

- ### CODED NOTES
1. MOUNT DUCTWORK AS HIGH AS POSSIBLE. DIFFUSERS TO BE INSTALLED ON SIDE OF DUCT, DEFLECTED DOWNWARD. COORDINATE ROUTING OF SUPPLY DUCTWORK WITH ELECTRICAL CONTRACTOR. REFER TO DETAIL ON DRAWING M1. TYPICAL.
  2. SMOKE DETECTORS LOCATED IN SUPPLY AND RETURN AIR SECTIONS OF NEW UNITS TO SHUT DOWN UNIT UNDER ALARM. DETECTORS SHALL BE FACTORY INSTALLED AND TESTED WITH REMOTE TEST SWITCH AND ALARM SHIPPED LOOSE. MECHANICAL CONTRACTOR SHALL INSTALL AND WIRE REMOTE TEST STATION. REFER TO DETAIL ON DRAWING M2.0. ALL WIRING SHALL BE IN CONDUIT PER N.E.C.
  3. MOUNT TOP OF SMOKE DETECTOR REMOTE KEY SWITCH AND TEST STATIONS AT 8' AFF. ON SALES FLOOR AND 8'4" AFF. IN ALL OTHER AREAS. REFER TO DETAIL ON DRAWING M2.0. INDICATE DETECTOR SERVING EACH DEVICE. COORDINATE EXACT LOCATIONS WITH FIRE MARSHAL PRIOR TO ROUGH-IN. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. DUCT SMOKE DETECTOR ACTIVATION WILL RESULT IN THE IMMEDIATE LOSS OF POWER TO THE AIR MOVING EQUIPMENT.
  4. CONFIRM EXACT LOCATION OF UNIT ON ROOF WITH OWNER AND STRUCTURAL ENGINEER AND PROVIDE NECESSARY SHEET METAL OFFSETS TO MATCH APPROVED UNIT LOCATION. SECURE ROOF CURB TO ROOF STRUCTURE AND AIR CONDITIONING UNIT TO ROOF CURB. CUT NEW OPENINGS THROUGH ROOF AND INSTALL SUPPLEMENTAL FRAMING AS REQUIRED TO FRAME OPENINGS AS DIRECTED BY STRUCTURAL ENGINEER. PROVIDE FLEXIBLE CONNECTIONS AT UNIT SUPPLY AND RETURN CONNECTIONS. OFFSET TRANSITION AT SUPPLY AND RETURN DUCTWORK AS REQUIRED TO AVOID STRUCTURE.
  5. DASHED LINE ON SUPPLY AND RETURN DUCTWORK INDICATES 1" ACOUSTIC LINING. DUCT DIMENSIONS ARE EXTERIOR AND INCLUDE LINING - TYPICAL.
  6. DASHED LINE ON EXHAUST DUCTWORK INDICATES 1/2" ACOUSTIC LINING. DUCT DIMENSIONS ARE EXTERIOR AND INCLUDE LINING - TYPICAL.
  7. EMS SYSTEM DRAWINGS BY CCBAG BUILDING AUTOMATION SHALL DICTATE FINAL LOCATIONS OF ALL TEMPERATURE SENSORS. ALL WIRING SHALL BE IN CONDUIT PER N.E.C.
  8. EXTEND NEW SUPPLY AND RETURN DUCTS FULL SIZE FROM UNIT AND TRANSITION TO SIZES INDICATED ON PLANS.
  9. TRANSITION FROM RECTANGULAR NECK ON RETURN AIR GRILLE TO RETURN DUCT SIZE AS INDICATED ON PLANS.
  10. MOUNT TOP OF THERMOSTAT FOR EF-2 ON WALL NEXT TO DOOR IN THE EQUIPMENT CLOSET AT 48" AFF. THERMOSTAT SHALL BE INSTALLED AND WIRING PROVIDED BY MECHANICAL CONTRACTOR AND WIRING BY ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS FOR WIRING DIAGRAM. EF-2 TO BE CONTROLLED VIA EMS AND LINE VOLTAGE THERMOSTAT. ALL WIRING SHALL BE IN CONDUIT PER N.E.C.
  11. MOUNT TOP OF THERMOSTAT FOR EF-3 AT 48" AFF. IN A LOCKING, VENTILATED, AND METAL ENCLOSURE. THERMOSTAT SHALL BE INSTALLED AND PROVIDED BY MECHANICAL CONTRACTOR AND WIRING BY ELECTRICAL CONTRACTOR. COORDINATE THERMOSTAT SET POINT WITH ROSS CONSTRUCTION MANAGER. ALL WIRING SHALL BE IN CONDUIT PER N.E.C.
  12. MOUNT BOTTOM OF GRILLE OR REGISTER ON MALL AS HIGH AS POSSIBLE NO LOWER THAN 10'-6" AFF. CONTRACTOR SHALL COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ROSS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
  13. M.G. TO PROVIDE 24"x24" TITUS MODEL T-100L WHITE STEEL LOUVERED DOOR GRILLE WITH AUXILIARY FRAME IN DOOR. MOUNT BOTTOM OF GRILLE AT 14" AFF. COORDINATE WITH DOOR SHOP DRAWINGS.
  14. TAG ALL MANUAL VOLUME DAMPERS FOR FUTURE IDENTIFICATION. TAG SHALL IDENTIFY SPACE SERVED - TYPICAL.
  15. MECHANICAL CONTRACTOR TO PROVIDE 12" HIGH REFLECTIVE UNIT NUMBERS WITH SPECIFIC A/C UNIT NUMBER TO BE POSTED ON EACH UNIT ON THE CONTROL PANEL DOOR AND SIDE WITH DISCONNECT IN A LOCATION VISIBLE FROM THE ROOF HATCH.
  16. 1/2" ACOUSTIC LINED 18"x14" EXHAUST DUCT UP TO EXHAUST FAN ON ROOF.
  17. INSTALL 8"x8" BOTTOM OF DUCT TAKE-OFF AND CONNECT TO GRILLE IN CEILING. PROVIDE MANUAL VOLUME DAMPER IN DUCT DROP.
  18. INSTALL RETURN AIR DUCT AS HIGH AS POSSIBLE A.F.F. PROVIDE TOP DUCT OPENING SIZE INDICATED ON PLAN WITH 1" GALVANIZED WIRE MESH SCREEN OVER OPENING. MAINTAIN A MINIMUM 12" CLEARANCE BETWEEN BOTTOM OF ROOF DECK AND TOP OF RETURN AIR DUCT.
  19. EXTEND 14"x12" EXHAUST DUCT THROUGH WALL AND UP TO EXHAUST FAN ON ROOF. EXACT LOCATION TO BE FIELD COORDINATED.
  20. M.G. SHALL PROVIDE 24"x12" TITUS MODEL T-100L WHITE STEEL LOUVERED DOOR GRILLE WITH AUXILIARY FRAME IN DOOR. MOUNT BOTTOM OF DOOR GRILLE AT 16" AFF. COORDINATE WITH DOOR SHOP DRAWINGS.
  21. PROVIDE HYD/VOL CABLE OPERATED DAMPERS WHERE DAMPERS ARE LOCATED ABOVE INACCESSIBLE CEILING - TYPICAL.
  22. PROVIDE MATCHING LENOX STEP DOWN CONCENTRIC DIFFUSER. EXTEND SUPPLY AND RETURN DUCTWORK AS INDICATED AND PROVIDE ALL OFFSETS AND TRANSITIONS REQUIRED FOR A COMPLETE INSTALLATION. CONCENTRIC DIFFUSERS SHALL BE PURCHASED THROUGH THE LENOX NATIONAL ACCOUNT - NO SUBSTITUTIONS WILL BE PERMITTED. BALANCE UNIT TO AIRFLOWS LISTED ON PLANS. SEE DETAIL ON DRAWING M-2 FOR FURTHER INFORMATION.
  23. MOUNT BOTTOM OF CONCENTRIC DIFFUSER AT 10'-0" AFF.
  24. CONNECT SUPPLY AIR BRANCH DUCT MAIN BETWEEN ROOFTOP UNIT AND CONCENTRIC DIFFUSER. PROVIDE HYD IN SUPPLY DUCT MAIN AFTER BRANCH DUCT TAKEOFF.
  25. SUPPORT CABINET HEATER FROM ROOF STRUCTURE ABOVE USING THREADED ROD, PER MANUFACTURER'S REQUIREMENTS. CABINET HEATER SHALL BE FULLY RECESSED AND FLUSH MOUNTED WITH ALL REQUIRED TRIM.
  26. MOUNT TOP OF THERMOSTAT FOR GH-1 AT 48" AFF. IN A LOCKING, VENTILATED CLEAR PLASTIC ENCLOSURE. COORDINATE EXACT LOCATION OF THERMOSTAT WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN. THERMOSTAT SHALL BE WIRING BY ELECTRICAL CONTRACTOR. COORDINATE THERMOSTAT SET POINT WITH ROSS CONSTRUCTION MANAGER. ALL WIRING SHALL BE IN CONDUIT PER N.E.C.
  27. MOUNT BOTTOM OF UNIT HEATER AT HEIGHT AS DIRECTED BY ROSS CONSTRUCTION MANAGER (AS HIGH AS POSSIBLE WHILE STILL BELOW STRUCTURE SO AS NOT TO OBSTRUCT AIR FLOW). SUPPORT UNIT HEATER FROM ROOF STRUCTURE ABOVE USING THREADED ROD, PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE EXACT LOCATION OF UNIT HEATER WITH RACK STORAGE LAYOUT PRIOR TO INSTALLATION SO AS NOT TO INTERFERE WITH STORAGE RACKS. COORDINATE LOCATION OF UNIT HEATERS WITH OVERHEAD DOOR SO THAT HEATER AIR FLOW IS DIRECTED AT MALL OPENING FOR OVERHEAD DOOR. PROVIDE DIRT LEG, GAS COCK, AND UNION AT UNIT GAS CONNECTION.
  28. UNIT HEATER SHALL BE CONTROLLED WITH UH-EMS SENSOR PROVIDED BY C4C BUILDING AUTOMATION. REFER TO EMS PLANS FOR EXACT LOCATION AND WIRING.
  29. EXTEND FLUE FROM UNIT HEATER CONNECTION THROUGH ROOF WITH STORM COLLAR, DRAIN BAND, AND BREASTED VENT CAP. INSTALL 2" CLEARANCE TRIMBLE AT ROOF PENETRATION. FLASH AND COUNTERFLASH STORM COLLAR TO ROOF WEATHER TIGHT. TOP OF FLUE TO BE 3'-0" MINIMUM ABOVE ROOF AND 2'-0" HIGHER THAN ANYTHING WITHIN 10'-0".
  30. CONFIRM EXACT LOCATION OF EXISTING AC UNIT CURB ON ROOF WITH OWNER AND STRUCTURAL ENGINEER. CONFIRM EXISTING ROOF CURB IS SUITABLE FOR REUSE. FOR NEW AC / 1) FIELD MEASURE EXISTING CURB TO CONFIRM REQUIRED ADAPTER CURB SIZE. PROVIDE FLEXIBLE CONNECTIONS AT UNIT SUPPLY AND RETURN CONNECTIONS. OFFSET TRANSITION AT SUPPLY AND RETURN DUCTWORK AS REQUIRED TO AVOID STRUCTURE. REFER TO SCHEDULE ON THIS DRAWING.
  31. INSTALL NEW 1/2" ACOUSTICALLY LINED 10"x6" EXHAUST AIR DUCT BELOW EXISTING 6" RAIN CONDUCTOR.
  32. INSTALL 22"x10" 1/2" ACOUSTICALLY LINED BOTTOM OF DUCT TAKE-OFF AND CONNECT TO GRILLE IN CEILING. PROVIDE MANUAL VOLUME DAMPER IN DUCT DROP.
  33. MOUNT BOTTOM OF GRILLE OR REGISTER ON MALL AS HIGH AS POSSIBLE NO LOWER THAN 14'-0" AFF. CONTRACTOR SHALL COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ROSS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
  34. INSTALL EXHAUST AIR DUCTWORK AND SUPPLY AIR DUCTWORK TO JANITORIAL CLOSET AS HIGH AS POSSIBLE. INSTALL DUCTS THROUGH EXISTING JOISTS IF NECESSARY.

### DEMOLITION GENERAL NOTES

- A. ALL DEMOLITION WORK TO BE PERFORMED AS LANDLORD WORK UNDER SHELL PERMIT.

### MECHANICAL LEGEND

○	INDICATES CODED NOTE
A.F.F.	ABOVE FINISHED FLOOR
EA	EXHAUST AIR
O.A.	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
NC	NOT IN CONTRACT
MVD	MANUAL VOLUME DAMPER
BOG	BOTTOM OF GIRDER
⊙	THERMOSTAT (PROVIDED AND INSTALLED BY E.C., WIRING BY E.G.)
⊕	DUCT SMOKE DETECTOR TO SHUT DOWN UNIT UNDER ALARM. DETECTOR SHALL BE LOCATED, INSTALLED AND WIRING AS INDICATED ON FLOOR PLAN AND SPECIFICATIONS. ALL WIRING TO BE IN CONDUIT PER N.E.C.
⚡	UNDERCUT DOOR, REFER TO ARCHITECTURAL DRAWINGS
⚡	LOWER DOOR, REFER TO ARCHITECTURAL DRAWINGS

- ### MECHANICAL GENERAL NOTES
- A. MECHANICAL CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING PROCESS AND FIELD VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL TAKE ALL INTERFERENCES INTO CONSIDERATION. PROVIDE ALL NECESSARY OFFSETS OR TRANSITIONS WITH EQUIVALENT AREAS TO MATCH DUCT SIZES AS INDICATED ON DRAWINGS.
  - B. ROOF CURBS SHALL BE COMPATIBLE WITH ROOFING SYSTEM AND SHALL MATCH ROOF SLOPE IN ORDER THAT EQUIPMENT SITS DEAD LEVEL.
  - C. PATCHING OF ROOF SHALL BE BY OWNER'S ROOFING CONTRACTOR AND PAID FOR BY THIS CONTRACTOR.
  - D. CONTRACTOR SHALL BE FAMILIAR WITH OWNER'S STANDARDS, RULES AND REGULATIONS. ALL OWNER'S CRITERIA SHALL BE COMPLIED WITH AND INCLUDED IN THIS BID.
  - E. MAINTAIN ALL MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES FOR ALL EQUIPMENT.
  - F. ALL CEILING DIFFUSERS SHALL HAVE MANUAL VOLUME DAMPERS IN CORRESPONDING SUPPLY AIR RUNOUTS.
  - G. COORDINATE LOCATION OF ENERGY MANAGEMENT SYSTEM EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN.
  - H. MECHANICAL CONTRACTOR TO PROVIDE 12" HIGH REFLECTIVE UNIT NUMBERS WITH SPECIFIC A/C UNIT NUMBER TO BE POSTED ON EACH UNIT ON THE CONTROL PANEL DOOR AND SIDE WITH DISCONNECT IN A LOCATION VISIBLE FROM THE ROOF HATCH.
  - I. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO UNDERSIDE OF ROOF STRUCTURE OR AS HIGH AS POSSIBLE TO AVOID OBSTRUCTIONS.
  - J. HVAC DUCTWORK SHALL BE FABRICATED AND ERRECTED IN ACCORDANCE WITH ASHRAE AND LATEST SHACMA STANDARDS. PROVIDE TURN VANES IN ALL ELBOWS.
  - K. ALL SUPPLY, RETURN AND EXHAUST BRANCH DUCTWORK SHALL HAVE MANUAL VOLUME DAMPERS IN CORRESPONDING RUNOUTS NEAR CONNECTION TO MAIN DUCT.
  - L. NO THERMOSTATS ARE TO BE LOCATED OVER HEAT PRODUCING EQUIPMENT.
  - M. SPRINKLER CONTRACTOR SHALL MODIFY EXISTING SPRINKLER SYSTEM TO ACCOMMODATE NEW DUCTWORK, LIGHTING AND PARTITION LAYOUTS. REFER TO SPECIFICATIONS FOR DETAILS.
  - N. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES, DOCUMENTS AND SERVICES RELATED TO INSTALLATION OF THE WORK.
  - O. CONTRACTOR SHALL PAINT INTERIOR OF ALL DUCTS VISIBLE FROM FLOOR FLAT BLACK.
  - P. CONTRACTOR SHALL OBTAIN, BECOME FAMILIAR WITH AND COMPLY TO ROSS PROTOTYPE CRITERIA DOCUMENTS AND DRAWINGS.
  - Q. CONTRACTOR SHALL COMPLETE AIR BALANCE OF SYSTEM AND LOCK AND SCREEN SHEET METAL BALANCING DAMPERS IN POSITION PRIOR TO INSTALLATION OF HARD CEILING.
  - R. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE INSTALLED AS HIGH AS POSSIBLE.
  - S. DUCTWORK IS TO BE SEALED PER ROSS DESIGN CRITERIA 6.E.2.
  - T. FIRE PROTECTION SYSTEM MODIFICATION NOTES:  
1. FIRE PROTECTOR CONTRACTOR IS REQUIRED TO FURNISH ALL LABOR, MATERIALS & EQUIPMENT TO MODIFY THE EXISTING SPRINKLER SYSTEM TO ACCOMMODATE NEW CEILING & PARTITION LAYOUTS AND ALL NEW HVAC SYSTEMS DUCTWORK PIPING, ETC., FOR THIS PROJECT. SYSTEM SHALL BE HYDRAULICALLY DESIGNED IN ACCORDANCE WITH NFPA, BUILDING CODE, OWNER'S INSURANCE COMPANY AND LOCAL FIRE AUTHORITY'S REQUIREMENTS. PREPARE SUBMITTAL DRAWINGS AND HYDRAULIC CALCULATIONS AS REQUIRED AND SUBMIT FOR APPROVAL. CONTRACTOR AND DESIGNER SHALL BE STATE CERTIFIED. FIRE PROTECTION CONTRACTOR SHALL FULLY COORDINATE ALL WORK WITH OTHER TRADES.  
2. MECHANICAL CONTRACTOR IS REQUIRED TO COORDINATE ALL NEW HVAC SYSTEMS EQUIPMENT, DUCTWORK, AIR DISTRIBUTION PIPING, ETC. WITH ALL EXISTING SPRINKLER PIPING SERVING THE SPACE. WHERE MINOR CONFLICTS EXIST WITH EXISTING SPRINKLER PIPING THAT IS INTENDED TO REMAIN, MECHANICAL CONTRACTOR SHALL PROVIDE MODIFICATIONS & OFFSETS TO THE HVAC SYSTEMS SHOWN ON PLANS IF THEY DO NOT COMPROMISE THE FUNCTIONALITY OF THE HVAC SYSTEM AND THE DESIGN INTENT. WHERE SIGNIFICANT CONFLICTS EXIST WITH EXISTING SPRINKLER PIPING, THE FIRE PROTECTION CONTRACTOR IS REQUIRED TO MODIFY AND/OR RELOCATE EXISTING SPRINKLER PIPING HEADS, ETC., AS REQUIRED TO ACCOMMODATE THE NEW HVAC SYSTEMS SHOWN. MECHANICAL CONTRACTOR SHALL FULLY COORDINATE ALL WORK WITH OTHER TRADES.

CONTRACTOR MUST VERIFY ALL CLEARANCES AND DIMENSIONS IN FIELD

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**ROSS**  
DRESS FOR LESS

STORE #2785  
"WESTERN HILLS"  
6180 GLENWAY AVENUE, SUITE E  
CINCINNATI, OH 45211

REVISIONS	
BID/PERMIT	01-29-2025
SCALE	AS NOTED
PROJECT NO.	24.380.10
SHEET NUMBER	M1.0



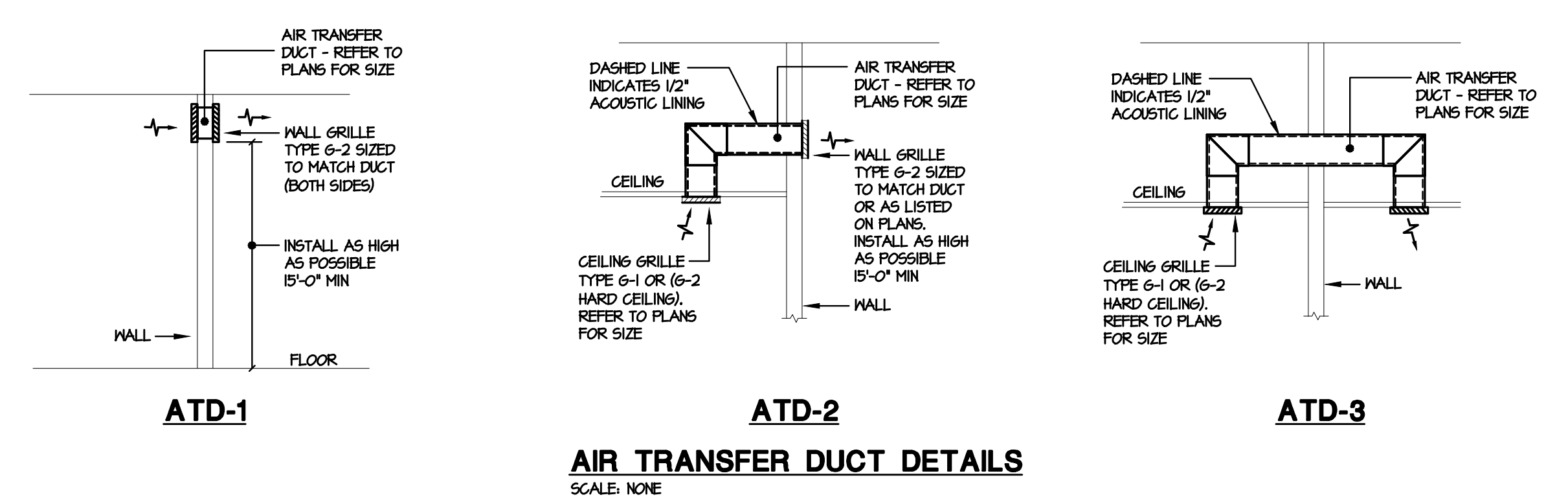
PACKAGED GAS / ELECTRIC HIGH EFFICIENCY AIR CONDITIONING UNITS

MARK	SERVICE	MAKE	MODEL	S.A. CFM	MIN. O.A. CFM	EXT. STATIC	FAN RPM	HP	HEATING		COOLING CAPACITY				REFRIG. DB	REFRIG. CHARGE	SEER / EER	FLA/MCA MOCP	ELECTRICAL	WEIGHT	ACCESSORIES
									FUEL	INPUT MBH/STAGES	TOTAL / SENS MBH	EAT DB / WB	LAT DB / WB	AMBIENT DB							
AC / 1	STOCK	LENNOX	LGT06H05E	2000	275	0.8	2470	1.5	GAS	108 / 2	59.8 / 47.6	78.4/63.6	53.8/53.2	95	R-454B	4LBS 140Z	16.4 / 12.5	10.2/12	480 / 3 / 60	1100 LBS	1 THRU 3, 5 THRU 8, 11
AC / 2	OFFICES	LENNOX	LGT04H85E	1600	130	0.8	2134	1.5	GAS	65 / 2	45.9 / 34.2	75.4/63.0	54.6/52.7	95	R-454B	5LBS 20Z	17.3 / 13.0	9.8/12	480 / 3 / 60	1100 LBS	1 THRU 8
AC / 3	SALES	LENNOX	LGT15H05E	4600	1150	0.5	1624	3.75	GAS	240 / 2	135.9 / 107.4	78.4/65.3	57.5/55.2	95	R-454B	12LBS	17.3 / 13.0	25.5/29	480 / 3 / 60	1800 LBS	1 THRU 10
AC / 4	FITTING, TOILETS	LENNOX	LGT04H85E	1600	100	0.8	2134	1.5	GAS	65 / 2	45.9 / 34.2	75.1/62.6	54.3/52.3	95	R-454B	5LBS 20Z	17.3 / 13.0	9.8/12	480 / 3 / 60	1100 LBS	1 THRU 8
AC / 5	SALES	LENNOX	LGT15H05E	4600	1150	0.5	1624	3.75	GAS	240 / 2	135.9 / 107.4	78.4/65.3	57.5/55.2	95	R-454B	12LBS	17.3 / 13.0	25.5/29	480 / 3 / 60	1800 LBS	1 THRU 10
AC / 6	SALES	LENNOX	LGT15H05E	4600	1150	0.5	1624	3.75	GAS	240 / 2	135.9 / 107.4	78.4/65.3	57.5/55.2	95	R-454B	12LBS	17.3 / 13.0	25.5/29	480 / 3 / 60	1800 LBS	1 THRU 10
AC / 7	SALES	LENNOX	LGT15H05E	4600	1150	0.5	1624	3.75	GAS	240 / 2	135.9 / 107.4	78.4/65.3	57.5/55.2	95	R-454B	12LBS	17.3 / 13.0	25.5/29	480 / 3 / 60	1800 LBS	1 THRU 10

NOTE: NEW ROOFTOP UNITS SHALL BE PURCHASED THROUGH LENNOX NATIONAL ACCOUNT. SUBSTITUTIONS ARE NOT PERMITTED.

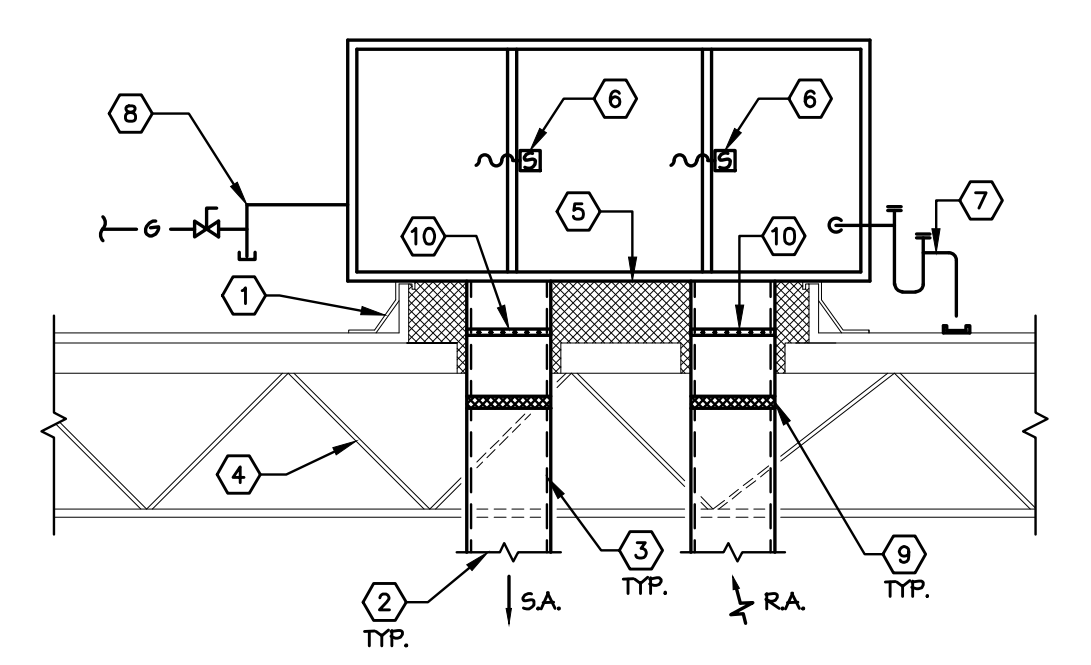
- ACCESSORIES:
- NON-PRORATED WARRANTY OF 5 YEARS FOR THE COMPRESSORS AND 10 YEARS FOR THE ALUMINIZED HEAT EXCHANGERS; FACTORY INSTALLED UL LISTED A2L REFRIGERANT DETECTION SYSTEM, DUAL 115 VOLT GFCI TYPE SERVICE OUTLET (WIRING TO THE OUTLET SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR ON SITE), COMPRESSOR TIME DELAY RELAY, FREEZE STAT, HIGH AND LOW PRESSURE SWITCHES, CRANKCASE HEATER, CONDENSER COIL GUARD, COIL DEFROST THERMOSTAT, 2" PLEATED FILTERS AND SPARE SET.
  - CONTROLLED FROM FACTORY INSTALLED AND TESTED BACNET ENABLED CORE CONTROL MODULE.
  - FACTORY INSTALLED PHOTO ELECTRIC SMOKE DETECTOR IN SUPPLY AND RETURN AIR SECTIONS OF UNIT WITH REMOTE MOUNTED STATUS AND TEST STATIONS INTERLOCKED TO STOP FAN ON ACTIVATION. REFER TO DETAIL ON THIS SHEET.
  - PROVIDE WITH 18" INSULATED ROOF CURB WITH FACTORY INSTALLED BURGLAR BARS.
  - MECHANICAL CONTRACTOR TO PROVIDE 12" HIGH REFLECTIVE UNIT NUMBERS WITH SPECIFIC A/C UNIT NUMBER TO BE POSTED ON EACH UNIT ON THE CONTROL PANEL DOOR AND SIDE WITH DISCONNECT IN A LOCATION VISIBLE FROM THE ROOF HATCH.
  - FACTORY INSTALLED HIGH PERFORMANCE ECONOMIZER WITH GLOBAL CONTROLS, FAULT DETECTION AND DIAGNOSTICS (FDD) AND OUTDOOR AIR HOOD. CLEANABLE ALUMINUM MESH OUTDOOR AIR FILTERS TO BE FURNISHED BY LENNOX WITH ECONOMIZER. PROVIDE WITH POWER EXHAUST FANS ON ALL UNITS ABOVE 5 TONS (BAROMETRIC RELIEF DAMPER FOR 5 TON UNITS AND BELOW).
  - HACR CIRCUIT BREAKERS TO BE FACTORY INSTALLED AND FACTORY WIRED BY LENNOX ON ALL UNITS ABOVE 12.5 TONS. UNITS 12.5 TONS AND BELOW SHALL BE SUPPLIED WITH NON-FUSED SERVICE DISCONNECT FACTORY INSTALLED AND FACTORY WIRED.
  - LENNOX IS TO PROVIDE THE ZONE SENSORS. CCBAC IS TO PROVIDE THE CONTROL WIRING.
  - PROVIDE WITH MSAY MULTI-STAGE AIR VOLUME SUPPLY AIR BLOWER OPTION.
  - MECHANICAL CONTRACTOR TO PROVIDE 12" HIGH REFLECTIVE UNIT NUMBERS WITH SPECIFIC A/C UNIT NUMBER TO BE POSTED ON EACH UNIT ON THE CONTROL PANEL DOOR AND SIDE WITH DISCONNECT IN A LOCATION VISIBLE FROM THE ROOF HATCH.
  - INSTALL NEW AC-1 LENNOX LGT06H05E ON ADAPTER CURB ON EXISTING CURB FOR REMOVED RTU-4. M.C. TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING NEW ADAPTER CURB.

NOTES FOR ALL AIR TRANSFER DUCTS:  
 A. SEAL VOID BETWEEN MALL AND ALL DUCT PENETRATIONS AIRTIGHT.  
 B. ACOUSTIC LINE AIR TRANSFER DUCTS WITH 1/2" ACOUSTIC LINING. DUCT DIMENSIONS ARE EXTERIOR AND INCLUDE LINING.  
 C. ALL GRILLES SHALL BE FINISHED WITH FRAMES COMPATIBLE WITH MALL OR CEILING CONSTRUCTION.  
 D. REFER TO PLANS FOR GRILLE AND DUCT SIZES.



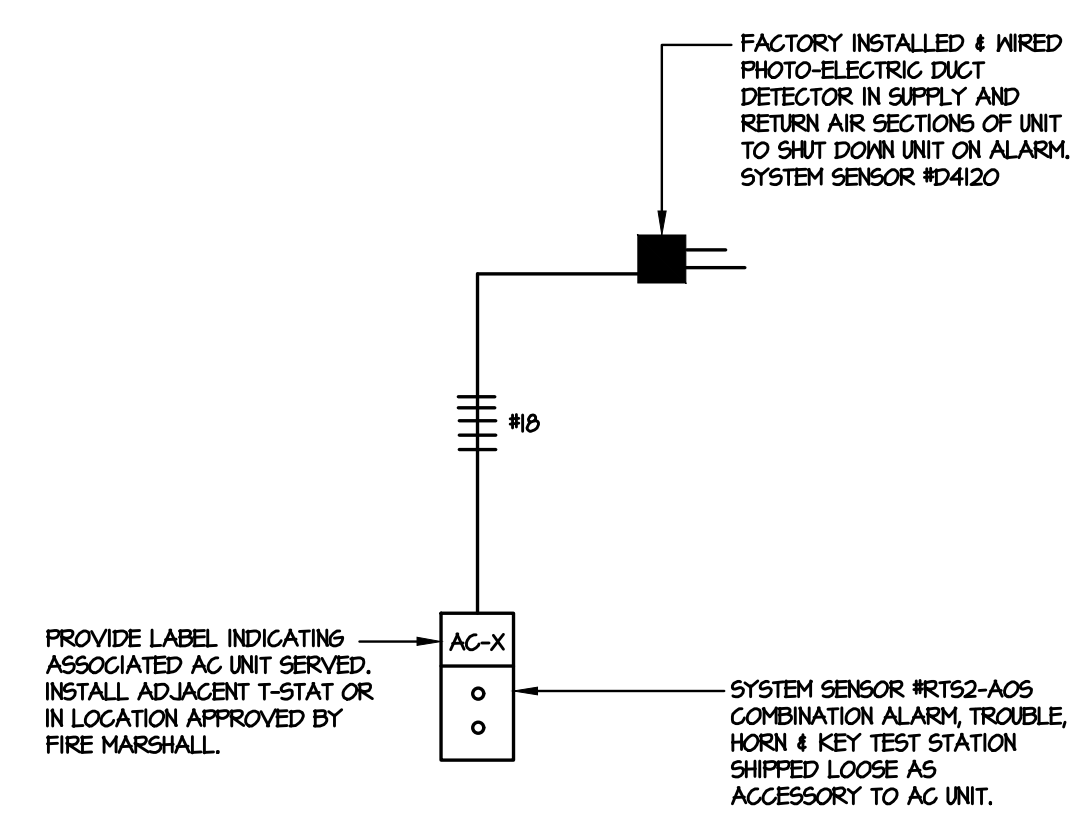
AIR TRANSFER DUCT DETAILS  
SCALE: NONE

- NOTES:
- SET ROOF CURB ON STRUCTURAL STEEL FRAMING, SHIM DEAD LEVEL, AND SECURE ROOF CURB TO ROOF DECK. SECURE AC UNIT TO NEW ROOF CURB.
  - EXTEND SUPPLY AND RETURN DUCTS FULL SIZE FROM UNIT AND TRANSITION AS NECESSARY TO CONNECT TO DUCT SIZES INDICATED ON PLANS.
  - PROVIDE 1" ACOUSTIC LINING IN SUPPLY AND RETURN DUCTS AS INDICATED ON PLANS. DUCT SIZES INDICATED ON PLANS ARE EXTERIOR AND INCLUDE LINING.
  - REFER TO STRUCTURAL DRAWINGS FOR JOIST AND GIRDER LOCATIONS, SIZES, & DIRECTION.
  - PACK OPENINGS BETWEEN ROOF DECK AND DUCTS AND ENTIRE CURB CAVITY WITH FIBERGLASS INSULATION. PROVIDE SHEETMETAL ENCLOSURE AT DUCT PENETRATIONS OF METAL ROOF DECK TO COVER UP AND HOLD INSULATION IN PLACE.
  - PHOTOELECTRIC SMOKE DETECTOR FACTORY INSTALLED IN THE SUPPLY AND RETURN AIR SECTIONS OF ROOFTOP AIR CONDITIONING UNIT TO SHUT DOWN UNIT UNDER ALARM.
  - CONDENSATE DRAIN TRAP - REFER TO DETAIL. REFER TO PLUMBING PLANS FOR ROUTING. REFER TO PLUMBING PLANS FOR DETAIL.
  - GAS CONNECTION WITH GAS COCK, UNION, AND DIRTLETS. REFER TO PLUMBING PLANS FOR GAS PIPE SIZES AND LAYOUT.
  - FLEXIBLE CONNECTION - TYPICAL.
  - BURGLAR BARS, FACTORY INSTALLED.



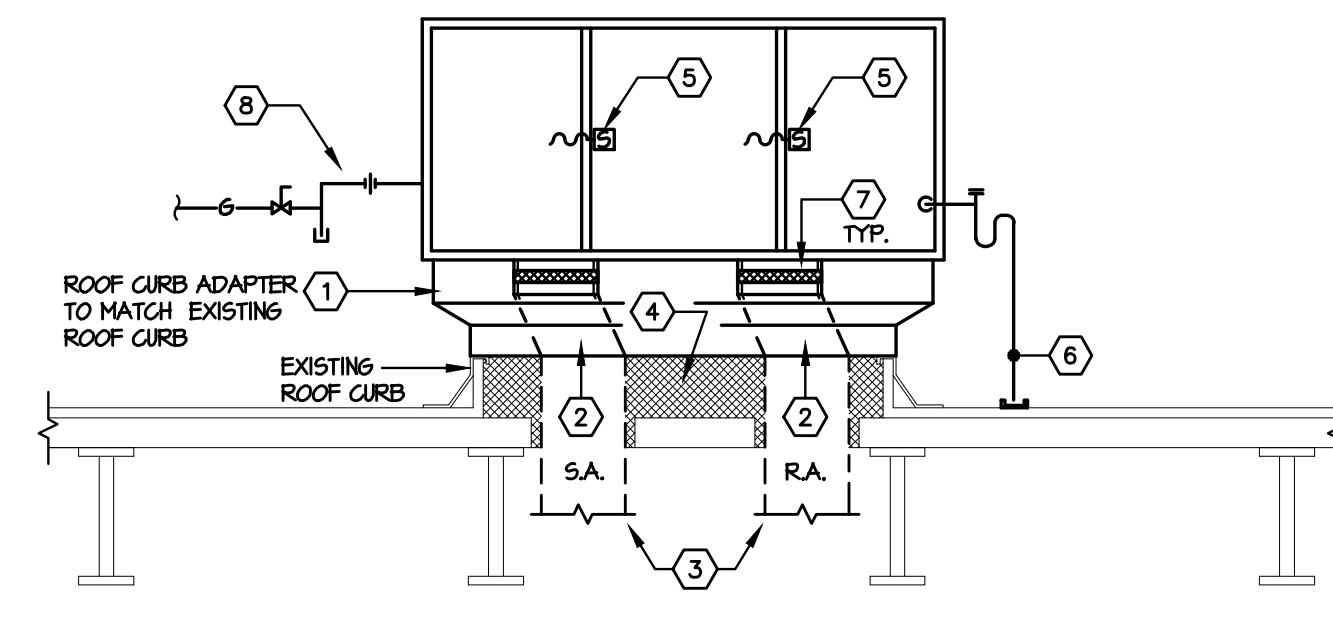
ROOFTOP A/C UNIT DETAIL - GAS HEAT  
SCALE: NONE

- NOTES:
- ALL WIRING TO BE PER MANUFACTURER'S WIRING DIAGRAMS.
  - LOCATION OF DUCT DETECTOR TO BE VERIFIED WITH LOCAL FIRE MARSHALL. DETECTOR IS TO BE INSTALLED IN AN ACCESSIBLE LOCATION.
  - PROVIDE AUXILIARY CONTACTS FOR FIRE ALARM SYSTEM BY E.C.



DUCT SMOKE DETECTOR WIRING DIAGRAM  
SCALE: NONE

- CODED NOTES
- CONTRACTOR IS REQUIRED TO FIELD MEASURE EXISTING ROOF CURB AND ASSOCIATED ROOF OPENINGS. PROVIDE FIELD-FABRICATED, REINFORCED ROOF CURB ADAPTER TO MATCH EXISTING ROOF CURB DIMENSIONS, SHIM AC UNIT DEAD LEVEL. SECURE EXISTING UNIT TO ADAPTER CURB AND SECURE ADAPTER TO EXISTING ROOF CURB.
  - CONNECT TO EXISTING SUPPLY AND RETURN DUCTS UP THRU ROOF. TRANSITION AS REQUIRED FULL SIZE FROM UNIT TO EXISTING ROOF CURB OPENINGS - CONFIRM EXACT DIMENSIONS IN FIELD.
  - MAINTAIN EXISTING SUPPLY AND RETURN DUCTS DOWN THRU ROOF. CONNECT AND EXTEND NEW SUPPLY AND RETURN DUCTS AS INDICATED ON FLOOR PLANS.
  - PACK ENTIRE CURB CAVITY AND OPENINGS BETWEEN ROOF DECK AND DUCT DUCT DROPS WITH FIBERGLASS INSULATION. PROVIDE SHEETMETAL ENCLOSURE AT DUCT PENETRATIONS OF METAL ROOF DECK TO COVER UP AND HOLD INSULATION IN PLACE.
  - PHOTOELECTRIC SMOKE DETECTOR FACTORY INSTALLED IN ROOFTOP UNIT RETURN AIR SECTION TO SHUT UNIT DOWN UNDER ALARM.
  - CONDENSATE DRAIN TRAP - REFER TO DETAIL, THIS DRAWING.
  - FLEXIBLE CONNECTION - TYPICAL.
  - REMOVE & RECONNECT GAS PIPING TO NEW UNIT. PROVIDE CONNECTION WITH GAS COCK, UNION, AND DIRTLETS.



NEW ROOFTOP A/C UNIT INSTALLATION WITH ROOF CURB ADAPTER DETAIL - GAS HEAT  
SCALE: NONE

GAS FIRED UNIT HEATERS

MARK	MAKE	MODEL	CFM	TYPE	FUEL	INPUT MBH	HP	ELECTRICAL	REMARKS
UH/1	LENNOX	LP 25-200	2200	PROPELLER FAN	NATURAL GAS	200	1 @ 1/8"	120-1-60	1, 2, 3, 4

- ACCESSORIES:
- POWER VENTED WITH SPARK IGNITION, AND FAN GUARD.
  - CONTROLLED BY EMS. REFER TO EMS PLANS.
  - HORIZONTAL AND VERTICAL DISCHARGE LOUVERS.
  - PROPELLER FAN AND FAN GUARD.

ELECTRIC HEATERS

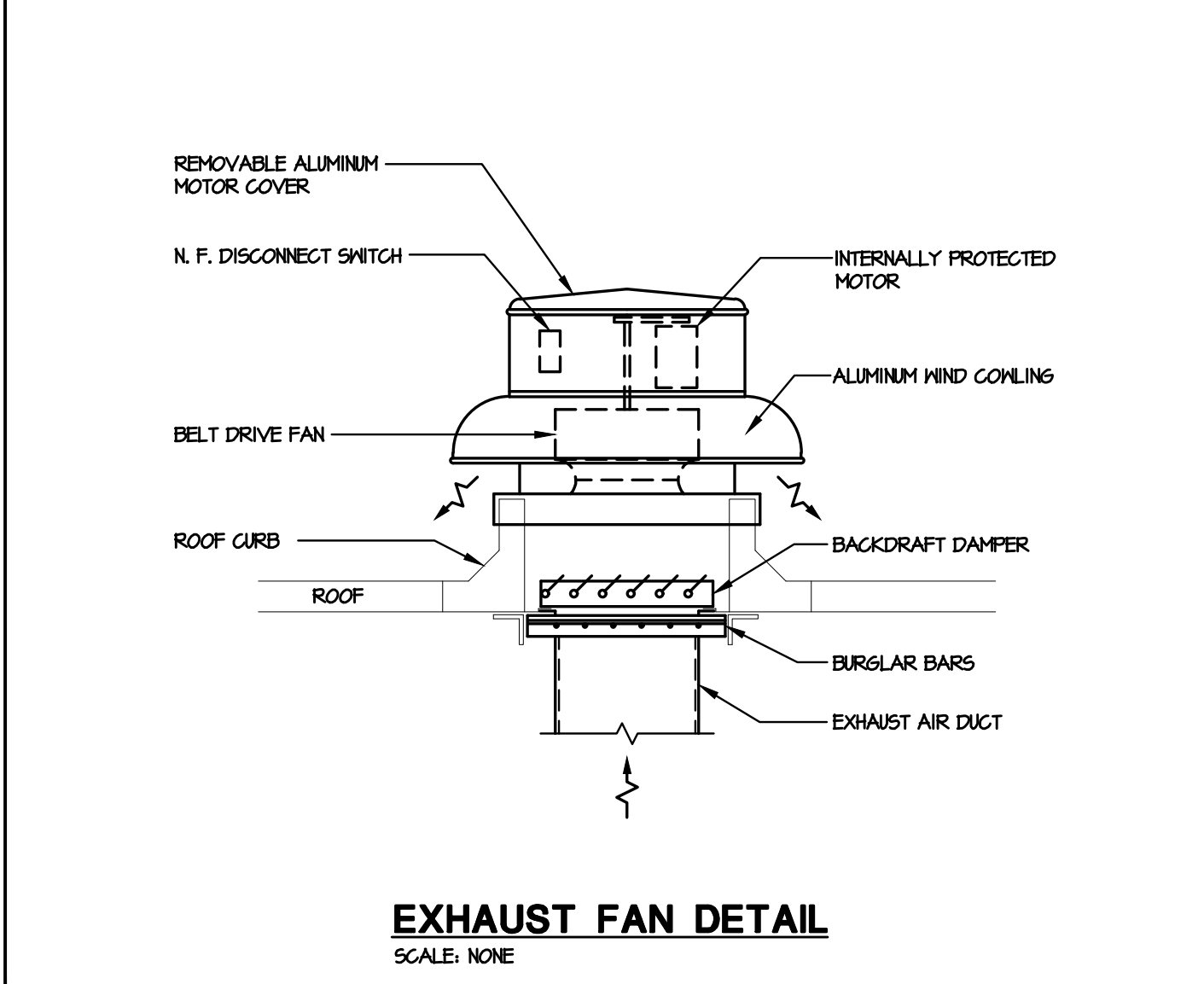
MARK	TYPE	MAKE	MODEL	KW	CFM	ELECTRICAL	SIZE	ACCESSORIES
CH / 1	RECESSED CABINET CEILING HEATER	Q-MARK	CU945	10.0	500	480 / 3 / 60	45" x 27" H x 9-3/4" D	1

NOTE: EQUIVALENT BY MARKEL, SINGER OR ELECTROMODE.  
 ACCESSORIES:  
 1. FULLY RECESSED CABINET HEATER WITH WALL-MOUNTED THERMOSTAT WITH OFF POSITION, DISCONNECT SWITCH, THERMAL CUT-OUT WITH MANUAL RESET, WASHABLE PERMANENT FILTERS AND ALL NECESSARY TRANSFORMERS, RELAYS, MOUNTING HARDWARE AND TRIM. COLOR: NORTHERN WHITE AS SELECTED BY ARCHITECT.

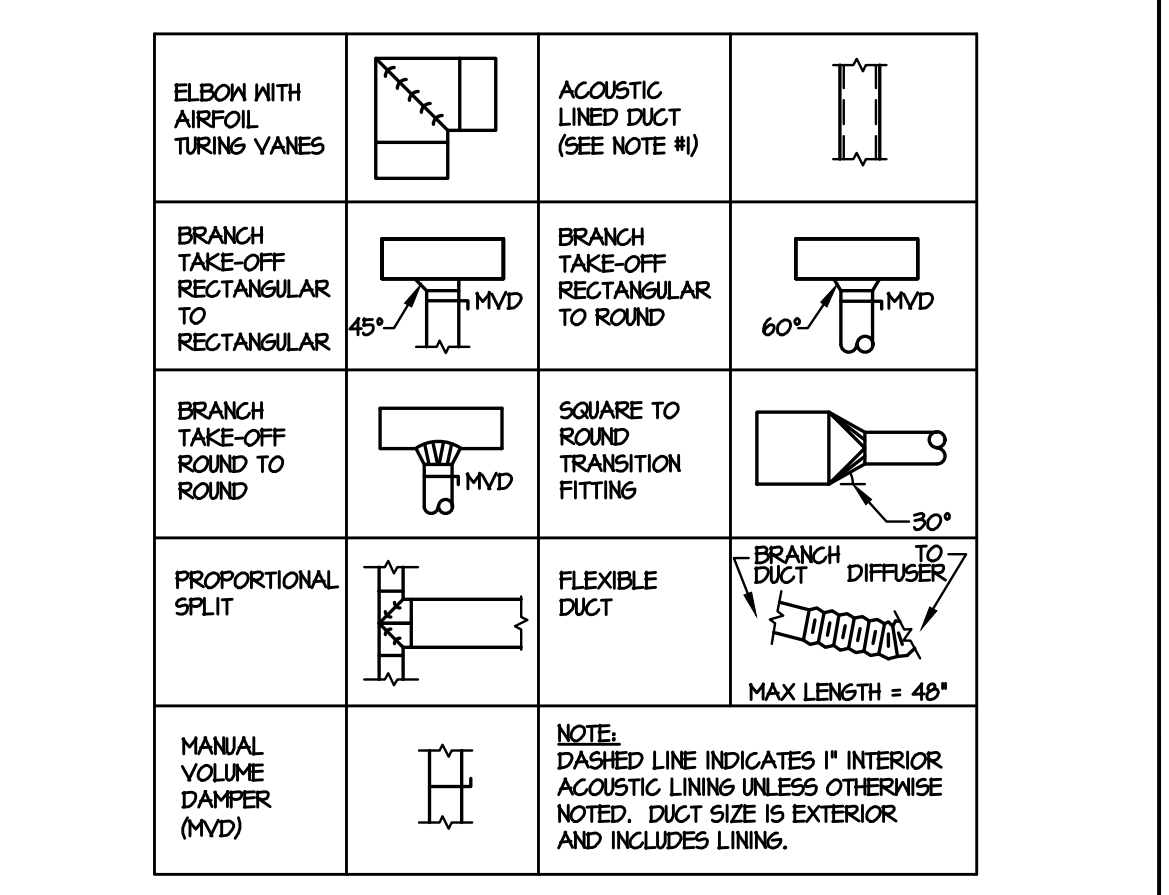
GRILLES AND DIFFUSERS

MARK	MAKE	MODEL	DESCRIPTION	FINISH	MATERIAL	FRAME	DAMPER	REMARKS
CD / 1	TITUS	PCS	PERF. DIFFUSER WITH PATTERN CONTROL	WHITE	STEEL	24" x 24" LAY-IN	YES	ROUND NECK
CD / 2	TITUS	TDC	4 WAY THROW FIXED BLADE SUPPLY DIFFUSER	WHITE	STEEL	SURFACE	YES	ROUND NECK, 18X18
CD / 3	ACCUTHERM	TF-HC	SELF-CONTAINED VAV TERMINAL AND THERMOSTAT DIFFUSER	WHITE	STEEL	TO MATCH CLG CONSTRUCTION	YES	ROUND NECK. ROOMS: FITTING ROOM FOYER, MEN'S FITTING ROOM, LOCKER ROOM, CASH OFFICE.
CD / 4	TITUS	TFMRA	ROUND SUPPLY DIFFUSER W/ ADJUSTABLE INNER CONES	WHITE	STEEL	SURFACE	YES	ROUND NECK
G / 1	TITUS	PAR	PERFORATED RETURN GRILLE	WHITE	STEEL	LAY-IN	NO	
G / 2	TITUS	30RL	HEAVY DUTY BAR GRILLE	WHITE	STEEL	TO MATCH CLG OR WALL CONSTRUCTION	NO	
ER / 1	TITUS	30RL	HEAVY DUTY BAR GRILLE	WHITE	STEEL	SURFACE	NO	
SR / 1	TITUS	30ORS	DOUBLE DEFLECTION WALL REGISTER	WHITE	STEEL	SURFACE	YES	

NOTE: NO SUBSTITUTIONS PERMITTED FOR GRILLES AND DIFFUSERS, UNLESS OTHERWISE NOTED.  
 REMARKS: APPLY TO ALL DEVICES UNLESS SPECIFICALLY NOTED OTHERWISE.  
 A. SUBMITTALS MUST IDENTIFY DIFFUSER LOCATION BY ROOM NUMBER, TYPE, AND CEILING CONSTRUCTION.  
 B. ALL FRAME TYPES SHALL BE COMPATIBLE WITH ADJACENT CONSTRUCTION. REFER TO ARCHITECTURAL PLANS FOR CONSTRUCTION DETAILS.



EXHAUST FAN DETAIL  
SCALE: NONE



TYPICAL DUCT TAKE-OFF DETAIL  
SCALE: NONE

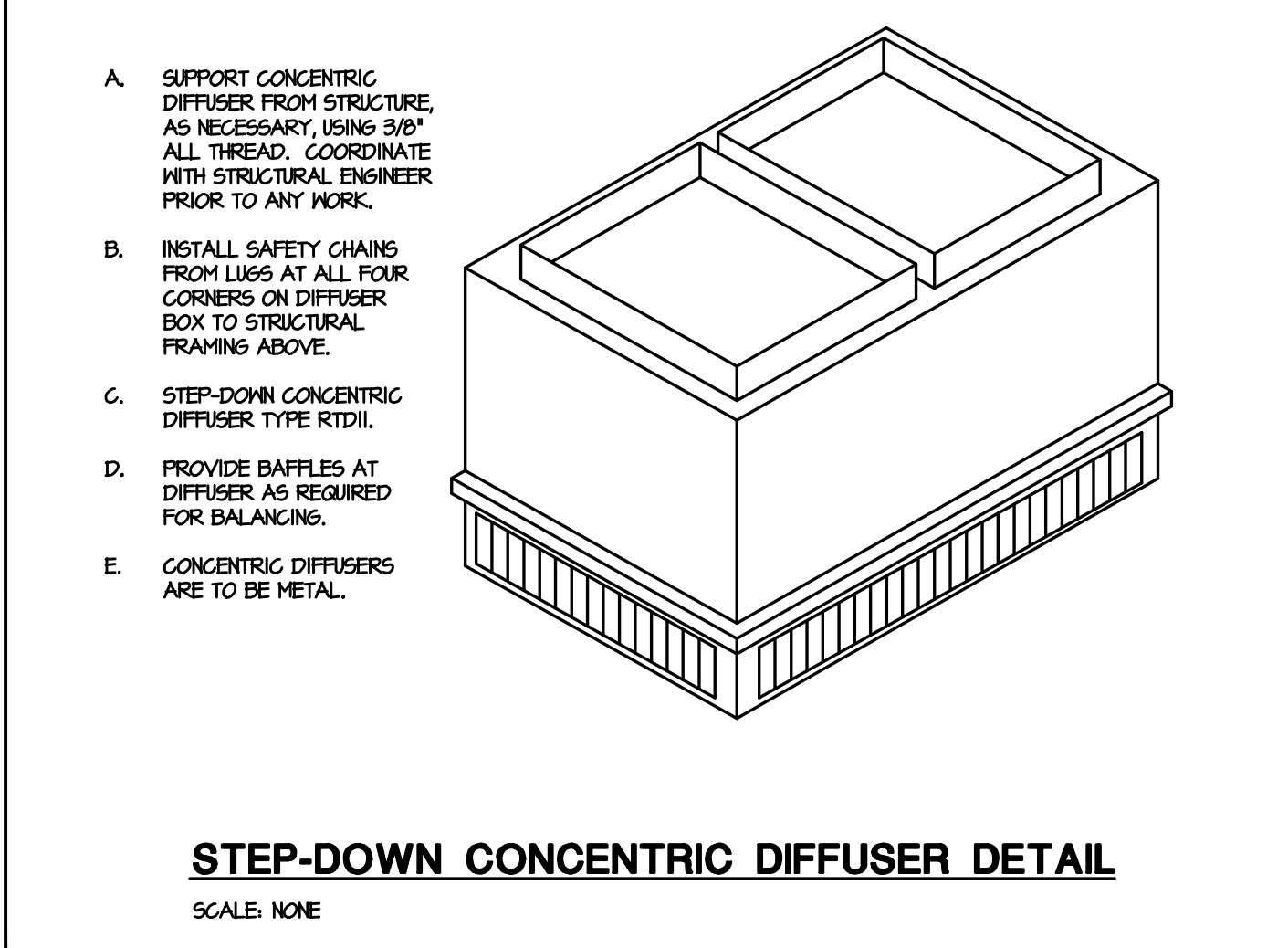
EXHAUST AND VENTILATION FANS

MARK	SERVICE	MAKE	MODEL	TYPE	WHEEL	DRIVE	CFM	EXT. STAT	RPM	HP	ELECTRICAL	SONES	CONTROLS	ACCESSORIES	WEIGHT	ROOF OPENING
EF / 1	RESTROOMS, FITTING, JANITORIAL	GREENHECK	G-100-VG	PRV	CENT	DIRECT	1000	.375"	1417	1 / 4	120 / 1 / 60	8.3	A	1	100 LBS	14-1/2" X 14-1/2"
EF / 2	LOCKER ROOM, EQUIPMENT	GREENHECK	G-100-VG	PRV	CENT	DIRECT	800	.375"	1232	1 / 4	120 / 1 / 60	6.3	A, B	1	100 LBS	14-1/2" X 14-1/2"
EF / 3	ELECTRICAL	GREENHECK	G-100-VG	PRV	CENT	DIRECT	800	.375"	1232	1 / 4	120 / 1 / 60	6.3	B	1	100 LBS	14-1/2" X 14-1/2"

NOTE: EQUIVALENT BY ACME, COOK, OR PENN.  
 ACCESSORIES:  
 1. N.F. DISCONNECT SWITCH, INSULATED ROOF CURB, BIRDSCREEN, LOW LEAKAGE GASKET, BACKDRIFT DAMPER, FLEXIBLE DUCT COLLAR CONNECTION, VAV-GREEN MOTOR, FACTORY MOUNTED SPEED CONTROLLER.  
 CONTROLS:  
 A. CONTROLLED VIA EMS (REFER TO ELECTRICAL DRAWINGS FOR WIRING DIAGRAM).  
 B. CONTROLLED VIA LINE VOLTAGE THERMOSTAT (REFER TO ELECTRICAL DRAWINGS FOR WIRING DIAGRAM).

MECHANICAL VENTILATION (OUTSIDE AIR) SCHEDULE  
 APPROPRIATE CODE: Ohio Mechanical Code 2024

ROOM NAME	ROOM AREA (ft2)	CLASSIFICATION	CFM / FIXTURE (Table 403.3.1.1)	# OF FIXTURES	REQUIRED EXHAUST (CFM)	DESIGN EXHAUST (CFM)	SYSTEM
MEN'S RESTROOM	156	Toilet rooms - public	70	3	210	250	EF-1
WOMEN'S RESTROOM	169	Toilet rooms - public	70	3	210	250	EF-1
MEN'S FITTING	197	Locker/dressing rooms	0.25	49.25	1	200	EF-1
WOMEN'S FITTING	391	Locker/dressing rooms	0.25	97.75	0.5	200	EF-1



STEP-DOWN CONCENTRIC DIFFUSER DETAIL  
SCALE: NONE

MECHANICAL VENTILATION (OUTSIDE AIR) SCHEDULE  
 APPROPRIATE CODE: Ohio Mechanical Code 2024 (MC 2021 Amended)

ROOM NAME	ROOM AREA (ft2)	CLASSIFICATION	OUTDOOR AIR										PRIMARY AIRFLOW (Vpz)	PRIMARY O.A. FRACTION (Voz/Vpz)	MULTIPLE ZONE SYSTEM VENTILATION EFFICIENCY (Ev) (Table 403.3.2.3.2)	UNCORRECTED O.A. INTAKE (Vot-Vou/Ev) +RoAz	O.A. FLOW RATE (Vot-Vou/Ev)	DESIGN O.A. (CFM)	SYSTEM
			CALCULATED PEOPLE PER 1000 FT2 (Net Area)	NO. OF OCCUP. (Pz)	# OF PEOPLE IN AREA (Pa)	CFM/PERSON PER TABLE (Table 403.3) (Rp)	CFM/ft2 (Ro)	CFM1 (Rp*Pa)	CFM2 (Ro*Az)	REQUIRED O.A. (Vbz) (Rp*Pa+RoAz)	ZONE AIR DIST. EFFECTIVENESS (Table 403.3.1.2)	ZONE O.A. RATE (Voz=Vbz/Ex)							
PROCESSING ROOM	1481	Shipping/receiving	2	3	3	10	0.12	30	178	208	0.8	2000	0.04	0.9	1	102	114	130	AC-2
MANAGER	122	Office space	5	1	1	5	0.06	5	7	13	0.8	17	0.04	0.9	1	51	57	100	AC-4
CASH OFFICE	56	Office space	5	1	1	5	0.06	5	3	9	0.8	12	0.08	0.9	1	51	57	100	AC-4
LOCKER ROOM	328	Break rooms	25	9	9	5	0.06	45	20	65	0.8	82	0.12	0.9	1	51	57	100	AC-4
EQUIPMENT CLOSET	45	Storage rooms	0	0	0	0	0.12	0	5	6	0.8	8	0.16	0.9	1	51	57	100	AC-4
OFFICE HALL	59	Corridors	0	0	0	0	0.06	0	4	4	0.8	5	0.05	0.9	1	51	57	100	AC-4
EGRESS HALL	112	Corridors	0	0	0	0	0.06	0	7	7	0.8	9	0.06	0.9	1	51	57	100	AC-4
			Total:			55	47					Max Zp:	0.16						
FITTING FOYER	155	Sales	15	3	3	7.5	0.12	23	19	42	0.8	53	0.18	0.9	1	51	57	100	AC-3, 5, 6, 7
TOILET HALL	156	Corridors	0	0	0	0	0.06	0	9	10	0.8	13	0.10	0.9	1	51	57	100	AC-3, 5, 6, 7
			Total:			23	28					Max Zp:	0.18						
SALES FLOOR	15455	Sales	15	232	232	7.5	0.12	1740	1855	3595	0.8	4494	0.18	0.9	1	4494	4600	4800	AC-3, 5, 6, 7



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Table with HVAC Design Criteria & Checklist. Columns: Item, Description, Sign-off Required for Submittal, Sign-off Required for Design Acceptance.

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CONTRACTOR MUST VERIFY ALL CLEARANCES AND DIMENSIONS IN FIELD

McHenry & Associates logo and contact information: Consulting Engineers est. 1960, 25001 Emory Road, Suite #200, Warrensville Heights, Ohio 44128.

ROSS DRESS FOR LESS

STORE #2785 "WESTERN HILLS" 6180 GLENWAY AVENUE, SUITE E CINCINNATI, OH 45211

REVISIONS BID/PERMIT 01-29-2025

SCALE AS NOTED PROJECT NO. 24.380.10 SHEET NUMBER M3.0

ROSS DESIGN CRITERIA SCALE NONE 1