEPTACLES SHALL BE 18" TO CENTER, UNO, IF APPLICABLE. ADJUST SO DEVICE COVER IS IN THE CENTER OF MASONRY COURSE NEAREST THAT HEIGHT. THE HEIGHT ESTABLISHED SHALL GOVERN FOR ALL BOX INSTALLATIONS, WHERE INSTALLED IN MASONRY OR FRAMED WALLS.

ALL RECEPTACLES INSTALLED IN THE FOLLOWING LOCATIONS SHALL BE TAMPER RESISTANT TYPE:

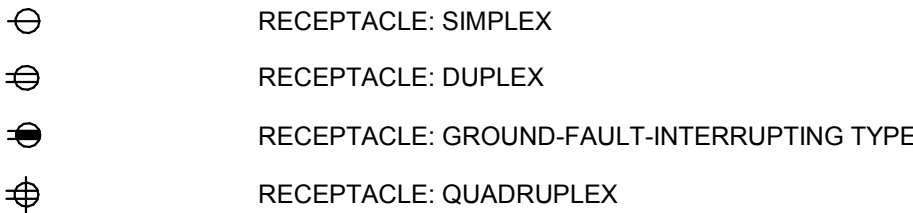
A. DWELLING UNITS, DORM ROOMS, GUEST ROOMS AND GUEST SUITES OF HOTELS AND MOTELS.

B. CHILD CARE FACILITIES.

C. PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES.

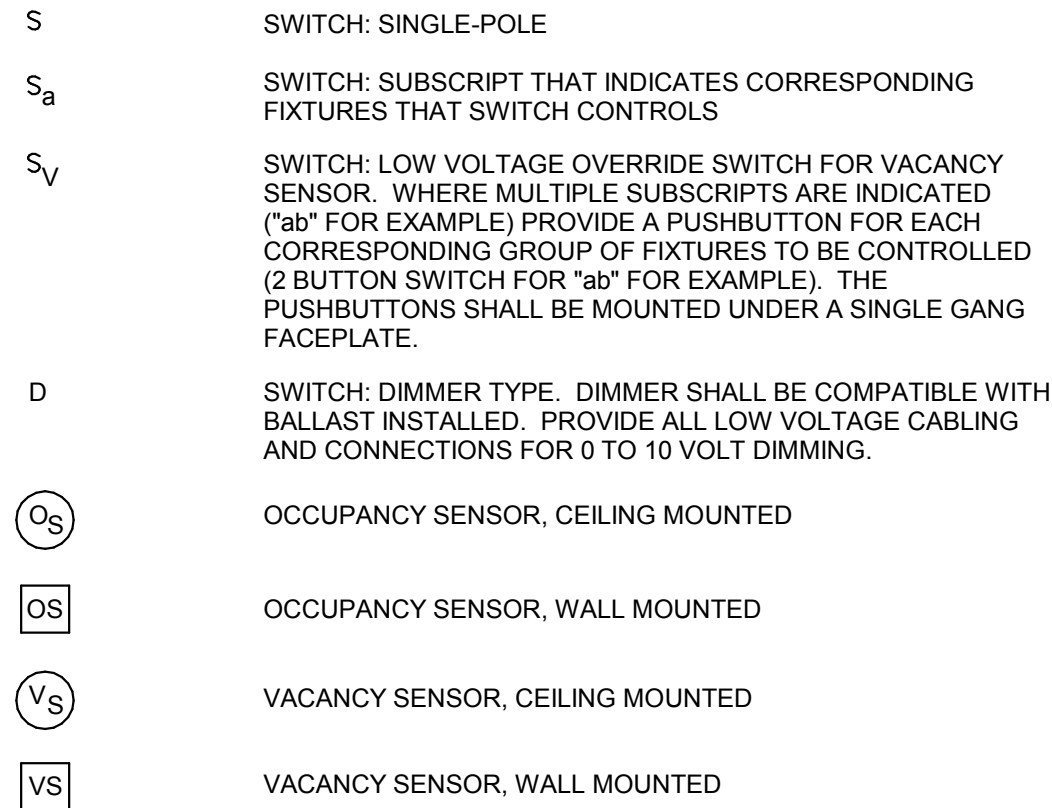
D. BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES AND OUTPATIENT FACILITIES.

E. SUBSETS OF ASSEMBLY OCCUPANCIES DESCRIBED IN NEC §18.2 TO INCLUDE PLACES OF WAITING TRANSPORTATION, GYMNASIUMS, SKATING RINKS, AND AUDITORIUMS.



SWITCHES:

MOUNTING HEIGHT OF SWITCHES SHALL BE 48" NOMINAL, ADJUSTED IN THE SAME MANNER AS SPECIFIED ABOVE, FOR RECEPTACLES. LOWERCASE LETTER INDICATES SWITCHLEG CONNECTION. THE RESPECTIVE FIXTURE(S) WILL HAVE THE SAME DESIGNATION.

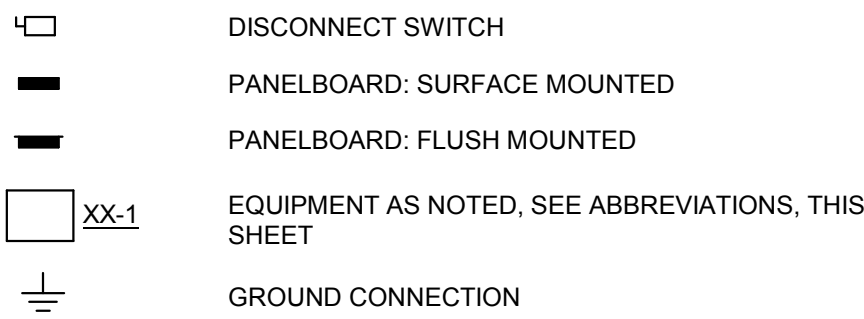


ABBREVIATIONS:

A	AMPERES	ECB	ENCLOSED CIRCUIT BREAKER	MIN	MINIMUM	TYP	TYPICAL
AFF	ABOVE FINISHED FLOOR	EF	EXHAUST FAN	MOCP	MAXIMUM OVERCURRENT PROTECTION	UNO	UNLESS NOTED OTHERWISE
AFG	ABOVE FINISHED GRADE	EH	ELECTRIC HEATER	MTD	MOUNTED	V	VOLTAGE
AH	AIR HANDLER	FAAP	FIRE ALARM ANNUNCIATOR PANEL	No.	NUMBER	W	WATTAGE
AIC	AMPERE INTERRUPTING CAPACITY	FACP	FIRE ALARM CONTROL PANEL	NEC	NATIONAL ELECTRIC CODE	W/	WITH
AV	AUDIOVISUAL	G	GROUND	NTS	NOT TO SCALE	WH	WATER HEATER
AWG	AMERICAN WIRE GAUGE	GFI	GROUND-FAULT INTERRUPTING	NGS	RIGID GALVANIZED STEEL	WP	WEATHER PROOF
BFG	BELOW FINISHED GRADE	HP	HORSE POWER	SPD	SURGE PROTECTION DEVICE	XFMR	TRANSFORMER
B.E.	BOTTOM EDGE	KCMIL	KILO CIRCULAR MIL				
C.	CONDUIT	MB	MAIN BREAKER				
DIA.	DIAMETER	MCA	MINIMUM CIRCUIT AMPS				

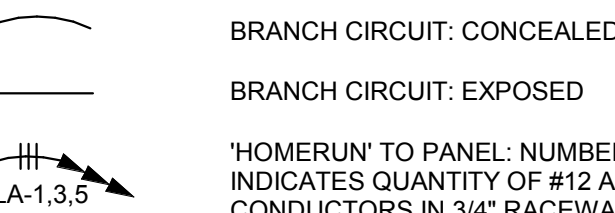
ELECTRICAL EQUIPMENT:

REFER TO POWER RISER DIAGRAM AND EQUIPMENT CONNECTION SCHEDULE FOR LOAD DATA USED AS THE BASIS OF DESIGN AND REQUIRED CONNECTIONS. VERIFY LOAD AND LOCATION WITH EQUIPMENT CUT-SHEETS AND INSTALLER.

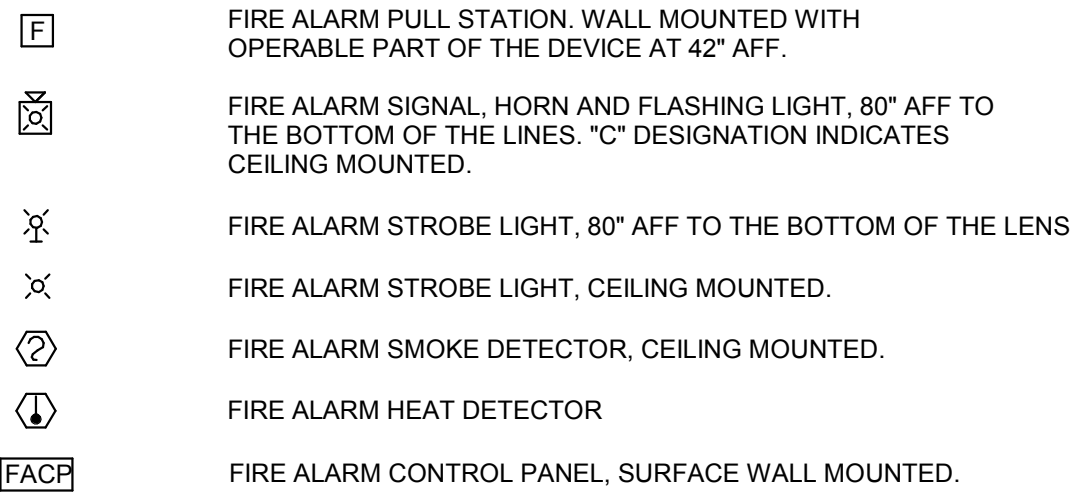


BRANCH CIRCUITS:

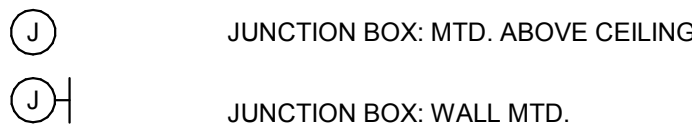
CONDUCTOR COUNTS ARE SHOWN ON THE HOMERUNS ONLY. CONTRACTOR SHALL DETERMINE COUNTS FOR INTERMEDIATE RUNS BASED ON THE MANNER IN WHICH THE CIRCUIT ELEMENTS ARE CONNECTED. REFER TO THE SPECIFICATION SECTIONS 262010, 262080, & 26030 FOR SPECIAL REQUIREMENTS.



FIRE ALARM:

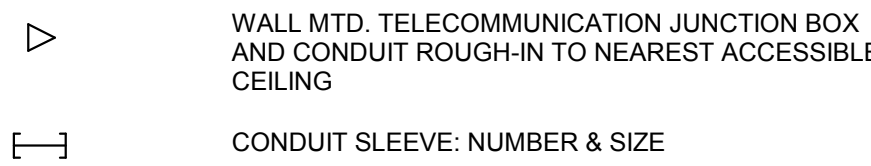


MISCELLANEOUS COMPONENTS:



ROUGH-IN FOR LOW VOLTAGE SYSTEMS:

THE CONTRACTOR SHALL PROVIDE ROUGH-IN FOR ALL DEVICES AND WIRING. ROUGH-IN REQUIREMENTS ARE SPECIFIED IN SECTION 261010. VERIFY ADJACENCY TO CORRESPONDING POWER RECEPTACLES. OTHER DEVICES WHOSE LOCATIONS ARE NOT DEPENDENT ON RECEPTACLE PLACEMENT SHALL BE COORDINATED WITH SYSTEM INSTALLER.

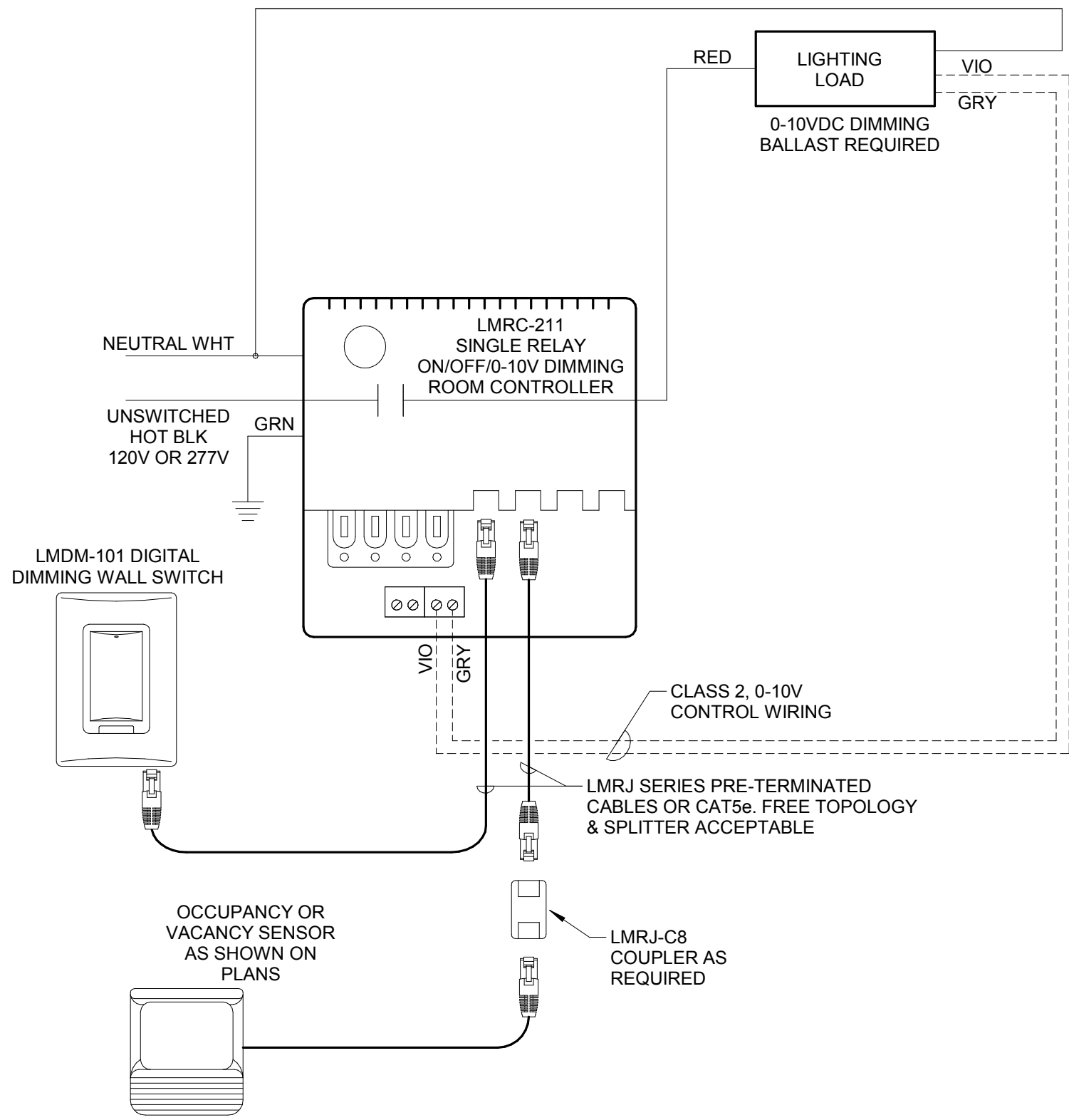


GENERAL NOTES:

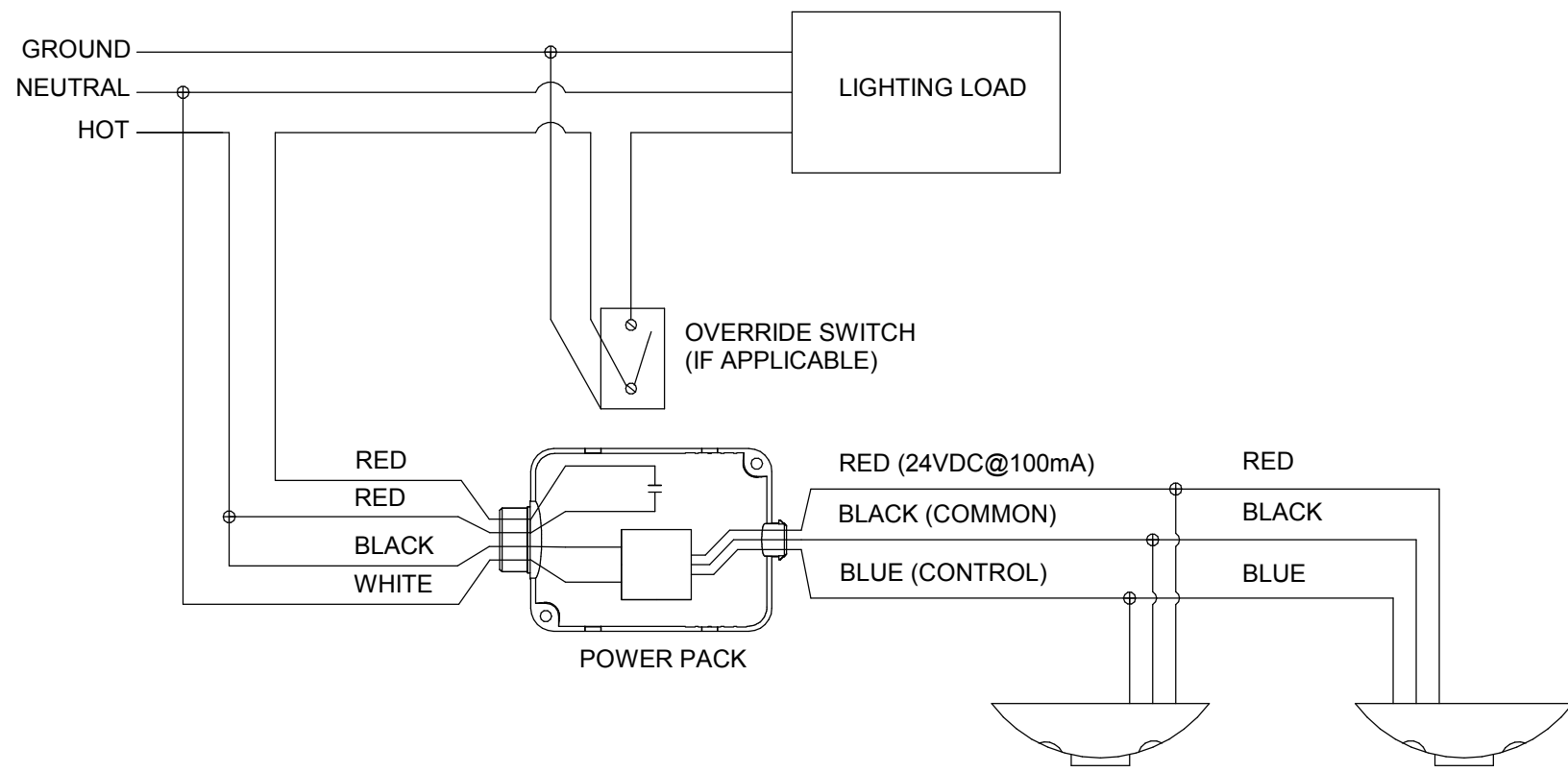
- THE ELECTRICAL DRAWINGS ARE ONLY PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS FOR THEIR INTERRELATIONSHIP AND REQUIRED COORDINATION BETWEEN DISCIPLINES.
- WHERE COMPLETE BRANCH CIRCUIT WIRING IS NOT SHOWN, PROVIDE ACCORDING TO HOMERUNS SHOWN AND CORRESPONDING CIRCUIT NUMBERS ADJACENT TO THE DEVICE OR FIXTURE. REFER TO THE SPECIFICATIONS FOR THE WIRING METHODS. BRANCH CIRCUIT RATINGS SHALL BE BASED ON OVERCURRENT DEVICE RATINGS SHOWN IN THE PANEL SCHEDULES.
- REFER TO THE ELECTRICAL PANELBOARD SCHEDULES AND EQUIPMENT RATINGS & CONNECTIONS SCHEDULE FOR VOLTAGE, BRANCH CIRCUITS REQUIREMENTS, BREAKERS SIZES AND OTHER RELATED ELECTRICAL EQUIPMENT TO BE PROVIDED AND/OR INSTALLED BY THE ELECTRICAL CONTRACTOR.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/SERIES	REFLECTOR/DIFFUSER	FINISH	MOUNTING	LAMPS	NOTES
A1	2'X2' SURFACE FLAT PANEL	COLUMBIA CFP SERIES LITHONIA CLX SERIES METALUX DAY-BRITE	SMOOTH FROSTED ACRYLIC LENS	HOUSING AND EXPOSED PARTS - WHITE	SURFACE GYP CEILING	3300 LUMENS 3500K 32W	
A2	2'X4' SURFACE FLAT PANEL					4000 LUMENS 3500K 40W	
E1	4' LONG STANDARD STRIPS	COLUMBIA LCL SERIES GOTHAM EVO SERIES METALUX SNLED SERIES HE WILLIAMS 75R SERIES	ROUND FROSTED LENS	WHITE (HOUSING)	SURFACE OR SUSPENDED	5000 LUMENS 3500K 42W	
G1	ELEVATOR VAPORTITE PIT LIGHT	HUBBELL VTH SERIES LITHONIA STONCO	CLEAR GLASS GLOBE WITH DIE CAST ALUMINUM GUARD	CORROSION RESISTANT	SURFACE WALL	1500 LUMENS 25W	
K1	6" ROUND LED DOWN LIGHT	PRESCOLITE LF6 SERIES GOTHAM EVO SERIES PORTFOLIO LD6B SERIES INTENSE IML6 SERIES	OPEN SEMI-SPECULAR CLEAR ALZAK CONE. MEDIUM BEAM SPREAD.	TRIM RING - WHITE	RECESSED GYP CEILING	1500 LUMENS 3500K 15W	
N1	LED WALL PACK SURFACE MOUNT VANDAL RESISTANT	MCGRAW/EDISON IST SERIES SPAULDING TRP SERIES GARDCO 101 SERIES	TYPE IV DISTRIBUTION	HOUSING AND EXPOSED PARTS - DARK BRONZE	WALL MOUNT	4000 LUMENS 4000K 55W	BUILT-IN PHOTOCELL
XA	SINGLE FACE EDGE-LIT EXIT	DUAL-LITE LE SERIES LITHONIA LRP SERIES SURE-LITE ES SERIES BEGHELLI OL2 SERIES	GREEN LETTERS "EXIT", NICKEL CADMIUM BATTERY.	INJECTION MOLDED CLEAR ACRYLIC RECESSED HOUSING	CEILING OR WALL PER THE PLANS	LED	
XB	DOUBLE FACE EDGE-LIT EXIT						



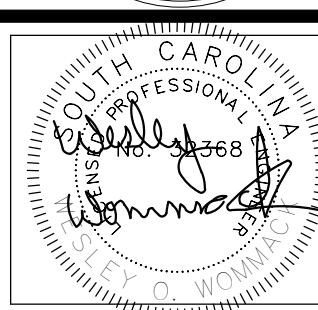
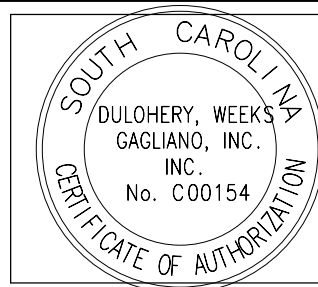
1 0-10V DIMMING WIRING SCHEMATICS
1/8" = 1'-0"



NOTES: (OCCUPANCY SENSOR WIRING)

- A NOT ALL MANUFACTURERS' WIRING CONFIGURATIONS ARE THE SAME. REFER TO MANUFACTURER SPECIFIC WIRING DETAILS PRIOR TO INSTALLATION.
- B THESE PLANS INDICATE AREAS TO BE CONTROLLED BY OCCUPANCY SENSORS. SINCE COVERAGES AND DEVICES VARY BETWEEN MANUFACTURERS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PROPER DEVICE LOCATION, ORIENTATION, AND QUANTITIES WITH THE MANUFACTURER OF THE SYSTEM BEING INSTALLED TO MEET THE SPECIFIED CRITERIA.
- C THERE ARE NO POWER PACKS SHOWN ON THESE PLANS. PROVIDE POWER PACKS AS REQUIRED WITH SENSORS. POWER PACKS ARE TO BE RATED AT 20A. PROVIDE ONE POWER PACK PER 20A LIGHTING CIRCUIT OR PER INDIVIDUAL AREA BEING CONTROLLED.
- D CEILING SENSORS ARE TO BE MOUNTED AWAY FROM ANY STRONG AIRFLOW. COORDINATE LOCATION OF SENSORS WITH MECHANICAL AND LIGHTING PLANS.
- E ALL SENSORS SHALL BE CEILING MOUNTED EXCEPT WHERE CEILING HEIGHTS EXCEED 15'. PROVIDE SENSOR WITH ADAPTOR PLATE FOR JUNCTION BOX MOUNTING (JUNCTION BOX SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING). JUNCTION BOX SHALL BE SUPPORTED FORM STRUCTURE UTILIZING A 3/8" THREADED ROD. WHERE CEILING HEIGHTS EXCEED 15', WALL MOUNT SENSORS AT 12'.

2 OCCUPANCY SENSOR WIRING
NOT TO SCALE



HUSSEY GAY BELL
Established 1958
2160 SATELLITE BOULEVARD, SUITE 250, DULUTH, GA 30097 / T:770.476.7782

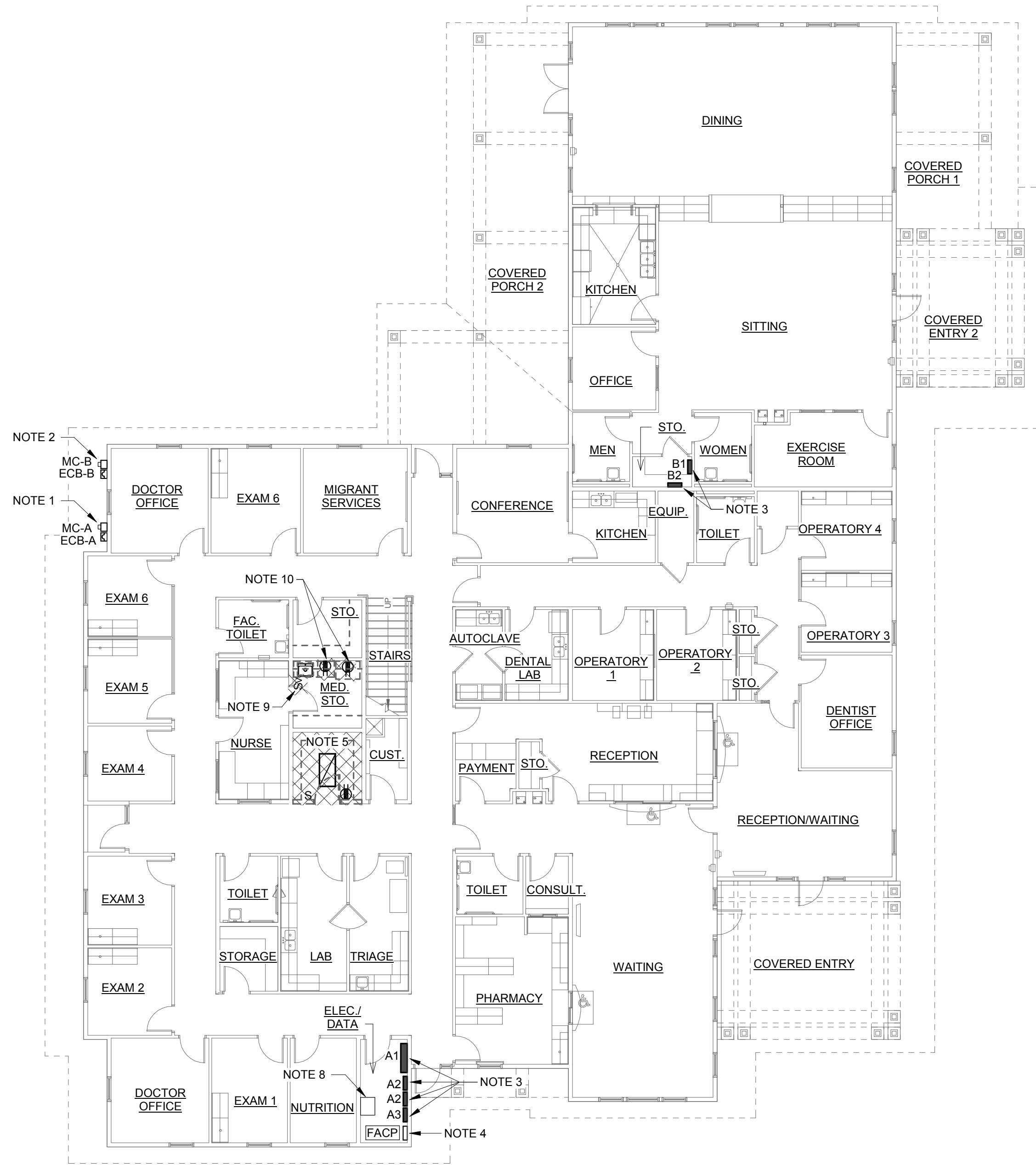
REVISIONS:

DESIGNED	DRAWN	CHECKED
FAA	FAA	WOW
DATE:	JUNE 5, 2019	
JOB NO.	Project Number	
SCALE:	SEE SHEET	

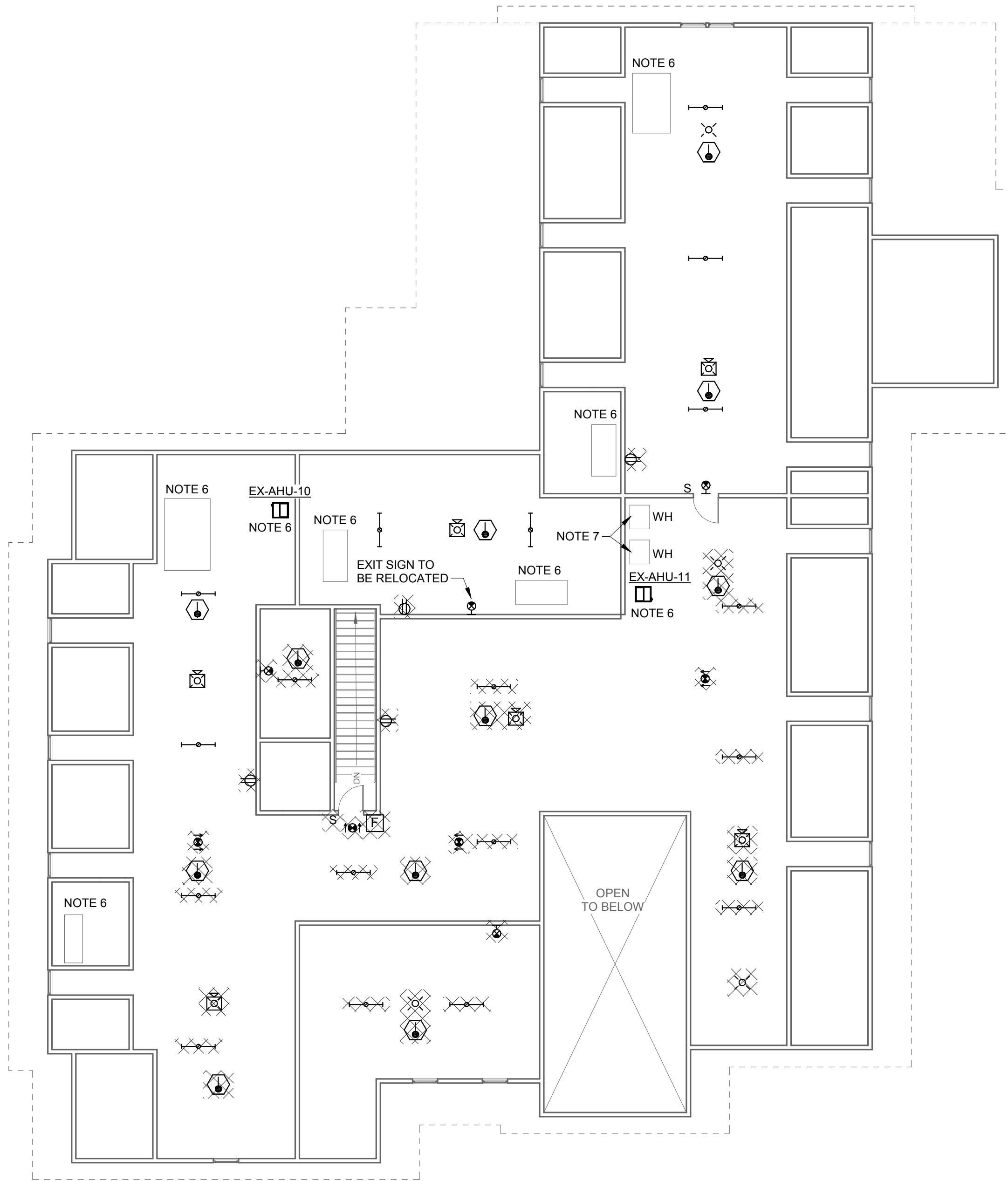
ADDITIONS TO:
LEROY E. BROWNE CENTER
ST. HELENA ISLAND, SOUTH CAROLINA
ELECTRICAL LEGEND

DRAWING
NUMBER

E0.1



1 FIRST FLOOR ELECTRICAL DEMO PLAN
3/32" = 1'-0"



2 SECOND FLOOR ELECTRICAL DEMO PLAN
3/32" = 1'-0"

GENERAL DEMOLITION NOTES:

- THIS PLAN HAS BEEN PROVIDED AS A GENERAL SCOPE OF DEMOLITION REQUIRED. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND REMOVE ITEMS INDICATED IN THESE DEMOLITION NOTES ON THIS SHEET WHETHER THE SPECIFIC ITEM IS SHOWN ON THE DEMOLITION PLAN OR NOT.
- ENSURE ANY EXISTING LOW VOLTAGE CABLING TO REMAIN IS SECURED TO STRUCTURE AND PROTECTED FROM DAMAGE DURING DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR KEEPING THESE SYSTEMS IN WORKING ORDER.
- REMOVE ALL ELECTRICAL OUTLETS ON WALLS SCHEDULED TO BE DEMOLISHED. WALLS BEING REMOVED ARE SHOWN DASHED. COORDINATE ALL WALLS BEING DEMOLISHED WITH ARCHITECTURAL.
- EXISTING CEILINGS, WALLS, AND FLOORS DISTURBED OR DISFIGURED BY THE ELECTRICAL RENOVATION SHALL BE PATCHED, MENDED OR REPLACED BY TRADES ACTIVELY PARTICIPATING IN THIS TYPE OF WORK. RESPONSIBILITY FOR REPAIRS SHALL BE COORDINATED BETWEEN GENERAL CONTRACTOR AND ELECTRICAL SUBCONTRACTOR.
- ALL EXISTING EQUIPMENT REMOVED FROM SERVICE AND NOT INTENDED FOR REUSE SHALL REMAIN THE PROPERTY OF OWNER AND SHALL BE DISPOSED OF OR STORED AS DIRECTED BY THE OWNER, OR AS INDICATED ON PLANS.
- MAINTAIN SERVICE TO ALL EXISTING CIRCUITS THAT ARE NOT SCHEDULED FOR REMOVAL.
- FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING DEVICES AND EQUIPMENT NOTED OR SHOWN.
- WHERE RECEPTACLES AND DEVICES ARE BEING REMOVED FROM EXISTING CIRCUITS FEEDING RECEPTACLES TO REMAIN, SPLICE AND EXTEND CIRCUITS (PER N.E.C. REQUIREMENTS) AS REQUIRED TO MAINTAIN FULL OPERATION. PROVIDE ADDITIONAL CONDUIT AND WIRING AS REQUIRED.
- FIRE ALARM SYSTEM SHALL BE OPERATIONAL THROUGHOUT CONSTRUCTION. COORDINATE ANY DOWN TIME WITH OWNER MINIMUM ONE WEEK IN ADVANCE.

KEYED NOTES:

- EXISTING 600A, 120/208V, 3PH FEED THRU METER AND ENCLOSED CIRCUIT BREAKER FOR SERVICE 'A' TO REMAIN.
- EXISTING 400A, 120/208V, 3PH FEED THRU METER AND ENCLOSED CIRCUIT BREAKER FOR SERVICE 'B' TO REMAIN.
- EXISTING 120/208V, 3PH, 4W MAIN LUG PANELBOARD TO REMAIN.
- EXISTING FIRE ALARM SYSTEM TO REMAIN. EXISTING ADDRESSABLE CONTROL PANEL IS 'GAMEWELL' BY HONEYWELL.
- EXISTING STORAGE ROOM IS BECOMING AN ELEVATOR SHAFT. DEMOLISH ALL EXISTING WALL MOUNTED AND CEILING MOUNTED ELECTRICAL DEVICES FROM SPACE.
- EXISTING MECHANICAL HVAC UNIT TO REMAIN.
- EXISTING WATER HEATER TO REMAIN.
- EXISTING WALL MOUNTED DATA RACK TO REMAIN.
- REPLACE EXISTING SENSOR SWITCH WITH NEW MANUAL TOGGLE SWITCH.
- REMOVE EXISTING RECEPTACLES SERVING COUNTERTOP AND REFRIGERATOR. BRANCH CIRCUITRY SHALL REMAIN TO SERVE NEW RECEPTACLES ON OPPOSITE SIDE OF WALL. SEE NEW WORK PLAN.

REVISIONS:

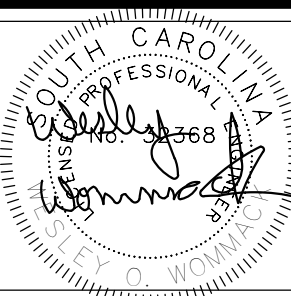
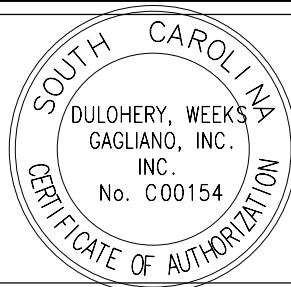
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DATE: JUNE 5, 2019		
JOB NO. Project Number		
SCALE: SEE SHEET		



1 FIRST FLOOR ELECTRICAL PLAN
1/8" = 1'-0"

NOTES:

1. PROVIDE TELEPHONE CONNECTION TO ELEVATOR CONTROLLER. COORDINATE EXACT LOCATION WITH ELEVATOR MANUFACTURER.
2. SEE NOTE 3, SHEET E3.1.



HUSSEY GAY BELL
Established 1958

2160 SATELLITE BOULEVARD, SUITE 250, DULUTH, GA 30097 / T:770.476.7782

REVISIONS:

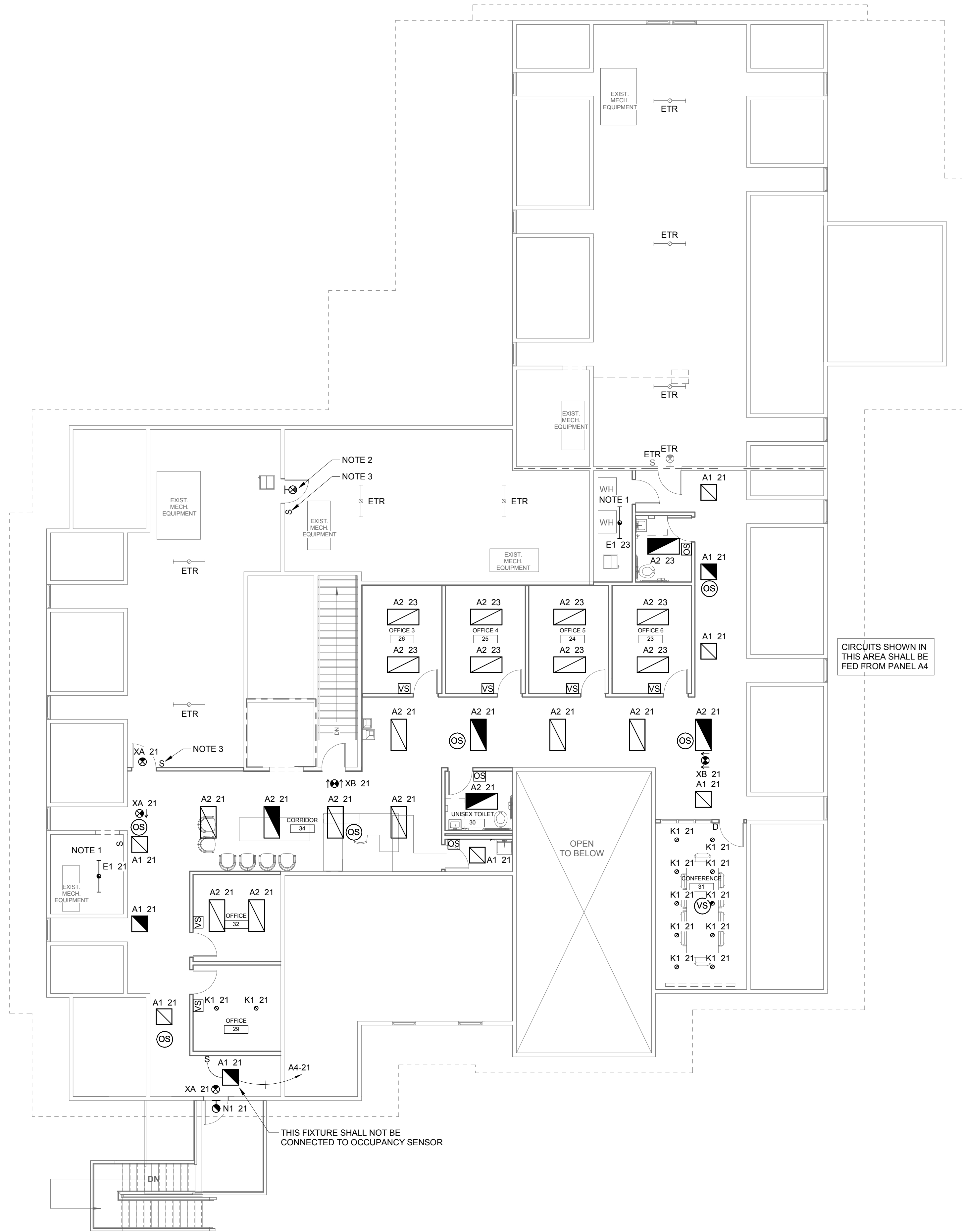
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DATE:	JUNE 5, 2019	
JOB NO.	Project Number	
SCALE:	SEE SHEET	

ADDITIONS TO:
LEROY E. BROWNE CENTER
ST. HELENA ISLAND, SOUTH CAROLINA
FIRST FLOOR ELECTRICAL PLAN

DRAWING
NUMBER

E2.0





1 SECOND FLOOR LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTES:

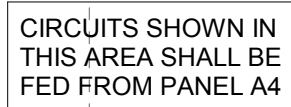
- A. COORDINATE EXACT LOCATIONS AND MOUNTINGS (FLANGE/LAY-IN) WITH ARCHITECTURAL CEILING PLAN AND SCHEDULES PRIOR TO ORDERING AND INSTALLING ANY FIXTURE.
- B. EXIT LIGHT AND NIGHT LIGHT CIRCUITS ARE TO REMAIN UNSWITCHED.
- C. PROVIDE UNSWITCHED PHASE CONDUCTOR TO EACH EMERGENCY FIXTURE FOR BATTERY CHARGING AND POWER LOSS SENSING.
- D. ALL SPACES ARE TO BE CONTROLLED BY OCCUPANCY OR VACANCY SENSOR UNLESS SPECIFICALLY NOTED OTHERWISE. SEE DETAILS AND NOTES ON SHEET E0.1 FOR ADDITIONAL REQUIREMENTS.

NOTES:

- 1. COORDINATE MOUNTING OF STRIP LIGHTS WITH NEW AND EXISTING MECHANICAL DUCTWORK IN THIS SPACE.
- 2. NEW LOCATION OF RELOCATED EXIT SIGN.
- 3. PROVIDE SWITCH TO CONTROL EXISTING LIGHT FIXTURES IN THIS SPACE.

REVISIONS:

DESIGNED	DRAWN	CHECKED
PAA	PAA	WOW
DATE:	JUNE 5, 2019	
JOB NO.	Project Number	
SCALE:	SEE SHEET	

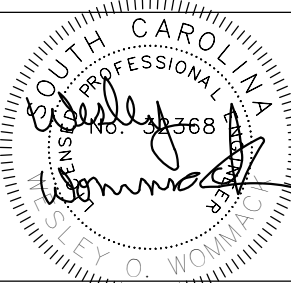


MECHANICAL EQUIPMENT RATINGS AND CONNECTION SCHEDULE NOTES

1. REFER TO SECTION 260120 FOR THE COORDINATION AFFIDAVIT THAT MUST BE SUBMITTED AND APPROVED BEFORE MATERIALS MAY BE ORDERED.
2. THE DESIGN IS BASED ON SINGLE POINT CONNECTIONS TO ALL EQUIPMENT UNLESS NOTED OTHERWISE.
3. THE INDOOR UNIT RECEIVES POWER FROM THE OUTDOOR UNIT. PROVIDE 20 AMP, 2 POLE TOGGLE SWITCH ON LINE SIDE OF INDOOR UNIT. REFER TO UNIT CUT SHEETS FOR CONNECTION REQUIREMENTS. DIVISION 28 CONTRACTOR IS RESPONSIBLE FOR ALL WIRING COMPONENTS AND INSTALLATION.

1. INTERLOCK RESTROOM EXHAUST FAN WITH LIGHTS SERVING THIS SPACE.
2. PROVIDE RECESSED TELEVISION BACK BOX FOR POWER, DATA, AND AV INPUTS. PROVIDE J-BOX BELOW BACK BOX AT 18" AFF FOR AV INPUT. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO RUGH-IN.

1/8" = 1'-0'

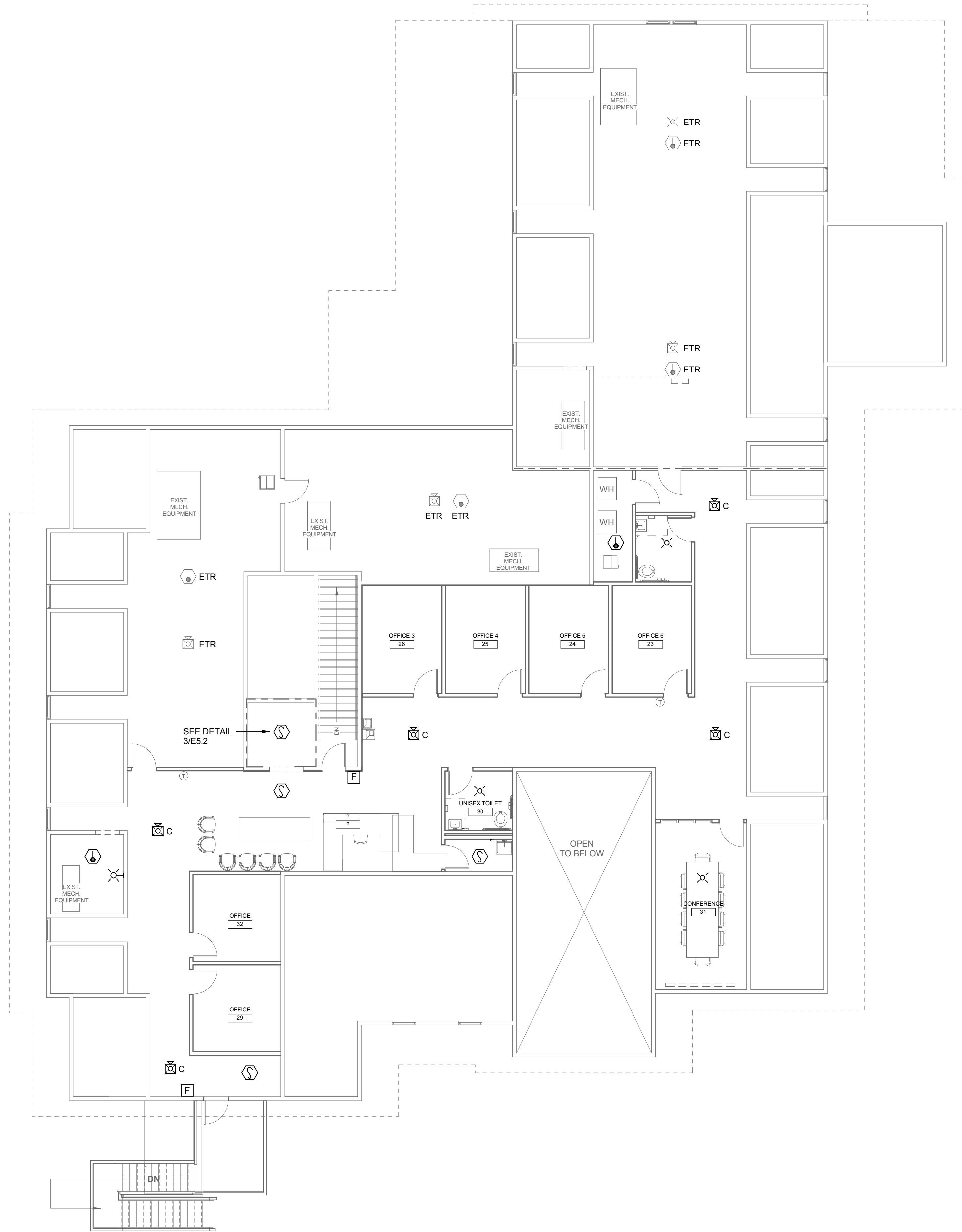


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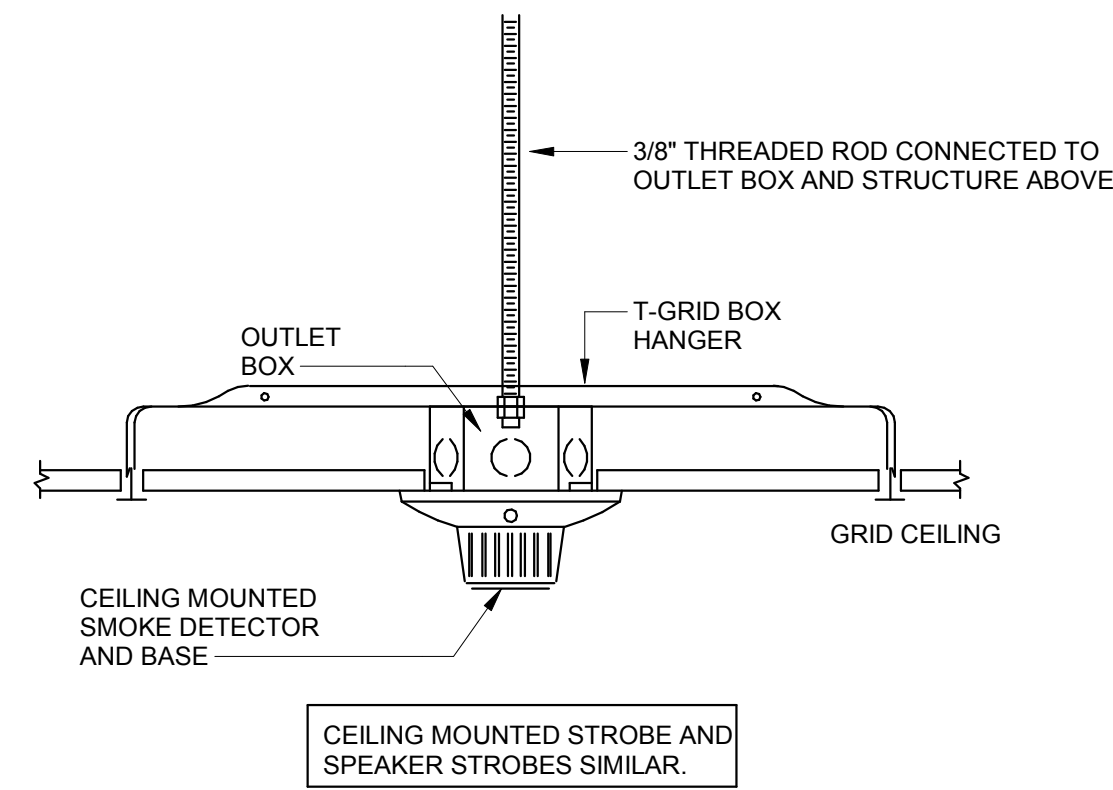
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DATE: JUNE 5, 2019		
JOB NO. Project Number		
SCALE: SEE SHEET		

DRAWING
NUMBER

E3.1



1 SECOND FLOOR FIRE ALARM PLAN
1/8" = 1'-0"



2 SMOKE DETECTOR MOUNTING
NOT TO SCALE

REVISIONS:

DESIGNED PAA	DRAWN PAA	CHECKED WOW
DATE: JUNE 5, 2019		
JOB NO. Project Number		
SCALE: SEE SHEET		

PANEL: A1											
VOLTAGE: 120/208 WYE PHASE: 3 WIRES: 4 A.I.C. RATING: 25,000				MAINS RATING: 600 A MAINS TYPE: MLO FED BY: ECB-A				LOCATION: ELEC. MOUNTING: SURFACE RATING: NEMA 1 TOTAL LOAD: 209078 VA			
CKT	TRIP	P	CIRCUIT DESCRIPTION	A	B	C	CIRCUIT DESCRIPTION	P	TRIP	CKT	
1				0	9900					2	
3	30 A	3	SPD (EXISTING)		0	12494	PANEL A3 (EXISTING)	3	100 A	4	
5						0	11094			6	
7				6000	700					8	
9	70 A	3	WH-02 (EXISTING)		6000	700	AHU-10 (EXISTING)	2	15 A	10	
11						6000	0	SPARE (EXISTING)	1	20 A	12
13				2880	1000					14	
15	30 A	3	ELEVATOR (NOTE 1)		2880	1000	CJ-01 (EXISTING)	2	20 A	16	
17						2880	1000	CJ-02 (EXISTING)	2	20 A	18
19	30 A	2	OAU-01 (EXISTING)	2300	1000					20	
21					2300	700	AHU-3 (EXISTING)	2	15 A	22	
23	90 A	2	AHU-11 HEAT (EXISTING)	5650	2000		5650	700		24	
25					700	2000	HP-3 (EXISTING)	2	40 A	26	
27	15 A	2	AHU-11 (EXISTING)				700	4500		28	
29				700	4500					30	
31	15 A	2	AHU-2 (EXISTING)		700	5650	AHU-3 HEAT (EXISTING)	2	60 A	32	
33					700					34	
35	30 A	2	HP-2 (EXISTING)	1850	10940		1850	5650	AHU-10 HEAT (EXISTING)	2	90 A
37										36	
39	60 A	2	AHU-2 HEAT (EXISTING)		4500	6450	PANEL A4 (NOTE 1)	3	125 A	40	
41						4500	7675			42	
43	200 A	3	PANEL A2 (EXISTING)	20180	0		N/A	--	--	44	
45					21350	0	N/A	--	--	46	
47						19855	0	N/A	--	48	
NOTES: PANELBOARD IS EXISTING TO REMAIN. EXISTING LOADS AND TRIP RATINGS SHOWN ARE FOR REFERENCE ONLY. FIELD VERIFY. 1. PROVIDE NEW BREAKER. MATCH EXISTING BREAKER MANUFACTURER AND TYPE.				69600 VA	67424 VA	72054 VA					
				583 A	562 A	603 A					

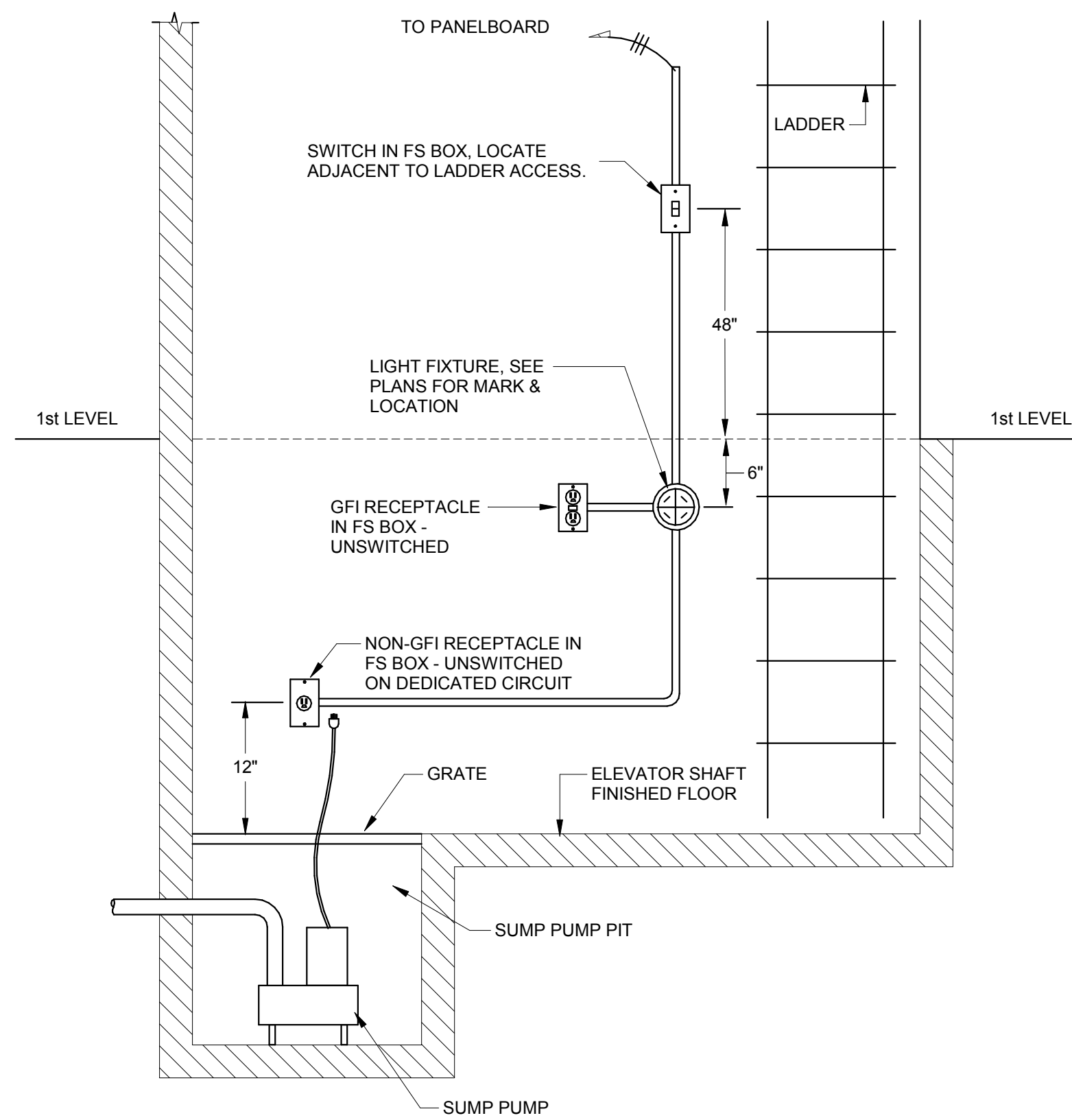
PANEL: A2											
VOLTAGE: 120/208 WYE PHASE: 3 WIRES: 4 A.I.C. RATING: 25,000				MAINS RATING: 200 A MAINS TYPE: MLO FED BY: A1				LOCATION: ELEC. MOUNTING: SURFACE RATING: NEMA 1 TOTAL LOAD: 61385 VA			
CKT	TRIP	P	CIRCUIT DESCRIPTION	A	B	C	CIRCUIT DESCRIPTION	P	TRIP	CKT	
1	20 A	1	HEAT TRACE (EXISTING)	300	1000		RECEPTACLES (EXISTING)	1	20 A	2	
3	20 A	1	RCP-1 (EXISTING)		100	1000	RECEPTACLES (EXISTING)	1	20 A	4	
5	20 A	1	RCP-2 (EXISTING)			100	800	RECEPTACLES (EXISTING)	1	20 A	6
7	20 A	1	RCP-3 (EXISTING)	100	800		RECEPTACLES (EXISTING)	1	20 A	8	
9	20 A	1	RCP-4 (EXISTING)		100	1200	RECEPTACLES (EXISTING)	1	20 A	10	
11	20 A	1	ELEV. CAB (NOTE 1)			1500	600	RECEPTACLES (EXISTING)	1	20 A	12
13	20 A	1	ELEV. MACH RM ELEV (NOTE 1)	180	600		RECEPTACLES (EXISTING)	1	20 A	14	
15	20 A	1	ELEV. SUMP PUMP (NOTE 1)		1200	1000	RECEPTACLES (EXISTING)	1	20 A	16	
17	20 A	1	ELEV. REC & LGT (NOTE 1)			205	1000	RECEPTACLES (EXISTING)	1	20 A	18
19	20 A	1	SPARE (EXISTING)	0	800		RECEPTACLES (EXISTING)	1	20 A	20	
21	20 A	1	SPARE (EXISTING)		0	800	RECEPTACLES (EXISTING)	1	20 A	22	
23	20 A	1	SPARE (EXISTING)			0	1000	RECEPTACLES (EXISTING)	1	20 A	24
25	20 A	1	SPARE (EXISTING)	0	800		RECEPTACLES (EXISTING)	1	20 A	26	
27	20 A	1	SPARE (EXISTING)		0	1000	RECEPTACLES (EXISTING)	1	20 A	28	
29	20 A	1	SPARE (EXISTING)			0	400	RECEPTACLES (EXISTING)	1	20 A	30
31	20 A	2	AIR COMPRESSOR (EXISTING)	2400	400		RECEPTACLES (EXISTING)	1	20 A	32	
33					2400	1400	RECEPTACLES (EXISTING)	1	20 A	34	
35	20 A	2	VACUUM (EXISTING)	1600	0		1600	400	RECEPTACLES (EXISTING)	1	20 A
37									SPARE (EXISTING)	1	20 A
39	20 A	2	VACUUM (EXISTING)		1600	0	SPARE (EXISTING)	1	15 A	42	
41						1600	0	RECEPTACLES (EXISTING)	1	20 A	44
43	20 A	1	RECEPTACLES (EXISTING)	400	1000		RECEPTACLES (EXISTING)	1	20 A	46	
45	20 A	1	RECEPTACLES (EXISTING)		600	400	RECEPTACLES (EXISTING)	1	20 A	48	
47	20 A	1	RECEPTACLES (EXISTING)			400	400	RECEPTACLES (EXISTING)	1	20 A	50
49	20 A	1	RECEPTACLES (EXISTING)	1000	600		RECEPTACLES (EXISTING)	1	20 A	52	
51	20 A	1	RECEPTACLES (EXISTING)		1000	400	RECEPTACLES (EXISTING)	1	20 A	54	
53	20 A	1	RECEPTACLES (EXISTING)			400	600	RECEPTACLES (EXISTING)	1	20 A	56
55	20 A	1	RECEPTACLES (EXISTING)	400	400		RECEPTACLES (EXISTING)	1	20 A	58	
57	20 A	1	RECEPTACLES (EXISTING)		400	400	RECEPTACLES (EXISTING)	1	20 A	60	
59	20 A	1	RECEPTACLES (EXISTING)			500	400	RECEPTACLES (EXISTING)	1	20 A	62
61	20 A	1	RECEPTACLES (EXISTING)	600	400		RECEPTACLES (EXISTING)	1	20 A	64	
63	20 A	1	RECEPTACLES (EXISTING)		600	800	RECEPTACLES (EXISTING)	1	20 A	66	
65	20 A	1	RECEPTACLES (EXISTING)			600	800	RECEPTACLES (EXISTING)	1	20 A	68
67	20 A	1	RECEPTACLES (EXISTING)	1200	1000		RECEPTACLES (EXISTING)	1	20 A	70	
69	20 A	1	RECEPTACLES (EXISTING)		800	400	RECEPTACLES (EXISTING)	1	20 A	72	
71	20 A	1	RECEPTACLES (EXISTING)			1000	600	RECEPTACLES (EXISTING)	1	20 A	74
73	20 A	1	SPARE (EXISTING)	1000	600		RECEPTACLES (EXISTING)	1	20 A	76	
75	20 A	1	RECEPTACLES (EXISTING)		800	600	RECEPTACLES (EXISTING)	1	20 A	78	
77	20 A	2	RECEPTACLES (EXISTING)	2000	600		2000	600	RECEPTACLES (EXISTING)	1	20 A
79						1750	600	RECEPTACLES (EXISTING)	1	20 A	82
81	15 A	2	RECEPTACLE (EXISTING)			1750	600	EXHAUST FAN (EXISTING)	1	20 A	84
83				20180 VA	21350 VA	19855 VA					
				169 A	178 A	165 A					
NOTES: PANELBOARD IS EXISTING TO REMAIN. EXISTING LOADS AND TRIP RATINGS SHOWN ARE FOR REFERENCE ONLY. FIELD VERIFY. 1. NEW LOAD IS FED FROM AN EXISTING SPARE BREAKER.											

PANEL: A3											
VOLTAGE: 120/208 WYE PHASE: 3 WIRES: 4 A.I.C. RATING: 25,000				MAINS RATING: 125 A MAINS TYPE: MCB FED BY: A1				LOCATION: ELEC. MOUNTING: SURFACE RATING: NEMA 1 TOTAL LOAD: 33488 VA			
CKT	TRIP	P	CIRCUIT DESCRIPTION	A	B	C	CIRCUIT DESCRIPTION	P	TRIP	CKT	
1	20 A	1	EXT LGT (EXISTING)	1000	200		LCP-A (EXISTING)	1	20 A	2	
3	20 A	1	LIGHTING (EXISTING)		1000	0	SPARE (EXISTING)	1	20 A	4	
5	20 A	1	LIGHTING (EXISTING)			1000	0	SPARE (EXISTING)	1	20 A	6
7	20 A	1	LIGHTING (EXISTING)	1000	0		SPARE (EXISTING)	1	20 A	8	
9	20 A	1	LIGHTING (EXISTING)		600	0	SPARE (EXISTING)	1	20 A	10	
11	20 A	1	LIGHTING (EXISTING)			1000	0	SPARE (EXISTING)	1	20 A	12
13	20 A	1	LIGHTING (EXISTING)	1000	0		SPARE (EXISTING)	1	20 A	14	
15	20 A	1	LIGHTING (EXISTING)		1000	2000	HP-10 (EXISTING)	2	40 A	16	
17	20 A	1	LIGHTING (EXISTING)			1000	2000			18	
19	20 A	1	LIGHTING (EXISTING)	1000	2000		HP-11 (EXISTING)	2	40 A	20	
21	20 A	1	EXT LGT (EXISTING)		500	2000				22	
23	20 A	1	EXT LGT (EXISTING)			300	600	HP-9 & AHU-9 (EXISTING)	1	15 A	24
25	20 A	1	EXT LGT (EXISTING)	300	600			HP-8 & AHU-8 (EXISTING)	1	15 A	26
27	20 A	1	EXT LGT (EXISTING)		500	1250		HP-4 & AHU-4 (EXISTING)	2	20 A	28
29	20 A	1	EXT LGT (EXISTING)			300	1250			30	
31	20 A	1	EXT LGT (EXISTING)	300	1250			HP-5 & AHU-5 (EXISTING)	2	20 A	32
33	20 A	1	SPARE (EXISTING)		0	1250				34	
35	20 A	1	SPARE (EXISTING)			0	1250	HP-6 & AHU-6 (EXISTING)	2	30 A	36
37	20 A	1	SPARE (EXISTING)	0	1250					38	
39	15 A	2	DHP/DAH-1		1144	1250		HP-7 & AHU-7 (EXISTING)	2	20 A	40
41						1144	1250			42	
NOTES: PANELBOARD IS EXISTING TO REMAIN. EXISTING LOADS AND TRIP RATINGS SHOWN ARE FOR REFERENCE ONLY. FIELD VERIFY.				9900 VA	12494 VA	11094 VA					
				83 A	106 A	94 A					

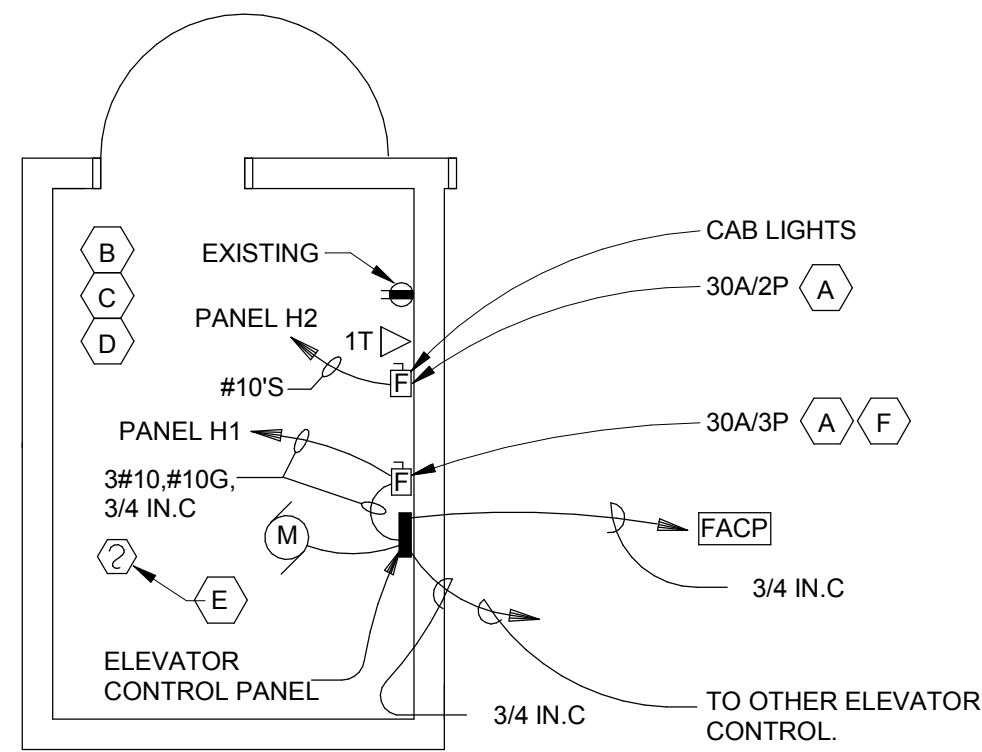
PANEL: B1											
VOLTAGE: 120/208 WYE PHASE: 3 WIRES: 4 A.I.C. RATING: 25,000				MAINS RATING: 400 A MAINS TYPE: MLO FED BY: ECB-B				LOCATION: STOR. MOUNTING: SURFACE RATING: NEMA 1 TOTAL LOAD: 88200 VA			
CKT	TRIP	P	CIRCUIT DESCRIPTION	A	B	C	CIRCUIT DESCRIPTION	P	TRIP	CKT	
1	--	--	SPACE	0	1000		LIGHTING (EXISTING)	1	20 A	2	
3	--	--	SPACE		0	600	LIGHTING (EXISTING)	1	20 A	4	
5	--	--	SPACE			0	600	LIGHTING (EXISTING)	1	20 A	6
7	100 A	3	PANEL B2 EXISTING)	0	1800		HP-12 (EXISTING)	2	30 A	8	
9					0	1800				10	
11						0	700	AHU-12 (EXISTING)	2	15 A	12
13	20 A	1	RECEPTACLES (EXISTING)	1000	700					14	
15	20 A	1	RECEPTACLES (EXISTING)		600	3000	AHU-12 HEAT (EXISTING)	2	50 A	16	
17	20 A	1	RECEPTACLES (EXISTING)			1400	3000			18	
19	20 A	1	RECEPTACLES (EXISTING)	400	1000		CJ-03 (EXISTING)	2	15 A	20	
21	20 A	1	WARMING OVEN (EXISTING)		1000	1000				22	
23	20 A	1	SPARE (EXISTING)			0	1000	CJ-04 (EXISTING)	2	15 A	24
25				8000	1000					26	
27	90 A	3	AHU-1 HEAT (EXISTING)		8000	2300	OAU-02 (EXISTING)	2	30 A	28	
29						8000	2300			30	
31	110 A	3	WH-01 (EXISTING)	10000	700		AHU-1 (EXISTING)	2	15 A	32	
33					10000	700				34	
35						10000	3300	HP-1 (EXISTING)	2	60 A	36
37				0	3300					38	
39	30 A	3	SPD (EXISTING)		0	0	SPARE (EXISTING)	2	20 A	40	
41						0	0			42	
NOTES: PANELBOARD IS EXISTING TO REMAIN. EXISTING LOADS AND TRIP RATINGS SHOWN ARE FOR REFERENCE ONLY. FIELD VERIFY.				28900 VA	29000 VA	30300 VA					
				241 A	242 A	253 A					

PANEL: B2													
VOLTAGE: 120/208 WYE PHASE: 3 WIRES: 4 A.I.C. RATING: 25,000				MAINS RATING: 125 A MAINS TYPE: MLO FED BY: B1				LOCATION: STOR. MOUNTING: SURFACE RATING: NEMA 1 TOTAL LOAD: 0 VA					
CKT	TRIP	P	CIRCUIT DESCRIPTION	A		B		C		CIRCUIT DESCRIPTION	P	TRIP	CKT
1	20 A	1	DINING ROOM REC. (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	2
3	20 A	1	DINING ROOM REC. (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	4
5	20 A	1	DISHWASHER (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	6
7	20 A	1	KITCHEN REC. (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	8
9	20 A	1	KITCHEN REC. (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	10
11	20 A	1	KITCHEN REC. (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	12
13	20 A	1	OFFICE REC. (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	14
15	20 A	1	BATHROOM REC. (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	16
17	20 A	1	EXERCISE RM REC. (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	18
19	20 A	1	EXERCISE RM REC. (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	20
21	20 A	1	EXERCISE RM REC. (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	22
23	20 A	1	EXERCISE RM REC. (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	24
25	20 A	1	SPARE (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	26
27	20 A	1	SPARE (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	28
29	20 A	1	RECEPTACLE (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	30
31	20 A	1	HAND DRYER (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	32
33	20 A	1	HAND DRYER (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	34
35	20 A	1	SPARE (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	36
37	20 A	1	WARMING OVEN (EXISTING)	0	0					SPARE (EXISTING)	1	20 A	38
39	20 A	1	SPARE (EXISTING)			0	0			SPARE (EXISTING)	1	20 A	40
41	20 A	1	SPARE (EXISTING)					0	0	SPARE (EXISTING)	1	20 A	42
				0 VA		0 VA		0 VA					
				0 A		0 A		0 A					

NOTES: PANELBOARD IS EXISTING TO REMAIN. EXISTING LOADS AND TRIP RATINGS SHOWN ARE FOR REFERENCE ONLY. FIELD VERIFY.

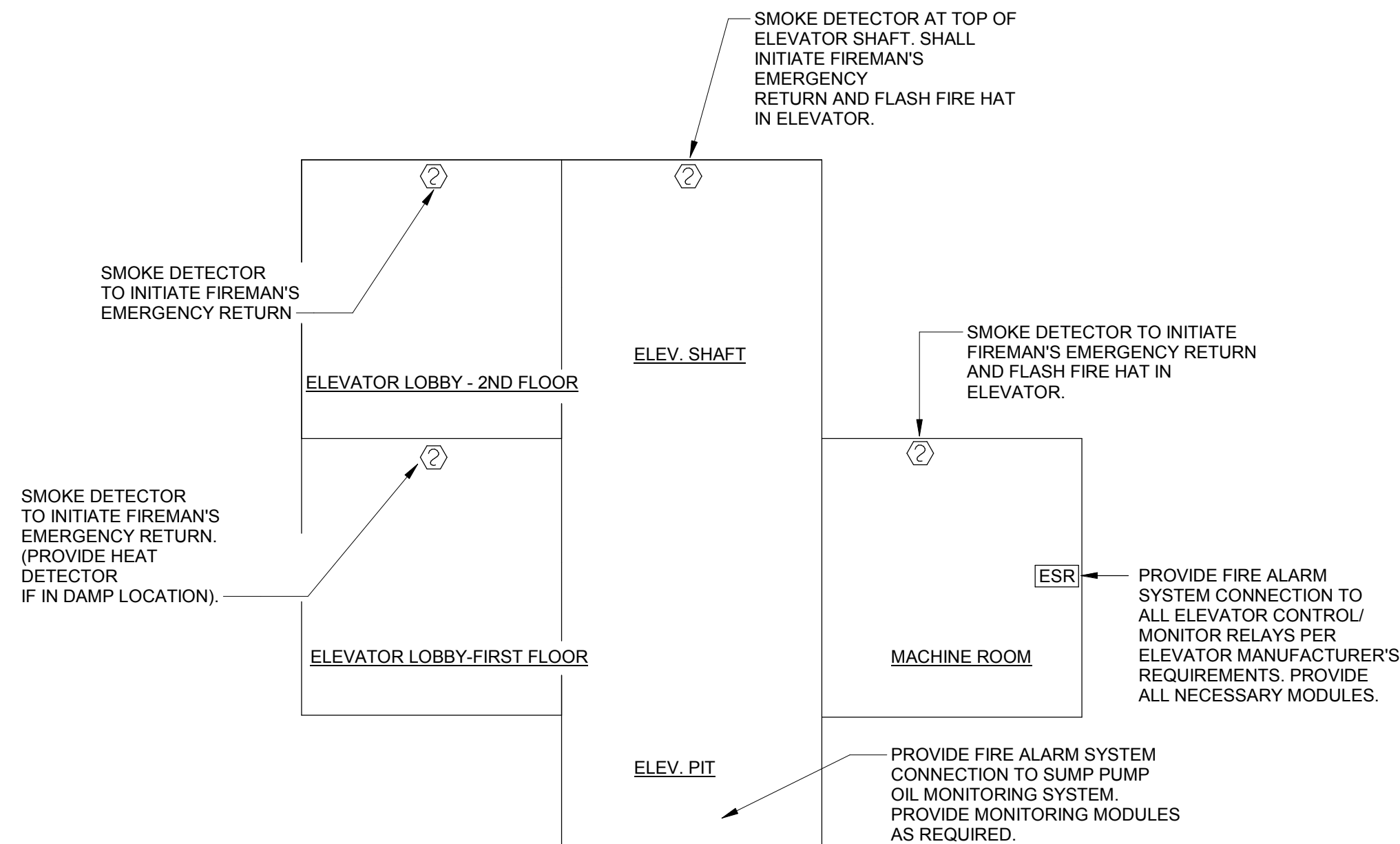


1 ELEVATOR ELEVATION - ELECTRICAL
NOT TO SCALE



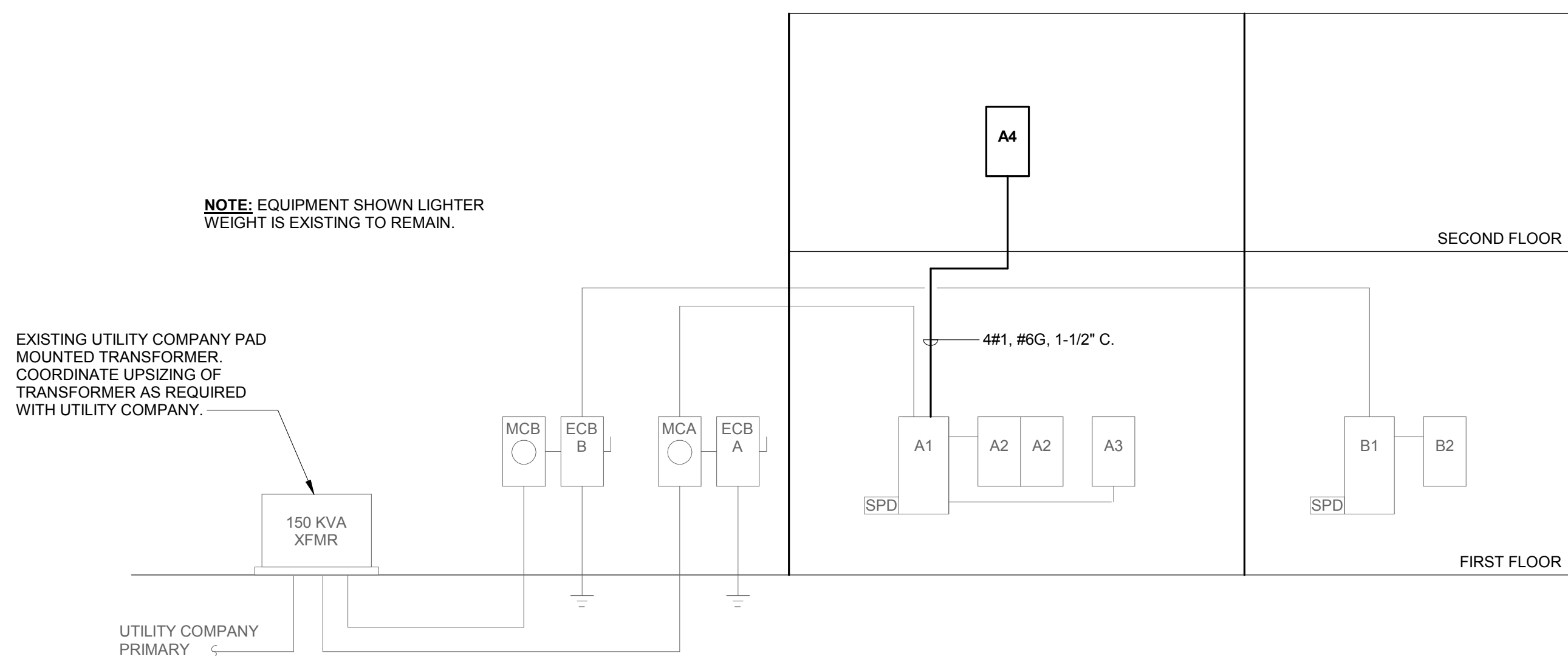
- NOTES: (ELEVATOR EQUIPMENT ROOM)
- A FUSE DISCONNECTS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 - B ARRANGE EQUIPMENT IN ROOM AS RECOMMENDED BY ELEVATOR SUPPLIER AND ACCORDING TO N.E.C.
 - C PROVIDE AS A MINIMUM THE ELEVATOR POWER CIRCUIT SHOWN. COORDINATE EXACT FEEDER SIZE WITH THE ELEVATOR MANUFACTURER FOR THE EQUIPMENT ACTUALLY PROVIDED.
 - D PROVIDE ITEMS NOT SHOWN BUT REQUIRED BY THE ELEVATOR MANUFACTURER.
 - E SEE ELEVATOR ELEVATION - FIRE ALARM DETAIL FOR MORE INFORMATION.
 - F PROVIDE DISCONNECT WITH AUXILIARY CONTACTS TO OPEN CIRCUIT TO EMERGENCY RETURN UNIT WHEN MAIN DISCONNECT IS OPEN.

2 ELEVATOR EQUIPMENT ROOM DETAIL
NOT TO SCALE

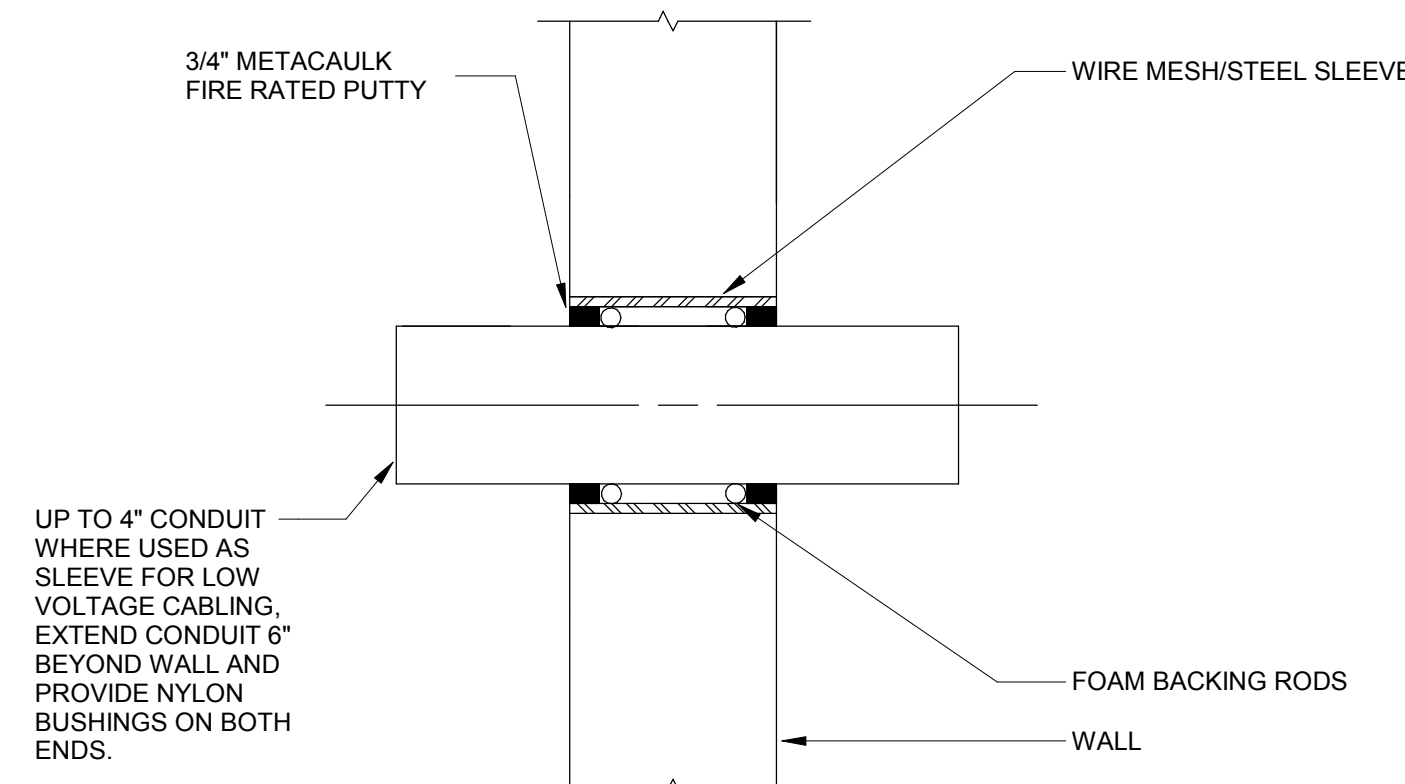


- NOTES: (ELEVATOR ELEVATION - FIRE ALARM)
- COORDINATE INSTALLATION OF DETECTORS WITH ELEVATOR EQUIPMENT.
 - THE EXACT PLACEMENT OF DETECTORS SHALL BE FIELD DETERMINED IN ACCORDANCE WITH ASME A17.1, NFPA 72, AND THE ELEVATOR MANUFACTURER.
 - THIS DETAIL SHALL BE ADAPTED AS REQUIRED FOR ALL ELEVATORS.

3 ELEVATOR ELEVATION - FIRE ALARM
NOT TO SCALE

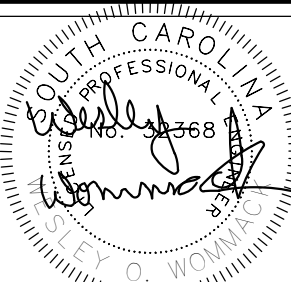
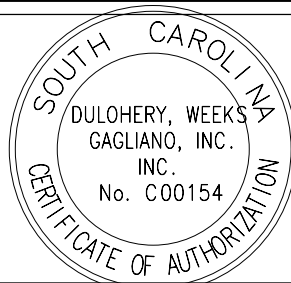


4 POWER RISER DIAGRAM
1/8" = 1'-0"



NOTE:
WHERE CONDUIT IS USED AS A SLEEVE FOR ROUTING LOW VOLTAGE CABLES THROUGH A RATED WALL, LOCATE CONDUCTORS IN CENTER OF SLEEVE AND FILL OPENING WITH NON HARDENING FIRE RATED PUTTY AT EACH END.

5 GYPSUM WALLBOARD PENETRATION
NOT TO SCALE



HUSSEY GAY BELL
Established 1958

2160 SATELLITE BOULEVARD, SUITE 250, DULUTH, GA 30097 / T: 770.476.7782

REVISIONS:

DESIGNED	DRAWN	CHECKED
PAA	PAA	WOW
DATE:	JUNE 5, 2019	
JOB NO.	Project Number	
SCALE:	SEE SHEET	

ADDITIONS TO:
LEROY E. BROWNE CENTER
ST. HELENA ISLAND, SOUTH CAROLINA
ELECTRICAL DETAILS

DRAWING
NUMBER

E5.2



SECTION 26 0100 - GENERAL PROVISIONS - ELECTRICAL

- A. APPLICABLE PROVISIONS OF THE STATE AND LOCAL CODES AND OF THE FOLLOWING CODES AND STANDARDS ARE HEREBY IMPOSED ON A GENERAL BASIS FOR ELECTRICAL WORK:
1. NEC, NATIONAL ELECTRICAL CODE (NFPA NO. 70).
 2. THE LIFE SAFETY CODE (NFPA NO. 101).
 3. ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES.
 4. THE STANDARD BUILDING CODE.
 5. THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C2).
 6. U.L. FIRE RESISTANCE DIRECTORY.
 7. U.L. ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY.
 8. U.L. ELECTRICAL APPLIANCE AND UTILIZATION EQUIPMENT DIRECTORY.
- B. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERVISION TO CONSTRUCT COMPLETE AND OPERABLE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. ALL MATERIALS AND EQUIPMENT USED SHALL BE NEW, UNDAMAGED AND FREE FROM ANY DEFECTS.
- C. TRADITIONAL ELECTRICAL SYSTEMS WORK SHALL BE FURNISHED AND INSTALLED BY ORGANIZATIONS WHO HAVE SUCCESSFULLY COMPLETED WORK OF SIMILAR SIZE AND SCOPE, AND WHO HAVE BEEN IN BUSINESS FOR AT LEAST 3 YEARS. THE SUPERINTENDENT SHALL HAVE AN UNRESTRICTED ELECTRICAL CONTRACTOR'S LICENSE.
- D. ALL PERMITS AND FEES SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.
- E. ALL WORK PERFORMED SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE FINAL COMPLETION DATE EXCEPT FOR FUSES AND LAMPS IN LIGHT FIXTURES.
- F. DO NOT SCALE THE ELECTRICAL DRAWINGS. OBTAIN ALL DIMENSIONS FROM THE ARCHITECT'S DIMENSIONED DRAWINGS, FIELD MEASUREMENTS AND SHOP DRAWINGS.
- G. ALL EQUIPMENT SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED. SUCH CONSIDERATIONS SHALL INCLUDE, BUT NOT BE LIMITED TO CHARACTERISTICS OF THIS SPECIFIC PROJECT SUCH AS WET/DAMP/DRY LOCATIONS, AMBIENT TEMPERATURE / HUMIDITY, SPACES USED AS AIR PLENUMS AND HAZARDOUS LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE CONTRACT DOCUMENTS AND ORDER EQUIPMENT BASED ON INTENDED USE.
- H. ALL MATERIALS AND EQUIPMENT USED SHALL BE NEW, UNDAMAGED AND FREE FROM ANY DEFECTS. PROVIDE MATERIALS AND EQUIPMENT THAT ARE U.L. LISTED, UNLESS LISTING IS UNAVAILABLE. WHERE PRODUCT IS SPECIFIED BY CATALOG NUMBER, SUCH SPECIFICATION IS INTENDED ONLY TO CONVEY GENERAL CHARACTERISTICS. ACTUAL PRODUCT SELECTION SHALL BE BASED ON CATALOG NUMBERS, OTHER REFERENCES ON THE DRAWINGS / SPECIFICATIONS AND INTENDED USE. PRODUCTS NOT LISTED IN THESE SPECIFICATIONS OR SHOWN ON DRAWINGS SHALL NOT BE USED.
- I. REQUESTS FOR PRIOR APPROVAL MUST BE SENT BY MAIL OR EMAIL SUCH THAT THEY ARE RECEIVED IN THE ARCHITECT'S OFFICE NO LATER THAN TEN WORKING DAYS PRIOR TO THE OPENING OF BIDS.
- J. PROTECT THE WORK DURING THE COURSE OF CONSTRUCTION. PROTECT INCOMPLETE CONDUIT RUNS, OUTLET BOXES, EQUIPMENT ENCLOSURES, ETC. FROM THE ENTRY OF WATER OR CONSTRUCTION DEBRIS. BY INSTALLING AND MAINTAINING TEMPORARY PROTECTIVE COVERS. ALL EQUIPMENT AND MATERIALS THAT BECOME DAMAGED WILL BE REMOVED AND REPLACED WITH NEW, AT NO ADDITIONAL COST TO THE OWNER.
- K. DO NOT CUT STRUCTURAL FRAMING, WALLS, FLOORS, DECKS, AND OTHER MEMBERS INTENDED TO WITHSTAND STRESS, EXCEPT WITH THE ARCHITECT'S WRITTEN AUTHORIZATION. AUTHORIZATION WILL BE GRANTED ONLY WHEN THERE IS NO OTHER REASONABLE METHOD FOR COMPLETING THE ELECTRICAL WORK, AND WHERE THE PROPOSED CUTTING CLEARLY DOES NOT MATERIALLY WEAKEN THE STRUCTURE. WHERE AUTHORIZED, CUT OPENINGS THROUGH CONCRETE (FOR CONDUIT PENETRATIONS AND SIMILAR SERVICES) BY CORE DRILLING OR SAWING. DO NOT CUT BY HAMMER-DRIVEN CHISEL OR DRILL WHERE PATCHING IS REQUIRED TO RESTORE OTHER WORK. BECAUSE OF CUTTING OR OTHER DAMAGE INFLECTED DURING THE INSTALLATION OF ELECTRICAL WORK, EXECUTE THE PATCHING IN THE MANNER RECOMMENDED BY THE ORIGINAL INSTALLER. RESTORE THE OTHER WORK IN EVERY RESPECT, INCLUDING THE ELIMINATION OF VISUAL DEFECTS IN EXPOSED FINISHED, AS JUDGED BY THE ARCHITECT. ENGAGE THE ORIGINAL INSTALLER TO COMPLETE PATCHING OF VARIOUS CATEGORIES OF WORK INCLUDING CONCRETE AND MASONRY FINISHING, WATERPROOFING AND ROOFING, EXPOSED WALL FINISHES, ETC.
- L. WHERE ELECTRICAL WORK MUST CONNECT TO OR BE INCORPORATED INTO WORK INSTALLED BY OTHER TRADES, ENGAGE THE SERVICES OF THE OTHER TRADE TO INTERFACE THE WORK UNDER NO CIRCUMSTANCES SHALL THE INSTALLER PERFORMING WORK UNDER THIS DIVISION OF THE SPECIFICATIONS MODIFY OR ALTER WORK INSTALLED BY OTHERS. SUCH WORK INCLUDES, BUT IS NOT LIMITED TO: ROOF PENETRATIONS, ANY ATTACHMENTS TO ROOFING SYSTEM, PENETRATIONS IN VAPOR BARRIERS, EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS).

SECTION 26 1010 - RACEWAY SYSTEMS AND SUPPORTS

- A. HOSPITAL GRADE METAL CLAD CABLE SHALL ONLY BE UTILIZED FOR INTERIOR LIGHTING AND POWER CIRCUITS 20 AMPS OR LESS. HOMERUN CONDUCTORS SHALL BE ROUTED IN ELECTRIC METALLIC TUBING (EMT).
- B. ELECTRIC METALLIC TUBING (EMT) SHALL BE USED IN EXPOSED CEILING AREAS. EMT IS PERMITTED CONCEALED IN WALLS OR CEILINGS AND CONCEALED IN SLABS ABOVE GRADE.
- C. INTERMEDIATE METAL CONDUIT (IMC) OR RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE PERMITTED INDOORS CONCEALED OR EXPOSED, IN REFRIGERATED SPACES, AND VERTICAL DROPS SERVING EQUIPMENT. PROVIDE IMC OR RGS TRANSITIONS FROM BELOW GRADE NONMETALLIC RACEWAY SYSTEM TO ABOVE GRADE METALLIC RACEWAY SYSTEM.
- D. RIGID NON-METALLIC CONDUIT (SCHEDULE 40 PVC) SHALL BE PERMITTED FOR BELOW GRADE INSTALLATIONS AND GROUNDING ELECTRODE CONDUCTOR RACEWAY.
- E. FLEXIBLE METAL CONDUIT SHALL BE PERMITTED FOR FINAL CONNECTION TO LIGHTING FIXTURES AND FINAL CONNECTION TO OTHER THAN DIVISION 23 EQUIPMENT LOCATED IN INDOOR, DRY LOCATIONS.
- F. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE PERMITTED AS FINAL CONNECTION TO EQUIPMENT IN INDOOR OR OUTDOOR LOCATIONS.
- G. CONNECTORS/COUPLINGS FOR USE WITH EMT CONDUIT SHALL BE STEEL COMPRESSION TYPE, EXCEPT THAT STEEL, SET SCREW TYPE WILL BE ACCEPTABLE FOR EMT CONDUITS SIZES 2-1/2" AND LARGER. CONNECTORS/COUPLINGS FOR USE WITH IMC AND RGS CONDUIT SHALL BE THREADED TYPE. ALL CONNECTORS SHALL BE INSULATED THROAT TYPE. LOCKNUTS SHALL BE OF THE SAME MATERIAL AS CONDUCTORS. ALL FITTINGS SHALL BE RAINTIGHT. FITTINGS ENCASED IN CONCRETE SHALL BE CONCRETE-TIGHT.
- H. CEILING OUTLET BOXES: PROVIDE 4" OCTAGON, GALVANIZED STEEL INTERIOR OUTLET BOXES CONSTRUCTED WITH STAMPED KNOCKOUTS IN BACK AND SIDES AND WITH THREADED HOLES WITH SCREWS FOR SECURING BOX COVERS OR WIRING DEVICES.
- I. WALL OUTLET BOXES: RECESSED BOXES SHALL BE GALVANIZED STEEL CONSTRUCTED WITH STAMPED KNOCKOUTS IN BACK AND SIDES AND WITH THREADED HOLES WITH SCREWS FOR SECURING BOX COVERS OR WIRING DEVICES. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP. BOXES SHALL HAVE SQUARE EDGE TILE TYPE COVERS. WHERE DEVICES ARE GANGED, USE GANG-TYPE BOXES WITH GANG BOX COVERS. THE USE OF GANGABLE TYPE OUTLET OR SWITCHBOXES IS NOT ACCEPTABLE UNLESS REQUIRED BY SPECIFIC DEVICE MANUFACTURER. USE MASONRY TYPE BOXES OF EQUAL OR GREATER VOLUME TO THOSE SPECIFIED ABOVE, IN MASONRY WALLS.
- J. SURFACE OUTLET BOXES: USE CAST ALUMINUM BOX WITH THREADED HUBS IN CONJUNCTION WITH METALLIC CONDUIT SYSTEMS.

- K. SUPPORTING DEVICES SHALL BE THE PRODUCTS OF MANUFACTURERS' SPECIFICALLY INTENDED FOR SUPPORTING ELECTRICAL RACEWAYS, DEVICES AND EQUIPMENT. MAKESHIFT SUPPORTS ARE NOT ACCEPTABLE. WHERE CHANNEL TYPE SUPPORTS ARE USED, SELECT COMPLETE ASSEMBLIES BASED ON THE WEIGHT OF THE RACEWAY(S) OR EQUIPMENT BEING SUPPORTED. THE USE OF TIE WIRE OR TIE WRAPS AS A MEANS OF SUPPORT FOR ELECTRICAL RACEWAYS, DEVICES AND EQUIPMENT IS NOT PERMITTED.
- L. A THROUGH-PENETRATION FIRESTOP SYSTEM SHALL BE USED TO SEAL PENETRATIONS OF ELECTRICAL CONDUITS AND CABLES THROUGH FIRE-RATED PARTITIONS PER NEC 300-21 AND NEC 800-3. THE FIRESTOP SYSTEM SHALL BE QUALIFIED BY FORMAL PERFORMANCE TESTING IN ACCORDANCE WITH ASTM E-814, OR UL 1479. THE FIRESTOP SYSTEM SHALL CONSIST OF A FIRE-RATED CAULK TYPE SUBSTANCE AND A HIGH TEMPERATURE FIBER INSULATION. IT SHALL BE PERMANENTLY FLEXIBLE, WATER-PROOF, NON-TOXIC, SMOKE AND GAS TIGHT AND HAVE A HIGH ADHESION TO ALL SOLIDS SO DAMMING IS NOT REQUIRED. ONLY METAL CONDUIT SHALL BE USED IN CONJUNCTION WITH THIS SYSTEM TO PENETRATE FIRE RATED PARTITIONS. INSTALL IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. 3M, METACAULK OR NELSON.
- M. RACEWAY INSTALLATION - GENERAL: ALL ABOVE GRADE CONDUITS SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO THE BUILDING STRUCTURE. RACEWAYS SHALL NOT BE INSTALLED EXPOSED IN FINISHED SPACES OR ON THE EXTERIOR OF THE BUILDING. ALL EXPOSED RACEWAY SYSTEMS SHALL BE PAINTED TO MATCH THE SURFACE TO WHICH IT IS ATTACHED. PROVIDE 200 LB. NYLON PULL CORD IN ALL CONDUITS INSTALLED FOR CABLE SYSTEMS SPECIFIED UNDER DIVISION 23 AND DIVISION 27; AND WHERE CONDUITS WILL BE LEFT EMPTY FOR FUTURE USE. CAP OPEN ENDS AND MARK LOCATION OF OPPOSITE END WITH BLACK INDELIBLE MARKER PEN. SEAL THE INSIDE OF ALL CONDUITS ENTERING THE BUILDING FROM OUTSIDE, WHETHER THEY CONNECT TO ENCLOSURES OR NOT. DO NOT RUN RACEWAYS ATOP THE ROOF DECK, THROUGH STAIRWELLS OR ELEVATOR SHAFTS.
- N. MOISTURE PROTECTION: CONDUITS AND BOXES INSTALLED IN EXTERIOR WALLS SHALL NOT PENETRATE THE VAPOR BARRIER. BOXES INSTALLED ON THE BUILDING EXTERIOR SHALL HAVE GASKETED COVERS. ALL CONDUITS ENTERING BOX SHALL BE SEALED WITH INSULATING ELECTRICAL PUTTY.
- O. WALL OUTLET LAYOUT: THE LOCATION OF DEVICES SHOWN ON THE DRAWINGS IS SCHEMATIC. PRIOR TO ROUGHING-IN, REVIEW THE ARCHITECTURAL INTERIOR ELEVATIONS AND MILLWORK SHOP DRAWINGS, TO ENSURE THAT OUTLETS WILL NOT BE INSTALLED BEHIND CABINETS, INACCESSIBLE. ENSURE THAT THERE IS SUFFICIENT SPACE FROM DOOR JAMB, CABINETS, ETC. TO INSTALL WITHOUT TRIMMING DEVICE COVER.
- P. ROUGH-IN FOR DIVISION 27 SYSTEMS AND USING AGENCY PROVIDED TELECOM-MUNICATIONS SYSTEMS: PROVIDE ALL OUTLET AND JUNCTION BOXES, SLEEVES AND PATHWAYS FROM EACH OUTLET TO THE MAIN PANEL. PROVIDE MULTIPLE SWITCHED DEVICE, AND CEILING MOUNTED DEVICES TO THE IDF OR MDF OR HEADEND EQUIPMENT LOCATION IN WHICH THE CABLE TERMINATES, AS SPECIFIED HEREIN AND AS INDICATED ON THE DRAWINGS. CONDUIT SIZES SHALL CONFORM TO THE FOLLOWING:
1. VOICE / DATA / VIDEO OUTLET: 1"
 2. VOICE / DATA OUTLET: 1"
 3. VIDEO OUTLET: 1"
 4. FIRE ALARM OUTLET: 3/4"
 5. OTHER: 3/4"

SECTION 26 2010 - WIRES AND CABLES, 600V AND BELOW

- A. COLOR CODING: COLOR SHALL BE **GREEN** FOR GROUNDING CONDUCTORS. THE COLOR OF THE CIRCUIT CONDUCTORS SHALL BE AS FOLLOWS: 120/208 VOLT, 3-PHASE: PHASE A – BLACK, PHASE B – RED, PHASE C – BLUE, NEUTRALS – WHITE (WITH STRIPES AS SPECIFIED BELOW).
- B. ALL CONDUCTORS SHALL BE 600V COPPER, WITH 75 DEGREES C, THWN/THHN INSULATION. MINIMUM SIZE SHALL BE NO. 12 AWG. CONDUCTORS WITHIN THREE INCHES OF FIXTURE SHALL BE RATED 90 DEGREES C. SIZES UP TO NO. 10 AWG MAY BE STRANDED; SIZES NO. 8 AWG AND LARGER SHALL BE CONCENTRIC-LAY-STRANDED. ALL CONTROL CONDUCTORS SHALL BE CONCENTRIC-LAY-STRANDED.
- C. CONDUCTORS USED IN FLEXIBLE METAL CONDUIT AND LIQUID-TIGHT FLEXIBLE METAL CONDUIT USED FOR FINAL CONNECTION TO EQUIPMENT SHALL BE STRANDED.
- D. HOSPITAL GRADE METAL CLAD (MC) CABLE SHALL BE U.L. LISTED MANUFACTURED CABLE ASSEMBLY CONSISTING OF INSULATED COPPER CONDUCTORS WITH A METALLIC OUTER COVER AND AN INTERIOR GROUND WIRE. THE CABLE SHALL BE UTILIZED FOR INTERIOR LIGHTING AND POWER CIRCUITS 20 AMPS OR LESS. HOMERUN CONDUCTORS SHALL BE ROUTED IN E.M.T. MC CABLE CONNECTORS SHALL BE MALLEABLE IRON OR STEEL SET SCREW TYPE.
- E. NO MORE THAN THREE PHASE CONDUCTORS, EACH OF OPPOSITE PHASES FOR A THREE PHASE WYE SYSTEM, SHAL BE COMBINED IN A SINGLE RACEWAY WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
- F. FOR EACH UNGROUNDED CONDUCTOR, PROVIDE A DEDICATED NEUTRAL CONDUCTOR, WITH STRIPE COLOR TO MATCH UNGROUNDED CONDUCTOR INSULATION COLOR.
- G. SPLICING OF FEEDER CONDUCTORS SHALL NOT BE ACCEPTABLE, UNLESS SPECIFICALLY INDICATED ON THE DRAWING. WHERE SPLICING OF FEEDER CONDUCTORS IS INDICATED, SPLICES SHALL BE MADE USING RAYCHEM RVS SPLICE KIT AND COMPRESSION TYPE BUTT SPLICE
- H. ALL CONDUCTORS SHALL BE INSTALLED IN RACEWAYS.
- I. MAKE CONNECTIONS TO WIRING DEVICES USING "PIGTAILS" WITHIN OUTLET BOXES. DIRECT CONNECTION (LOOP) TO DEVICES IS NOT ACCEPTABLE.
- J. DISTANCE LIMITATIONS: ALL 120 VOLT, 20 AMP BRANCH CIRCUITS EXCEEDING 90 FEET IN LENGTH SHALL CONSIST OF NO. 10 AWG CIRCUIT CONDUCTORS. INCREASE CONDUIT SIZE ACCORDINGLY.

SECTION 26 2020 - WIRING DEVICES

- A. DEVICE COLORS SHALL BE SELECTED BY THE ARCHITECT ON AN AREA-BY-AREA BASIS.
- B. GENERAL USE RECEPTACLES:
1. STANDARD (HEAVY DUTY SPECIFICATION GRADE): HUBBELL 5362, ARROW HART 5362, OR PASS & SEYMOUR 5362
 2. TAMPER RESISTANT (HEAVY DUTY SPECIFICATION GRADE): HUBBELL 5362TR, ARROW HART TR5362, OR PASS & SEYMOUR TR5362.
 2. GROUND-FAULT RECEPTACLES (HEAVY DUTY AUTO GROUNDING): HUBBELL GF20LA, ARROW HART SGF20, OR PASS & SEYMOUR 20BS.
 3. RECEPTACLES SHALL BE 2-POLE, 3-WIRE, GROUNDING TYPE, RATED 20A/125V.
 4. PROVIDE WEATHER RESISTANT RECEPTACLES IN ALL OUTDOOR LOCATIONS.
- C. ALL RECEPTACLES INSTALLED IN THE FOLLOWING LOCATIONS SHALL BE TAMPER-RESISTANT TYPE:
1. DWELLING UNITS, DORMITORIES, GUEST ROOMS AND GUEST SUITES OF HOTELS AND MOTELS.
 2. CHILD CARE FACILITIES.
 3. PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES.
 4. BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES AND OUTPATIENT FACILITIES.
 5. SUBSETS OF ASSEMBLY OCCUPANCIES DESCRIBED IN NEC 518.2 TO INCLUDE PLACES OF WAITING TRANSPORTATION, GYMNASIUMS, SKATING RINGKS, AND AUDITORIUMS.
- D. TOGGLE SWITCHES (INDUSTRIAL EXTRA HEAVY DUTY SPECIFICATION GRADE): HUBBELL HBL1221, ARROW HART AH1221, OR PASS & SEYMOUR PS20AC1. PROVIDE SINGLE-POLE, THREE-WAY AND FOUR-WAY SWITCHES AS INDICATED. CATALOG NUMBERS LISTED HEREIN ARE FOR SINGLE POLE UNITS. OTHER CONFIGURATIONS SHALL BE FROM THE SAME PRODUCT FAMILY.

- E. MAKE CONNECTIONS TO SIDE TERMINALS OF WIRING DEVICES ONLY. WRAP SIDE OF DEVICE WITH TWO COMPLETE TURNS OF 600V ELECTRICAL TAPE, TO COVER THE EXPOSED TERMINALS.
- F. WALL PLATES: PROVIDE ONE PIECE WALL PLATES FOR WIRING DEVICES, WITH GANGING AND CUTOUTS AS INDICATED. PROVIDE BLANK PLATES FOR ALL UNUSED OUTLET BOXES. PROVIDE WITH METAL SCREWS FOR SECURING PLATES TO DEVICES. SCREW HEADS COLORED TO MATCH FINISH OF PLATE, AND WALL PLATES POSSESSING THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:
1. MATERIAL AND FINISH: COORDINATE TYPE AND COLOR WITH ARCHITECT PRIOR TO BID.
 2. WALL PLATES FOR SURFACE RACEWAY BOXES SHALL BE OF THE SAME WIDTH AS THE SURFACE RACEWAY BOXES.
 3. ALL PLATES SHALL BE MID-SIZE SIZE.
- G. WEATHERPROOF COVERS: ALL DEVICES INSTALLED OUTDOORS SHALL BE PROVIDED WITH WEATHER PROOF COVERS. COVERS SHALL BE INTERMATIC DIE-CAST WP SERIES (OR EQUIVALENT), SINGLE OR TWO GANG TYPE. THE ASSEMBLY SHALL BE U.L. LISTED FOR WET LOCATIONS, WHEN IN USE.
- H. OCCUPANCY/VACANCY SENSOR CATALOG NUMBERS AND LOCATIONS SHOWN ON PLANS AND SPECIFICATIONS ARE FOR REPRESENTATION PURPOSES ONLY. EXACT MODELS AND MOUNTING LOCATIONS SHALL BE PROVIDED BY SENSOR MANUFACTURER. SYSTEM DRAWINGS INCLUDING DEVICE LAYOUT, DEVICE TYPE, AND WIRING DETAILS SHALL BE SUBMITTED FOR REVIEW IN SHOP DRAWING PHASE PRIOR TO ORDERING. ALL SENSORS SHALL BE DUAL TECHNOLOGY.
- I. OCCUPANCY/VACANCY SENSORS:
1. CEILING MOUNTED: DUAL TECHNOLOGY (ULTRASONIC & INFRARED), CEILING MOUNTED. SELECT BASED ON SIZE OF SPACE. PROVIDE POWER PACK AND MOUNTING HARDWARE; SUITABLE FOR SWITCHING 120 AND/OR 277 VOLT LOADS. WATT-STOPPER DT-300 SERIES, HUBBELL OMNIDT SERIES, OR EQUIVALENT BY COOPER OR SENSOR SWITCH.
 2. WALL MOUNTED: DUAL TECHNOLOGY (ULTRASONIC & INFRARED), WALL BRACKET MOUNTED. SELECT BASED ON SIZE OF SPACE, SUITABLE FOR SWITCHING 120 AND/OR 277 VOLT LOADS. WATT-STOPPER DW-100 SERIES, HUBBELL LHMTS1 SERIES, OR EQUIVALENT BY COOPER OR SENSOR SWITCH.
 3. THE TRIGGERING OF ONLY ONE TECHNOLOGY SHALL KEEP THE FIXTURES ON.
 4. PROVIDE LOW VOLTAGE MOMENTARY PUSHBUTTON SWITCH(IES) FOR MANUAL CONTROL IN CONFIGURATION SHOWN ON PLANS. SWITCH(ES) SHALL BE GROUPED IN THE LEAST NUMBER OF MULTI-PUSHBUTTON SWITCHES POSSIBLE.
- J. OCCUPANCY/VACANCY SENSOR INSTALLATION:
1. SENSORS SHALL BE INSTALLED IN LOCATIONS SHOWN ON MANUFACTURER SUBMITTED SHOP DRAWINGS.
 2. CONNECT LOW VOLTAGE MOMENTARY SWITCH(ES) TO SENSOR POWER-PACK TO ACHIEVE MANUAL-ON/AUTOMATIC-OFF OPERATION IN THE CONFIGURATION SHOWN ON PLANS. SWITCH(ES) SHALL ALLOW MANUAL-OFF OPERATION AS WELL.
 3. WALL MOUNTED SENSORS SHALL ALSO BE CONFIGURED TO OPERATE MANUAL-ON/AUTOMATIC-OFF, IN CONFIGURATION SHOWN ON PLANS.
 4. MANUAL SWITCHES ARE NOT REQUIRED IN CORRIDORS, STAIRWELLS, OR MULTIPLE OCCUPANT RESTROOMS. SENSORS SHALL BE AUTOMATIC-ON/AUTOMATIC-OFF IN THESE SPACES.
 5. ADJUST TIME-OFF DELAY TO A MINIMUM OF FIFTEEN MINUTES.

SECTION 26 2021 - SAFETY AND DISCONNECT SWITCHES

- A. MANUFACTURERS: PROVIDE PRODUCTS PRODUCED BY ONE OF THE FOLLOWING (FOR EACH TYPE OF SWITCH): GENERAL ELECTRIC COMPANY, SQUARE D COMPANY, CUTLER HAMMER, SIEMENS.
- B. SWITCHES SHALL BE 240V HEAVY DUTY TYPE, SHEET STEEL ENCLOSED SAFETY SWITCHES, INCORPORATING QUICK-BREAK TYPE SWITCHES, CONSTRUCTED SO SWITCH BLADES ARE VISIBLE IN "OFF" POSITION WITH THE DOOR OPEN. SWITCHES SHALL BE EQUIPPED WITH PERATING HANDLES WHICH ARE AN INTEGRAL PART OF THE ENCLOSURE BASE AND WHOSE POSITIONS ARE EASILY RECOGNIZABLE. SWITCHES SHALL BE PAD-LOCKABLE IN THE "OFF" POSITION. ALL CURRENT CARRYING PARTS SHALL BE CONSTRUCTED OF HIGH-CONDUCTIVITY COPPER AND SILVER-TUNGSTEN TYPE SWITCH CONTACT. ALL SWITCHES SHALL BE UL LISTED. SWITCHES SHALL HAVE ENGRAVED PLASTIC NAMEPLATES INDICATING THE LOAD SERVED, LOAD RATING AND THE BRANCH CIRCUIT NUMBER.
- C. SWITCHES SHALL BE NON-FUSED TYPE UNLESS INDICATED OTHERWISE OR UNLESS REQUIRED BY THE MANUFACTURER OF THE DRIVEN EQUIPMENT. WHERE FUSES ARE REQUIRED, PROVIDE FUSES OF THE TYPE RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- D. NAMEPLATES SHALL BE SCREWED AND GLUED TO THE ENCLOSURE.
- E. ENCLOSURES: NEMA 1 GENERAL PURPOSE ENCLOSURES INDOORS, NEMA 3R ENCLOSURES WHERE NOTED OR SHOWN ON DRAWINGS OR EXPOSED TO WEATHER.

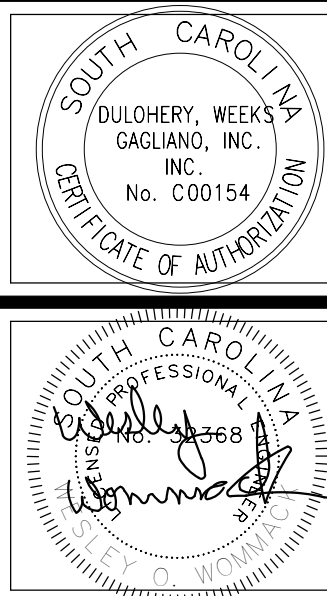
SECTION 26 2030 - LIGHTING FIXTURES

- A. TYPES AND SPECIFIC REQUIREMENTS ARE PROVIDED ON THE LIGHTING FIXTURE SCHEDULE ON THE PLANS. ALL LIGHT FIXTURES SHALL BE FULLY FUNCTIONING AT COMPLETION OF PROJECT.
- B. PROVIDE LIGHTING FIXTURE ASSEMBLIES COMPLETE WITH ALL HARDWARE AND ACCESSORIES NEEDED TO INSTALL AND CONNECT, AS INDICATED ON THE DRAWINGS AND THIS SECTION OF THE SPECIFICATIONS.
- D. ANY FIXTURES THAT ARE DEFECTIVE OR DAMAGED SHALL BE REPLACED WITH NEW. THIS INCLUDES, BUT IS NOT LIMITED TO SCRATCHES, DENTS, INCONSISTENT FINISHES, ETC. THE ARCHITECT'S OPINION SHALL BE FINAL IN MAKING THE DETERMINATION.
- E. BALLASTS AND LED DRIVERS SHALL HAVE A 5-YEAR WARRANTY OR LONGER AND SHALL INCLUDE REPLACEMENT BALLAST OR DRIVER ASSEMBLY AND REASONABLE REPLACEMENT LABOR COSTS.

- F. LED FIXTURES SHALL HAVE A L70 RATED LIFE OF 50,000 HOURS OR LONGER.
- G. LED EMERGENCY DRIVER SHALL PROVIDE A MINIMUM OF 10W OF POWER THROUGH CONSTANT POWER TECHNOLOGY FOR 90 MINUTES. DRIVER SHALL HAVE A 5-YEAR WARRANTY.
- H. LAY-IN FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING FRAMING MEMBERS BY AT LEAST TWO TIE WIRES LOCATED ON OPPOSITE CORNERS OF EACH FIXTURE. FIXTURES OTHER THAN LAY-IN TYPE SHALL BE SECURELY FASTENED IN ACCORDANCE WITH NEC ARTICLE NO. 410-36 (B). FIXTURES INSTALLED IN RATED CEILINGS SHALL COMPLY WITH THE U.L. FIRE RESISTANCE DIRECTORY FOR THE CEILING DESIGN ENCOUNTERED.
- I. PROVIDE 3 SPARE EXIT LIGHTS AND 25' OF ASSOCIATED RACEWAY AND CONDUCTORS TO CONNECT TO NEAREST UN-SWITCHED LIGHTING CIRCUIT. SPARE SIGNS SHALL BE ADDED IN LOCATIONS WHERE AUTHORITY HAVING JURISDICTION REQUIRES. IF SPARE EQUIPMENT LISTED ABOVE ARE NOT NEEDED FOR INSTALLATION, TURN OVER TO OWNER.

SECTION 26 2042 - PANELBOARDS

- A. MANUFACTURERS: PROVIDE PRODUCTS BY ONE OF THE FOLLOWING (FOR EACH TYPE OF PANELBOARD AND ENCLOSURE): GENERAL ELECTRIC COMPANY, SQUARE D COMPANY, CUTLER HAMMER, SIEMENS.
- B. ENCLOSURE SHALL BE CONSTRUCTED OF CODE GAUGE STEEL CONSTRUCTED **WITHOUT** KNOCK-OUTS. PROVIDE MANUFACTURER'S STANDARD LIGHT GRAY FINISH.
- C. PROVIDE DOUBLE HINGED DOOR WITH FLUSH METAL LATCH/LOCK ON INNER DOOR. INNER DOOR SHALL PROVIDE ACCESS TO CIRCUIT BREAKER OPERATING HANDLES ONLY, NOT TO ENERGIZED PARTS. OUTER CONTINUOUS PIANO HINGED DOOR SHALL BE MOUNTED TO THE PANELBOARD BOX WITH FACTORY SCREWS AND SHALL PROVIDE ACCESS TO ENERGIZED PARTS; METAL LATCH/LOCK IS NOT PERMISSIBLE ON OUTER DOOR. BOTH INNER AND OUTER DOORS SHALL OPEN IN SAME DIRECTION.
- D. ALL LOCKS SHALL BE KEYED ALIKE.
- E. PROVIDE METAL OR LEXAN INTERIOR CIRCUIT DIRECTORY FRAME WITH CARD AND CLEAR PLASTIC COVERING.
- F. PANELBOARD ENCLOSURES SHALL BE NEMA 1 UNLESS SHOWN TO BE INSTALLED IN DAMP OR WET LOCATIONS. IN SUCH LOCATIONS, ENCLOSURES SHALL BE NEMA 3R OR 4X.
- G. PROVIDE DEAD-FRONT SAFETY TYPE PANELBOARDS OF LIGHTING AND APPLIANCE TYPE AS DEFINED BY THE NEC.
- H. PANELS SHALL BE EQUIPPED WITH COPPER BUS BARS, FULL-SIZED NEUTRAL BAR, AND AN EQUIPMENT GROUND BUS.
- I. PROVIDE WITH LAMINATED PLASTIC NAMEPLATE ENGRAVED WITH NAME OF PANEL, VOLTAGE, AMPERE RATING/TYPE FAULT CURRENT RATING, DATE, AND FEEDER ORIGINATION. NAMEPLATE SHALL BE SCREWED AND GLUED TO PANEL. NAMEPLATES SHALL BE BLACK IN COLOR WITH WHITE LETTERING. NAMEPLATES SHALL HAVE BEVELED EDGES.
- J. CIRCUIT BREAKERS: PROVIDE BOLT-IN TYPE, HEAVY DUTY, QUICK-MAKE, QUICK-BREAK, THERMAL, MAGNETIC. MOLDED CASE CIRCUIT BREAKERS. MULTI-POLE BREAKERS SHALL BE COMMON TRIP, WITH A SINGLE HANDLE. MAIN CIRCUIT BREAKERS SHALL BE LARGE FRAME TYPE, INDIVIDUALLY MOUNTED, CONNECTED DIRECTLY TO THE BUS. THE USE OF BACKFED BREAKERS IS NOT ACCEPTABLE. PROVISIONS FOR FUTURE BREAKERS SHALL BE FULLY BUSSED COMPLETE WITH ALL NECESSARY MOUNTING HARDWARE. DEVICES WHICH ACHIEVE THE LEVEL OF FAULT PROTECTION INDICATED BY MEANS OF "SERIES" OR "INTEGRATED" RATING SHALL NOT BE ACCEPTABLE UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS. BREAKERS SERVING HVAC EQUIPMENT SHALL BE HACR TYPE.
- K. BRANCH CIRCUIT IDENTIFICATION: ALL PANELBOARDS SHALL HAVE A LEGEND PERMANENTLY POSTED TO THEIR EXTERIOR FRONTAL ENCLOSURE IDENTIFYING PHASING AND THE COLOR SCHEME OF ALL UNGROUNDED CONDUCTORS IN ACCORDANCE WITH NFPA 70, ARTICLE 210.5.
- L. PROVIDE CIRCUIT DIRECTORY UPON COMPLETION OF WORK. IDENTIFY LOAD SERVED AND LOCATION (BY ROOM NAME AND NUMBER) ASSIGNED BY USER, NOT BY ROOM NUMBERS ON FLOOR PLANS. NOTE SPARES AND SPACES AS SUCH. CREATE DIRECTORY USING ELECTRONIC SPREADSHEET AND PRINT IN 8-1/2" X 11" FORMAT USING AS MANY PAGES AS NECESSARY. FOLD AND PLACE IN DIRECTORY HOLDER.
- M. DO NOT SPLICE CONDUCTORS IN PANELBOARD ENCLOSURE.
- N. ONLY ONE CONDUCTOR SHALL BE CONNECTED TO EACH TERMINAL OR LUG.
- O. CONNECT CIRCUITS 1 AND 2 TO PHASE A; 3 AND 4 TO PHASE B; 5 AND 6 TO PHASE C, ETC. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH SECTION 262010.
- P. GROUP AND LACE CONDUCTORS WITHIN PANEL ENCLOSURE WITH NYLON TIE STRAPS.
- Q. EACH SECTION OF TWO SECTION PANELS SHALL CONTAIN ONLY THOSE CONDUCTORS WHICH ORIGINATE IN THAT SECTION. DO NOT USE PANEL AS A WIREWAY.
- R. GROUNDING: GROUND ALL PANELS IN ACCORDANCE WITH DETAILS ON THE DRAWINGS AND SECTION 262080. DO NOT BOND NEUTRAL AND EQUIPMENT GROUNDING CONDUCTORS WITHIN PANELBOARD UNLESS PANEL IS USED AS SERVICE EQUIPMENT OR ARE A SEPARATELY DERIVED SYSTEM.
- S. ADJUST AND CLEAN: ADJUST OPERATING MECHANISM FOR FREE MECHANICAL MOVEMENT. TOUCH-UP SCRATCHED OR MARRED SURFACES TO MATCH ORIGINAL FINISH. CLEAN ALL DEBRIS FROM PANEL INTERIORS.
- T. CLEARANCE AND WORKSPACE: MAINTAIN WORKSPACE AND CLEARANCES AS REQUIRED BY THE NEC FOR THE VOLTAGE ENCOUNTERED. NO PIPES OR DUCTS SHALL PASS ABOVE THE OUTLINE OF THE PANELBOARD. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE SURE THAT OTHER TRADES DO NOT ENCROACH ON THIS SPACE.



HUSSEY GAY BELL
— Established 1958 —

2160 SATELLITE BOULEVARD, SUITE 250, DULUTH, GA 30097 / T: 770.476.7782

REVISIONS:

DESIGNED	DRAWN	CHECKED
FAA	FAA	WOW
DATE:	JUNE 5, 2019	
JOB NO.	Project Number	
SCALE:	SEE SHEET	

ADDITIONS TO:

LEROY E. BROWNE CENTER
ST. HELENA ISLAND, SOUTH CAROLINA

ELECTRICAL SPECIFICATIONS

DRAWING
NUMBER

E6.1



- A. PROVIDE GROUNDING AND BONDING OF SYSTEMS AND EQUIPMENT AS SHOWN ON THE DRAWINGS, SPECIFIED HEREIN AND AS REQUIRED BY ARTICLE 250 OF THE NEC.
- B. THE GROUNDING ELECTRODE SYSTEM IS EXISTING TO REMAIN.
- C. THE FOLLOWING ITEMS SHALL BE BONDED TO THE GROUNDING SYSTEM:
 - 1. EQUIPMENT ENCLOSURES.
 - 2. DEVICE TERMINALS.
 - 3. EQUIPMENT GROUNDING CONDUCTORS.
- D. EQUIPMENT GROUNDING CONDUCTORS: INSULATED, STRANDED COPPER ELECTRICAL GROUNDING CONDUCTORS COMPLYING WITH SECTION 2620.10, SIZED AS SHOWN. WHEN NO SIZE IS SHOWN, SELECT FROM TABLE 250-122 OF THE NEC.
- E. CONNECTORS: CONNECTIONS TO ITEMS SPECIFIED TO BE BONDED TO THE GROUNDING SYSTEM MAY BE BY ANY UL LISTED PRODUCT SUITABLE FOR THE APPLICATION.
- F. ENSURE THAT METAL-TO-METAL CONTACT IS MADE BETWEEN GROUNDING CONNECTORS AND PAINTED OR COATED SURFACES OF EQUIPMENT ENCLOSURES, PIPING SYSTEMS, ETC.
- G. WHERE CONCRETE PENETRATION IS NECESSARY, NON-METALLIC CONDUIT SHALL BE CAST FLUSH WITH THE POINTS OF CONCRETE ENTRANCE AND EXIT SO AS TO PROVIDE AN OPENING FOR THE GROUND WIRE AND THE OPENING SHALL BE SEALED WITH A SUITABLE COMPOUND AFTER INSTALLATION OF THE GROUND WIRE.
- H. METALLIC RACEWAY SYSTEMS SHALL BE MADE ELECTRICALLY CONTINUOUS TO PROVIDE A LOW IMPEDANCE PATH TO GROUND FOR FAULTS, AS REQUIRED BY THE NEC.
- I. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL BRANCH CIRCUIT AND FEEDER RACEWAYS, SIZED IN ACCORDANCE WITH ARTICLE 250 OF NFPA 70.
- J. BONDING: BOND METALLIC EQUIPMENT ENCLOSURES TO A LUG INSTALLED WITHIN THE ENCLOSURE, WHICH IS CONNECTED TO AN EQUIPMENT GROUNDING CONDUCTOR. BOND STANDARD DEVICE GROUNDING TERMINALS TO METALLIC OUTLET BOX AND TO EQUIPMENT GROUNDING CONDUCTOR. BOND EQUIPMENT GROUNDING CONDUCTOR TO METALLIC BOXES WHERE SPLICES ARE MADE.
- K. BUSHINGS AND LOCKNUTS SHALL BE REQUIRED. BUSHINGS SHALL BE CONNECTED TO THE RESPECTIVE ENCLOSURE BY AN EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC.
 - 1. SERVICE ENTRANCE CONDUIT STUB-UPS, INTERCONNECT WITH NO. 1/0 AWG (BARE) AND BOND TO GROUND BUS IN THE SERVICE EQUIPMENT.
 - 2. WHEN REQUIRED BY THE NEC FOR VOLTAGES IN EXCESS OF 250V. BONDING CONDUCTOR SHALL BE SIZED PER THE NEC.
 - 3. WHERE SERVICE CONDUITS ARE CONCENTRIC OR ECCENTRIC KNOCKOUTS. BONDING CONDUCTOR SHALL BE SIZED PER THE NEC.
 - 4. FOR ALL CONNECTORS THAT ARE **NOT** UL LISTED AS SUITABLE FOR GROUNDING.

THE FIRE ALARM SYSTEM IS EXISTING TO REMAIN. EXPANSION OF THIS SYSTEM SHALL ADHERE TO EXISTING MANUFACTURERS REQUIREMENTS AND THIS SECTION OF THE SPECIFICATIONS.

B. DESCRIPTION: THE WORK REQUIRED UNDER THIS SECTION OF THE SPECIFICATIONS CONSISTS OF AN ANALOG, ADDRESSABLE FIREALARM SYSTEM. *THIS IS A PERFORMANCE-BASED SPECIFICATION.* THE SYSTEM SPECIFIED HEREIN SHALL BE DESIGNED BY THE MANUFACTURER OR AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER WHO IS EITHER A REGISTERED FIRE PROTECTION ENGINEER OR A NICET CERTIFIED ENGINEERING TECHNOLOGIST.

C. WORK OF THIS SECTION REQUIRES COORDINATION WITH THE FOLLOWING TRADES:

1. DUCT WORK INSTALLER.
2. ELEVATOR INSTALLER.
3. ELECTRICAL SYSTEM INSTALLER.
4. ELECTRONIC CARD ACCESS AND DOOR HARDWARE INSTALLER(S).

D. QUALITY ASSURANCE: ALL COMPONENTS SHALL BE U.L LISTED FOR THEIR INTENDED USE AS PART OF THE INTELLIGENT FIRE ALARM SYSTEM. NON-LISTED EQUIPMENT SHALL NOT BE USED.

E. NO EQUIPMENT SHALL BE INSTALLED NOR AUXILIARY CONNECTIONS MADE THAT WILL INHIBIT PROPER OPERATION OR USE OF THE SYSTEM AND ITS COMPONENTS, IN ACCORDANCE WITH THE U.L. LISTINGS.

1. ACCEPTABLE MANUFACTURERS: HONEYWELL

F. COORDINATION: COORDINATE CONTROL, SUPERVISORY AND AUXILIARY FUNCTIONS WITH WORK PROVIDED UNDER OTHER DIVISIONS.

G. PERFORMANCE CRITERIA: WHEN INSTALLED, THE SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 72 AND NFPA 101.

H. FIRE ALARM CONTROL PANEL: THE FIRE ALARM CONTROL PANEL IS EXISTING TO REMAIN. THE MODEL IS "GAMEWELL" BY HONEYWELL.

I. REMOTE ANNUNCIATOR: THE ANNUNCIATOR PANELS ARE EXISTING TO REMAIN.

J. POWER SUPPLIES: PROVIDE POWER SUPPLIES IN THE QUANTITY AND SIZE REQUIRED TO OPERATE THE DEVICES CONNECTED TO THE SYSTEM. DO NOT LOAD ANY POWER SUPPLY MORE THAN 75% OF ITS RATING.

K. SIGNALING LINE CIRCUITS: CIRCUITS SHALL BE CLASS B, STYLE 4.

L. NOTIFICATION APPLIANCE CIRCUITS: CIRCUITS SHALL BE CLASS B, STYLE Y.

M. SYSTEM OPERATION: THE SYSTEM SHALL BE DESIGNED, INSTALLED AND CONNECTED TO RECEIVE AND PROCESS SIGNALS IN ACCORDANCE WITH NFPA 72.

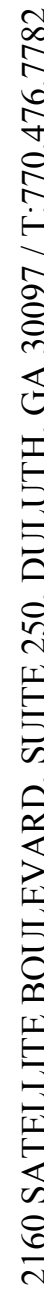
- a. DOORS IN FIRE WALLS, HELD OPEN BY MAGNETIC DEVICES, SHALL CLOSE, VIA INTERFACE WITH CONTROL MODULE.
- b. ALL DOORS LOCKED BY THE ELECTRONIC CARD ENTRY/CONTROL SYSTEM SHALL BE UNLOCKED, VIA INTERFACE WITH CONTROL MODULE. THE ELECTRONIC CARD ENTRY/CONTROL SYSTEM IS BEING PROVIDED BY THE OWNER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET WITH THE OWNER'S DESIGNATED REPRESENTATIVE AND DETERMINE THE REQUIREMENTS.
- c. SMOKE DAMPERS IN DUCT WORK SHALL CLOSE, VIA INTERFACE WITH CONTROL MODULE.
- d. THE ALARM ACTIVATION OF ANY ELEVATOR LOBBY, ELEVATOR SHAFT OR ELEVATOR EQUIPMENT ROOM DETECTOR SHALL CAUSE THE ELEVATOR CABS TO BE RECALLED IN ACCORDANCE WITH ASME A17.1.

a. UPON RECEIVING A SIGNAL FROM THE ELECTRONIC CARD ENTRY/CONTROL SYSTEM, RELEASE DOORS HELD OPEN DURING THE DAY, BUT CLOSED AND OPERATED BY CARD ACCESS AT NIGHT, VIA INTERFACE WITH CONTROL MODULE.

1. AUDIBLE ALARM INDICATING APPLIANCES:
 - a. AUDIBLE SIGNALS SHALL BE MANUFACTURER'S STANDARD HORN OR SPEAKER AS INDICATED, AND SHALL BE SUITABLE FOR SURFACE MOUNTING ON THE WALL.
 - b. HORNS SHALL HAVE FIELD-SELECTABLE 'STANDARD' AND 'HIGH' SETTINGS.
 - c. ENCLOSURE SHALL BE RED.
2. VISUAL ALARM INDICATING APPLIANCES:
 - a. VISUAL SIGNALS SHALL BE MANUFACTURER'S STANDARD, SUITABLE FOR SURFACE MOUNTING ON THE WALL.
 - b. DEVICES SHALL HAVE FIELD-SELECTABLE CANDELA SETTINGS OF 15, 30, 75 OR 100 CD.
 - c. ENCLOSURE SHALL BE RED. LENS SHALL BE VANDAL RESISTANT.

3. AUDIO/VISUAL ALARM INDICATING APPLIANCES: COMBINATION AUDIBLE / VISIBLE SIGNALS SHALL BE MANUFACTURERS' STANDARD, THE SAME AS DEFINED FOR INDIVIDUAL DEVICES.
4. DOOR HOLDERS: MAGNETIC DOOR HOLDERS SHALL BE MANUFACTURERS' STANDARD AND SHALL HAVE AN APPROXIMATE HOLDING FORCE OF 35 LBS. THE DOOR PORTION SHALL HAVE A STAINLESS STEEL PIVOTAL MOUNTED ARMATURE WITH SHOCK ABSORBING NYLON BEARING. WALL UNIT SHALL BE SEMI-FLUSH MOUNTED OVER RECESSED OUTLET BOX. DOOR HOLDERS SHALL BE 24V DC AND SHALL BE POWERED FROM THE CONTROL PANEL. DOOR HOLDERS SHALL BE WALL MOUNTED TYPE UNLESS FLOOR MOUNTED TYPE IS REQUIRED. DOOR HOLDERS SHALL BE COMPATIBLE WITH ARCHITECTURAL BUILDING FEATURES AND DOORS SPECIFIED.
- O. ADDRESSABLE DEVICES:
1. PULL STATIONS:
- a. PULL STATIONS SHALL CONTAIN ELECTRONICS THAT COMMUNICATE THE STATION'S STATUS TO THE CONTROL PANEL OVER TWO WIRES. STATION ADDRESS SHALL BE FIELD-SELECTABLE.
- b. STATIONS SHALL BE DOUBLE-ACTIVE TYPE.
- c. ENCLOSURE SHALL BE RED, HIGH-IMPACT, VANDAL-RESISTANT TYPE.
- d. STATION ADDRESS SHALL BE FIELD-SELECTABLE.
2. SMOKE SENSORS:
- a. SMOKE SENSORS SHALL BE OF THE PHOTOELECTRIC OR IONIZATION TYPE AND SHALL COMMUNICATE ACTUAL SMOKE CHAMBER VALUES TO THE SYSTEM CONTROL PANEL. SENSORS INSTALLED IN ELEVATOR SHAFTS OR PITS SHALL BE SUITABLE FOR THE ENVIRONMENT.
- b. SENSORS SHALL BE LOW PROFILE.
- c. STATION ADDRESS SHALL BE FIELD-SELECTABLE.
- d. SET POINTS SHALL BE FIELD-SELECTABLE FROM THE CONTROL PANEL.
- e. SENSOR SHALL HAVE INTEGRAL TEST SWITCH.
- f. SENSOR HEADS SHALL BE PHOTOELECTRIC OR IONIZATION TYPE, AS DETERMINED BY THE MANUFACTURER TO BEST SUIT THE ENVIRONMENT IN WHICH THE DEVICE IS TO BE INSTALLED.
3. ADDRESSABLE MONITOR MODULES:
- a. ADDRESSABLE MONITOR MODULES SHALL PROVIDE POINT-MONITORING CAPABILITIES OF INDIVIDUAL NON-ADDRESSABLE DEVICES. PROVIDE A SEPARATE MODULE FOR EACH SUCH DEVICE.
- b. LOCATE WITHIN THREE FEET OF THE DEVICE TO BE MONITORED.
4. ADDRESSABLE CONTROL MODULE:
- a. ADDRESSABLE CONTROL MODULES SHALL BE USED TO INITIATE CONTROL ACTIONS AND SUPERVISE INITIATING FUNCTIONS. A SEPARATE CONTROL MODULE SHALL BE PROVIDED FOR EACH CONTROL POINT. INITIATION OF CONTROL FUNCTIONS FROM AUXILIARY CONTACTS IN DEVICES IS PROHIBITED.
- b. LOCATE WITHIN THREE FEET OF THE DEVICE TO BE CONTROLLED.
- c. IF THE POWER REQUIREMENTS OF THE DEVICE BEING CONTROLLED EXCEED THE CONTACT RATING OF CONTROL MODULE, PROVIDE A GENERAL PURPOSE RELAY, CONTROLLED BY THE MODULE, WITH THE REQUIRED CONTACT RATING TO SUPPORT THE LOAD.
- P. WIRING:
1. LABEL EACH PIECE OF EQUIPMENT AND EACH CABLE, USING NFPA 72 REQUIREMENTS/ RECOMMENDATIONS. LABEL EACH END OF ALL CABLES.
2. PROVIDE ALL WIRING REQUIRED TO MAKE SYSTEM OPERABLE, AS SPECIFIED. LEAVE 25% SPARE CAPACITY ON EACH CIRCUIT FOR THE FUTURE ADDITION OF DEVICES AND APPLIANCES. VOLTAGE DROP CALCULATIONS SHALL SUBSTANTIATE INITIAL LOAD AND LOAD THAT CAN BE ADDED.
3. INSTALL WIRES AND CABLES WITHOUT SPLICES. MAKE CONNECTIONS AT TERMINAL STRIPS IN CABINETS OR AT EQUIPMENT/DEVICE TERMINALS.
- Q. CONDUCTORS:
1. PROVIDE CABLE TYPE CONSTRUCTION, LISTED AND APPROVED FOR FIRE ALARM USAGE.
2. CABLES SHALL COMPLY WITH NEC ARTICLE 760, BE RED IN COLOR AND BE IDENTIFIED IN ALL ENCLOSURES.
3. ALL CABLES SHALL BE INSTALLED IN A METALLIC CONDUIT SYSTEM, IN ACCORDANCE WITH SECTION 261010. MINIMUM CONDUIT SIZE SHALL BE 3/4". ALL JUNCTION BOXES SHALL BE PAINTED RED.
- R. DEVICES:
1. THE LOCATION OF DEVICES SHOWN IS APPROXIMATE. THE EXACT LOCATION OF ALL DEVICES SHALL BE DETERMINED BY THE SYSTEM DESIGNER.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUITABLE MOUNTS FOR THE PROJECTED BEAM DETECTORS, TO GUARD AGAINST MOVEMENT WHICH WOULD PREVENT NOUANCE ALARMS, TO THE GREATEST DEGREE POSSIBLE.
- S. NOTIFICATION APPLIANCES: THE SOUND LEVEL AND LIGHT INTENSITY SETTING OF NOTIFICATION DEVICES SHALL BE DETERMINED BY THE SYSTEM DESIGNER.
- T. TESTS: UPON COMPLETION OF THE INSTALLATION, TEST THE ENTIRE SYSTEM FOR PROPER OPERATION. MAKE ALL ADJUSTMENTS AND CORRECTIONS NECESSARY. RETEST UNTIL PROPER OPERATION IS ACHIEVED.

ISCA at fault = 7558.38



DESIGNED PAA	DRAWN PAA	CHECKED WOW
DATE: JUNE 5, 2019		
JOB NO. Project Number		
SCALE: SEE SHEET		

**ADDITIONS TO:
LEROY E. BROWNE CENTER
ST. HELENA ISLAND, SOUTH CAROLINA
ELECTRICAL SPECIFICATIONS**

E6.2