

ELECTRICAL SYMBOLS		POWER		LIGHTING		ABBREVIATIONS	
NOTE:							
THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS.		PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER SURFACE MOUNTED PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER RECESS MOUNTED 20 AMP, 125V, NEMA 5-20R DUPLEX RECEPTACLE 20 AMP, 125V, NEMA 5-20R SIMPLEX RECEPTACLE 20 AMP, 125V, NEMA 5-20R QUAD RECEPTACLE 20 AMP, 125V, NEMA 5-20R GFCI RECEPTACLE 20 AMP, 125V, NEMA 5-20R GFCI DUPLEX RECEPTACLE, MOUNTED 6" ABOVE COUNTER AND/OR ABOVE BACKSPASH, UNLESS OTHERWISE NOTED 20 AMP, 125V, NEMA 5-20R DUPLEX RECEPTACLE, MOUNTED 6" ABOVE COUNTER AND/OR ABOVE BACKSPASH, UNLESS OTHERWISE NOTED 20 AMP, 125V, NEMA 5-20R SWITCHED DUPLEX RECEPTACLE 20 AMP, 125V, NEMA 5-20R CEILING MOUNTED DUPLEX RECEPTACLE 20 AMP, 125V, NEMA 5-20R CEILING MOUNTED SIMPLEX RECEPTACLE SPECIAL RECEPTACLE, CEILING MOUNTED, CONFIGURATION AS NOTED ON PLAN 20 AMP, 125V, NEMA 5-20R DUPLEX FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB 20 AMP, 125V, NEMA 5-20R QUAD FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB JUNCTION BOX, CEILING MOUNTED JUNCTION BOX, WALL MOUNTED JUNCTION BOX, FLOOR MOUNTED SPECIAL RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN FURNITURE FEED RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN MOTOR, HORSEPOWER AS INDICATED ON PLANS OR DIAGRAMS PLUGMOLD, REFER TO DRAWING FOR LENGTHS SAFETY SWITCH, NON-FUSED, 240V, U.N.O. COMBINATION STARTER/DISCONNECT (SIZE AS INDICATED) ENCLOSED CIRCUIT BREAKER TRANSFORMER, TYPE AND RATING AS SHOWN CONDUIT CONNECTION CIRCUIT BREAKER WITH GROUND FAULT PROTECTION FUSE WITH GROUND FAULT PROTECTION GROUND CONNECTION WITH TEST WELL GROUND ROD WEATHER HEAD GENERATOR		NOTE: UPPER CASE LETTER DENOTES LUMINAIRE TYPE. LOWER CASE LETTER ADJACENT TO LUMINAIRE INDICATES SWITCH THAT CONTROLS LUMINAIRES 2' X 4' RECESSED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. 2' X 4' SURFACE MOUNTED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. 2' X 2' RECESSED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. 2' X 2' SURFACE MOUNTED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. 1' X 4' RECESSED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. 1' X 4' SURFACE MOUNTED FLOURESCENT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. LINEAR PENDANT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. PENDANT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. STRIP TYPE LUMINAIRE, LENGTHS AS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. SURFACE MOUNTED DOWNLIGHT, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. RECESSED MOUNTED DOWNLIGHT, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. WALL MOUNTED LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. WALL WASH LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. RECESSED STEP LIGHT LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE. HATCHING DENOTES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP. TRACK LUMINAIRE, MOUNTING IS NOTED ON LUMINAIRE SCHEDULE CEILING MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED EMERGENCY BATTERY LUMINAIRE (2 HEAD) 84" AFF, UNLESS OTHERWISE NOTED. LETTER DENOTES LUMINAIRE TYPE. EMERGENCY BATTERY LUMINAIRE (2 HEAD) WITH MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED MOUNT AT 84" AFF, UNLESS OTHERWISE NOTED. LETTER DENOTES LUMINAIRE TYPE. WALL MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL ARROWS AS REQUIRED SINGLE POLE MOUNTED, EXTERIOR LUMINAIRE DOUBLE POLE MOUNTED, EXTERIOR LUMINAIRE QUAD POLE MOUNTED, EXTERIOR LUMINAIRE BOLLARD LUMINAIRE CEILING FAN SINGLE POLE SWITCH; 3= THREE WAY SWITCH, 4= FOUR WAY SWITCH, K= KEY SWITCH, D= DIMMER SWITCH, T= MOTOR RATED SWITCH, OS= OCCUPANCY SENSING, 3D= THREE WAY DIMMER SWITCH, T= MOTOR RATED SWITCH. DUAL LEVEL SWITCH CEILING MOUNTED OCCUPANCY SENSOR DAYLIGHT SENSOR WALL MOUNTED TIMECLOCK		A AMPS, AIR (COMPRESSED) AC ABOVE COUNTER AFC ABOVE FINISHED CEILING AFEA AREA FOR EVACUATION ASSISTANCE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU AIR HANDLING UNIT AIC AMPERE INTERRUPTING CURRENT ALUMINIUM ATS AUTOMATIC TRANSFER SWITCH AWG AMERICAN WIRE GAUGE AV FOR AUDIO VISUAL, MEDIA CABINET BFF BELOW FINISHED FLOOR BKR BREAKER BOS BOTTOM OF STRUCTURE BTU BRITISH THERMAL UNIT C CONDUIT CATV CABLE TELEVISION SYSTEM CCTV CLOSED CIRCUIT TELEVISION CFM CUBIC FEET PER MINUTE CKT CIRCUIT CLG CEILING CM COFFEE MAKER CU COPPER, CONDENSING UNIT (D) DEMOLISH DDG DIRECT DIGITAL CONTROL DISC DISCONNECT DN DOWN DPDT DOUBLE POLE, DOUBLE THROW DPST DOUBLE POLE, SINGLE THROW DX DISHWASHER DW DIRECT EXPANSION (E) EXISTING TO REMAIN EPO EMERGENCY POWER OFF FBO FURNISHED BY OTHERS FF FINISHED FLOOR FHC FIRE HOSE CABINET FLA FULL LOAD AMPS FLR FLOOR FVNR FULL VOLTAGE, NON REVERSING GD GARBAGE DISPOSAL GFI GROUND FAULT CIRCUIT INTERRUPTER (PERSONAL PROTECTION ON DEVICE) GFP GROUND FAULT PROTECTED FROM UPSTREAM GFI RECEPTACLE OR CIRCUIT BREAKER GFR GROUND FAULT RELAY GND GROUND HOA HAND OFF AUTOMATIC HPS HIGH PRESSURE SODIUM HSTAT HUMIDISTAT HTG HEATING HTR HEATER IG ISOLATED GROUND KMIL 1000 CIRCULAR MILS KV KILOVOLT KVA KILOVOLT AMPS KVAR KILOVOLT AMPS REACTIVE KW KILOWATT KWH KILOWATT HOUR LF LINEAR FEET LRA LOCKED ROTOR AMPS MATV MASTER ANTENNA TELEVISION SYSTEM MBH 1000 BTU PER HOUR MCA MINIMUM CIRCUIT AMPACITY MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MD MOTORIZED DAMPER MDP MAIN DISTRIBUTION PANEL MFR MANUFACTURER MG MOTOR GENERATOR MH MANHOLE MSB MAIN SWITCHBOARD MTD MOUNTED MW MICROWAVE N/A NOT APPLICABLE NIC NOT IN CONTRACT NIO NORMALLY OPEN NIC NORMALLY CLOSED NIL NIGHT LIGHT OC ON CENTER OV OVEN PDU POWER DISTRIBUTION UNIT PHØ PHASE PIV POST INDICATOR VALVE PJ MOUNTED ON CEILING FOR PROJECTOR PNL PANEL PT POTENTIAL TRANSFORMER QTY QUANTITY (RL) RELOCATE RA RETURN AIR RCP REFLECTED CEILING PLAN REF REFRIGERATOR REV REVISION RLA RELATIVE HUMIDITY RLA RUNNING LOAD AMPS RPM REVOLUTIONS PER MINUTE SA SUPPLY AIR SD SMOKE DETECTOR SF SQUARE FEET SPOT SINGLE POLE, DOUBLE THROW SPST SINGLE POLE, SINGLE THROW SP STATIC PRESSURE STO SHORT TOGGLE OPERATOR SWBD SWITCHBOARD TSTAT THERMOSTAT TL TWISTLOCK TV TELEVISION TYP TYPICAL U/F UNDERFLOOR U/G UNDERGROUND U/S UNDER SLAB UL UNDERWRITERS LABORATORIES, INC. UNO UNLESS NOTED OTHERWISE UPS UNINTERRUPTIBLE POWER SUPPLY VAC VOLTS ALTERNATING CURRENT, VACUUM VAV VARIABLE AIR VOLUME VM VENDING MACHINE W/ WITH W/O WITHOUT WP WEATHERPROOF WT WATERTIGHT, WEIGHT XFMR TRANSFORMER XP EXPLOSION PROOF	

PART I - GENERAL

1.01 GENERAL PROJECT REQUIREMENTS

A. ALL DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING DIVISION 1 SPECIFICATIONS, SECTIONS AND GENERAL AND SUPPLEMENTARY CONDITIONS, SHALL APPLY TO THIS SECTION.

B. RELATED DOCUMENTS: ARCHITECTURAL SPECIFICATIONS, LIGHTING FIXTURE SPECIFICATIONS INCLUDING GENERAL, SPECIAL AND SUPPLEMENTARY CONDITIONS, AND SIMILAR DOCUMENTS SHALL FORM A PART OF THESE SPECIFICATIONS.

C. SCOPE OF WORK: PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE AND SAFE INSTALLATION OF ELECTRICAL WORK IN CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND/OR DESCRIBED IN THESE SPECIFICATIONS.

D. SITE CLEANLINESS: KEEP SITE FREE FROM SURPLUS MATERIAL, TOOLS, AND RUBBISH AT ALL TIMES DURING CONSTRUCTION PERIOD AND, UPON COMPLETION, LEAVE SITE IN CLEAN CONDITION.

E. DAMAGE: REPAIR ANY DAMAGE CAUSED TO WORK OF OTHER TRADES AND ANY OTHER DAMAGE CAUSED BY THIS SECTION TO INTENDED/ORIGINAL CONDITION.

F. PASSAGE OF EQUIPMENT: CHECK THE DIMENSIONS OF EQUIPMENT OF THIS SECTION TO ENSURE THAT SUCH EQUIPMENT CAN PASS THROUGH THE NECESSARY AREAS TO REACH ITS ULTIMATE INSTALLED LOCATION, INCLUDE IN BID COSTS FOR ALL WORK REQUIRED, INCLUDING ANY WORK REQUIRED TO MOVE THE EQUIPMENT THROUGH THE SITE TO THIS FINAL LOCATION AND ANY DISMANTLING/RE-ASSEMBLY.

G. GUARANTEE: CONTRACTOR SHALL GUARANTEE THAT ALL PORTIONS OF THE WORK ARE IN ACCORDANCE WITH CONTRACT REQUIREMENTS. GUARANTEE ALL WORK AGAINST FAULTY AND IMPROPER MATERIAL AND WORKMANSHIP FOR A MINIMUM PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER. IF GUANTEES OR WARRANTIES FOR LONGER TERMS ARE SPECIFIED BY CONTRACT, SUCH LONGER TERM SHALL APPLY.

H. PERMITS AND INSPECTIONS: CONTRACTOR SHALL SECURE ALL APPROVALS AND PAY ALL FEES FOR WORK INSTALLED AND DELIVER CERTIFICATE TO OWNER, INCLUDE ALL COSTS IN BASE BID.

I. PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VERIFY ALLOWABLE WORKING HOURS, EMPLOYEE PARKING AREAS, MATERIAL DELIVERY AND STORAGE REQUIREMENTS, AND REQUIREMENTS FOR DEMOLITION AND REMOVAL OF CONSTRUCTION DEBRIS (IF ANY), INCLUDE ALL COSTS IN BID FOR DUST BARRIERS AND DUMPSTERS FOR THE DURATION OF THE PROJECT AS REQUIRED.

J. DURING PREPARATION OF BID, CONTRACTOR MAY DISCOVER ERRORS IN THESE DOCUMENTS OR DISCREPANCIES BETWEEN THESE DOCUMENTS AND THOSE OF OTHER TRADES. IN CASE OF DISCREPANCIES, CONTRACTOR IS RESPONSIBLE FOR DIDDING THE GREATER QUANTITY OR HIGHER QUALITY ITEMS IF NO SUFFICIENT RESOLUTION OF THE DISCREPANCY IS DETERMINED PRIOR TO SUBMITTING BID.

K. RECORD DRAWINGS: UPON PROJECT COMPLETION, DELIVER TO OWNER ONE SET OF REPRODUCIBLE DRAWINGS AND ONE BOUND SET OF BLUEPRINTS AND PANEL SCHEDULES SHOWING ALL WORK AS ACTUALLY INSTALLED.

1.02 DEFINITIONS AND TERMINOLOGY

A. DRAWINGS AND SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES, WORDS OR PHRASES SUCH AS "CONTRACTOR SHALL", "SHALL BE", "FURNISH", "PROVIDE", "TA", "AN", "THE" AND "ALL" MAY BE OMITTED FOR BREVITY.

B. WORDS AND/OR PHRASES USED IN THESE DOCUMENTS ARE DEFINED AS FOLLOWS:

1. "FURNISH" OR "PROVIDE": TO SUPPLY, INSTALL, AND CONNECT COMPLETELY AND READY FOR SAFE AND REGULAR OPERATION OF PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY NOTED OTHERWISE.
2. "INSTALL": TO ERECT, MOUNT, AND CONNECT COMPLETE WITH ANY NECESSARY RELATED ACCESSORIES (WHETHER SPECIFICALLY INDICATED OR NOT).
3. "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE, AND DELIVER COMPLETE WITH ANY NECESSARY RELATED ACCESSORIES.
4. "WORK": LABOR, MATERIALS, EQUIPMENT, AND ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
5. "CONTRACTOR": ELECTRICAL CONTRACTOR, UNLESS NOTED OTHERWISE.
6. "PROJECT MANAGER": THE ENTITY/PROFESSIONAL RESPONSIBLE FOR COORDINATION AND COMPLETION OF ALL REQUIRED WORK, CAPABLE OF BEING CONTACTED BY THE GENERAL CONTRACTOR OR ARCHITECT OR OTHER AUTHORITY AS DESCRIBED IN THE CONTRACT.
7. "OWNER": THE OWNER OR TENANT THAT IS THE ULTIMATE RECIPIENT OF THE CONSTRUCTION WORK DESCRIBED.
8. "WIRING": RACEWAY, FITTINGS, CONDUCTORS, BOXES, AND RELATED ITEMS.
9. "CONCEALED": INSTALLED EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, IN ENCLOSURES, OR AS DEFINED IN NEC ARTICLE 100.
10. "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE, OR AS DEFINED IN NEC ARTICLE 100.
11. "EQUAL": ACCEPTABLE EQUIVALENT IN MATERIALS, WEIGHT, SIZE, DESIGN, OPERATION, AND EFFICIENCY OF SPECIFIED PRODUCT. FINAL DETERMINATION OF ACCEPTABLE EQUIVALENCY SHALL BE MADE BY ENGINEER WHEN AN ITEM IS INDICATED AS "APPROVED EQUAL".

C. WHERE TERMS ARE NOT DEFINED IN THESE DOCUMENTS, THE DEFINITIONS IN NEC ARTICLE 100 SHALL TAKE PRECEDENCE.

1.03 REFERENCE STANDARDS

- A. COMPLY WITH ALL PUBLISHED CODES, SPECIFICATIONS, STANDARDS, TESTS, OR RECOMMENDED METHODS OF TRADE, INDUSTRY OR GOVERNMENTAL ORGANIZATIONS, OR LOCAL UTILITIES AS THEY APPLY TO WORK IN THIS DIVISION AS OUTLINED BELOW:
1. ADA - AMERICANS WITH DISABILITIES ACT.
 2. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE.
 3. ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS.
 4. CBM - CERTIFIED BALLAST MANUFACTURERS.
 5. EEL - ELECTRICAL TESTING LABORATORIES.
 6. FAA - FEDERAL AVIATION ADMINISTRATION.
 7. FCC - FEDERAL COMMUNICATIONS COMMISSION.
 8. FM - FACTORY MUTUAL.
 9. IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS.
 10. IES - ILLUMINATING ENGINEERING SOCIETY.
 11. NEC - NATIONAL ELECTRICAL CODE.
 12. NECA - NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION.
 13. NEMA - NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION.
 14. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION.
 15. OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT.
 16. UL - UNDERWRITERS' LABORATORIES, INC.
 17. LOCALLY ADOPTED BUILDING CODES AND/OR OTHER BUILDING CODES SPECIFIC TO THIS JURISDICTION.
 18. LOCALLY ADOPTED ELECTRICAL CODES AND/OR OTHER ELECTRICAL CODES SPECIFIC TO THIS JURISDICTION.
 19. LOCAL UTILITY AUTHORITIES.
 20. LOCAL FIRE DEPARTMENT.

B. COMPLIANCE WITH GOVERNING CODES AND REGULATIONS SHALL BE SUBJECT TO THE FOLLOWING GUIDELINES:

1. DRAWINGS AND SPECIFICATION REQUIREMENTS SHALL GOVERN WHERE THEY EXCEED GOVERNING CODE AND REGULATION REQUIREMENTS.
2. WHERE REQUIREMENTS BETWEEN GOVERNING CODES AND REGULATIONS VARY, THE MORE STRINGENT SHALL APPLY.
3. NOTHING CONTAINED IN CONTRACT DOCUMENTS SHALL BE CONSTRUED AS AUTHORITY OR PERMISSION TO DISREGARD OR VIOLATE LEGAL REQUIREMENTS. CONTRACTOR SHALL IMMEDIATELY DRAW THE ATTENTION OF THE PROJECT MANAGER TO ANY SUCH CONFLICTS NOTED IN THE CONTRACT DOCUMENTS.

1.04 SUBMITTALS

A. PROVIDE ELECTRONIC COPIES OF SUBMITTALS WITH DESCRIPTIVE DATA FOR ALL PRODUCTS AND MATERIALS FOR REVIEW BY ENGINEER PRIOR TO ORDERING. SUBMITTALS SHALL CLEARLY IDENTIFY MANUFACTURER, MODEL NUMBER, AND ANY DETAILS NECESSARY TO SHOW COMPLIANCE WITH THE SPECIFICATION DOCUMENTS IN ADDITION TO THOSE PARAMETERS OUTLINED BELOW FOR THE FOLLOWING ITEMS:

1. LIGHTING FIXTURES INCLUDING PHOTOMETRIC PERFORMANCE DATA AND ANALYSIS (WITH PARAMETERS OUTLINED) AS REQUIRED BY ENGINEER, FIXTURE POLES AND MOUNTING ARMS, BALLASTS, AND LAMPS.
2. DEVICES AND EQUIPMENT, INCLUDING WALL SWITCHES, WALL-BOX DIMMERS, RECEPTACLES, DEVICE COVER PLATES, SAFETY SWITCHES, ETC.
3. OVERCURRENT DEVICES INCLUDING TIME/CURRENT CURVES IF REQUESTED.
4. SWITCHBOARDS, DISTRIBUTION BOARDS, MOTOR CONTROL CENTERS, AND PANELBOARDS: DIMENSIONS, ENCLOSURE DATA, VOLTAGE AND PHASE, AMPACITY, OVERCURRENT DEVICES (INCLUDING QUANTITIES, AMPACITY RATINGS, TYPES, POLES, ETC.), CATALOG CUTS, AND ANY RELATED ACCESSORIES.
5. TRANSFORMERS: WEIGHT OF TRANSFORMER, MOUNTING DETAILS, AND PERFORMANCE DATA (INCLUDING IMPEDANCE, EFFICIENCY, AND SOUND LEVEL).
6. SPECIAL SYSTEMS AND EQUIPMENT: ARCHITECTURAL/THEATRICAL DIMMING EQUIPMENT AND CONTROLS, OCCUPANCY AND DAYLIGHT HARVESTING SENSORS, EMERGENCY POWER SOURCES AND RELATED TRANSFER EQUIPMENT, TRANSIENT VOLTAGE SURGE SUPPRESSORS, SUB-METERING DEVICES, ETC.

B. SHOP DRAWINGS: COORDINATED LAYOUT PLANS FOR ELECTRICAL ROOMS, INFORMATION TECHNOLOGY ROOMS, AND OTHER SPECIALIZED AREAS AS REQUESTED BY THE ENGINEER, SHOWING WORK OF ALL TRADES INCLUDING BUT NOT LIMITED TO DUCTWORK, HVAC, PLUMBING, FIRE PROTECTION PIPING, ELECTRICAL CONDUITS, BUS DUCTS, AND ALL RELATED EQUIPMENT.

1.05 SUBSTITUTIONS

A. PROCEDURE: CONTRACTOR'S BID SHALL INCLUDE PRODUCTS AS OUTLINED IN THE SPECIFICATION DOCUMENTS. EXCEPT IN THE CASE OF PRODUCT UNAVAILABILITY, SUBSTITUTIONS WILL NOT BE ALLOWED. ENGINEER WILL CONSIDER FORMAL REQUESTS FOR SUBSTITUTION OF PRODUCTS ONLY IF THE REQUEST MEETS THE FOLLOWING CONDITIONS:

1. WRITTEN EVIDENCE OF PRODUCT UNAVAILABILITY NECESSITATING THE PROPOSED SUBSTITUTION FROM THE SPECIFIED PRODUCTS MANUFACTURER REPRESENTATIVE OR SUPPLIER.
2. COMPLETE DATA SUBSTANTIATING COMPLIANCE OF PROPOSED SUBSTITUTION WITH REQUIREMENTS AND SPECIFICATIONS STATED IN CONTRACT DOCUMENTS.
3. DATA RELATING TO CHANGES IN CONSTRUCTION SCHEDULE.
4. COMPLETE DESCRIPTION OF ANY EFFECT OF SUBSTITUTION ON OTHER WORK IN THIS AND OTHER TRADES.

B. FAILURE TO PLACE ORDERS FOR SPECIFIED ITEMS IN A TIMELY MANNER (WITH RESPECT TO THE PROJECT MANAGER'S CONSTRUCTION SCHEDULE) DOES NOT CONSTITUTE PRODUCT UNAVAILABILITY.

C. CONTRACTOR SHALL BE RESPONSIBLE AT NO EXTRA COST TO OWNER FOR ANY CHANGES RESULTING FROM PROPOSED SUBSTITUTIONS WHICH AFFECT WORK OF OTHER TRADES OR RELATED CONTRACTS.

D. CLAIMS FOR ADDITIONAL COSTS CAUSED BY SUBSTITUTION WHICH MAY SUBSEQUENTLY BECOME APPARENT SHALL BE MET BY THE CONTRACTOR.

E. SUBSTITUTIONS WILL NOT BE CONSIDERED FOR ACCEPTANCE WHEN ACCEPTANCE WILL REQUIRE SUBSTANTIAL REVISION OF CONTRACT DOCUMENTS, UNLESS CONTRACTOR BEARS COST OF REDESIGN.

F. SUBSTITUTE PRODUCTS SHALL NOT BE ORDERED OR INSTALLED WITHOUT PRIOR WRITTEN APPROVAL/ACCEPTANCE BY ENGINEER.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. SHIP EQUIPMENT IN ORIGINAL PACKAGES TO PREVENT DAMAGE OR ENTRANCE OF FOREIGN MATTER, HANDLE AND SHIP IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

B. PROVIDE AND MAINTAIN PROTECTIVE COVERINGS DURING CONSTRUCTION.

C. REPLACE, AT NO EXPENSE TO OWNER, EQUIPMENT OR MATERIAL DAMAGED, LOST, OR STOLEN DURING STORAGE OR HANDLING AS DIRECTED BY THE PROJECT MANAGER.

1.07 EXISTING CONDITIONS (AS APPLICABLE)

A. VERIFICATION: BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AND THE PRESENT INSTALLATIONS TO WHICH CONNECTIONS MUST BE MADE OR WHICH MUST BE ALTERED. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN, AND NO CONSIDERATION WILL BE GRANTED BY REASON OF LACK OF FAMILIARITY ON THE PART OF THE CONTRACTOR WITH ACTUAL PHYSICAL CONDITIONS, REQUIREMENTS, AND PRACTICES AT THE SITE.

B. TEMPORARY SHUTDOWNS: SHALL BE PERFORMED AT NO ADDITIONAL CHARGES TO OWNER. SHUTDOWNS SHALL BE UNDERTAKEN AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES. OBTAIN WRITTEN CONSENT OF OWNER PRIOR TO SHUTDOWNS.

C. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED.

D. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.

E. REMOVAL AND RELOCATION OF EXISTING WORK:

1. DISCONNECT AND REMOVE OR RELOCATE ANY ELECTRICAL EQUIPMENT AND/OR DEVICES REQUIRED BY REMOVAL OR CHANGES IN EXISTING CONSTRUCTION.
2. REMOVE CONDUCTORS FROM EXISTING RACEWAYS TO BE REUSED AND REPLACE WITH NEW CONDUCTORS.
3. REMOVE EXISTING CONDUCTORS NO LONGER USED. REMOVE RACEWAYS IN ALL CASES EXCEPT WHERE THE REMOVAL OF THE RACEWAY WOULD CAUSE DAMAGE TO EXISTING CONSTRUCTION OR CAP AND MARK AS "ABANDONED" ANY UNUSABLE RACEWAYS.
4. CUT AND CAP ABANDONED FLOOR RACEWAYS FLUSH WITH CONCRETE FLOOR OR BEHIND WALLS AND CEILINGS.
5. DISPOSE OF ALL REMOVED RACEWAYS AND WIRE.
6. DISPOSE OF REMOVED ELECTRICAL EQUIPMENT, LIGHTING FIXTURES, AND DEVICES AS DIRECTED.
7. CUT AND PATCH EXISTING CONSTRUCTION AS REQUIRED. ALL PATCHING SHALL BE OF THE SAME MATERIALS, FINISH, AND WORKMANSHIP AS THE EXISTING AREA AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK TO THE SATISFACTION OF THE PROJECT MANAGER.
8. IF ASBESTOS INSULATION IS FOUND WHEN WORKING IN EXISTING AREAS, IMMEDIATELY STOP WORK AND NOTIFY PROJECT MANAGER. DO NOT RESTART WORK UNTIL ADVISED IN WRITING BY PROJECT MANAGER THAT IT IS SAFE TO DO SO FOLLOWING ABATEMENT, ENCAPSULATIONS, ETC.

1.08 TELECOMMUNICATIONS AND OTHER LOW-VOLTAGE SYSTEMS

A. SCOPE: ALL TELECOMMUNICATIONS AND OTHER LOW-VOLTAGE CABLE DESIGNS ARE OUTSIDE OF THE SCOPE OF THE ELECTRICAL DOCUMENTS. THE DOCUMENTS REPRESENT THE GENERAL ARRANGEMENT OF EMPTY RACEWAYS AND BOXES TO ACCOMMODATE THE TELECOMMUNICATIONS AND LOW-VOLTAGE SYSTEMS. CONTRACTOR SHALL VERIFY EXACT RACEWAY, JUNCTION BOX, AND DEVICE BOX REQUIREMENTS WITH THE OWNER'S SELECTED TELECOMMUNICATIONS CONSULTANT PRIOR TO ORDERING THE COMPONENTS OF THE RACEWAY AND BOX SYSTEM.

B. SUBMITTALS: CONTRACTOR SHALL SUBMIT ALL COMPONENTS OF THE TELECOMMUNICATION AND OTHER LOW-VOLTAGE SYSTEMS TO THE OWNER'S SELECTED TELECOMMUNICATIONS CONSULTANT FOR APPROVAL.

PART II - PRODUCTS

2.01 QUALITY ASSURANCE

A. QUALITY OF MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. MATERIALS SHALL BE NEW AND LISTED BY UL (OR SIMILAR AGENCY ACCEPTED BY THE AUTHORITY HAVING JURISDICTION) AND BEARING THEIR LABEL.
2. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF THE SAME MANUFACTURER, UNLESS OTHERWISE NOTED.
3. MATERIALS SHALL CONFORM TO NEMA, ANSI, AND IEEE STANDARDS.

2.02 RACEWAYS

A. RIGID GALVANIZED STEEL CONDUIT (RGS): FULL-WEIGHT PIPE, GALVANIZED, THREADED.

B. INTERMEDIATE METAL CONDUIT (IMC): LIGHTWEIGHT STEEL PIPE, GALVANIZED, THREADED.

C. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADED.

D. RIGID NONMETALLIC CONDUIT: SCHEDULE 40 PVC.

E. FLEXIBLE STEEL CONDUIT: STANDARD-WALL, GALVANIZED.

F. FLEXIBLE ALUMINUM CONDUIT: STANDARD-WALL.

G. MINIMUM TRADE SIZE IS 1/2" FOR ALL RIGID AND FLEXIBLE CONDUITS.

2.03 RACEWAY FITTINGS AND ACCESSORIES

A. RIGID GALVANIZED AND INTERMEDIATE METAL CONDUIT: ZINC DIE CAST NOT PERMITTED.

B. ELECTROMETALLIC TUBING: COMPRESSION (WET LOCATIONS) OR DOUBLE SET SCREW TYPE (DRY LOCATIONS ONLY), GALVANIZED RIGID STEEL ELBOWS, 2 IN. OR LARGER.

C. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT. D. BUSHINGS: METALLIC INSULATED TYPE.

2.04 BOXES

A. OUTLET BOXES: STAMPED OR WELDED STEEL, 4 IN. SQUARE OR OCTAGON WITH APPROPRIATE MUD RING, EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, AS FOLLOWS:

1. LIGHTING FIXTURES: 1-1/2" DEEP ABOVE CEILING, 2-1/8" DEEP IN WALL.
2. IN WALL FOR RECEPTACLES, SWITCHES, TELEDATA DEVICES: 1-1/2" DEEP.
3. IN WALL FOR WALL-BOX DIMMERS AND GFCI RECEPTACLES: 2-1/8" DEEP.
4. WITH RAISED COVERS AND FIXTURE SADDLES WHERE REQUIRED.
5. THROUGH-THE-WALL TYPE, NOT PERMITTED.
6. WITHOUT FIXTURE OR DEVICE: BLANK COVER.
7. OFFSET BACK-TO-BACK OUTLETS: MINIMUM 6 IN. SEPARATION. COVER BACK BOXES WITH EITHER FIRE OR SOUND PUTTY PAD.

B. BOXES FOR WET/DAMP LOCATIONS: WEATHERPROOF (NEMA 3R), CAST METAL.

C. IN HAZARDOUS LOCATIONS: CAST, COPPER-FREE STEEL.

D. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL, SCREW-ON COVERS, INSULATED

SUPPORTS FOR CABLES, INSTALLED ONLY IN ACCESSIBLE LOCATIONS.

E. FLOOR BOXES: GALVANIZED CAST IRON WITH BRASS COVERS AND FLANGES, SUITABLE FOR CONDUIT AND DEVICES INDICATED.

F. EXTERIOR GRADE-MOUNTED PULL BOXES: CONCRETE OR COMPOSITE FIBER CONSTRUCTION WITH BOLT-DOWN COVERS. METALLIC BOXES ARE NOT PERMITTED.

G. PROVIDE BARRIERS IN ALL BOXES BETWEEN 480Y/277 VOLT WIRING ENERGIZED FROM SUPPLIER SERVICES, 208Y/120 VOLT AND 480Y/277 VOLT WIRING, EMERGENCY AND NORMAL WIRING.

2.05 WIRE AND CABLE

A. CONDUCTORS: ASTM STANDARD SOLID, STRANDED FOR #8 AWG AND LARGER.

1. TYPE: COPPER, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOT SUBSTITUTE ALUMINUM FOR ANY BRANCH CIRCUITS. CONTRACTOR MAY SUBSTITUTE ALUMINUM FOR FEEDERS SIZED #1/0 AWG OR LARGER ONLY WITH WRITTEN CONSENT OF ENGINEER.

2. SIZE, FOR GENERAL USE (BASED UPON 10A LOAD):

A. #12 AWG MINIMUM FOR ALL CIRCUITS 120V OR MORE.

B. FOR 20A/1P 120V BRANCH CIRCUITS OVER 110 FEET IN TOTAL LENGTH: #10 AWG THROUGHOUT ENTIRE CIRCUIT.

C. FOR 20A/1P 120V BRANCH CIRCUITS OVER 110 FEET IN TOTAL LENGTH: #8 AWG FOR HOMERUN, #10 AWG THROUGHOUT REMAINDER OF CIRCUIT.

D. FOR 20A/1P 277V BRANCH CIRCUIT HOMERUNS OVER 160 FEET IN LENGTH: #10 AWG THROUGHOUT ENTIRE CIRCUIT.

E. FOR 20A/1P 277V BRANCH CIRCUITS OVER 260 FEET IN LENGTH: #8 AWG FOR HOMERUN, #10 AWG THROUGHOUT REMAINDER OF CIRCUIT.

3. SIZE, FOR CONTROL AND ALARM: #14 AWG MINIMUM, EXCEPT FOR 120V CIRCUITS OR CIRCUITS OVER 200 FEET IN LENGTH PROVIDE #12 AWG MINIMUM.

4. OTHER VOLTAGES AND PHASES: BRANCH CIRCUIT SIZE ADJUSTED AS REQUIRED TO MAINTAIN VOLTAGE DROP BELOW 3% (FEEDERS BELOW 2%).

5. WIRE BRANCH CIRCUITS: FEEDERS HAVE BEEN ADJUSTED FOR VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED. EQUIPMENT GROUNDING CONDUCTOR TO BE RESIZED TO CORRESPOND TO THE NORMAL AMPACITY OF THE NEW FEEDER SIZE.

B. INSULATION:

1. THW-2/THHN: FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED.
2. SF-2: BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES OR WHERE AMBIENT TEMPERATURES EXCEED 90° C.
3. TYPE NM (RHEMEX) CABLE NOT ALLOWED.
4. COLOR CODING: CONDUCTORS SHALL BE COLOR CODED TO DIFFERENTIATE THE PHASES. THE SAME COLOR CODE BEING ASSIGNED TO THE SAME PHASE THROUGHOUT THE PROJECT.
5. RATING: CONDUCTORS FOR CIRCUITS RATED 30A OR LESS HAVE BEEN SIZED BASED UPON 80° C TEMPERATURE RATING (NEC TABLE 310.15 (B)(16)). CONDUCTORS FOR CIRCUITS RATED OVER 30A HAVE BEEN SIZED BASED UPON 75° C TEMPERATURE RATING. 90° C CONDUCTOR TEMP RATING IS USED ONLY FOR CALCULATING DERATING WHERE ALLOWED BY NEC.

C. METAL CLAD (MC) CABLE: FOR BRANCH CIRCUITS IN DRY LOCATIONS, WALLS, HUNG CEILINGS, AND FURRED SPACES TO BRANCH DISTRIBUTION BOX ONLY. NOT ALLOWED FOR HOMERUNS.

D. TAGS: PROVIDE TAGS IN ACCESSIBLE LOCATIONS FOR ALL FEEDERS, MADE OF FLAMEPROOF LINEN OR FIBER, INDICATING FEEDER SIZE, PHASE, AND POINTS OF ORIGIN AND TERMINATIONS.

E. TERMINATIONS, SPLICES AND TAPS UNDER 600V:

1. COPPER WIRE AND CONDUCTORS: #10 AWG AND SMALLER, WITH COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND NYLON-INSULATED COVERING.
2. COPPER CONDUCTORS #8 AWG AND LARGER: MECHANICAL BOLTED PRESSURE OR HYDRAULIC-COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING.
3. ALUMINUM WIRE AND CONDUCTORS: COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE.

2.06 DEVICES

A. LOCAL WALL SWITCHES: HEAVY DUTY, TOGGLE, OR ROCKER QUIET TYPE, 20A, 120/277VAC, COORDINATE WITH ARCHITECT FOR FINISH COLOR.

B. DIMMER SWITCHES: SLIDER TYPE, SIZED PER TOTAL CONTROLLED LOAD OR AS INDICATED, COORDINATE WITH ARCHITECT FOR FINISH COLOR.

C. RECEPTACLES:

- A. DUPLEX CONVENIENCE: NEMA 5-20R UNLESS OTHERWISE NOTED, GFCI-TYPE WHERE INDICATED OR REQUIRED BY CODE. COORDINATE WITH ARCHITECT FOR FINISH COLOR.
- B. SINGLE: NEMA 5-20R UNLESS NOTED OTHERWISE, COORDINATE WITH ARCHITECT FOR FINISH COLOR.
- C. SPECIAL USE: NEMA TYPES AND RATINGS AS INDICATED ON DRAWINGS OR AS REQUIRED TO MATCH CORD CAP OF EQUIPMENT.
- D. DEVICE PLATES: VERIFY TYPE WITH ARCHITECT.
- E. RECEPTACLE DEVICES: CONDUIT FOR RECEPTACLES INSTALLED OUTDOORS, PROVIDE NEMA 3R, CAST METAL, LOCKABLE, "IN-USE" TYPE COVERS.

2.07 LOW VOLTAGE DISTRIBUTION EQUIPMENT

A. DISCONNECT SWITCHES:

1. FUSED OR NONFUSED AS NOTED.
2. VOLTAGE AS REQUIRED FOR APPLICATION.
3. AMPACITY AS REQUIRED FOR APPLICATION (MINIMUM SIZE SHALL BE 125% OF FULL-LOAD AMPS OF EQUIPMENT SERVED, UNLESS OTHERWISE NOTED).
4. HEAVY DUTY, UNLESS OTHERWISE NOTED.
5. HORSEPOWER RATED FOR MOTOR LOADS.
6. TOGGLE TYPE: NON-FUSED, MAXIMUM RATING OF 20A AT 600V OR 30A AT 250V, USE ONLY WITH FULL-LOAD AMPS OF LOAD DOES NOT EXCEED 80% OF SWITCH RATING.
7. KNIFE-BLADE TYPE: LOAD BREAK, QUICK-MAKE-BREAK-BREAK, UL CLASS R UP TO 600V, MAXIMUM RATING 600A EXCEPT AS NOTED, ARC QUENCHERS, INDIVIDUALLY MOUNTED EXCEPT AS NOTED.

B. FUSES:

1. MATCH EXISTING WHERE APPLICABLE.
2. FOR MOTOR AND TRANSFORMER LOADS: CURRENT LIMITING, DUAL ELEMENT, TIME DELAY TYPE, 20,000 AIC, EQUAL TO BUSSMANN FUSELINK FRN OR FRF OR LO-PEAK LPN OR LPS (UL CLASS R), VOLTAGE RATINGS TO SUIT APPLICATIONS, AMP RATINGS PER PLANS, UNLESS OTHERWISE NOTED.
3. FOR OTHER LOADS: CURRENT LIMITING, FAST ACTING TYPE, 20,000 AIC, EQUAL TO BUSSMANN LIMTRON KTN, KTS, OR KTL (UL CLASS R, UP TO 600A, CLASS L, OVER 600A), UNLESS OTHERWISE NOTED.
4. ALL FUSES SHALL BE OF THE SAME MANUFACTURER.
5. SUPPLY 1 SPARE MATCHING FUSE FOR EACH SET OF 3 INSTALLED.

C. CIRCUIT BREAKERS:

1. GENERAL REQUIREMENTS: THERMAL-MAGNETIC, QUICK-MAKE-QUICK-BREAK, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE, MULTI-POLE TYPES WITH INTERNAL TRIP BAR, TERMINALS UL LISTED FOR 75° C, SUITABLE FOR COPPER OR ALUMINUM, HACK-RATED TO SUIT APPLICATION. PROVIDE CIRCUIT BREAKER TO MATCH EXISTING EQUIPMENT, IF ANY.
2. SHORT CIRCUIT INTERRUPTING CAPACITY:
 - A. SIZE TO MATCH EQUIPMENT AIC RATING INDICATED ON DIAGRAMS AND SCHEDULES.
 - UNLESS OTHERWISE NOTED, WHERE MULTIPLE CONDUCTORS (IN EXCESS OF THREE) ARE INSTALLED, EQUIPMENT, SERIES-RATED EQUIPMENT IS ALLOWED ONLY IF SPECIFICALLY IDENTIFIED ON THESE DRAWINGS.
3. GFCI PROTECTION: WHERE THE ELECTRICAL CODE REQUIRES GFCI PROTECTION OF SPECIFIC RECEPTACLES WHICH ARE NOT READILY ACCESSIBLE (SUCH AS BEHIND REFRIGERATORS OR SIMILAR UTILIZATION EQUIPMENT), PROVIDE GFCI-TYPE CIRCUIT BREAKERS IN LIEU OF GFCI RECEPTACLES.

D. MOTOR CONTROLLERS/STARTERS:

1. MANUAL MOTOR CONTROLLERS: 600VAC HEAVY DUTY RATED, SINGLE- OR MULTI-POLE TO SUIT APPLICATION, MOUNTED IN SUITABLE NEMA ENCLOSURE, HORSEPOWER RATED TO SUIT MOTOR TO BE CONTROLLED, H-O-A OR START-STOP OPERATION AS REQUIRED FOR APPLICATION.

E. BRANCH CIRCUIT PANELBOARDS:

1. GENERAL REQUIREMENTS:
 - A. PROVIDE FACTORY-ASSEMBLED, ENCLOSED PANELBOARDS WITH DOORS, SURFACE-MOUNTED OR RECESSED AS INDICATED.
 - B. PROVIDE FEEDER TERMINAL LUGS FOR BOTH MAIN BREAKERS AND MAIN LUGS, RATED FOR USE WITH COPPER OR ALUMINUM CABLES AS REQUIRED.
 - C. ALL DOOR LOCKS SHALL BE KEYS AWAKE.
 - D. PROVIDE SEPARATE HINGED AND LOCKABLE DOORS FOR MAIN CONTACTOR COMPARTMENTS AS REQUIRED.
 - E. AIC RATING FOR PANEL BUS SHALL BE AS INDICATED ON DRAWINGS.
 - F. PANEL BUS MAY BE COPPER OR ALUMINUM.
 - G. PROVIDE CONTROL TRANSFORMER FOR THE SHUNT TRIP ELEMENT IN THE PANELBOARD ENCLOSURE AS REQUIRED.
2. PROVIDE CIRCUIT DIRECTORY CONSISTING OF METAL FRAME WITH TRANSPARENT PLASTIC COVER, PROVIDE TYPEWRITTEN LIST INDICATING CIRCUIT NUMBERS AND LOADS TO MATCH ACTUAL "AS-BUILT" CONDITIONS (TO CORRESPOND WITH PROJECT RECORD DRAWINGS).
3. ACCEPTABLE MANUFACTURERS: SQUARE D, SIEMENS, GENERAL ELECTRIC, AND Eaton/CUTLER-HAMMER.

F. ENCLOSURES: DEAD FRONT, NEMA TYPE 1 (INDOOR) OR NEMA TYPE 3R (OUTDOOR), UNLESS OTHERWISE NOTED. ALL EQUIPMENT SHALL HAVE SUFFICIENT SPACE TO ACCOMMODATE THE QTY AND SIZE OF CONDUCTORS REQUIRED. CONTRACTOR SHALL PROVIDE LISTED OVERSIZED ENCLOSURES WHERE REQUIRED.

G. TEMPERATURE RATING: ALL LOW-VOLTAGE DISTRIBUTION EQUIPMENT SHALL BE RATED FOR 75° C MINIMUM, NO EXCEPTIONS.

H. NAMEPLATES: PROVIDE NAMEPLATES FOR ALL DISCONNECT SWITCHES, ENCLOSED CIRCUIT BREAKERS, PANELS, CABINETS, TRANSFORMER ENCLOSURES, MOTOR CONTROLLERS, DISTRIBUTION BOARDS, AND SWITCHBOARDS. NAMEPLATES SHALL BE FASTENED WITH EPOXY CEMENT, ENGRAVED BLACK BACKGROUND WITH 3/4" WHITE LETTERING, INSCRIPTION INDICATING EQUIPMENT AND VOLTAGE.

2.08 LUMINAIRES

A. PROVIDE LUMINAIRES, COMPONENTS, AND LAMPS AS SPECIFIED IN THE DRAWINGS.

B. LUMINAIRE CATALOG NUMBERS USED TO ILLUSTRATE EQUIPMENT TYPE DO NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE PROPER MOUNTING TYPES TO SUIT APPLICATION AND TO PROVIDE REQUIRED ACCESSORIES TO SUIT.

C. LIGHTING CONTROL SYSTEM:

1. GENERAL: PROVIDE LIGHTING CONTROL SYSTEM COMPONENTS AS SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL COMPONENTS FOR A COMPLETE AND OPERABLE SYSTEM PER MANUFACTURER'S REQUIREMENTS, WHETHER ALL COMPONENTS ARE SPECIFIED IN THE DRAWINGS OR NOT. COORDINATION COMMISSIONING REQUIREMENTS WITH LIGHTING DESIGNER AND/OR ENGINEER AS REQUIRED.
2. COMPATIBILITY WITH LED DRIVERS: LIGHTING DIMMING CONTROLS SHALL BE COMPATIBLE WITH THE LED LUMINAIRES AND/OR LAMPS SPECIFIC IN THESE DRAWINGS. CONTRACTOR SHALL VERIFY COMPATIBILITY WITH LED AND DIMMER MANUFACTURERS SUCH THAT LED LUMINAIRES AND LAMPS DIM TO 20% OR LESS WITHOUT FLICKERING.

D. LAMPS: PROVIDE AS SPECIFIED IN THE DRAWINGS AND TO SUIT APPLICATION.

PART III - EXECUTION

3.01 INSTALLATION

A. GENERAL REQUIREMENTS:

1. DO NOT SCALE ELECTRICAL DRAWINGS. VERIFY EXACT LOCATIONS OF ALL FIXTURES, DEVICES, BOXES, PANELS, AND OTHER EQUIPMENT WITH THE DRAWINGS, OR ARCHITECTS, INTERIOR DESIGNERS, AND ALL OTHER CONSULTANTS. EACH DEVICE AND FIXTURE HEIGHT SHALL BE VERIFIED WITH OTHERS' DIMENSIONED DRAWINGS (INCLUDING MILLWORK SHOP DRAWINGS) TO ENSURE PROPER HEIGHT AND LOCATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATION TO INSTALLED THE WORK INDICATED IN A MANNER DIFFERENT FROM THAT SHOWN, SUCH CHANGES SHALL BE PRESENTED FOR REVIEW AND APPROVAL FROM THE PROJECT MANAGER PRIOR TO PROCEEDING. UPON APPROVAL, THE WORK SHALL BE PERFORMED AND THE RECORD DRAWINGS PREPARED TO ACCURATELY REFLECT THE WORK AS ACTUALLY INSTALLED.
2. IN ALL CASES, MANUFACTURER'S DRAWINGS, DETAILS, AND/OR INSTRUCTIONS SHALL BE FOLLOWED FOR ALL EQUIPMENT AND DEVICES INSTALLED. IN CASES OF CONFLICT WITH THESE DRAWINGS AND SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDED INSTALLATION METHODS SHALL TAKE PRECEDENCE.
3. THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP OPENINGS DURING CONSTRUCTION TO PREVENT INFILTRATION OF DIRT AND OTHER FOREIGN OBJECTS UNTIL FINAL SUCH OPENINGS HAVE BEEN MADE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ANCHORS, SUPPORTS, AND CONNECTIONS OF ELECTRICAL WORK TO THE BUILDING STRUCTURE AS REQUIRED BY BUILDING CODES AND IN COMPLIANCE WITH THE LISTING OF THE ANCHORS AND SUPPORTS LISTED TO SUPPORT THE WEIGHT OF THE EQUIPMENT AND CONNECTIONS. THE WEIGHT OF SHOP FABRICATED AND FIELD FABRICATED MATERIALS AND EQUIPMENT, ALL SUPPORTS, EQUIPMENT, AND CONNECTIONS SHALL BE DESIGNED TO CONFORM TO REQUIREMENTS OF THE GOVERNING CODES AND AUTHORITY HAVING JURISDICTION.
5. ALL EQUIPMENT SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE WITH APPROVED SUPPORTS. ALL WORK SHALL BE PROPERLY SUPPORTED FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER INDEPENDENT OF THE CEILING SUPPORT SYSTEM, WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT DIRECT FASTENING OF SUPPORTS. FURNISH ADDITIONAL FRAMING AS REQUIRED.
7. FIELD-VERIFY FEEDER CONDUIT LENGTHS AND TRANSFORMER PARAMETERS (INCLUDING UTILITY TRANSFORMERS) VERSUS THE VALUES LISTED IN THESE DOCUMENTS. THE FIELD-VERIFIED CONDITION IS DIFFERENT THAN THOSE DEPICTED IN THESE DRAWINGS, NOTIFY ENGINEER IMMEDIATELY FOR RE-CALCULATION OF AVAILABLE FAULT CURRENTS.

B. RACEWAYS, WIRE, AND CABLES:

1. ROUTING OF RACEWAY SYSTEMS AS SHOWN IS DIAGRAMMATIC. ACTUAL LOCATION AND ROUTING OF ALL RACEWAYS SHALL BE DETERMINED BY CONTRACTOR TO SUIT FIELD CONDITIONS.
2. RACEWAYS SHALL BE INSTALLED CONCEALED, EXCEPT IN AREAS OUT OF PUBLIC VIEW, EQUIPMENT ROOMS, AND OTHER SIMILAR AREAS, OR WHERE CONDITIONS RENDER CONCEALMENT IMPRACTICAL, WHERE EX



Energy Code:	2018 IECC
Project Title:	
Project Type:	Alteration

Construction Site:	Owner/Agent:	Designer/Contractor: RJA 3295 Blake St. Suite 104 Denver, CO 80205 720.598.0774
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A	B	C	D
Area Category	Floor Area (sq)	Allowed Watts / sq	Allowed Watts (B X C)

1-Retail	16000	1.06	16960
		Total Allowed Watts =	16960

A	B	C	D	E
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamps/ Fixture	# of Fixtures	Fixture Watt.	(C X D)

Retail (16000 sq.ft.)				
LED 1: 5151E: 2X4 LED PANEL: LED Panel 54W:	1	42	39	1638
LED 1 copy 2: P3P3E: 2X2 LED PANEL: LED Panel 54W:	1	6	32	192
LED 1 copy 2: R3R3E: 2X2 LED PANEL: LED Panel 54W:	1	3	33	1408
LED 4: D1D1E: 6" RECESSED LED DOWNLIGHT: LED Other Fixture Unit 16W:	1	17	19	318
LED 5: W1: LINEAR LED VANITY: LED Other Fixture Unit 13W:	1	2	12	23
LED 7: L1: 4" LENSED LED STRIP: LED Linear 33W:	1	3	30	90
LED 6: P1: DECORATIVE LED PENDANT: LED Linear 33W:	1	1	300	300
LED 9: P2: DECORATIVE LED PENDANT: LED Other Fixture Unit 125W:	1	3	150	450
Track lighting 1: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 2: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 3: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 4: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 5: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 6: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 7: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 8: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 9: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 10: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 11: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 12: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 13: Wattage based on current limiting device capacity	0	0	240	240
Track lighting 14: Wattage based on current limiting device capacity	0	0	240	240

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Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamps / Fixture	# of Fixtures	Fixture Watt.	(C X D)
Track lighting 15: Wattage based on current limiting device capacity	0	240	240	
Track lighting 16: Wattage based on current limiting device capacity	0	240	240	
Track lighting 17: Wattage based on current limiting device capacity	0	240	240	
Track lighting 18: Wattage based on current limiting device capacity	0	240	240	
Track lighting 19: Wattage based on current limiting device capacity	0	240	240	
Track lighting 20: Wattage based on current limiting device capacity	0	240	240	
Track lighting 21: Wattage based on current limiting device capacity	0	240	240	
Track lighting 22: Wattage based on current limiting device capacity	0	240	240	
Track lighting 23: Wattage based on current limiting device capacity	0	240	240	
Track lighting 24: Wattage based on current limiting device capacity	0	240	240	
Track lighting 25: Wattage based on current limiting device capacity	0	240	240	
Track lighting 26: Wattage based on current limiting device capacity	0	240	240	
LED 11: W3E: WALL MOUNTED INDIRECT/DIRECT L.E. LED Other Fixture Unit 60W:	1	54	540	
LED 11: W3E: WALL MOUNTED INDIRECT/DIRECT L.E. LED Other Fixture Unit 90W:	1	2	91	182
Total Proposed Watts =			10898	

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Theresa Gray, PE		07/28/2022
Name - Title	Signature	Date

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Requirements: 50.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 (M4)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3 C405.2.3.1 C405.2.3.2 [EL23] ²	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces. C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Sidelit zones on first floor in Group A-2 and M occupancies.
C405.2.4 [EL26] ²	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.4 [EL27] ²	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.3 [EL6] ¹	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.6 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Tables C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.7 [EL27] ²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.8.2 C405.8.2.1 [EL28] ²	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.9 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits ≤ 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5, 7 [F117]†	Furnished OEM Instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.4.1 [F118]†	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
C408.1.1 [F157]†	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.2.5 [F116]†	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C408.3 [F133]†	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input checked="" type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 C405.2.1 [EL22]†	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern ± 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1.1 C405.2.1 [EL18]†	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces ≤ 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1.1 [EL19]†	Occupancy sensors control function in warehouses. In warehouses, the lighting in aislesways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.1.3 [EL20]†	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces ≥ 300 sq ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas ≤ 600 sq. ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by $\geq 80\%$ of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.2.2 C405.2.2.1 C405.2.2.2 [EL21]†	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
---	----------------------	---	------------------------	---	---------------------

Project Title:	Report date: 07/28/22
Data filename: G:\Shared drives\Projects\Studio DH Architecture\2022-048 Christy Sports Steamboat Springs\Electrical\Comcheck\Christy Sports Steamboat-Comcheck.cck	Page 4 of 7

**Ramirez,
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**GONDOLA SQUARE -
BUILDING D**

2305 MT. WERNER CIRCLE
STEAMBOAT SPRINGS, CO 80487

PROFESSIONAL SEAL:



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[illegible]

JOB NUMBER: 102201

DRAWN BY: NM / SKZ

APPROVED BY: DWE

DATE: 2022-07-28

SHEET TITLE:

INTERIOR LIGHTING
COMCHECK DOCUMENTS

SHEET:

E002

TIME STAMP

TRANSFORMER NAME	RATING (KVA)	VOLTAGE	MOUNTING	PRIMARY		SECONDARY		GROUNDING ELECTRODE CONDUCTOR	NOTES
				BREAKER SIZE	CONDUCTOR/CONDUIT SIZE	BREAKER SIZE	CONDUCTOR/CONDUIT SIZE		
T-L1	45	480V DELTA 208Y/120V	FLOOR	70/3	3 #4, 1 #8 GND-1 1/4" C	150/3	4 #1/0, 1 #6 GND 2" C	#6, 1/2" C	
T-L2	75	480V DELTA 208Y/120V	FLOOR	100/3	3 #1, 1 #8 GND-1 1/4" C	225/3	4 #4/0, 1 #2 GND-2 1/2" C	#2, 3/4" C	

PROJECT NAME: CHRISTY SPORTS				PROJECT NO: 22048		BY: NDM									
	DESCRIPTION	LENGTH/ PRIMARY VOLTAGE	VOLTAGE/ SECONDARY VOLTAGE	WIRE SIZE/ XFMR KVA RATING	WIRE MATERIAL/ (C OR A) T=XFMR	CONDUIT (S OR N)	VOLTAGE CLASS (V)	WIRES (S OR T)	C OR Z VALUE	# OF PARALLEL RUNS	Isc AVAILABLE UPSTREAM	f	M	I(sc Fault)	AGE
X0	UTILITY COMPANY XFMR													23,100	X0
X1	DISTRIBUTION BOARD	60	480	300	C	N	600	S	20867	3	23.100	0.0799	0.9260	21,391	X1
X2	PANEL LEC	225	480	4X	C	S	600	S	15082	1	21.391	1.1515	0.4648	9.942	X2
X3	PANEL H1	115	480	2	C	S	600	S	5906	1	9.942	0.6986	0.5887	5.853	X3
X4	TRANSFORMER T-L1	480	208	45	T	S	600	S	1.7	1	5.853	1.8384	0.3523	4.759	X4
X5	PANEL L1	5	208	1X	C	S	600	S	8924	1	4.759	0.0222	0.9783	4.656	X5
X6	100A3P DISCONNECT	115	480	2	C	S	600	S	5906	1	9.942	0.6986	0.5887	5.853	X6
X7	TRANSFORMER T-L2	480	208	75	T	S	600	S	1.4	1	5.853	0.9084	0.5240	7.078	X7
X8	400A3P DISCONNECT	5	208	4X	C	S	600	S	15082	1	7.078	0.0195	0.9808	6.942	X8
X9	PANEL L2	20	208	4X	C	S	600	S	15082	1	6.942	0.0767	0.9288	6.448	X9

PROJECT:		CHRISTY SPORTS STEAMBOAT				VOLTAGE L-L (V):				480				
JOB NO.:		2022-048				VOLTAGE L-N (V):				277				
LOCATION:		SEE PLANS				TYPE:				3-PHASE, 4-WIRE				
MINIMUM BUS CAPACITY (A):		225				SHORT CIRCUIT RATING (A):				10,000				
MAIN O.C. DEVICE (A):		225A MCB				MOUNTING:				SURFACE				
DESIGN CAPACITY (A):		225				COMMENTS:				MECH ROOM 3				
DEVICE	LIGHTING	RCPT	MOTOR	OTHER	DESCRIPTION	CKT NO.	PHASE	CKT NO.	DESCRIPTION		MOTOR	RCPT	LIGHTING	DEVICE
AMPS	POLE	(VA)	(VA)	(VA)						(VA)	(VA)	(VA)	(VA)	AMPS
70	3				SKI CORRAL SUB	1	A	2	AIR COMPRESSOR					3
-	-					3	B	4						-
-	-					5	C	6						-
20	1				STAIR GLOBES	7	A	8	EXISTING LOAD					1
20	1				GS COLUMN LIGHTS	9	B	10	GS 2 L DM CABLE SOI/ STAIRS SOFT					1
20	1				SPORTS STALKER SALES AREA LIGHT	11	C	12	STAIR HEAT					1
90	3			S 22886	CHRISTY SPORTS PANEL H1	13	A	14	INFERNO EXHAUST FAN					3
-	-			S 24355		15	B	16						-
-	-			S 20339		17	C	18						-
100	3			S 22812	CHRISTY SPORTS XFMR T-1	19	A	20	EXISTING LOAD					1
-	-			S 25091		21	B	22	STALKER HEAT PAD					1
-	-			S 22126		23	C	24	STALKER HEAT PAD					1
3	20				UG SO WALL EXHAUST	25	A	26	STALKER HEAT PAD					1
-	-					27	B	28	SPACE					-
-	-					29	C	30	SPACE					-
3	70			SPARE		31	A	32	SPACE					-
-	-					33	B	34	SPACE					-
-	-					35	C	36	SPACE					-
-	-			SPACE		37	A	38	SPACE					-
-	-			SPACE		39	B	40	SPACE					-
-	-			SPACE		41	C	42	SPACE					-
CONNECTED VA PHASE A:					45,648	DEMANDED VA PHASE A:					45,648			
CONNECTED VA PHASE B:					49,447	DEMANDED VA PHASE B:					49,447			
CONNECTED VA PHASE C:					42,467	DEMANDED VA PHASE C:					42,467			
					CONNECTED	D.F.								
LIGHTING LOAD:					0	1.25					DEMAND			
RECEPTACLE (FIRST 10 KVA)					0	1.00					DEMAND LOAD (A) = 165			
RECEPTACLE (REMAINDER)					0	0.50					SPARE CAPACITY (A) = 60			
LARGEST MOTOR					0	1.25					SPARE CAPACITY (%) = 25%			
REMAINING MOTORS:					0	1.00					PHASE BALANCE			
APPLIANCES:					0	1.00					A TO B 92%			
EQUIPMENT/SUBFEED:					137562	1.00					B TO C 86%			
CONTINUOUS:					0	1.25					C TO A 93%			
TOTAL:					137562	137562								
LOAD (AMPS):					165.5	165.5								
ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS														
E = EQUIPMENT S = SUB FEED PANEL														
C = CONTINUOUS A = APPLIANCE														
NOTES: LIGHT LINEWEIGHT INDICATES EXISTING BREAKER/CIRCUITING. BOLD LINEWEIGHT INDICATES NEW BREAKERS/CIRCUITING. PROVIDE NEW CIRCUIT BREAKERS WHERE INDICATED, AIC RATING AND MANUFACTURER TO MATCH EXISTING.														

KEY	ITEM	LISTED LOAD			EQUIV. LOAD (VA)	VOLTS	PH	FEEDERS		DISCONNECT		NOTES
		HP	FLAMCA	KW				CONDUCTORS	CONDUIT	DISC SW	FUSE	
S1	OMEGA B350		14.3		5152	208	3	3 # 10, 1 # 10 G	3/4	CORD & PLUG	-	1
S2	SIGMA RS350		16.8		6053	208	3	3 # 10, 1 # 10 G	3/4	CORD & PLUG	-	1
S3	TRIM B		2.1		437	208	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S4	SPEEDBRUSH		7.3		1518	208	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S5	JUPITER		25.5		9187	208	3	3 # 8, 1 # 10 G	3/4	60A/3P	-	
S6	ST 500		5		600	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S7	POLYMAN 1		5		600	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S8	POLYMAN 2		5		600	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S9	WAX FUTURE WALL SPEED		14		2912	208	1	2 # 12, 1 # 12 G	3/4	30A/2P	-	
S10	WAX PRO			0.3	300	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S11	COMPRESSOR	2			2870	208	1	2 # 10, 1 # 10 G	3/4	30A/2P	-	
S12	WAX JEST 93 1		12		2496	208	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1
S13	WAX JEST 93 2		12		2496	208	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	1

GENERAL NOTES:

- EQUIPMENT LOCATIONS SHOW DIAGRAMATICALLY ON ELECTRICAL PLANS. COORDINATE EXACT LOCATIONS WITH OWNER PRIOR TO ROUGH-IN.
- DIVISION 26 CONTRACTOR TO VERIFY EXACT POWER REQUIREMENTS WITH OWNER / EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.

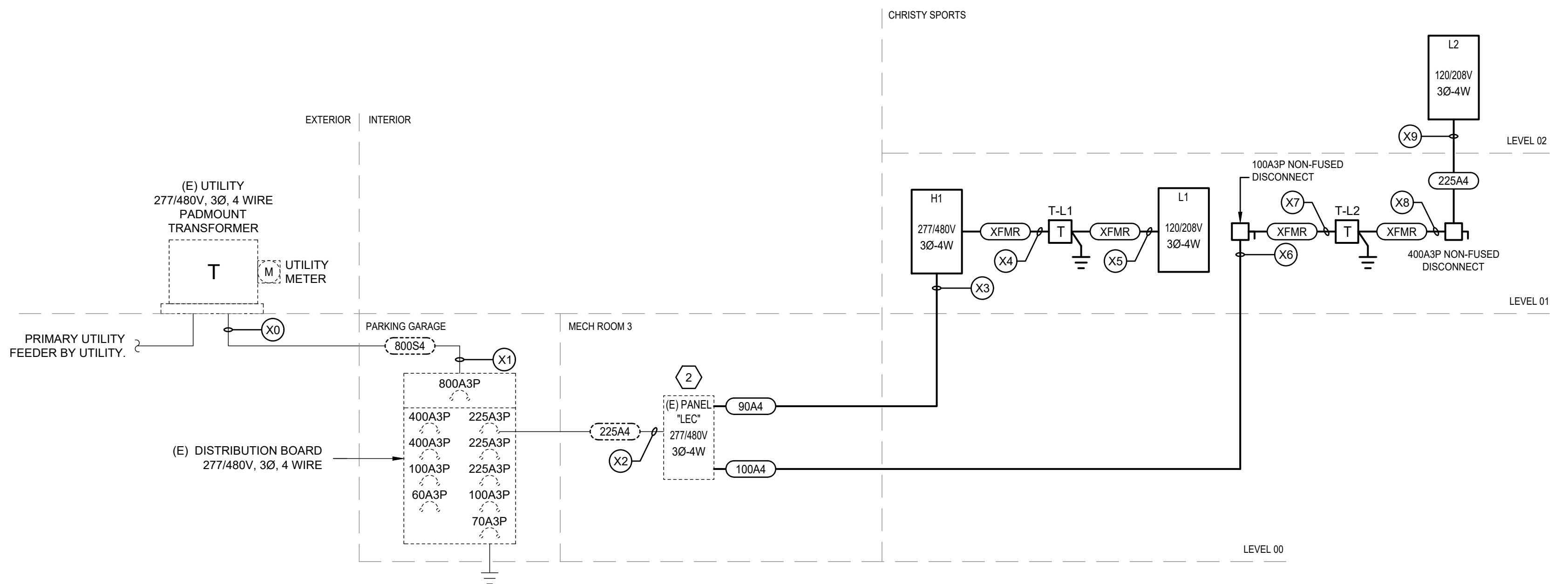
NOTES:

- COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT PRIOR TO ROUGH-IN.

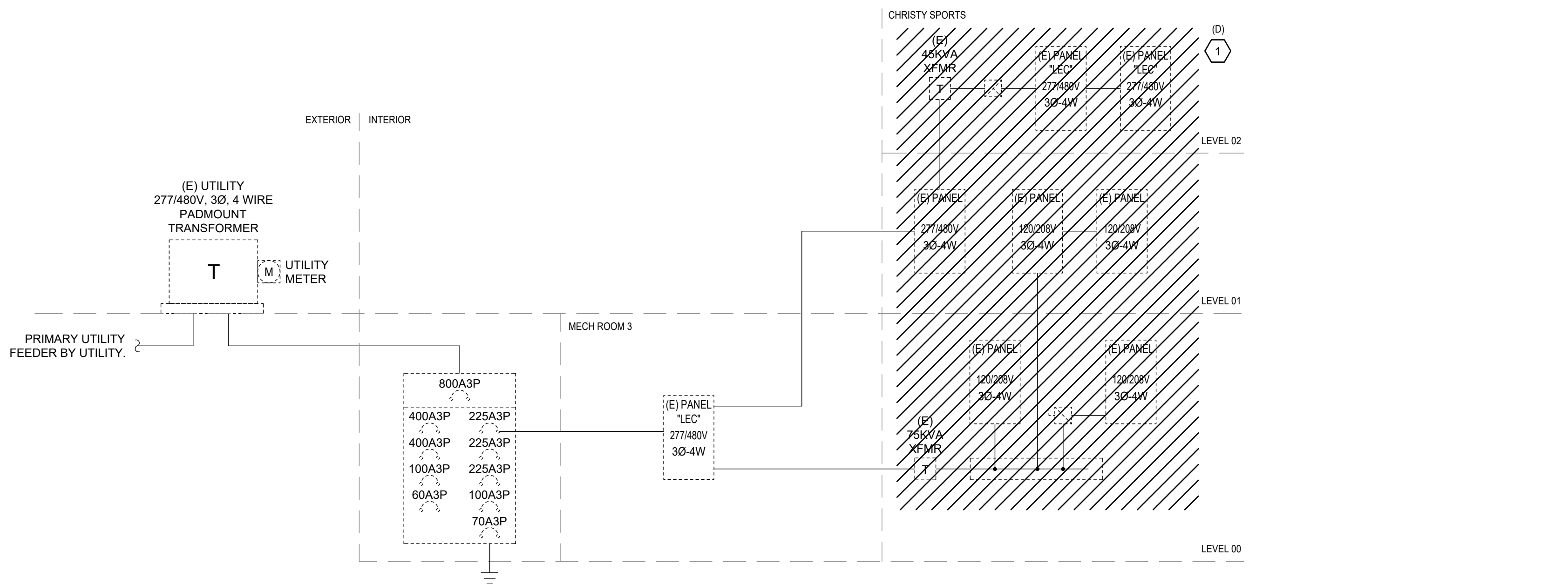
COPPER		ALUMINUM
MARK	CONDUCTORS AND CONDUIT	CONDUCTOR AND CONDUIT
XFMR	REFER TO TRANSFORMER SCHEDULE	
	4 WIRE PLUS GROUND	4 WIRE PLUS GROUND
90A4	4 #2, 1 #6 GND-1 1/2" C	NA
100A4	4 #1, 1 #6 GND-1 1/2" C	4 #1/0, 1 #6 GND-1 1/2" C
225A4	4 #4/0, 1 #4 GND-2 1/2" C	4 300 KCMIL, 1 #2 GND-2 1/2" C
	4 WIRE SERVICE	4 WIRE SERVICE
800S4	3 SETS OF 4 300 KCMIL - 2 1/2" C	4 SETS OF 4 250 KCMIL - 2 1/2" C

1. REFER TO ELECTRICAL FLOOR PLANS FOR PANEL LOCATIONS.
2. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
3. INFORMATION ON THIS SHEET WAS OBTAINED FROM FIELD SURVEY OBSERVATIONS AND RECORD DRAWINGS. THE DRAWINGS REPRESENT INFORMATION AS ACCURATE AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BID. NOTIFY ENGINEER IMMEDIATELY IF ACTUAL FIELD CONDITIONS DIFFER FROM INFORMATION INDICATED ON THE DRAWINGS.
4. ALL NEW DEVICES IN EXISTING GEAR SHALL BE UL LISTED FOR THE EQUIPMENT. BE OF THE SAME MANUFACTURER AND WITHSTAND RATING.
5. ITEMS SHOWN IN THIN DASHED LIGHT WEIGHTLINE ARE EXISTING TO REMAIN. ITEMS SHOWN IN THICK BLACK WEIGHTLINE ARE NEW.

1. DEMOLISH ALL EXISTING ELECTRICAL DISTRIBUTION EQUIPMENT IN CHRISTY SPORTS TENANT SPACE, LEVEL 01 AND 02 PREVIOUSLY OCCUPIED BY SPORTS STALKER. LEVEL 01 EQUIPMENT SHALL BE REMOVED BY IN-PLACE CONTAINMENT AND ALL MATERIALS ARE SUPPLIED FROM AREAS/EQUIPMENT NOT INCLUDED IN ONE-LINE DIAGRAM.
2. PROVIDE THREE PHASE DIGITAL RECORDING CIRCUIT ANALYZER ON INDICATED PANEL FEEDERS FOR A PERIOD OF THIRTY DAYS PRIOR TO THE START OF CONSTRUCTION TO VERIFY EXISTING LOAD, CIRCUIT ANALYZER SHALL RECORD VOLTAGE, AMPERAGE, KVA AND POWER FACTOR FOR EACH PHASE AND AVERAGE FOR ALL PHASES. CIRCUIT ANALYZER SHALL ALSO RECORD A PER DAY MAXIMUM DEMAND. THE CONTRACTOR SHALL COMPLETE A SUMMARY REPORT LISTING MAXIMUM READINGS AND SUBMIT THE REPORT TO THE OWNER FOR REVIEW WITHIN SEVEN DAYS OF METERING AND FOR A COMPLETE THIRTY DAYS OF METERING.



SCALE: NO SCALE



SCALE: NO SCALE

REV #	ISSUED FOR	DATE	JOB NUMBER:	102201
0	PERMIT	2022-04-30	DRAWN BY:	NM / SKZ
1	OWNER CHANGES	2022-07-28	APPROVED BY:	DWR
			DATE:	2022-07-28
			SHEET TITLE:	ELECTRICAL ONE-LINE DIAGRAM

MECHANICAL EQUIPMENT SCHEDULE

KEY	ITEM	LISTED LOAD			EQUIV. LOAD (VA)	VOLTS	PH	FEEDERS		DISCONNECT		NEMA STARTER SIZE	NOTES
		HP	FLAMCA	KW				CONDUCTORS	CONDUIT	DISC SW	FUSE		
EC-1	EVAPORATIVE COOLER		9.8		1171	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
EC-2	EVAPORATIVE COOLER		9.8		1176	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
DOAS-1	DEDICATED OUTDOOR AIR SYSTEM		2.8		2328	480	3	3 # 12, 1 # 12 G	3/4	30A/3P	-	-	2
DOAS-1	DEDICATED OUTDOOR AIR SYSTEM		12.0		1440	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	2, 3
EF-B-1	EXHAUST FAN		0.3		30	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
EF-B-2	EXHAUST FAN	3/4			1656	120	1	2 # 10, 1 # 10 G	3/4	30A/1P	-	0	1
EF-1-1	EXHAUST FAN		0.3		30	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
EF-1-2	TRANSFER FAN		0.3		30	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
EF-2-1	EXHAUST FAN		0.3		30	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
EF-2-2	EXHAUST FAN		1.3		150	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
P-B-1	PUMP	1/4			696	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
	RELAY / CONTROLS		1.0		120	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	3
P-1-1	PUMP	1/4			696	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
	REALY / CONTROLS		1.0		120	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	3
P-2-1	PUMP	1/4			696	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
	RELAY / CONTROLS		1.0		120	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	3
FC-B-1	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-B-2	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-B-3	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-B-4	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-B-5	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-1	FAN COIL		1.8		499	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-2	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-3	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-4	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-5	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-6	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-1-7	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-1	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-2	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-3	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-4	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-5	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
FC-2-6	FAN COIL		1.4		382	277	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
CUH-B-1	CEILING HEATER			4	4000	277	1	2 # 12, 1 # 12 G	3/4	-	-	-	6
EH-1-1	WALL HEATER			2	2000	208	1	2 # 12, 1 # 12 G	3/4	-	-	-	6
EH-1-2	WALL HEATER			2	2000	277	1	2 # 12, 1 # 12 G	3/4	-	-	-	6
DF-1	DESTRATIFICATION FAN		1.5		180	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	-	4
HP-1	HEAT PUMP - OUTDOOR UNIT		3.7		765	208	1	2 # 10, 1 # 10 G	3/4	30A/2P	-	-	7
WM-1	HEAT PUMP - INDOOR UNIT	-	-	-	-	-	-	-	-	-	-	-	5
EWH-1	ELECTRIC WATER HEATER			1.5	1500	120	1	2 # 12, 1 # 12 G	3/4	STO	-	-	
CP-1	HOT WATER CIRC. PUMP		0.1		10	120	1	2 # 12, 1 # 12 G	3/4	CORD & PLUG	-	-	4

GENERAL NOTES:

- REFER TO MECHANICAL DRAWINGS FOR MECHANICAL EQUIPMENT LOCATIONS.
- DIVISION 26 CONTRACTOR TO VERIFY EXACT POWER REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN.

NOTES:

- PROVIDE SINGLE-POLE, FRACTIONAL HORSEPOWER MANUAL STARTER WITH OVERLOAD PROTECTION. SIZE PER NAMEPLATE RATING OF UNIT.
- DISCONNECT PROVIDED BY DIVISION 23 CONTRACTOR. REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
- REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION. PROVIDE SEPARATE 120V CONNECTION TO CONTROLS.
- EQUIPMENT PLUGS INTO NEMA 5-20R RECEPTACLE. PROVIDE RECEPTACLE IN AN ACCESSIBLE LOCATION TO POWER EQUIPMENT.
- UNIT OBTAINS POWER FROM CORRESPONDING OUTDOOR UNIT. EXTEND FEEDING CIRCUIT FROM OUTDOOR UNIT TO INDOOR UNIT.
- UNIT IS PROVIDED WITH INTEGRAL DISCONNECTING MEANS.
- UNIT IS TO BE LOCATED IN ADJACENT UNDERGROUND PARKING GARAGE. PROVIDE WITH LOCKABLE DISCONNECTING MEANS.

NEW PANEL H1

PROJECT:		CHRISTY SPORTS STEAMBOAT				VOLTAGE L-L (V):		480						
JOB NO.:		2022-048				VOLTAGE L-N (V):		277						
LOCATION:		SEE PLANS				TYPE:		3-PHASE, 4-WIRE						
MINIMUM BUS CAPACITY (A):		100				SHORT CIRCUIT RATING (A):		10,000						
MAIN O.C. DEVICE (A):		90A MCB				MOUNTING:		SURFACE						
DESIGN CAPACITY (A):		90				COMMENTS:		LEVEL 0, LEVEL 1						
DEVICE	LIGHTING	RCPT	MOTOR	OTHER	DESCRIPTION	CKT NO	CKT NO	DESCRIPTION	OTHER	MOTOR	RCPT	LIGHTING	POLE	DEVICE
AMPS	POLE	(VA)	(VA)	(VA)		NO	NO		(VA)	(VA)	(VA)	(VA)		AMPS
20	1	1109			LIGHTING - LEVEL 00	1	A	FC-B-1 FAN COIL						1
20	1	1839			LIGHTING - LEVEL 01	3	B	FC-B-2 FAN COIL						1
20	1				RECEPTACLE - ELEC. SERVER	5	C	FC-B-3 FAN COIL						1
15	3				DOAS-1	7	A	FC-B-4 FAN COIL						1
-	-				E 776		B	FC-B-5 FAN COIL						1
-	-				E 776		C	FC-1-1 FAN COIL						1
-	-				E 776		A	FC-1-2 FAN COIL						1
15	1				FC-2-2 FAN COIL	13	A	FC-1-3 FAN COIL						1
15	1				FC-2-3 FAN COIL	15	B	FC-1-4 FAN COIL						1
15	1				FC-2-4 FAN COIL	17	C	FC-1-5 FAN COIL						1
15	1				FC-2-5 FAN COIL	19	A	FC-1-6 FAN COIL						1
15	1				FC-2-6 FAN COIL	21	B	FC-1-7 FAN COIL						1
20	1				EXISTING LIGHTING - MEZZ	23	C	CUH-B-1 CEILING HEATER	C	4000				1
20	1				SPARE	25	A	EXT-1-2 WALL HEATER						1
20	1	1000			BUSSED SPACE	27	B	EXT. LIGHT - WALL, RECESSED						1
					BUSSED SPACE	29	C	30. EXT. LIGHT - WALL, RECESSED					212	1
					BUSSED SPACE	31	A	32. EXT. LIGHT - WALL, RECESSED						1
					BUSSED SPACE	33	B	34. EXT. LIGHT - WALL, RECESSED						1
					BUSSED SPACE	35	C	36. EXT. LIGHT - WALL, RECESSED						1
70	3				S 13287 TRANSFORMER T-1,1	37	A	38. EXT. LIGHT - WALL, RECESSED						1
-	-				S 16489	39	B	40. EXT. LIGHT - WALL, RECESSED						1
-	-				S 14719	41	C	42. EXT. LIGHT - WALL, RECESSED						1
CONNECTED VA PHASE A:		21,464		DEMANDED VA PHASE A:		22,836								
CONNECTED VA PHASE B:		23,396		DEMANDED VA PHASE B:		24,355								
CONNECTED VA PHASE C:		19,829		DEMANDED VA PHASE C:		20,339								
LIGHTING LOAD:		4990		D.F.		6238								
RECEPTACLE (FIRST 10 KVA)		0		1.25		0								
RECEPTACLE (REMAINDER)		0		0.50		0								
LARGEST MOTOR:		382		1.25		478								
REMAINING MOTORS:		6494		1.00		6494								
APPLIANCES:		0		1.00		0								
EQUIPMENT/SUBFD:		46822		1.00		46822								
CONTINUOUS:		6000		1.25		7500								
TOTAL:		64688				67531								
LOAD (AMPS):		77.8				81.2								
ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS														
E = EQUIPMENT S = SUB FEED PANEL														
C = CONTINUOUS A = APPLIANCE														
NOTES:														

NEW PANEL L1

PROJECT:		CHRISTY SPORTS STEAMBOAT				VOLTAGE L-L (V):		208							
JOB NO.:		2022-048				VOLTAGE L-N (V):		120							
LOCATION:		SEE PLANS				TYPE:		3-PHASE, 4-WIRE							
MINIMUM BUS CAPACITY (A):		225				SHORT CIRCUIT RATING (A):		10,000							
MAIN O.C. DEVICE (A):		150A MCB				MOUNTING:		SURFACE							
DESIGN CAPACITY (A):		150				COMMENTS:		LEVEL 00, LEVEL 01							
DEVICE	LIGHTING	RCPT	MOTOR	OTHER	DESCRIPTION	CKT NO	CKT NO	DESCRIPTION	OTHER	MOTOR	RCPT	LIGHTING	POLE	DEVICE	
AMPS	POLE	(VA)	(VA)	(VA)		NO	NO		(VA)	(VA)	(VA)	(VA)		AMPS	
20	1				RECEPT - ELEC. SERVER	1	A	RECEPT - MANAGER OFFICE						1	
20	1				RECEPT - IDF LEVEL 0	3	B	RECEPT - OFFICE						1	
20	1				RECEPT - LOCKERS	5	C	RECEPT - BTHRM, EF-1, EF-1-2						1	
20	1	360			RECEPT - DRINKING FOUNTAIN	7	A	RECEPT - SHOW WINDOW, CONV.	E	720	60	180		1	
20	1				SECURITY GATE LEVEL 1	9	B	RECEPT - POS FLOORBOX						1	
20	1				EW-H-1 ELEC. WATER HEATER	11	C	RECEPT - SHOW WINDOW, TV						1	
20	1				RECEPT - CONVENIENCE, TV	13	A	RECEPT - CENTER CONVENIENCE						1	
20	1	720			RECEPT - MECH, CP-1, EF-B-1, GAR	15	B	RECEPT - CONV. TV, SHOW						1	
20	1	360	40		RECEPT - TEST BENCHES, POS	17	C	RECEPT - SHOW WINDOW, TV						1	
20	1	1080			RECEPT - TEST BENCHES	19	A	RECEPT - POS						1	
20/GFCI	1	720			RECEPT - TEST BENCHES	21	B	RECEPT - POS						1	
20/GFCI	1	720			RECEPT - TEST BENCHES	23	C	RECEPT - CONVENIENCE						1	
20/GFCI	1	720			RECEPT - TEST BENCHES	25	A	RECEPT - CONVENIENCE						1	
20/GFCI	1	1080			RECEPT - TEST BENCHES, POS	27	B	FIRE ALARM CONTROL PANEL	E	600				1	
20	1				RECEPT - LOCKERS	29	C	SPARE						1	
20	1	480			LIGHTING - BASEMENT TRACK	31	A	3" LIGHTING - LVL 1 TRACK				240		1	
15	1				P-1-1 PUMP	33	B	3" LIGHTING - LVL 1 TRACK				240		1	
20	1				P-1-1 RELAY / CONTROLS	35	C	3" LIGHTING - LVL 1 TRACK				720		1	
20	1				BASEMENT LEVEL MTR DAMPER	37	A	EXTERIOR ILLUMINATED SIGN				1200		1	
20	1				BASEMENT HVAC CNTRL XFMR	39	B	EXTERIOR ILLUMINATED SIGN				1200		1	
15	1				P-B-1 PUMP	41	C	EXTERIOR ILLUMINATED SIGN				1200		1	
20	1				SPARE	43	A	EXTERIOR ILLUMINATED SIGN				1200		1	
20	2				FUTURE SKI EQUIPMENT	45	B	EXTERIOR ILLUMINATED SIGN				1200		1	
20	1	1456			SPARE	47	C	SPARE				1200		1	
-	-				SPARE	49	A	LEVEL 1 MOTOR ROOM DAMPER	E	60				1	
-	-				E 1000 -	51	B	SPARE						1	
-	-				E 1000 -	53	C	LEVEL 1 HVAC CNTRL XFMR	E	1200				1	
20	3				BOOT DRYING RACK	55	A	EH-1-1	E	1000				2	
-	-				E 1000 -	57	B	SPARE	E	1000				1	
-	-				E 1000 -	59	C	EF-B-2 BSMTT EXHAUST FAN		1656				1	
CONNECTED VA PHASE A:					13,590	DEMANDED VA PHASE A:					13,287				
CONNECTED VA PHASE B:					16,912	DEMANDED VA PHASE B:					16,489				
CONNECTED VA PHASE C:					15,028	DEMANDED VA PHASE C:					14,719				
CONNECTED						DEMANDED									
LIGHTING LOAD:					6480	1.25						DEMAND LOAD (A) = 124			
RECEPTACLE (FIRST 10 KVA)					10000	1.00						SPARE CAPACITY (A) = 26			
RECEPTACLE (REMAINDER)					6140	0.150						SPARE CAPACITY (%) = 18%			
LARGEST MOTOR:					1656	1.25									
REMAINING MOTORS:					1492	1.00						PHASE BALANCE			
APPLIANCES:					0	1.00						A TO B 81%			
EQUIPMENT/SUBFD:					18762	1.00						B TO C 89%			
CONTINUOUS:					0	1.25						C TO A 90%			
TOTAL					45530						44494				
LOAD (AMPS):					228.4						123.5				
ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS															
E = EQUIPMENT S = SUB FEED PANEL															
C = CONTINUOUS A = APPLIANCE															
NOTES:															

RELAY PANEL SCHEDULE

RELAY #	PANEL #	CIRCUIT #	VOLTAGE	LOAD (VA)	ZONE DESCRIPTION	LOCAL SWITCH	CONTROL SEQ	COMMENTS
1	H1	1	277	1109	BASEMENT ZONE "a, c"	YES	C1	
2	H1	3	277	1523	LEVEL 1 ZONE "a, b, c, d, e"	YES	C1	
3	H1	5	277	546	LEVEL 2 GENERAL AND ZONE "k"	YES	C1	
4	H1	5	277	259	STAIR	YES	C1	
5	H1	30	277	13	EXTERIOR ADJUSTABLE RECESSED ZONE "d"	YES	C2	
6	H1	30	277	199	EXTERIOR RECESSED AND SCONCES	YES	C3	
7	H1	25	277	1000	EXISTING MEZZANINE LIGHTING	YES	C1	
8					SPARE	YES	C1	
BARRIER BETWEEN 277V AND 120V CONTROLS								
9	L1	31	120	480	BASEMENT ZONE "b"	YES	C1	
10	L1	32	120	240	LEVEL 1 ZONE "f"	YES	C1	
11	L1	32	120	240	LEVEL 1 ZONE "g"	YES	C1	
12	L1	34	120	240	LEVEL 1 ZONE "h"	YES	C1	
13	L1	34	120	480	LEVEL 1 ZONE "i"	YES	C1	
14	L1	34	120	720	LEVEL 2 ZONE "b"	YES	C1	
15	L1	36	120	960	LEVEL 2 ZONE "c"	YES	C1	
16	L1	38	120	960	LEVEL 2 ZONE "d"	YES	C1	
17	L2	40	120	960	LEVEL 2 ZONE "e"	YES	C1	
18	L2	57	120	720	LEVEL 2 ZONE "f"	YES	C1	
19	L2	59	120	960	LEVEL 2 ZONE "g"	YES	C1	
20	L2	61	120	960	LEVEL 2 ZONE "h"	YES	C1	
21	L2	42	120	300	LEVEL 2 ZONE "i"	YES	C1	
22	L2	42	120	300	LEVEL 2 ZONE "j"	YES	C1	
23	L1	38	120	1200	EXTERIOR ILLUMINATED SIGN	NO	C2	
24	L1	40	120	1200	EXTERIOR ILLUMINATED SIGN	NO	C2	
25	L1	42	120	1200	EXTERIOR ILLUMINATED SIGN	NO	C2	
26	L1	44	120	1200	EXTERIOR ILLUMINATED SIGN	NO	C2	
27	L1	48	120	1200	EXTERIOR ILLUMINATED SIGN	NO	C2	
28					SPARE			
29					SPARE			
30					SPARE			
31					SPARE			
32					SPARE			

GENERAL NOTES:

1. TIME SCHEDULE SHALL BE VERIFIED WITH OWNER.

CONTROL SEQUENC

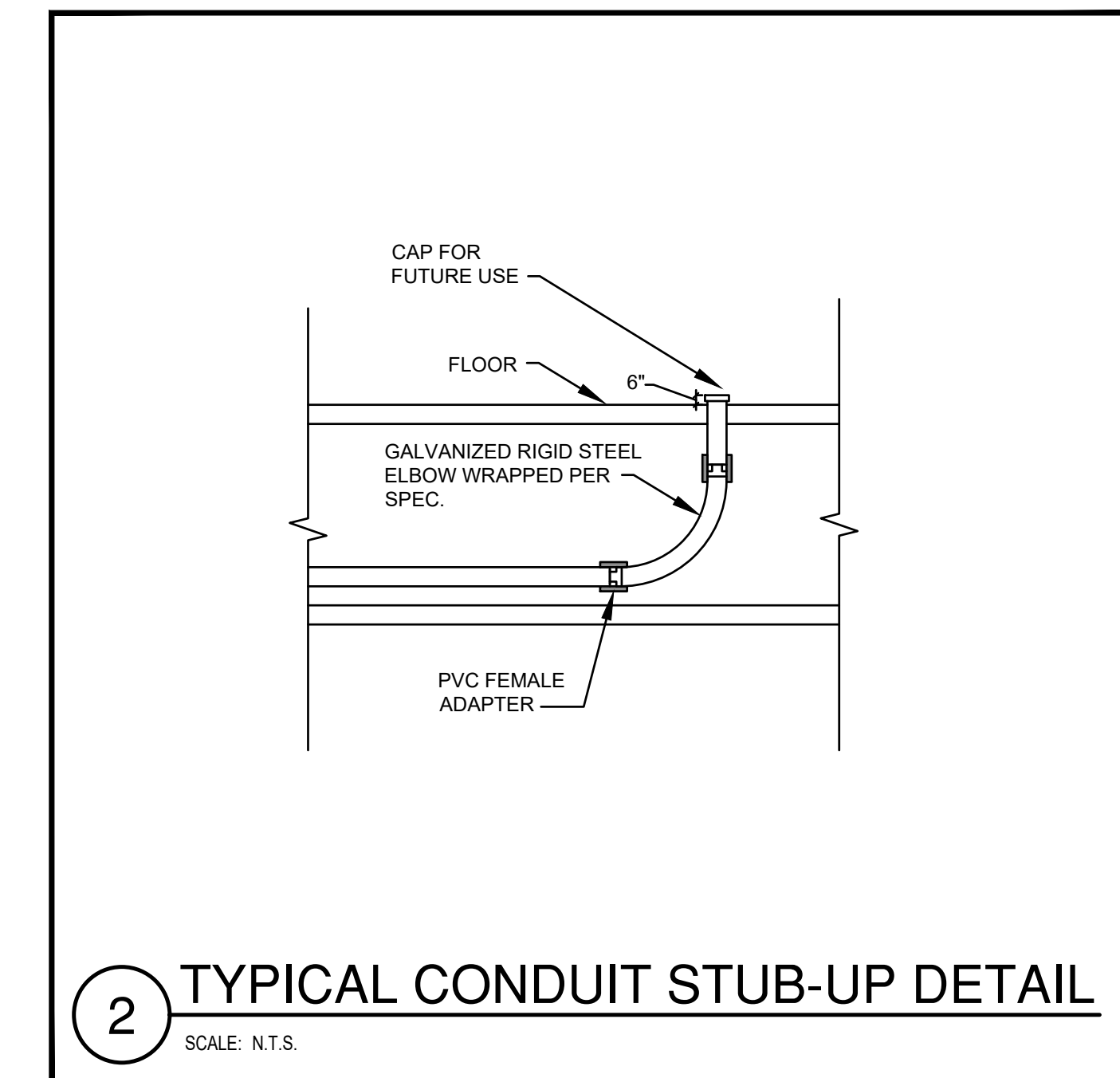
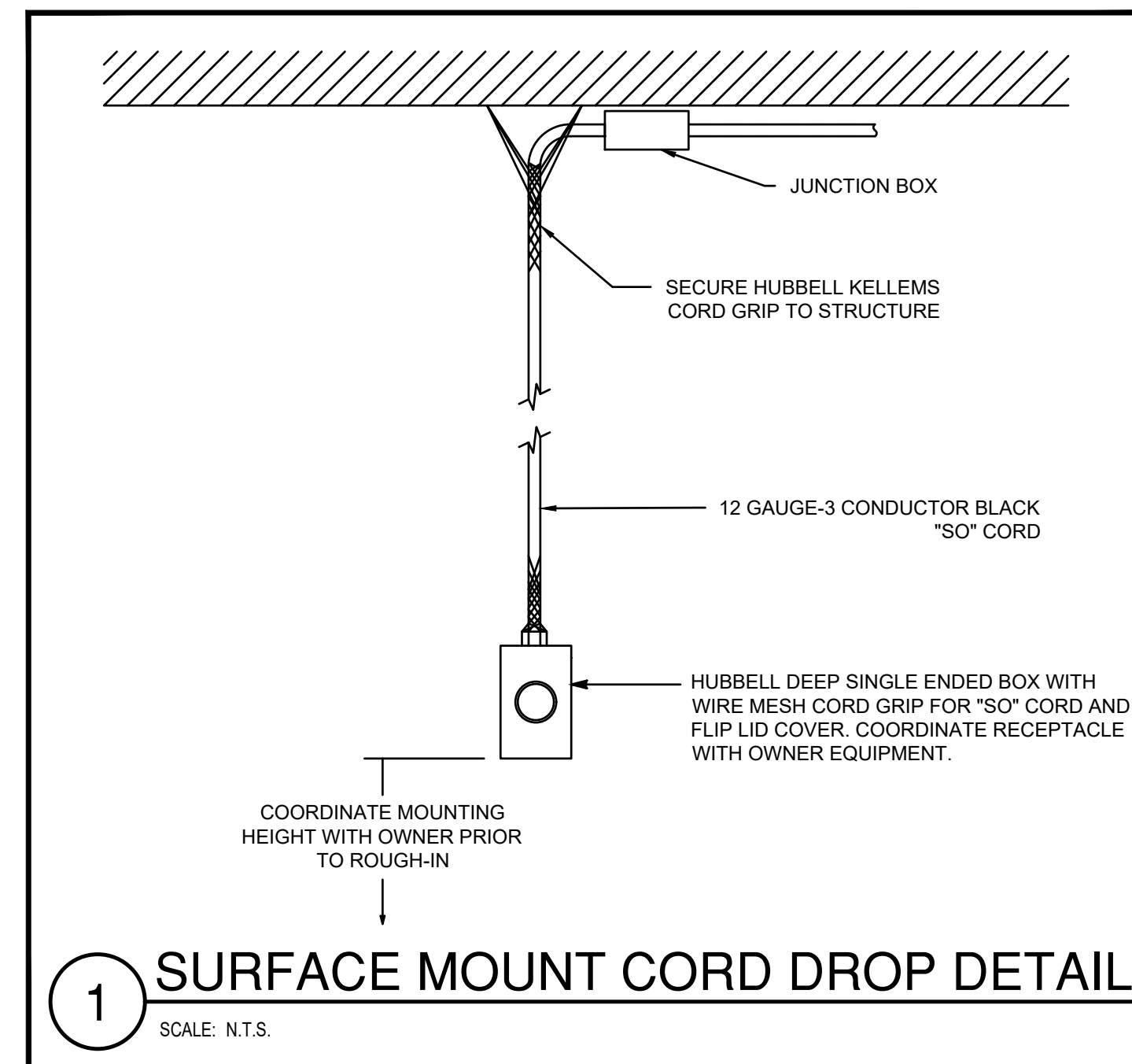
- C1 HOURS OF OPERATION
C2 PHOTO CELL ON IN THE EVENING, TIMECLOCK OFF AT MIDNIGHT, TIMECLOCK ON AT 6 AM, PHOTOCCELL OFF IN THE MORNING
C3 MATCH TO EXISTING GONDOLA SQUARE EXTERIOR BUILDING MOUNTED LIGHTING SCHEDULE.

NEW PANEL L2

PROJECT: CHRISTY SPORTS STEAMBOAT					VOLTAGE L-L (V): 208											
JOB NO.: 2022-048					VOLTAGE L-N (V): 120											
LOCATION: SEE PLANS					TYPE: 3-PHASE, 4-WIRE											
MINIMUM BUS CAPACITY (A): 225					SHORT CIRCUIT RATING (A): 10,000											
MAIN O.C. DEVICE (A): 225A MCB					MOUNTING: RECESSED											
DESIGN CAPACITY (A): 225					COMMENTS: LEVEL 02											
DEVICE	LIGHTING (VA)	RCPT (VA)	MOTOR (VA)	OTHER (VA)	DESCRIPTION	CKT NO.	PHASE	CKT NO.	DESCRIPTION	OTHER (VA)	MOTOR (VA)	RCPT (VA)	LIGHTING (VA)	POLE	AMPS	
20	1	180	30		RECEPT - RESTROOM, EF-2-1	1	A	2	RECEPT - SHOW WINDOW, TV			720	1	20		
20	1	1080			RECEPT - BACKSTOCK, CONV., TV	3	B	4	RECEPT - TEST BENCH FLRBOXES				720	1	20	
20	1	720			RECEPT - POS FLOORBOXES	5	C	6	RECEPT - BOOT PODIUM FLRBOX			360	1	20		
20GFCI	1	720			RECEPT - SHOP CONVENIENCE	7	A	8	RECEPT - HEAT STACK			360	1	20		
20GFCI	1	720			RECEPT - SHOP CONVENIENCE	9	B	10	RECEPT - SHELL OVEN	E 1500			2	20		
20GFCI	1	720			RECEPT - SHOP CONVENIENCE	11	C	12		E 1500			-	-		
35	3			E 3062	S5 JUPITER	13	A	14	RECEPT - BOOT LAB			360	1	20		
-	-			E 3062		15	B	16	RECEPT - BOOT LAB			360	1	20		
-	-			E 3062		17	C	18	RECEPT - BOOT LAB			360	1	20		
20	3			E 1717	S1 OMEGA	19	A	20	RECEPT - BOOT SPECIAL RECEPT	E 1664			2	20		
-	-			E 1717		21	B	22		E 1664			-	-		
-	-			E 1717		23	C	24	RECEPT - IDF LEVEL 2	E 600			1	20		
20	3			E 2018	S2 SIGMA	25	A	26	EC-1 EVAP. COOLERS		1171		1	15		
-	-			E 2018		27	B	28	EC-2 EVAP. COOLERS		1171		1	15		
-	-			E 2018		29	C	30	EC-3 EVAP. COOLERS		1171		1	15		
15	2			E 759	S4 SPEEDBRUSH	31	A	32	DOAS-1	E 1440			1	20		
-	-			E 759		33	B	34	LIGHTING - LEVEL 2 TRACK				720	1	20	
15	2			218	S3 TRIM B	35	C	36	LIGHTING - LEVEL 2 TRACK				960	1	20	
-	-			218		37	A	38	LIGHTING - LEVEL 2 TRACK				960	1	20	
30	2			1435	S11 COMPRESSOR	39	B	40	LIGHTING - LEVEL 2 TRACK				960	1	20	
-	-			1435		41	C	42	LIGHTING - CHANDELIER				450	1	20	
SECOND SECTION																
15	1		150		EF-2-2 EXHAUST FAN	43	A	44	LEVEL 2 MOTORIZED DAMPERS	E 150			7	1	20	
25	2			E 383	HP-1 OUTDOOR UNIT	45	B	46	LEVEL 2 HVAC CNTRL XFMR	E 1200				1	20	
-	-			E 383		47	C	48	P-2-1 PUMP		696			1	15	
20	1		180		RECEPT - ROOFTOP GFCI	49	A	50	P-2-1 RELAY / CONTROLS	E 120				1	20	
20	1			E 400	RECEPT - ROOFTOP GFCI	51	B	52	DP-1 DESTRATIFICATION FAN		180			1	15	
20	1			E 400	RECEPT - SHOW WINDOW LEVEL 2	53	C	54	RECEPT - BOOT PODIUM FLRBOX				360	1	20	
20	1			E 480	SECURITY GATE LEVEL 2	55	A	56	EXISTING RECEPT - MEZZANINE				360	1	20	
20	1	720			LIGHTING - LEVEL 2 TRACK	57	B	58	EXISTING RECEPT - MEZZANINE				360	1	20	
20	1	960			LIGHTING - LEVEL 2 TRACK	59	C	60	EXISTING RECEPT - MEZZANINE				360	1	20	
20	1	960			LIGHTING - LEVEL 2 TRACK	61	A	62	S6 ST 560	E 600			1	15		
20	1				SPARE	63	B	64	S7 POLYMAN 1	E 600			1	15		
20	1				SPARE	65	C	66	S8 POLYMAN 2	E 600			1	15		
20	1				SPARE	67	A	68	S9 WAX FUTURE WALL SPEED	E 1456			2	20		
20	1				SPARE	69	B	70		E 1456			-	-		
20	1				SPARE	71	C	72	S10 WAX PRO	E 300			1	15		
20	1				SPARE	73	A	74	S12 WAX JEST 93 1	E 1248			2	15		
20	1				SPARE	75	B	76	-	E 1248			-	-		
20	1				SPARE	77	C	78	S13 WAX JEST 93 2	E 1248			2	15		
					BUSSED SPACE	79	A	80		E 1248						
					BUSSED SPACE	81	B	82	SPARE							
					BUSSED SPACE	83	C	84	SPARE							
CONNECTED VA PHASE A:					22,332	DEMANDED VA PHASE A:					22,812					
CONNECTED VA PHASE B:					24,133	DEMANDED VA PHASE B:					25,091					
CONNECTED VA PHASE C:					20,927	DEMANDED VA PHASE C:					22,128					
LIGHTING LOAD:					6690	1.25					8363	DEMAND LOAD (A) = 31				
RECEPTACLE (FIRST 10 KVA)					9900	1.00					9900	SPARE CAPACITY (A) = 31				
RECEPTACLE (REMAINDER)					0	0.50					0	SPARE CAPACITY (%) = 14%				
LARGEST MOTOR:					2870	1.25					3588					
REMAINING MOTORS:					3835	1.00					3835	PHASE BALANCE				
APPLIANCES:					0	1.00					0	A TO B 91%				
EQUIPMENT/SUBFED:					43096	1.00					43096	B TO C 88%				
CONTINUOUS:					1000	1.25					1250	C TO A 97%				
TOTAL LOAD (AMPS):					67391	187.1					70031					
ABBREVIATION DESIGNATIONS FOR OTHER LOAD CLASSIFICATIONS																
E = EQUIPMENT					S = SUB FEED PANEL											
C = CONTINUOUS					A = APPLIANCE											
NOTES:																

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER OR APPROVED EQUIVALENT	CATALOG SERIES NUMBER OR APPROVED EQUIVALENT	LAMPS (QTY) TYPE	INPUT VA	DRIVER/ DIM PROTOCOL	VOLTAGE	MOUNTING				NOTES
								R	S	P	W	
D1	6" LED DOWNLIGHT, LENSED	PRESCOLITE	LTR-6RD-H-SL15L-DM1 LTR-6RD-T-SL35K8WDS	LED 3500K	18.7	0-10V	277	X				
D1E	6" LED DOWNLIGHT, LENSED, EMERGENCY BATTERY BACKUP	PRESCOLITE	LTR-6RD-H-SL15L-DM1EM LTR-6RD-T-SL35K8WDSSEM	LED 3500K	18.7	0-10V	277	X				1
D2E	4" LED DOWNLIGHT, LENSED, DAMP LOCATION LISTED, EMERGENCY BATTERY BACKUP	ALPHABET	NUJ4-RD-XTM19-13LM-30K-98-D60-UNV- DIM10-NC-BK-BK-EM12	LED 3000K	15	0-10V	277	X				1
D2W	4" LED DOWNLIGHT, LENSED, DAMP LOCATION LISTED, ADJUSTABLE	ALPHABET	NUJ4-RA-15LM-35K-90-35D-NA-CL-WH-WH- NC-UNV-DIM10	LED 3000K	13	0-10V	277	X				
D3	4" LED LENS STRIP	COLUMBIA	LCAT22-935HLG-R-EDU- CM48Y2SCSF-KIT	LED 3800K	36	0-10V	277	X				
P1	ENTRY LED PENDANT	BY OWNER	BY OWNER	LED 3500K	50	0-10V	120			X		
P2	ENTRY LED CHANDELIER	BY OWNER	BY OWNER	LED 3500K	300	0-10V	120			X		
P3	PENDANT MOUNTED LED TROFFER, 2'X4', PENDANT MOUNTING KIT	COLUMBIA	LCAT22-935HLG-R-EDU- CM48Y2SCSF-KIT	LED 3500K	32	0-10V	277		X			
P3E	PENDANT MOUNTED LED TROFFER, 2'X4', PENDANT MOUNTING KIT, EMERGENCY BATTERY BACKUP	COLUMBIA	LCAT22-935HLG-R-EDU-ELL14ST- CM48Y2SCSF-KIT	LED 3500K	32	0-10V	277		X			

[illegible]



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- STAMP:



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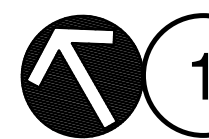
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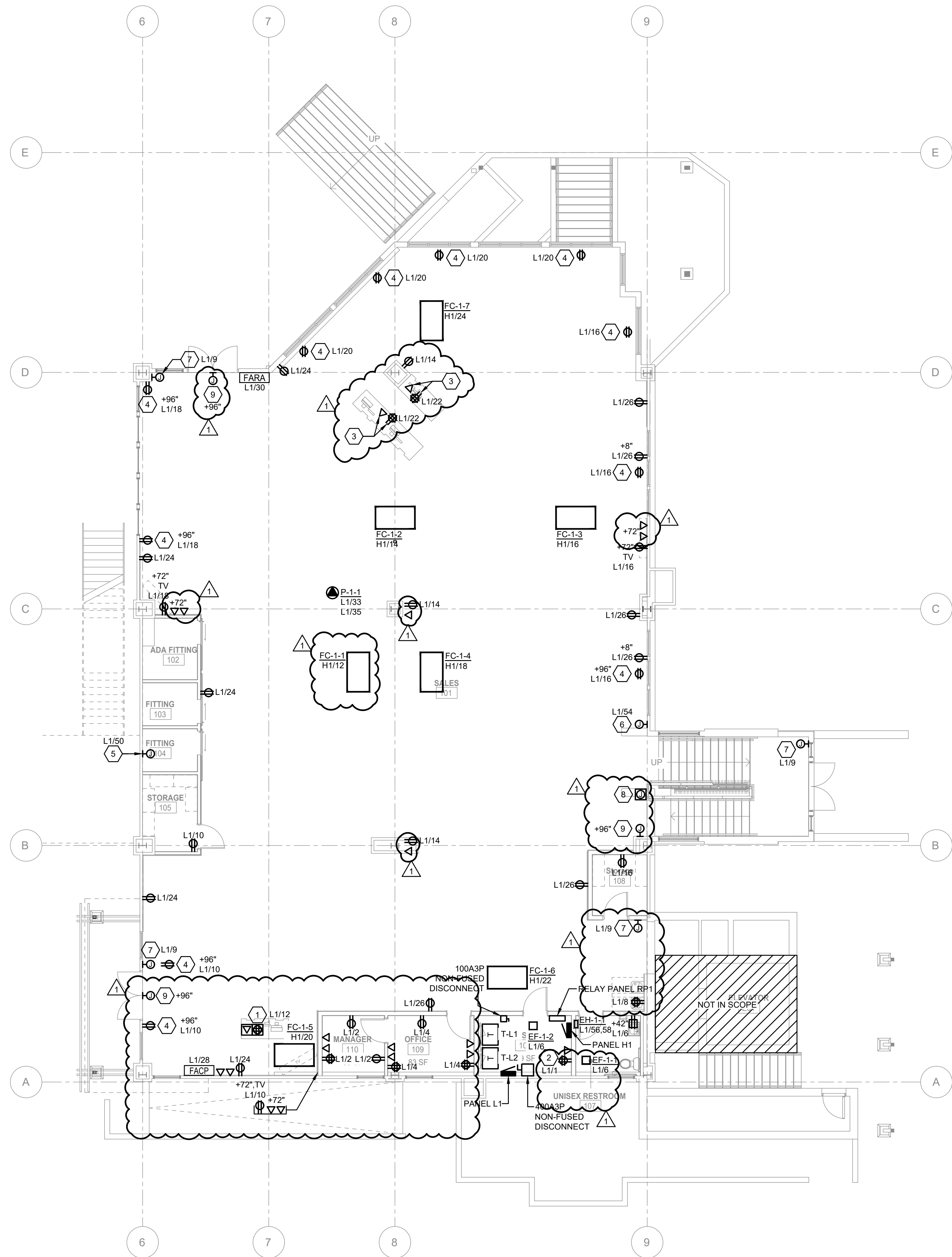
- (THIS SHEET)

- TIME STAMP:



SCALE: 1/8" = 1'-0"

- TIME STAMP:



LEVEL 1
ELECTRICAL POWER PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES (THIS SHEET)

- SEE SHEET E0.0 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
- MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT REQUIRING ELECTRICAL CONNECTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO ALL MECHANICAL AND OTHER EQUIPMENT INCLUDED IN THIS PROJECT. DEVICES AND EQUIPMENT SHOWN IN THIN LIGHT LINEWEIGHT AND/OR LABELED WITH NO (E) ARE EXISTING TO REMAIN. DEVICES AND EQUIPMENT SHOWN IN THICK BOLD LINEWEIGHT ARE NEW.
- PROVIDE FUSES SIZED PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
- DISCONNECT SWITCH LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHALL BE INSTALLED IN ACCESSIBLE LOCATION TO SUIT EQUIPMENT AND SPACE. DISCONNECT SWITCHES SHALL BE WITHIN SIGHT OF THE EQUIPMENT THEY SERVE AND MOUNTED AT 6'-3" MAXIMUM, TO TOP OF CABINET. MAINTAIN NEC WORK SPACE AND REQUIREMENTS.
- RECEPTACLES INDICATED TO BE MOUNTED ABOVE COUNTER ARE TO BE MOUNTED HORIZONTALLY 6" ABOVE COUNTER. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT WHERE ABOVE COUNTER RECEPTACLES ARE LOCATED BELOW WINDOWS.
- COORDINATE AND VERIFY EXACT MOUNTING LOCATIONS OF WALL AND FLOOR DEVICES WITH ARCHITECTURAL ELEVATIONS, AND ANY FURNITURE OR SPECIALTY EQUIPMENT SUPPLIER DRAWINGS PRIOR TO ROUGH-IN.
- COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- CONTRACTOR RESPONSIBLE FOR CONNECTION OF OWNER SUPPLIED EQUIPMENT MADE TO BE OPERATIONAL.
- COORDINATE ALL DEVICES SHOWN WITHIN CASEWORK WITH CASEWORK MANUFACTURER. RUN CONDUIT WITHIN CASEWORK AS NECESSARY.
- REFER TO TELECOM DRAWINGS AND SPECIFICATIONS FOR LOW-VOLTAGE SYSTEMS INFRASTRUCTURE REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUITS AND BACKBOXES REQUIRED FOR LOW-VOLTAGE SYSTEMS.
- ALL GENERAL PURPOSE RECEPTACLES IN SHOP AREAS SHALL BE GFCI AND MOUNTED AT +42" AFF.
- LOW VOLTAGE, POWER, AND LIGHTING CONDUIT WHERE STRUCTURE IS EXPOSED SHALL BE RUN ABOVE THE METAL DECK.
- ALL RECEPTACLES WITHIN 6' OF A SINK SHALL BE GFCI.
- GFCI PROTECTION IS INDICATED AS REQUIRED. GFCI TRIP SWITCH SHALL BE IN ACCESSIBLE LOCATION, EITHER AT ACCESSIBLE RECEPTACLE, A REMOTE-MOUNTED GFCI SWITCH, OR AT CIRCUIT BREAKER.

KEY NOTES (THIS SHEET)

- PROVIDE POKE THRU, 6" FLOORBOX WITH 2 20A DUPLEX RECEPTACLES LEGRAND MODEL 6ATC2PBKSH, OR AS APPROVED. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN. COORDINATE SAWCUTTING WITH GENERAL CONTRACTOR PRIOR TO BID.
- PROVIDE QUADRAPLEX RECEPTACLE FOR USE WITH TELECOMM EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER'S IT REPRESENTATIVE/EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
- MOUNT DEVICE TO CASH WRAP CASEWORK. COORDINATE EXACT REQUIREMENTS WITH CASEWORK CONTRACTOR / PROVIDER PRIOR TO ROUGH-IN.
- DISPLAY WINDOW RECEPTACLE PER NEC 210.62.
- PROVIDE 120V CONNECTION TO MOTORIZED DAMPER. INTERLOCK WITH MECHANICAL EQUIPMENT AS REQUIRED. COORDINATE INTERLOCKING WITH MECHANICAL CONTRACTOR.
- PROVIDE 120V CONNECTION TO HVAC CONTROLS TRANSFORMER. COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- PROVIDE 120V CONNECTION TO SECURITY GATE. COORDINATE EXACT REQUIREMENTS WITH SECURITY GATE PROVIDER PRIOR TO ROUGH-IN.
- PROVIDE IN FLOOR JUNCTION BOX AND CONDUIT WITH PULLSTRING ROUTED TO CEILING STRUCTURE OF FLOOR BELOW FOR SENSORMATIC DEVICE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH LOW VOLTAGE CONTRACTOR PRIOR TO ROUGH-IN.
- PROVIDE RECESSED WALL MOUNTED JUNCTION BOX AND CONDUIT WITH PULLSTRING ROUTED TO CEILING STRUCTURE FOR USE WITH SENSORMATIC CAMERA. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH LOW VOLTAGE CONTRACTOR PRIOR TO ROUGH-IN.

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**GONDOLA SQUARE -
BUILDING D**

2305 MT. WERNER CIRCLE
STEAMBOAT SPRINGS, CO 80487

PROFESSIONAL SEAL:



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REV. #	ISSUED FOR	DATE
0	PERMIT	2022-04-30
1	OWNER CHANGES	2022-07-28

JOB NUMBER: 102201
DRAWN BY: NM / SKZ
APPROVED BY: DWR
DATE: 2022-07-28

SHEET TITLE:
POWER PLANS

SHEET:
E101

TIME STAMP:

(THIS SHEET)

1. SEE SHEET E0.0 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT REQUIRING ELECTRICAL CONNECTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO ALL MECHANICAL AND OTHER EQUIPMENT INCLUDED IN THIS PROJECT. DEVICES AND EQUIPMENT SHOWN IN THIN LIGHT LINEWEIGHT AND/OR LABELED WITH NO (E) ARE EXISTING TO REMAIN. DEVICES AND EQUIPMENT SHOWN IN THICK BOLD LINEWEIGHT ARE NEW.
3. PROVIDE FUSES SIZED PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. DISCONNECT SWITCH LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHALL BE INSTALLED IN ACCESSIBLE LOCATION TO SUIT EQUIPMENT AND SPACE. DISCONNECT SWITCHES SHALL BE WITHIN SIGHT OF THE EQUIPMENT THEY SERVE AND MOUNTED AT 6'-3" MAXIMUM, TO TOP OF CABINET. MAINTAIN NEC WORK SPACE AND REQUIREMENTS.
5. RECEPTACLES INDICATED TO BE MOUNTED ABOVE COUNTER ARE TO BE MOUNTED HORIZONTALLY 6" ABOVE COUNTER. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT WHERE ABOVE COUNTER RECEPTACLES ARE LOCATED BELOW WINDOWS.
6. COORDINATE AND VERIFY EXACT MOUNTING LOCATIONS OF WALL AND FLOOR DEVICES WITH ARCHITECTURAL ELEVATIONS, AND ANY FURNITURE OR SPECIALTY EQUIPMENT SUPPLIER DRAWINGS PRIOR TO ROUGH-IN.
7. COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
8. CONTRACTOR RESPONSIBLE FOR CONNECTION OF OWNER SUPPLIED EQUIPMENT MADE TO BE OPERATIONAL.
9. COORDINATE ALL DEVICES SHOWN WITHIN CASEWORK WITH CASEWORK MANUFACTURER. RUN CONDUIT WITHIN CASEWORK AS NECESSARY.
10. REFER TO TELECOM DRAWINGS AND SPECIFICATIONS FOR LOW-VOLTAGE SYSTEMS INFRASTRUCTURE REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUITS AND BACKBOXES REQUIRED FOR LOW-VOLTAGE SYSTEMS.
11. ALL GENERAL PURPOSE RECEPTACLES IN SHOP AREAS SHALL BE GFCI AND MOUNTED AT +42" AFF.
12. LOW VOLTAGE, POWER, AND LIGHTING CONDUIT WHERE STRUCTURE IS EXPOSED SHALL BE RUN ABOVE THE METAL DECK.
13. ALL RECEPTACLES WITHIN 6' OF A SINK SHALL BE GFCI.
14. GFCI PROTECTION IS INDICATED AS REQUIRED. GFCI TRIP SWITCH SHALL BE IN ACCESSIBLE LOCATION, EITHER AT ACCESSIBLE RECEPTACLE, A REMOTE-MOUNTED GFCI SWITCH, OR AT CIRCUIT BREAKER.

(THIS SHEET)

1. PROVIDE POKE THRU, 6" FLOORBOX WITH 2 20A DUPLEX RECEPTACLES
LEGAND MODEL 6ATC2PBKSH, OR AS APPROVED. COORDINATE EXACT
LOCATION WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN. COORDINATE
SAWCUTTING WITH GENERAL CONTRACTOR PRIOR TO BID.
2. PROVIDE CEILING MOUNTED CORD DROP SPECIALTY RECEPTACLE FOR USE
WITH SKI TUNING EQUIPMENT. COORDINATE MOUNTING HEIGHT AND CEILING
TYPE PRIOR TO ROUGH-IN. REFER TO CORD DROP DETAIL FOR FURTHER
INFORMATION.
3. DISPLAY WINDOW RECEPTACLE PER NEC 210.62.
4. PROVIDE 120V CONNECTION TO MOTORIZED DAMPER. INTERLOCK WITH
MECHANICAL EQUIPMENT AS REQUIRED. COORDINATE INTERLOCKING WITH
MECHANICAL CONTRACTOR.
5. PROVIDE 120V CONNECTION TO HVAC CONTROLS TRANSFORMER.
COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH
MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
6. PROVIDE 208V 1Ø 20A CONNECTION TO SPECIALTY OWNER PROVIDED
EQUIPMENT. COORDINATE EXACT RECEPTACLE CONFIGURATION WITH
EQUIPMENT / OWNER PRIOR TO ROUGH-IN.
7. PROVIDE 120V CONNECTION TO SECURITY GATE. COORDINATE EXACT
REQUIREMENTS WITH SECURITY GATE PROVIDER PRIOR TO ROUGH-IN.
8. PROVIDE TWO (2) 4" CONDUIT SLEEVES BETWEEN THIS FLOOR AND THE FLOOR
BELOW FOR LOW VOLTAGE CABLING. COORDINATE EXACT LOCATION
WITH FLOOR CONSTRUCTION AND LOW VOLTAGE CONTRACTOR PRIOR TO
ROUGH-IN.
9. PROVIDE ONE (1) 3/4" CONDUIT STUBBED UP AT INDICATED LOCATION FOR
DATA CONNECTION. COORDINATE EXACT LOCATION WITH FLOOR
CONSTRUCTION AND LOW VOLTAGE CONTRACTOR PRIOR TO ROUGH-IN.
10. MOUNT DEVICE TO CASEWORK. COORDINATE EXACT REQUIREMENTS WITH
CASEWORK CONTRACTOR / PROVIDER PRIOR TO ROUGH-IN.



SCALE: 1/8" = 1'-0"



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08/05/2022

STEAMBOAT SPRINGS, CO 80487

DATE	ISSUED FOR	REV
2022-04-30	PERMIT	0
2022-07-28	OWNER CHANGES	1

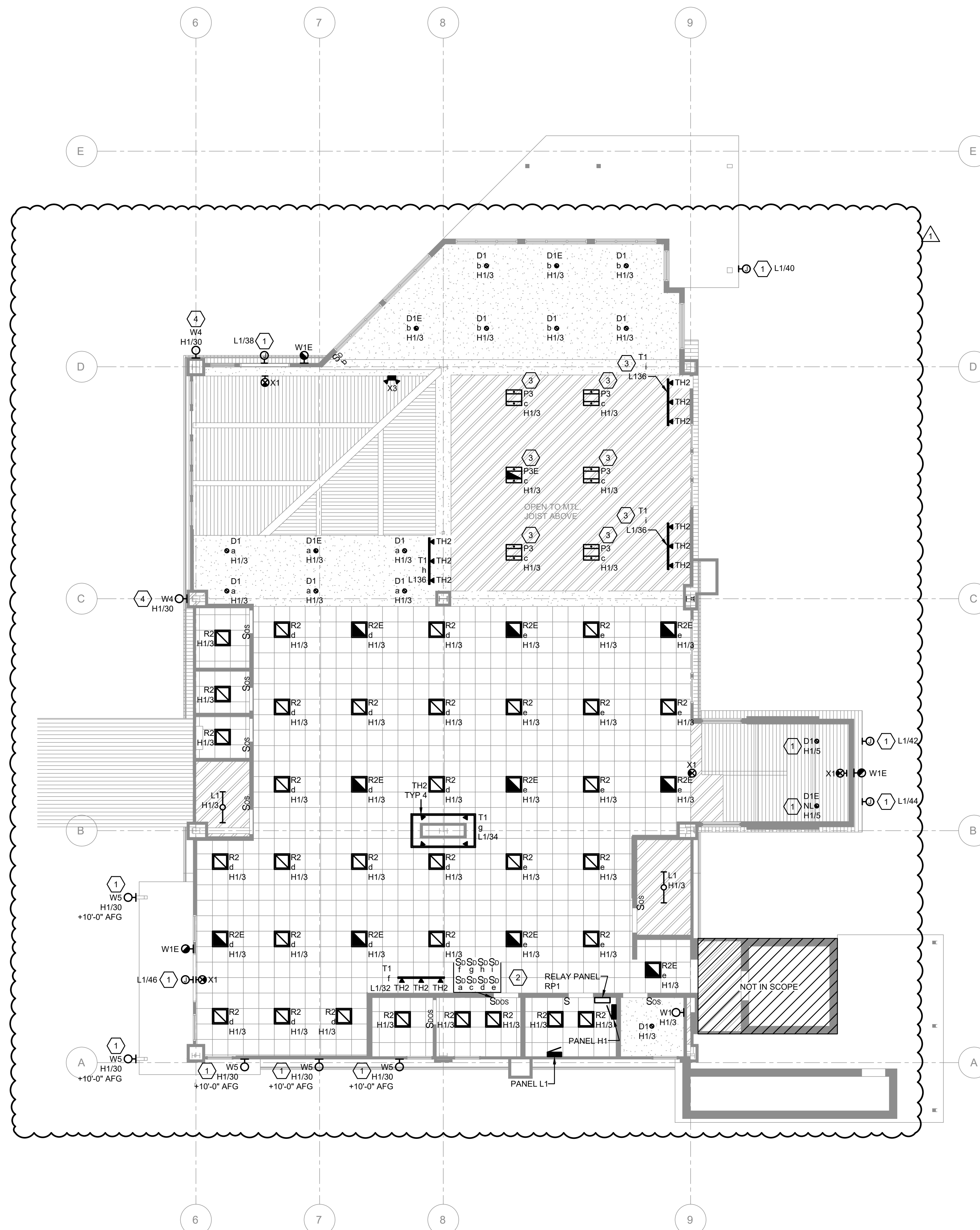
E103

THE STAMP:



SCALE: 1/8" = 1'-0"

STAMP:



LEVEL 1

ELECTRICAL LIGHTING PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

(THIS SHEET)

1. SEE SHEET E0.0 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. CONFIRM MOUNTING HEIGHT AND LOCATION OF ALL LUMINAIRES AND DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS.
3. CONNECT ALL EXIT SIGNS AHEAD OF LOCAL SWITCHING.
4. ALL CEILING MOUNTED OCCUPANCY SENSORS AND VACANCY SENSORS SHALL BE DUAL TECHNOLOGY TYPE.
5. COORDINATE LUMINAIRE LOCATIONS WITH MECHANICAL PIPING, DUCTWORK, ETC. TO AVOID CONFLICTS. SEE SPECIFICATIONS FOR COORDINATION REQUIREMENTS.
6. FIELD COORDINATE EXACT LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AND VACANCY SENSORS PER MANUFACTURER'S INSTRUCTIONS. THE LOCATIONS OF THE SENSORS ON DRAWINGS ARE DIAGRAMMATIC. DO NOT LOCATE OCCUPANCY SENSORS WITHIN THREE FEET OF AN HVAC SUPPLY DEVICE. IF ADDITIONAL SENSORS ARE NEEDED FOR COMPLETE COVERAGE OF SPACE THEY SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS REQUIRED TO PROVIDE COMPLETE SPACE COVERAGE.
7. CONTRACTOR SHALL PROVIDE ALL NECESSARY SWITCH PACKS FOR OCCUPANCY SENSORS TO PROVIDE FUNCTION INDICATED.
8. ALL EXIT SIGNS SHALL BE CIRCUITED TO LIGHTING CIRCUIT SERVING OTHER LUMINAIRES IN THE SAME SPACE AS THE EXIT SIGNS.
9. LOSS OF UTILITY POWER SHALL ENERGIZE ALL EGRESS LIGHTING. THE DESIGN SHALL MEET ALL UL STANDARDS FOR LIFE SAFETY REQUIREMENTS.
10. VACANCY/OCCUPANCY SENSORS SHALL BE SET AT A MAXIMUM 15 MINUTE TIMEOUT.
11. CONTRACTOR SHALL VERIFY DIMMER SWITCHES ORDERED ARE COMPATIBLE WITH THE LUMINAIRES THEY CONTROL.

KEY NOTES

(THIS SHEET)

1. PROVIDE 120V CONNECTION TO EXTERIOR SIGN. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. PROVIDE DISCONNECTING MEANS AS REQUIRED PER NEC 600.6.
2. PROVIDE LOW VOLTAGE SWITCH STATION FOR SWITCHING ZONES "a, b, c, d, e, f, g, h, i, k". PROVIDE WITH ENGRAVING TO INDICATE ZONES. COORDINATE FINISH WITH ARCHITECT / OWNER PRIOR TO PROCUREMENT.
3. FIXTURE TO BE PENDANT MOUNTED TO BAR JOIST ABOVE SUCH THAT BOF IS SUSPENDED AT 9'-0" AFF. COORDINATE MOUNTING LOCATIONS AND SUPPORTS PRIOR TO ROUGH-IN.
4. MOUNT FIXTURE TO EXISTING EXTERIOR JUNCTION BOX.
5. MOUNT FIXTURE TO TRELLIS STRUCTURE SUCH THAT BOF IS EVEN WITH BOTTOM OF TRELLIS STRUCTURE. ROUTE CONDUIT ON TOP OF TRELLIS STRUCTURE FOR MAXIMUM CONCEALMENT. COORDINATE ROUTING AND EXACT MOUNTING LOCATIONS WITH STRUCTURE PRIOR TO ROUGH-IN.
6. FIXTURE CONTROLLED BY TIMECLOCK FOR AUTOMATIC ON/OFF. MANUAL OVERRIDE AND DIMMING SWITCH LOCATION ON TOP LEVEL. REFER TO SECOND LEVEL LIGHTING PLAN SWITCH GROUP "a" FOR LOCATION.

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08/05/2022

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APPROVED BY: DWE

DATE: 2022-07-28

SHEET TITLE:

LIGHTING PLANS

SHEET:

E201

TIME STAMP:



(THIS SHEET)

1. SEE SHEET E0.0 FOR LEGEND AND ADDITIONAL GENERAL NOTES.
2. CONFIRM MOUNTING HEIGHT AND LOCATION OF ALL LUMINAIRES AND DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. REFER TO SUPPLEMENTAL ELEVATIONS AND REFLECTED CEILING PLANS.
3. CONNECT ALL EXIT SIGNS AHEAD OF LOCAL SWITCHING.
4. ALL CEILING MOUNTED OCCUPANCY SENSORS AND VACANCY SENSORS SHALL BE DUAL TECHNOLOGY TYPE.
5. COORDINATE LUMINAIRE LOCATIONS WITH MECHANICAL PIPING, DUCTWORK, ETC. TO AVOID CONFLICTS. SEE SPECIFICATIONS FOR COORDINATION REQUIREMENTS.
6. FIELD COORDINATE EXACT LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AND VACANCY SENSORS PER MANUFACTURER'S INSTRUCTIONS. THE LOCATIONS OF THE SENSORS ON DRAWINGS ARE DIAGRAMMATIC. DO NOT LOCATE OCCUPANCY SENSORS WITHIN THREE FEET OF AN HVAC SPLIT DEVICE. IF ADDITIONAL SENSORS ARE NEEDED FOR COMPLETE COVERAGE OF SPACE THEY SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS REQUIRED TO PROVIDE COMPLETE SPACE COVERAGE.
7. CONTRACTOR SHALL PROVIDE ALL NECESSARY SWITCH PACKS FOR OCCUPANCY SENSORS TO PROVIDE FUNCTION INDICATED.
8. ALL EXIT SIGNS SHALL BE CIRCUITED TO LIGHTING CIRCUIT SERVING OTHER LUMINAIRES IN THE SAME SPACE AS THE EXIT SIGNS.
9. LOSS OF UTILITY POWER SHALL ENERGIZE ALL EGRESS LIGHTING. THE DESIGN SHALL MEET ALL UL STANDARDS FOR LIFE SAFETY REQUIREMENTS.
10. VACANCY/OCCUPANCY SENSORS SHALL BE SET AT A MAXIMUM 15 MINUTE TIMEOUT.
11. CONTRACTOR SHALL VERIFY DIMMER SWITCHES ORDERED ARE COMPATIBLE WITH THE LUMINAIRES THEY CONTROL.

(THIS SHEET)

1. TRACK FIXTURES IN THIS AREA TO BE SURFACE MOUNTED TO THE SIDE OF GLULAM BEAMS. COORDINATE MOUNTING LOCATIONS AND CONDUIT ROUTING WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN. PAINT CONDUIT, FINISH BY ARCHITECT/OWNER.
2. MOUNT FIXTURE TO EXISTING RECESSED JUNCTION BOX IN WOOL CEILING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH CEILING AND ARCHITECT/OWNER PRIOR TO ROUGH-IN.
3. PROVIDE LOW VOLTAGE SWITCH STATION FOR SWITCHING ZONES "a, b, c, d, e, f, g, h, i, j." PROVIDE WITH ENGRAVING TO INDICATE ZONES. COORDINATE FINISH WITH ARCHITECT / OWNER PRIOR TO PROCUREMENT.
4. PROVIDE PHOTOCELL ON THE NORTH SIDE OF THE BUILDING FOR CONTROL OF ILLUMINATED EXTERIOR SIGNS. COORDINATE PHOTOCELL CONTROL WITH RELAY PANEL AND LIGHTING CONTROLS CONTRACTOR PRIOR TO PROCUREMENT.

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SHEET TITLE:

LIGHTING PLANS

SHEET:

E202

TIME STAMP: