MINIMUM SIZE EQUIPMENT (GROUNDING CO	ONDUCTOR FOR					
GROUNDING RACEWAY AND EQUIPMENT (TO COMPLY WITH ALL OTHER REQUIREMENTS OF 2008NEC SECTION 250.122)							
RATING OR SETTING OF	SIZE(AWG OR KCMIL)						
AUTOMATIC OVERCURRENT EVICE IN CIRCUIT AHEAD OF EQUIPMENT, CONDUIT, ETC. NOT EXCEEDING (AMPERES)	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM					
15	14	12					
20	12	10					
30	10	8					
40	10	8					
60	10	8					
100	8	6					
200	6	4					
300	4	2					
400	3	1					
500	2	1/0					
600	1	2/0					
800	1/0	3/0					
1000	2/0	4/0					
1200	3/0	250					
1600	4/0	350					
2000	250	400					
2500	350	600					
3000	400	600					
4000	500	800					
5000	700	1200					

1200

ENERGY CODE ANALYSIS

CLIMATE ZONE 4A

INTERNATIONAL ENERGY CONSERVATION CODE 2020 CHAPTER C4: COMMERCIAL ENERGY EFFICIENCY

800

AUTOMATIC OVERCURRENT DEVICE IN CIRCUIT AHEAD OF

NOT EXCEEDING (AMPERES)

6000

	1	NEW	NEW PANEL P1		VOLTS:		120/208V								PHASE & W	IRE: 3PH/4	W
	•	42 POLE	SERVING NEW AMENITY SPACE		BUS:		200A								FEEDER SIZE	E: (4)#4/0A	₩G+G
					MAIN CB:		MLO								MOUNTING:	SURFACE	
CKT NO	CIRCL	JIT BREAKER					A	В	С		CKT NO	CIRCL	JIT BREAKER				
	POLE	TRIP AMPS	DESCRIPTION	А	В	С)		POLE	TRIP AMPS	DESCRIPTION	А	В	С
1	1	20	DEDICATED FITNESS OUTLET	1600			—				2	1	20	MECHANICAL CLOSET OUTLET	180		
3	1	20	DEDICATED FITNESS OUTLET		1600		$\overline{}$	<u> </u>			4	1	20	AV RACK RECEPTACLE		1500	
5	1	20	DEDICATED FITNESS OUTLET			1600			+	<u> </u>	6	1	20	AV RACK RECEPTACLE			1500
7	1	20	DEDICATED FITNESS OUTLET	1600			—				8				3500		
9	1	20	DEDICATED FITNESS OUTLET		1600			-			10	3	45	AC UNIT		3500	
11	1	20	DEDICATED FITNESS OUTLET			1600	<u> </u>		+		12						3500
13	1	20	DEDICATED FITNESS OUTLET	1600			—				14	1	20	GENERAL LIGHTS	600		
15	1	20	DEDICATED FITNESS OUTLET		1600			—			16	1	20	GENERAL LIGHTS		600	
17	1	20	DEDICATED FITNESS OUTLET			1600	7		+		18	1	20	TOILET EXHAUST FAN			80
19	1	20	DEDICATED FITNESS OUTLET	1600			—				20	1	20	DEDICATED OUTLET MER	480		
21	1	20	DEDICATED FITNESS OUTLET		1600		<u> </u>	-			22	1	20	SPARE		0	
23	1	20	DEDICATED FITNESS OUTLET			1600			+		24	1	20	SPARE			0
25	1	20	GENERAL FITNESS OUTLET	360			—				26	1	20	SPARE	0		
27	1	20	GENERAL FITNESS OUTLET		360		<u> </u>	-			28	1	20	SPARE		0	
29	1	20	BATHROOM OUTLET			180			+		30	1	20	SPARE			0
31	1	20	KITCHENETTE OUTLET	1500			—				32	1	20	SPARE	0		
33	1	20	KITCHENETTE APPLIANCE		500		$\neg + + -$	 			34	1	20	SPARE		0	
35	1	20	WATER FOUNTAIN			1200	\vdash		+	_	36	1	20	SPARE			0
37	1	20	SPARE	0			\neg				38	1	20	SPARE	0		
39	1	20	SPARE		0		1	 			40	1	20	SPARE		0	
41	1	20	SPARE			0			+		42	1	20	SPARE			0
			SUBTOTAL	8260	7260	7780							·	SUBTOTAL	4760	5600	5080
							A	В	С								
					TOTAL WATTS		13020	12860	128	60							
					TOTAL AMPS		109	107	10	7							

OCCUPANCY NOT GREATER THAN .82 W/SF

	VIATIONS:				
Α	AMPERES	"C	INCH CONDUIT	MLO	MAIN LUGS ONLY
AFI	ARC FAULT INTERRUPTER	DHWT	DOMESTIC HOT WATER TANK	NTS	NOT TO SCALE
AHU	AIR HANDLING UNIT	GFI	GROUND FAULT INTERRUPTER	Р	POWER
APT.	APARTMENT	GXF	GARBAGE EXHAUST FAN	PH	PHASE
СВ	CIRCUIT BREAKER	KXF	KITCHEN EXHAUST FAN	SEP	SEWAGE EJECTOR P
CKT	CIRCUIT	LXF	LAUNDRY EXHAUST FAN	SP	SUMP PUMP
CPS	CONSTANT PRESSURE SET	M	MOTOR	TXF	TOILET EXHAUST FAI
CT	CURRENT TRANSFORMER	MDP	MAIN DISTRIBUTION PANEL	VIF	VERIFY IN FIELD
CU	CONDENSING UNIT	MDS	MAIN DISCONNECT SWITCH	WP	WEATHERPROOF

SYMBOLS

TYPE ENCLOSURE FOR MOTOR LOAD NON-FUSED DISCONNECT SWITCH IN NEMA 1

WALL MOUNTED DUPLEX RECEPTACLE 120V, NON-FUSED DISCONNECT SWITCH IN NEMA 1 GROUNDING TYPE, WITH COVER PLATE, BOX'D INDICATES FLOOR MOUNT

TYPE ENCLOSURE FOR NON MOTOR LOAD

→ WALL MOUNTED DEDICATED SIMPLEX RECEPTACLE TECH POWER NEMA L6-30R ISOLATED GROUND HUBBEL PN:IG2620, BOX'D

CONDUIT AND WIRE HOMERUN. HALF ARROWS INDICATE # OF POLES OCCUPIED IN PANELBOARD

INDICATES FLOOR MOUNT (A) I.T. ROOM POWER NEMA L6-30R

RC2 LMRC-213 TRIPLE RELAY 0-10V DIMMING ROOM CONTROLLER, BY WATTSTOPPER

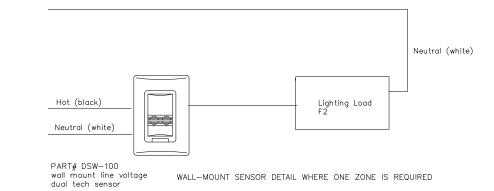
S LMDC-100 DUAL TECHNOLOGY CEILING MOUNT OCCUPANCY SENSOR BY WATTSTOPPER

LMDM-101 DIGITAL DIMMING WALL SWITCH BY WATTSTOPPER

DSW-100 DUAL TECHNOLOGY WALL PS LMLS-500 DIGITAL PHOTOSENSOR BY WATTSTOPPER POS SWITCH SENSOR BY WATTSTOPPER

WATTSTOPPER DETAIL

*** Provide one room. Refer to layout drawings for exact qty and location***



TEM DESCRIPTION	WORK DESCRIPTION	PROPOSED DESIGN VALUE	WHERE INDICATED	"CODE PRESCRIPTIVE VALUE AND CITATION"
OCCUPANT SENSOR CONTROLS	OCCUPANT SENSOR CONTROLS SHALL BE INSTALLED TO CONTROL LIGHTS IN	OCCUPANT SENSOR CONTROLS PROVIDED IN ALL ENCLOSED SPACES INCLUDING OFFICES, STUDIO'S, PRODUCTION ROOMS, MECHANICAL ROOMS AND RESTROOMS	E-001, E-002, E-004	C405.2.1
AYLIGHT RESPONSIVE CONTROLS	LOWER.5.DAYLIGHT RESPONSIVE CONTROLSSHALL BE CONFIGURED TO	DAYLIGHT CONTROLS PROVIDED TO COMPLY WITH WORK DESCRIPTION WHEN NATURAL LIGHT IS IN COMPLIANCE WITH LIGHTING REQUIREMENTS.	E-001, E-002, E-004	C405.2.3.1
XIT SIGNS	INTERNALLY ILLUMINATED EXIT SIGNS SHALL NOT BE MORE THAN 5 WATTS PER SIDE	EXIT SIGNS WILL NOT BE MORE THAN 5W/SIDE	E-001, E-002	C405.2.2.2
ITERIOR LIGHTING POWER REQUIREMENTS	BUILDINGS TOTAL LIGHTING POWER SHALL NOT BE GREATER THAN THE INTERIOR	BUILDING AREA METHOD FOR INTERIOR LIGHTING POWER ALLOWANCE FOR BUSINESS OCCUPANCY NOT GREATER THAN 82 W/SE	ARCHITECTURAL SET	C405.4

ZONE 1,2,3 ZONE 4,5 Lighting Load Lighting Load Lighting Load ____ ____ Triple Relay On/Off/0-Triple Relay On/Off/0-10 __Cables or CAT5e. Free Topology & Splitter Acceptable **LMDM—101** Digital Dimming Wall Switch LMDM-101 Digital LMDC-100 LMDC-100 LMDC-100

VOLTAGE DROP

VOLTAGE DROP FROM EXISTING TO REMAIN BUILDING DISTRIBUTION BOARD TO PANEL PP1 SHALL BE NO GREATER THAN 3.0%. CONTRACTOR TO FIELD VERIFY FEEDER SIZES AND LENGTHS AND REPORT TO ENGINEER FOR FINAL VOLTAGE DROP CALCULATION.

GROUNDING NOTE

ELECTRICAL CONTRACTOR MUST CONFORM TO STERLING SOUND GROUNDING REQUIREMENTS. REFER TO STERLING EDGEWATER TECHNICAL POWER SCHEMATIC AND TECHNICAL POWER SPECIFICATIONS

FIELD VERIFY ALL CONDITIONS

ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

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

BIDDING CONTRACTORS SHALL HAVE WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE ELECTRICAL CONTRACTOR SHALL ALERT ENGINEER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

GENERAL NOTES

- 1. ALL SERVICE EQUIPMENT, PANELS, AND METAL PARTS SHALL BE
- GROUNDED AND BONDED PER NEC. 2. ALL MOTORS SHALL BE PROVIDED WITH A DISCONNECT PER NEC REQUIREMENTS.
- 3. ALL CONVENIENCE RECEPTACLES AND LIGHTING FIXTURES SHALL BE CIRCUITED BY ELECTRICAL CONTRACTOR ACCORDING TO NEC.
- 4. REFER TO ARCHITECTURAL DOCUMENTS FOR LIGHTING FIXTURES EXACT LOCATIONS AND LIGHTING FIXTURES SCHEDULE. 5. ALL FLUORESCENT FIXTURES INDICATED AS EMERGENCY/NIGHT

LIGHTING FIXTURES, EM/NL, SHALL BE EQUIPPED WITH

REMOTE/CONCEALED BATTERY PACKS FOR 90 MINUTE BACK-UP CAPABILITY AS MANUFACTURED BY DUAL-LITE OR APPROVED 6. ALL WALL DEVICES, SWITCHES, RECEPTACLES, ETC. SHALL BE

LOCATED PER ARCHITECTURAL DOCUMENTS.

CIRCUIT BREAKERS.

- 7. CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT (IE. DISCONNECTS, RECEPTACLE, WIRING, ETC.) THAT ARE NOT BEING RE-USED. 8. ALL HEATING AND AIR CONDITIONING UNITS SHALL BE ON HACR
- 9. EXIT SIGNS SHALL BE AS SPECIFIED IN ARCH DOCUMENTS WITH 5W MAX PER SIDE. BATTERY PACK FOR 90-MINUTE BACK UP. 10. FOR PERMANENTLY CONNECTED APPLIANCE RATED OVER 300VA OR 1 HP THE BRANCH CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE WITHIN SIGHT OF THE APPLIANCE OR CAPABLE OF
- BEING LOCKED IN THE OPEN POSITION OR THE APPLIANCE SHALL COME WITH A UNIT SWITCH. 11. IF ANY DIFFERENCE EXISTS IN THE FIELD TO THE CONTRACT DOCUMENTS THE ENGINEER IS TO BE NOTIFIED PRIOR TO WORK. ANY OUTCOME DUE TO FAILURE OF REPORTING THESE CONDITIONS SHALL NOT BE THE RESPONSIBILITY OF THE ENGINEER.

MECHANICAL EQUIPMENT NOTE

REFER TO MECHANICAL AND PLUMBING EQUIPMENT PLANS, RISERS, & SCHEDULES FOR ADDITIONAL INFORMATION AND REQUIREMENTS. PROVIDE DEDICATED CIRCUIT, AMPERAGE, PHASE AND WIRE SIZE AS REQUIRED FOR EACH PIECE OF MECHANICAL EQUIPMENT.

APPLIANCE/EQUIPMENT RECEPTACLES NOTE

COORDINATE LOCATION OF POWER OUTLETS WITH APPLIANCE

MANUFACTURER'S REQUIREMENTS AND ARCHITECT. PROVIDE DEDICATED 120V OR 240V CIRCUITS, AMPERAGE AS

REQUIRED, FOR APPLIANCE POWER. ELECTRICAL CONTRACTOR TO VERIFY OVERPROTECTION AMPERAGE WITH APPLIANCE/EQUIPMENT DELIVERED ON SITE SPECIFICATIONS.

LIGHTING NOTE

- REFER TO ARCHITECTURAL FINAL DRAWINGS FOR QUANTITY AND LOCATION OF SWITCHES, LIGHT FIXTURES AND ZONES. REFER TO ARCHITECTURAL DRAWINGS, SCHEDULES. SPECIFICATIONS
- FOR FIXTURE SCHEDULE AND CEILING PLAN. COORDINATE SWITHCHED RECEPTACLE LOCATIONS WITH
- ARCHITECTS/LIGHTING CONSULTANT'S FINAL PLANS AND ARCHITECT.
- PROVIDE JAMB SWITCHES FOE CLOSET LIGHTING AS REQUIRED BY ARCHITECT/LIGHTING CONSULTANT. PROVIDE ADEQUATE WIRING, QUICK CONNECT PLUGS FOR LIGHTING
- FIXTURES THAT LAND ON A REMOVABLE ACCESS PANEL, AND/OR JAMB SWITCHES FOR HINGED ACCESS PANELS. REVIEW ARCHITECTS LIGHTING FIXTURE SPECIFICATIONS AND COORDINATE VENTED ACCESSIBLE LOCATIONS FOR REMOTE

GENERAL ELECTRICAL NOTE

TRANSFORMER AND LED DRIVERS AS REQUIRED.

REFER TO ONE-LINE RISER DIAGRAM AND DETAILS FOR FURTHER INFORMATION. REFER TO MECHANICAL/PLUMBING/ARCHITECTURAL/LIGHTING/COMMUNICATIONS/ETC. PLANS FOR FURTHER INFORMATION ON COMPLETE SCOPE OF WORK AND EQUIPMENT REQUIREMENTS. CONTRACT TO INCLUDE ALL ELECTRICAL WORK FOR A COMPLETE WORKING SYSTEMS. REFER TO SPECIFICATIONS FOR ALL TRADES.

LIFE SAFETY NOTE

LIFE SAFETY DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH ALL LOCAL AND STATE LIFE SAFETY CODES.

SWITCH, DEVICE & RECEPTACLE NOTE

- ALL SWITCHES, RECEPTACLES, SMOKE DETECTORS AND ALL OUTLETS ARE SHOWN IN AN APPROXIMATE LOCATION. THE CONTRACTOR MUST INSTALL THE BACK BOX FOR EACH DEVICE, PRIOR TO WIRING FOR FINAL PLACEMENT APPROVAL BY THE ARCHITECT, ENGINEER & OWNER. A PORTION OF THESE DEVICES MAY BE RELOCATED BY THE ARCHITECT OR ENGINEER, PRIOR TO FINAL WIRING. NO CHANGE ORDER SHALL BE ACCEPTED FOR FINAL LOCATION ADJUSTMENTS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ALL COLORS
- AND/OR FINISHED OR WALLPLATES. REFÉR TO ARCHITECTURAL PLANS, DETAILS AND ELEVATIONS FOR

WIRING NOTES

EXACT LOCATIONS.

- ALL WIRING SHALL BE CONCEALED IN WALLS OR ABOVE THE CEILING. NO EXPOSED WIREMOLD OR CONDUIT SYSTEMS WILL BE
- REFER TO LIGHTING FIXTURE SPECIFICATIONS FOR SPECIAL WIRING
- REQUIREMENTS.
- PROVIDE FIRE-PORRFING FOR ALL PENETRATIONS AS REQUIRED. PROVIDE GFCI CIRCUIT BREAKERS AS REQUIRED PER EQUIPMENT
- PROVIDE AFCI CIRCUIT PROTECTION PER 2011 NEC ARTICLE 210.12. PROVIDE 20A-1P DEDICATED CIRCUITS FOR BATHROOMS AS
- INDI9CATED ON DRAWINGS. PROVIDE (1) DEDICATED CIRCUIT FOR EVERY TWO KITCHEN COUNTER RÉCEPTACLES.

DATE NO REVISION AS NOTED SCALE CZ, DZ DRAWN

CLIENT PRESENTATION

PERMIT SET

LEONARD

ELECTRICAL COVER

SEAL AND SIGNATURE: 24-019 PROJECT: 66 LEONARD STREET,

DOB MOW##: MECMB

E-001.00

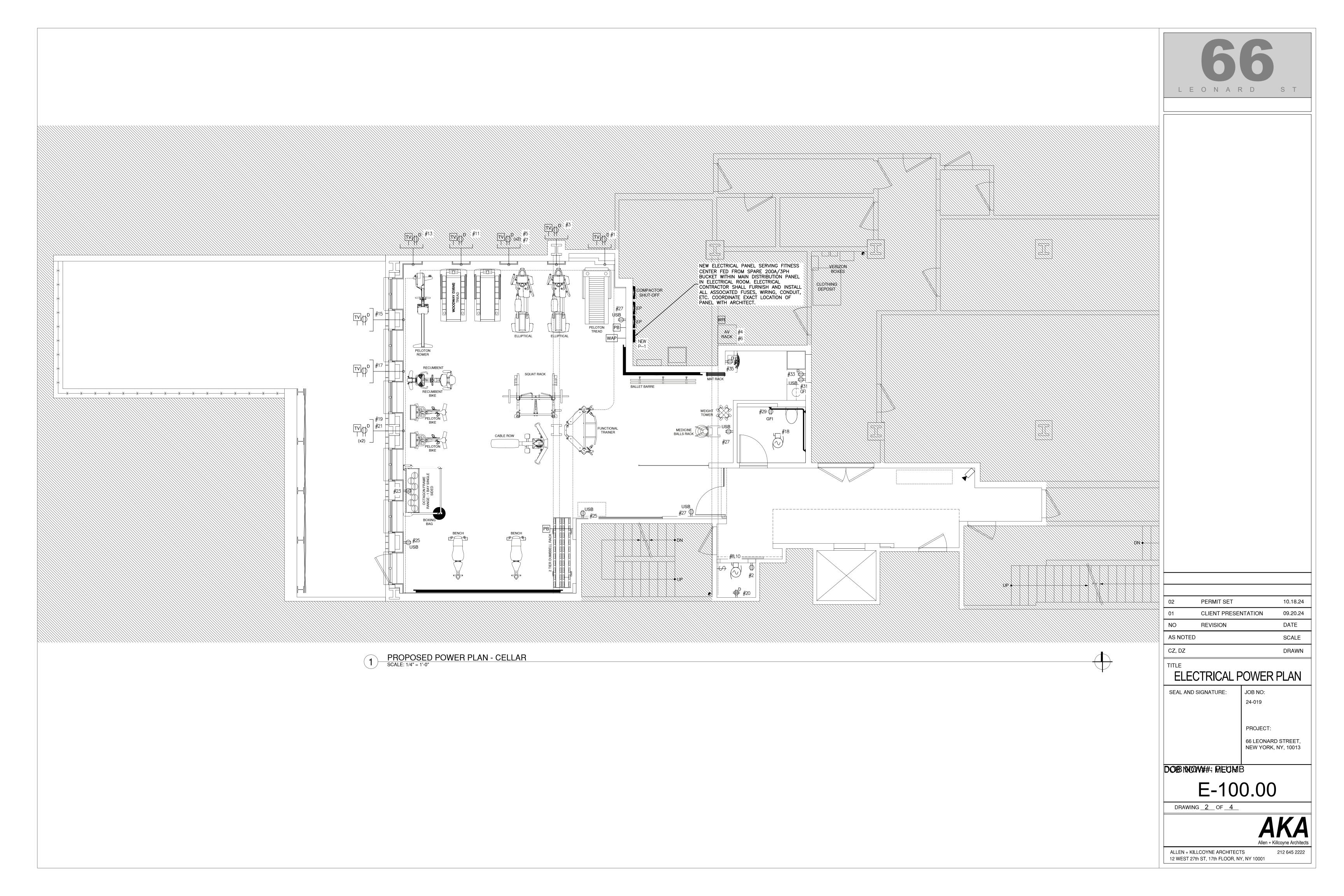
DRAWING <u>1</u> OF <u>4</u>

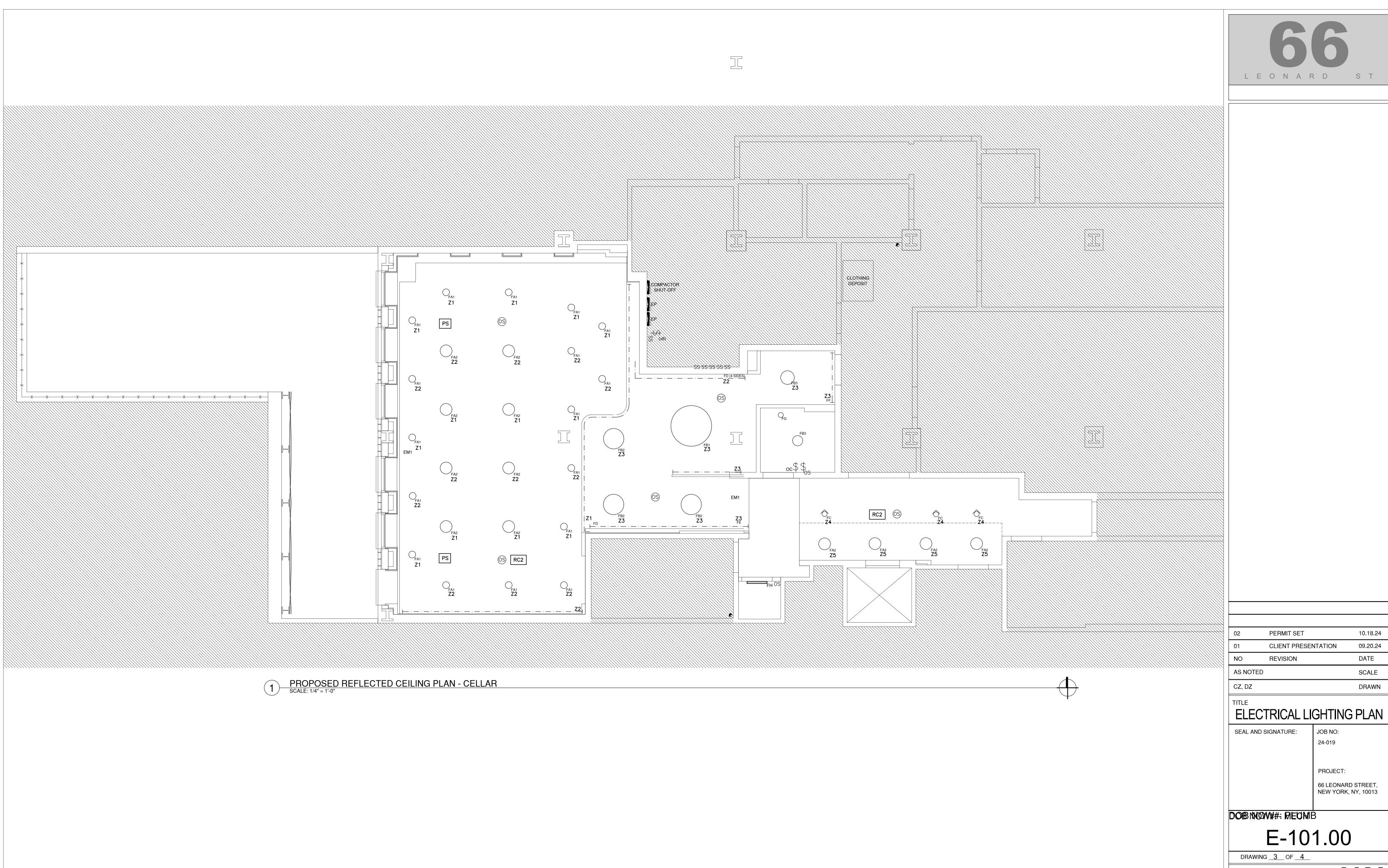
NEW YORK, NY, 10013

10.18.24

09.20.24

ALLEN + KILLCOYNE ARCHITECTS 12 WEST 27th ST, 17th FLOOR, NY, NY 10001





10.18.24 09.20.24 DATE

ALLEN + KILLCOYNE ARCHITECTS 12 WEST 27th ST, 17th FLOOR, NY, NY 10001

A. GENERAL

1. PERFORM ALL WORK IN ACCORDANCE WITH THE NEW YORK CITY ELECTRICAL CODE, O.S.H.A., PERTINENT NFPA CODES, THE RULES AND REGULATIONS OF ALL LOCAL, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION, AND ALL STANDARDS APPLIED BY THE BUILDING MANAGEMENT. PROVIDE OWNER WITH CERTIFICATES OF INSPECTION.

2. DO ALL NECESSARY CUTTING AND ROUGH PATCHING INCLUDING CORE DRILLING OF CONCRETE FLOOR SLAB AND FIRESTOPPING FOR INSTALLATION OF NEW FEEDER CONDUIT AND BRANCH CIRCUITS. THE FOLLOWING

- WORK WILL BE DONE BY OTHERS: FINISH PAINTING AND PATCHING 3. THESE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. ANY DIMENSIONS NOT SHOWN SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS. FOR EXACT LOCATIONS, HEIGHTS, DOOR SWINGS, MOUNTING HEIGHTS, ETC., REFER TO ARCHITECTURAL DRAWINGS AND
- 4. COORDINATE WORK WITH OTHER TRADES AND/OR EXISTING CONDITIONS. CONFER WITH OTHER CONTRACTORS PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH BUILDING CONSTRUCTION AND WITH ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE.
- 5. 5. BIDDERS, BEFORE SUBMITTING A PROPOSAL, SHALL VISIT AND EXAMINE CAREFULLY THE AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE; AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE
- BFFN FORESEEN HAD SUCH EXAMINATION BEEN MADE. 6. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION, AND ANY PORTIONS OF THE WORK WHICH DEVELOP DEFECTS DURING THAT TIME SHALL BE REPLACED OR REPAIRED IN A MANNER SATISFACTORY TO THE ARCHITECT AND/OR
- 7. FURNISH ADEQUATE LIABILITY INSURANCE AND BONDING AS REQUIRED BY THE OWNER.
- 8. PREPARE AND FURNISH TO THE OWNER "AS BUILT" PLANS FOR ALL WORK INSTALLED. 9. SUBMIT SHOP DRAWINGS TO THE OWNER AND/OR HIS ENGINEER FOR REVIEW COMMENTS BEFORE FABRICATION, PURCHASE, OR INSTALLATION OF ANY EQUIPMENT.
- 10. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY LIGHT AND POWER FOR THE NEW CONSTRUCTION AREAS, IN ACCORDANCE WITH ACCEPTED STANDARDS ESTABLISHED BY O.S.H.A. ENERGY COSTS WILL BE
- 11. ALL PARTS OF THE WORK AND ASSOCIATED EQUIPMENT SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION; THIS SHALL INCLUDE MEGGER TESTS BETWEEN PHASES AND BETWEEN EACH PHASE AND GROUND OF ALL FEEDERS, SUBFEEDERS AND PANELBOARDS. CORRECT DEFECTS DISCLOSED BY THESE TESTS WITHOUT ANY ADDITIONAL COST TO THE OWNER. REPEAT TESTS ON REPAIRED OR REPLACED WORK.
- 12. ALL WORK SHALL BE PERFORMED BY SKILLED LICENSED ELECTRICIANS. 13. ALL WORK AND MATERIALS SHALL CONFORM WITH THE REQUIREMENTS OF THE LATEST AMENDMENTS TO THE NEW YORK CITY ELECTRICAL CODE, NATIONAL ELECTRIC CODE, ANY APPLICABLE ENERGY CONSERVATION CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
- 14. PROVIDE MATERIALS AND EQUIPMENT LISTED BY UNDERWRITERS LABORATORIES, INC. EXCEPT IN THOSE CASES WHERE SUCH LISTING IS NOT AVAILABLE. COMPLY WITH THE LATEST APPLICABLE STANDARDS OF ANSI, ASTM,
- 15. PROVIDE ALL PANELS, FEEDERS, BRANCH CIRCUIT WIRING AND ALL ACCESSORIES AND SUPPORTS TO CONNECT TO THE EXISTING BUILDING DISTRIBUTION SYSTEM AND PROVIDE A COMPLETE OPERABLE ELECTRICAL SYSTEM. ALL WIRING AND EQUIPMENT TO BE SIZED PER CODE. COORDINATE WITH ALL EQUIPMENT TO PROVIDE POWER SUPPLY OF THE PROPER VOLTAGE, AMPACITY AND ARRANGEMENT.
- 16. SHORT CIRCUIT INTERRUPTING CURRENT RATINGS OF ALL PANELS, SWITCHES, FUSES AND CIRCUIT BREAKERS SHALL NOT EXCEED EXISTING BUILDING DISTRIBUTION SYSTEM CAPACITY.
- 17. FOR SHORT CIRCUIT INTERRUPTION AND PROPER SEQUENCE TRIPPING ALL PROTETIVE DEVICES UNDER OVERLOAD CONDITIONS, THE DEVICE NEAREST TO THE FAULT OR OVERLOAD SHOULD TRIP FIRST.

B. SCOPE OF WORK

- 1. NEW ELECTRICAL DISTRIBUTION PANELS, NEW PANELBOARDS AND ASSOCIATED FEEDERS AND CIRCUIT BRFAKERS.
- INSTALLATION OF A COMPLETE CONDUIT AND RACEWAY SYSTEM.
- ELECTRICAL DISTRIBUTION CONSISTING ON PANELBOARD, FEEDERS, MAIN CIRCUIT BREAKERS, CONDUITS. AND RACEWAYS. 4. GFI CIRCUIT BREAKERS IN ALL DAMP AREAS, WITHIN 6 FEET OF ANY WATER SOURCE, BATHS, KITCHENS AND
- EXTERIOR RECEPTACLES. 5. LIGHTING FIXTURES AS SPECIFIED BY THE ARCHITECT.
- LAMPS FOR ALL LIGHTING FIXTURES.
- 7. REMOVAL OF ALL (IF ANY) EXISTING DEVICES/EQUIPMENT THAT ARE NOT BEING REUSED. 8. BRANCH CIRCUITS FOR GÉNERAL LIGHTING AND POWER.
- 9. FUSES, MOLDED CASE CIRCUIT BREAKERS, HACR CIRCUIT BREAKERS AS REQUIRED.
- 10. WIRE AND CABLE 11. ELECTRICAL DEVICES AS SPECIFIED BY THE ARCHITECT, INCLUDING FINISH PLATES SUCH AS SWITCHES, RECEPTACLES, ETC..
- 12. POWER TO ALL EQUIPMENT AND APPLIANCES FURNISHED BY OTHERS. 13. LOCAL DISCONNECT SWITCHES OR MEANS OF DISCONNECT FOR ALL APPLIANCES AND EQUIPMENT.
- 14. COORDINATION OF ALL DEVICES WITH ARCHITECTURAL PLANS. 15. INSTALLATION OF DATA/TV COMMUNICATIONS SYSTEM.
- 16. COMPLETE GROUNDING AND BONDING FOR THE ENTIRE ELECTRICAL SYSTEM. 17. INSPECTIONS, FILING FEES & FINAL APPROVALS.

C. ALTERATION

- PERFORM ALL WORK WHEN AND AS DIRECTED. SUBMIT SCHEDULE FOR ACCEPTANCE.
- REMOVE ALL EXISTING DEVICES AND WIRING NOT SHOWN AS EXISTING TO REMAIN. ALL REMOVED ELECTRICAL RECEPTACLES, DATA/TELEPHONE OUTLETS, ETC. SHALL HAVE ALL THEIR ASSOCIATED WIRING PULLED BACK TO THEIR SOURCE AND CONDUIT REMOVED. 3. MAINTAIN CONTINUOUS SERVICE ON FEEDERS, CIRCUITS OR PARTIAL CIRCUITS, AND OUTLETS AFFECTED BY
- THIS WORK, EXCEPT WHERE OWNER GIVES WRITTEN PERMISSION FOR OUTAGE FOR SPECIFIED TIME. ADVISE OWNER THREE WORKING DAYS IN ADVANCE. WHEN THE OWNER AND/OR HIS ENGINEER SPECIFICALLY REQUESTS CERTAIN SPECIAL WORK TO BE DONE ON OVERTIME, INSTALL SUCH WORK ON OVERTIME; AND ONLY THE "PREMIUM" PORTION OF WAGES WILL BE PAID.
- 4. PROVIDE RECONNECTIONS AND TEMPORARY INSTALLATIONS AS REQUIRED; REMOVE AT JOB COMPLETION. 5. ALL EXISTING PANELS AFFECTED SHALL HAVE THEIR DIRECTORIES CORRECTED FOR NEW WORK, AND EXISTING REMAINING CIRCUITS VERIFIED. REMOVE EXISTING OVERCURRENT PROTECTION DEVICES AND PROVIDE NEW DEVICES IN EXISTING PANELBOARDS TO CONFORM WITH THE NEW PANEL SCHEDULES INDICATED ON THE
- DRAWINGS 6. MAINTAIN, STORE, CLEAN, AND REINSTALL ALL EXISTING DEVICES (INCLUDING POWER, DATA, FIRE ALARM, HVAC CONTROLS, VOICE, ETC.) INDICATED TO REMAIN. PROVIDE NEW WIRING AS REQUIRED TO MAINTAIN THESE DEVICES.

D. CONDUIT AND RACEWAYS

- 1. ALL WIRING FROM THE PANELBOARD TO THE FIRST CONCEALED JUNCTION BOX IN THE HUNG CEILING, WALL, OR RAISED FLOOR AND EXPOSED, IN DRY LOCATIONS, IS TO BE RUN IN GALVANIZED THINWALL CONDUIT (EMT). 3/4" MINIMUM.
- 2. ARMORED CABLE (BX) IS PERMISSIBLE FOR POWER WIRING IN CEILING, WALLS, OR FLOORS, FROM THE FIRST JUNCTION FORWARD. ALUMINUM MAY BE USED WHERE PERMITTED BY CODE.
- 3. WIRING IN WALLS SHALL RUN IN CONCEALED CONDUIT EXCEPT WHERE NOTED. WIRING IN CEILING SHALL RUN IN EXPOSED CONDUIT 4. HANGERS, SUPPORTS AND SLEEVES SHALL BE AS ACCEPTABLE TO THE ENGINEER. SUPPORT CONDUIT ON
- EACH SIDE OF BENDS AND NOT GREATER THAN 10'-0" ON CENTERS. 5. COORDINATE CONDUIT RUNS WITH EXISTING AND NEW WORK. RUN CONDUIT CLEAR OF SHAFTS, OPENINGS, CABLE SLOTS SLEEVES AND EQUIPMENT. DO NOT SUPPORT CONDUITS OR RACEWAYS FROM DUCTWORK
- OR FOUIPMENT 6. TERMINATE EACH CONDUIT WITH TWO LOCKNUTS, ONE INSIDE AND ONE OUTSIDE AND A BUSHING. USE ALUMINUM LOCKNUTS FOR ALUMINUM CONDUIT, AND MALLEABLE IRON OR GALVANIZED OR CADMIUM PLATED STEEL FOR STEEL CONDUITS. BUSHINGS SHALL BE THE INSULATED PLASTIC TYPE, TB SERIES 5LO OR AS ACCEPTABLE. WHERE CONDUITS LARGER THAN 2" SIZE ARE TERMINATED LOCKNUTS SHALL BE THE BONDING TYPE TB SERIES LOG, OR AS ACCEPTABLE. IF ALUMINUM BONDING LOCKNUTS ARE NOT AVAILABLE USE A
- BONDING WEDGE IN ADDITION UNDER THE INTERIOR ALUMINUM LOCKNUT. 7. WHERE CONDUITS LARGER THAN 1" SIZE TERMINATE IN CONCENTRIC KNOCKOUTS AND WHERE ALL OF THE KNOCKOUT RINGS HAVE NOT BEEN REMOVED, INSULATED GROUNDED BUSHING SHALL BE USED. INSULATED GROUNDED BUSHINGS SHALL BE CAST, THREADED TYPE EQUIPPED WITH A LUG FOR GROUNDING. UPPER EDGE SHALL HAVE A NYLON RING OR A BAKELITE RING WHICH IS MOLDED INTO THE BUSHING. GROUND LUG SHALL BE SIZED TO TAKE CONDUCTOR SIZED ACCORDING TO CODE WITH A MINIMUM SIZE OF #12 AWG.
- 8. WHERE ELECTRICAL METALLIC TUBING IS INSTALLED, THE CONNECTORS AND COUPLINGS SHALL BE THE NYLON INSULATED THROAT TYPE AS MANUFACTURED BY THE THOMAS BETTS CO., SERIES 5120 AND 5123 RESPECTIVELY, OR AS ACCEPTABLE. ON TUBING LARGER THAN 1" USE BONDING LOCKNUTS AS DESCRIBED ABOVE FOR RIGID CONDUIT
- 9. WHERE FLEXIBLE METALLIC CONDUIT IS INSTALLED, CONNECTORS SHALL BE THE "TITE BITE" TYPE WITH NYLON INSTALLED THROATS AS MANUFACTURED BY THE THOMAS BETTS CO., SERIES 3110 OR AS ACCEPTABLE. 10. ALL FINAL CONNECTIONS TO VIBRATING EQUIPMENT SHALL BE MADE WITH FLEXIBLE GALVANIZED STEEL CONDUIT IN LENGTHS NOT EXCEEDING 18 INCHES. IN WET OR DAMP LOCATION SUCH AS THE CELLAR USE LIQUID-TIGHT FLEXIBLE METAL CONDUIT.

E. CONDUCTORS

- 1. ALL WIRES AND CABLES FOR CONDUCTORS #2 AWG AND SMALLER FOR BRANCH CIRCUITS IN CONDUIT AND UNDERFLOOR CELLS SHALL BE THHN. ALL WIRE AND CABLE FOR CONDUCTORS AWG #1 AND LARGER SHALL BE THWN. NO WIRE SMALLER THAN #12 AWG SHALL BE USED FOR LIGHT OR POWER SERVICES. ALL CONDUCTORS SHALL BE COPPER UNLESS SHOWN OTHERWISE. CONNECTIONS FOR WIRE #8 AND SMALLER
- SHALL BE MADE WITH TB "PIGGY PIGTAILS" OR AS ACCEPTABLE 2. ALL WIRE AND CABLES IN PULL, SPLICE AND CABLE SUPPORT BOXES, IN PANELS AND POINTS OF TERMINATION SHALL BE BUNDLED AND LACED BY CIRCUITS AND TAGGED USING NYLON TIEWRAP MATERIAL AND USING FLAME RESISTING TAGS OF ADHESIVE MATERIAL. TAGS SHALL IDENTIFY CABLES AND PIECES OF EQUIPMENT SERVED. TAGS SHALL BE TB "TY-RAP" OR "E-Z-CODE" OR AS ACCEPTABLE.
- 3. ALL #8 AWG WIRE AND LARGER SHALL BE STRANDED. ALL #10 AWG WIRE AND SMALLER SHALL BE SOLID. VOLTAGE RATING OF INSULATION SHALL BE 600 VOLTS.
- 4. RECESSED LIGHTING FIXTURES IN HUNG CEILING SHALL BE SUPPLIED WITH TYPE THHN INSULATED WIRE IN FLEXIBLE METALLIC CONDUIT, IN LENGTHS NOT EXCEEDING SIX FEET, FROM ADJACENT JUNCTION BOXES. 5. ALL LOW VOLTAGE CABLING INSTALLED EXPOSED IN HUNG CEILING SHALL BE TEFLON JACKETED AND PLENUM
- 6. FACTORY COLOR CODING FOR WIRE AND CABLE SHALL BE AS FOLLOWS: 120/208 VOLTS BLACK, RED, BLUE AND WHITE FOR PHASES A, B,C, AND NEUTRAL, RESPECTIVELY. 277/480 VOLTS - BROWN, YELLOW, ORANGE, AND WHITE FOR PHASES A, B, C, AND NEUTRAL, RESPECTIVELY. GROUND WIRE SHALL BE GREEN.

- F. POWER MATERIALS AND WIRING DEVICES
- 1. FURNISH AND INSTALL ALL BOXES, FITTINGS, DEVICES, RACEWAYS, CONDUCTORS, CONNECTIONS, MOUNTING ACCESSORIES, ADAPTERS AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE ELECTRICAL INSTALLATION.
- 2. ELECTRICAL OUTLETS SHALL BE INSTALLED VERTICALLY UNLESS NOTED TO THE CONTRARY, THOSE LOCATED ON INTERIOR COLUMNS SHALL BE CENTERED LATERALLY. 3. MOUNTING HEIGHTS OF CONVENIENCE RECEPTACLES SHALL BE AS PER ARCHITECT. WHERE COUNTER AREAS CONFLICT WITH RECEPTACLES, MOUNT RECEPTACLES ABOVE BACK SPLASH.
- 4. USE CAST BOXES FOR EXPOSED WORK; ALL OTHER OUTLET BOXES SHALL BE SHEET STEEL AND GALVANIZED. ALL LOCAL SWITCHES EXCEPT AS OTHERWISE INDICATED SHALL BE ROCKER TYPE 20 AMPERE, 120-277V CAPACITY WITH FULLY ENCLOSED COMPOSITION CASES. SHALL CONFORM TO NEMA STANDARD WD-1 FOR HEAVY DUTY SWITCHES, AND SHALL BE LEVITON DECORA SERIES OR AS ACCEPTABLE. COORDINATE COLOR
- WHOSE WORK MIGHT AFFECT THIS INSTALLATION; AND ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN 6. DUPLEX WALL MOUNTED RECEPTACLES, INCLUDING GFI RECEPTACLES, SHALL BE 2 POLE, 3 WIRE, GROUNDED 15 AMPERE LEVITON DECORA SERIES [OR APPROVED EQUAL]. 7. DEVICE PLATES SHALL BE AS DIRECTED BY ARCHITECT.
 - G. LIGHTING FIXTURES AND LAMPS

1. NEW LIGHT FIXTURES SHALL BE AS FOLLOWS:

- 1.1. PROVIDE LIGHT FIXTURES AS SPECIFIED ON THE ARCHITECTURAL DRAWINGS. 1.2. EXIT SIGNS, STAIRS AND EGRESS CORRIDOR LIGHTS SHALL BE WITH EMERGENCY BATTERY PACKS FOR 90 MINUTE MINIMUM BACKUP CAPABILITY AT FULL LOAD.
- 2. ALL NEW FLUORESCENT LAMPS AND ELECTRONIC BALLASTS SHALL BE HIGH EFFICIENCY ENERGY SAVING TYPE AS FOLLOWS: 2.1. LAMPS SHALL BE GENERAL ELECTRIC TYPE F32 T-8.
- 2.2. ELECTRONIC BALLASTS SHALL BE ADVANCE, MOTOROLA OR MAGNETEK WITH A MINIMUM BALLAST EFFICIENCY FACTOR (BEF) OF 1.15. FINISHES SHALL BE AS SELECTED BY ARCHITECT.
- 4. COMPONENTS SHALL BE SUITABLE FOR THE VOLTAGE OF THE BUILDING CIRCUITS TO WHICH THEY ARE

6. BLEMISHED, DAMAGED OR UNSATISFACTORY LUMINAIRES SHALL BE REPLACED IN A MANNER SATISFACTORY TO

- 5. SHALL BE COMPLETE WITH ALL APPURTENANCES NECESSARY FOR THEIR PROPER OPERATION, INSTALLATION AND SUPPORT
- THE ARCHITECT 7. IMMEDIATELY PRIOR TO OCCUPANCY, THE CONTRACTOR SHALL CLEAN ALL REFLECTOR CONES, APERTURE PLATES, LENSES, DIFFUSERS, LOUVERS, LAMPS AND DECORATIVE ELEMENTS. UPON COMPLETION OF THE INSTALLATION OF LUMINAIRES AND AT THE TIME OF FINAL INSPECTION, ALL LUMINAIRES MUST BE CLEAN AND
- FREE FROM DEFECTS, AND ANY PARTS BROKEN PRIOR TO THE FINAL INSPECTION SHALL BE REPLACED. 8. LUMINAIRES SHALL BE INSTALLED AT THE MOUNTING HEIGHTS SHOWN AND AS DETAILED ON THE DRAWINGS, OR AS DIRECTED. PENDANT LUMINAIRES IN THE SAME ROOM OR AREA SHALL BE INSTALLED PLUMB AND AT UNIFORM HEIGHTS ABOVE THE FINISHED FLOOR, UNLESS DIRECTED OTHERWISE. ADJUSTMENT OF HEIGHT SHALL BE MADE DURING INSTALLATION.
- 9. ALL WIRE UTILIZED FOR CONNECTIONS TO OR BETWEEN, INDIVIDUAL LAMP SOCKETS AND LAMP AUXILIARIES (I.E. WIRES WHICH DO NOT CONSTITUTE "THROUGH CIRCUIT" WIRING) SHALL BE MINIMUM #16 GAUGE, INDUSTRY STANDARD, FIXTURE WIRE SUITABLE FOR THE TEMPERATURE, CURRENT, AND VOLTAGE CONDITIONS TO WHICH IT IS SUBJECTED 10. INTERNAL WIRING SHALL CONTAIN A MINIMUM NUMBER OF SPLICES.
- 11. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED 12. LIGHTING FIXTURES SHALL BE CONSTRUCTED WITH JOINTS MADE ONLY BY MEANS OF WELDED, BRAZED, SCREWED, OR BOLTED CONSTRUCTION METHODS. SOLDERED JOINTS WILL NOT BE PERMITTED. NO SELF-TAPPING SCREWS, BLED METAL TAPPING METHODS, OR RIVETS, SHALL BE EMPLOYED FOR FASTENING ANY PARTS TO OR IN ANY WIREWAY OR WIRING CHAMBER, FOR FASTENING ANY PARTS WHICH MUST BE REMOVED TO GAIN ACCESS TO ELECTRICAL COMPONENTS REQUIRING SERVICE OR REPLACING, OR FOR
- 13. ANY FERROUS PARTS AND SUPPORTS, OTHER THAN PARTS MANUFACTURED OF STAINLESS STEEL, SHALL BE COMPLETELY RUSTPROOFED AFTER FABRICATION, AND BEFORE FINISH COATINGS ARE APPLIED. RUSTPROOFING M. MOTOR STARTERS SHALL BE BY MEANS OF GALVANIZING, BONDERIZING, ZINC PLATING, OR BY TREATMENT WITH OTHER INDUSTRY STANDARD RUST PREVENTING PROCESSES PROVIDING RUSTPROOFING QUALITIES EQUAL TO THE PROCESSES MENTIONED. 14. ALL SCREWS, BOLTS, NUTS AND OTHER FASTENING AND LATCHING HARDWARE SHALL BE CADIUM PLATED.

FASTENING ANY ELECTRICAL COMPONENT OR SUPPORT FOR SAME.

- 15. ALL METALLIC CAST OR EXTRUDED PARTS SHALL BE CLOSE GRAINED, SOUND, AND FREE FROM IMPERFECTIONS OR DISCOLORATIONS. CAST OR EXTRUDED PARTS SHALL BE RIGID, TRUE TO PATTERN, AND OF AMPLE WEIGHT AND THICKNESS. CAST OR EXTRUDED PARTS SHALL BBE PROPERLY FITTED, FILED, GROUND, BUFFED, AND CHASED TO PROVIDE FINISHED SURFACES AND JOINTS FREE OF IMPERFECTION WITH ALL DETAILS OF ORNAMENTATION BROUGHT OUT. FINISHED THICKNESS OF ALL CAST PARTS SHALL NOT BE LESS THAN 1/8"C.
- 16. RECESSED FIXTURES SHALL BE OF A TYPE WHICH COORDINATES PROPERLY WITH THE CEILING CONSTRUCTION IN WHICH THEY ARE TO BE MOUNTED.
- 17. ALL SUPPORTING ELEMENTS SHALL BE ADEQUATE FOR THE SUPPORTED WEIGHT. 18. ALL STEM HANGERS SHALL BE EQUIPPED WITH SUITABLE ALIGNER BOX COVERS OR CANOPIES SO THAT
- STEMS HANG VERTICALLY IRRESPECTIVE OF THE ANGLE OF THE SURFACE THEY ARE MOUNTED 19. WHEREVER A FIXTURE OR ITS HANGER CANOPY IS APPLIED TO A SURFACE MOUNTED OUTLET BOX A FINISHING RING SHALL BE UTILIZED TO CONCEAL THE OUTLET BOX.
- 20. ALL LAMP SOCKETS IN LIGHTING FIXTURES SHALL BE SUITABLE FOR THE INDICATED LAMPS AND SHALL BE SET SO THAT LAMPS ARE POSITIONED IN OPTICALLY CORRECT RELATION TO LENSES, REFLECTORS, BAFFLES,
- 21. FACE PLATES OR FRAMES OF RECESSED FIXTURES WHICH SERVE AS CEILING TRIM AND WHICH ALSO SWING TO ALLOW ACCESS TO THE INTERIOR OF THE FIXTURES SHALL BE GASKETED AND POSITIVELY HELD TO FIXTURE BODIES BY SCREWS OR OTHER ADJUSTABLE MEANS THAT PERMIT THE FACEPLATES OR FRAMES TO BE DRAWN UP TO THE CEILING AS TIGHT AS NECESSARY TO INSURE COMPLETE CONTACT WITHOUT ANY LIGHT LEAKS WHATSOEVER AT THEIR PERIMETERS.
- 22. ALL LENSES. LOUVERS. OR OTHER LIGHT DIFFUSING ELEMENTS SHALL BE REMOVABLE, BUT POSITIVELY HELD SO THAT HINGING OR OTHER NORMAL MOTION WILL NOT CAUSE THEM TO DROP OUT. 23. FIXTURES FOR USE OUTDOORS OR IN AREAS DESIGNATED AS DAMP LOCATIONS, SHALL BE SUITABLE GASKETED TO PREVENT THE ENTRANCE OF MOISTURE. 24. HOUSING SHALL BE SO CONSTRUCTED THAT ALL ELECTRICAL COMPONENTS ARE EASILY ACCESSIBLE AND
- REPLACEABLE WITHOUT REMOVING THEM FROM THEIR MOUNTINGS. 25. ONLY SINGLE AND/OR TWO LAMP FLUORESCENT BALLASTS, SHALL BE USED IN ANY ONE LUMINAIRE. BALLAST SHALL HAVE MANUFACTURER'S LOWEST SOUND LEVEL RATING. 26. EACH BALLAST SHALL BE INDIVIDUALLY PROTECTED
- 27. ALL BALLASTS FOR FLUORESCENT LAMPS USED ON DIMMED CIRCUITS SHALL BE OF THE DIMMING TYPE. 28. FLUORESCENT LAMP BALLASTS, SHALL BE RIGIDLY MOUNTED TO THE INSIDE OF THE TOP OF LIGHTING FIXTURE HOUSINGS, WITH BALLAST SURFACES AND HOUSING IN COMPLETE CONTACT FOR EFFICIENT
- CONDUCTION OF BALLAST HEAT. 29. WHERE SO DIRECTED BY THE ARCHITECT, CERTAIN LUMINAIRES SHALL BE TEMPORARILY INSTALLED, CONNECTED AND ADJUSTED FOR MOCK-UP PURPOSES. THIS SHALL BE DONE AT NO COST TO THE OWNER. 30. THE CONTRACTOR SHALL PROVIDE MANPOWER AND TOOLS FOR FINAL FOCUSING, UNDER THE ARCHITECT'S
- SUPERVISION, OF ALL ADJUSTABLE LUMINAIRES AFTER REGULAR WORKING HOURS WHEN NECESSARY. 31. SUBMIT MANUFACTURERS CERTIFICATION THAT LIGHTING FIXTURES COMPLY WITH THE REQUIREMENTS OF ALL ELECTRIC CODE AUTHORITIES HAVING JURISDICTION. 32. CERTIFICATION THAT BALLASTS AND TRANSFORMERS FOR DISCHARGE TYPE LAMPS COMPLY WITH THE LATEST
- C.B.M. SPECIFICATIONS WHICH HAVE BEEN ISSUED. 33. SUBMIT PHOTOMETRIC DATA, ESTABLISHED BY AN INDEPENDENT TESTING LABORATORY, IN ACCORDANCE WITH INSTRUCTIONS ISSUED BY THE ARCHITECT.

H. NEW/EXISTING PANELBOARD

- 1. PANELBOARD SHALL BE OF THE ENCLOSED TYPE, FLUSH OR SURFACE MOUNTED AS INDICATED IN SCHEDULE. IN STEEL CABINETS - CODE GAUGE, WITH STEEL TRIM, CONCEALED HINGES, DOORS AND FLUSH TYPE LOCK. 2. ALL BUSSES, INCLUDING NEUTRAL BUS, SHALL BE MINIMUM 98 PERCENT CONDUCTIVITY, HARD-DRAWN
- COPPER, SILVER OR TIN PLATED JOINTS AND SIZED ON THE BASIS OF 1,000 AMPERES PER SQUARE INCH CROSS-SECTIONAL AREA. BUSSES SHALL BE ARRANGED FOR SEQUENCE PHASING. 3. GROUND BUS 25% OF PHASE CAPACITY. PANELBOARDS SHALL BE EQUIPPED WITH BOLT-ON MOLDED CASE CIRCUIT BREAKERS OF THE TYPE, NUMBER
- OF POLES, TRIP SIZES AS INDICATED ON SCHEDULES. INTERRUPTING CAPACITY SHALL BE BUILDING STANDARD OR RETTER 5. CABINET SHALL BE SUFFICIENT SIZE TO ALLOW A GUTTER SPACE OF AT LEAST SIX INCHES ON SIDE TOP AND
- 6. BACK BOXES SHALL BE CONSTRUCTED OF CODE GAUGE SHEET STEEL, GALVANIZED, TRIM SHALL BE PRIMED FOR FINISH PAINTING BY OTHERS. 7. DOORS AND TRIM SHALL BE IN ONE PIECE SO DESIGNED THAT DOORS WILL OPEN 180 DEGREES. DOORS SHALL BE FASTENED TO TRIMS WITH SEMI-CONCEALED 5 KNUCKLE STEEL WITH NON-FERROUS PINS. TRIMS
- SHALL BE FASTENED TO BACK BOXES BY MEANS OF SCREWS. 8. A CIRCUIT DIRECTORY WITH METAL FRAMES AND GLASSINE PAGE SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. UPON COMPLETION OF THE PROJECT, THE DIRECTORIES SHALL BE TYPEWRITTEN, INDICATING THE SERVICE CONTROLLED BY EACH CIRCUIT. DIRECTORIES TO BE COMPLETELY FILLED IN TO CONFORM TO NEW FINAL ARRANGEMENT OF CIRCUITS.
- 9. PHASE LEGS OF ALL NEW PANELS SHALL BE BALANCED AT SUPPLY POINT. ANY PANEL FOUND WITH UNBALANCED LOADS SHALL HAVE ITS CIRCUITS REARRANGED AS REQUIRED TO BALANCE PHASE LEGS.

I. LOW VOLTAGE FUSES

THE SAME MANUFACTURER.

- 1. PROVIDE FUSES FOR ALL ELECTRICAL DISTRIBUTION, MOTOR CONTROL EQUIPMENT AND ACCESSORIES AS REQUIRED AND SPECIFIED ON CONTRACT DRAWINGS TO DISTRIBUTE ELECTRICAL POWER TO ALL MOTORS, OUTLETS, AND SYSTEMS REQUIRING POWER. 2. EXCEPT AS MODIFIED BY GOVERNING CODES, ALL EQUIPMENT SHALL BE MANUFACTURED IN ACCORDANCE WITH
- THE LATEST APPLICABLE STANDARDS: UL STANDARD 198. 3. PRODUCT DATA: PROVIDE MANUFACTURER'S CATALOG INFORMATION SHOWING FUSE TIMECURRENT CURVES, AND FUSE LET-THROUGH CURVES FOR EACH TYPE OF FUSE. 4. SUBMIT LISTING OF ALL TYPES, SIZES AND QUANTITY OF FUSES WHICH WILL BE INSTALLED INCLUDING THE
- LOCATION OF EACH. 5. PROVIDE FUSES IN ALL DEVICES REQUIRING FUSES OF THE TYPES AND AMPERE RATINGS REQUIRED. FUSES SHALL HAVE THE PROPER VOLTAGE RATING, COORDINATED WITH VOLTAGE AT THE POINT OF APPLICATION. ALL FUSES SHALL BE OF THE HIGH INTERRUPTING RATING (300,000 AMPERES SYM RMS), CURRENT LIMITING TYPE, AND BE LISTED AND LABELED BY UNDERWRITERS' LABORATORIES INC. ALL FUSES SHALL BE OF
- 6. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT FUSES LPN-RK-(AMP)SP (250 VOLTS), LPS-RK-(AMP)SP (600 VOLT), OR LPJ-(AMP)SP (600 VOLT). ALL DUAL ELEMENT FUSES SHALL HAVE A SEPARATE OVERLOAD AND SHORT-CIRCUIT ELEMENTS. FUSES SHALL HAVE A SPRING ACTIVATED THERMAL OVERLOAD ELELMENT HAVING A 284 DEGREE FAHRENHEIT MELTING POINT ALLOY AND SHALL BE INDEPENDENT OF THE SHORT-CIRCUIT CLEARING CHAMBER. THE FUSE SHALL HOLD 500% OF RATED CURRENT FOR A MINIMUM OF 10 SECONDS (30A, 250V RK1 CASE SIZE SHALL

BE A MINIMUM OF 8 SECONDS AT 500% OF RATED CURRENT) AND BE LISTED BY UNDERWRITERS LABORATORIES INC., WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL. THE FUSES SHALL BE TIME DELAY UL CLASS RK1 OR J TO MAINTAIN THE ENGINEERED PROTECTION OF THE SYSTEM COMPONENTS. FUSES SHALL BE "LOW-PEAK YELLOW" IN COLOR. NOTICE LABELS TO ALERT THE END USER OF THE ENGINEERED LEVEL OF PROTECTION OF THE ELECTRICAL EQUIPMENT, SHALL BE FIELD INSTALLED BY THE ELECTRICAL CONTRACTOR. THEY SHALL BE MARKED WITH THE PROPER FUSE RATING, PER THE SPECIFICATIONS, AND PLACED IN A CONSPICUOUS LOCATION ON THE ENCLOSURE. THESE LABELS ARE AVAILABLE UPON REQUEST FROM BUSSMANN.

- 7. UPON COMPLETION OF THE BUILDING, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH SPARE FUSES AS SHOWN BELOW:
- 7.1. 10% (MINIMUM OF 3) OF EACH TYPE AND RATING INSTALLED FUSES SHALL BE SUPPLIED AS SPARES. 7.2. BUSSMANN SPARE FUSE CABINETS - CATALOG NO. SFC - SHALL BE PROVIDED TO STORE THE ABOVE SPARES. THE SPARE FUSE CABINET (SFC) SHALL INCLUDE A SUPPLY OF "LOW-PEAK YELLOW NOTICE" LABELS. LOCATION OF THE SPARE FUSE CABINET SHALL BE AS DIRECTED BY THE ENGINEER
- ALL MATERIAL INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND THE PROVISIONS OF APPLICABLE CODES.

J. DISCONNECT SWITCHES

- 1. DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND BE INSTALLED WHERE REQUIRED BY CODE. THEY SHALL BE HORSEPOWER RATED UNITS TO MAXIMUM SIZES LISTED BY UL 2. DISCONNECT SWITCHES SHALL BE LOCATED WHERE THEY ARE READILY ACCESSIBLE; AND CAPABLE OF BEING USED WITHOUT REACHING AROUND. ABOVE, UNDER, ETC., OTHER EQUIPMENT AND OR OBSTRUCTIONS.
- 3. PROVIDE QUICK-MAKE, QUICK-BREAK MECHANISM WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE NORMAL ACCESS TO INSIDE OF ENCLOSURE WHEN DISCONNECT IS IN THE "OFF" POSITION ONLY. PROVIDE MEANS TO LOCK THE HANDLE IN THE "OPEN" AND THE "CLOSED" POSITION. DESIGNATE ON THE ENCLOSURE THE "OPEN" AND "CLOSED" POSITION OF THE
- OPERATING HANDLE. 4. SWITCHES SHALL BE FUSED OR UNFUSED AS INDICATED ON THE DRAWINGS AND/OR AS REQUIRED.

K. GROUNDING

- 1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN A CODE APPROVED MANNER.
- FIRE PUMP SHALL COMPLY WITH NYC ELECTRIC CODE 2011 ARTICLE 695.

9. FUSES SHALL NOT BE INSTALLED UNTIL EQUIPMENT IS READY TO BE ENERGIZED.

- . TAP FOR POWER SHALL BE MADE AHEAD OF AND NOT WITHIN THE SAME ENCLOSURE AS THE MAIN SERVICE DISCONNECT SWITCH.
- POWER SHALL BE PROVIDED TO THE FIRE PUMP PER SECTION 695.3. I. DISCONNECT TO THE FIRE PUMP SHALL BE SUITABLE FOR USE AS SERVICE EQUIPEMENT, BE LOCKABLE IN THE CLOSED POSITION, NOT LOCATED WITHIN EQUIPMENT THAT FEEDS LOADS OTHER THAN THE FIRE PUMP. AND BE LOCATED AS REMOTE AS PRACTICABLE FROM OTHER SERVICE DISCONNECT MEANS WITH A MINIMUM SEPARATION OF 12." tHE DISCONNECT SHALL BE MARKED" FIRE PUMP DISCONNECT," THE LETTERS TO BE AT LEAST 1" IN HEIGHT AND BE VISIBLE WITHOUT OPENING THE ENCLOSURE. THE DISCONNECT SHALL BE
- RED IN COLOR. 5. SUPPLY CONDUCTORS TO THE FIRE PUMP SHALL BE PHYSICALLY ROUTED OUTSIDE A BUILDING OR INSTALLED
- IN ACCORDANCE WITH SECTION 230.6(1),(2),(4),(5). 6. FIRE PUMP SUPPLY CONDUCTORS SHALL BE INDEPENDENT OF ALL OTHER WIRING AND DEDICATED TO THE FIRE PUMP SYSTEM. IT SHALL BE ENCASED IN A MIN OF 2" OF CONCRETE USING RMC,IMC,OR EMT. OR USING RMC WITH A LISTED 2 HR RATED ENCLOSURE, OR A LISTED ELECTRICAL PROTECTIVE SYSTEM WITH A MIN 2 HR RATING. SUPPLY CONDUCTORS LOCATED IN THE ELECTRICAL SERVICE ROOM AND GENERATOR ROOM WHERE THEY ORIGINATE AND IN THE FIRE PUMP ROOM SHALL NOT BE REQUIRED TO HAVE THE MINIMUM 2
- 7. ALL WIRING FROM THE CONTROLLERS TO THE PUMP MOTORS SHALL BE IN RMC. LIQUID TIGHT FLEXIBLE METAL CONDUIT MAX 36" IS PERMITTED FOR FINAL CONNECTION TO MOTOR TERMINAL HOUSING. 8. ALL FIRE PUMP CONTROL WIRING SHALL BE IN RMC, IMC, OR LIQUIDTIGHT FLEXIBLE METAL CONDUIT.

- STARTER SHALL COMBINE THE REQUIREMENTS OF MOTOR OVERLOAD AND SHORT CIRCUIT PROTECTION. STARTERS SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA STANDARDS AND UL LISTED. STARTERS SHALL OPERATE AT 600 VOLTS, 60 HERTZ. F. STARTERS SHALL BE VERFIED BY UL TO COMPLY WITH TYPE 2 COORDINATION. IN OTHER WORDS, THE
- COMPONENTS OF A MOTOR BRANCH CIRCUIT, THE SHORT CIRCUIT PROTECTIVE DEVICE (FUSES OR CIRCUIT BREAKER), CONTACTOR AND OVERLOAD RELAY SHALL BE SUITABLE FOR FURTHER USE FOLLOWING A SHORT CIRCUIT FAULT. 5. PROVIDE COMBINATION STARTERS WITH EITHER FUSIBLE OR NON-FUSIBLE DISCONNECT SWITCHES AS
- INDICATED ON THE DRAWINGS. 6. PROVIDE A VISIBLE BLADE SWITCH FOR COMBINATION DISCONNECT SWITCH TYPE STARTERS.

7. STARTERS SHALL BE MANUFACTURED BY SQUARE 'D' OR APPROVED EQUAL

M. MECHANICAL SYSTEMS

1. THE CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING FOR THE MECHANICAL SYSTEMS, STARTERS WILL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRIC CONTRACTOR. CONSULT MECHANICAL DRAWINGS FOR THE EXTENT OF THIS WORK AND FOR EQUIPMENT LOCATIONS.

N. TELEPHONE/DATA/TV COMMUNICATIONS SYSTEM

- ELECTRICAL CONTRACTOR IS TO PROVIDE TELEPHONE/DATA/TV COMMUNICATIONS OUTLET BOXES WITHOUT COVERPLATES. COVER PLATES TO BE PROVIDED BY OTHERS. ALL WALL MOUNTED OUTLETS SHALL BE 2"X4". 2. ELECTRICAL CONTRACTOR IS TO PROVIDE TELEPHONE/DATA/TV COMPLETE WIRING AND PUNCHING DOWN. PHONE/DATA/TV CABLES SHALL BE CAT 5 OR CAT3 AS INDICATED ON DRAWINGS. THE CONNECTORS SHALL
- BE RJ 45 OR AS INDICATED ON DRAWINGS. 3. BOTH ENDS OF THE CABLES SHALL BE LABELED AND CONNECTIVITY REPORT PROVIDED. 4. PROVIDE FOR SECURITY SYSTEM EMPTY CONDUITS WITH A DRAG LINE, BOTH ENDS LABELED. COORDINATE THE SIZE OF CONDUITS AND ROUTE WITH ARCHITECT AND SYSTEM VENDOR.
- TELEPHONE/DATA WIRING WITH THE OWNER AND HIS CONTRACTOR(S) AND PROVIDE LARGER CONDUITS IF 6. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO LABEL BOTH ENDS OF THE TELEPHONE/DATA

5. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE ALL CONDUIT SIZES FOR

STRUCTURED CABLING. O. COMBINATION CARBON MONOXIDE AND SMOKE ALARMS.

- A. LOCATIONS 1. COMBINATION CO/SMOKE ALARMS SHALL BE INSTALLED IN THE CEILING OR WALL OF EACH ROOM USED FOR SLEEPING PURPOSES WITHIN 15FT FROM THE DOOR TO SUCH ROOM.
- 2. IN EACH ROOM USED FOR SLEEPING PURPOSES. IN EACH STORY WITHIN A DWELLING UNIT, INCLUDING BELOW-GRADE STORIES AND PENTHOUSES OF ANY AREA, BUT NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS. 4. CEILING MOUNTED DEVICES SHALL BE A MINIMUM DISTANCE OF 4" FROM ANY WALL. WALL MOUNTED DEVICES SHALL BE A MINIMUM OF 4" TO A MAXIMUM OF 12" FROM THE CEILING.
- B. POWER SOURCE 1. REQUIRED COMBINATION ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM A DEDICATED BRANCH CIRCUIT OR THE UNSWITCHED PORTION OF A BRANCH CIRCUIT ALSO USED FOR POWER AND LIGHTING, AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVER-CURRENT PROTECTION.
- D. INTERCONNECTION . WHEN MORE THAN ONE COMBINATION ALARM OR DETECTOR IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM OR DETECTOR WILL ACTIVATE ALL OF THE ALARMS OR DETECTORS IN THE INDIVIDUAL UNIT. THE ALARM OR DETECTOR SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
- 1. COMBINATION ALARMS SHALL BE INSTALLED TO THE 2014 NYC BC, HOUSING MAINTENANCE CODE, THE MULTIPLE DWELLING LAW, AND ALL OTHER PERTINENT REGULATIONS. COMBINATION CO/SMOKE ALARMS SHALL BE BY KIDDIE UNIT NUMBER KN-COPE-1 OR APPROVED EQUAL. IT SHALL BE POWERED BY 120VAC, 60HZ SOURCE WITH A 9V BATTERY BACKUP. TEMPERATURE

RANGE SHALL BE BETWEEN 40F AND 100F AND THE HUMDITY OPERATING RANGE SHALL BE 5%-85%

- RELATIVE HUMIDITY. F. TESTING 1. ALL SYSTEMS SHALL BE TESTED AFTER FINAL INSTALLATION TO PROVE SYSTEM OPERATES AS INTENDED.
- P. SUBMITTALS 1. MANUFACTURERS AND SHOP DRAWINGS OF THE FOLLOWING APPARATUS, GIVING FULL FITNESS AND OTHER PERTINENT FACTS, SHALL BE SUBMITTED TO THE ARCHITECT AND CONSULTING ENGINEER AND THEIR
- APPROVAL SECURED BEFORE APPARATUS IN QUESTION IS ORDERED, BUILT, OR INSTALLED. 1.1. LIGHT FIXTURES AND BALLASTS. 1.2. DEVICES (RECEPTACLES, SWITCHES, ETC.)
- 1.3. FLOOR RECEPTACLES. 1.4. PANELBOARDS.

D. REGULATIONS

1.5. DISCONNECT SWITCHES.

Q. PROCEDURES

- 1. ALL WIRING SHALL BE IDENTIFIED BY CIRCUIT NUMBERS IN ALL CABINETS, BOXES, WIRING TROUGHS, OTHER ENCLOSURES, AT ALL SPLICES, TERMINATION POINTS, ETC.
- 2. ALL ANCHORS, FASTENERS, CLAMPS, ETC., SHALL BE MADE OF STEEL AND SHALL NOT CONTAIN ANY LEAD, 3. ALL TIMES WHEN CORE DRILLING AND POKE THROUGHS IS PERMISSIBLE SHALL BE COORDINATED WITH THE BUILDING MANAGEMENT. OVERTIME FOR THIS WORK WILL NOT BE RECOGNIZED AS AN EXTRA TO THE BASE PROPOSAL 4. UPON COMPLETION OF INSTALLATION OF ALL SYSTEMS THE CONTRACTOR SHALL CERTIFY SUCH TO THE
- OWNER AND OR HIS REPRESENTATIVE AND PROVIDE TESTS IN THE PRESENCE OF MENTIONED REPRESENTATIVES 5. THE CONTRACTOR SHALL PROVIDE ALL INSTRUCTIONS REQUIRED FOR THE OPERATING PERSONNEL TO BECOME FAMILIAR WITH THE NEW SYSTEMS AND THEIR OPERATIONS. ALSO, PROVIDE MAINTENANCE AND OPERATIONS MANUALS OF ALL NEW SYSTEMS TO THE OPERATING PERSONNEL.



PERMIT SET 10.18.24 CLIENT PRESENTATION 09.20.24 DATE NO REVISION AS NOTED SCALE CZ, DZ DRAWN

ELECTRICAL SPECIFICATIONS

PROJECT: 66 LEONARD STREET, **NEW YORK, NY, 10013**

JOB NO:

24-019

DOB MOW##: MECIMB

DRAWING 4 OF 4

SEAL AND SIGNATURE:

212 645 2222

ALLEN + KILLCOYNE ARCHITECTS

12 WEST 27th ST, 17th FLOOR, NY, NY 10001