

DIVISION 16 – ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

- A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
1. Electrical service and service equipment.
  2. Lighting and power distribution system.
  3. Provide lighting fixtures selected by owner with lamps to match.
  4. Wiring devices, boxes, cover plates, etc.
  5. Source of power for all items of equipment.
  6. Grounding.
  7. Other requirements and/or systems where shown.

- B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

- C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:

1. The 2020 National Electrical Code.
2. The National Electrical Safety Code.
3. Underwriter's Laboratories, Inc., Standards and approved listings.
4. Electrical Testing Laboratories standards.
5. North Carolina Building Code, Latest Edition and Revisions.
6. All local codes and ordinances.

- D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

- E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.

- F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

- A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

- A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

- B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

- A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

- A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.

1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 NOT USED

2.3 CONDUCTORS

- A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall be: Standard Practice.
- B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be UL approved.
- C. Metallic sheathed "MC" cable may be used where allowed by N.E.C.

- D. Conductors shall be spliced and taped as follows:
1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
  2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
  3. No split-bolt type connectors may be used.

- E. All branch wire and connections shall be copper and sized per National Electric Code.

- F. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.

- G. All wiring in mechanical spaces shall be plenum rated.

- H. Provide GFI protection within 6'-0" of any sink.

- I. All multi-wire branch circuits shall comply with 2020 NEC, 210.4(B).

- J. All wiring at medical facilities shall comply with 2020 NEC, 517.1.

2.4 PANELBOARDS, SAFETY SWITCHES

- A. Panelboards shall comply with NEMA Standard PB 1 – Latest Edition and as manufactured by Square D or ITE-Siemens.

- B. The contractor shall be responsible for correctly phasing the circuits in the panelboards.

- C. Safety switches shall be general duty type, size and rating as required for load service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.5 NOT USED

2.6 WIRING DEVICES

- A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.

- B. Wiring devices installed under a Kitchen Hood shall have stainless steel covers.

- C. Wiring devices installed over counters shall comply with ANSI A117.1.

2.7 NOT USED

2.8 CONDUIT

- A. PVC conduit will be allowed where N.E.C. approved.

- B. All service conduit shall be rigid where exposed below 8'-0" AFF or exposed to the elements or hazardous conditions.

2.9 NOT USED

2.10 NOT USED

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3.5 EQUIPMENT LABELING

- A. Provide permanent name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.

- B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.

- C. All empty conduit runs shall be identified and indicated where they terminate.

- D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.6 NOT USED

3.7 NOT USED

3.8 JUNCTION AND/OR PULL BOXES

- A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.9 PULL WIRE

- A. Leave pull wire in each empty conduit run.

3.10 NOT USED

3.11 GROUNDING

- A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:

1. Grounding conductors shall be installed so as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.

2. Equipment ground continuity shall be maintained through flexible metal conduit.

3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.

4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.

5. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

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3.12 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

- A. PLUMBING WORK: The Electrical Contractor shall furnish and install switches and devices as shown and electrically connect electric water heaters, etc. All other electrical work required will be performed by the PLUMBING CONTRACTOR.

- B. HEATING AND AIR CONDITIONING WORK: The Electrical Contractor shall provide all disconnect switches, starters, and associated hardware for the equipment furnished including all line and load side wiring and conduit. Final connections to the equipment will be by the HVAC contractor. All control wiring will be accomplished by the HVAC contractor. Coordinate all work associated with the HVAC contractor.

3.13 CLEAN UP

- A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.14 GUARANTEE

- A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.
2. ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTORS AND CONDUIT PER NEC).
3. ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F.
4. ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.
5. CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
6. ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.
7. THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.
9. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.
10. ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.
11. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.
12. PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.
13. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.
14. THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

ELECTRICAL LEGEND

- ⊠ X LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE).  
NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
- ⊠ WP/GFI DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE. "WP" INDICATES WEATHER PROOF. "GFI" INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. "U" INDICATES RECEPTACLE WITH (2) USB PORTS.
- ⊠ QUADRUPLEX RECEPTACLE – 120V
- ⊠ FLOOR OR CEILING OUTLET (AS NOTED) – 120V
- ⊠ SPECIAL PURPOSE RECEPTACLE – REFER TO POWER PLAN AND PANEL SCHEDULE
- S LIGHT SWITCH
- S<sub>M</sub> SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
- S<sub>D</sub> DIMMABLE LIGHT SWITCH
- ⊠ MOTOR RATED SWITCH
- ⊠ JUNCTION BOX
- ▽ TELE/DATA OUTLET – PROVIDE JUNCTION BOX WITH CONDUIT BACK TO MTP. PROVIDE (1) TELEPHONE JACK AND (1) CAT 5 DATA JACK
- ← SINGLE-POLE HOMERUN TO PANELBOARD
- ← TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD
- EXIT EXIT LIGHT
- ⊠ EMERGENCY EGRESS FIXTURE
- ⊠ PHOTOCELL (LED COMPLIANT)
- BRANCH CIRCUIT WIRING
- SWITCH LEG
- GROUND CONNECTION
- ⊠ PANEL A DISTRIBUTION PANELBOARD
- ⊠ DISCONNECTING MEANS AS REQUIRED BY CODE

APPENDIX B

2018 BUILDING CODE SUMMARY  
FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN  
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)  
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

- Energy Code: Prescriptive ☒ Energy Cost Budget ☐
- ASHRAE 90.1: Prescriptive ☒ Energy Cost Budget ☐

Lighting Schedule

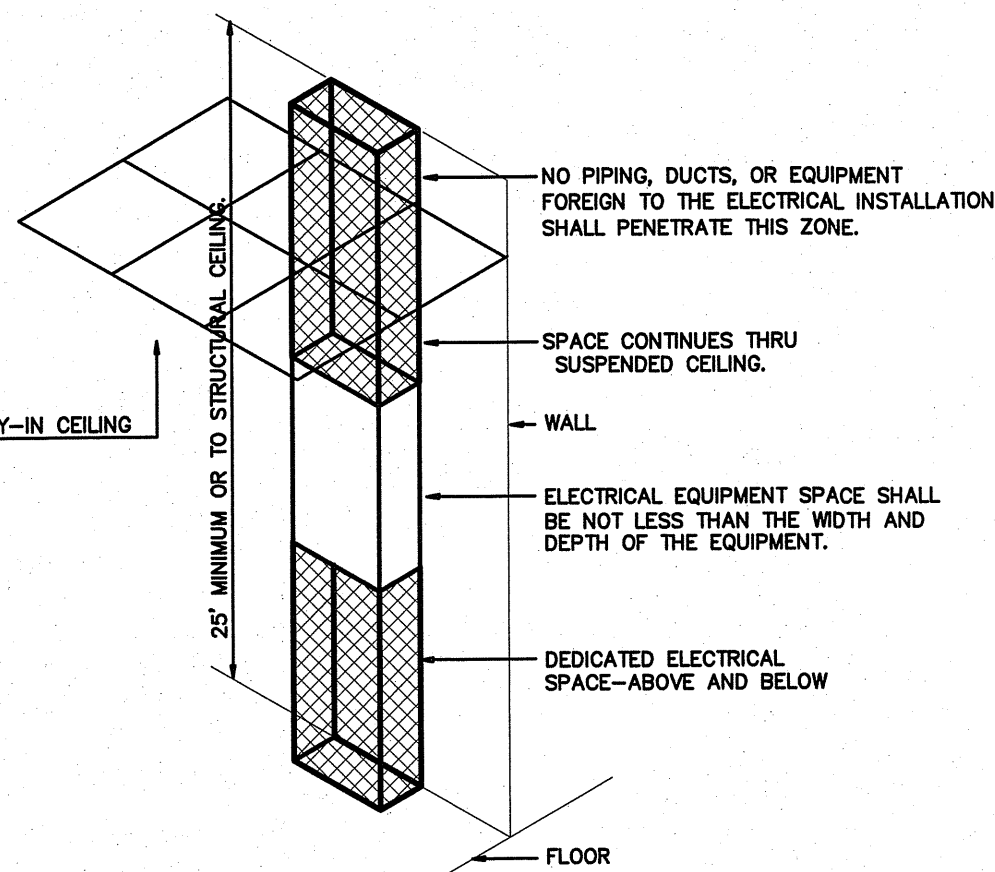
Lamp type required in fixture  
number of lamps in fixture  
ballast type used in fixture  
number of ballasts in fixture  
total wattage in fixture  
total interior wattage specified vs. allowed  
total exterior wattage specified vs. allowed

See Light Fixture Schedule

3235VA / 4520VA  
141VA / 750VA

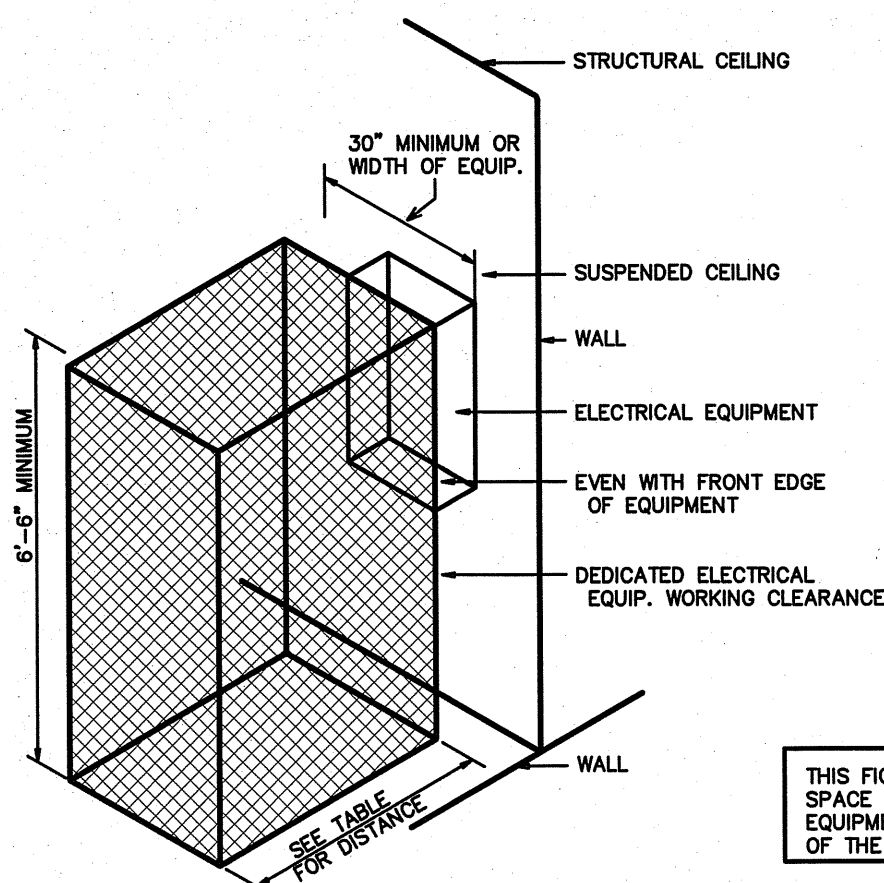
Additional Prescriptive Compliance

- 508.2.1 More Efficient Mechanical Equipment
- 508.2.2 Reduced Lighting Power Density
- 508.2.3 Energy Recovery Ventilation Systems
- 508.2.4 Higher Efficiency Service Water Heater
- 508.2.5 On-Site Supply of Renewable Energy
- 508.2.6 automatic Daylighting Control System



ELECTRICAL EQUIPMENT DEDICATED SPACE  
PER ARTICLE 110.26.F.1 OF N.E.C.

1 DEDICATED SPACE  
SCALE: NTS



ELECTRICAL EQUIPMENT WORKING CLEARANCE  
PER ARTICLE 110-26 OF N.E.C.

VOLTAGE TO GROUND NOMINAL	WORKING CLEARANCES			
	MIN. CLEAR DISTANCE IN FEET			
0-150	CONDITION: 1	2	3	
151-600		3	3-1/2	4

2 ELECTRICAL CLEARANCES  
SCALE: NTS

ENGINEER

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SHEET NO.

E-1

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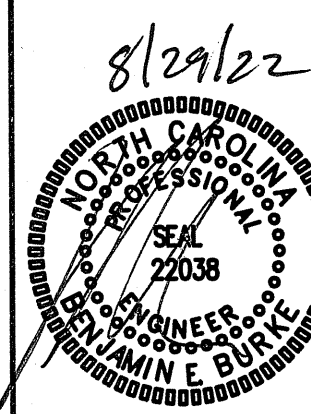
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ADDITION TO  
ABC NEWPORT  
NEWPORT, NORTH CAROLINA



ELECTRICAL  
SPECIFICATIONS

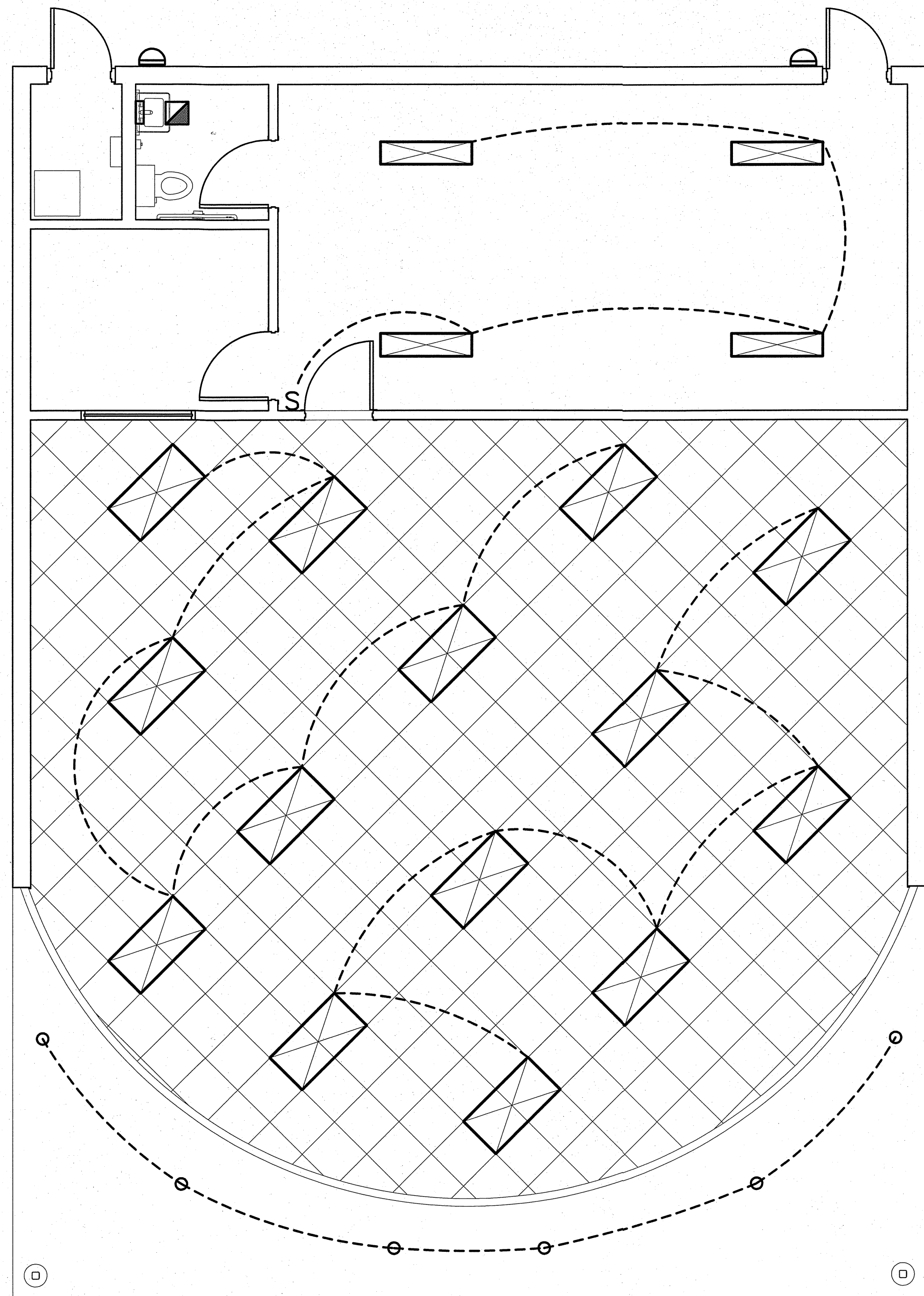
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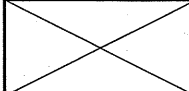
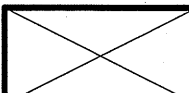
ISSUED: 8/22/2022

DWG BY: JQ

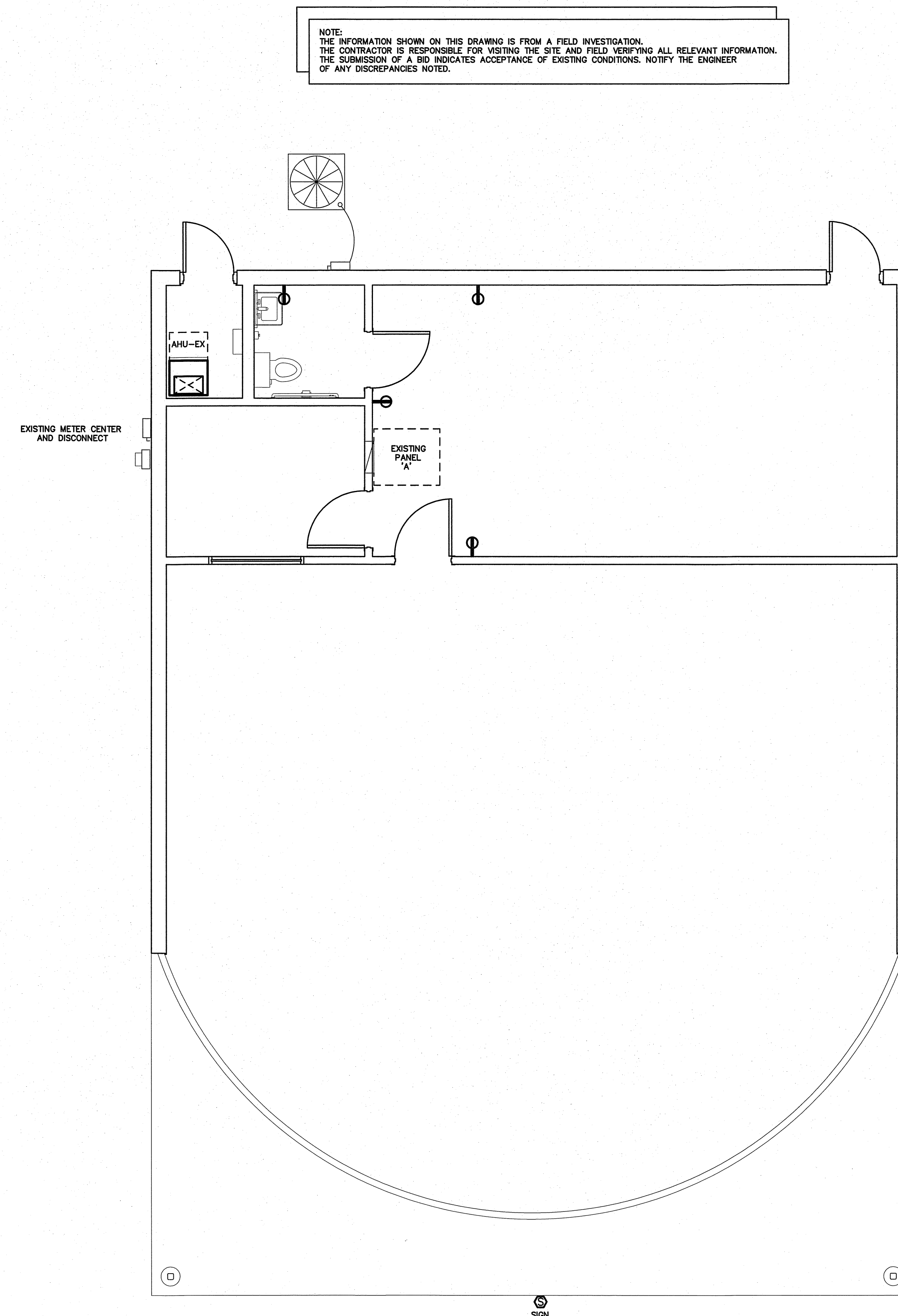
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

REVISIONS



-  = EXISTING FIXTURE TO REMAIN  
 = EXISTING FIXTURE TO BE RELOCATED/REMOVED

1 EXISTING LIGHTING PLAN  
SCALE 1/4"=1'-0"



-  = EXISTING DEVICE TO REMAIN  
 = EXISTING DEVICE TO BE RELOCATED/REMOVED

2 EXISTING POWER PLAN  
SCALE 1/4"=1'-0"

ENGINEER  
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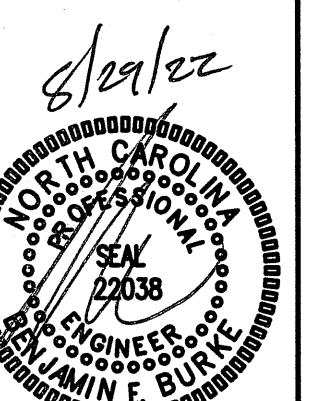
**Coastal**  
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ADDITION TO  
 ABC NEWPORT  
 NEWPORT, NORTH CAROLINA



EXISTING ELECTRICAL PLAN

21036  
 ISSUED: 8/22/2022  
 DWG BY: JQ  
 CKD BY: BEB  
 REVISIONS

SHEET NO.  
 E-2



LIGHTING SCHEDULE *									
MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO. TYPE W	BALLAST TYPE	W/ FIXTURE	REMARKS		
A	COLUMBIA	LCA122-35MWG-EDU	120	- LED -	-	25	2X2 LAY-IN LED FIXTURE	*	
B	HALO	(LZR) L806-FL-80-(5000K)-P	120	- LED -	-	10W/FT	MULTI-CIRCUIT LED TRACK LIGHTS, PROVIDE LIMITER FOR 10W/FT	*	
C	JUNO	(C22)LED-G4-14LM-35K	120	- LED -	-	30	6" LED RECESSED CAN FIXTURE (WL= WET LOCATION)	*	
D	COLUMBIA	MP54-4000KMW-CW-EDU	120	- LED -	-	45	4' ENCLOSED LED GASKETED STRIP	*	
E	COMPASS	CUSO	120	- LED -	-	17	EXTERIOR NORMAL/EMERGENCY LIGHT FIXTURE- COLOR BY ARCH	*	
EXIT	COMPASS	CER	120	- LED -	-	2	LED EXIT SIGN, COLOR BY ARCH	*	
EM	COMPASS	CU2	120	- LED -	-	10	EMERGENCY LIGHT, BATTERY BACKUP, BATTERY DIAGNOSTICS, COLOR BY ARCH	*	

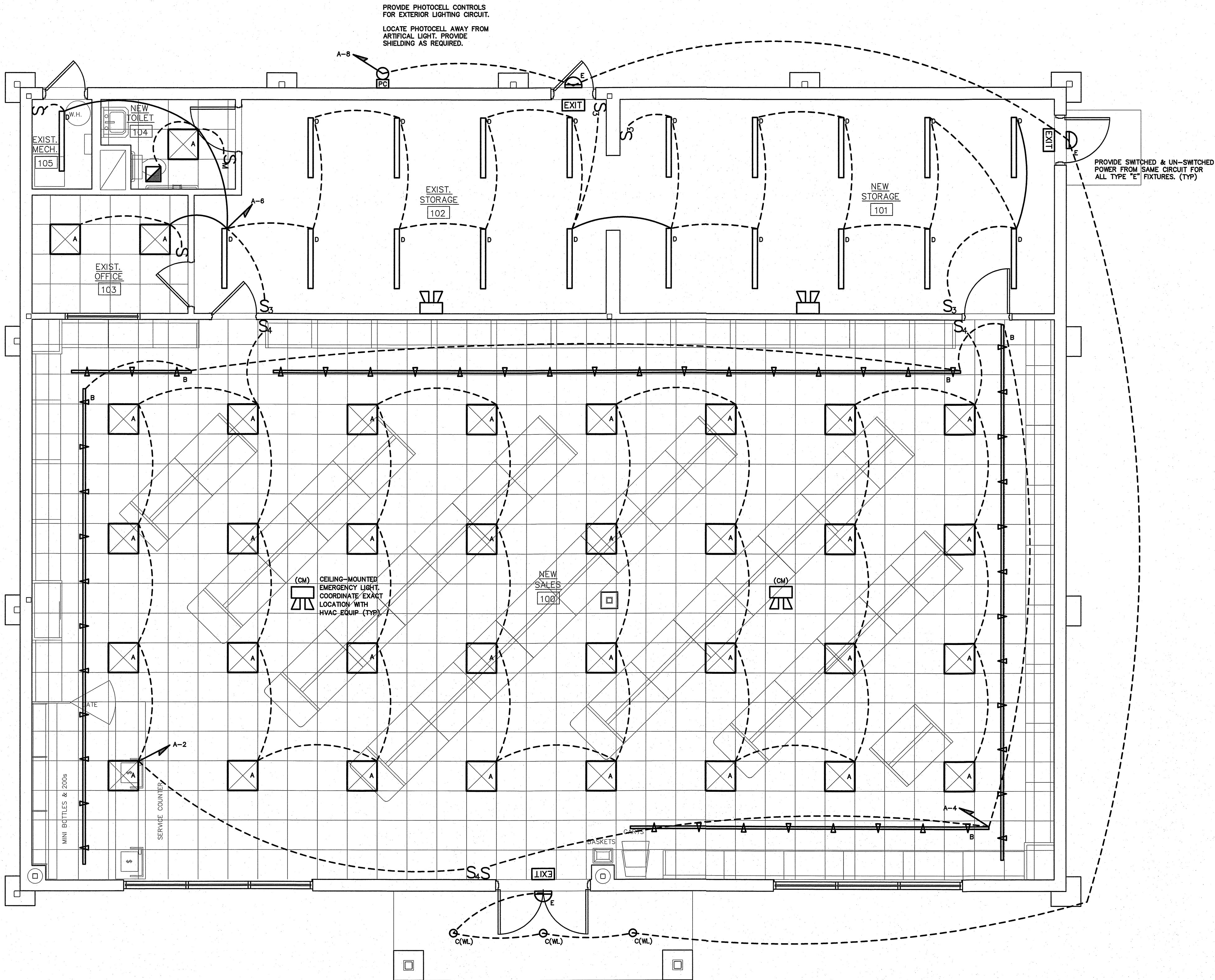
\* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES.  
CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.  
THE EMERGENCY LIGHTS AND EXIT SIGNS MUST HAVE INTEGRAL BATTERIES, CHARGERS AND TEST SWITCHES.

NOTE:  
PROVIDE LABELING ON EACH  
SWITCH NOTING CIRCUIT SERVED.

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE  
EGRESS PATH LIGHTING AS ALLOWED PER 405.2.1-3  
EXCEPTION #3, WHERE AUTOMATIC SHUTOFF WOULD  
ENDANGER OCCUPANT SAFETY.

TIE ALL EXIT AND EMERGENCY LIGHTS  
TO NEAREST AVAILABLE UNSWITCHED  
LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES  
AND DEVICES PRIOR TO INSTALLATION.

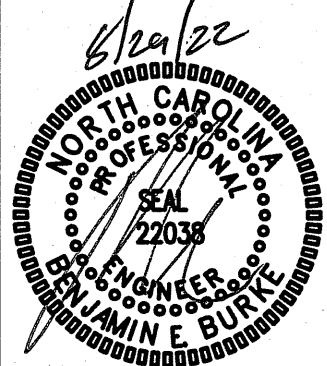


1  
E-3  
REVISED LIGHTING PLAN  
SCALE: 1/4"=1'-0"

ENGINEER  
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ADDITION TO  
ABC NEWPORT  
NEWPORT, NORTH CAROLINA



ELECTRICAL  
PLAN

21036

ISSUED: 6-22-22  
DWG BY: TRA  
CKD BY: LDD  
REVISIONS

SHEET NO.  
E-3

LIGHTING SCHEDULE *									
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C	JUNO	IC22LED-G4-14LM-35K	120	- LED -	-	30	6" LED RECESSED CAN FIXTURE (WL= WET LOCATION)		
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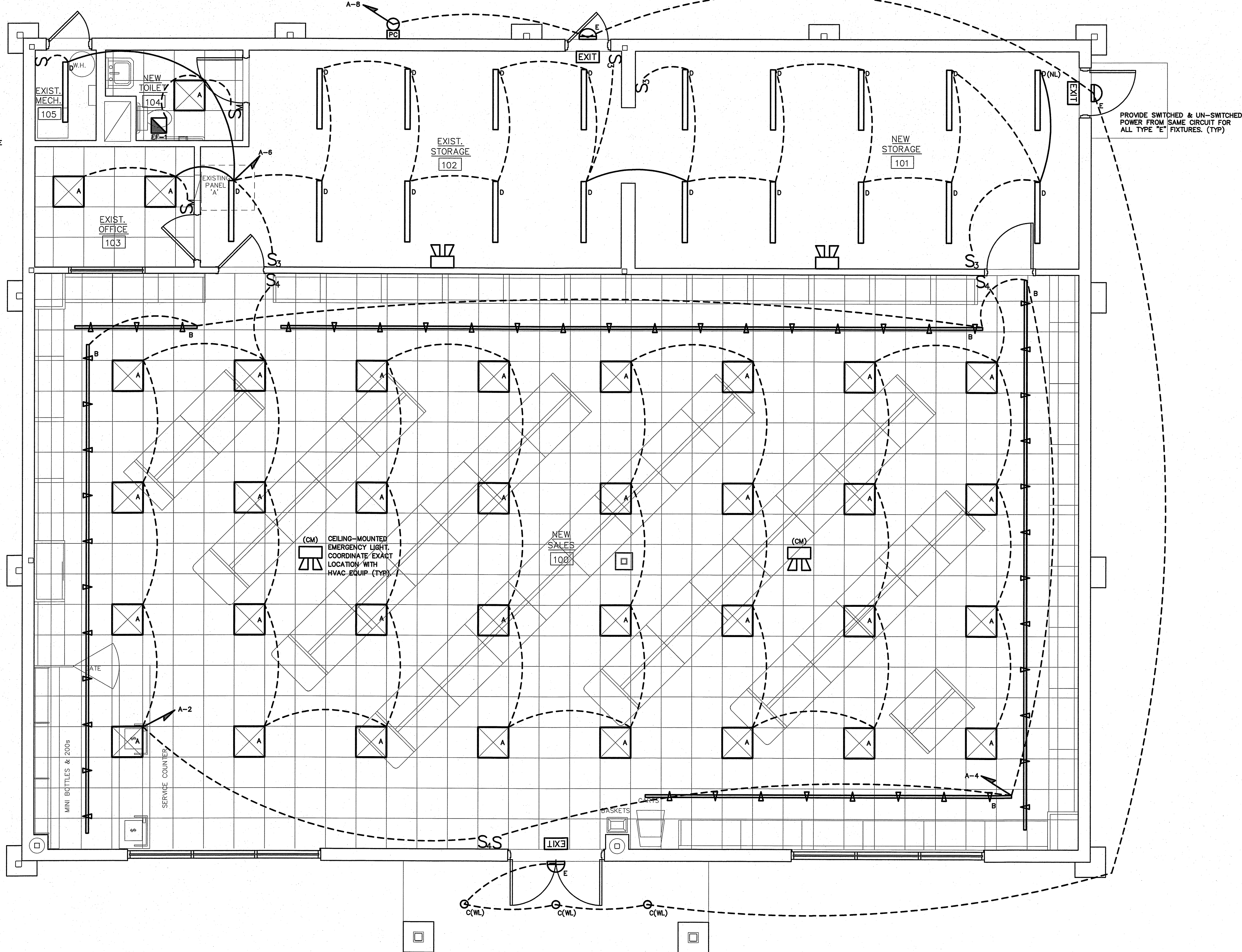
PROVIDE PHOTOCELL CONTROLS  
FOR EXTERIOR LIGHTING CIRCUIT.  
LOCATE PHOTOCELL AWAY FROM  
ARTIFICIAL LIGHT. PROVIDE  
SHIELDING AS REQUIRED.

NOTE:  
PROVIDE LABELING ON EACH  
SWITCH NOTING CIRCUIT SERVED.

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EGRESS PATH LIGHTING AS ALLOWED PER 405.2.1-3  
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VERIFY HEIGHT/LOCATION OF ALL SWITCHES  
AND DEVICES PRIOR TO INSTALLATION.



1 REVISED LIGHTING PLAN  
E-3 SCALE: 1/4"=1'-0"

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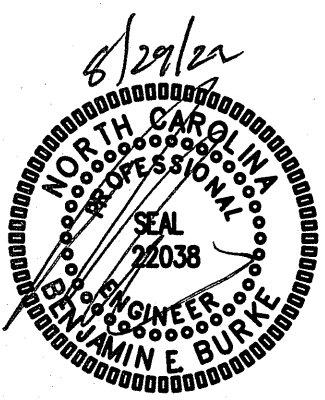


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NEWPORT, NORTH CAROLINA



REVISED  
LIGHTING PLAN

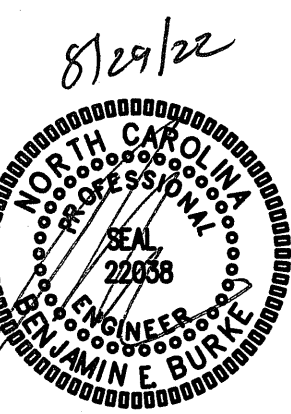
21036

ISSUED: 8/22/2022  
DWG BY: JQ  
CKD BY: BEB  
REVISIONS

SHEET NO.  
E-3



ADDITION TO  
ABC NEWPORT  
NEWPORT, NORTH CAROLINA



REVISED  
POWER PLAN

21036

ISSUED: 8/22/2022

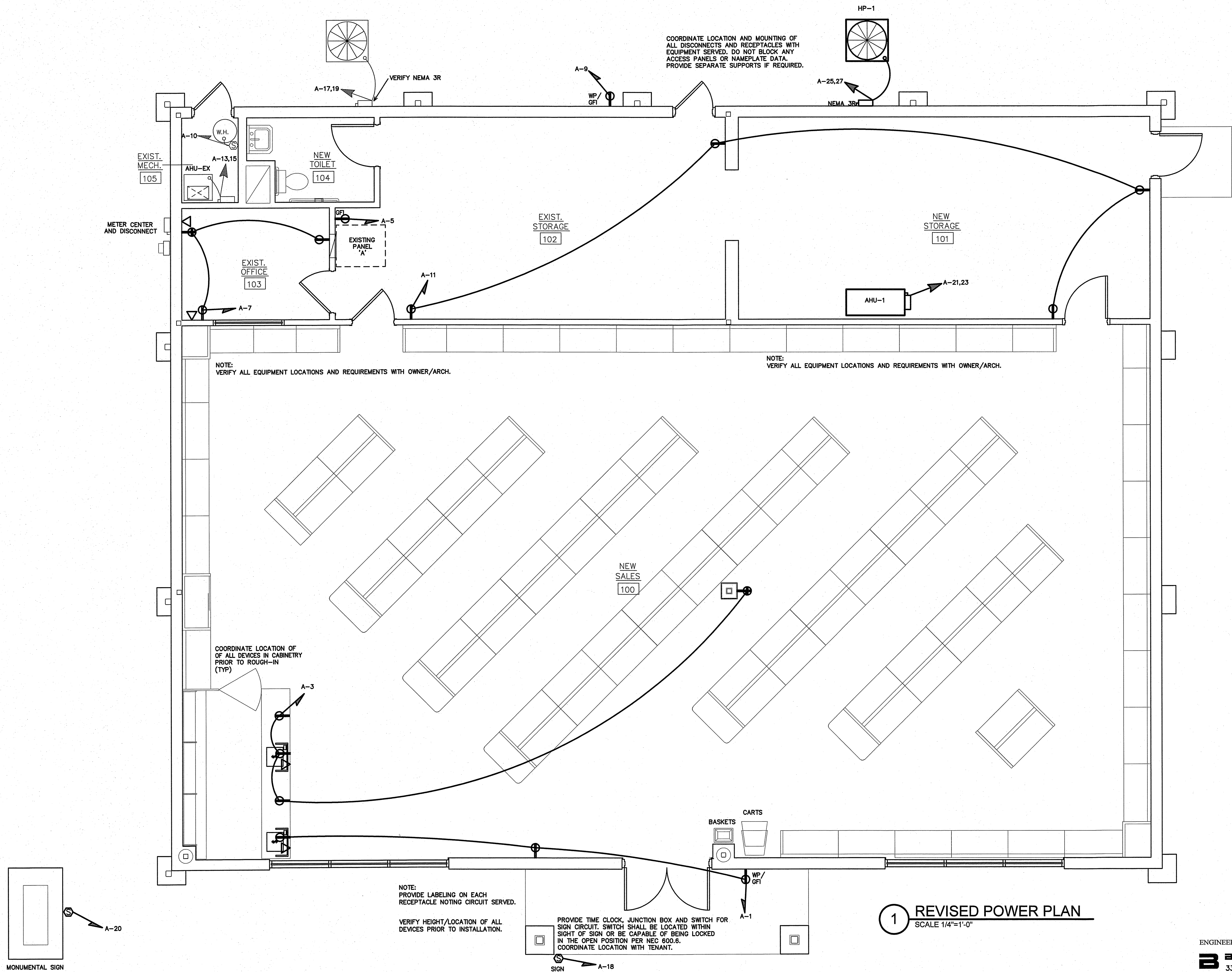
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REVISIONS

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E-4



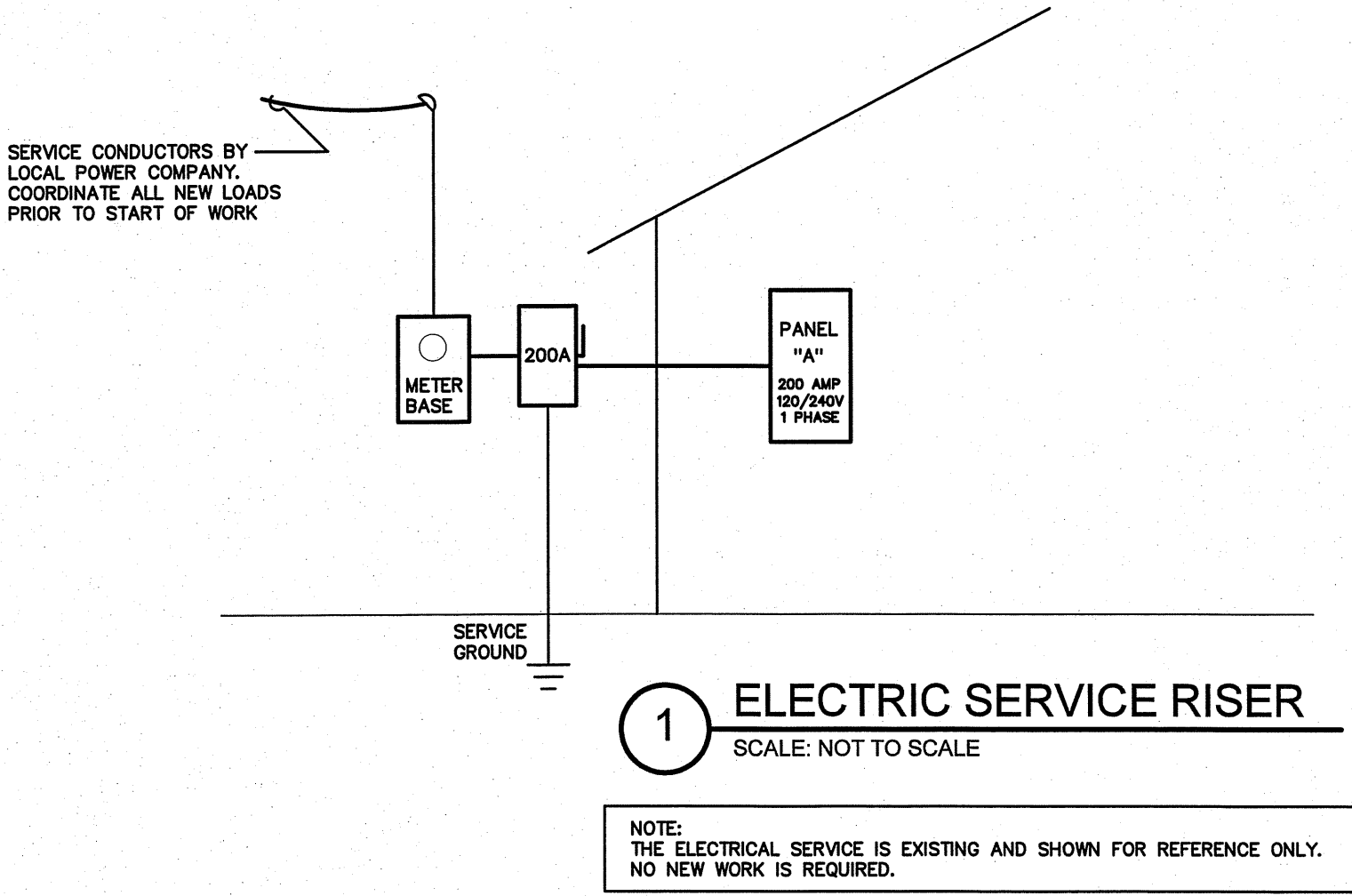
ENGINEER  
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ABC Newport Add. E5									
EXISTING PANEL- 'A'		MAKE: SIEMENS		RATING: 120/240V 1 PHASE 3 WIRE		200A MAIN CIRCUIT BREAKER			
		TYPE: IN LOAD CENTER		MOUNTING: FLUSH		EQUIPMENT GROUND BUS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
				MINIMUM AIC: VERIFY		SERVICE ENTRY RATED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
LOAD SERVICE	CKT BRKR	WATTS PER PHASE A B	CKT NO	NEUTRAL A B	CKT NO	WATTS PER PHASE A B	CKT BRKR	LOAD SERVICE	
NIGHT LIGHTS	20A	----	1	✓	2	----	20A	REC. STOR. & SALES	
LIGHTS SALES	20A	----	3	✓	4	----	20A	REC. OFFICE	
LIGHTS SALES	20A	----	5	✓	6	----	20A	REC. CASH REG.	
LIGHTS STORAGE	20A	----	7	✓	8	----	20A	SPACE	
SIGN	20A	----	9	✓	10	----	20A	REC. CASH REG.	
CANOPY LIGHTS	20A	----	11	✓	12	----	20A	WATER HEATER	
AIR HANDLER	125A	----	13	✓	14	----	20A	WELL PUMP	
			15	✓	16	----	20A	SITE LIGHT	
COND. UNIT	60A	----	17	✓	18	----	20A	DISPLAY LIGHTS	
			19	✓	20	----		SPACE	
SPACE		----	21	✓	22	----		SPACE	
SPACE		----	23	✓	24	----		SPACE	
SPACE		----	25	✓	26	----		SPACE	
SPACE		----	27	✓	28	----		SPACE	
SPACE		----	29	✓	30	----		SPACE	
SPACE		----	31	✓	32	----		SPACE	
SPACE		----	33	✓	34	----		SPACE	
SPACE		----	35	✓	36	----		SPACE	
SPACE		----	37	✓	38	----		SPACE	
SPACE		----	39	✓	40	----		SPACE	
SPACE		----	41	✓	42	----		SPACE	
NOTES	SUB-TOTALS 'B'		----	----	200A BUS	----	SUB-TOTALS 'A'		TOTAL CONNECTED LOAD
			----	----	200A LUGS	----	SUB-TOTALS 'B'		
			----	----	200A FEED	----	GRAND TOTAL		
			----	----	VERIFY SIZE	----	AMPS/PHASE		

VERIFY AHU-X IS FUSED PER CODE

ABC Newport Add. E5				RATING: 120/240V 1 PHASE 3 WIRE				200A MAIN CIRCUIT BREAKER			
REVISED PANEL- 'A'				MAKE: SIEMENS				EQUIPMENT GROUND BUS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
				TYPE: IN LOAD CENTER				MOUNTING: FLUSH			
				MINIMUM AIC: VERIFY				SERVICE ENTRY RATED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
LOAD SERVICE		CKT BRKR	WATTS PER PHASE A B	CKT NO	NEUTRAL A B	CKT NO	WATTS PER PHASE A B	CKT BRKR	LOAD SERVICE		
REC- CASH REGISTER	20A	540		1		2	800	20A	LTS- SALES		
REC- CASH REGISTER	20A		360	3		4		1460	20A LTS- TRACK		
REC- PANEL	20A	180		5		6	975	20A	LTS- BACK AREA		
REC- OFFICE	20A		720	7		8		141	20A LTS- EXTERIOR		
REC- EXTERIOR	20A	180		9		10	1650	20A	WATER HEATER		
REC- STORAGE	20A		720	11		12		980	20A WELL PUMP		
AHU-X		5520		13		14	1200		20A SITE LIGHT		
	125A		5520	15		16		1200			
HP-X		3324		17		18	1200	20A	SIGN		
	60A		3324	19		20	1200	20A	MONUMENTAL SIGN		
AHU-1		2496		21		22	----	20A	SPARE		
	30A		2496	23		24	----	20A	SPARE		
HP-1		2172		25		26	----	20A	SPARE		
	30A		2172	27		28	----	20A	SPARE		
SPACE		----		29		30	----		SPACE		
SPACE		----		31		32	----		SPACE		
SPACE		----		33		34	----		SPACE		
SPACE		----		35		36	----		SPACE		
SPACE		----		37		38	----		SPACE		
SPACE		----		39		40	----		SPACE		
SPACE		----		41		42	----		SPACE		
NOTES	SUB-TOTALS 'B'		14412	15312	200A BUS		5825	4981	SUB-TOTALS 'A'		
NEW/REVISED CIRCUIT					200A LUGS		14412	15312	SUB-TOTALS 'B'		
EXISTING CIRCUIT					200A FEED		20237	20273	GRAND TOTAL		
				VERIFY SIZE		169A	169A	AMPS/PHASE		TOTAL CONNECTED LOAD	
NEC ALLOWABLE DEMAND FACTORS					DIVERSIFIED LOAD SUMMARY						
① DEMAND FACTORS PER NEC 220					LOAD TYPE					TOTAL DIVERSIFIED LOAD	
② LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD					GENERAL LIGHTING					125%	
③ NEC TABLE 220.56					TRACK LIGHTING					125%	
④ NEC 220.51					GENERAL USE					100%/NEC	
⑤ NEC 220.43A, 200 VA/LINEAR FT					RECEPTACLES					100%/NEC	
⑥ NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED					MOTORS AND EQUIPMENT					LARGEST 100% ALL OTHERS 125%	
					WATER HEATERS					125%	
					KITCHEN EQUIPMENT					100%	
					FIX. ELEC. SPACE HEAT.					100%	
					SHOW WINDOW LIGHTS					125%	
					SIGN					125%	
					MISC					100%	
					PHASE (TOTAL VA)					21574 21153 42727	
					TOTAL AMPS					180A 176A	
					VOLT AMPS = 178A					TOTAL AMPS	

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING PRIOR TO RELEASING GEAR. AIC RATING ON PANELS ARE FOR PERMIT REVIEW AND PRICING ONLY. EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.



ABC Newport Add. E5					
EQUIPMENT WIRING SCHEDULE					
EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
AHU-1	28A	30A	240V	1	2-#10, 1-#10 GND IN 3/4" CONDUIT
HP-1	18.1A	30A	240V	1	2-#10, 1-#10 GND IN 3/4" CONDUIT

NOTE: THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

ENGINEER  
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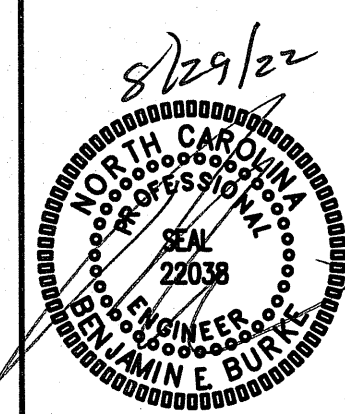
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PANELS & RISER

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