PROJECT DESCRIPTION

CREMATION, LLC.

PROJECT LOCATION: I PLACE DENVER, CO 80204

SHEET INDEX

ELECTRICAL COVER SHEET, GENERAL NOTES & SYMBOL LEGEND

SINGLE LINE DIAGRAM & PANEL SCHEDULE

ELECTRICAL NOTES

THIS DESIGN MAY BE USED FOR SECURING PERMITS, BID, PLANNING, THE COMPANY'S REVIEW OR SOME OTHER GOAL THIS DESIGN DOES NOT GUARANTEE THESE APPROVALS, NOR ARE THESE APPROVALS A REQUIREMENT FOR SERVICES 27. DESIGN IS BASED ON ALL CONDUCTORS TO BE THIN COPPER AND NO MORE THAN 4 CURRENT CARRYING

THIS DESIGN IS NOT A COMPLETE SET OF CONSTRUCTION DRAWING OR SHOP DRAWINGS. THIS DESIGN REPRESENTS 28. WHEN EQUIPMENT IS BEING REMOVED/DEMO FROM THE FIELD, ALL WIRING ASSOCIATED WITH THE LOAD MUST BE DIAGRAMMATIC REPRESENTATION OF INTENDENT SCOPE OF WORK.

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE NATIONAL ELECTRICAL CODE, IECC, LIFE

THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR

SAFETY CODE, LOCAL BUILDING CODE, OSHA REGULATIONS, OCAL, STATE, FEDERAL AND AUTHORITY HAVING JURISDICTION CODES APPLICABLE AT THE TIME OF THE CONSTRUCTION.

GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA I STANDARD FOR COMPLIANCE WITH ELECTRICAL CODE AND MANUFACTURER INSTALLATION REQUIREMENTS. GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION (ANSI)

ALL MATERIALS PROVIDED BY THE CONTRACTOR SHALL BE NEW AND FREE OF DEFECTS, LISTED/LABELED FOR THE INTENDED PURPOSE BY UNDERWRITERS (UL) OR OTHER ORGANIZATION THAT IS ACCEPTABLE TO THE AHJ. THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS ARE INTENDED TO DESCRIBE AND ILLUSTRATE SYSTEMS WHICH WILL NOT INTERFERE WITH THE STRUCTURE OF THE BUILDING AND WHICH WILL FIT INTO THE AVAILABLE SPACES. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NATIONAL ELECTRICAL 33. PANEL BOARDS SHALL BE MANUFACTURED BY SQUARE-D. EATON, GENERAL ELECTRIC, OR SIMILAR, MEETING U.

CODE CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT ONLY. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS, HEADROOM AND SPACE CONDITION TO BE MAINTAINED.

THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATION AND DETAILS OF THE WORK TO BE INSTALLED. . UPON THE COMPLETION OF THE WORK, THE ENTIRE ELECTRICAL SYSTEM SHALL BE TESTED AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS, I'

SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEM READY FOR OPERATION AND INSPECTION

TEST AND INSPECT ALL WIRING AND EQUIPMENT INSTALLED UNDER THIS SECTION OF SPECIFICATIONS, ALL WIRING MUST BE FREE SHORTS AND BROKEN WIRE. LEAVE ALL MATERIALS AND APPARATUS IN PROPER AND SATISFACTORY

36. CONDUIT SHALL BE SIZED TO COMPLY WITH NEC FOR NUMBER AND SIZE OF CONDUCTORS INSTALLED PER NEC.

THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PHASE SEQUENCE OF ALL THREE-PHASE FEEDERS AND BRANCH CIRCUITS. VERIFY PROPER ROTATION OF ALL MOTORS.

CONTRACTOR BASED ON THE INSTALLATION CONDITIONS AND SHALL BE VERIFIED IN THE FIELD. ALL CONDUIT TYPES AND INSTALLATION REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONDUIT RUNS SHALL BE PARALLEL WITH OR AT RIGHT ANGELS TO WALLS AND CEILINGS. CONDUIT SHALL BE SUPPORTED BY APPROVED MEANS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A DRAG WIRE. . PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR ALL CONDUITS PASSING THROUGH EXPANSION

6. THE USE OF FLEXIBLE CONDUIT FROM LIGHTING FIXTURES TO JUNCTION BOX IS PERMITTED ONLY. WHEN A SEPARATE GROUND WIRE IS INSTALLED WITH THE CONDUCTORS INSIDE FLEXIBLE CONDUIT. THE GROUND WIRE MUST BOND THE

FIXTURE HOUSING TO THE JUNCTION BOX. MAXIMUM LENGTH SHALL BE 6'-O". FLEXIBLE CONDUIT INSTALLED OUT OF DOORS, IN ANY MECHANICAL EQUIPMENT ROOMS, OR IN NORMALLY WET AREAS

SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS.). PROVIDE CONDUIT, WIRING, CIRCUITING AND REQUIRED CONNECTIONS TO ALL DEVICES, FIXTURES AND EQUIPMENT.

CONNECT TO CIRCUITS AS INDICATED. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED IN THE PANEL SCHEDULE DIRECTORY AND ON THE

9. CONTRACTOR SHALL VERIFY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES MOUNTED IN CASEWORK OR IN ABOVE COUNTERS WITH EXISTING EQUIPMENT. O. UNLESS SPECIFICALLY DIRECTED OTHERWISE, FURNISH AND INSTALL EACH AND EVERY ITEM CONTAINED IN AND

SPECIFICATIONS, TOGETHER WITH ALL APPURTENANCES, COMPONENTS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. CONTRACTOR SHALL PROVIDE CONDUIT, WIRING AND CABLING TO ALL DEVICES, FIXTURES AND ETC. FOR

. PROVIDE INDEPENDENT SUPPORT FOR DISCONNECT SWITCHES, CONTROL STATIONS, BOXES, PANELS, ETC. WHERE NO WALLS OR OTHER STRUCTURAL SURFACE EXISTS.

22. EQUIPMENT SIZED AND LOCATIONS ARE APPROXIMATE, ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT 23, PROVIDE BRANCH CIRCUIT WIRING TO ALL ITEMS REQUIRING ELECTRICAL CONNECTIONS, WHERE BRANCH CIRCUIT

WIRING IS NOT SHOWN, CONNECT ITEMS TO CIRCUITS INDICATED. THE CONTRACTOR SHALL DETERMINE EXACT ROUTING OF CONDUITS AND WIRING. UNLESS INDICATED OTHERWISE, ALL BRANCH CIRCUITS SHALL BE MINIMUM #12 AWG.

4. PROVIDE JUNCTION BOX FOR ANY DEVICE WITH PIG TAIL SUCH AS SOLENOID VALVES, LIMIT SWITCHES, SMOKE DETECTORS AND ETC. FOR PROPER ELECTRICAL CONNECTION. PROVIDE ALL HARDWARE FOR MOUNTING OF JUNCTION 25. EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN

ON THE MECHANICAL AND PLUMBING DRAWINGS, COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTORS. 26. WHEREVER THE INSTALLATION OF ELECTRICAL EQUIPMENT AS SHOWN ON THE DRAWINGS IS IMPRACTICAL DUE TO LOCAL INTERFERENCE OR UNFORESEEN FIELD CONDITIONS, THE CONTRACTOR SHALL INSTALL THE EQUIPMENT AT NEW

CONDUCTORS IN THE SAME RACEWAY OR CONDUIT, UNLESS OTHERWISE NOTED REMOVED FROM THE JUNCTION BOX OR THE CIRCUIT BREAKER. DO NOT LEAVE UNUSED CONDUCTORS IN THE FIELD

WITH ENDS TAPED WITH TAPE OR WIRE NUTS. GENERAL USE ON ALL PROJECTS. THEREFORE, NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.

29. PROVIDE DISCONNECT SHITCHES FOR ELECTRICAL HEATER, HVAC EQUIPMENT AND EXHAUST FANS WITHIN EYE SIGHT OF THE EQUIPMENT.

30. PROVIDE SERVICE RECEPTACLE WITHIN 25 FEET OF EACH HVAC EQUIPMENT.

31. ELECTRICAL CONTRACTOR TO VERIFY ACTUAL INSTALLED EQUIPMENT ELECTRICAL NAME PLATE DATA BEFORE ENERGIZING THE CIRCUIT, CONFIRM ELECTRICAL DESIGN VALUES AND ACTUAL EQUIPMENT BEING INSTALLED ARE IN

32. DISCONNECT SMITCHES SHALL BE HEAVY-DUTY, QUICK-MADE, QUICK-BREAK TYPE, NEMA I ENCLOSURE FOR INDOOR LOCATIONS (NEMA 3R FOR OUTDOOR LOCATIONS). SWITCHES SHALL BE AS MANUFACTURED BY SQUARE 'D', GENERAL ELECTRIC, OR SIEMENS (I.T.E.), PROVIDE FUSES AS MANUFACTURED BY BUSSMAN, GOULD-SHAWMUT, OR LITTLE-FUSE. ALL CONDUCTOR TERMINALS TO BE U.L, LISTED FOR A MINIMUM OF 15°C. SWITCHES USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" RATED EQUIPMENT.

STANDARDS 50 AND 67, WITH U.L. LABEL. PANELS USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" 34. BREAKERS: THERMAL, MAGNETIC TYPE, QUICK-MAKE, QUICK-BREAK, PLUG-IN TYPE FOR LOAD CENTERS AND BOLT IN TYPE FOR PANEL BOARDS AND SINGLE UNIT CONSTRUCTION. TWO POLE BREAKERS SHALL BE SINGLE UNIT COMMON

TRIP TYPE, BREAKERS USED AS SWITCHES FOR 120V LIGHTING CIRCUITS SHALL BE APPROVED FOR THAT USE AND

MARKED "SMD". ALL BREAKERS FOR HVAC AND REFRIGERATION EQUIPMENT SHALL BE "HACR" RATED BREAKERS.

GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUIT, SUPPORTS, CABINETS, PANEL BOARDS AND SYSTEM NEUTRAL CONDUCTORS, MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMP SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE METAL OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZED AND INSTALLED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.

PROVIDE SCHEDULE 40 PVC PLASTIC OR RIGID STEEL CONDUIT BELOW GRADE, MINIMUM 3/4". PROVIDE ELECTRICAL METAL TUBING (EMT) MEETING FS W-C563, FLEXIBLE METAL CONDUIT (IN LENGTHS 6' OR LESS) FOR INTERIOR LOCATIONS, EMT CONNECTORS AND COUPLING SHALL BE SET-SCREW TYPE, "MC" & "AC" TYPE CABLES MUST BE INSTALLED IN ACCORDANCE WITH N.E.C. AND CAN NOT BE SUPPORTED FROM CEILING SUPPORT WIRES.

CONDUIT RUNS WHEN SHOWN ARE DIAGRAMMATICAL. FINAL LOCATION AND ROUTING SHALL BE ESTABLISHED BY THE 31. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS.

> 38. CONDUCTORS: INSULATED SOFT ANNEALED 48% PURE COPPER WITH COLOR CODING, B AND S GAGE, #IO AND SMALLER TO BE SOLID, #8 AND LARGER TO BE STRANDED, MINIMUM #12 UNLESS OTHERWISE INDICATED. CONDUCTORS
> MUST BE INSTALLED IN ACCORDANCE WITH NEC. AND CANNOT BE SIPPORTED FROM CEILING SUPPORT WIRES. THEN MAY NOT BE USED UNDERGROUND, AT SERVICE ENTRANCE, OUTSIDE, OR IN WET LOCATIONS. ALL INSULATION TO BE RATED FOR 600 V AND TYPES AS FOLLOWS:

#IO AND #12: #8 TO 4/0: SERVICE ENTRANCE: OVER #4/0 ORDINARY SERVICE: OVER #4/0 WET OR HOT SERVICE. OR WHITHIN OF HTG EQIP .:

THHN OR XHHN XHHM THHN

THWN OR THHN

SE-RHW OR USE-RHW

39. ALL WIRING TO BE COLOR-CODED AS FOLLOWS: 120/208 VOLT SYSTEM

PHASE A OR LI: BLACK PHASE B OR L2: RED PHASE C OR L3: BLUE

277/480 SYSTEM PHASE B: ORANGE PHASE C: YELLOW NEUTRAL: GRAY

ASSOCIATED WITH, THE WORK INVOLVED AS SHOWN ON THE DRAWINGS AND/OR DESCRIBED IN THE ACCOMPANYING 39. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #8 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCK TIGHT" FOR #6 AWG AND LARGER.

> 40. LIGHT FIXTURES & LAMPS ARE FURNISHED BY CONTRACTOR EXCEPT AS NOTED ON THE LIGHT FIXTURE SCHEDULE FIXTURE INSTALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR ACCORDING TO LOCAL CODE AUTHORITY. 41. EMERGENCY LIGHTING SHALL HAVE A MINIMUM OF 90 MIN. BATTERY BACK-UP, OR AS REQUIRED BY LOCAL CODE AUTHORITY. PROVIDE LOCK-ON CIRCUIT BREAKERS FOR CIRCUITS SERVING EXIT SIGN FIXTURES AND EMERGENCY BATTERY PACK FIXTURES.

42. LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM ECONOMY AND EFFICIENCY. INCREASE WIRE SIZE IF 100 FEET OF LENGTH IS EXCEEDED.

43, CONCEAL WIRING SYSTEM ABOVE SUSPENDED CEILINGS OR IN WALL OR FLOOR CONSTRUCTION WHERE POSSIBLE, INSTALL CONDUITS PARALLEL TO BUILDING LINES, AND TO CLEAR ALL OPENING, DEPRESSIONS, PIPES, DUCTS,

44. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR (4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES, REAM CONDUIT ENDS BEFORE INSTALLATION AND THOROUGHLY CLEAN BEFORE INSTALLATION, OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND OUTLET SHALL NOT BE USED TO "FEED THRU" TO THE NEXT SWITCH OR OUTLET.

PWR

LOCATIONS AS DIRECTED BY THE ENGINEER. STANDARD ABBREVIATIONS

AMPERE

DN D□WN

AFG ABOVE FINISHED GRADE AFI ARC FLASH INTERRUPTER AFCI ARC FLASH CIRCUIT INTERRUPTER ASYM ASYMMETRICAL ATS AUTOMATIC TRANSFER SWITCH AWG AMERICAN WIRE GAUGE BKR BREAKER C CONDUIT CB CIRCUIT BREAKER CCTV CLOSED CIRCUIT TELEVISION CKT CIRCUIT CL CENTER LINE CLG CEILING CNTL CONTROL

DRAWING AFF ABOVE FINISHED FLOOR ELECTRICAL CONTRACTOR ELEVATION ELEC ELECTRICAL EQUIP EQUIPMENT EXIST (e) EXISTING FA FIRE ALARM FBD FURNISHED BY OTHER FDR FEEDER FIXT FIXTURE FLOOR GROUND GENERAL CONTRACTOR GEN GENERATOR GROUND FAULT CIRCUIT INTERRUPTER GROUND FAULT INTERRUPTER HIGH INTENSITY DISCHARGE HID

CPT CONTROL POWER TRANSFORMER CT CURRENT TRANSFORMER CU COPPER HDA HAND-OFF-AUTOMATIC D DEMOLISH HORSE POWER DIA DIAMETER INTERRUPTING CAPACITY DISC DISCONNECT I/\Box INPUT / DUTPUT JUNCTION BOX DP DISTRIBUTION PANEL BOARD

KV KILOVOLT KVA KILOVOLT AMPERE KW KILOWATT KWH KILOWATT HOUR LOCAL CONTROL PANEL LIS LOAD INTERRUPTER SWITCH LP LIGHTING PANEL LTG LIGHTING MAXIMUM MOTOR CONTROL CENTER MOLDED CASE SWITCH MCS MAIN DISTRIBUTION PANEL MINIMUM MSB MAIN SWITCHBOARI

MSG MAIN SWITCHGEAR MANUAL TRANSFER SWITCH NDN-AUTDMATIC NORMALLY CLOSED NATIONAL ELECTRIC CODE NEC NORMALLY OPEN NTS NOT TO SCALE P POLE PH PHASE

PANEL

PNL

REV

SHIELDED CABLE SPARE SURGE SUPRESSION SWBD SWITCHBOARD SWGR SWITCHGEAR SYM SYMMETRICAL TEL TELEPHONE TYP TYPICAL U/G UNDERGROUND U.O.N. UNLESS OTHERWISE NOTED V VOLT OR VOLTAGE VA VOLT AMPERE VFD VARIABLE FREQUENCY DRIVE W WATTS WHM WATT HOUR METER WP WEATHERPROOF WW WIREWAY XFMR TRANSFORMER

POTENTIAL TRANSFORMER

POWER PANEL

REVISION

POWER

RECEP RECEPTACLE

SYMBOL LEGEND ELECTRICAL EQUIPMENT DISTRIBUTION EQUIPMENT FOR ALL DISTRIBUTION EQUIPMENT. GFP - GROUND FAULT PROTECTION TYPICAL FOR ALL RECEPTACLES, DUTLETS, JUNCTION BOXES AND EQUIPMENT: NUMBER DENOTES PANEL CIRCUIT NUMBER. TYPICAL FOR ALL LIGHTING FIXTURES GROUND FAULT PROTECTION SHUNT TRIP AFCI - ARC FAULT CIRCUIT

OCCUPANCY SENSOR TYPE SWITCH

INTEGRAL THERMAL OVERLOAD HEATER

EMERGENCY LIGHTING WITH EXIT

NUMBER DENDTES CONTACTOR
IDENTIFICATION TAG. SEE CONTACTOR

SCHEDULE FOR NUMBER OF POLES AND

INTERLOCK

'E KEY INTERLOCK

RING DEVICE

- AMMETER SWITCH

UTILITY COMPANY METER AND METER PAN

LTMETER - VOLTMETER

SURGE PROTECTOR DEVICE

PFCC POWER FACTOR CORRECTION CAPACITOR

MEDIUM VOLTAGE CABLE STRESS

600 VOLT CABLE LIMITER CONNECTION

LIGHTNING ARRESTER. NUMBER IN

PARENTHESIS INDICATES QUANTITY.

GROUNDED WYE CONNECTION

UNGROUNDED WYE CONNECTION

UNDERGROUND GROUND SYSTEM BARE

SIZE AS NOTED OR INDICATED

GROUND CONNECTION

GROUND GRID CABLE CONNECTION

CABLE. SIZE AS NOTED OR INDICATED

BUILDING GROUND SYSTEM BARE CABLE

GROUND ROD

WATTHOUR METER

AS REQUIRED

HARMONIC FILTER

LINE REACTOR

RESISTOR

GENERATOR.

FUSE

THREE WAY DIMMING SWITCH

EMERGENCY LIGHTING

EXIT SIGN

PHOTOCELL

TIME CLOCK

ANNUNCIATOR

PADDLE FAN

GENERATION &

LOCK FOR RE

MOTION SENSOR

OCCUPANCY SENSOR

GENERATOR REMOTE

CAPITAL LETTER DENDTES FIXTURE TYPE.
SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION, 3. NUMBER DENOTES BRANCH CIRCUIT NUMBER AT RESPECTIVE LIGHTING PANELBOARD, LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.

B 1440 44 TYPICAL LIGHTING FIXTURE SINGLE POLE SWITCH DOUBLE POLE SWITCH THREE-WAY SWITCH FOUR-WAY SWITCH

SINGLE POLE KEY SWITCH AS INDICATED ON DRAWINGS DOUBLE DUPLEX RECEPTACLE - FLOOR THREE WAY KEY SWITCH DUPLEX RECEPTACLE - FLOOR MOUNTED SINGLE POLE SWITCH WITH PILOT LIGHT SPECIAL RECEPTACLE - FLOOR MOUNTED DIMMING SWITCH

EXIT

GRA

EMD

-WV-

CEILING MOUNTED DUPLEX RECEPTACLE FLOOR JUNCTION BOX

GROUND FAULT INTERRUPTER

DUPLEX RECEPTACLE

SINGLE RECEPTACLE

ISOLATED GROUND TYPE WEATHERPROOF

SURGE SUPPRESSION TYPE

DENOTES SWITCH CONTROL DOUBLE DUPLEX RECEPTACLE

SWITCHED DUPLEX RECEPTACLE - DNE

SPECIAL RECEPTACLE AMPERE AND VOLTAGE RATING AS INDICATED ON

DUTLET SWITCHED LOWER CASE LETTER

INTERRUPTER

WALL MOUNTED JUNCTION BOX JUNCTION BOX, SIZE AND MOUNT AS

1.5KVA REC ELECTRICAL OR TELEPHONE MANHOLE ELECTRICAL OR TELEPHONE HANDHOLE TERMINAL BOX. SIZE IN ACCORDANCE

ACCOMMODATE ALL TERMINAL BLOCKS. PULL BOX. SIZE IN ACCORDANCE WITH NEC REQUIREMENTS SURFACE PANELBOARD LETTERS &

NUMERALS INDICATE EQUIPMENT TAG NUMERALS INDICATE EQUIPMENT TAG

ELECTRICAL PANEL LETTERS AND NUMBERS INDICATE PANELBOARD IDENTIFICATION TAG SEE PANEL SCHEDULE FOR DETAILS.

HOMERUN CIRCUITS TO PANELBOARD NUMBER OF ARROWS INDICATES NUMBER DF CIRCUIT HOMERUNS, 1 PH 120V

FEEDER TAG WITH CONDUIT AND WIRE

INDICATES NEW OR EXISTING INDICATES CONCEALED NEW OR EXISTING TO BE DEMOLISHED AND/OR REMOVED

BUSS BAR FLEXIBLE CONNECTION CONDUIT TURNING UP

CONDUIT TURNING DOWN CAPPED CONDUIT CARLE TRAY (LADDE

BUSS DUCT ___ H O A

AD SELECTOR SWITCH NDITAT2 .

PUSHBUTTON STATION INDICATING LIGHT STATION DATA & TELEPHONE DATA SYSTEM SYSTEM DUTLET BOX, WITH

3/4" CONDUIT SUB UP ABOVE HUNG WITH DRAG LINE AND BUSHED ENDS TELEPHONE SYSTEM DUTLET BOX, WITH 3/4" CONDUIT SUB UP ABOVE HUNG WITH DRAG LINE AND BUSHED ENDS OMBINATION TELEPHONE/DATA BOX WITH " CONDUIT STUB UP ABOVE HUNG WITH DRAG LINE AND BUSHED ENDS

DATA DUTLET BOX - FLOOR MOUNTED TELE DUTLET BOX - FLOOR MOUNTED COMBINATION TELEPHONE/DATA OUTLET

TELEPHONE POKE THRU DATA POKE THRU TELEPHONE / DATA POKE THRU

OPEN DELTA CONNECTION DELTA CONNECTION $3/4" \times 4' \times 6'$ PLYWOOD FASTENED TO THE WALL WITH 3/4" CHANNEL. WIRE TERMINAL GROUND TEST ELECTRODE

— •

LSIG - LONG TIME, SHORT TIME INSTANTANEOUS AND GROUND FAULT PROTECTION FUNCTIONS 100% - 100% RATED EQUIPMENT.

ELECTRIC OPERATED DEVICE ELECTRONIC TRIP TYPE DEVICE CIRCUIT BREAKER THERMAL MAGNETIC CIRCUIT BREAKER TOP NUMBER DENOTES TRIP AMPERE RATING AMPERE RATING #P - DENDTES NUMBER

OF POLES

CIRCUIT BREAKER WITH FLECTRONIC TRIP PROGRAMMER. TOP NUMBER INDICATES
FRAME SIZE SIZE, BOTTOM NUMBER
INDICATES SENSOR RATING. #P -DENOTES NUMBER OF POLES DRAW-DUT TYPE THERMAL MAGNETIC

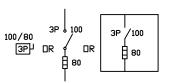
CIRCUIT BREAKER TOP NUMBER DENOTES

DENOTES FRAME SIZE AMP RATING #P BREAKER TOP NUMBER DENOTES TRIP SIZE AMPERE RATING BOTTOM NUMBER DENOTES FRAME SIZE AMP RATING #P -MANUAL MOTOR TOGGLE TYPE STARTER WITH DENOTES NUMBER OF POLES

> COMBINATION STARTER TOP NUMBER
> DENOTES TRIP SIZE AMPERE RATING MCP
> DENOTES MOTOR CIRCUIT PROTECTOR SIZE #P - DENOTES NUMBER OF POLES

DRAW-DUT FUSED SWITCH TOP NUMBER DENOTES SWITCH AMPERE RATING BOTTOM NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES

> STARTER TOP NUMBER DENOTES FUSE AMPERE RATING N# - DENOTES NEMA STARTER SIZE #P - DENOTES NUMBER OF POLES UNFUSED DISCONNECT SWITCH NUMBER DENOTES SWITCH 3P ☐ □R ﴿ #P - DENOTES NUMBER OF



FIRST NUMBER DENOTES SWITCH AMPERE RATING BOTTOM OR SECOND NUMBER DENOTES #P - DENOTES NUMBER OF POLES

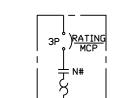
MEDIUM VOLTAGE UNFUSED I HAD INTERRUPTER SWITCH NUMBER DENDTES SWITCH AMPERE RATING #P - DENOTES NUMBER OF POLES MEDIUM VOLTAGE FUSED LOAD INTERRUPTER SWITCH TOP NUMBER
DENOTES SWITCH AMPERE RATING BOTTOM
NUMBER DENOTES FUSE AMPERE RATING

#P - DENOTES NUMBER OF POLES MAGNETIC MOTOR STARTER WITH THERMAL

COMBINATION MAGNETIC MOTOR STARTER N# - DENOTES NEMA STARTER SIZE

NUMBER RATIO DENOTES CT PRIMARY AND SECONDARY CURRENT RATINGS NUMBER IN PARENTHESIS INDICATES POTENTIAL TRANSFORMER WITH PRIMARY

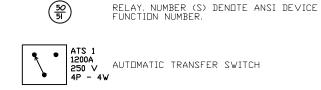
ENCLOSED CIRCUIT BREAKER TOP OR FIRST NUMBER DENOTES SWITCH AMPERE RATING BOTTOM OR SECOND NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF



ENCLUSED CIRCUIT BREAKER/COMBINATION VNR STARTER TOP NUMBER DENOTES MOTOR CIRCUIT PROTECTOR CONTINUOUS AMPERE RATING N# DENOTES NEMA STARTER SIZE P - DENOTES NUMBER OF POLES



ENCLOSED CT CABINET





XFMR-1 1000 KVA 13,200 V-480Y/277V 3P - 4W %65 PRIMARY AND SECONDARY VOLTAGE AS INDICATED



PACKAGED EQUIPMENT WITH DISCONNECT SWITCH AND MOTOR STARTER

PROFESSIONAL ENGINEERING **3 201-920-2899 ☑**info@AmperEngineering.com SEAL & SIGNATURE: ORADO LICA 55714 10/16/2020

> NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

Durak Evrim Ercan DN: c=US, st=New Jersey, I=Montclair, DURAK EVRIM ERCAN P.E. O=Durak Evrim Ercan, email=info@AmperEngi neering.com Date: 2020.10.16 09:46:11 -04'00'

Digitally signed by

O 10/11/2020 ISSUED FOR PERMIT APPLICATION REV. DATE DESCRIPTION CLIENT:

CREMATION

PROJECT:

CREMATION, LLC

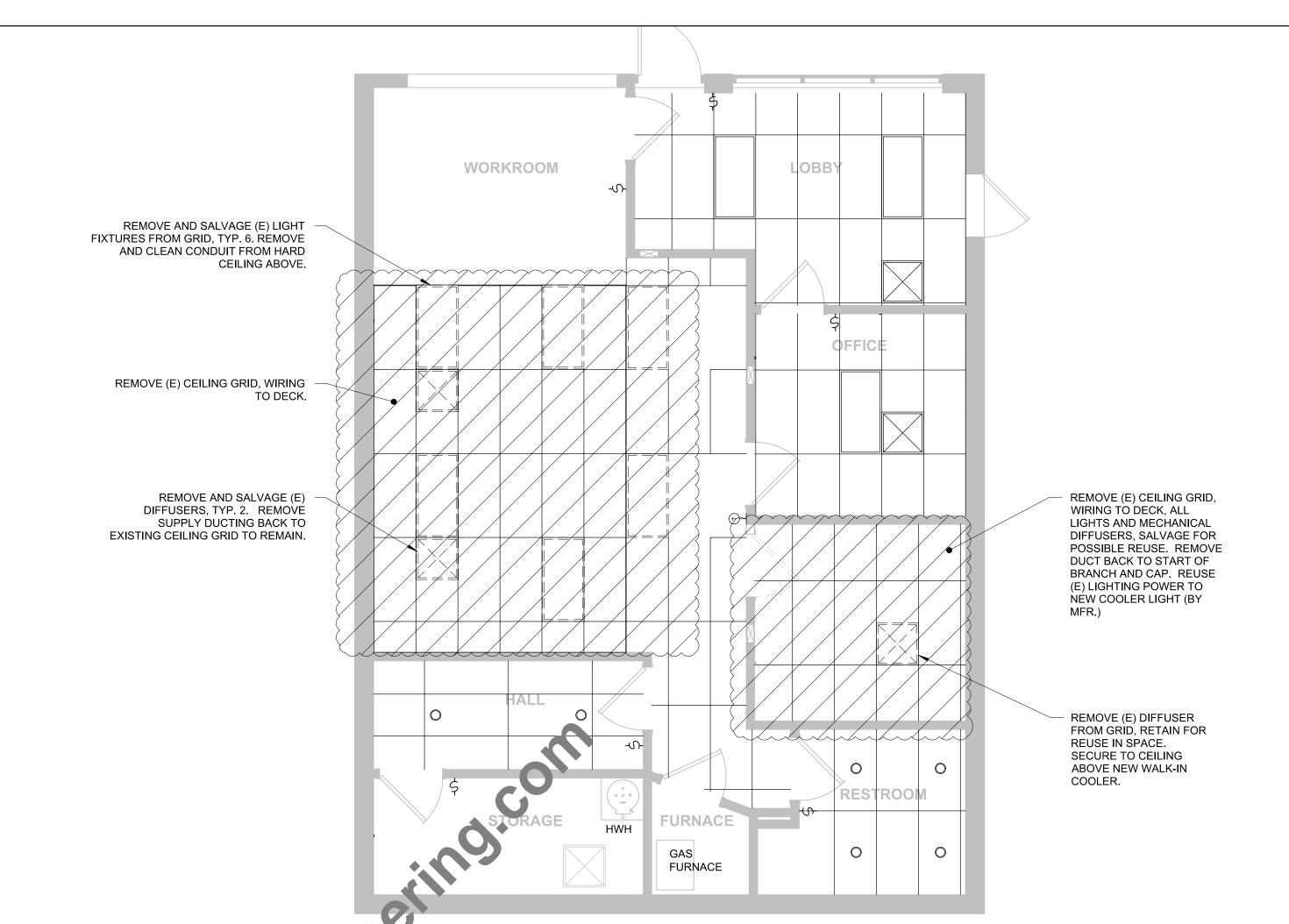
ADDRESS:

DENVER, CO 80204

ISSUE DATE: 10/11/2020 PROJECT NUMBER: AE# 1217 SCALE: DRAWN BY: NONE DESIGNED BY: CHECKED BY: DEE DEE DRAWING TITLE:

ELECTRICAL COVER SHEET GENERAL NOTES 8 SYMBOL LEGEND

DRAWING NO:



GENERAL ELECTRICAL NOTES

I. CIRCUITS TO REMAIN: EXISTING ROUTING TO REMAIN, AS REQUIRED.

RCP DEMOLITION PLAN

- 2. REUSE OF EXISTING CIRCUITRY: EXISTING CIRCUITRY SERVING LIGHTING FIXTURES FOR A GIVEN AREA SHALL BE REUSED WHERE CONVENIENT TO SERVE THE NEW LAYOUT. PROVIDE CIRCUIT MODIFICATIONS INDICATED OR AS OTHERWISE REQUIRED TO MAINTAIN THE CONTINUITY OF THE EXISTING CIRCUITS THAT REMAIN.
- 3. <u>EXISTING CONDUIT</u>: ALL EXISTING CONDUITS AND WIRING THAT WILL NOT BE REUSED SHALL BE REMOVED. ALL EXISTING WIRING IN CONDUITS TO BE ABANDONED SHALL BE DISCONNECTED FROM POWER SOURCE AND REMOVED.
- 4. <u>EXISTING CIRCUITS</u>: ALL EXISTING CIRCUITS SHALL REMAIN AND RECONNECT TO NEW PANEL WITH THE SAME CIRCUIT NUMBER AS DESIGNATED FROM EXISTING PANEL. INDICATE NEW LOAD TO NEW PANEL AND ITS DIRECTORY.
- 5. <u>EXISTING PANELBOARDS</u>: EXISTING PANELBOARD IS TO REMAIN ENERGIZED UNTIL ALL CIRCUITS HAVE BEEN REMOVED. THE WORK TO RELOCATE CIRCUITS FROM THE EXISTING PANELBOARD TO NEW PANELBOARD SHALL BE COORDINATED WITH OTHER TRADES AND BE PERFORMED AT TIMES THAT DO NOT DISRUPT ON GOING WORK IN ANY OF THE AFFECTED SPACES.
- 6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE TO THE 2020 NATIONAL ELECTRICAL CODE AND OTHER REQUIREMENTS OF JURISDICTIONS HAVING AUTHORITY.
- 7. ELECTRICAL GROUNDING WILL BE IN ACCORDANCE WITH NEC ARTICLE 250.

PROJECT: ADDRESS: DENVER, CO 80204 ISSUE DATE: NONE DEE

COOLER **ALCOVE** Ф LIGHT PNL-20 O HALL RESTROOM STORAGE FURNACE (E) GAS FURNACE

LOBBY

OFFICE

PROPOSED LIGHTING LAYOUT

WORKROOM

STORAGE

RESET (E) LIGHT FIXTURES -

REUSE (E) LIGHT FIXTURES -

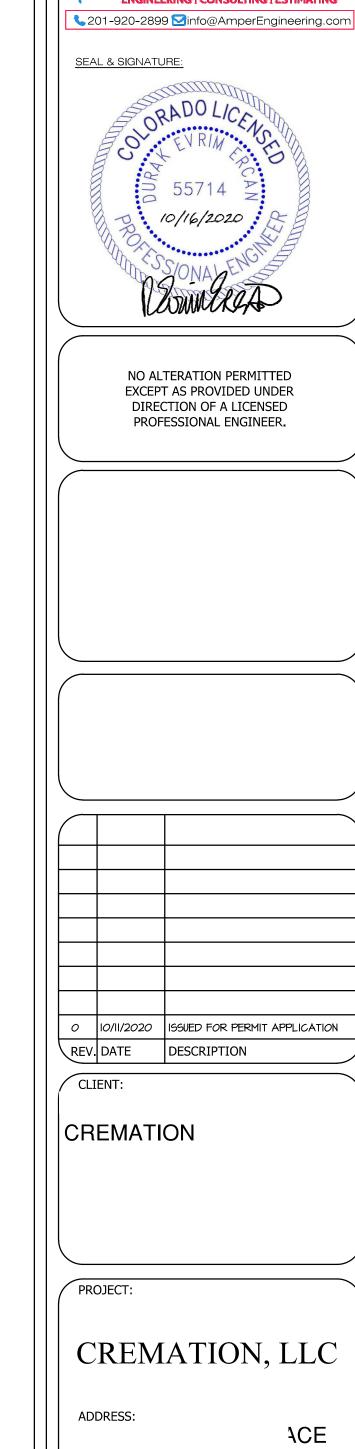
TYPICAL 4

IN NÈW GRID LOCATION

WORKROOM

GAS FURNACE

(EXISTING) LIGHTING LAYOUT



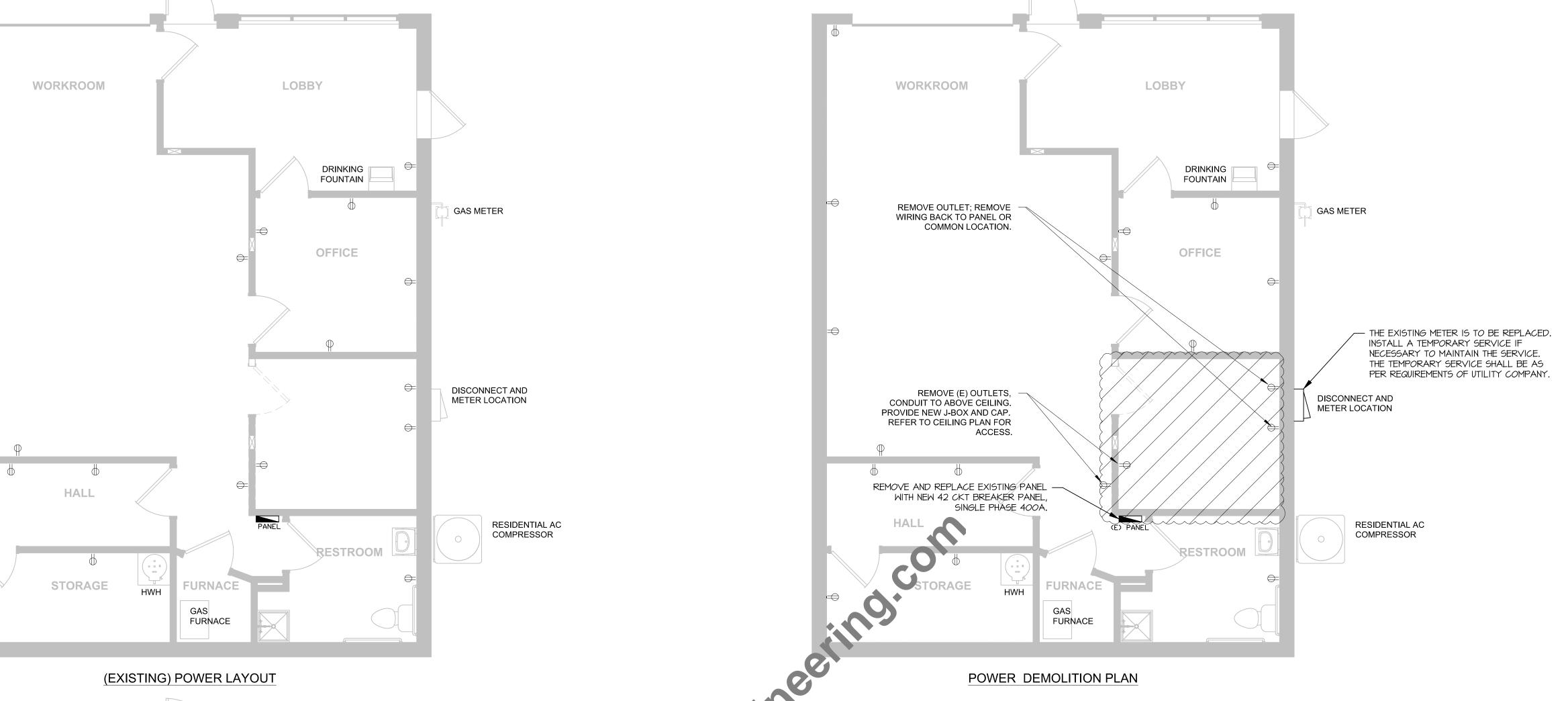
PROFESSIONAL ENGINEERING

(N) - NEW (E) - EXISTING

> 10/11/2020 PROJECT NUMBER: AE# 1217 DRAWN BY: DESIGNED BY: CHECKED BY:

DRAWING TITLE: LIGHTING LAYOUT

/ DRAWING NO:



GENERAL ELECTRICAL NOTES

- 2. <u>REUSE OF EXISTING CIRCUITRY</u>: EXISTING CIRCUITRY SERVING RECEPTACLES FOR A GIVEN AREA SHALL BE REUSED WHERE CONVENIENT TO SERVE THE NEW LAYOUT. PROVIDE CIRCUIT MODIFICATIONS INDICATED OR AS OTHERWISE REQUIRED TO MAINTAIN THE CONTINUITY OF THE EXISTING CIRCUITS THAT REMAIN.
- 3. <u>EXISTING CONDUIT</u>: ALL EXISTING CONDUITS AND WIRING THAT WILL NOT BE REUSED SHALL BE REMOVED. ALL EXISTING WIRING IN CONDUITS TO BE ABANDONED SHALL BE DISCONNECTED
- 4. <u>EXISTING CIRCUITS</u>: ALL EXISTING CIRCUITS SHALL REMAIN AND RECONNECT TO NEW PANEL WITH THE SAME CIRCUIT NUMBER AS DESIGNATED FROM EXISTING PANEL. INDICATE NEW LOAD TO NEW PANEL AND ITS DIRECTORY.
- EXISTING PANELBOARDS: EXISTING PANELBOARD IS TO REMAIN ENERGIZED UNTIL ALL CIRCUITS HAVE BEEN REMOVED. THE WORK TO RELOCATE CIRCUITS FROM THE EXISTING PANELBOARD TO NEW PANELBOARD SHALL BE COORDINATED WITH OTHER TRADES AND BE PERFORMED AT
- 6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE TO THE 2020 NATIONAL ELECTRICAL CODE AND OTHER REQUIREMENTS OF JURISDICTIONS HAVING AUTHORITY.
- 7. ELECTRICAL GROUNDING WILL BE IN ACCORDANCE WITH NEC ARTICLE 250.

\$201-920-2899 ☑info@AmperEngineering.com SEAL & SIGNATURE: 55714 10/16/2020

PROFESSIONAL ENGINEERING

(N) - NEW (E) - EXISTING

> NO ALTERATION PERMITTED EXCEPT AS PROVIDED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

O 10/11/2020 ISSUED FOR PERMIT APPLICATION REV. DATE DESCRIPTION

CREMATION

PROJECT:

CREMATION, LLC

ADDRESS:

DEE

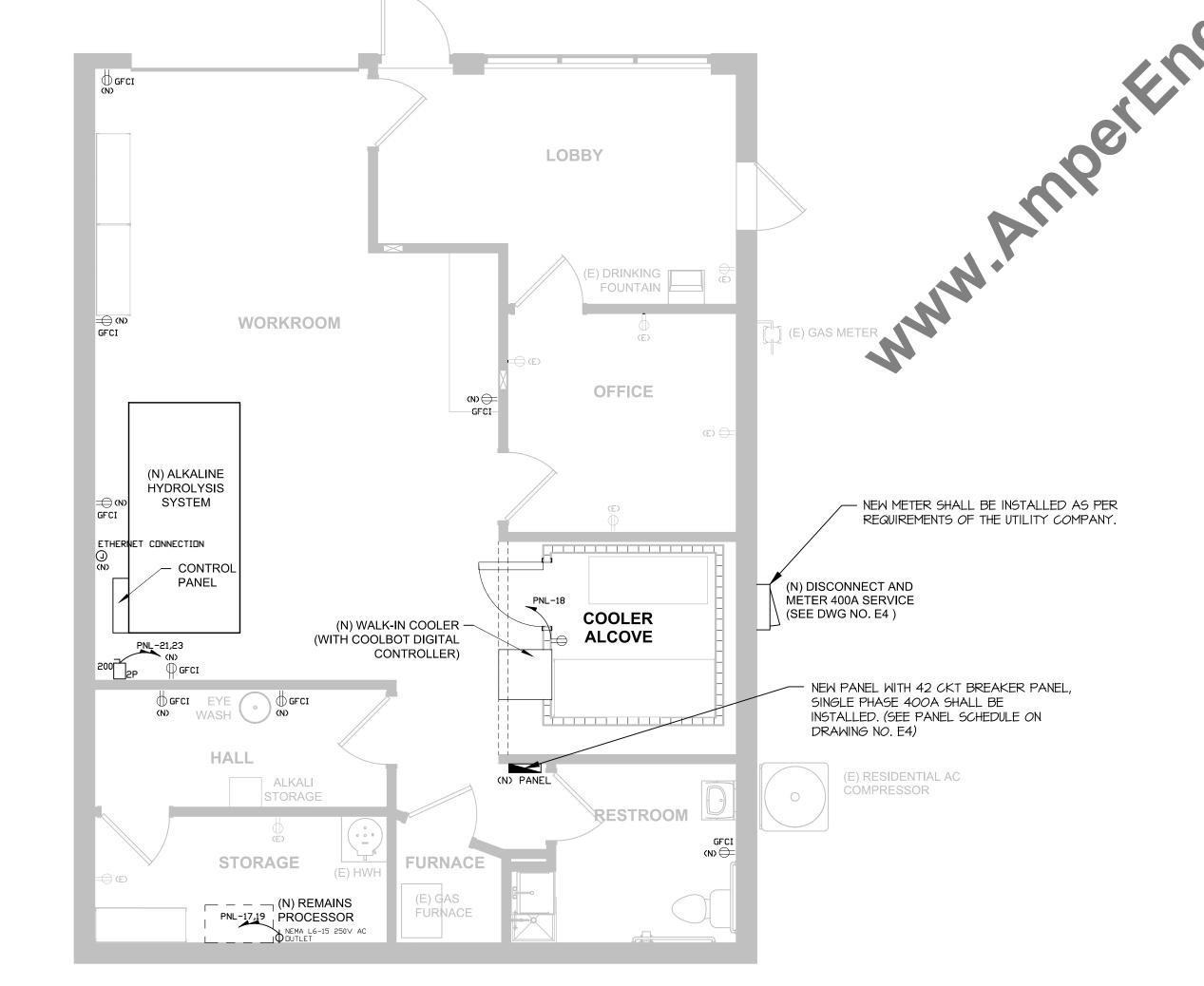
DENVER, CO 80204

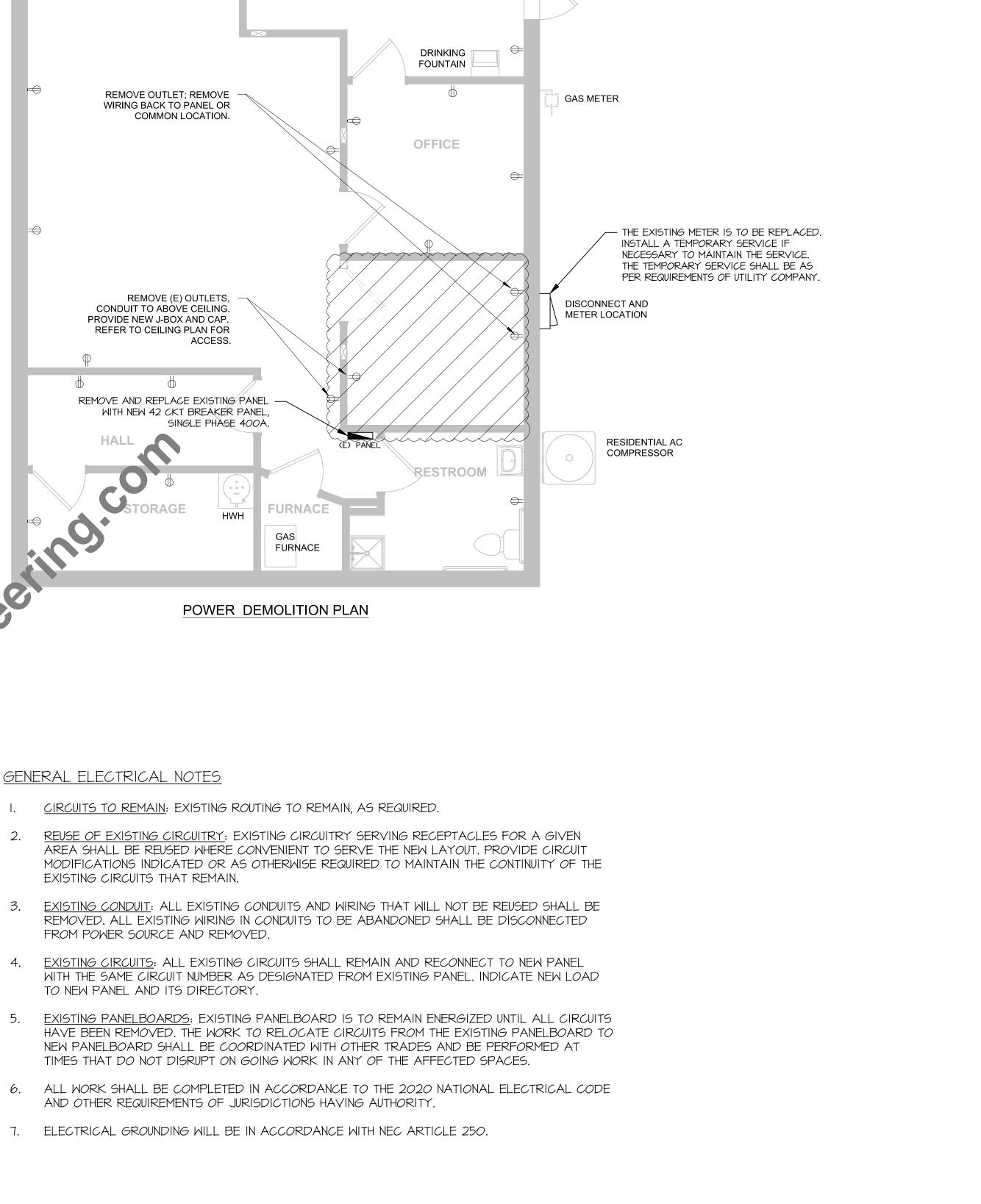
ISSUE DATE: 10/11/2020 PROJECT NUMBER: AE# 1217 DRAWN BY: NONE DEE DESIGNED BY: CHECKED BY:

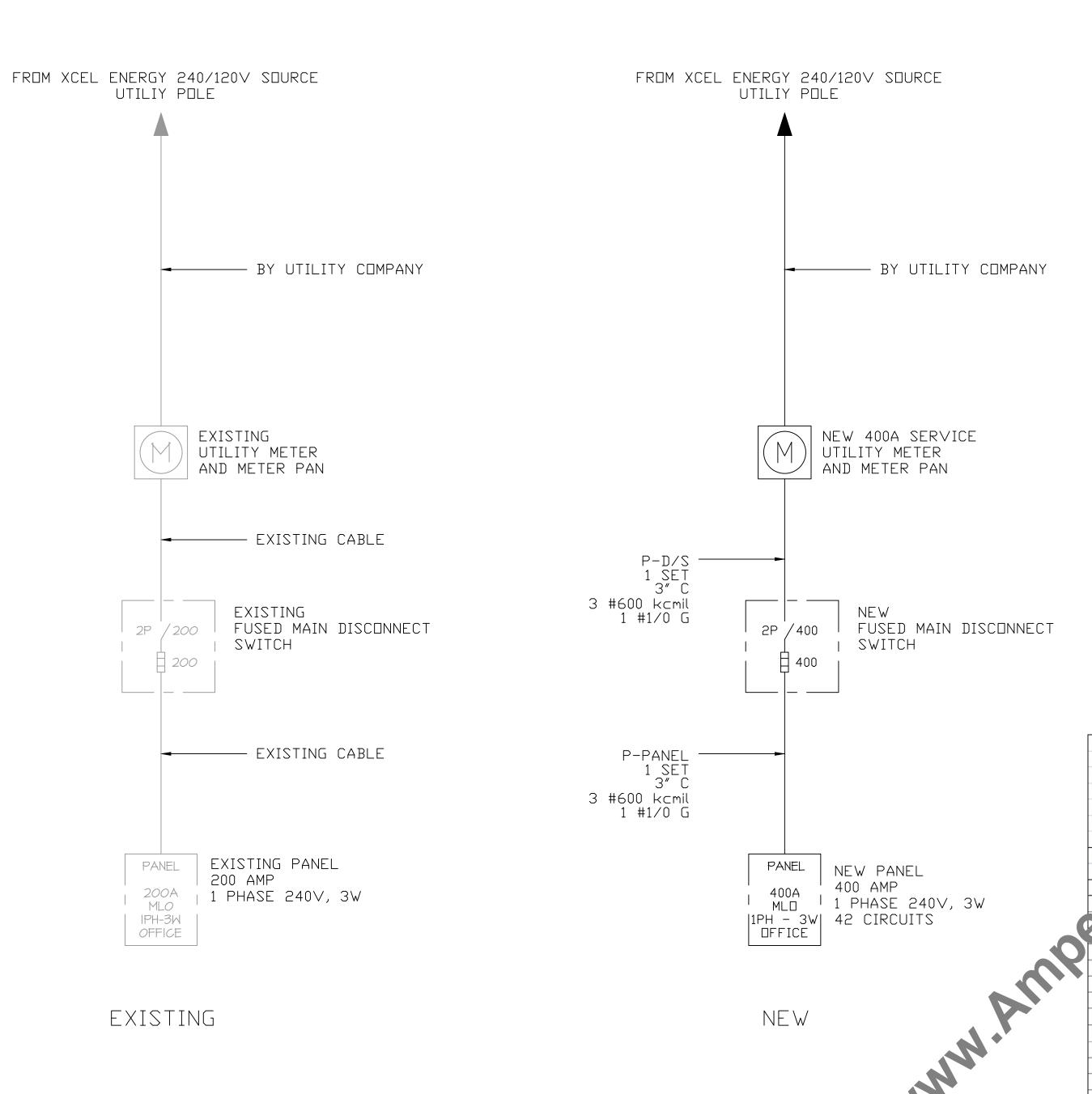
DEE

DRAWING TITLE: POWER LAYOUT

/ DRAWING NO:







SINGLE LINE DIAGRAM

GENERAL NOTES

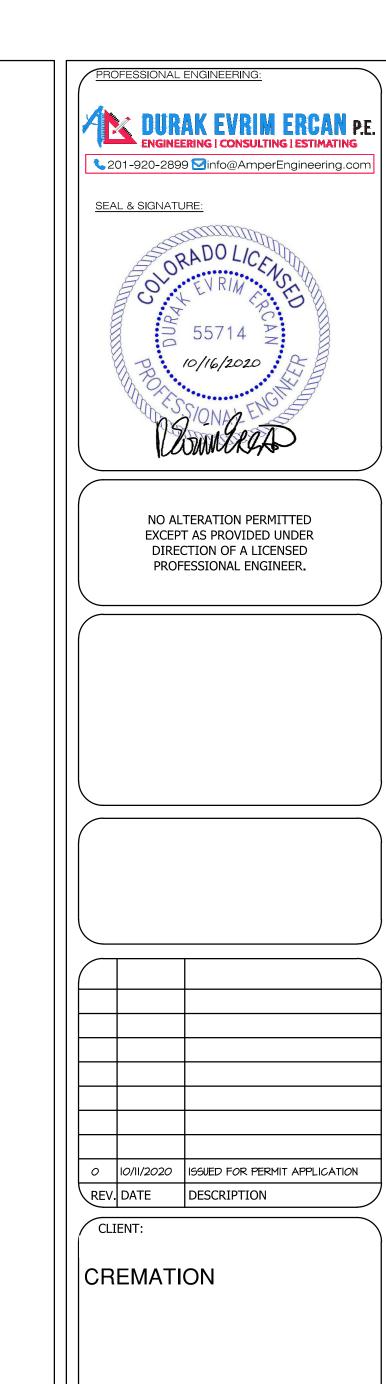
- I. PANEL SCHEDULES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY EXISTING LOCATION, AVAILABLE BREAKERS AND SERVICE CAPACITY FOR NEW LOADS. CONTRACTOR TO PERFORM ALL REQUIRED MODIFICATIONS FOR A COMPLETE OPERATING SYSTEM IN CONFORMANCE WITH THE 2020 NATIONAL ELECTRICAL CODE.
- 2. COORDINATE WITH ARCHITECTURAL DRAWINGS, FOR EXACT LOCATION OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS INCLUDING EXACT POINT OF ELECTRICAL CONNECTION.
- 3. ELECTRICAL CONTRACTOR TO VERIFY ALL CIRCUITS SAVE DURING DEMO OR REMOVAL OF EXISTING LIGHTING FIXTURES AND WIRING DEVICES AND PREPARE THEM FOR REUSE AS NEEDED.

	NAANUUF A CTURED	CF									DUC DATING	200		
	MANUFACTURER: GE TYPE/MODEL: TYPE 1 MOUNTING: SURFACE ENCLOSURE: INDOOR LOCATION: TYPE: BOLT-ON										BUS RATING			
											MAIN			
				PA				(EXIST	NG) P	ANEL		240 /120V		
													1 PH 3 W	
											FEEDER SIZE			
									AIC					
	ENTER CABINET: TOP								FED FROM:			•		
CKT	LOAD	NO.	СВ		UCTOR	LOAD	KVA PE	R PHASE		CONDUCTOR	СВ	NO.	LOAD	CKT
NO:	DESCRIPTION	POLES	_		PE	KVA	Α	В	KVA	TYPE		POLES		NO:
1	GARAGE OUTLETS, BACK HALL LIGHT & OUTLET	1	20	EXISTING		1.44	1.92	><	0.48	EXISTING	20	1	BATHROOM LIGHTS	2
3	OFFICE LIGHTS, BATHROOM GFCI	1	20	EXISTING		0.48	\times	1.92	1.44	EXISTING	15	1	OUTLETS	4
5	WEST GARAGE OUTLETS, ADMIN OFFICE	1	20	EXISTING		1.08	1.88	><	0.80	EXISTING	20	1	FRONT LIGHTS, EXIT SIGNS	6
7	ADMIN OFFICE OUTLETS	1	20	EXISTING		0.72	$\geq \leq$	2.70	1.98	EXISTING	20	1	OUTLETS	8
9	WEST CORRIDOR OUTLETS, MECHANICAL ROOM	1	20	EXISTING		1.08	3.06	><	1.98	EXISTING	20	1	TIME CLOCK, OUTLETS	10
11	GENERAL OUTLETS	1	20	EXISTING		1.98	\nearrow	3.96	1.98	EXISTING	20	1	OUTLETS	12
13	WATER HEATER	2	30	EXISTING		2.75	4.75	><	2.00	EXISTING	30	2	AC CONDENSER	14
15	X	X	X	X		2.75	\mathbb{X}	4.75	2.00	X	X	X	X	16
17	BLANK					0.00	0.00	><	0.00				BLANK	18
19	BLANK					0.00	><	0.00	0.00				BLANK	20
21	BLANK					0.00	0.00		0.00				BLANK	22
23	BLANK					0.00	\times	0.00	0.00				BLANK	24
25	BLANK					0.00	0.00		0.00				BLANK	26
27	BLANK					0.00	X	0.00	0.00				BLANK	28
29	BLANK		***************************************			0.00	0.00		0.00			····	BLANK	30
							11.6	13.3						***************************************
		TOTAL CONNECTED LOA		AD KVA:	25									
					D AMPS:									
				DEMAND LO		AD KVA:	28							
					D AMPS:									

EXISTING PANEL SCHEDULE

	MANUFACTURER:								BUS RA	ATING:	400	A	
	TYPE/MODEL:									MAIN:		MAIN LUGS ONLY	
	MOUNTING:		Р	ANEL ID:	NELID: (NEW) PA					240 /120V			
	TYPE/MODEL: MOUNTING: ENCLOSURE:						()				1 PH	A CONTRACTOR OF THE CONTRACTOR	
	LOCATION:								FEEDER SIZE: (NEW) 3"C (3) 600kcmil & (1) #1/0 GND				
	TYPE:						AIC ² :						
	ENTER CABINET:								FED FROM: ELECTRICAL SERVICE/METER PANEL				
CK	LOAD	NO.	СВ	CONDUCTOR	LOAD	KVA PE	R PHASE	LOAD	CONDUCTOR	СВ	NO.	LOAD	СКТ
NÇ		POLES		TYPE	KVA	Α	В	KVA	TYPE	AMPS	POLES	S DESCRIPTION	NO:
1	JAPAGE OUTLETS, BACK HALL LIGHT & OUTLET	1	20	EXISTING ¹	1.44	1.92	><	0.48	EXISTING ¹	20	1	BATHROOM LIGHTS	2
< (FICE LIGHTS, BATHROOM GFCI	1	20	EXISTING ¹	0.48	><	1.92	***************************************	EXISTING ¹	15	1	OUTLETS	4
5	WEST GARAGE OUTLETS, ADMIN OFFICE	1	20	EXISTING ¹	1.08	1.88	$\overline{}$		EXISTING ¹	20	1	FRONT LIGHTS, EXIT SIGNS	6
	ADMIN OFFICE OUTLETS	1	20	EXISTING ¹	0.72	$\geq <$	2.70		EXISTING ¹	20	1	OUTLETS	8
9	WEST CORRIDOR OUTLETS, MECHANICAL ROOM	1			1.08	3.06	><		EXISTING ¹	20	1	TIME CLOCK, OUTLETS	10
11	GENERAL OUTLETS	1			1.98	$\geq <$	3.96	1.98	EXISTING ¹	20	1	OUTLETS	12
13	WATER HEATER	2	30	EXISTING ¹	2.75	4.75	><		EXISTING ¹	30	2	AC CONDENSER	14
15	X	Χ	Χ	X	2.75	$\geq \leq$	4.75	2.00	X	X	X	X	16
17	REMAINS PROCESSOR	2	15	(NEW) 1/2"C (2) #12 AWG CU & (1) #12 GND	1.44	2.88	><	1.44	(NEW) 1/2"C (2) #12 AWG CU & (1) #12 GND	15	1	A/C COOLER	18
19	X	X	X	X	1.44	\times	1.80	0.36	(NEW) 1/2"C (2) #12 AWG CU & (1) #12 GND	20	1	COOLER LIGHTS	20
21	ALKALINE HYDROLYSIS LT- 500	2	200	(NEW) 2" C (2) #4/0 AWG CU & (1) #6 GND	24.00	24.00	\times	0.00				SPARE	22
23	X	X	X	X	24.00	><	24.00	0.00				SPARE	24
25	SPARE				0.00	0.00	><	0.00				SPARE	26
27	SPARE				0.00	$\geq \leq$	0.00	0.00				SPARE	28
29	SPARE				0.00	0.00	>	0.00				SPARE	30
31	SPARE				0.00	$\geq \leq$	0.00	0.00				SPARE	32
33	SPARE				0.00	0.00	><	0.00				SPARE	34
35	SPARE				0.00	\times	0.00	0.00				SPARE	36
37	SPARE				0.00	0.00	> <	0.00				SPARE	38
39	SPARE				0.00	\geq	0.00	0.00				SPARE	40
41	BLANK				0.00	0.00	> <	0.00				BLANK	42
						38.5	39.1						
	Note: TOTAL CONNECTED LOAD												
	1. New circuit breakers to be installed with same ra				D AMPS:	323							
	2. Field verify Panel kAIC shall match or rated highe	r than	the ex			93							
	DEMAND LOAD K												
				DEMAND LOA	D AMPS:	390							

NEW PANEL SCHEDULE



PROJECT:

CREMATION, LLC

DDRESS:

DENVER, CO 80204

ISSUE DATE:
|O/II/2020
| PROJECT NUMBER:
|AE# |2|7
| SCALE: | DRAWN BY:
|NONE | DEE
| DESIGNED BY: | CHECKED BY:
|DEE | DEE

DRAWING TITLE:
SINGLE LINE DIAGRAM &
PANEL SCHEDULE

DRAWING NO: