GENERAL NOTES

A. ALL MECHANICAL WORK, EQUIPMENT, AND FIXTURES SHALL COMPLY WITH THE APPLICABLE YEAR OF THE FOLLOWING CODES AND GOVERNING AGENCIES:

- 2017 OHIO BUILDING CODE
- 2017 OHIO MECHANICAL CODE
- 2017 OHIO ENERGY CODE: ENERGY EFFICIENCY
- 2017 NATIONAL ELECTRICAL CODE
- 2017 OHIO PLUMBING CODE
- 2015 INTERNATIONAL FUEL GAS CODE
- LOCAL MUNICIPAL CODES & AMENDMENTS

B. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

C. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.

D. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

E. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.

F. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS AND SIZES OF ALL UTILITIES, INCLUDING THE DEPTHS OF ALL BELOW GRADE SANITARY SEWERS, PRIOR TO START OF WORK. THIS DRAWING IS NOT INTENDED TO INDICATE ALL EXISTING UTILITIES.

G. CONTRACTOR SHALL BE FAMILIAR WITH LANDLORD'S STANDARDS, RULES AND REGULATIONS. ALL LANDLORD'S CRITERIA SHALL BE COMPLIED WITH AND INCLUDED IN THIS BID.

H. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTION POINTS, INCLUDING SIZES AND INVERTS WITH EXISTING FIELD CONDITION PRIOR TO START OF WORK.

I. MAKE ALL UTILITY CONNECTION AND INSTALLATION IN FULL ACCORDANCE WITH ALL UTILITY REGULATIONS. PROVIDE ALL ADDITIONAL APPURTENANCES AS REQUIRED BY UTILITY COMPANY. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.

J. MAINTAIN ALL MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES FOR ALL FIXTURES AND EQUIPMENT.

K. ALL HORIZONTAL FIRE PROTECTION SPRINKLER PIPING AND ALL ABOVE GRADE EXPOSED PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE. SPRINKLER CONTRACTOR SHALL COORDINATE SPRINKLER SYSTEM WITH DUCTWORK AND LIGHTS. ALL COSTS ASSOCIATED WITH RAISING SPRINKLER PIPING WHERE THE ARCHITECTURAL DESIGN CAN NOT BE ACCOMPLISHED SHALL BE THE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR.

L. CONTRACTOR SHALL COORDINATE TIMES TO WORK IN SPECIFIC AREAS OF THE EXISTING BUILDING WITH THE BUILDING MANAGER.

M. SLEEVE AND SEAL ALL PIPE PENETRATIONS OF WALLS AND FLOORS. APPLY INTUMESCENT FIRE SAFING COMPOUND AT PENETRATIONS OF FIRE-RATED WALLS AND FLOORS, MAINTAINING INTEGRITY AND RATING OF FIRE SEPARATION. SLEEVES THROUGH FLOORS SHALL EXTEND 2" ABOVE FLOOR, BE GROUTED INTO PLACE AND WATER PROOFED. PIPING THROUGH EXTERIOR WALLS SHALL BE SLEEVED AND SEALED WEATHER TIGHT WITH SILICONE CAULK.

N. ROOF TOP EQUIPMENT SHALL BE TAGGED WITH 2-1/2" HIGH PERMANENT LETTERS TO IDENTIFY SPACE SERVED.

O. EXHAUST FANS / DUCTS AND ROOF VENTS SHALL TERMINATE A MINIMUM OF 15'-0" FROM OUTSIDE AIR INTAKES.

P. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL EXPOSED WIRING IN THE PLENUM SHALL BE PLENUM RATED.

Q. CONTRACT LANDLORD APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ROOF CURB TO MAINTAIN ROOFING WARRANTY.

R. CONTRACTOR TO DETERMINE IF ANY STRUCTURAL ELEMENTS SUCH AS REBAR OR POST TENSION CABLE EXIST IN FLOORS, WALLS OR ROOFS BY INSPECTION COORDINATED WITH THE LANDLORD'S TENANT COORDINATOR OR STRUCTURAL ENGINEER AND BY USE OF X-RAY WHEN REQUIRED PRIOR TO ANY CUTTING OR CORE DRILLING. IF SUCH ELEMENTS EXIST, REPORT THIS IMMEDIATELY TO THE ARCHITECT AND THE LANDLORD'S TENANT COORDINATOR FOR RESOLUTION PRIOR TO CUTTING OR DRILLING.

S. VISIT SITE PRIOR TO BIDDING AND FIELD VERIFY EXISTING CONDITIONS. TAKE INTERFERENCES INTO CONSIDERATION.

T. DUCTWORK SHALL BE INSTALLED TIGHT TO UNDERSIDE OF ROOF STRUCTURE AS HIGH AS POSSIBLE TO AVOID OBSTRUCTIONS.

U. PAINT INTERIOR OF ALL DUCTS VISIBLE THROUGH DIFFUSERS/GRILLES FLAT BLACK.

V. ALL ABANDONED HVAC EQUIPMENT SHALL BE REMOVED AND PROPERLY DISPOSED. CAP AND INSULATE ALL UNUSED ROOF OPENINGS.

W. REPLACE ALL HVAC FILTERS JUST PRIOR TO STORE GRAND OPENING.

X. ALL DUCT MAINS, DUCTWORK, PLENUMS, BRANCHES, ADJUSTABLE DAMPERS, SENSORS, OR ACCESSORIES PERTAINING TO HVAC SYSTEM INSTALLED ABOVE ACOUSTIC OR GYPSUM TYPE CEILINGS SHALL BE NO MORE THAN 4'-0" (48") ABOVE FINISHED CEILING FOR ACCESSIBILITY AND MAINTENANCE REQUIREMENTS.

MECHANICAL REQUIREMENTS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

COORDINATION: COORDINATE WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

SHEETMETAL DUCTWORK: PROVIDE SHEETMETAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEETMETAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEETMETAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90º ELBOWS.

ROUND SHEETMETAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10" ABOVE CEILINGS) GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.

DUCTWORK FITTING AND ACCESSORIES: ALL FITTINGS AND ACCESSORIES SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST PUBLISHED STANDARDS FROM SMACNA AND ASHRAE.

FLEXIBLE DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH 1" THICK 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2" W.G. PRESSURE AND 0 TO 250ºF TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK TAP COLLARS AT CONNECTIONS INTO SHEETMETAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 4 FEET.

EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT.

DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

DUCT INSULATION (ALL ROUND SUPPLY DUCT AND ROUND RETURN DUCT ABOVE CEILING): PROVIDE MINIMUM 1-1/2" THICK BLANKET TYPE FIBERGLASS INSULATION COMPLYING WITH ASTM C-553, TYPE II, WITH FACTORY APPLIED KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS VAPOR BARRIER/JACKET. JACKET SHALL CONFORM TO ASTM C-1136, TYPE II. INSTALLED R VALUE SHALL BE R-6 OR HIGHER WITH A 0.75 PCF DENSITY.

DUCT LINER (ALL RECTANGULAR SUPPLY AND RETURN DUCT): PROVIDE MINIMUM 1" THICK, 3 PCF DENSITY, NEOPRENE COATED, LONG TEXTILE FIBER TYPE DUCT LINER, WITH COATING ON THE AIR STREAM SIDE CONFORMING TO NFPA 90A. DUCT LINER ADHESIVE SHALL BE AS RECOMMENDED BY DUCT LINER MANUFACTURER, AND SHALL COMPLY WITH ASTM C-916. DUCT LINER FASTENERS SHALL COMPLY WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION. THERMAL CONDUCTIVITY SHALL BE EQUAL TO OR LESS THAN 0.26 AT 75°F.

ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEETMETAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.

RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM ½" HEXAGONAL AXLE, MOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS AT DUCT CONNECTIONS TO ALL VIBRATING EQUIPMENT.

DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEETMETAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UNINSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.

TESTING AND BALANCING: TEST AND ADJUST ALL MECHANICAL SYSTEMS AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH THE MOST CURRENT NEBB OR AABC, AND ASHRAE STANDARDS. ELIMINATE OBJECTIONABLE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, WITH NEBB OR AABC CERTIFICATION. SUBMIT COMPLETED AND CERTIFIED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCE ALL SYSTEMS TO WITHIN 5% OF AIR FLOWS INDICATED ON THE DRAWINGS, AND REPORT ALL DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.

NOVAR SYSTEM NOTES

NOVAR INTERFACE SUMMARY (REFER TO TJX SPECIFICATIONS FOR DETAIL INFORMATION.)

1. GENERAL CONTRACTOR

1.1. PROVIDE 4'X8' PLYWOOD BACKBOARD IN ELECTRIC ROOM FOR NOVAR TO MOUNT THEIR EQUIPMENT. PHONE AND ETHERNET JACKS FOR THE NOVAR CONTROLLER WILL ALSO BE LOCATED ON THIS BOARD BY SEPARATE TJX VENDOR.

2. MECHANICAL CONTRACTOR

2.1. MOUNT 2X4 J-BOX WITH CONDUIT (WIREMOLD IF EXPOSED IN FINISHED AREAS) AT LOCATIONS DESIGNATED ON NOVAR CONTROLS SITE SPECIFIC PLANS. THE J-BOXES ARE SHALL BE MOUNTED 60" AFF EXCEPT IN FITTING ROOM LOCATIONS WHERE J-BOXES SHALL BE MOUNTED 84" AFF. ON SALES FLOOR J-BOXES SHALL BE MOUNTED ON BACK SIDE OF COLUMNS WHEN VIEWED FROM FRONT OF STORE.

2.2. PROVIDE PERMANENT STRANDED 18/8 AWG NON SHIELDED CABLE (18/10 IF THE RTU IS EQUIPPED WITH A CO2 SENSOR) FROM EACH ROOFTOP UNIT TO THE NOVAR ETM (T-STAT) LOCATION SHOWN ON THE NOVAR PLAN THAT SUPERSEDES ANY MECHANICAL PLAN LOCATIONS. ALL CONTROL DEVICES SHALL BE APPROPRIATELY IDENTIFIED AND PERMANENTLY ATTACHED.

2.3. TEMPORARY THERMOSTATS SHALL BE INSTALLED NEAR THE ROOFTOP UNITS.

2.4. HVAC EQUIPMENT SHALL HAVE HAD MANUFACTURER'S RECOMMENDED STARTUP PROCEDURE PERFORMED AND BE OPERATIONAL IN ALL MODES BEFORE ARRIVAL OF NOVAR CONTROLS REPRESENTATIVE FOR FINAL NOVAR INSTALLATION.

2.5. IN COLD WEATHER THE CONTRACTOR SHALL PROVIDE TEMPORARY THERMOSTAT TO OPERATE THE HEATERS IN RECEIVING.

2.6. BASEBOARD HEATERS SHALL BE FACTORY EQUIPPED WITH INTEGRAL THERMOSTATS AND INSTALLED IN ALL OFFICES, LOUNGE, RESTROOMS, AND SECURITY OFFICES WITH AT LEAST ONE EXTERIOR WALL WHEN LOCATED IN CLIMATE ZONES 4 AND 5. THE CIRCUITING FOR BASEBOARD HEATING SHALL BE THROUGH GE RELAY PANEL.

2.7. ELECTRIC VESTIBULE HEATERS SHALL BE FACTORY EQUIPPED WITH LOW VOLTAGE CONTROLS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: POWER CONTACTORS, LOW VOLTAGE TRANSFORMER, AND TWO WIRE FIELD TERMINATION CONTROL POINT.

3. ELECTRICAL CONTRACTOR

3.1. REFER TO ELECTRICAL PLANS FOR REQUIREMENTS AND COORDINATION INFORMATION

BURGLAR BAR NOTES

PROVIDE BURGLAR BARS IN ALL ROOF AND EXTERIOR WALL PENETRATIONS, INCLUDING PENETRATIONS REQUIRED FOR ROOF MOUNTED EQUIPMENT LARGER THAN 12"x12" OR 12"Ø. BARS SHALL BE 1/2" STEEL RODS @6" O.C. WELDED IN PLACE AT ALL INTERSECTIONS AND SIDES OF OPENINGS. BARS SHALL BE SECURELY EMBEDDED IN CONCRETE OR WELDED STEEL FRAMES AS REQUIRED BY CONSTRUCTION OF ROOF AND/OR WALL.

G.C. TO PROVIDE AND INSTALL BURGLAR BARS OVER EXISTING RTU CURBS WHERE EQUIPMENT IS TO BE REMOVED, IN ADDITION TO ABOVE NOTED REQUIREMENT. REFER TO DEMOLITION PLAN FOR CAPPED AND SEALED EQUIPMENT CURBS.

THERMOSTAT/SENSOR NOTES

ALL THERMOSTATS AND SENSORS SHALL BE PROVIDED BY NOVAR CONTROLS.
FINAL LOCATIONS AND ELEVATIONS PER NOVAR CONTROLS PLANS
MECHANICAL CONTRACTOR SHALL PROVIDE TEMPORARY HEAT/COOL THERMOSTATS FOR ROOFTOP UNITS TO ALLOW FOR SPACE TEMPERING
LOCATE THERMOSTATS NEAR RETURN INLET LOCATION

MECHANICAL CONTRACTOR SHALL PROVIDE ALL OTHER LOCAL CONTROL DEVICES (EXHAUST FAN WALL TOGGLE SWITCH, CIRCULATING FAN TIMER, ETC)

MECHANICAL SYMBOLS AND ABBREVIATIONS

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
EC	ELECTRICAL CONTRACTOR
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
GC	GENERAL CONTRACTOR
HZ	FREQUENCY
LAT	LEAVING AIR TEMPERATURE
MC	MECHANICAL CONTRACTOR
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NC	NOISE CRITERIA
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
RA	RETURN AIR
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WC	WATER COLUMN
WB	WET BULB

GRILLES/DIFFUSERS:

- SUPPLY DIFFUSER (4-WAY THROW)
- SUPPLY DIFFUSER (3-WAY THROW)
- SUPPLY DIFFUSER (2-WAY THROW)
- SUPPLY DIFFUSER (1-WAY THROW)
- SIDEWALL MOUNTED SUPPLY REGISTER
- RETURN/TRANSFER GRILLE
- EXHAUST GRILLE

GENERAL REFERENCES/NOTATIONS:

- 2/M1 -OR- 2/M1 DETAIL OR SECTION REFERENCE
- CONNECT TO EXISTING
- 2 TAGGED NOTE DESIGNATION
- 2 REVISION DESIGNATION
- EF 1 EQUIPMENT DESIGNATION
- SD-1 8"Ø-150 — DIFFUSER TAG; GRILLE/REGISTER/DIFFUSER DESIGNATION; CFM; NECK SIZE
- 3/4" DOOR UNDERCUT - COORDINATE WITH GENERAL CONTRACTOR

DOUBLE LINE DUCT SYMBOLS:

- 16x10 / 16 NEW SHEET METAL DUCTWORK & SIZE
- EXISTING DUCTWORK/PIPING TO REMAIN
- EXISTING DUCTWORK/PIPING TO BE REMOVED
- SUPPLY OR OUTSIDE AIR DUCT
- RETURN DUCT
- EXHAUST DUCT
- DUCT TRANSITION
- DUCT TRANSITION - RECTANGULAR TO ROUND
- SUPPLY DUCT ELBOW - UP and DOWN
- RETURN DUCT ELBOW - UP and DOWN
- EXHAUST DUCT ELBOW - UP and DOWN
- FIXED VANE TURNING ELBOW
- FULL RADIUS ELBOW
- RECTANGULAR BRANCH WITH VOLUME DAMPER (RECTANGULAR MAIN) (SUP, RET/EXH, VD)
- ROUND BRANCH WITH VOLUME DAMPER (RECTANGULAR MAIN) (SUP, RET/EXH, VD)
- ROUND BRANCH WITH VOLUME DAMPER (ROUND MAIN) (SUP, RET/EXH, VD)
- FLEXIBLE DUCTWORK

EQUIPMENT:

- ROOF MOUNTED EXHAUST FAN
- PACKAGED ROOFTOP UNIT
- GAS UNIT HEATER
- CEILING HEATER
- T THERMOSTAT
- TS REMOTE TEMPERATURE SENSOR
- S SENSOR / CONTROLLER
- C CARBON DIOXIDE SENSOR
- SD SMOKE DETECTOR
- $ TOGGLE SWITCH

NOTES:
REFER TO PLANS, EQUIPMENT SCHEDULES AND SPECIFICATIONS FOR DETAILED INFORMATION REGARDING ALL EQUIPMENT AND DEVICES.
MECHANICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND DEVICES UNLESS SPECIFICALLY NOTED OTHERWISE

MECHANICAL VENTILATION SCHEDULE

MARSHALLS
COLERAIN, OH

ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	ZONE AREA Az	AREA OUTDOOR AIR RATE (CFM/SQ FT) Ra	DEFAULT OCCUPANT DENSITY # / 1000 SQ FT	OCCUPANT DENSITY Pz	PEOPLE OUTDOOR AIR RATE (CFM/SQ FT) Rp	ZONE AIR DISTRIBUTON EFFECTIVENESS Ez	BREATHING OUTDOOR AIR FLOW REQ'D Vbz = (RpPz+RaAz)/Ez	ACTUAL OUTDOOR AIRFLOW PROVIDED	EXHAUST AMOUNT (CFM) REQUIRED	EXHAUST AMOUNT (CFM) PROVIDED	EXHAUST EQUIPMENT	SUPPLY EQUIPMENT
1	VESTIBULE	CORRIDOR	282	0.06	0	0	0.0	0.8	21	180	0	0	-	RTU-1
2	SALES	SALES	19,282	0.12	15	289	7.5	0.8	5,604	5,760	0	0	-	RTU-1, 2, 3, 4, 5
3	MGR	OFFICE	104	0.06	5	1	5.0	0.8	14	30	0	0	-	RTU-7
4	CASH	OFFICE	104	0.06	5	1	5.0	0.8	14	30	0	0	-	RTU-7
5	LP	OFFICE	105	0.06	5	1	5.0	0.8	14	30	0	0	-	RTU-7
6	HALL @ LOUNGE	CORRIDOR	112	0.06	0	0	0.0	0.8	8	32	0	0	-	RTU-9
7	MEN'S RESTROOM	TOILET	176	0.00	0	0	0.0	0.8	0	34	140	250	EF-1	RTU-9
8	WOMEN'S RESTROOM	TOILET	176	0.00	0	0	0.0	0.8	0	34	140	250	EF-1	RTU-9
9	LOUNGE	BREAK ROOM	437	0.06	25	11	5.0	0.8	101	120	0	220	EF-2	RTU-9
10	JANITOR	TOILET	91	0.00	0	0	0.0	0.8	0	20	91	150	EF-1	RTU-9
11	PROCESSING	SHIPPING, RECEIVING	1,442	0.12	0	0	0.0	0.8	216	300	0	0	-	RTU-6
12	ELECTRIC ROOM	UTILITY	201	0.00	0	0	0.0	0.8	0	-	0	0	-	-
13	EGRESS HALL	CORRIDOR	59	0.06	0	0	0.0	0.8	4	8	0	0	-	RTU-7
14	HALL@CASH	CORRIDOR	52	0.06	0	0	0.0	0.8	4	8	0	0	-	RTU-7
15	ASST. MGR	OFFICE	172	0.06	5	1	5.0	0.8	18	45	0	0	-	RTU-7
16	DRESSING ENTRANCE	CORRIDOR	326	0.06	0	0	0.0	0.8	24	30	0	0	-	RTU-8
17	WOMEN'S DRESSING	DRESSING ROOM	607	0.00	0	0	0.0	0.8	0	57	152	250	EF-3	RTU-8
18	MEN'S DRESSING	DRESSING ROOM	107	0.00	0	0	0.0	0.8	0	15	27	60	EF-3	RTU-8
19	WOMEN'S ADA	DRESSING ROOM	64	0.00	0	0	0.0	0.8	0	9	16	IN ROOM 17	-	RTU-8
20	MEN'S ADA	DRESSING ROOM	64	0.00	0	0	0.0	0.8	0	9	16	IN ROOM 18	-	RTU-8
21	L.C.	OFFICE	107	0.06	5	1	5.0	0.8	11	30	0	0	-	RTU-7
		TOTALS:	24,070 SQ. FT.			305 PEOPLE			6,055 CFM	6,780 CFM	582 CFM	1,180 CFM		

NATIONAL ACCOUNTS

TJX GROUP OF COMPANIES HAS A NATIONAL ACCOUNT AGREEMENT WITH YORK. AIR CONDITIONING UNITS ARE OWNER FURNISHED. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND ACCEPTING THE EQUIPMENT, VERIFYING PROPER QUANTITIES, PROVIDING TEMPORARY STORAGE, LABOR, PROPER INSTALLATION, AND ONE-YEAR LABOR WARRANTY.

FOR COMPLETE INFORMATION ON THE OWNER FURNISHED HVAC EQUIPMENT, CONTACT YORK NATIONAL ACCOUNTS:
SAUL DIAZ
Saul.Omar.Diaz@jci.com
cc @ BE-TJX-NatlAcct@jci.com
DIRECT OFFICE PHONE: (405) 419-6447
TOLL FREE: (800) 484-9738

NOTE: ORDERING PROCEDURES

YORK NATIONAL ACCOUNTS DEPARTMENT WILL ORDER EQUIPMENT AND COORDINATE SHIPMENT WITH THE SUCCESSFUL HVAC CONTRACTOR. THE HVAC CONTRACTOR WILL BE RESPONSIBLE FOR DELIVERY COORDINATION, RECEIVING, AND INSTALLATION AS DESCRIBED IN THE SPECIFICATIONS

STANDARD LEAD-TIME FOR YORK RTU HVAC EQUIPMENT IS FOUR (4) WEEKS MANUFACTURING PLUS ONE (1) WEEK TRANSPORTATION DEPENDING ON THE LOCATION WITHIN THE 48 STATES. ANY NON-STANDARD OPTION MAY ADD TO THE STANDARD MANUFACTURING LEAD-TIME AND WILL BE CONFIRMED AT PLACEMENT OF ORDER.
*HVAC EQUIPMENT WITH THE FACTORY TECHNICOAT COATING OF THE CONDENSER AND EVAPORATOR COILS WILL HAVE AN ELEVEN (11) WEEK LEAD-TIME.

NOTE: EQUIPMENT STARTUP INSTRUCTION

YORK IS RESPONSIBLE FOR STARTUP AND COMMISSIONING OF THE HVAC EQUIPMENT

NOVAR:

JOHN AIKENS OR JOE BORDERS
(216) 682-1600

THE FOLLOWING EQUIPMENT FALLS UNDER THE YORK (JOHNSON CONTROLS) NATIONAL ACCOUNT AGREEMENT:
HVAC EQUIPMENT: **YORK**
GAS UNIT HEATER: **STERLING**
EXHAUST FANS: **PENNBARRY**
DROPBOX DIFFUSERS, GRILLES, REGISTERS: **TUTTLE & BAILEY** AND AES MECHANICAL. (tjx@aescurb.com) [(800)-786-0402]

NO SUBSTITUTIONS WILL BE ALLOWED

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CINCINNATI, OH 45251

REVISION DATES

NO.	DATE	TYPE

ISSUE DATES

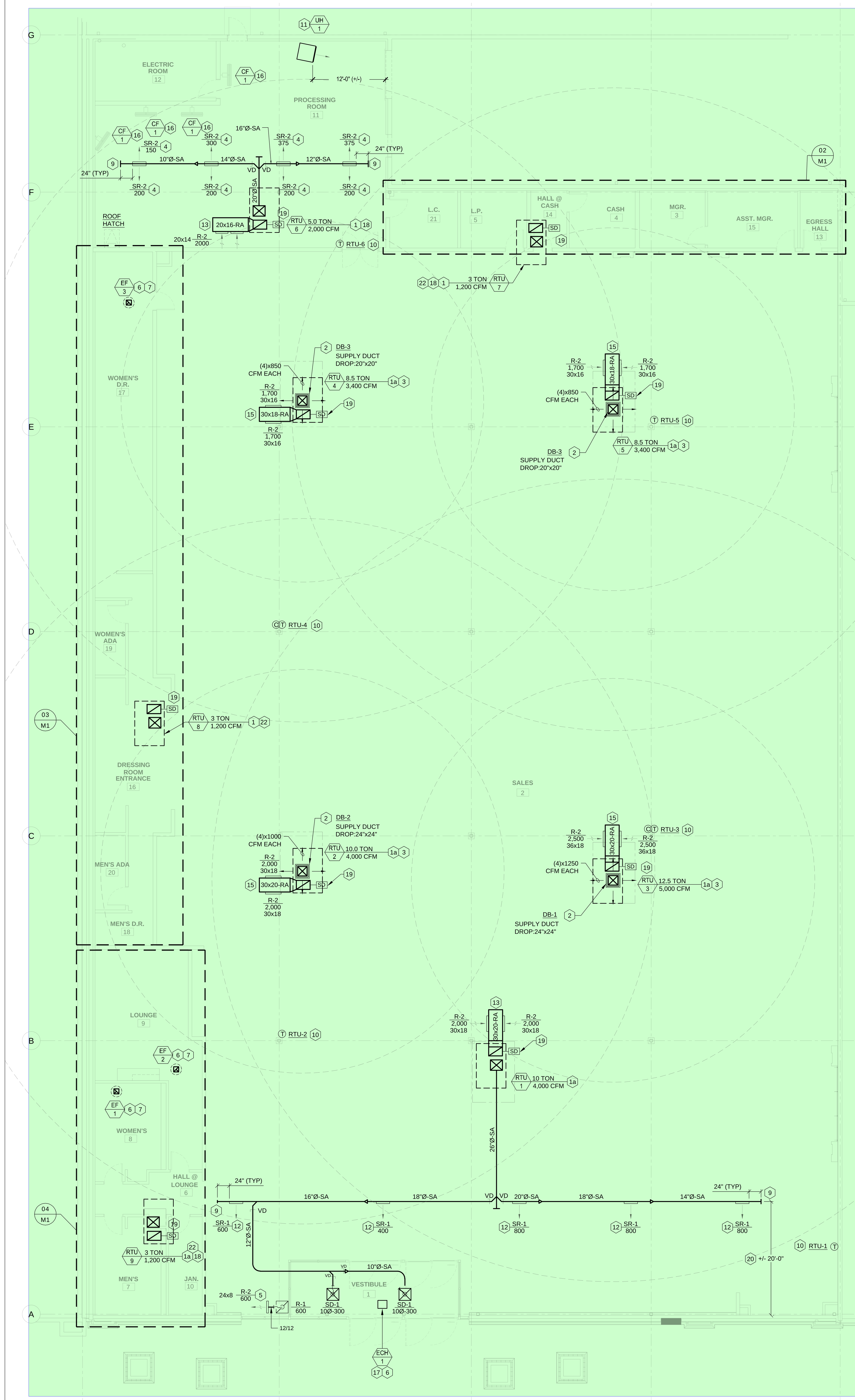
TYPE	DATE
TJX REVIEW	04/28/23
PERMIT SET	04/28/23
DRAWN BY	PN
CHECKED BY	AM

PROJECT NUMBER
22-04027

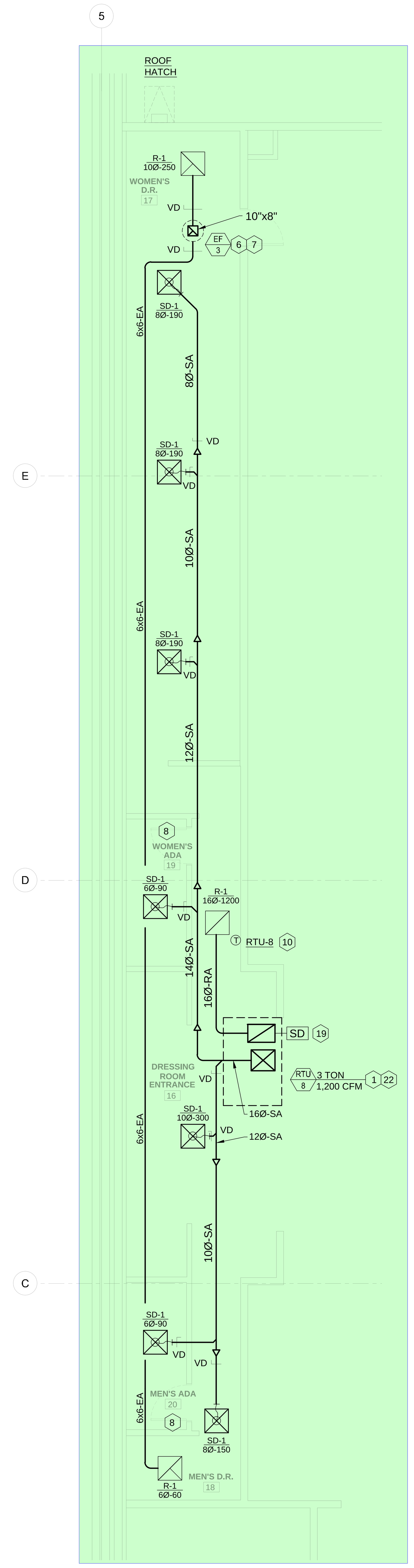
DATE
04/28/2023

SHEET TITLE
MECHANICAL NOTES AND SCHEDULES

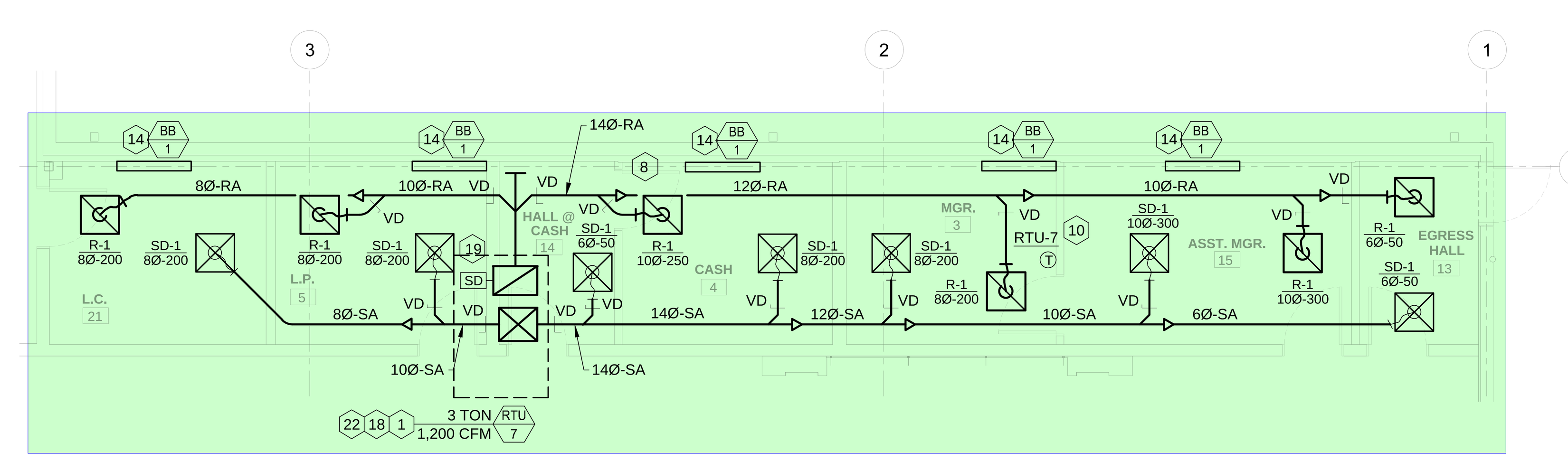
SHEET NUMBER
M0



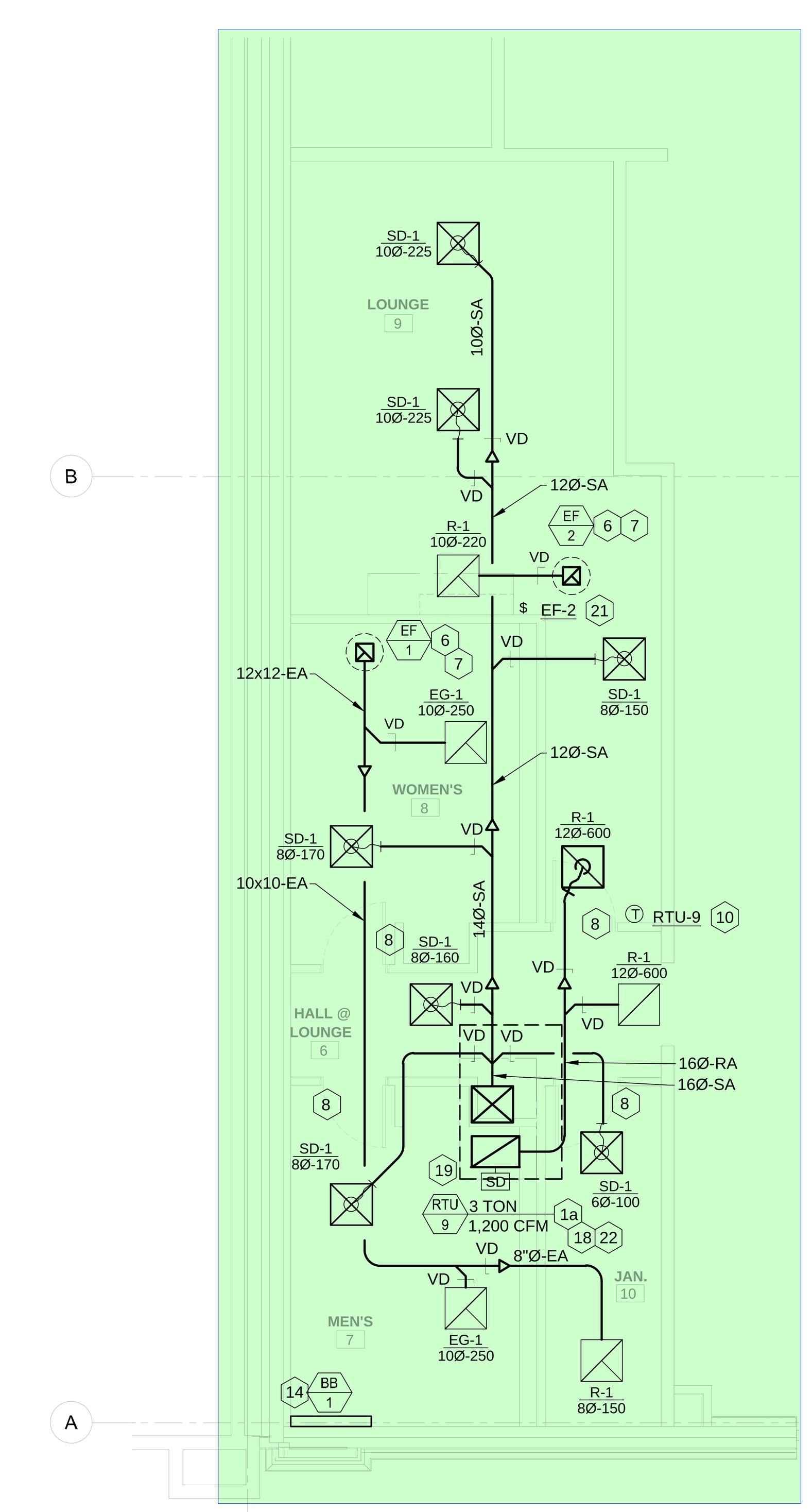
01 OVERALL MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



03 ENLARGED MECHANICAL PLAN-DRESSING ROOM
SCALE: 3/16" = 1'-0"



02 ENLARGED MECHANICAL PLAN-MANAGER OFFICE
SCALE: 3/16" = 1'-0"



04 ENLARGED MECHANICAL PLAN-LOUNGE AREA
SCALE: 3/16" = 1'-0"

PLAN KEYED NOTES

1. NEW ROOFTOP UNIT. PROVIDE AND INSTALL FULL ROOF CURB AND FRAME FOR NEW RTU AND CURB. PROVIDE NEW ROOF OPENING AND FLASHING AS REQUIRED ABOVE ROOF, COORDINATE WITH GENERAL CONTRACTOR. COORDINATE WITH EXISTING STRUCTURE AND OVERHEAD UTILITIES AND ADJUST RTU LOCATIONS AS REQUIRED. PROVIDE DUCT TRANSITIONS AS REQUIRED.

1a. NEW ROOFTOP UNIT OVER EXISTING CURB VIA CURB-ADAPTER. GC TO COORDINATE WITH TJX VENDOR AND FIELD VERIFY FEASIBILITY.

2. DRUM LOUVER BOX ASSEMBLY SHALL BE SUPPORTED INDEPENDENTLY FROM DUCTWORK. ADJUST SUPPLY GRILLES FOR EVEN AIR DISTRIBUTION. COORDINATE WITH AES MECHANICAL CUT SHEETS. MECHANICAL CONTRACTOR TO PROVIDE DUCT ROUTING & DROPS FROM RTU DOWN TO CEILING DROP BOX LOCATED AT 13'-0" AFF. FINAL HEIGHT TO BE COORDINATED WITH ALL TRADES AND APPROVED BY TJX CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

3. NEW RTU LOCATED DIRECTLY ABOVE DROP BOX LOCATIONS.

4. INSTALL SUPPLY REGISTERS AT -20 DEGREES DOWN FROM HORIZONTAL. ADJUST BLADES FOR EVEN DISTRIBUTION. PROVIDE NECK AND DAMPERS IN ROUND DUCT AS REQUIRED. MOUNT DUCTWORK @ 13'-6" AFF MINIMUM TO BOTTOM OF LARGEST DUCT. VERIFY FINAL MOUNTING HEIGHT WITH TJX CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

5. INSTALL RETURN/TRANSFER GRILLE OR SUPPLY REGISTERS AS HIGH TO ROOF DECK AS POSSIBLE ON SALES FLOOR. AIR DEVICES TO NOT INTERFERE WITH FUTURE DECOR.

6. CONTROL VIA EMPLOYEE LIGHTING CONTACTOR RELAY.

7. NEW ROOF MOUNTED EXHAUST FAN. PROVIDE AND INSTALL FULL ROOF CURB. PROVIDE FLASHING AS REQUIRED ABOVE ROOF. COORDINATE WITH EXISTING STRUCTURE AND OVERHEAD UTILITIES AND ADJUST EXHAUST FAN LOCATION AS REQUIRED. DUCTWORK FROM EXHAUST FAN NOT TO BE VISIBLE FROM SALES FLOOR.

8. HOLLOW METAL DOORS SHOULD BE PROVIDED WITH UNDERCUT FOR ADDITIONAL MAKE-UP AIR. DESIGNER OF RECORD TO COORDINATE WITH ARCHITECTURAL AND DOOR PROVIDER.

9. DUCTWORK TO EXTEND 2'-0" BEYOND LAST REGISTER.

10. THERMOSTATS SHOWN FOR REFERENCE ONLY. FINAL LOCATIONS TO BE DETERMINED BY TJX A/E AS WELL AS INSTALLED VIA NOVAR PACKAGE.

11. PROVIDE GAS FIRED UNIT HEATER. SUSPEND FROM STRUCTURE ABOVE WITH STEEL CHANNEL AND THREADED ROD. PROVIDE DOUBLE NUT ON ROD ENDS. MOUNT BOTTOM OF HEATER 12'-0" AFF. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES TO COMBUSTIBLES. FINAL UNIT HEATER LOCATION AND HEIGHT TO BE VERIFIED BY TJX CM PRIOR TO INSTALLATION. G.C. TO COORDINATE ALL UTILITIES WITH ASSOCIATED TRADES (GAS & POWER). PROVIDE TRANSITION FROM VENT OUTLET TO 5" DIA. TYPE "B" VENT AND EXTEND TO ROOF. PROVIDE ROOF COMBINATION VENT/INTAKE, STORM COLLAR AND ALL-WEATHER CAP.

12. BOTTOM OF LARGEST DIAMETER DUCT TO BE MOUNTED AT 12'-6" ABOVE FINISHED FLOOR. FINAL LOCATION AND ELEVATION TO BE COORDINATED WITH ALL TRADES AND APPROVED BY TJX CONSTRUCTION MANAGER PRIOR TO INSTALLATION. WHEN REGISTERS ARE INSTALLED THEY ARE TO BE MOUNTED AT -20° DOWNWARD ANGLE, REFER TO DETAIL.

13. BOTTOM OF RETURN AIR DUCTWORK TO BE 14' AFF MINIMUM, WITH GRILLES ON VERTICAL FACE OF DUCTWORK. COORDINATE FINAL ELEVATION WITH TJX CM PRIOR TO INSTALLATION, NOTIFY OF ALL DISCREPANCY.

14. BASEBOARD HEATERS SHALL BE INSTALLED 6" AFF. MILLWORK AND FIXTURE LOCATIONS SHALL TAKE PRECEDENCE. INSTALLATION LOCATION SHALL NOT IMPEDE ON REQUIRED ADA CLEARANCES. COORDINATE FINAL LOCATION WITH TJX PM, DOES NOT NEED TO BE INSTALLED ON THE EXTERIOR WALL IF UNFEASIBLE. DO NOT INSTALL UNDER HAND DRYERS, NO EXCEPTION.

15. BOTTOM OF RETURN AIR DUCTWORK TO BE 15' AFF MINIMUM, WITH GRILLES ON VERTICAL FACE OF DUCTWORK. COORDINATE FINAL ELEVATION WITH TJX CM PRIOR TO INSTALLATION, NOTIFY OF ALL DISCREPANCY.

16. INSTALL TOP OF FAN BRACKET AT 10'-0" AFF. REVIEW FINAL LOCATIONS AND INSTALLATION HEIGHTS WITH TJX CONSTRUCTION MANAGER. INSTALL 6-HOUR SPRING-WOUND WALL TIMER AT 48" AFF, COORDINATE WITH ELECTRICAL CONTRACTOR.

17. NOVAR SAVVY CONTROLLER FOR ECH-1. INSULATE EXTERIOR WALL BEHIND SENSOR, CAULK WIRE PENETRATION THRU WALL. INSTALL SENSOR 60" AFF. COORDINATE FINAL LOCATION OF VESTIBULE CEILING HEATER WITH TJX PM.

18. COORDINATE FINAL LOCATION AND VERIFY 10' CLEARANCE IS MAINTAINED TO THE PARAPET WALL, OR MAKE FALL PROTECTION PROVISIONS ABOVE ROOF, IF PARAPET IS UNDER 42" TALL. CONTRACTOR TO REVIEW EXACT DISTANCE OF EQUIPMENT INSTALLED IN FIELD AND REPORT INSTALLATION DISTANCE TO ARCHITECT.

19. DUCT MOUNTED SMOKE DETECTOR FURNISHED BY FIRE ALARM CONTRACTOR AND INSTALLED IN DUCT BY MECHANICAL CONTRACTOR UPSTREAM OF AIR FILTERS AND AFTER ALL BRANCH CONNECTIONS INTERLOCKING WIRING BETWEEN FIRE ALARM SYSTEM RELAY AND ROOFTOP UNIT SHUTDOWN CONTACT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. ALL OTHER WIRING BY FIRE ALARM CONTRACTOR. UPON DETECTION OF SMOKE, ROOFTOP UNIT SHALL SHUT DOWN AND INITIATE SUPERVISORY SIGNAL AT THE FIRE ALARM PANEL.

20. GENERAL CONTRACTOR TO COORDINATE DUCT LOCATION WITH CEILING LIGHTING.

21. WALL TOGGLE SWITCH FOR FAN CONTROL.

22. DUCTWORK SERVING NON-SALES FLOOR AREAS SHALL NOT BE VISIBLE FORM THE SALES FLOOR. CONTACT TJX CM WITH ALL CONFLICTS PRIOR TO INSTALLATION OF RTU.

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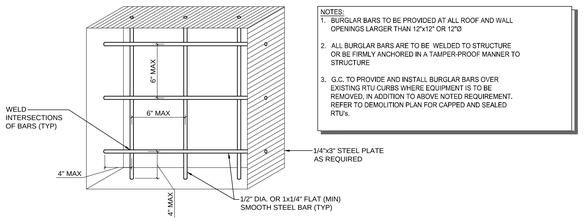
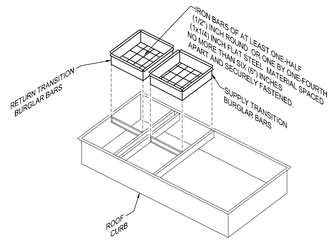
SHEET TITLE
MECHANICAL PLAN

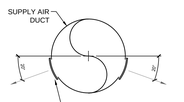
SHEET NUMBER
M1



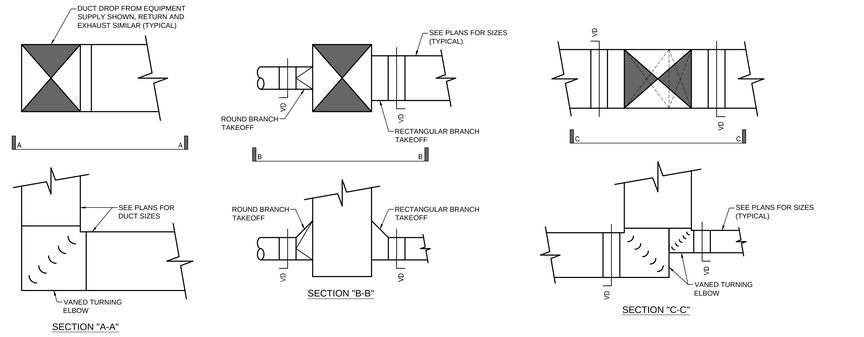
NOTES:
1. BURGLAR BARS TO BE PROVIDED AT ALL ROOF AND WALL OPENINGS LARGER THAN 12"x12" OR 12"Ø
2. ALL BURGLAR BARS ARE TO BE WELDED TO STRUCTURE OR BE FIRMLY ANCHORED IN A TAMPER-PROOF MANNER TO STRUCTURE
3. G.C. TO PROVIDE AND INSTALL BURGLAR BARS OVER EXISTING RTU CURBS WHERE EQUIPMENT IS TO BE REMOVED, IN ADDITION TO ABOVE NOTED REQUIREMENT. REFER TO DEMOLITION PLAN FOR CAPPED AND SEALED RTU's.

13 BURGLAR BAR DETAILS
SCALE: NONE

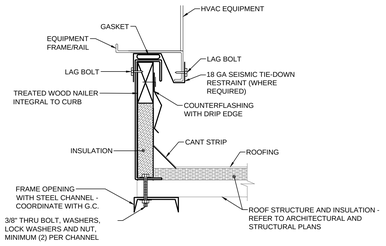




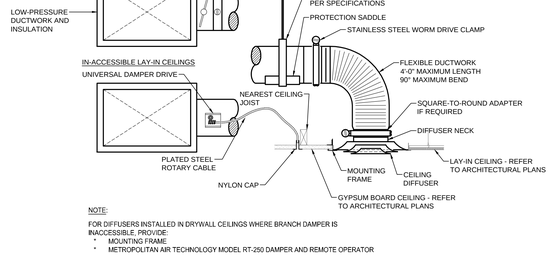
14 DUCT MOUTNED REGISTER DETAIL
SCALE: NONE



15 EQUIPMENT DUCT DROP DETAILS
SCALE: NONE

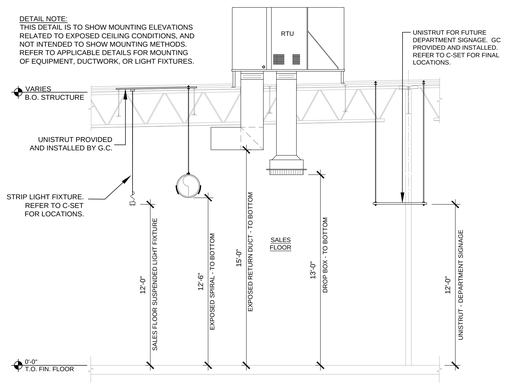


09 ROOFTOP UNIT CURB DETAIL
SCALE: NONE



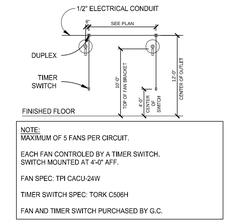
NOTE:
FOR DIFFUSERS INSTALLED IN DRYWALL CEILINGS WHERE BRANCH DAMPER IS INACCESSIBLE, PROVIDE:
- MOUNTING FRAME
- METROPOLITAN AIR TECHNOLOGY MODEL RT-250 DAMPER AND REMOTE OPERATOR

10 CEILING DIFFUSER DETAIL
SCALE: NONE



1. FINISHED FLOOR TO BOTTOM OF EQUIPMENT SHOWN ABOVE. ALL HEIGHTS ARE SUBJECT TO CHANGE AND WILL BE BASED ON SITE CONDITIONS, C-SET DESIGN, AS WELL AS INSTRUCTION FROM TJX CONSTRUCTION MANAGERS.
2. BOTTOM OF SPIRAL DUCT HEIGHT SHALL BE TO THE BOTTOM OF THE LARGEST DIAMETER DUCT SIZE.
3. LIGHTING LOCATIONS SHOWN ON C5 OF C-SET TAKE PRECEDENCE OVER HVAC AIR DEVICE AND DUCTWORK LOCATIONS.

11 SALES FLOOR MOUNTING HEIGHTS
SCALE: NONE



NOTE:
MAXIMUM OF 5 FANS PER CIRCUIT.

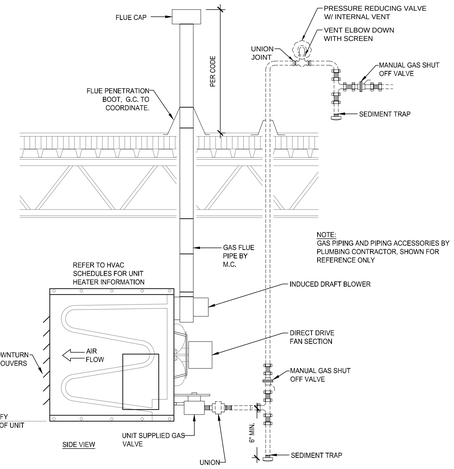
EACH FAN CONTROLED BY A TIMER SWITCH. SWITCH MOUNTED AT 4'-0" AFF.

FAN SPEC: TPI CACU-24W

TIMER SWITCH SPEC: TORK C506H

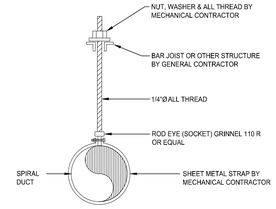
FAN AND TIMER SWITCH PURCHASED BY G.C.

12 CIRCULATION FAN DETAILS
SCALE: NONE

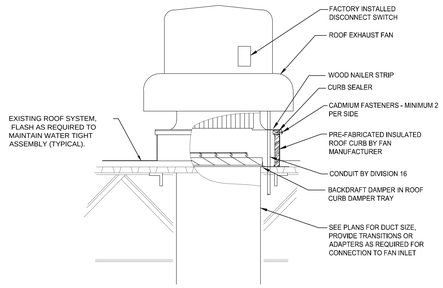


NOTE:
GAS PIPING AND PIPING ACCESSORIES BY PLUMBING CONTRACTOR, SHOWN FOR REFERENCE ONLY

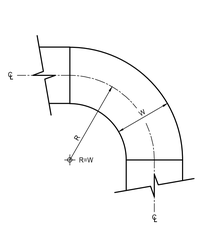
08 UNIT HEATER INSTALLATION DETAIL
SCALE: NONE



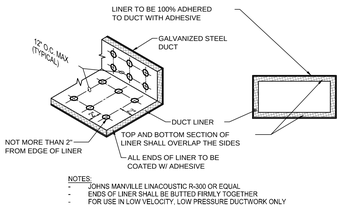
04 SPIRAL DUCT HANGER DETAIL
SCALE: NONE



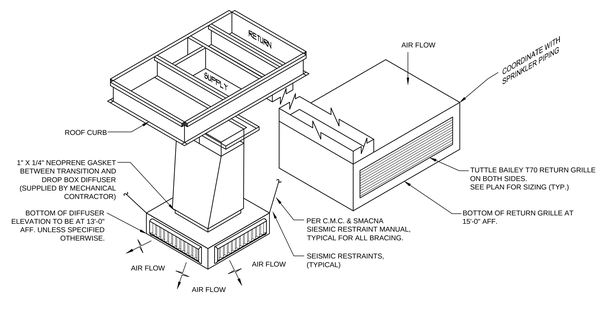
05 ROOF MOUNTED EXHAUST FAN DETAIL
SCALE: NONE



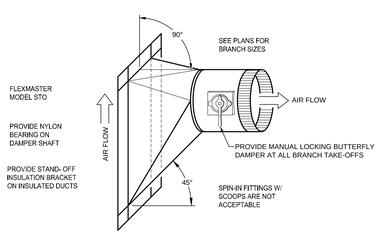
06 RADIUS ELBOW DETAIL
SCALE: NONE



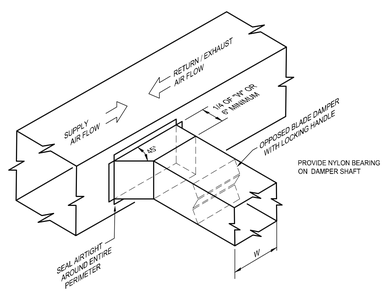
07 ACOUSTIC LINING DETAIL
SCALE: NONE



03 DRUM LOUVER DIFFUSER
SCALE: NONE



01 ROUND BRANCH TAKE-OFF
SCALE: NONE



02 RECTANGULAR BRANCH TAKE-OFF
SCALE: NONE

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PROJECT NUMBER: 22-04027

DATE: 04/28/2023

SHEET TITLE: MECHANICAL DETAILS

SHEET NUMBER: M2

ROOFTOP UNIT SCHEDULE

MARSHALLS COLERAIN, OH

DESCRIPTION				REFRIGERATION DATA						HEATING DATA		FAN DATA					ELECTRICAL DATA						WEIGHT [A] (LBS)	REMARKS
TAG	SERVICE	MANUF.	MODEL NO.	NOMINAL TONS	TOTAL MBH	SENSIBLE MBH	REFRIG.	NO. OF COMP.	CHARGE (LB-OZ)	INPUT BTUH	OUTPUT MBH	NOMINAL CFM		ESP (IN)	FAN RPM	MOTOR / DRIVE		V / PH	MCA	MOCP	EFFICIENCY				
												SUPPLY	O.A.			HP	MOTOR [C] / DRIVE [D]				EER	SEER	IEER	
RTU-1	SALES	YORK	ZJ120N	10	130.00	96.00	R-410A	2	7-12/ 7-10	240	192	4,000	1,200	1.00	1,139	3.0	HS/ F	460 / 3	24.3	30	12.00	-	14.60	1,335	1A, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14
RTU-2	SALES	YORK	ZJ120N	10	130.00	96.00	R-410A	2	7-12/ 7-10	240	192	4,000	1,200	1.00	1,139	3.0	HS/ F	460 / 3	24.3	30	12.00	-	14.60	1,335	1A, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14
RTU-3	SALES	YORK	ZJ150N	12.5	155.70	106.20	R-410A	2	10-8/ 9-12	240	192	5,000	1,500	1.00	1,367	5.0	HS/ F	460 / 3	40.7	50	12.00	-	15.00	1,545	1A, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14
RTU-4	SALES	YORK	ZJ102N	8.5	107.20	75.90	R-410A	2	8-2/ 7-14	180	144	3,400	1,020	1.00	995	3.0	HS/ HS	460 / 3	24.3	30	12.00	-	13.80	1,305	1A, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14
RTU-5	SALES	YORK	ZJ102N	8.5	107.20	75.90	R-410A	2	8-2/ 7-14	180	144	3,400	1,020	1.00	995	3.0	HS/ HS	460 / 3	24.3	30	12.00	-	13.80	1,305	1A, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14
RTU-6	PROCESSING	YORK	ZT061N	5	60.30	43.50	R410A	1	12-7	160	129	2,000	300	1.20	1,069	1.5	STD/STD	460 / 3	14.6	20	13.00	16.30	-	1,173	1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14
RTU-7	MGR OFFICE	YORK	ZT037N	3	38.40	25.70	R410A	1	10-5	120	96	1,200	180	0.80	828	1.5	STD/STD	460 / 3	12.4	15	13.05	17.00	-	1,107	1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14
RTU-8	DRESSING ROOM	YORK	ZT037N	3	38.40	25.70	R410A	1	10-5	120	96	1,200	120	0.80	828	1.5	STD/STD	460 / 3	12.4	15	13.05	17.00	-	1,107	1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14
RTU-9	LOUNGE	YORK	ZT037N	3	38.40	25.70	R410A	1	10-5	120	96	1,200	240	0.80	828	1.5	STD/STD	460 / 3	12.4	15	13.05	17.00	-	1,107	1A, 2, 3, 4, 5, 7, 8, 9, 11, 12, 13, 14
											TOTAL:	25,400	6,780											

REMARKS:

1. PROVIDE WITH PREFABRICATED ROOF CURB (14" HIGH, WOOD NAILER, INSULATED DECKS).
2. PROVIDE WITH INTELLISPEED VFD FAN CONTROLLER
2. PROVIDE WITH INTELLISPEED VFD FAN CONTROLLER
3. PROVIDE WITH BURGLAR BARS
4. PROVIDE WITH FACTORY INSTALLED/WIRED DISCONNECT SWITCH; FACTORY INSTALLED UNPOWERED 120v GFCI CONVENIENCE RECEPTACLE
5. PROVIDE WITH HAIL GUARD
6. PROVIDE WITH DRY BULB CONTROLLED ECONOMIZER WITH POWERED EXHAUST
7. PROVIDE WITH DRY BULB CONTROLLED ECONOMIZER WITH BAROMETRIC RELIEF
8. PROVIDE WITH FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR COMPARTMENT
9. PROVIDE WITH 2" PLEATED MERV 8 FILTERS [B]
10. PROVIDE WITH CO2 SENSOR. ECONOMIZER DAMPERS SHALL MODULATE BASED ON DEMAND CONTROL VENTILATION REQUIREMENTS
11. PROVIDE WITH NOVAR CONTROLS, RTU TO BE CONTROLLED BY NOVAR CONTROLS. CONTRACTOR SHALL EMPLOY NOVAR CONTROLS CORPORATION TO INSTALL BMS. REFER TO SECTION 15C.11 IN THE TJX OUTLINE SPECIFICATIONS
12. PROVIDE TEMPORARY THERMOSTAT FOR UNIT OPERATION. REFER TO SECTION 15C.11 IN TJX OUTLINE SPECIFICATIONS
13. PROVIDE WITH MANUFACTURERS 10 YEAR WARRANTY FOR HEAT EXCHANGERS & COMPRESSORS.
14. CONTRACTOR TO FIELD REVIEW ROOF SLOPES PRIOR TO ROOFTOP UNIT PURCHASE. CONTRACTOR TO PROVIDE PITCHED ROOF CURBS AND REQUIRED ACCESSORIES TO INSTALL ROOF TOP UNITS LEVELED HORIZONTALLY.

NOTES:

A. WEIGHTS INCLUDE BASE UNIT AND INTERNAL ACCESSORIES. ALLOWANCE SHALL BE INCLUDED FOR ROOF CURBS OR CURB ADAPTERS AS NECESSARY
B. CONTRACTOR SHALL INCLUDE TWO FILTER CHANGES - ORIGINAL EQUIPMENT FILTERS ARE TO BE CHANGED WHEN (1) STORE FIXTURING STARTS, AND (2) WHEN STORE IS BEING STOCKED
C. HS = HIGH STATIC MOTOR
STD = STANDARD MOTOR
D. HS = HIGH STATIC DRIVE
STD = STANDARD DRIVE
F = FIELD SUPPLIED DRIVE

DROPBOX DIFFUSER SCHEDULE

MARSHALLS COLERAIN, OH

TAG	MANUFACTURER	MODEL NO.	TOTAL CFM	TYPE	S.P.	THROW (FEET)	NECK VELOCITY (FPM)	NOISE LEVEL (NC)	REMARKS
DB-1	AES	ADB-1-12-4	5,000	4-WAY	0.310	66.8	1250.0	39.70	1, 2
DB-2	AES	ADB-1-10-4	4,000	4-WAY	0.200	58.7	1000.0	31.10	1, 2
DB-2	AES	ADB-1-8-4	3,400	4-WAY	0.350	53.6	1080.0	35.70	1, 2

REMARKS:

1. AES INDUSTRIES TEL: (800) 786-0402 - REFERENCE TJX NATIONAL ACCOUNT [tjx@aescurb.com]
2. SUPPORT INDEPENDENTLY FROM DUCTWORK

ELECTRIC CEILING HEATER SCHEDULE

MARSHALLS COLERAIN, OH

TAG	MANUF.	MODEL NO.	kW	BTUH	ELECTRICAL		CFM	UNIT WEIGHT (LBS)	REMARKS
					V / PH / HZ	AMPS			
ECH-1	QMARK	EFF-3007	3.0	10,239	277/ 1 / 60	10.8	150	23	1, 2, 3, 4, 5

REMARKS:

1. FURNISH WITH 24"x24" T-BAR FRAME MOUNTING KIT.
2. HEATER TO BE CONTROLLED BY BMS TEMPERATURE SENSORS AND CONTROLS.
3. FURNISH WITH FACTORY DISCONNECT.
4. FURNISH WITH INTEGRAL THERMOSTAT; THERMAL OVERLOAD; SURFACE MOUNTING FRAME
5. FINISH TO BE NORTHERN WHITE.

AIR DEVICE SCHEDULE

MARSHALLS COLERAIN, OH

TAG	MANUFACTURER	MODEL NO.	TYPE	FACE SIZE	NECK SIZE	MATERIAL	COLOR	BLADE SPACING	FRAME	REMARKS
SD-1	TUTTLE & BAILEY	S1200	SUPPLY DIFFUSER	24" x 24"	SEE PLAN	STEEL	"WH" WHITE	4-WAY	LAY-IN	1, 2
SD-2	TUTTLE & BAILEY	S1200	SUPPLY DIFFUSER	24" x 24"	SEE PLAN	STEEL	"WH" WHITE	4-WAY	SURFACE	1, 2, 3
SR-1	TUTTLE & BAILEY	T64	DOUBLE DEFLECTION REGISTER	20" x 10"	SEE PLAN	STEEL	"WH" WHITE	3/4" ADJ. DEFLECTION	DUCT DIRECT	1, 2, 4
SR-2	TUTTLE & BAILEY	T64	DOUBLE DEFLECTION REGISTER	14" x 8"	SEE PLAN	STEEL	"WH" WHITE	3/4" ADJ. DEFLECTION	DUCT DIRECT	1, 2, 4
R-1	TUTTLE & BAILEY	CRE500	EGGCRATE GRILLE	24" x 24"	22" x 22"	ALUMINUM	"WH" WHITE	1/2 x 1/2 x 1/2 CORE	LAY-IN	1, 2, 5
R-2	TUTTLE & BAILEY	T70D	LOUVERED GRILLE	-	SEE PLAN	STEEL	"WH" WHITE	3/4" 35° DEFLECTION	SURFACE	1
EG-1	TUTTLE & BAILEY	CRE500	EGGCRATE GRILLE	24" x 24"	10" x 10"	ALUMINUM	"WH" WHITE	1/2 x 1/2 x 1/2 CORE	SURFACE/ LAY-IN	1, 2, 3, 5

REMARKS:

1. REFER TJX SPECIFICATIONS
2. PROVIDE WITH OPPOSED BLADE DAMPER
3. PROVIDE WITH MOUNTING FRAME FOR USE IN HARD CEILING
4. INSTALL GRILLE 20° DOWNWARD WHEN ON DUCT. ADJUST BLADES FOR EVEN DISTRIBUTION AND TO AVOID DRAFTS
5. PROVIDE WITH ADAPTER/TRANSITION FOR FINAL DUCT-TO-DIFFUSER CONNECTION

FAN SCHEDULE

MARSHALLS COLERAIN, OH

DESCRIPTION				FAN DATA					MISCELLANEOUS				REMARKS
TAG	MANUFACTURER	MODEL NO.	AREA SERVED	CFM	ESP (IN)	RPM	HP	AMPS	V / PH	LOCATION	FAN DRIVE	SONES	WEIGHT (LBS)	
EF-1	PENNBARRY	DXI3R	RESTROOMS	650	0.625	1,550	1/6	-	120 / 1	ROOF	DIRECT	8.2	36	1, 2, 3, 4, 5
EF-2	PENNBARRY	DXI0R	LOUNGE	220	0.500	1,550	1/12	-	120 / 1	ROOF	DIRECT	6.8	29	1, 2, 3, 4, 5, 6
EF-3	PENNBARRY	DXI0R	DRESSING	310	0.625	1,550	1/12	-	120 / 1	ROOF	DIRECT	6.8	29	1, 2, 3, 4, 5
CF-1	TPI CORPORATION	CACU 24-W	PROCESSING	5,400	-	1,725	1/4	2.3	120 / 1	WALL	DIRECT	-	43	7, 8

REMARKS:

1. PROVIDE WITH FACTORY INSTALLED DISCONNECT; FACTORY MOUNTED/WIRED SPEED CONTROL
2. PROVIDE WITH 12" HIGH PREFABRICATED GALVANIZED STEEL ROOF CURB (INCLUDING DAMPER TRAY, WOOD NAILER, 1.5" INSULATION, GASKET)
3. PROVIDE BURGLAR BARS FOR ROOF OPENING
4. REFER TO TJX CRITERIA FOR SWITCHING ON/OFF REQUIREMENTS
5. ON CONTROLLED CIRCUIT RUN THRU RELAY PANEL - REFER TO ELECTRICAL PLANS
6. PROVIDE WALL TOGGLE SWITCH
7. PROVIDE TORK WALL TIMER (0-360 MINUTE, MODEL C506H, METAL FACEPLATE)
8. FAN SHALL BE PURCHASED THRU YORK NATIONAL ACCOUNT

GAS UNIT HEATER SCHEDULE

MARSHALLS COLERAIN, OH

TAG	MANUF.	MODEL NO.	MBH		FLUE DIA.	TEMP RISE (°F.)	FAN DATA				ELECTRICAL DATA			OPER. WT. (LBS)	REMARKS
			INPUT	OUTPUT			CFM	RPM	HP	AMPS	V / PH	FLA	MCA		
UH-1	STERLING	XF200	200	166	5"Ø	47	3,200	1,050	1/3	5.8	120 / 1	8	9.5	210	1, 2, 3, 4, 5, 6, 7

REMARKS:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS & MAINTAIN ALL SERVICE CLEARANCES.
2. PROVIDE OSHA FAN GUARD; ALUMINIZED STEEL HEAT EXCHANGER; SINGLE STAGE GAS CONTROL
3. PROVIDE TYPE "B" VENT UP THRU ROOF WITH ROOF CURB AND BOOT FOR WATER TIGHT ASSEMBLY. INSTALL VENT PER MANUFACTURER'S INSTRUCTIONS. FLUE TO BE MIN. 10'-0" FROM ALL OUTSIDE AIR INTAKES INTAKES AND BUILDING OPENINGS
4. PROVIDE THERMOSTAT NEAR DOORS, INCLUDING LOW VOLTAGE WIRING; VERIFY LOCATION. UNIT CONTROL PER NOVAR SAVVY CONTROLLER TEMPERATURE SENSORS & CONTROL RELAYS.
5. INSTALL WITH THREADED ROD FROM TOP CHORD OF STRUCTURE AS HIGH AS POSSIBLE.
6. PROVIDE WITH 60° DOWN TURN NOZZLE.
7. THERMOSTAT TO BE SET AT 45°F TO MAINTAIN NON-FREEZING CONDITION DURING WINTER MONTHS.

ELECTRIC BASEBOARD SCHEDULE

MARSHALLS COLERAIN, OH

TAG	MANUF.	MODEL NO.	LENGTH (IN.)	CAPACITY (BTUH)	ELECTRICAL DATA			REMARKS
					kW	V/PH/HZ	AMPS	
BB-1	MARKEL	2900S	48	3,412	1.0	277/1/60	3.6	1, 2, 3, 4, 5

REMARKS:

1. PROVIDE WITH INTEGRAL THERMOSTAT.
2. PROVIDE WITH 24V CONTROL TRANSFORMER.
3. FACTORY DISCONNECT KIT FIELD INSTALLED.
4. INSTALL BOTTOM OF HEATER AT 6" A.F.F.
5. INTERLOCK HEATER WITH BMS CONTROLLER TO ENABLE / DISABLE HEATER.

CT

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REVISION DATES

NO.	DATE	TYPE

ISSUE DATES

TYPE	DATE
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PERMIT SET	04/28/23

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