







GENERAL NOTES (APPLY TO ALL SHEETS)

- 1. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS... 2. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT PARTITION LAYOUTS... 3. COORDINATE THE LOCATION OF ALL TERMINAL UNITS (NEW & EXISTING) CLOSELY WITH ALL WALLS THAT GO TO STRUCTURE... 4. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES... 5. ALL ROUND AND FLEXIBLE DUCTWORK EXTENDING TO DIFFUSERS SHALL BE SIZED FULL SIZE OF DISTRIBUTION DEVICE INLET... 6. FLEXIBLE DUCTS SHALL BE INSTALLED FREE OF SAGS AND KINKS... 7. TEST AND BALANCE ALL DIFFUSERS, BOXES, FANS, ETC. TO THE AIRFLOWS AND CONDITIONS INDICATED... 8. NEW PERIMETER SLOT DIFFUSERS SHALL BE PROVIDED AS REQUIRED... 9. PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLES AND REGISTERS IN FINISHED AREA SHALL BE PAINTED FLAT BLACK... 10. ALL CONTROL WIRING AND TUBING INSTALLED ABOVE THE CEILING SHALL BE LOCATED AS HIGH ABOVE THE CEILING AS POSSIBLE... 11. SPRINKLER HEADS AND ASSOCIATED BRANCH PIPING SHALL BE PROVIDED AND RELOCATED... 12. COORDINATE ALL WORK IN OCCUPIED AREAS WITH THE TENANT IN THAT AREA... 13. ALL MATERIALS IN PLENUM SHALL BE PLENUM-RATED... 14. THERMOSTATS SHALL BE LOCATED IN EACH ZONE AS SHOWN... 15. MATERIALS EXPOSED WITHIN THE PLENUM SHALL BE NONCOMBUSTIBLE OR HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPMENT INDEX OF NOT MORE THAN 50...

MECHANICAL SUMMARY MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Method of Compliance:
Prescriptive Energy cost Budget

Thermal Zone 3A
winter dry bulb: 18 deg F
summer dry bulb: 94 deg F

Interior design conditions
winter dry bulb: 70 deg F
summer dry bulb: 75 deg F
relative humidity: 50%

Total tenant heating load N/A
Total tenant cooling load N/A

Mechanical Spacing Conditioning System

Unitary description of unit N/A
heating efficiency N/A
cooling efficiency N/A
heat output of unit N/A
cooling output of unit N/A
Boiler total boiler output N/A
Chiller total chiller capacity N/A

List equipment efficiencies
motor horsepower
number of phases
minimum efficiency N/A
motor type
# of poles

Equipment schedules with motors (mechanical systems)
motor horsepower
number of phases
minimum efficiency N/A
motor type
# of poles

ABBREVIATIONS

Table with columns for abbreviations and full names. Includes items like A/C ABOVE CEILING, AD ACCESS DOOR, ADJ ADJUSTABLE, AFF ABOVE FINISHED FLOOR, AUTO AUTOMATIC, AC AIR CONDITIONING, AHU AIR HANDLING UNIT, BAL BALANCING, BDD BACKDRAFT DAMPER, B/F BELOW FLOOR, B/G BELOW GRADE, B'LY BUTTERFLY, BHP BRAKE HORSEPOWER, BCO BASE CLEANOUT, CFM CUBIC FEET PER MINUTE, CBOR CURVED BLADE CEILING REGISTER, CD CEILING DIFFUSER, CU CONDENSING UNIT, CW COLD WATER (DOMESTIC), CHWS CHILLED WATER SUPPLY, CHWR CHILLED WATER RETURN, CWS CONDENSER WATER SUPPLY, CWR CONDENSER WATER RETURN, CON CONCENTRIC, CO CLEANOUT, COND CONDENSATE, DB DRY BULB, DN DOWN, DR DRAIN, DO DITTO, DCB DECELS, DWG DRAWING, EA EACH, EAT ENTERING AIR TEMPERATURE, ECC ECCENTRIC, EF EXHAUST FAN, EOD EMERGENCY OVERFLOW DRAIN, ER EXHAUST REGISTER, ESP EXTERNAL STATIC PRESSURE, EWT ENTERING WATER TEMPERATURE, EXH EXHAUST, EFF EFFICIENCY, F FAHRENHEIT, FCC FLOOR CLEANOUT, FCU FAN COIL UNIT, FSD FIRE SMOKE DAMPER, FD FIRE DAMPER OR FLOOR DRAIN, FL DR FLOOR DRAIN (only), FLR FLOOR, FOB FLAT ON BOTTOM, FOR FUEL OIL RETURN, FOS FUEL OIL SUPPLY, FOT FLAT ON TOP, FPM FEET PER MINUTE, FPS FEET PER SECOND, FT FEET, G GATE, GA GAUGE, GPM GALLONS PER MINUTE, G GLOBE, GCO GRADE CLEANOUT, ID INSIDE DIMENSION, IN INCHES, KW KILOWATTS, LAT LEAVING AIR TEMPERATURE, LB POUNDS, LG LINEAR GRILLE, LRG LINEAR RETURN GRILLE, LWR LOOP WATER RETURN, LWS LOOP WATER SUPPLY, MIN MINIMUM, MAX MAXIMUM, MD MANUAL DAMPER, MOD MOTOR OPERATED DAMPER, MFR MANUFACTURER, NC NORMALLY CLOSED, NG NATURAL GAS, NFWH NON-FREEZE WALL HYDRANT, NO NORMALLY OPEN, NOM NOMINAL, OA OUTSIDE AIR, OD OUTSIDE DIMENSION, OBD OPPOSED BLADE DAMPER, PIU POWERED INDUCTION UNIT, PSI POUNDS PER SQUARE INCH, RA RADIUS, RAD RADIUS, RAG RETURN AIR GRILLE, RED REDUCER, RL REFRIGERANT LIQUID, RS REFRIGERANT SUCTION, RTU ROOFTOP UNIT, RAR RETURN AIR REGISTER, SP STATIC PRESSURE, SPS STATIC PRESSURE SENSOR, SA SUPPLY AIR, SAN SANITARY, SD SMOKE DAMPER, SEN SENSE, SQ SQUARE, SR SUPPLY REGISTER, ST STORM, SS SPLIT SYSTEM, TEMP TEMPERATURE, TG TRANSFER GRILLE, TYP TYPICAL, UON UNLESS OTHERWISE NOTED, V VENT, VA VALVE, VTR VENT THRU ROOF, VAV VARIABLE AIR VOLUME, WB WET BULB, WC WATER COLUMN, WHA WATER HAMMER ARRESTOR, WT WEIGHT, W WASTE, HD HUB DRAIN, HP HORSEPOWER, HTG HEATING, HW HOT WATER (DOMESTIC), HWR HOT WATER RETURN, HWRR HOT WATER REVERSE RETURN, HWS HOT WATER SUPPLY, HZ HERTZ.

LEGEND

Legend table with symbols and descriptions: CEILING DIFFUSER, CEILING RETURN AIR GRILLE or EXHAUST GRILLE, SIDE-WALL or DUCT MOUNTED REGISTER, SLOT DIFFUSER, MANUAL VOLUME DAMPER, FIRE DAMPER, THERMOSTAT, HUMIDISTAT, NIGHT SET-BACK, MOTOR OPERATED DAMPER, EXISTING WORK, NEW WORK, WORK TO BE REMOVED, FLOOR DRAIN, HOSE BIBB, FLOOR CLEAN-OUT, WALL CLEAN-OUT, DUCT ACCESS PANEL.

COMMISSIONING NOTES:

- 1. THE 2018 NC ENERGY CODE REQUIRES THE MECHANICAL AND SERVICE WATER HEATING SYSTEMS IN BUILDINGS WITH A FLOOR AREA IN EXCESS OR 10,000 SQ. FT TO BE COMMISSIONED BY A REGISTERED DESIGN PROFESSIONAL. 2. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A NC LICENSED ENGINEERING PROFESSIONAL TO PERFORM ALL REQUIRED COMMISSIONING... PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY A SIGNED STATEMENT OF SYSTEM COMMISSIONING (SEE APPENDIX C1) SHALL BE PROVIDED TO CODE OFFICIAL AND FACILITY OWNER. 3. COMMISSIONING HAS BEEN EXCLUDED FROM BARRETT, WOODYARDS DESIGN SCOPE... HOWEVER, WE CAN PERFORM SAID SERVICES UNDER THE CONTRACTORS SCOPE. 4. COMMISSIONING SHALL BE DONE IN ACCORDANCE WITH SECTION C408 OF THE 2018 NC ENERGY CODE. COMMISSIONING SHALL INCLUDE: 4.1. A COMMISSIONING PLAN WITH: A) A NARRATIVE OF THE ACTIVITIES TO BE PERFORMED AND BY WHO. B) A LIST OF EQUIPMENT TO BE COMMISSIONED. C) FUNCTIONS TO BE TESTED. D) CONDITIONS UNDER WHICH TESTS SHALL BE PERFORMED. E) MEASURABLE CRITERIA FOR PERFORMANCE. 4.2. HVAC SYSTEMS SHALL BE TESTED AND BALANCED. REFER TO SPEC SECTION 23043 FOR TEST AND BALANCE REQUIREMENTS. 4.3. HYDRONIC SYSTEMS SHALL BE BALANCED ACCORDING TO THE REQUIREMENTS SET FORTH IN C408.2.2.2. 4.4. ALL CONTROLS SHALL BE COMMISSIONED TO ENSURE ALL SYSTEM ARE OPERATING IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. 4.5. FUNCTIONAL TESTING TO ENSURE SYSTEMS ARE OPERATING IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. 5. CONTRACTOR SHALL PROVIDE TO THE OWNER AND SYSTEM COMMISSIONING AGENT, ALL INSTRUCTIONS ON MAINTENANCE AND OPERATION OF ALL SYSTEMS AND EQUIPMENT. THE DOCUMENTATION SHALL INCLUDE THE FOLLOWING, AT A MINIMUM: A) SUBMITTAL DATA B) OPERATION AND MAINTENANCE MANUALS FROM MANUFACTURER. C) NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY. D) CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION. E) TEST & BALANCE REPORT. 6. CONTRACTOR TO PROVIDE AT PROJECT COMPLETION, PRIOR TO OBTAINING CERTIFICATE OF OCCUPANCY, PRESENT AT FINAL INSPECTION TO THE JURISDICTION'S AHJ A SIGNED AND DATED STATEMENT OF SYSTEM COMMISSIONING FOR ALL MECHANICAL & HYDRONIC SYSTEMS. THE FORMAT OF THE STATEMENT OF SYSTEMS COMMISSIONING SHALL BE IN THE FORM REQUIRED BY THE STATES'S ENERGY CONSERVATION CODES AND/OR AHJ REQUIREMENTS. THE DOCUMENT SHALL BE SIGNED BY THE CONTRACTOR'S LICENSED PROFESSIONAL ENGINEER REPRESENTATIVE.

FAN SCHEDULE

FAN SCHEDULE table with columns: I.D. TAG, CAPACITY (CFM), S.P. (IN. WG), MOTOR H.P., DRIVE, VOLTS/PHASE, MAXIMUM FAN RPM, MAXIMUM NOISE, TYPE OF FAN, BASIS OF DESIGN, REMARKS. Includes rows for TEF-1, BAF-A, EF-A.

- 1 INTERLOCK FAN WITH RESTROOM LIGHTS.
2 PROVIDE FAN WITH A SPEED CONTROLLER AND BACKDRAFT DAMPER.
3 FAN TO BE TIED INTO CARBON MONOXIDE/NITROGEN DIOXIDE DETECTOR.
4 PROVIDE FAN WITH A WALL MOUNTED SWITCH.
5 PROVIDE FAN WITH STANDARD WALL MOUNTED ON/OFF SWITCH/SPEED CONTROLLER.

ELECTRIC HEATER SCHEDULE

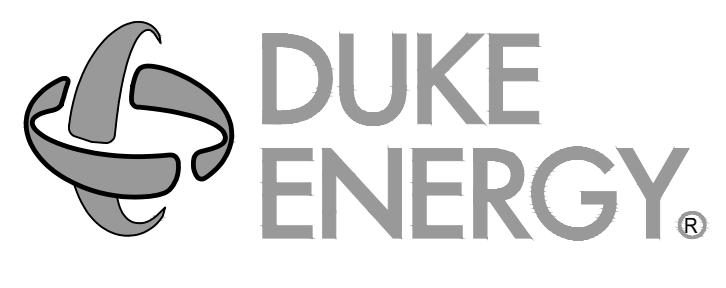
ELECTRIC HEATER SCHEDULE table with columns: I.D. TAG, DESCRIPTION, CAPACITY KW, MIN CFM, VOLTS/PHASE, BASIS OF DESIGN, REMARKS. Includes row for UH-A.

- 1 PROVIDE HEATER WITH UNIT MOUNTED THERMOSTAT AND INTEGRAL DISCONNECT.

SPLIT SYSTEM SCHEDULE

SPLIT SYSTEM SCHEDULE table with columns: I.D. TAG, MINIMUM TOTAL CAP. (BTUH), MINIMUM SENSIBLE CAP. (BTUH), AIRFLOW (CFM), OUTSIDE AIR (CFM), EXT. S.P. (IN. W.C.), MAX H.P., COIL EAT (°F db | °F wb), VOLTS/PHASE, DRIVE, MAX FAN RPM, TYPE OF UNIT, HEATING SECTION TYPE, CAPACITY, AMBIENT TEMP. (°F), VOLTS/PHASE, STAGES, MIN. SEER, BASIS OF DESIGN, REMARKS.

- 1 THIS IS THE SP EXTERNAL TO THE ENTIRE FAN COIL UNIT ASSEMBLY (WET COIL, CASING, CLEAN FILTERS, AND FURNACE LOSSES ARE NOT INCLUDED IN THIS EXT. SP.)
2 B = BELT DRIVE, D = DIRECT
3 HP STANDS FOR HEAT PUMP AND CAPACITY IS GIVEN IN MBH, ELEC STANDS FOR ELECTRIC HEAT AND VALUES ARE GIVEN IN KW.
4 PROVIDE WITH REMOTE WALL MOUNTED FULLY PROGRAMMABLE THERMOSTAT LOCATED AS SHOWN ON PLANS.
5 PROVIDE WITH CONDENSATE PUMP, PER MANUFACTURERS RECOMMENDATIONS.
6 PROVIDE WITH LOW AMBIENT CONTROLS.



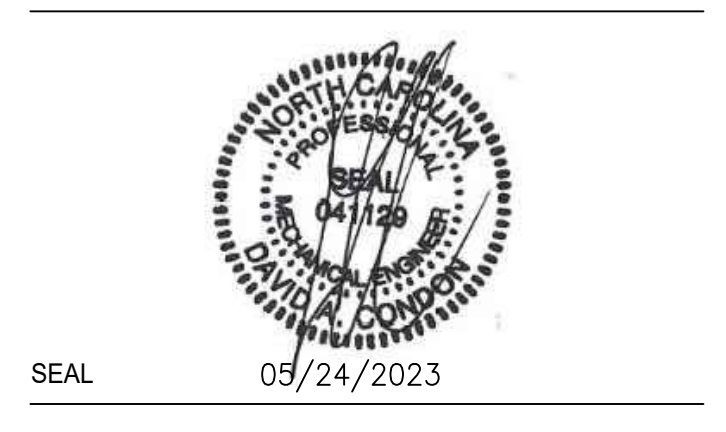
MAILING ADDRESS:
P.O. BOX 1007
CHARLOTTE, NC 28201

Safety Expectations:

- Reduce Risk
Remove Exposures to Hazards
Reinforce Safe Behavior



BW & A Barrett, Woodyard and Associates, Inc.
License # C-2225
420 Minuet Ln.
Charlotte, North Carolina 28217
(p) 704-357-9333 (f) 704-357-9886
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BWA JOB # 2022-0632



DUNN OPERATIONS CENTER

1269 JONESBORO RD.
HARNETT COUNTY, NC 28334

MOBILE SUB-STORAGE

Revision table with columns: REVISION, DATE, DRN BY, ISSUED FOR CONSTRUCTION. Includes entries for 05-24-23.

PROJECT NO:
DRAWING NUMBER
CFD-XXX-M-0004-XXXXXX

ELECTRONIC FILE NAME: M0001.DWG

DRAWN BY: TAYLOR SUBER

CHK'D BY: DAVID CONDON

E-MAIL: DCONDON@barrettwoodyard.com

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SCHEDULES ABBREVIATIONS & NOTES - MECHANICAL

SHEET NO.



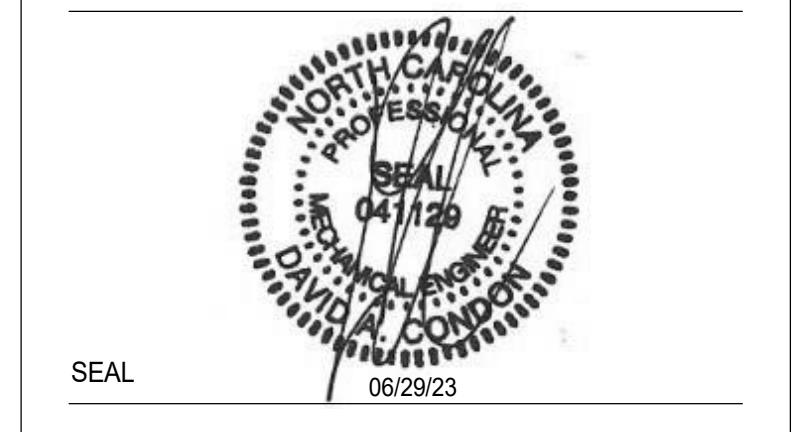


MAILING ADDRESS:  
P.O. BOX 1007  
CHARLOTTE, NC 28201

**Safety Expectations:**  
 Reduce Risk  
 Remove Exposures to Hazards  
 Reinforce Safe Behavior



**BW & A** Barrett, Woodward and Associates, Inc.  
 License # C-2228  
 420 Minnet LN.  
 Charlotte, North Carolina 28217  
 (p) 704-357-9333 (f) 704-357-9385  
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**DUNN OPERATIONS CENTER**

1269 JONESBORO RD.  
HARNETT COUNTY, NC 28334

**MOBILE SUB. STORAGE**

MARK	DATE	DRN BY	REVISION
1	06/29/23		OWNER CHANGES
2	05/24/23		ISSUED FOR CONSTRUCTION

PROJECT NO: 9900019.00  
DRAWING NUMBER

**CFD-XXX-M-101-XXXXX**

ELECTRONIC FILE NAME:

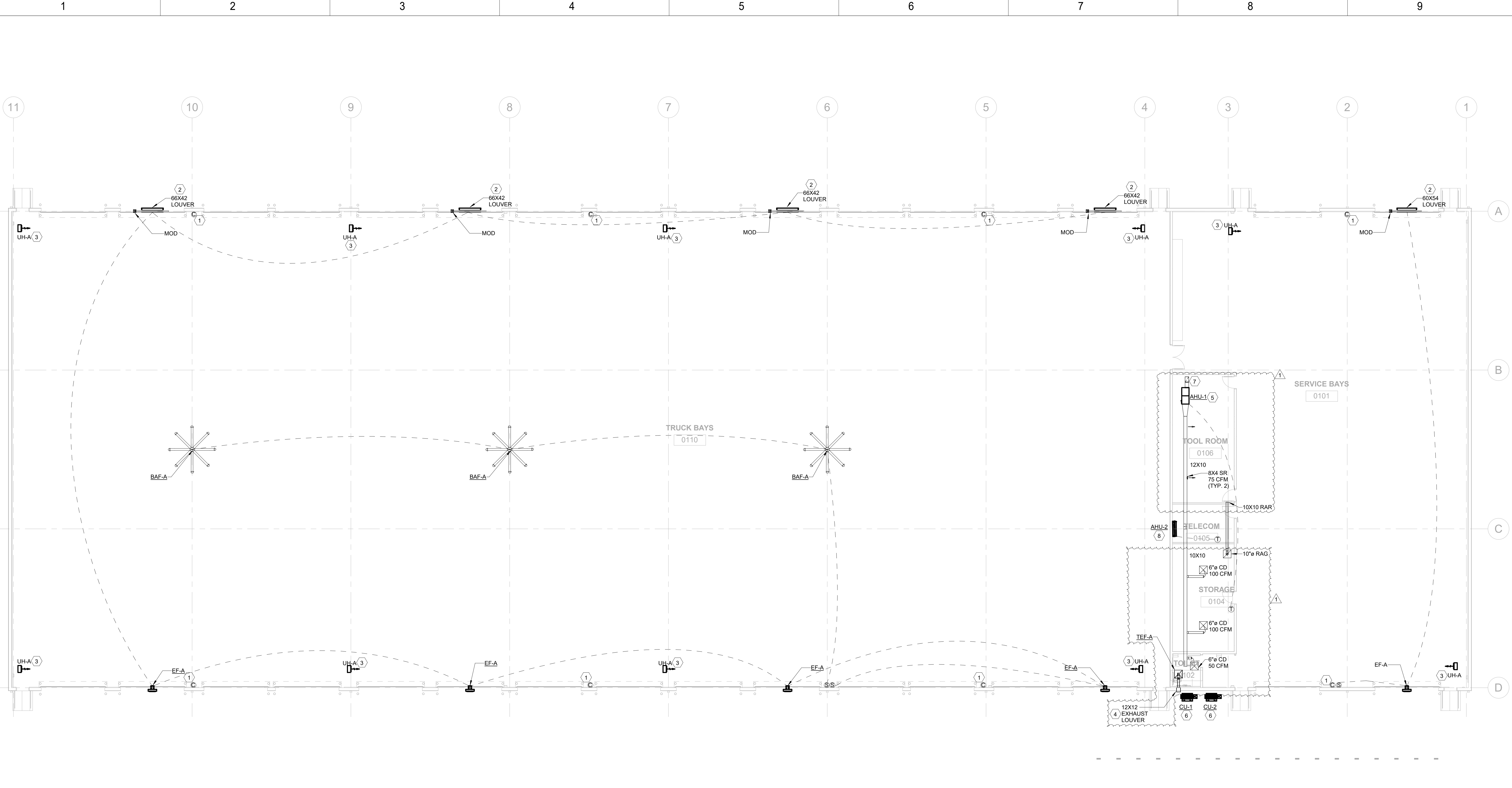
DRAWN BY: Author

CHKD BY: Checker DATE:

E-MAIL: Checker

SHEET TITLE:  
**FIRST FLOOR PLAN - MECHANICAL**

SHEET NO.  
**M-101**



**1 FIRST FLOOR PLAN - MECHANICAL**  
M-101 3/32" = 1'-0"

**GENERAL NOTES**  
(APPLY TO ALL SHEETS)

- EXACT LOCATION OF ALL AIR DISTRIBUTION DEVICES SHALL BE COORDINATED WITH THE ARCHITECTURAL RCP.
- MATERIALS EXPOSED WITHIN THE PLENUM SHALL BE NONCOMBUSTIBLE OR HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPMENT INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E 84.
- REPAIR AND REPLACE ANY DUCTWORK THAT DOES NOT MEET SPECIFICATION SECTION 23840. SEAL ANY HOLES IN DUCTWORK AIRTIGHT WITH SHEET METAL AND "HARDCAST."
- COORDINATE THE EXACT LOCATION OF ALL THERMOSTATS WITH FINAL FURNITURE LAYOUT, EQUIPMENT LAYOUT, ARCH AND OWNERS REPRESENTATIVE. CONTRACTOR SHALL TIE NEW TSTATS INTO BUILDING EMS AND UPDATE ACCORDINGLY.
- PROVIDE ALL MANUFACTURER AND NEC REQUIRED CLEARANCE FOR ALL EQUIPMENT.
- RELOCATE ALL SPRINKLER AND PLUMBING PIPING AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT.
- AIR QUANTITIES AS SHOWN SHALL BE USED TO BALANCE SYSTEM PER NEW LAYOUT. CONTRACTOR SHALL VERIFY ACTUAL CAPACITY (CFM) OF THE EXISTING UNIT AND DISTRIBUTE THEM PROPORTIONALLY TO CFMs SHOWN TO ALL DIFFUSERS.
- ALL THERMOSTATS LOCATED ON EXTERIOR WALLS SHALL BE PROVIDED WITH INSULATED BACKING.

**KEY NOTES**  
(APPLY THIS SHEET ONLY)

- CONTRACTOR TO PROVIDE CARBON MONOXIDE DETECTOR TIED TO EXHAUST FAN/INTAKE HOOD SHOWN ON PLANS TO ENERGIZE AT 25 PPM. COORDINATE WITH ARCHITECT FOR EXACT LOCATION, STYLE, AND FINISH.
- PROVIDE A STORM PROOF LOUVER WITH BIRD SCREEN SIZED AS INDICATED. COORDINATE FINAL SIZING AND LOCATION WITH ARCHITECT AND ELECTRICAL. COORDINATE FINISH WITH ARCHITECT. INTERLOCK MOD WITH FAN SUCH THAT MOD IS FULLY OPEN PRIOR TO FAN ENERGIZING.
- UNIT HEATER TO BE INSTALLED 13'-0" AFF PER MANUFACTURERS INSTRUCTIONS.
- ROUTE 6" TOILET EXHAUST DUCT THROUGH STORMPROOF LOUVER WITH BIRDSCREEN SIZED AS INDICATED. COORDINATE FINAL SIZING, LOCATION, AND FINISH WITH ARCHITECT AND DIV. 28. COORDINATE SIZE AND LOCATION WITH ARCHITECT. OPENING SHALL BE LOCATED NO CLOSER THAN 10'-0" TO ANY OUTSIDE AIR INTAKES.
- INSTALL AHU AT 10'-0" AFF. COORDINATE FINAL LOCATION WITH ELECTRICAL EQUIPMENT. UNIT SHALL NOT VIOLATE ANY REQUIRED CLEARANCES. ROUTE RSL LINES OUT TO CONDENSING UNIT LOCATED ON GRADE. SIZE PER MANUFACTURERS RECOMMENDATIONS. ROUTE 1" CONDENSATE TO FLOOR DRAIN UNDER ICE MACHINE. COORDINATE WITH DIV. 28. REFER TO 4M-0005 FOR INSTALLATION DETAIL.
- COORDINATE FINAL LOCATION OF CU ON GRADE WITH ARCHITECT, AND OWNERS REP. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ROUTE REFRIGERANT PIPING BETWEEN INDOOR AND ASSOCIATED OUTDOOR. SIZE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. INSULATE IN ACCORDANCE WITH MECHANICAL SPECIFICATIONS. REFER TO DETAIL 5M-0005. COORDINATE WITH ELECTRICAL.
- CONTRACTOR TO PROVIDE LINED RETURN AIR BOOT FULL SIZE OF AHU OPENING.
- INSTALL WALL MOUNTED AHU AS HIGH AS POSSIBLE. COORDINATE FINAL LOCATION WITH COMPUTER AND WITH OWNERS REPRESENTATIVE. ROUTE REFRIGERANT LINES TO CORRESPONDING CONDENSING UNIT LOCATED OUTSIDE. SIZE PER MANUFACTURERS RECOMMENDATIONS. 1" CONDENSATE SHALL BE RUN TO FLOOR DRAIN UNDER ICE MACHINE. REFER TO 4M-0005 FOR INSTALLATION DETAIL.