MECHANICAL SYMBOLS LIST

Symbol	Description
AC-1 TXF-1	EQUIPMENT SYMBOL
XX / X	RISER SYMBOL
AIR DEVICES	
⊠	CEILING DIFFUSER SUPPLY
⧄	CEILING DIFFUSER RETURN
DUCT ACCESSORIES	
VD VD	VOLUME DAMPER W/ ACCESS DOOR
CONTROLS AND SENSORS	
(T)	THERMOSTAT
DUCTWORK	
=======	AIR DUCT W/ 1.5" ACOUSTICAL LINING
~~	FLEXIBLE DUCT
FC FC	FLEXIBLE CONNECTION
24X12	RECTANGULAR DUCT (WIDTH X DEPTH)
ø12	ROUND DUCT (DIAMETER)
	ROUND DUCT CROSS SECTION
	SUPPLY AIR RECTANGULAR DUCT CROSS SECTION
	RETURN AIR RECTANGULAR DUCT CROSS SECTION

APPLICABLE CODES

- 2022 CALIFORNIA ENERGY CODE.
- 2022 CALIFORNIA MECHANICAL CODE.
- 2022 CALIFORNIA PLUMBING CODE.
- 2022 CALIFORNIA ELECTRICAL CODE.
- 2022 CALIFORNIA BUILDING CODE.

CALIFORNIA ENERGY CONSERVATION CODE–2022 COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE CALIFORNIA ENERGY CONSERVATION CODE–2022.

SCOPE OF WORK

SCOPE OF WORK

1. THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, RFI'S, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
2. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
3. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

MECHANICAL ABBREVIATIONS

AHU	AIR HANDLING UNIT
BD	BACK DRAFT DAMPER
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CDS	CEILING DIFFUSER SUPPLY
DB	DRY BULB TEMPERATURE
DN	DOWN
EFF	EFFICIENCY
EF	EXHAUST FAN
OAI	OUTSIDE AIR INTAKE
FPM	FEET PER MINUTE
FT	FEET
IN	INCHES
LF	LINEAR FEET
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED OR NOISE CRITERIA
NO	NORMALLY OPEN
WMS	WIRE MESH SCREEN
SG	SUPPLY GRILLE

MECHANICAL DRAWING LIST

M.001	MECHANICAL GENERAL NOTES
M.002	MECHANICAL SPECIFICATIONS
M.101	MECHANICAL FLOOR PLAN, SCHEDULES & DETAILS

CALIFORNIA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE CALIFORNIA BUILDING CODE 2022, AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
2. VENTILATION FOR ALL AREA SHALL COMPLY WITH CALIFORNIA ENERGY CODE 2022, SECTION 120.1–REQUIREMENTS FOR VENTILATION AND INDOOR AIR QUALITY.
3. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
4. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE–RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
6. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
7. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE CALIFORNIA MECHANICAL CODE 2022:
   - A. VENTILATION SYSTEM BALANCING CALIFORNIA MECHANICAL CODE 2022 – 402
   - B. SMOKE CONTROL SYSTEMS – CALIFORNIA MECHANICAL CODE 2022 – 606
8. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   - A. STANDARDS OF HEATING – CALIFORNIA BUILDING CODE 2022 – 1203
   - B. DUCT CONSTRUCTION AND INSTALLATION– CALIFORNIA MECHANICAL CODE 2022 – 602 & 603
   - C. AIR INTAKES, EXHAUSTS AND RELIEF – CALIFORNIA MECHANICAL CODE 2022 –407.
   - D. AIR FILTERS – CALIFORNIA MECHANICAL CODE 2022 – 401 (FILTERS SHALL BE A MINIMUM OF MERV 13 AS REQUIRED BY CENC 120.1(C))
   - E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS – CALIFORNIA MECHANICAL CODE 2022 – 606
   - F. GAS FIRED EQUIPMENT – CALIFORNIA FUEL GAS CODE 2022.
9. OPERATION AND CONTROL REQUIREMENTS FOR MINIMUM QUANTITIES OF OUTDOOR AIR. TIMES OF OCCUPANCY – THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SECTION 120.1(C) SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS USUALLY OCCUPIED.
10. ALL MECHANICAL EQUIPMENT SHALL BE TESTED BY A CALIFORNIA CERTIFIED ACCEPTANCE TEST TECHNICIAN.
11. SMOKE DETECTOR SHALL MEET UL268A.
12. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR – BALANCE REPORT TO INSPECTOR.
13. ALL DUCTWORK WORK SYSTEMS SHALL BE TESTED FOR AIR LEAKAGE PER CMC SECTION 603.9.2.

GENERAL NOTES

1. CONTRACTOR SHALL SURVEY THE AREA OF THIS WORK BEFORE SUBMITTING A BID AND SHALL BE RESPONSIBLE FOR NOTIFYING MPD OF ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK AS SHOWN ON DRAWINGS.
2. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
3. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO OWNER FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIMES DESIGNATED BY OWNER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF–DAYS WITHOUT PRIOR WRITTEN APPROVAL.
4. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
5. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
6. CONTRACTOR SHALL ASCERTAIN THE APPROPRIATE METHOD FOR BRINGING THE UNITS INTO AND THROUGH THE BUILDING TO POSITION UNIT IN LOCATION SHOWN ON THE PLANS. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTIVE SPACES. COORDINATE WITH BUILDING OWNER APPROPRIATE TIMES OF DAY SUCH EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
7. WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.
8. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
9. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
10. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
11. ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.
14. SUBMIT SHOP DRAWING OF ALL WORK WHICH MUST BE APPROVED BY THE MPD AND ENGINEER BEFORE WORK COMMENCES.
15. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
16. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON–SITE INSPECTION SHALL VERIFY EXISTING DUCTWORK, PIPING (SIZES, CLEARANCES, ETC) AND CONDITIONS.
17. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS THE CONTRACTOR SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
18. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
19. 19. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.

GENERAL HVAC NOTES

GENERAL:

1. PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
4. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.
5. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
6. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
7. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
8. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
9. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.
10. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
11. LOCATE ALL TEMPERATURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP– AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
12. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK OR PIPING, COORDINATE DUCTWORK AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO THE FABRICATION OF DUCTWORK, CUTTING OF PIPING, OR FABRICATION OF BEAMS.
13. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
14. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANELS SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL.
15. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
16. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION–FREE INSTALLATION.
17. ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C–CLAMPS SHALL NOT BE PERMITTED.
18. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
19. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.
20. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.
21. REFER TO TYPICAL DETAILS FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
22. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
23. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.

HVAC DUCTWORK – SHEET METAL

1. CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK,ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY FOR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.
2. CONTRACTOR TO CHECK AND CORRECT ANY AND ALL DEFICIENCIES IN EXISTING DUCTS. ALL NEW DUCTWORK WILL COMPLY WITH THE LATEST SMACNA GUIDELINES AND CONFORM WITH REQUIREMENTS OF THE LATEST HANDBOOKS PUBLISHED BY ASHRAE.
3. PROVIDE VOLUME DAMPER AT EACH TAP TO MAIN DUCT AND WHERE NECESSARY TO PROPERLY BALANCE SYSTEM.
4. SUPPLY AND RETURN DUCTWORK 20' FROM ALL AC UNITS SHALL BE LINED WITH 1.5" ACOUSTICAL LINING.
5. RE–INSULATE ALL DUCTWORK AND PIPING IN WHICH INSULATION HAS BEEN REMOVED OR DAMAGED WITH INSULATION EQUAL TO THE EXISTING INSULATION.
6. CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY SUPPLY DIFFUSERS AND RETURN AIR REGISTERS WHERE INDICATED ON THE DRAWING. COORDINATE LOCATION OF DIFFUSERS AND REGISTERS WITH REFLECTED CEILING PLAN.
7. IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE FIXTURES.
8. ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.
9. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
10. PROVIDE ALL 90–DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN DISHWASHER, KITCHEN, AND LAUNDRY EXHAUSTS SHALL BE OF UN–VANED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1–1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.
11. COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.
12. ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER.
13. LOCATE ALL MECHANICAL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.
14. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
15. UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF NEEDED.
16. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FT.
17. ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
18. PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK THAT REQUIRE SERVICE AND/OR INSPECTION.
19. PROVIDE ACCESS DOORS IN DUCTWORK FOR THE OPERATION, ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT.
20. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
21. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
22. SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.
23. EXTERIOR LOUVERS ARE INDICATED FOR SIZE, GENERAL LOCATION AND PERFORMANCE ONLY. DETAILED LOUVER DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL SPECIFICATIONS.

THERMOSTATIC CONTROLS

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES, GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:

THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/–45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15 240 MM); AND

THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.2.4.1.1 HEAT PUMP SUPPLEMENTARY HEAT

HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

C403.2.4.1.2 DEADBAND

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:

THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C403.2.4.1.3 SET POINT OVERLAP RESTRICTION

WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE PROVIDED WITH THE CAPABILITY TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.2.4.1.2.

C403.2.4.2 OFF–HOUR CONTROLS

EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.

EXCEPTIONS:

ZONES THAT WILL BE OPERATED CONTINUOUSLY.

ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTU/H (2 KW) AND HAVING A READILY ACCESSIBLE MANUAL SHUTOFF SWITCH.

C403.2.4.2.1 THERMOSTATIC SETBACK CAPABILITIES

THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES

AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.2.4.2.3 AUTOMATIC AND OPTIMUM START CAPABILITIES (MANDATORY)

AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

INDIVIDUAL HEATING AND COOLING SYSTEMS WITH SETBACK CONTROLS AND DIRECT DIGITAL CONTROL SHALL HAVE OPTIMUM START CONTROLS. THE CONTROL ALGORITHM SHALL, AS A MINIMUM, BE A FUNCTION OF THE DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED SET POINT, THE OUTDOOR TEMPERATURE, AND THE AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY. MASS RADIANT FLOOR SLAB SYSTEMS SHALL INCORPORATE FLOOR TEMPERATURE INTO THE OPTIMUM START ALGORITHM.

INSULATION SCHEDULE

ALL INTERIOR DUCTS (WITHIN BUILDING): R–8

EXTERIOR AIR DUCT (OUTSIDE BUILDING): R–8

PROVIDE ACOUSTIC INSULATION ON MAIN SUPPLY AND RETURN DUCTS UP TO 10 FT. FROM HVAC UNIT.

NOTE:

ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R–5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND WITH A MINIMUM OF R–8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING ENVELOPE. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R–8 INSULATION. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS, AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, MASTIC–PLUS–EMBEDDED–FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR UL 181B. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS.

SPECIFICATIONS

SECTION 0001 – NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

A. THE BIDDER BY MAKING A BID REPRESENTS THAT:

THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS, TO THE EXTENT THAT SUCH DOCUMENTATION RELATES TO THE WORK FOR WHICH THE BID IS SUBMITTED, AND FOR OTHER PORTIONS OF THE PROJECT, IF ANY, BEING BID CONCURRENTLY OR PRESENTLY UNDER CONSTRUCTION.

B. THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS.

C. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR.

D. SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS, THE ITEM OR ITEMS IN DISPUTE THAT REPRESENT THE GREATER COST SHALL PREVAIL IN THE FINAL BID.

E. THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

A. THE BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH THE REQUIREMENTS OF THE PROPOSED BIDDING DOCUMENTS.

B. THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED.

1.3 RESPONSIBILITIES

A. THE BIDDER UNDERSTANDS THAT ANY CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TIMELY COMPLETION AND ACCEPTANCE OF THEIR WORK AND THAT ANY ITEMS DAMAGED, LOST OR STOLEN DURING TIME OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHOUT ANY ADDITIONAL COST TO THE OWNER.

B. THE BIDDER UNDERSTANDS THAT ANY PROPOSED WORK IN OCCUPIED TENANT SPACES SHALL BE PERFORMED DURING TIMES OF NON–TENANT OCCUPANCY OR AS SCHEDULED OR DIRECTED BY THE BUILDING MANAGER.

C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT–DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE–ARRANGED WITH THE BUILDING MANAGER AND THAT SUCH SHUT–DOWNS ARE TO BE KEPT TO A MINIMUM.

END OF SECTION 0001

SECTION 0101 – QUALITY OF WORK

1.1 WORKMANSHIP

A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.

C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0101 – QUALITY OF WORK

1.1 WORKMANSHIP

A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.

C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0102 –REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

A. A SET OF PRINTS FOR ANY MECHANICAL WORK INCLUDING BUT NOT LIMITED TO, DUCTWORK AND PIPING LAYOUT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION OR PURCHASE OF MATERIALS.

1.2 SUBMITTALS

A. EQUIPMENT SUBMITTALS OF ALL PROPOSED MECHANICAL AND ANCILLARY EQUIPMENT INCLUDING ALL ACCESSORIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ALL PERTINENT MODELS, SIZES, ACCESSORIES AND CHOICES SHALL BE CLEARLY CHECKED, PRINTED OR OTHERWISE INDICATED ON THE SUBMITTALS.

1.3 RECORD DRAWINGS

A. UPON COMPLETION OF THE WORK, A RECORD DRAWING SHALL BE SUBMITTED TO THE OWNER DEPICTING ALL SUBSEQUENT CHANGES, ADDITIONS AND OR CORRECTIONS TO THE CONTRACT DRAWINGS AND OR CONTRACT SCOPE MADE DURING CONSTRUCTION. THIS DRAWING SHALL REPRESENT A COMPLETE RECORD OF THE WORK INSTALLED.

1.4 EQUIPMENT OPERATING INSTRUCTIONS

A. ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS,EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

B. THESE INSTRUCTIONS SHALL BE TYPED ON 8–1/2 IN. X 11 IN. PAPER AND BOUND IN THREE–RING BINDERS WITH CLEAR ACETATE COVERS. THE CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE ELECTRONIC COPY TO THE ENGINEER.

C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

BLUE BOWL @ RODEO 72

ISSUED FOR: 5TH AGENCY SUBMITTAL

ISSUE DATE: 07-25-2023

No.	Date	Description

SHEET TITLE:

MECHANICAL GENERAL NOTES

M.001

SECTION 078413—PENETRATION FIRE—STOPPING

1.1 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: AN FM GLOBAL—APPROVED FIRE—STOP CONTRACTOR OR A UL—QUALIFIED FIRE—STOP CONTRACTOR.
- B. FIRE—TEST—RESPONSE CHARACTERISTICS: UL, INTERTEK ETL SEMKO OR FM GLOBAL

1.2 PENETRATION FIRESTOPPING
- A. PENETRATIONS IN FIRE—RESISTANCE—RATED WALLS: F—RATINGS PER ASTM E 814 OR UL 1479.
- B. PENETRATIONS IN HORIZONTAL ASSEMBLIES: F— AND T—RATINGS PER ASTM E 814 OR UL 1479:
- C. PENETRATIONS IN SMOKE BARRIERS: L—RATINGS PER UL 1479.
- D. W—RATINGS: PER UL 1479.

1.3 INSTALLATION
- A. IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL
- A. INSPECTION OF INSTALLED FIRE—STOPPING: BY OWNER—ENGAGED AGENCY ACCORDING TO ASTM E 2174.

1.5 THROUGH—PENETRATION FIRESTOP SYSTEM SCHEDULE WHERE UL—CLASSIFIED SYSTEMS ARE INDICATED, THEY REFER TO SYSTEM NUMBERS IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHEZ.

FOR THE FOLLOWING SYSTEMS:

METALLIC AND NON—METALLIC PIPES, CONDUIT, OR TUBING, ELECTRICAL CABLES, CABLE TRAYS WITH ELECTRIC CABLES, MISCELLANEOUS ELECTRICAL PENETRANTS, INSULATED PIPES, GROUPINGS OF PENETRANTS, USE ON OR MORE THE FOLLOWING MATERIALS:

- a. LATEX SEALANT
- b. SILICONE SEALANT
- c. INTUMESCENT PUTTY
- d. MORTAR
- h. SILICONE FOAM
- i. PILLOWS/BAGS
- j. INTUMESCENT WRAP STRIPS
- k. INTUMESCENT COMPOSITE SHEET

1.6 MANUFACTURERS
1. HILTI CONSTRUCTION CHEMICAL, INC
2. TREMCO INC.
3. 3M FIRE PROTECTION PRODUCTS

END OF SECTION 078413

SECTION 230517 — SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

1.1 SLEEVE—SEAL SYSTEMS
- A. FIELD—ASSEMBLED, MODULAR SEALING—ELEMENT UNIT FOR FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVE.
  1. SEALING ELEMENTS: EPDM RUBBER OR NBR.
  2. PRESSURE PLATES: CARBON STEEL, PLASTIC, STAINLESS STEEL.
  3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION—RESISTANT COATING, STAINLESS STEEL.
- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
  1. ADVANCE PRODUCTS & SYSTEMS, INC.
  2. CALPICO, INC.
  3. METRAFLEX COMPANY (THE).
  4. PIPELINE SEAL AND INSULATOR, INC.
  5. PROCO PRODUCTS, INC.

1.2 SLEEVE—SEAL FITTINGS
- A. MANUFACTURED PLASTIC, SLEEVE—TYPE, PLASTIC OR RUBBER WATER—STOP ASSEMBLY MADE FOR IMBEDDING IN CONCRETE SLAB OR WALL.

1.3 GROUT
- A. NON—SHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE—SEAL SCHEDULE
- A. USE SLEEVES AND SLEEVE SEALS FOR THE FOLLOWING PIPING—PENETRATION APPLICATIONS:
  1. INTERIOR PARTITIONS:
     - a. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED—STEEL—PIPE SLEEVES, PVC—PIPE SLEEVES.
     - b. PIPING NPS 6 (DN 150) AND LARGER: GALVANIZED—STEEL—SHEET SLEEVES.

END OF SECTION 230517

SECTION 230518 — ESCUTCHEONS FOR HVAC PIPING

PART 2 — PRODUCTS

2.1 ESCUTCHEONS
- A. ONE—PIECE, CAST—BRASS TYPE: WITH POLISHED, CHROME—PLATED AND ROUGH—BRASS FINISH AND SETSCREW FASTENER.
- B. ONE—PIECE, DEEP—PATTERN TYPE: DEEP—DRAWN, BOX—SHAPED BRASS WITH CHROME—PLATED FINISH AND SPRING—CLIP FASTENERS.
- C. ONE—PIECE, STAMPED—STEEL TYPE: WITH CHROME—PLATED FINISH AND SPRING—CLIP FASTENERS.

2.2 FLOOR PLATES
- A. ONE—PIECE FLOOR PLATES: CAST—IRON FLANGE WITH HOLES FOR FASTENERS.

PART 3 — EXECUTION

3.1 INSTALLATION
- A. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS.
- B. INSTALL ESCUTCHEONS WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.
  1. ESCUTCHEONS FOR NEW PIPING:
     - a. PIPING WITH FITTING OR SLEEVE PROTRUDING FROM WALL: ONE—PIECE, DEEP—PATTERN TYPE.
     - b. INSULATED PIPING: ONE—PIECE, STAMPED—STEEL TYPE.
     - c. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE—PIECE, CAST—BRASS TYPE WITH POLISHED, CHROME—PLATED FINISH OR STAMPED—STEEL TYPE.
     - d. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: ONE—PIECE, CAST—BRASS TYPE WITH POLISHED, CHROME—PLATED FINISH OR STAMPED—STEEL TYPE.

3.2 FIELD QUALITY CONTROL
- A. REPLACE BROKEN AND DAMAGED ESCUTCHEONS AND FLOOR PLATES USING NEW MATERIALS.

END OF SECTION 230518

SECTION 230529 — HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS
- A. DELEGATED DESIGN: DESIGN TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
- B. STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.
  1. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER.
  2. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND
  3. DESIGN SEISMIC—RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

1.2 SUBMITTALS
- A. SHOP DRAWINGS: SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

1.3 QUALITY ASSURANCE
- A. AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE — STEEL."

1.4 COMPONENTS
- A. METAL PIPE HANGERS AND SUPPORTS: CARBON OR STAINLESS STEEL
- B. TRAPEZE PIPE HANGERS: CARBON OR STAINLESS STEEL
- C. FIBERGLASS PIPE HANGERS: —CLEVIS, CENTURY COMPOSITES, COOPER B—LINE
- D. METAL FRAMING SYSTEMS: MFMA MANUFACTURER
- E. FIBERGLASS STRUT SYSTEMS: COOPER B—LINE
- F. THERMAL—HANGER SHIELD INSERTS:
- G. FASTENER SYSTEMS: POWDER—ACTUATED FASTENERS OR MECHANICAL—EXPANSION ANCHORS
- H. PIPE STANDS: COMPACT, LOW TYPE, SINGLE PIPE, HIGH TYPE, SINGLE PIPE, HIGH TYPE, MULTIPLE PIPES, CURB—MOUNTED TYPE
- I. EQUIPMENT SUPPORTS.

END OF SECTION 230529

SECTION 230548 — VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 — GENERAL

1.1 COMPONENTS
- A. VIBRATION ISOLATORS:
  1. ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS
  2. MOUNTS: DOUBLE—DEFLECTION TYPE.
  3. RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST—DUCTILE—IRON HOUSING.
  4. SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE, OPEN—SPRING TYPE.
  5. RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN—SPRING TYPE WITH SEISMIC RESTRAINT.
  6. HOUSED SPRING MOUNTS: DUCTILE—IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS.
  7. ELASTOMERIC HANGERS: DOUBLE—DEFLECTION TYPE.
  8. SPRING HANGERS: COMBINATION COIL—SPRING AND ELASTOMERIC—INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION.
  9. SPRING HANGERS WITH VERTICAL—LIMIT STOP: COMBINATION COIL—SPRING AND ELASTOMERIC—INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL—LIMIT STOP.
  10. PIPE RISER RESILIENT SUPPORT: ALL—DIRECTIONAL, ACOUSTICAL PIPE ANCHOR.
  11. RESILIENT PIPE GUIDES.
- B. AIR—MOUNTING SYSTEMS:
  1. AIR MOUNTS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED—AIR BELLOWS.
  2. RESTRAINED AIR MOUNTS: HOUSED COMPRESSED—AIR BELLOWS.
- C. RESTRAINED VIBRATION ISOLATION ROOF—CURB RAILS: FACTORY—ASSEMBLED, FULLY ENCLOSED, INSULATED, AIR— AND WATERTIGHT CURB RAIL; WITH SPRING ISOLATORS MOUNTED ON ELASTOMERIC ISOLATION PADS, AND SNUBBER BUSHINGS.
- D. VIBRATION ISOLATION EQUIPMENT BASES:
  1. STEEL BASE: FACTORY—FABRICATED, WELDED, STRUCTURAL—STEEL BASES AND RAILS.
  2. INERTIA BASE: FACTORY—FABRICATED, WELDED, STRUCTURAL—STEEL BASES AND RAILS READY FOR FIELD—APPLIED, CAST—IN—PLACE CONCRETE

1.2 FIELD QUALITY CONTROL
- A. TESTING: BY EITHER: OWNER—ENGAGED AGENCY, CONTRACTOR—ENGAGED AGENCY, OR CONTRACTOR:

PART—2 PRODUCTS

1.1 VIBRATION ISOLATORS & SEISMIC—RESTRAINT DEVICES
- A. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
  1. ACE MOUNTINGS CO., INC.
  2. AMBER/BOOTH COMPANY, INC.
  3. CALIFORNIA DYNAMICS CORPORATION.
  4. HILTI, INC.
  5. ISOLATION TECHNOLOGY, INC.
  6. KINETICS NOISE CONTROL.
  7. LOOS & CO.; CABLEWARE DIVISION.
  8. MASON INDUSTRIES.
  9. TOLCO INCORPORATED; A BRAND OF NIBCO INC.
  10. UNISTRUT; TYCO INTERNATIONAL, LTD.

END OF SECTION 230548

SECTION 230593 — TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY
- A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:
  1. AIR SYSTEMS: CONSTANT—VOLUME SYSTEMS.
  2. CONDENSING UNITS.

1.2 QUALITY ASSURANCE
- A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.

1.3 EXECUTION
- A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR AND HYDRONIC SYSTEMS THAT ARE TO REMAIN OR TO BE INCORPORATED INTO NEW WORK PRIOR TO THE STARTING OF WORK IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.
- B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR AND HYDRONIC SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.
- C. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.
- D. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.
- E. THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- F. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS S3ECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.
- G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.
- H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.
- I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.
- J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

SECTION 233113 — METAL DUCTS

1.1 CONSTRUCTION
- A. EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC SMACNA DUCT PRESSURE CLASSIFICATIONS SHOWN ON THE CONTRACT DRAWINGS. WHERE NO PRESSURE CLASSES ARE SPECIFIED BY THE DESIGNER, THE SMACNA 2—1/2 INCH WG PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THESE STANDARDS, REGARDLESS OF THE VELOCITY IN THE DUCT.
- B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 2" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:
  1. DUCTWORK SHALL BE TRANSVERSELY JOINTED BY CONNECTING SEAMS OF COMPANION ANGLES, FORMED FROM 1—1/2"X1—1/2"X1/8" GALVANIZED ANGLES, TACK—WELDED OR RIVETED TO THE DUCT. THE ANGLE FRAME SHALL BE CONTINUOUSLY FLANGED UP INTO UPRIGHT OF ANGLE AND EACH CORNER SHALL BE FILLED IN AND GROUND SMOOTH. JOINTS SHALL BE GASKETED WITH 1/8" THICK REINFORCED GASKET, OVERLAPPED AT CORNERS, GASKET SIMILAR TO 3M—1202 OR APPROVED EQUAL.
  2. RECTANGULAR FITTINGS AND ALL TRANSITION PIECES FROM RECTANGULAR TO ROUND SHALL BE NO. 16 GAUGE ALL WELDED CONSTRUCTION.
  3. HORIZONTAL DUCTS SHALL BE SUPPORTED ON NOT MORE THAN 6' CENTERS. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR.
  4. LONGITUDINAL SEAMS FOR RECTANGULAR DUCTWORK SHALL BE PITTSBURGH LOCK SEAMS WITH SEALING COMPOUND, EQUAL TO BENJAMIN FOSTER NO. 30—03 INSERTED INTO SEAM. ALL SEAMS SHALL BE BRUSHED WITH NO. 30—02 AND COVERED WITH APPROVED SEALING TAPE.
  5. RECTANGULAR DUCTWORK 18 GAUGE AND HEAVIER, FILLER RODS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR IRON AND STEEL GAS WELDING RODS, ASTM 215; AWG A5.2.
  6. ALL FITTINGS SUCH AS ELBOWS, TEES, ETC., SHALL BE NO. 20 GAUGE ZINC COATED STEEL. ELBOWS SHALL BE OF FIVE (5) PIECE WELDED AIRTIGHT CONSTRUCTION.
- C. WHERE LATEST EDITION OF SMACNA DOES NOT CLEARLY STATE GAUGES AND/OR STIFFENERS TO BE USED OR, WHERE SMACNA STANDARDS REQUIRE INTERPRETATION, THE FOLLOWING MINIMUM METAL GAUGES AND BRACING SHALL BE USED:

USG	MAX. SIDE INCHES	TRANSVERSE JOINTS AND BRACING
22	UP TO 12	S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
22	13 TO 24	1"X1"X1/8" ANGLES ON 4 FOOT CENTERS
20	25 TO 35	1"X1"X1/8" ANGLES ON 2 FOOT CENTERS

- D. PROVIDE TAPPING IN DUCTS FOR THERMOMETERS WHERE SPECIFIED. IN ADDITION, PROVIDE AN AIRTIGHT PLUGGED TAPPING LOCATED AS FOLLOWS:
  1. UPSTREAM OF EACH REHEAT COIL AND VAV BOX.
  2. DOWNSTREAM OF EACH REHEAT COIL AND VAV BOX.
- E. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3—6 AND AS SHOWN IN FIG. 3—1 AND 3—2 FOR ROUND DUCTWORK.
- F. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

1.2 MATERIALS
- A. SINGLE—WALL RECTANGULAR DUCTS AND FITTINGS.
- B. SINGLE—WALL ROUND AND FLAT—OVAL DUCTS AND FITTINGS.
- C. SHEET METAL MATERIALS:
  1. GALVANIZED SHEET STEEL.
  2. STAINLESS—STEEL SHEETS.
  3. ALUMINUM SHEETS.
  4. FACTORY—APPLIED ANTI—MICROBIAL COATING.
- D. DUCT LINER:
  1. FIBROUS GLASS, TYPE I, FLEXIBLE.
     - a. WITH ANTI—MICROBIAL EROSION—RESISTANT COATING.
  2. FLEXIBLE ELASTOMERIC.
  3. NATURAL FIBER.
- E. SEALANT MATERIALS:
  1. TWO—PART TAPE SEALING SYSTEM.
  2. WATER—BASED JOINT AND SEAM SEALANT.
  3. SOLVENT—BASED JOINT AND SEAM SEALANT.
  4. FLANGED JOINT SEALANT.
  5. FLANGE GASKETS.
  6. ROUND DUCT JOINT O—RING SEALS.

1.3 DUCT CLEANING
- A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING.
- B. CLEAN THE FOLLOWING ITEMS:
  1. AIR OUTLETS AND INLETS.
  2. SUPPLY, RETURN, AND EXHAUST FANS.
  3. AIR—HANDLING UNITS.
  4. COILS AND RELATED COMPONENTS.
  5. RETURN—AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
  6. SUPPLY—AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
  7. DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

1.4 DUCT SCHEDULE
- A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:
  8. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113

SECTION 233713 — DIFFUSERS, REGISTERS, AND GRILLES

1.1 PRODUCTS
- A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM, FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.
- B. MANUFACTURERS: TITUS
  1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:
     - a. CARNES.
     - b. HART & COOLEY INC.
     - c. KRUEGER.
     - d. METALAIRE, INC.
     - e. NAILOR INDUSTRIES INC.
- C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.
- D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

BLUE BOWL @ RODEO 72

ISSUED FOR: 5TH AGENCY SUBMITTAL
ISSUE DATE: 07-25-2023

No.	Date	Description

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

SHEET TITLE:

MECHANICAL SPECIFICATIONS

M.002

MECHANICAL PLAN KEY NOTES:

1. COORDINATE REQUIREMENT & FINAL LOCATION OF AIR CURTAIN WITH OWNER/ARCHITECT. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER SUPPLY.
2. CONTRACTOR TO VERIFY EXISTING EXHAUST DUCT CONNECTION TO KITCHEN HOOD. REPORT TO ENGINEER FOR UPDATED DRAWINGS IN CASE OF DISCREPANCIES IN THIS CONNECTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER BEFORE PLACING BID, FOR REQUIREMENTS FOR RETROFITTING THE PROGRAMMING OF THE MUA–14 & KEF–14, IN ORDER TO HAVE PROPER TEMPERATURE CONTROL, AIR BALANCING AND PRESSURIZATION OF THE TENANT SPACE. PROVIDE ALL REQUIRED ACCESSORIES, INCLUDING BUT NOT LIMITED TO, THERMOSTAT AND CONTROL WIRING. REPORT BACK TO ENGINEER IN CASE OF ANY DISCREPANCIES. COORDINATE LOCATION OF MUA–14 AND KEF–14 IN FIELD WITH FACILITY MANAGER.

MECHANICAL GENERAL NOTES

A. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.

B. NEW DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING. OFFEST AND RUN PIPING, DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.

C. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK.

D. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.

E. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.

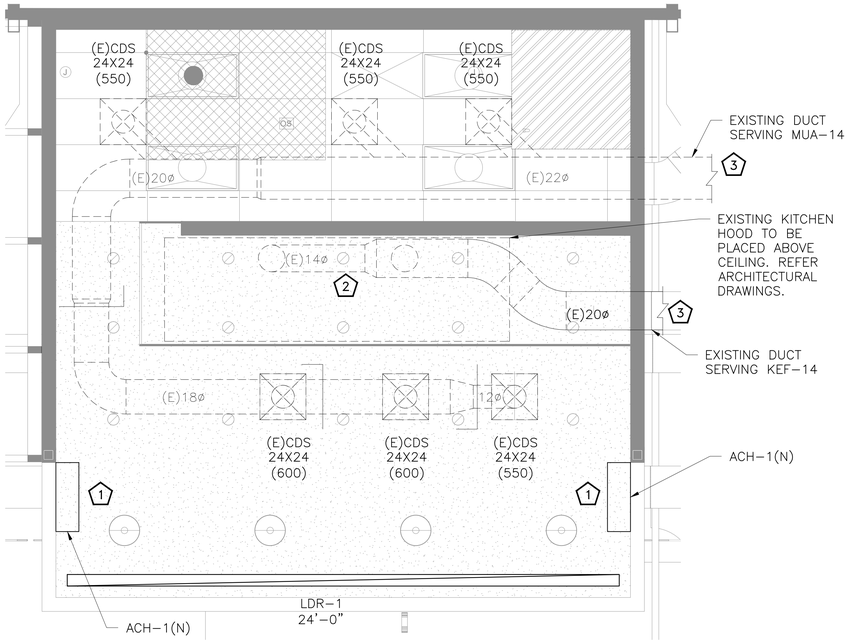
F. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.

G. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.

H. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.

I. NEW DUCTWORK IN CONCEALED AREAS MAY BE RECTANGULAR WITH EQUIVALENT CROSS SECTIONAL FLOW AREA.

J. KITCHEN EXHAUST FAN (KEF–14) TO BE INTERLOCKED WITH MAKEUP AIR UNIT (MUA–14).

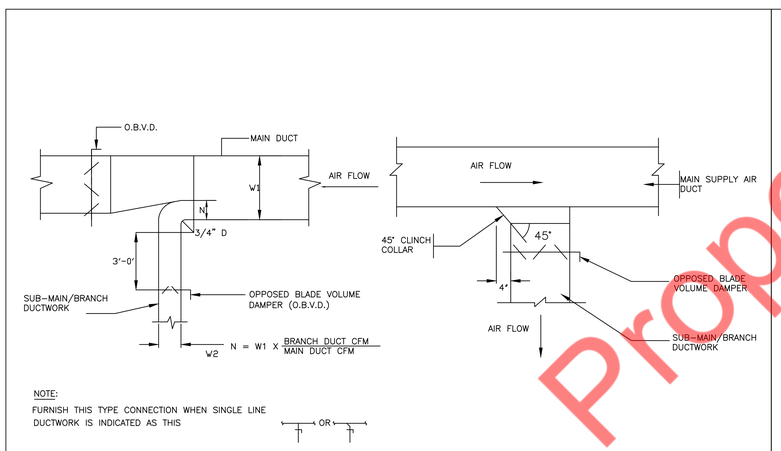


1 M.101 MECHANICAL FLOOR PLAN
SCALE: 3/8"=1'–0"

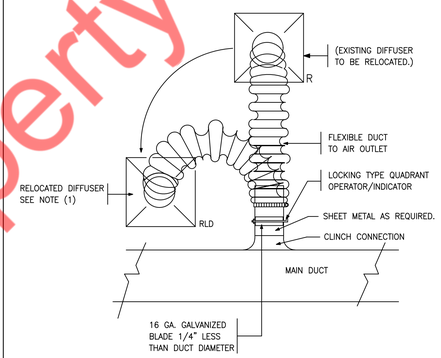
AIR TERMINAL							
TAG	MANUFACTURER	MODEL	TYPE	CFM/FT RANGE	LENGTH	DUCT SIZE	NOMINAL FACE WIDTH
LDR-1	TITUS	CT-480	LINEAR DIFFUSER RETURN	0-150	SEE PLAN	4"	6"
NOTES:							
1) ALL DIFFUSERS : CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.							
2) REFER ARCHITECTURAL DRAWINGS FOR CEILING TYPE.							
3) COORDINATE COLOR/FINISH WITH ARCHITECT.							

AIR CURTAIN SCHEDULE									
UNIT ID	QUANTITY	MODEL	LENGTH (IN.)	CFM	HEATING MODE	ELECTRIC HEAT (KW)	V/PH/HZ	AMPS	MANUFACTURER
ACH-1 (N)	2	LPV236-1UA-OB	36	900	-	-	115/1/60	2.4	MARS
NOTES / ACCESSORIES:									
1. PROVIDE DOOR SWITCH: 99-014 OR COMPATIBLE EQUIVALENT.									
2. PROVIDE MANUFACTURER RECOMMENDED ACCESSORIES.									
3. COORDINATE WITH ELECTRICAL CONTRACTOR FOR POWER REQUIREMENT.									

2 M.101 MECHANICAL SCHEDULES
SCALE: NTS



3 M.101 SUPPLY AIR DUCTWORK SUB–MAIN/BRANCH DUCT CONNECTION
SCALE: NTS



4 M.101 RELOCATED DIFFUSER DETAIL
SCALE: NTS

BLUE BOWL @ RODEO 72

No.	Description	Date
ISSUED FOR:	5TH AGENCY SUBMITTAL	
ISSUE DATE:		07-25-2023

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

SHEET TITLE:

MECHANICAL FLOOR PLAN, SCHEDULES & DETAILS

M.101

ELECTRICAL SYMBOLS LIST

LIGHTING

	FLUORESCENT LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR "EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.
A	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE SCHEDULE.
2	CIRCUIT NUMBER : INDICATED BY NUMBER
a	SWITCHING INDICATED BY LOWER CASE LETTERS.
EM	DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.
NL	DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.
	CEILING/WALL MOUNTED SELF POWERED EXIT LIGHT FIXTURE WITH DIRECTIONALARROWS AS INDICATED. SHADED AREA DENOTES FACE(S). ISOLITE ELITE SERIES LED EXIT SIGN
	EMERGENCY BATTERY UNIT WITH ATTACHED EMERGENCY FIXTURES AND OUTLET BOX.

SWITCHES AND CONTROLS

S'	20A SP LV TOGGLE SWITCH U.O.N.
PC	PHOTOCELL IN NAMA 3R ENCLOSURE.
DS	CEILING MOUNTED DAYLIGHT SENSOR.

WIRING SYSTEMS

3 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 1#12 ø, 1#12 N. & 1#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 2#12 ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
3 5 7 UP–	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 3#12 ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	CONDUIT TURNING UP, SEE FLOOR PLANS FOR CONDITIONS.
	CONDUIT TUIRNING DOWN, SEE FLOOR PLANS FOR CONDITION.
	CONDUIT AND WIRE TO BUILDING GROUND.
	CABLE TRAY, WIDTH AND MOUNTING AS NOTED.
	UNDERGROUND
	EXISTING
	NEW

ELECTRICAL DRAWING LIST

E.001	ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES
E.101	ELECTRICAL PLANS, RISER AND SCHEDULE
E.102	ENERGY COMPLINACE

POWER AND TELECOMMUNICATION

J	JUNCTION BOX WITH BLANK COVER PLATE, CEILING MOUNTED..
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.
CL	DUPLEX CONVENIENCE RECEPTACLE – 20A–1P, 125V, NEMA 5–20R MOUNTED FLUSH IN CEILING.
	DOUBLE DUPLEX RECEPTACLE – 20A–1P, 125V, NEMA 5–20R.
	TELEPHONE/DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. PROVIDE 3/4" E.C., U.O.N., UP TO HUNG CEILING AND TERMINATE WITH 90° ELBOW, BUSHING AND DRAG WIRE.

MOTORS AND CONTROLS

M	EXHAUST FAN WITH JUNCTION BOX AND MOTOR SWITCH.
	NON–FUSED DISCONNECT. AMPERAGE AS NOTED.
A	30A/240V NON FUSED DISCONNECT SWITCH
B	60A/240V NON FUSED DISCONNECT SWITCH
S M	MANUAL MOTOR SWITCH

ANNOTATION

+24"	INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.
X	KEYED NOTE REFERENCE
1 E/2–1	DETAIL REFERENCE: DETAIL NUMBER INDICATED ON TOP; DRAWING NUMBER INDICATED ON BOTTOM

POWER DISTRIBUTION

	MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.
	DISTRIBUTION PANELBOARD, 208Y/120V–SURFACE OR FLUSH MOUNTED.

ELECTRICAL ABBREVIATIONS

A	AMPERES	EA	EACH
A/C, AC	AIR CONDITIONING UNIT	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
AF	AMPERE FRAME/AMP FUSE	EF	EXHAUST FAN
AFF	ABOVE FINISHED FLOOR	EM	EMERGENCY
AS	AMP SWITCH	EMT	ELECTRICAL METALLIC TUBING
AIC	AMPS INTERRUPTING CAPACITY	EQUIP	EQUIPMENT
AT	AMP TRIP	ER	EXISTING TO BE RELOCATED
ATS	AUTOMATIC TRANSFER SWITCH	ETR	EXISTING TO REMAIN
AUTO	AUTOMATIC	EWF	ELECTRIFIED WORKSTATION FURNITURE
AWG	AMERICAN WIRE GAUGE	EWH	ELECTRIC WATER HEATER
C	CONDUIT	FA	FIRE ALARM
C/B,CB	CIRCUIT BREAKER	FBO	FURNISHED BY OTHERS, INSTALLED & WIRED BY EC
CKT	CIRCUIT	FDR	FEEDER
CLG	CEILING	FIBO	FURNISHED & INSTALLED BY OTHERS, WIRED BY EC
COMM	COMMUNICATION	FIXT	FIXTURE
CT	CURRENT TRANSFORMER	FL	FLOOR
CU	COPPER	FLUOR	FLUORESCENT
°C	DEGREE CELSIUS	G	GROUND
°F	DEGREE FAHRENHEIT	GFI	GROUND FAULT INTERRUPTER
DIA	DIAMETER	GP	GENERAL PURPOSE
DISC	DISCONNECT	HC	HUNG CEILING
DN	DOWN	HP	HORSEPOWER
DP	DISTRIBUTION PANEL	HWH	HOW WATER HEATER
DWH	DOMESTIC WATER HEATER	HZ	HERTZ
DWG	DRAWING	IC	INTERRUPTING CAPACITY
JB	JUNCTION BOX	PP	POWER PANEL
KCMIL	ONE THOUSAND CIRCULAR MILS	PVC	POLYVINYL CHLORIDE
KV	KILOVOLT	PWR	POWER
KVA	KILOVOLT–AMPERES	R	REMOVE
KW	KILOWATTS	RE	RELOCATED EXISTING
LP	LIGHTING PANEL	REC	RECEPTACLE
LTG	LIGHTING	RGS	RIGID GALVANIZED STEEL
MAX	MAXIMUM	RR	REMOVE & RELOCATE
MC	MOTOR CONTROLLER	SECT	SECTION
MCB	MAIN CIRCUIT BREAKER	SPDT	SINGLE POLE DOUBLE THROW
MER	MECHANICAL EQUIPMENT ROOM	SPST	SINGLE POLE SINGLE THROW
MIN	MINIMUM	SPEC	SPECIFICATION
MLO	MAIN LUGS ONLY	SW	SWITCH
MTD	MOUNTED	SWBD	SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH	SYM	SYMMETRICAL
N	NEUTRAL	SYS	SYSTEMS
NE	NEW DEVICE TO REPLACE EXISTING	TELE	TELEPHONE
NIC	NOT IN CONTRACT	TEMP	TEMPERATURE
NL	NIGHT LIGHT	TXF	TOILET EXHAUST FAN
NTS	NOT TO SCALE	TYP	TYPICAL
OC	ON CENTER	UON	UNLESS OTHERWISE NOTED
P	POLES	V	VOLT/VOLTAGE
PB	PULLBOX	VA	VOLT AMPERE
PC	PERSONAL COMPUTER	VAV	VARIABLE AIR VOLUME
ø	PHASE	VFD	VARIABLE FREQUENCY DRIVE
PNL	PANEL	VP	VAPORPROOF
W	WATT	WP	WEATHER PROOF
W	WIRE	XFMR	TRANSFORMER
WH	WALL HEATER	ZRT	ZONE REGISTER TERMINALS
E	EXISTING	IG	ISOLATED GROUND

CODE REFERENCE

THE GOVERNING CODES FOR THIS PROJECT ARE:
2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA ENERGY CODE

NOTICE

THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW INTENT OF PROJECT AND ARE SUBJECT TO THE APPROVAL OF THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AGENCY AUTHORITIES HAVING JURISDICTION (AHJ). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY, VERIFIED FIELD CONDITIONS, AND ACCEPTED FULL RESPONSIBILITY OF PLAN CORRECTIONS, CONTINGENCY, AND ASSOCIATED EXTRA CONSTRUCTION COSTS THAT HAVE BEEN INCLUDED IN THE CONTRACTOR'S BID.

GENERAL NOTES
(APPLY TO ALL "E" DRAWINGS)

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA ELECTRICAL CODE, 2020 NEC, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
2. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
4. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
6. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
8. CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OR AS PER CONTRACT WITH OWNER/ARCHITECT.
9. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
10. CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE–EXISTING CONDITIONS OR BETTER.
11. MINIMUM SIZE OF CONDUIT SHALL BE ¾", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
12. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
13. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CONCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
14. SUPPORT PANEL, JUNCTION AND PULL BOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
15. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
16. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINTIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
17. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
18. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
19. ALL CONDUITS AND EQUIPMENT TO BE CONCEAL ED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.
20. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
21. OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE–RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE–RATED BOXES OR PUTTY PADS ARE UTILIZED.
22. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE INSTALLATION.
23. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
25. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
26. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
27. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANEL BOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANEL BOARD.
28. ELECTRICAL DRAWINGS, SPECIFICATIONS, AND GENERAL NOTES DESCRIBE THE INTENDED SCOPE OF WORK DOCUMENTS SHALL BE USED FOR THE PURPOSE OF BIDDING, BUILDING DEPARTMENT REVIEW, AND THE SECURING OF NECESSARY CONSTRUCTION PERMITS ONLY. CONTRACTOR SHALL PROVIDE CONSTRUCTION DRAWINGS AND OBTAIN WRITTEN APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION (AHJ) AND UTILITY COMPANIES PRIOR TO THE START OF AFFECTED WORK. ELECTRICAL INSTALLATION SHALL COMPLY WITH CALIFORNIA ELECTRICAL CODE (LATEST VERSION) ADAPTED BY THE JURISDICTION AND ANY LOCAL SUPPLEMENTS.

GENERAL NOTES

29. CONTRACTOR SHALL PROVIDE CONSTRUCTION AND SHOP DRAWINGS BASED ON THESE DRAWINGS, SPECIFICATIONS, AND ADDITIONAL DESIGN CRITERIA FURNISHED BY OWNER AND SUBMIT TO ARCHITECT. CONTRACTOR SHALL SUBMIT ALL DEFERRED APPROVAL CONSTRUCTION DRAWINGS TO ALL GOVERNMENTAL AGENCIES AND UTILITY COMPANIES HAVING JURISDICTION INCLUDING POLICE AND FIRE DEPARTMENTS FOR THEIR REVIEW AND APPROVAL OF DRAWINGS FOR CONSTRUCTION.
30. CONTRACTOR'S BID SHALL NOT BE LIMITED TO THE WORK SHOWN ON PLANS AND SPECIFICATIONS. ALL PREMIUM OVERTIME COSTS, UTILITY CHARGES, COSTS FOR TEMPORARY UTILITY SERVICES, ALTERATION, DEMOLITION, AND EXTENSION WORKS, PLAN CHECK/INSPECTION FEES, MISCELLANEOUS CONTINGENCY COSTS, ETC., SHALL BE INCLUDED IN BID. (THE CONTINGENCY COST SHALL NOT BE LESS THAN 25% OF THE OVERALL ELECTRICAL BID. CONTRACTOR SHALL IDENTIFY THE CONTINGENCY AMOUNT IN THE BID DOCUMENT.)
31. ALL NEW EQUIPMENTS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR ,UNLESS OTHERWISE NOTED. IF CONTRACTOR PROPOSES TO SUBSTITUTE SPECIFIED EQUIPMENT, HE SHALL SUBMIT HIS REQUEST IN WRITING TO THE OWNER AND ENGINEER FOR CONSIDERATION PRIOR TO THE ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER. SUCH REVIEWS SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH DRAWING REQUIREMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHANGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS WORK OR THE WORK OF OTHER CONTRACTORS. CONTRACTOR SHALL RELOCATE AND RECONNECT THE EXISTING EQUIPMENTS, DEVICES, BEING REUSED IN COORDINATION WITH ARCHITECT/OWNER.
32. ELECTRICAL DRAWINGS, CONDUIT RUNS, WIRING, AND ELECTRICAL INFORMATION ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS. ALL RECEPTACLE AND OUTLET MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWING ELEVATIONS PRIOR TO ROUGH–IN WORK.
33. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES, CEILING MOUNTED OUTLETS, AND EQUIPMENT. PORTIONS OF CEILING SYSTEMS MAY BE INACCESSIBLE. CONTRACTOR SHALL STRATEGICALLY LOCATE ACCESS BOXES, ETC., WHICH SHALL BE READILY ACCESSIBLE IN COMPLIANCE WITH CEC ARTICLE 100. ALL LIGHTING FIXTURE WIRING,BALLASTS, J–BOXES, ETC., SHALL BE ACCESSIBLE FROM FIXTURE OPENINGS. PROVIDE AN ADDITIONAL JUNCTION BOX (SIZE AS REQUIRED) WHERE THE NUMBER OF CONDUCTORS EXCEEDS THE MAXIMUM ALLOWED FOR A GIVEN JUNCTION POINT OR OUTLET.
34. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TYPES OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE REQUIRED TYPE FOR MOUNTING IN CEILINGS. FIXTURES SHALL BE COMPLETED WITH NECESSARY MOUNTING HARDWARE AND ACCESSORIES. FIXTURES LOCATED IN DAMP OR WET LOCATIONS SHALL BE LABELED FOR USE IN SUCH LOCATIONS.
35. SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC., TO MAINTAIN FIRE WORK FURNISH AND INSTALL FIRE RATED ENCLOSURES FOR ALL EQUIPMENT PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC. ALL RECESSED LIGHTING FIXTURES, PANEL BOARDS, SWITCHES, ETC.MOUNTED IN FIRE RATED STRUCTURES SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THAT OF THE STRUCTURE.
36. ALL WIRING AND ELECTRICAL EQUIPMENT INSTALLED FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH DIVISION 15 AND ASSOCIATED DRAWINGS. CONTRACTOR SHALL OBTAIN THE REQUIRED MECHANICAL AND PLUMBING DRAWINGS AND PROVIDE ALL EQUIPMENT, RACEWAYS, WIRING, ETC., AS INDICATED THEREON.
37. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR UNLESS OTHERWISE NOTED. VERIFY ELECTRICAL CHARACTERISTICS AND U.L. LISTINGS PRIOR TO CONNECTION. CONTRACTOR SHALL VERIFY THE LOAD INPUT VOLTAGE OF ALL EQUIPMENT PRIOR TO INSTALLATION. ACCEPTING ANY EQUIPMENT RESULTING IN LOAD INCREASE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
38. ELECTRICAL OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS AND PARTITIONS MUST BE SEPARATED BY A DISTANCE OF 24 IN. HORIZONTALLY, IN ACCORDANCE WITH C.B.C. SEC. 714.3.2. EXCEPTION 1.1. OPENINGS IN FIRE RATED WALLS GREATER THAN 16 SQ. IN. MUST BE FIRE STOPPED.
39. ALL CONDUCTORS AND CURRENT CARRYING DEVICES SHALL BE COPPER DUAL RATED THHN/THWN 600 VOLT 75°C MINIMUM INSULATION UNLESS OTHERWISE NOTED. USE PROPER TEMPERATURE RATING OF CONDUCTORS BASED ON THE AMBIENT AIR OR SOIL TEMPERATURE WHERE CONDUCTORS ARE BEING WORK HIGHER AMPACITY CONDUCTORS AND LARGER RACEWAYS SHALL BE PROVIDED TO OFFSET THE AMPACITY CORRECTION FACTORS AS INDICATED IN NEC TABLE 310 AND ELSEWHERE IN CODE. ALL BUSSING SHALL BE COPPER. NMC CABLE MAY BE USED WITHIN THE DWELLING TYPE OCCUPANCY PER NEC 334.10 IF APPROVED BY AHJ.
40. DO ALL DRILLING, CUTTING, CHANNELING AS REQUIRED TO ELECTRICAL WORK AND AS INDICATED OR SPECIFIED HEREIN. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS, AND WALLS SHALL BE PATCHED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES, AND FITTINGS TO MATCH COLOR OF ADJACENT SURFACES IN FINISHED AREAS.
41. EMERGENCY LIGHTING AND EXIT SIGNS SHALL BE PROVIDED PER C.B.C. AND SHALL BE DESIGNED TO PROVIDE REQUIRED FOOTCANDLES AND LUMENS. PROVIDE ADDITIONAL EMERGENCY ILLUMINATION AS REQUIRED BY INSPECTION AUTHORITIES HAVING JURISDICTION.
42. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE SMACNA CRITERIA.
43. BRANCH CONTROL CIRCUITING AND WIRE COUNTS MAY NOT BE INDICATED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR COMPLETING BRANCH CIRCUIT WIRING IN ACCORDANCE WITH PLAN NOTES AND AS PERMITTED BY AHJ. CONTRACTOR SHALL SUBMIT AS–BUILT DRAWINGS AS PART OF RECORD TO ARCHITECT AND AUTHORITY HAVING JURISDICTION (AHJ).
44. ALL EXISTING UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS AND THOSE SHOWN ON THESE DRAWINGS ARE INDICATED WITH THEIR APPROXIMATE LOCATION AND EXTENT. BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.
45. COORDINATE ALL PHASES OF CONSTRUCTION AND OBTAIN APPROVAL OF WORK SCHEDULE, SHUTDOWN, CUTOVER, OVERTIME WORK, ETC. WITH BUILDING ENGINEER OR OWNER. PROVIDE TEMPORARY SERVICE, STANDBY GENERATOR, 24 HOURS FIRE WATCH, ETC. AS REQUIRED TO MAINTAIN UNINTERRUPTED FACILITY OPERATION DURING CONSTRUCTION WORK.
46. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERAL CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT AT ALL TIMES. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.

PANEL BOARD AND SWITCH BOARD NOTES

1. PROVIDE NAMEPLATE IDENTIFICATION TO BE MOUNTED ABOVE DOOR AND CIRCUIT DIRECTORY HOLDER FRAMED WITH PLASTIC COVER MOUNTED BEHIND THE DOOR. ADHESIVE TYPE PLASTIC ENVELOPE ATTACHED BEHIND THE DOOR IS NOT AN ACCEPTABLE TYPE OF DIRECTORY CARD HOLDER.
2. BUILDING STEEL, UFER, COLD WATER PIPE, AND DRIVEN GROUNDING ROD BONDING TO BE UTILIZED FOR COMPLETE GROUNDING ELECTRODE SYSTEM & SUPPLEMENTS PER CEC 250, GROUNDING. THE BONDING TO BUILDING NATURAL GAS PIPING MAY BE REQUIRED BY THE AHJ.
3. CONTRACTOR TO VERIFY ALL EXISTING CIRCUITS FOR EXISTING AREAS THAT ARE TO REMAIN AND IDENTIFY IN PANEL & IN AS–BUILT. E.C. SHALL MAINTAIN CIRCUIT CONTINUITY OF THESE CIRCUITS SERVE AREAS THAT ARE TO REMAIN.
4. NEW BREAKERS TO BE INSTALLED IN EXISTING PANEL ARE TO MATCH THE EXISTING PANEL BOARD MFG. AND AIC RATING AS INDICATED OR AS REQUIRED PER AIC RATING FROM THE UTILITY COMPANY.
5. CONTRACTOR SHALL EXTEND THE CONDUIT AND INCOMING FEEDER OF THE EXISTING PANELS UPTO NEW LOCATION OF THE PANEL AS SHOWN ON THE PLAN IN COORDINATION WITH ARCHITECT/OWNER.
6. CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIAL, WIRING, CABLES, CONDUITS AND DEVICES IN ORDER TO WORK ELECTRICAL SYSTEM PROPERLY AS PER DESIGN INTEND.
7. E.C. SHALL VERIFY THE OPERABLE CONDITION OF ALL DEVICES, BREAKERS AND CONNECTIONS INSIDE THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
8. CONTRACTOR SHALL PROVIDE ALL THE BRANCH BREAKERS, SHUNT BREAKER & GFI BREAKERS AS PER EQUIPMENT REQUIREMENTS IN COORDINATION WITH THE EQUIPMENT SUPPLIER/OWNER IN FIELD. BASE BID ACCORDINGLY.

BLUE BOWL @ RODEO 72

No.	Date	Description

ISSUED FOR: 5TH AGENCY SUBMITTAL
ISSUE DATE: 07-25-2023

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

SHEET TITLE:
ELECTRICAL SYMBOL LIST, ABBREVIATIONS & GENERAL NOTES

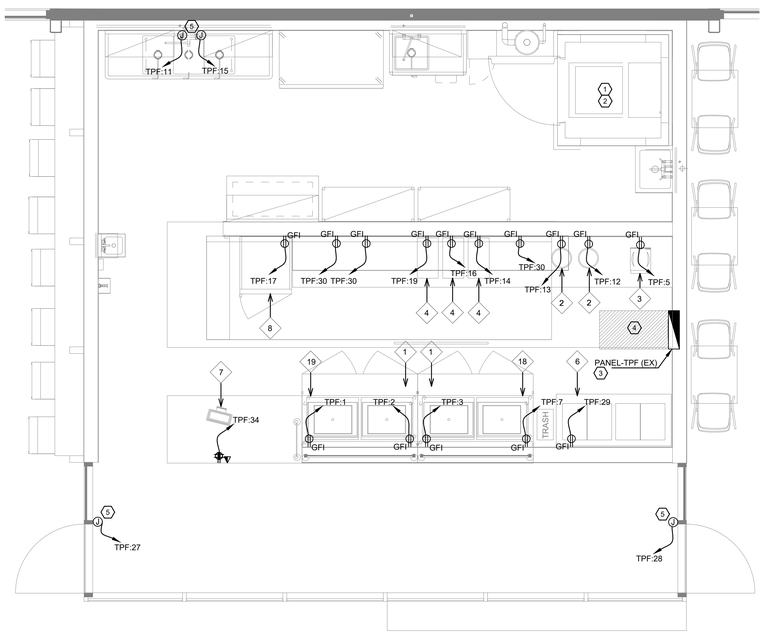
E.001

POWER PLAN KEYED NOTES:

1. EXISTING SEALS & EXPANSION COUPLINGS ON ALL CONDUITS ENTERING OR LEAVING A DIFFERENCE IN TEMPERATURE TO REMAIN. REPLACE IF FOUND DAMAGED OR COMPROMISED IN QUALITY. BASE BID ACCORDINGLY.
2. E.C. TO VERIFY THE WORKING CONDITION OF EXISTING W.I. BOX FAN, LIGHT, HEATER, COMPRESSOR WIRING AND POWER REQUIREMENTS. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
3. EXISTING 200A(MCB), 120/208V, 3-PHASE ELECTRICAL PANEL "TPF" FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING OF AND OPERABLE CONDITION OF EXISTING PANEL "TPF" IN FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.
4. E.C. SHALL MAINTAIN CLEARANCE FOR ELECTRICAL PANELS PER NEC 110.26 (A) (1).
5. E.C. TO COORDINATE THE EXACT LOCATION AND ELECTRICAL REQUIREMENT OF MECHANICAL/PLUMBING EQUIPMENTS WITH MECHANICAL/PLUMBING CONTRACTOR AND MANUFACTURER. PROVIDE THE ELECTRICAL CONNECTION AS PER MECHANICAL/PLUMBING EQUIPMENTS REQUIREMENT IN FIELD.

POWER PLAN GENERAL NOTES:

1. ALL RECEPTICLES IN THE KITCHEN AREA SHALL BE "GFCI" PROTECTED IN ACCORDANCE WITH NEC ART. 210.8(B). GFCI RECEPTACLES, ONCE INSTALLED, SHALL BE READILY ACCESSIBLE.IF GFCI RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE GFCI RATED CIRCUIT BREAKER IN THE PANEL.
2. SEE ARCHITECTURAL ELEVATIONS FOR PLACEMENT AND MOUNTING OF DEVICES.
3. E.C. SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG/CIRCUIT BREAKER AND CABLES FOR ALL THE KITCHEN EQUIPMENTS IN FIELD AND ACCORDINGLY PROVIDE THE ELECTRICAL CONNECTION FOR ALL KITCHEN EQUIPMENTS AS REQUIRED. BASE BID ACCORDINGLY.
4. E.C. TO PROVIDE LABEL ON EACH OUTLET AND DISCONNECT MEANS INDICATING THE POWER SOURCE PANEL AND CIRCUIT NUMBER.
5. E.C. HAS OPTION TO PROVIDE CORD-AND-PLUG-CONNECTED INSTEAD OF DISCONNECT SWITCH FOR LOCAL DISCONNECT MEANS. THE SEPARABLE CONNECTOR SHALL BE ACCESSIBLE, THE RATING SHALL NOT BE LESS THAN THE OVER-CURRENT DEVICE.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
7. ALL ROOF RECEPTACLES SHALL BE GFI & WP TYPE.
8. VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
9. REVIEW THE MECHANICAL PLANS FOR ALL THE HVAC EQUIPMENT CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
10. VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING.
11. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY DETAIL ON MECHANICAL DRAWING.
12. ELECTRICAL CONTRACTOR TO VERIFY WITH MANUFACTURER FOR ALL KITCHEN EQUIPMENT POWER/CONNECTION REQUIREMENTS AND VERIFY WITH OWNER FOR ALL OUTLET HEIGHTS BEFORE ROUGH-IN.
13. ANY NEW WIRING TO BE COPPER AND RUN IN CONDUIT, INCLUDING LOW VOLTAGE



1 E.101 POWER PLAN
SCALE: 3/8"=1'-0"

PANEL: TPF (EXISTING) — MOUNTING: RECESSED

208Y/120 VOLTS, 3 PHASE, 4 WIRE — PANEL LOCATION: BOH AREA

MAIN CB: 200A — MLO: NA — BUS: 225A MIN, — FED FROM: DB-3

NOTE:

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	19_MODULAR DROP-IN	E	0.50	2#12, #12G, 3/4"C	1.25			2#12, #12G, 3/4"C	0.75	E	1_SANDWICH PREP TABLE	20	2
3	20	1_SANDWICH PREP TABLE	E	0.75	2#12, #12G, 3/4"C		1.11		2#12, #12G, 3/4"C	0.36	E	WALK-IN-COOLER(EX)	20	4
5	20	3_INDUCTION BURNER	E	1.80	2#12, #12G, 3/4"C			1.85	2#12, #12G, 3/4"C	0.05	H	COOLER COIL(EX)	20	6
7	20	18_COLD DROP-IN	E	0.42	2#12, #12G, 3/4"C	1.21			2#12, #12G, 3/4"C	0.79	H	COOLER CONDENSING UNIT (EX)	2P-20	8
9	20	MAU CONTROL (EX)	E	0.50	2#12, #12G, 3/4"C		1.29			0.79	H			10
11	20	WATER HEATER	O	0.18	2#12, #12G, 3/4"C			0.98	2#12, #12G, 3/4"C	0.80	E	2_SOUP WARMER	20	12
13	20	2_SOUP WARMER	E	0.80	2#12, #12G, 3/4"C	2.64			2#12, #12G, 3/4"C	1.84	E	4_NUT GRINDER	20	14
15	20	CP-1 (EX)	M	0.10	2#12, #12G, 3/4"C		1.94		2#12, #12G, 3/4"C	1.84	E	4_NUT GRINDER	20	16
17	20	8_GLASS DOOR MERCHANDISER	E	1.09	2#12, #12G, 3/4"C			1.26	2#12, #12G, 3/4"C	0.17	L	FOH LIGHTING	20	18
19	20	4_NUT GRINDER	E	1.84	2#12, #12G, 3/4"C	2.19			2#12, #12G, 3/4"C	0.35	L	BOH LIGHTING (EX)	20	20
21			M	1.23			9.76			8.54	H			22
23	3P-30	KEF-1 (EX)	M	1.23	3#10, #10G, 3/4"C			9.76	3#3, #8G, 1"C	8.54	H	MUA-14 (EX)	3P-100	24
25			M	1.23		9.76				8.54	H			26
27	20	AIR CURTAIN	E	0.28	2#12, #12G, 3/4"C		0.55		2#12, #12G, 3/4"C	0.28	R	AIR CURTAIN	20	28
29	20	6_DIPPING CABINET	E	0.92	2#12, #12G, 3/4"C			1.45	2#12, #12G, 3/4"C	0.54	R	CONVENIENCE OUTLETS	20	30
31	20	SPARE				1.20			2#12, #12G, 3/4"C	1.20	L	SIGNAGE	20	32
33	20	SPARE					0.36		2#12, #12G, 3/4"C	0.36	R	REGISTER	20	34
35		SPACE						0.00				SPACE		36
37		SPACE				0.00						SPACE		38
39		SPACE					0.00					SPACE		40
41		SPACE						0.00				SPACE		42
				TOTAL CONNECTED LOAD (KVA)		18.26	15.01	15.31						

PANEL SCHEDULE GENERAL NOTES

1. ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. INFORM ENGINEER FOR ANY DISCREPANCIES BEFORE PURCHASE OF ANY EQUIPMENTS/WIRES OR DEVICES.
2. ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
3. REFER TO ARCHITECTURAL LAYOUTS FOR KITCHEN EQUIPMENT PLAN & SCHEDULE. E.C. SHALL VERIFY THE BREAKER, CABLE, ELECTRICAL LOAD, PLUGS, RECEPTACLES AND CONDUIT REQUIREMENT/SIZES/RATINGS FOR ALL KITCHEN EQUIPMENTS WITH EQUIPMENT SUPPLIER/MANUFACTURER AND PROVIDE THE ELECTRICAL CONNECTION PER MANUFACTURER RECOMMENDATIONS /REQUIREMENTS. BASE BID ACCORDINGLY.
4. E.C. SHALL COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTOR/EQUIPMENT MANUFACTURER FORE EXACT ELECTRICAL REQUIREMENTS FOR CABLE AND BREAKERS AND ACCORDINGLY PROVIDE THE ELECTRICAL BREAKER AND CABLES IN FIELD. BASE BID ACCORDINGLY.
5. ALL EXISTING CIRCUITS DENOTED WITH "(EX)" AND RESPECTIVE CONTROLS TO REMAIN. E.C. SHALL CHECK OPERABLE CONDITION IN FIELD. REPLACE IF FOUND IN-OPERABLE. NOTIFY ENGINEER OF ANY DISCREPANCY FOUND. BASE BID ACCORDINGLY.

3 E.101 ELECTRICAL PANEL SCHEDULE
SCALE: N.T.S.

LIGHTING PLAN KEYED NOTES:

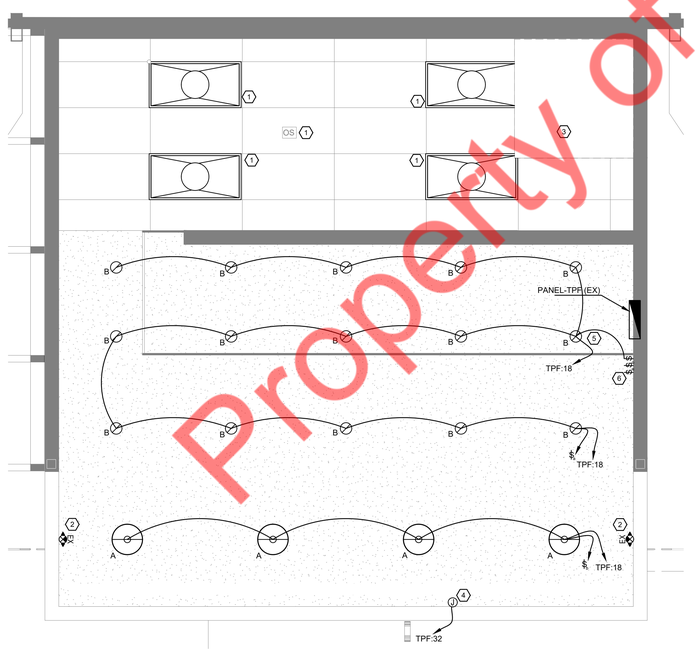
1. EXISTING LIGHTING FIXTURES, WIRING AND CONTROLS TO REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION IN FIELD. REPLACE IN KIND IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.
2. ALL EM AND EX LIGHTS TO BE CONNECTED AHEAD OF SWITCHING IN ORDER TO FACILITATE CONTINUOUS OPERATION.
3. ALL LIGHTING IS PRE-INSTALLED AND INTEGRATED TO WALK-IN COOLER/FREEZER. EXISTING LIGHTING FIXTURES, CONNECTIONS AND CONTROLS FOR EXISTING WALK IN BOX TO REMAIN. E.C. TO VERIFY THE OPERABLE CONDITIONS IN FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
4. EXISTING JUNCTION BOX SHALL BE REUSED FOR THE NEW BUILDING SIGN. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF EXISTING JUNCTION BOX IN FIELD. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING JUNCTION BOX IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
5. LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIED AS PER NEC 110.26(D).
6. E.C. TO VERIFY EXACT LOCATION OF TIMER SWITCH BANK WITH ARCHITECT/OWNER IN FIELD.

LIGHTING PLAN GENERAL NOTES:

1. CONTRACTOR SHALL REUSE ALL EXISTING LIGHTING CONTROL IF IT IS IN COMPLIANCE WITH CURRENT APPLICABLE ENERGY CODE. REPLACE IF FOUND INOPERABLE AND NOT COMPLY WITH CURRENT ENERGY CODE. BASE BID ACCORDINGLY.
2. PROVIDE 6' OF FLEX METAL WIRES FROM J-BOX ABOVE EACH FIXTURE TO EACH LIGHTING FIXTURE.
3. PROVIDE 90 MINUTES BATTERY BACKUP FOR EXIT SIGN. PROVIDE LOW LEVEL EXIT SIGN AS REQUIRED BY FIRE DEPARTMENT OR C.B.C. 1011.6 & 1011.7.
4. FIXTURE SHALL HAVE MINIMUM 60 LUMENS/WATT EFFICIENCY, AND BALLAST AND LAMP SHALL BE ENERGY SAVING TYPE U.O.N.
5. VERIFY WITH OWNER OR ARCHITECT FOR NIGHT LIGHT REQUIREMENT.
6. LIGHTING SWITCH TO BE 36"-48" A.F.F. U.O.N.
7. LIGHTING FIXTURES ABOVE FOOD PREPARE AREA TO BE SHATTERPROOF AND WASHABLE.
8. ALL THE LIGHTING CONTROL SHOWN ON THE PLAN ARE ONLY FOR REFERENCE PURPOSE AS PER PER EXISTINNG AS BUILT DRAWINGS. E.C. SHALL REUSE THE EXISTING LIGHTING CONTROL FOR ALL FOR NEW LIGHT FIXTURE ENSURING THAT EXISTING LIGHTING CONTROL COMPLY WITH CALIFORNIA ENERGY CODE 2022. PROVIDE NEW LIGHTING CONTROL IF REQUIRED TO COMPLY WITH ENERGY CODE. BASE BID ACCORDINGLY.
9. EMERGENCY LIGHT TO BE WITH 90 MINUTE BATTERY BACKUP OR UNIT MOUNTED EMERGENCY INVERTER. PROVIDE UNSWITCHED HOT WIRE AS NOTED.

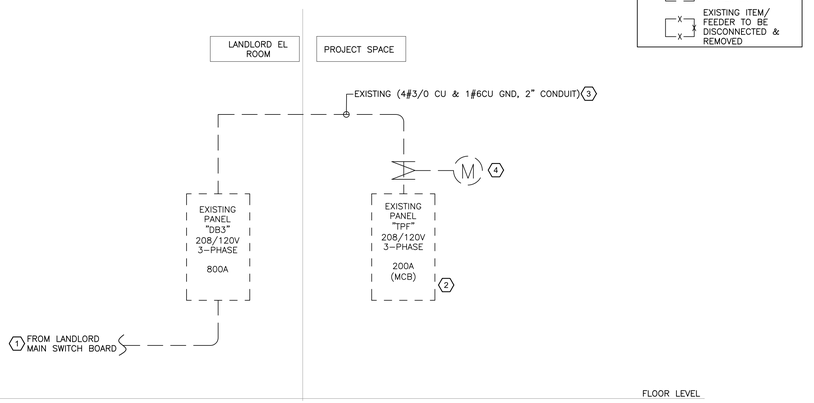
LIGHT FIXTURE SCHEDULE

TAG	QTY	FIXTURE	MANUFACTURER	WATTS	MODEL/PART #
A	4	PENDANT LIGHTS	WILCOX INTEGRATED LED SERIES	16	BARNLIGHT #BLE-C-DBW16-100-SBK-FMLED16-2700K-DL 2700K
B	15	RECESSED DOWNLIGHTS	AMERLUX	25	HOUSING #CLX-R6-NC-A17-25-120-0-10V TRIM #CLX-RLD6-A17-SDW-VWF-3CLA RECESSED - LED 3000K - 25W- INTEGRAL POWER SUPPLY 0-10 V DIMMING



2 E.101 LIGHTING PLAN
SCALE: 3/8"=1'-0"

ELECTRICAL RISER SYMBOL
- NEW
- EXISTING ITEM/FEEDER TO REMAIN
- EXISTING ITEM/ FEEDER TO BE DISCONNECTED & REMOVED



RISER DIAGRAM KEYED WORK NOTES

1. EXISTING 200A, 208/120V, 3-PHASE ELECTRICAL SERVICE FOR FROM THE LANDLORD MAIN SWITCH BOARD TO THE PROJECT SPACE SHALL REMAIN.E.C SHALL COORDINATE WITH LANDLORD/OWNER FOR EXACT LOCATION OF EXISTING MAIN SWITCH BOARD IN FIELD.E.C. SHALL VERIFY THE EXACT RATING AND OPERABLE CONDITION OF EXISTING SERVICE IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND BEFORE COMMENCING ANY WORK.
2. EXISTING 200A (MCB), 277/480V, 3-PHASE ELECTRICAL PANEL "TPF" FOR THE PROJECT SPACE SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING OF AND OPERABLE CONDITION OF EXISTING PANEL "TPF" IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
3. EXISTING FEEDER AND CONDUIT SHALL REMAIN. E.C. SHALL VERIFY THE EXACT RATING, SIZE AND OPERABLE CONDITION OF EXISTING FEEDER AND CONDUIT IN FIELD. REPLACE IF FOUND IN-OPERABLE. BASE BID ACCORDINGLY.
4. EXISTING 200A, 3PH, 4W ELECTRICAL METER SHALL REMAIN. E.C. SHALL VERIFY EXACT LOCATION IN FIELD. INFORM ENGINEER OF ANY DISCREPANCIES.

ELECTRICAL GENERAL NOTES

1. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
2. E.C. SHALL INFORM ENGINEER FOR ANY DISCREPANCY BEFORE COMMENCING ANY WORK.
3. E.C. SHALL VERIFY THE RATING AND OPERABLE CONDITION OF EXISTING TRANSFORMER AND PANELS IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND BEFORE COMMENCING ANY WORK.
4. E.C. SHALL VERIFY THE FAULT CURRENT (Isc) RATING OF EXISTING PANELS WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
5. E.C. SHALL COORDINATE WITH LANDLORD/OWNER AND VERIFY THE LOCATION, RATING AND OPERABLE CONDITION OF EXISTING EQUIPMENTS, PANEL IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND.

4 E.101 ELECTRICAL RISER DIAGRAM
SCALE: N.T.S.

BLUE BOWL @ RODEO 72

ISSUED FOR: 5TH AGENCY SUBMITTAL
ISSUE DATE: 07-25-2023

No.	Date	Description

SHEET TITLE:
ELECTRICAL PLANS, RISER AND SCHEDULE

E.101

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.		
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 1 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

A. GENERAL INFORMATION

01 Project Location (city)	WHITTIER	04 Total Conditioned Floor Area (ft²)	688
02 Climate Zone	9	05 Total Unconditioned Floor Area (ft²)	0
03 Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	1

● Restaurant

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☐ New Lighting System	N/A	0	N/A	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
☒ Altered Lighting System	Complete Building Method	688	N/A	0
Total Area of Work (ft²)	688			

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 2 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05	06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned	447.2				=	447.2	≥ 375		=	375	COMPLIES
Unconditioned					=		≥		=		
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 3 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
A	INTEGRATED LED	No	NA	16	Mfr. Spec	4	Exempt	---	☐	☐
B	DOWNLIGHT	No	NA	25	Mfr. Spec	15	No	375	☐	☐
Total Designed Watts: CONDITIONED SPACES								375		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Pass	Fail
NA < 4,000W subject to multilevel	See Area/Space Level Controls	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 4 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
KITCHEN	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
BACK OF HOUSE	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
					13				
					Plan Sheet Showing Daylit Zones:				

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
KITCHEN	Restaurant	0.65	408	265.2	No	No
BACK OF HOUSE	Restaurant	0.65	280	182	No	No
		TOTALS:	688	447.2	See Tables J, or P for detail	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 5 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 6 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	KITCHEN; BACK OF HOUSE

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: BLUE BOWL @ RODEO 72	**Report Page:**	**(Page 7 of 7)**
Project Address:	**Date Prepared:**	2023-12-20T04:23:16-05:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: MICHAEL TOBIAS	Documentation Author Signature:
Company: NY ENGINEERS	Signature Date: 2023-12-20
Address: 382 NE 191 st, SUITE 49674	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MIAMI, FL 33179	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: MICHAEL TOBIAS	Responsible Designer Signature:
Company: NY ENGINEERS	Date Signed: 2023-12-20
Address: 382 NE 191 st, SUITE 49674	License: M33750
City/State/Zip: MIAMI, FL 33179	Phone: 212-575-5300

LICENSED PROFESSIONAL ENGINEER
MICHAEL TOBIAS
M 33750
MECHANICAL
STATE OF CALIFORNIA

BLUE BOWL @ RODEO 72

ISSUED FOR: 5TH AGENCY SUBMITTAL
ISSUE DATE: 07-25-2023

No.	Date	Description

It is the clients responsibility prior to or during construction to notify the architect in writing of any perceived errors or omissions in the plans and specifications of which a contractor thoroughly knowledgeable with the building codes and methods of construction should reasonably be aware. Written instructions addressing such perceived errors or omissions shall be received from the architect prior to the client or clients subcontractors proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

SHEET TITLE:
ENERGY COMPLIANCE

E.102

PLUMBING SYMBOLS LIST

VENT PIPING
COLD WATER PIPING
UNGD. SANITARY PIPING
EXISTING UNGD. SANITARY PIPING
P-TRAP
PIPE UP
PIPE DROP
PLUGGED OUTLET/CLEANOUT
SHUT-OFF VALVE
CHECK VALVE
BACK FLOW PREVENTER
SLEEVE
GAS PLUG VALVE
BALANCING VALVE
POINT OF NEW CONNECTION
POINT OF DISCONNECTION

PLUMBING ABBREVIATIONS

FCO	FLOOR CLEAN OUT
CW	COLD WATER
SAN	SANITARY
V	VENT
LAV	LAVATORY
TYP.	TYPICAL
DN	DOWN
EX./(E)	EXISTING
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
BFP	BACK FLOW PREVENTER
FS	FLOOR SINK
GF	GLASS FILLER
MDI	MODULAR DROP-IN
CPDI	COLD PAN DROP-IN
DC	DIPPING CABINET
EX.FC	EXISTING FLOOR SINK

PLUMBING DRAWING LIST

SLOPE OF HORIZONTAL DRAINAGE PIPE

SIZE (INCHES)	MINIMUM SLOPE (INCH PER FOOT)
2 1/2" OR LESS	1/4
3" TO 6"	1/8
8 OR LARGER	1/16

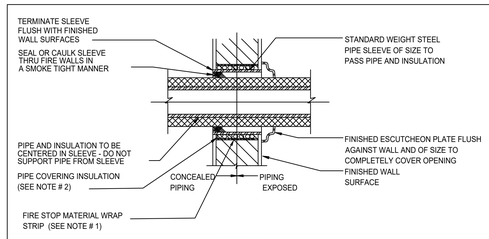
PLUMBING GENERAL NOTES:

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT & WATER PIPING SYSTEMS) SHALL COMPLY WITH 2022 CALIFORNIA PLUMBING CODE.
2. DRAWING AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF UTILITIES AT POINT OF CONNECTION BEFORE START OF WORK.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES AND KITCHEN EQUIPMENT.
5. ALL UNDERGROUND SHUT-OFF VALVES OUTSIDE OF BUILDING SHALL BE IN CONCRETE BOXES WITH THE NAME OF THE SERVICE CASTED IN THE COVER.
6. ALL PLUMBING FIXTURES AND EQUIPMENT SHALL HAVE ISOLATING VALVES ON WATER SUPPLY LINES. VALVES SHALL BE LINE SIZED UNLESS NOTED OTHERWISE.
7. ALL PLUGGED TEES AND PLUGGED WYES SHALL BE LINE SIZED UNLESS NOTED OTHERWISE.
8. ALL PIPING PENETRATING WALLS, CEILING, AND FLOOR SHALL BE ISOLATED FROM BUILDING STRUCTURES WITH RESILIENT SEALS.
9. RUN ALL INDOOR PLUMBING PIPING CONCEALED IN WALL OR ABOVE CEILING, UNLESS NOTED OTHERWISE.
10. PROVIDE DIELECTRIC UNIONS AT BIMETALLIC PIPE JOINTS.
11. PROVIDE CHROME PLATED CAPS FOR WALL CLEANOUTS.
12. SANITARY & GREASE WASTE LINE SHALL NOT BE SLOPED LESS THAN 1/4" PER FT. IN THE DIRECTION OF FLOW.
13. ALL VALVES AND COCKS SHALL BE LOCATED TO BE READILY ACCESSIBLE. WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS OR CEILING, ACCESS PANELS SHALL BE INSTALLED.
14. WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE BE CONFIGURED TO PROTECT AGAINST CONTACT. PROTECTORS, INSULATORS, OR BOTH SHALL COMPLY WITH ASME A112.18.9.
15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FT. FROM OR AT LEAST 3 FT. ABOVE ANY WINDOW, DOOR, OPENING AIR INTAKE OR VENT SHAFT, NOR LESS THAN 3 FT. FROM ANY LOT LINE IN ANY DIRECTION; ALLEY AND STREET EXCEPTED.
16. ALL REQUIRED CLEANOUTS SHALL BE INSTALLED PER SECTION 707 & 719 OF 2022 CALIFORNIA PLUMBING CODE.
17. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENT.
18. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.10 OF THE 2022 CALIFORNIA PLUMBING CODE.
19. PROVIDE NON-LEAD SOLDER FOR POTABLE WATER PIPING JOINTS AND CONNECTION.
20. MAX. HOT WATER TEMPERATURE TO PUBLIC LAVATORIES TO BE MIN. 110 DEG F & MINIMUM TEMPERATURE TO KITCHEN FIXTURES TO BE 120 DEG F.
21. FLOOR DRAIN OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH TRAP PRIMING. TRAP PRIMING DEVICES SHALL BE ACCESSIBLE FOR MAINTENANCE (SECTION 1007 OF 2022 CALIFORNIA PLUMBING CODE).
22. COMBUSTIBLE PIPING INSTALLATIONS SHALL BE INSTALLED PER CHAPTER 14 OF 2022 CALIFORNIA PLUMBING CODE FOR FIRESTOP PROTECTION.
23. PROPOSED ADDITION, ALTERATION OR IMPROVEMENT REQUIRES THAT ALL NON-COMPLIANT FIXTURES BE REPLACED WITH WATER CONSERVING PLUMBING FIXTURE.
24. CONDENSATE DRAIN ARE TRAPPED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTION.
25. PROTECT RECEPTOR ON ROOF OR OUTSIDE OF THE BUILDING FROM RAIN WATER BY ELEVATING THE RIM TWO INCHES ABOVE ADJACENT SURFACE.
26. PUBLIC LAVATORIES SHALL HAVE A WATER TEMPERING DEVICE THAT COMPLIES WITH ASSE 1070 OR CSA B125.3. WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL TO MEET THIS PROVISION.
27. INSULATION OF DOMESTIC HOT WATER PIPING SHALL BE IN ACCORDANCE WITH SECTION 609.12 OF 2022 CALIFORNIA PLUMBING CODE.

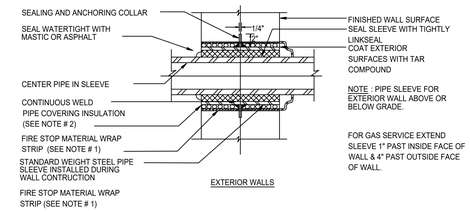
PIPE MATERIAL SCHEDULE

SERVICE	UNDERGROUND	ABOVE GROUND
DOMESTIC WATER	HARD DRAWN COPPER TUBE TYPE "K" OR "L"	HARD DRAWN COPPER TUBE TYPE "L". SEE NOTE 1
SANITARY WASTE	"NO-HUB" CAST IRON OR ABS. SEE NOTE 2.	GALVANIZED STEEL, SCH 40, "NO-HUB" CAST IRON OR ABS. SEE NOTE 2.
INDIRECT DRAIN	-	HARD DRAWN COPPER TUBE TYPE "M".

NOTE:
1. ABS MAY BE USED FOR DRAINAGE, SEWER & VENT PIPE ONLY AFTER OWNER & LOCAL AUTHORITY APPROVAL.
2. CPVC OR PEX MAY BE USED FOR DOMESTIC WATER SUPPLY PIPES ONLY AFTER OWNER & LOCAL AUTHORITY APPROVAL.
3. ALL EXPOSED GAS PIPING SHALL BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INERT MATERIAL APPROVED FOR SUCH APPLICATIONS.



INTERIOR WALLS



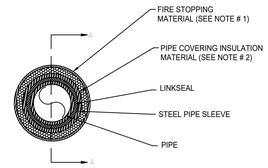
EXTERIOR WALLS

NOTE : PIPE SLEEVE FOR EXTERIOR WALL ABOVE OR BELOW GRADE.

FOR GAS SERVICE EXTEND SLEEVE 1" PAST INSIDE FACE OF WALL & 4" PAST OUTSIDE FACE OF WALL.

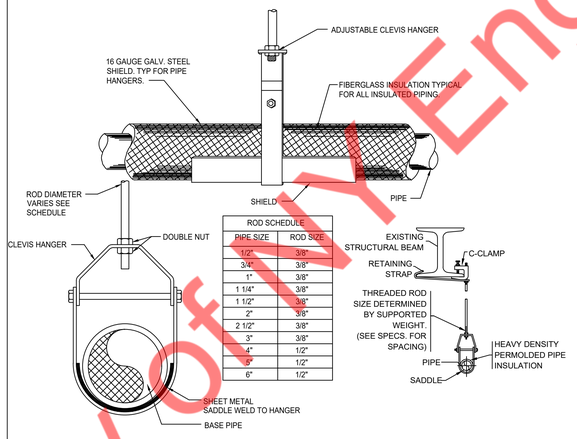
PIPE SLEEVE THRU WALL SECTION

1 / P.001 PIPE SLEEVE THRU WALL SECTION
N.T.S



PIPE SLEEVE VIEW

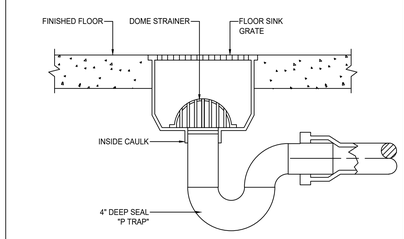
NOTES:
1. FIRESTOP MATERIAL WRAP STRIP SHALL BE ¼" THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL SUPPLIED IN 2 IN. WIDE STRIPS AND WRAP AROUND THE PIPE AS PER UL MATERIAL LISTED3M COMPANY FS-195+ OR FILL CAVITY WITH CAULK OR SEALANT MIN. ¼" DIA CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED OF THE WRAP STRIP LAYER APPROX. 3/4" FROM WALL SURFACE. AS PER UL LISTED 3M COMPANY CP25WB+, IC 15WB+, FIRE DAM 150+CAULK.
2. PIPE COVERING INSULATION SHALL BE 2" THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKETED. AS PER UL CLASSIFICATION AND MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.



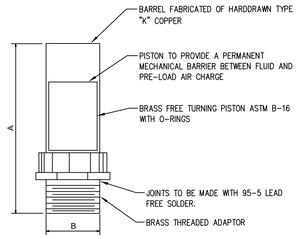
ROD SCHEDULE

PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"

3 / P.001 HANGER DETAIL
N.T.S



2 / P.001 FLOOR SINK DETAILS
N.T.S



PIPE SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
1/2"	A	1 - 11	5"	1/2"
3/4"	B	12 - 32	5"	3/4"
1"	C	33 - 60	7"	1"
1-1/4"	D	61 - 113	7"	1-1/4"
1-1/2"	E	114 - 154	9"	1-1/2"
2"	F	155 - 330	9"	2"

NOTE: LOCATE ONE FOR EACH BANK OF FLUSHOMETER FIXTURES AT LAST FIXTURE PROVIDE A STAINLESS STEEL ACCESS DOOR FOR EACH SUFFICIENT IN SIZE TO ALLOW REPLACEMENT OF ARRESTOR AT A FUTURE DATE.

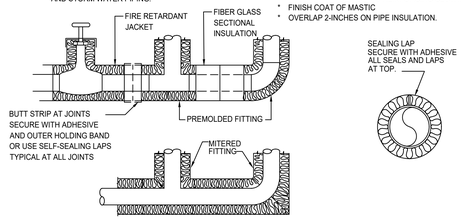
4 / P.001 WATER HAMMER ARRESTOR DETAIL
N.T.S

CONCEALED VALVES AND FITTINGS

- WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
- SECURE WITH WIRE OR TAPE.
- VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.

CONCEALED VALVES AND FITTINGS

- PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
- SKIM COAT OF INSULATION CEMENT
- COAT OF MASTIC
- WRAP WITH FIBER GLASS REINFORCING CLOTH.
- FINISH COAT OF MASTIC
- OVERLAP 2-INCHES ON PIPE INSULATION.



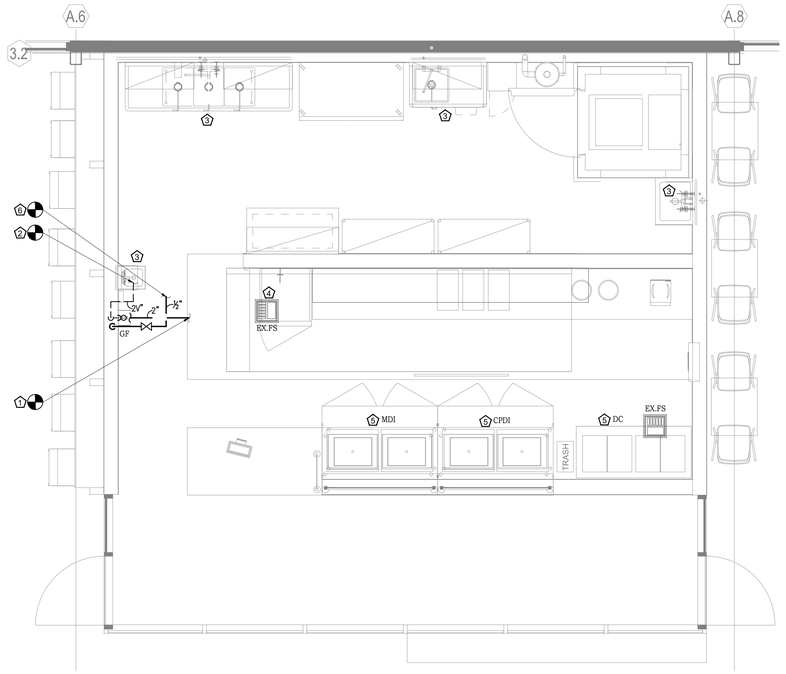
5 / P.001 INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATION
N.T.S

BLUE BOWL @ RODEO 72

No.	Date	Description
ISSUED FOR:		5TH AGENCY SUBMITTAL
ISSUE DATE:	07-25-2023	

SHEET TITLE:
PLUMBING LEGENDS, NOTES, DETAILS & SCHEDULES

P.001



1 P.101 PLUMBING FLOOR PLAN
SCALE: 3/8"=1'-0"

PLUMBING KEYED NOTES:

1. CONNECT NEW 2" SANITARY PIPE TO EXISTING SANITARY PIPE. CONTRACTOR TO FILED VERIFY EXACT SIZE, LOCATION & INVERT ON SITE.
2. CONNECT NEW 2" VENT PIPE TO EXISTING VENT PIPE. CONTRACTOR TO FILED VERIFY EXACT SIZE & LOCATION.
3. EXISTING SAN, VENT, CW, HW & HWR PIPING REMAIN FOR EXISTING PLUMBING FIXTURE.
4. PLUMBING CONTRACTOR TO PROVIDE COVER TO SEAL OFF EXISTING FLOOR SINK.
5. ROUTE INDIRECT WASTE FROM DIPPING CABINET (DC), MODULAR DROP-IN (MDI) & COLD PAN DROP-IN (CPDI) TO EXISTING FLOOR SINK (FS) WITH APPROVED AIR GAP.
6. CONNECT NEW ½" CW PIPE TO EXISTING CW PIPING. CONTRACTOR TO FILED VERIFY EXACT SIZE & LOCATION ON SITE.

GENERAL NOTES:

1. SAWCUT EXISTING FLOOR AND WALL CONSTRUCTION AS REQUIRED IN ORDER TO ACCOMMODATE NEW WASTE, VENT AND WATER SUPPLY PIPING. PATCH ALL NEW WORK TO MATCH EXISTING CONSTRUCTION. DEMOLITION OF ALL PLUMBING WASTE LINES SHALL NOT RESULT IN DEAD ENDS GREATER THAN 10'-0" IN LENGTH AND ALL WATER SUPPLY PIPING DEAD ENDS SHALL NOT EXCEED 2'-0" IN LENGTH.
2. PROVIDE DI-ELECTRIC UNIONS, COUPLINGS, ADAPTORS OR FLANGES AT ALL TRANSITIONS OF FERROUS PIPING TO NON-FERROUS PIPING.
3. ALL EXPOSED WASTE PIPING LOCATED IN TOILET ROOMS SHALL BE CHROME PLATED BRASS WITH MATCHING STOPS ESCUTCHEONS. PROVIDE LOOSE KEY TYPE STOPS IN ALL PUBLIC AREAS OR WHERE VANDAL RESISTANT INSTALLATIONS ARE REQUIRED. ALL RISER TUBES SHALL BE CHROME PLATED COPPER.
4. PLUMBING CONTRACTOR TO VERIFY ALL EXISTING WASTE, VENT AND WATER SUPPLY PIPING WHERE NEW CONNECTIONS ARE TO BE MADE PRIOR TO BID. VERIFY EXACT SIZE, LOCATION, INVERT, CONDITION AND REQUIREMENTS IN FIELD. REPORT ANY MAJOR DISCREPANCIES TO ARCHITECT/ENGINEER.
5. ALL VALVES AND SPECIALTY EQUIPMENT FOR THE PLUMBING INSTALLATION IS TO BE RUN IN ACCESSIBLE CEILING AREAS. NO VALVES OR EQUIPMENT ARE TO BE INSTALLED ABOVE A DRYWALL CEILING OR WITHIN THE WALLS.
6. COORDINATE ROUTING OF ALL PIPING SYSTEMS TO AVOID DUCTWORK, ELECTRICAL CONDUIT, BEAMS AND OTHER STRUCTURAL MEMBERS.
7. PLUMBING CONTRACTOR TO RUN ALL PLUMBING WATER DISTRIBUTION PIPING AT THE SAME ELEVATION WHERE POSSIBLE. ALL PIPING IS TO BE LABELED AS TO TYPE AND DIRECTION OF FLOW ON THE OUTSIDE OF THE INSULATION SO THAT IT IS READABLE FROM THE GROUND.
8. PROVIDE PROTECTIVE INSULATED PIPE COVERS ON P-TRAPS, ANGLE STOPS, OFFSET TAILPIECES, RISER SUPPLY TUBES, ETC. FOR ALL ADA ACCESSIBLE FIXTURES.
9. ALL WORK MUST COMPLY WITH LOCAL AND STATE PLUMBING CODES.
10. ALL CLEANOUTS ARE TO BE ACCESSIBLE WITHOUT REMOVAL OF ANY ANCHORED FIXTURE OR FURNITURE. CONTRACTOR TO COORDINATE LOCATIONS PRIOR TO INSTALLATION. WALL CLEANOUTS TO RUN AT FULL LINE SIZE UP FROM BELOW GROUND IN WALL.
11. PIPE ROUTING SHOWN IS DIAGRAMMATIC AND SHALL BE ADJUSTED ACCORDINGLY PER ACTUAL FIELD CONDITIONS.
12. WATER PIPING TO BE INSTALLED WITH ISOLATION VALVES IN COMPLIANCE WITH THE LOCAL PLUMBING CODE.
13. JOINTS BETWEEN PLASTIC PIPE AND NON PLASTIC MATERIAL SHALL BE MADE ONLY WITH AN APPROPRIATE TYPE OF ADAPTER.
14. CLEAN-OUTS TO BE PROVIDED PER PLUMBING CODE.

PLUMBING FIXTURE SCHEDULE

ITEM	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						REMARKS
		P-TRAP	SOIL/WASTE	VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE	
GF	GLASS FILLER	2"	2"	2"	½	-	-	-
DC	DIPPING CABINET	-	1"	-	-	-	-	INDIRECT WASTE TO FLOOR SINK WITH APPROVED AIR GAP
MDI	MODULAR DROP-IN	-	1"	-	-	-	-	INDIRECT WASTE TO FLOOR SINK WITH APPROVED AIR GAP
CPDI	COLD PAN DROP-IN	-	1"	-	-	-	-	INDIRECT WASTE TO FLOOR SINK WITH APPROVED AIR GAP

NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS.

BLUE BOWL @ RODEO 72

ISSUED FOR: 5TH AGENCY SUBMITTAL
ISSUE DATE: 07-25-2023

No.	Date	Description

SHEET TITLE:

PLUMBING FLOOR PLAN

P.101