

SECTION 15732 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
B. Comply with ASHRAE 15.
C. EER: Equal to or greater than prescribed by the energy code adopted by the Authority Having Jurisdiction.
D. Warranties: Submit a written warranty, signed by the manufacturer, agreeing to the repair or replacement of components that fail within 5 years of Substantial Completion.

PART 2 - PRODUCTS

2.1 PACKAGED UNITS, 5 TO 20 TONS

- A. Factory assembled and tested, consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, filters, and dampers.
1. Refer to Rooftop Heating/Cooling Unit Schedule on drawing M600 for capacities, and manufacturers.
2. Evaporator Fans: Belt or direct driven, forward curved centrifugal.
3. Exhaust/Relief Fans: Direct drive, forward curved centrifugal or propeller.
4. Condenser Fans: Direct drive propeller.
5. Refrigerant Coils: Aluminum fins and copper coil.
6. Compressors: Serviceable hermetic or fully hermetic, with safety controls, hot gas bypass, and timed off controls.
7. Heat Exchangers: Gas fired, with gas controls, electronic ignition, high limit cutout, and forced draft proving switch.
8. Economizer controls (Comparative Enthalpy, 100% capacity).
9. Smoke Detectors: Photoelectric in supply and/or return as called for in schedule on sheet M600.
10. Operating Controls: Two stage heating and two stage cooling on units 7-1/2 tons and over.
11. Roof curb.
12. Control Wiring from T-stat to rooftop unit: Shall be 18ga / 7 conductor, rated for plenum applications.
13. Control Wiring from T-stat to remote sensor: Shall be a separate 18ga / 2 conductor shielded, rated for plenum applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units level and plumb and firmly anchored.
B. Connect gas piping to burner with pipe same size as gas train inlet, and provide union with sufficient clearance for burner removal and service.
C. Install ducts to termination in roof mounting frames. Terminate ducts through roof structure.
D. Connect units to wiring systems and to ground.

END OF SECTION 15732

SECTION 15810 - DUCTS AND ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data for fire and smoke dampers.
B. Comply with NFPA 90A for systems serving spaces more than 25,000 cu. ft. in volume or building Types II, IV, and V construction more than 3 stories in height.
C. Comply with NFPA 90B for systems serving spaces in 1 or 2 family dwellings or serving spaces less than 25,000 cu. ft..
D. Comply with NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations," for kitchen hood ducts.
E. Comply with UL 181 and UL 181A for ducts and closures.
F. Testing, Adjusting, and Balancing Agency Qualifications: AABC certified (to be furnished by Tenant).

PART 2 - PRODUCTS

2.1 DUCTS

- A. Spiral Duct: Spiral Lock Seam, without insulation, G90 galvanized finish, ASTM A-653/G24
1. Basis of Design Manufacturers: Lindab SPIROsafe, alternates to the basis of design must be submitted for review.
2. Fittings: Factory produced standing seam construction with internal sealing. Fittings with a major axis of 36" or smaller shall be 20 gauge. Fittings with a major axis of 37"-48" shall be 18 gauge.
B. Galvanized Steel Sheet: Forming steel, ASTM A 653/653M, G90 coating designation.
C. Duct Liner: ASTM C 1071, Type II, with an airstream surface coated with a temperature resistant coating. Thickness: 1-1/2 inch. R-value : 8.
1. Adhesive: ASTM C 916, Type I.
2. Mechanical Fasteners: Galvanized steel pin, length as required to penetrate liner plus a 1/8 inch projection maximum into the airstream.
D. Joint and Seam Tape: Comply with UL 181A.
E. Joint and Seam Sealant: Comply with UL 181A.
F. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standard" for metal thickness, reinforcing types and intervals, tie rod applications, and joint types and intervals.

2.2 ACCESSORIES

- A. Volume-Control Dampers: Factory fabricated volume control dampers, complete with required hardware and accessories. Single blade and multiple opposed blade, standard leakage rating, and suitable for horizontal or vertical applications.
B. Fire Dampers: Factory-fabricated fire dampers, complete with required hardware and accessories. UL labeled according to UL 555, "Fire Dampers".
C. Flexible Connectors: Flame retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
D. Flexible Ducts: Factory fabricated, insulated, round duct, with an outer jacket enclosing 2 inch thick, glass fiber insulation, R-value: 6.0, around a continuous inner liner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Duct System Pressure Class: Construct and install each duct system with 2 inch positive and negative duct pressure classifications.
B. Conceal ducts from view in finished and occupied spaces. Except where noted as exposed.
C. Avoid passing through electrical equipment spaces and enclosures.
D. Support and connect metal ducts according to SMACNA's "HVAC Duct Construction Standard".
E. Install duct accessories according to applicable portions of details of construction as shown in SMACNA standards.
F. Install liner and/or insulation on ductwork per the material schedule on sheet M010.
G. Install volume control dampers in lined duct with methods to avoid damage to liner and to avoid erosion of duct liner.
H. Install fire and smoke dampers according to manufacturer's UL approved written instructions.
I. Install fusible links in fire dampers.
J. Provide saddle taps at tees for exposed ductwork.

3.2 TESTING, ADJUSTING, AND BALANCING

- A. The Tenant will supply an independent balance agent to to balance and adjust the HVAC installation. The balance agent will be responsible for any pulley or belt changes required.
B. The GC is to have trained staffed available during the balancing to correct issues noted by the balance agent.
C. The balance agent is to balance airflow within distribution systems, including submains, branches, and terminals to indicated quantities +/- 10%. The hood exhaust system shall be balanced to a tolerance of -0+10% and the make-up air system to a tolerance of -10+0%.
D. The balance agent is to supply a copy of the balance report to the Tenant, engineer and general contractor for review.

END OF SECTION 15810

SECTION 15855 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: None.

PART 2 - PRODUCTS

2.1 OUTLETS AND INLETS

- A. All air terminal devices:
1. Refer to Grills, Registers, and Diffusers Schedule for equipment schedule
2. Manufacturer: As scheduled (NO SUBSTITUTIONS)
3. Material: As scheduled.
4. Finish: As scheduled.
5. Mounting: As scheduled.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate location and installation with duct installation and installation of other ceiling and wall mounted items.
B. Locate ceiling diffusers, registers, and grilles, as indicated on the architectural "reflected ceiling plans." Unless otherwise indicated, locate units in center of acoustical ceiling panels.

END OF SECTION 15855

HVAC MATERIAL SCHEDULE

Table with 3 columns: CATEGORY, APPLICATION, ALLOWABLE MATERIAL. Includes rows for EXPOSED SUPPLY, EXPOSED RETURN, EXPOSED GEN. EXHAUST, CONCEALED, SUPPLY, CONCEALED, RETURN, CONCEALED, GEN. EXHAUST, and CONCEALED, TYPE I HOOD EXHAUST.

HVAC GENERAL NOTES

- A GENERAL NOTES APPLY TO HVAC SHEETS.
B WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE AUTHORITY HAVING JURISDICTION, INCLUDING APPLICABLE SECTIONS OF NFPA, THE MECHANICAL CODE, AND ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE PERMITS ASSOCIATED WITH THE WORK. OBTAIN INSPECTIONS REQUIRED BY CODE. SEE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
C CONTRACTOR AND SUBCONTRACTORS SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS.
D COORDINATE WORK WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
E DRAWINGS FOR THE MECHANICAL WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWING SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, OFFSETS, ACCESSORIES, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
F DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF INTERNAL FREE AREA.
G PERFORATED CEILING DIFFUSERS SHALL BE 4-WAY UNLESS NOTED OTHERWISE.
H COORDINATE ROOF WORK WITH THE OWNER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
I UNLESS NOTED OTHERWISE RECTANGULAR DUCT ELBOWS GREATER THAN 45° SHALL BE MITERED ELBOWS WITH DOUBLE-THICKNESS TURNING VANES AND RECTANGULAR DUCT ELBOWS 45° OR LESS SHALL BE RADIUSED ELBOWS WITH AN INSIDE RADIUS OF AT LEAST 1/2 THE WIDTH OF THE DUCT.
J REPLACE AIR FILTERS WITH NEW, CLEAN MERV 8 AIR FILTERS AT TURNOVER.
K THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
L PROVIDE LABELING CALLED FOR IN THE HVAC DRAWINGS USING ENGRAVED PHENOLIC PLATES.
M PROVIDE P3000 12 GA. UNISTRUT WITH PG FINISH FOR DUCT SUPPORTS AND OTHER UNISTRUT IN AREAS EXPOSED TO VIEW. SLOTTED UNISTRUT AND OTHER UNISTRUT WITH HOLES IS NOT ACCEPTABLE.

HVAC ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
CD CEILING DIFFUSER
CU CONDENSING UNIT
(E) EXISTING
EF EXHAUST FAN
ER EXHAUST REGISTER
EXTG EXISTING
HD HOOD
MUA MAKEUP AIR UNIT
OBD BLADE DAMPER
RG RETURN GRILLE
RTU ROOFTOP UNIT
SR SUPPLY REGISTER
VSC VARIABLE SPEED CONTROL
COZAS TENANT'S CO2 ALARM SUPPLIER
GC GENERAL CONTRACTOR
HES TENANT'S HVAC EQUIPMENT SUPPLIER
HS TENANT'S HOOD SUPPLIER
KES TENANT'S KITCHEN EQUIPMENT SUPPLIER
TAB TENANT'S TEST AND BALANCE VENDOR
TCC TENANT'S CABLING CONTRACTOR
TDC TENANT'S DUCT CLEANER
TEMS TENANT'S ENERGY MANAGEMENT SYSTEM SUPPLIER
TLS TENANT'S LIGHT/LAMP SUPPLIER
TMB TENANT'S MENU BOARD SUPPLIER
TMS TENANT'S MILLWORK SUPPLIER
TP TENANT'S PHONE SUPPLIER
TRS TENANT'S RAILING SUPPLIER
TSV TENANT'S SIGN VENDOR
TUV TENANT'S UV SANITIZER SUPPLIER
WCS TENANT'S WALK-IN COOLER SUPPLIER
WHS TENANT'S WATER HEATER SUPPLIER

HVAC SYMBOLS

- CEILING DIFFUSER
CEILING-MOUNTED RETURN OR EXHAUST REGISTER
SUPPLY REGISTER
RETURN GRILLE
FLEXIBLE DUCT
MITERED CORNER WITH TURNING VANES
DUCTWORK INTERNAL FREE DIMENSIONS (WIDTH/HEIGHT) RECTANGULAR TO ROUND DUCT TRANSITION
DUCT-MOUNTED SMOKE DETECTOR
MOTOR-OPERATED DAMPER
MANUAL VOLUME DAMPER
GREASE DUCT CLEANOUT
MITERED CORNER WITHOUT TURNING VANES
GRIDPOINT THERMOSTAT
GRIDPOINT ZONE SENSOR MODULE
GRIDPOINT SUPPLY PROBE
PLAN NOTE: SEE PLAN NOTES LISTED ON THE SAME SHEET FOR NOTE MEANING
CONNECT TO EXISTING
EQUIPMENT TAG: SEE EQUIPMENT SCHEDULE ON SHEET M600 FOR EQUIPMENT INFORMATION
AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET
GRILL, REGISTER, OR DIFFUSER TAG: TAG NECK SIZE AIRFLOW [CFM]

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Issue Record table with columns: Issue Record, PERMIT SET, BID SET, CONSTRUCTION SET. Dates: 05/06/22, 05/09/22, 08/02/22.

Revisions table with columns: Revisions, Description, Date.

Drawn: DAA Checked: DAA

Project No. 2101254

Contents:

HVAC SPECIFICATIONS

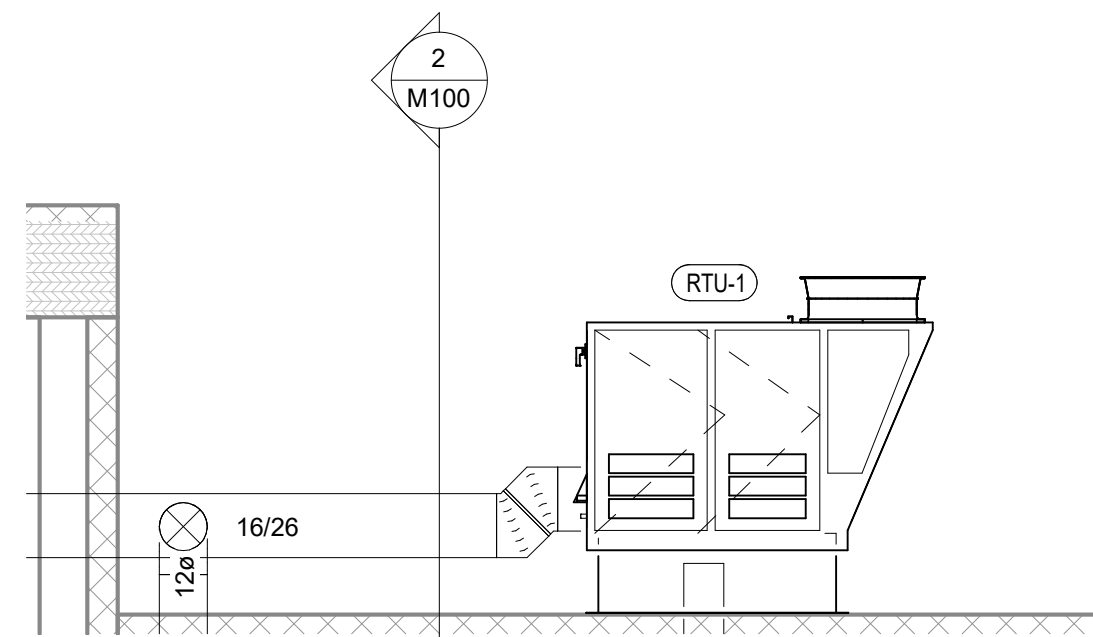
M010

HVAC PLAN NOTES

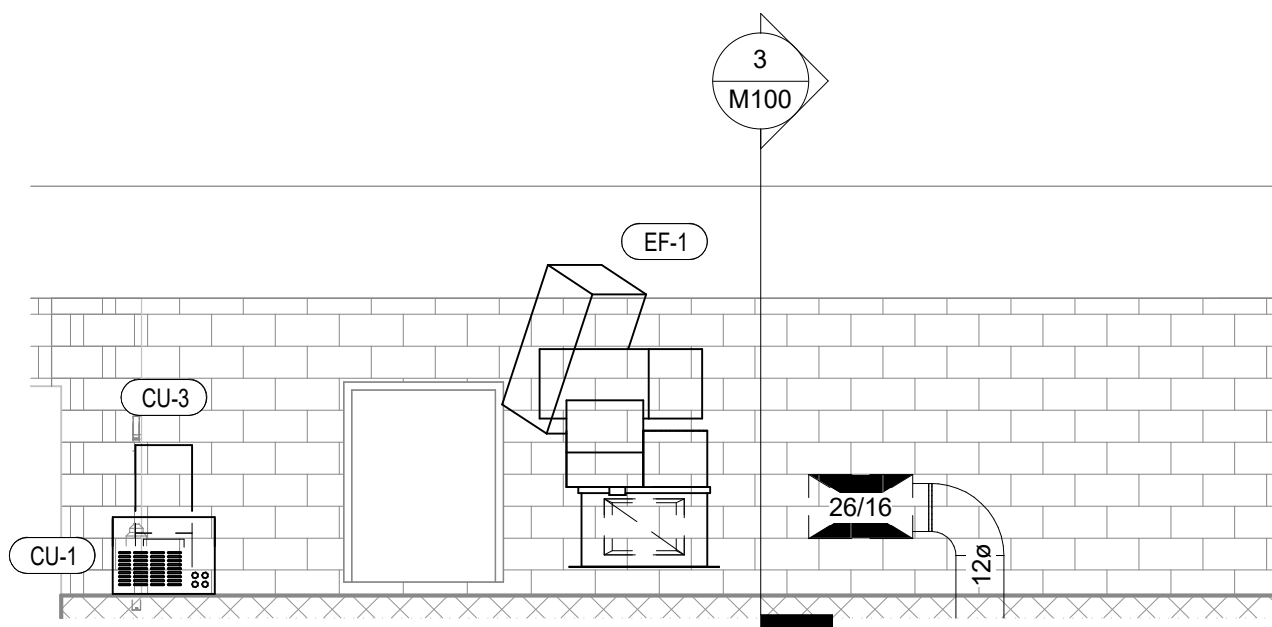
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
- MAINTAIN MANUFACTURER-RECOMMENDED SERVICE CLEARANCES AROUND ROOFTOP UNIT. COORDINATE WITH WORK OF OTHER TRADES.
- REFER TO ARCHITECTURAL SHEETS FOR SUPPLY REGISTER ELEVATIONS AND LOCATIONS.
- RTU-1 SHALL HAVE AN INTEGRAL SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM. INTERLOCK SMOKE DETECTOR TO RTU-1 OPERATION.
- 10/14 DUCTS UP FROM HOOD TO 20/14 DUCT THROUGH ROOF TO EF-1 COMPLIANT WITH NFPA 96. PROVIDE RADIUS ELBOWS WITH AN INSIDE RADIUS OF 0.5W AT ELBOWS IN GREASE DUCT.
- MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST FAN EF-1 DISCHARGE. SEE PLUMBING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FLUE AND COMBUSTION AIR TERMINATIONS.
- INSTALL REME HALO AIR PURIFIER FURNISHED BY TUV IN RTU PER DETAIL 6/M700. SEE ELECTRICAL DRAWINGS FOR POWER CONNECTION INFORMATION. INSTALL UV WARNING STICKERS ON FACE OF ENCLOSURE PER DETAIL AND ON ANY RTU ACCESS DOOR(S) THROUGH WHICH THE REME HALO WOULD BE VISIBLE IF OPENED.
- PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT 60" AFF. TYPICAL.
- PROVIDE SUPPLY DIFFUSER CONNECTION TO SUPPLY SYSTEM PER DETAIL 1/M700. TYPICAL.
- 4" DUCT TO LOUVER LV-1 FROM EF-2.
- INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INSTALL EXHAUST FAN EF-1 AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INSTALL GRIDPOINT THERMOSTAT FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION AT 48" AFF. COORDINATE WITH ELECTRICAL SWITCHING IN THIS AREA. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- INSTALL GRIDPOINT ZONE SENSOR MODULE FURNISHED BY TEMS FOR RTU-1 AT THIS LOCATION 60" AFF DIRECTLY TO WALL (NO JUNCTION BOX). COORDINATE LOCATION WITH EQUIPMENT. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- INSTALL ROOFTOP EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- INSTALL GRIDPOINT SUPPLY PROBE FURNISHED BY TEMS FOR RTU-1 IN THE SUPPLY DUCTWORK UPSTREAM FROM THE FIRST BRANCH CONNECTION. PROVIDE WIRING AS SHOWN IN DETAIL 8/E710.
- INSTALL REMOTE CONDENSER FOR ICE MACHINE ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. SEAL PIPING PENETRATIONS THROUGH ROOF. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE REMOTE CONDENSER. IF REFRIGERANT PIPING TO ICE MAKER IS EXPOSED TO PUBLIC VIEW CONCEAL WITHIN A STAINLESS STEEL SHROUD AS SHOWN IN THE ARCHITECTURAL DRAWINGS.
- INSTALL REMOTE TEMPERATURE SENSOR FOR HOOD HD-1 AT THIS LOCATION 60" AFF. COORDINATE LOCATION WITH EQUIPMENT. PROVIDE (2) #18 G. THERMISTOR CABLE FROM TEMPERATURE SENSOR TO HOOD CONTROL PANEL.
- INSTALL KITCHEN HOOD, HD-1. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING, IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT. INSTALL CLEANOUTS PER CODE AND AS SHOWN. INSTALL HOOD PER DETAILS 2 AND 4/M700. CHIPOTLE WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR TESTING THE INTEGRITY OF THE GREASE DUCT SYSTEM.
- INSTALL REMOTE CONDENSING UNIT FOR WALK-IN COOLER ON ROOF AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. INSTALL REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, LOW AMBIENT CONTROLS, AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL COMPLY WITH ASHRAE/ANSI STANDARD 15. INSTALL THE REFRIGERANT LINE SET UNDER THE ROOF DECK TO WITHIN 3' OF THE CONDENSING UNIT. CUT 2-1/2" HOLE IN WALK-IN COOLER ROOF FOR REFRIGERANT LINE SET AND SEAL PER THE COOLER MANUFACTURER'S INSTALLATION INSTRUCTIONS AFTER LINE SET IS INSTALLED.

MINIMUM VENTILATION AIR CALCULATION

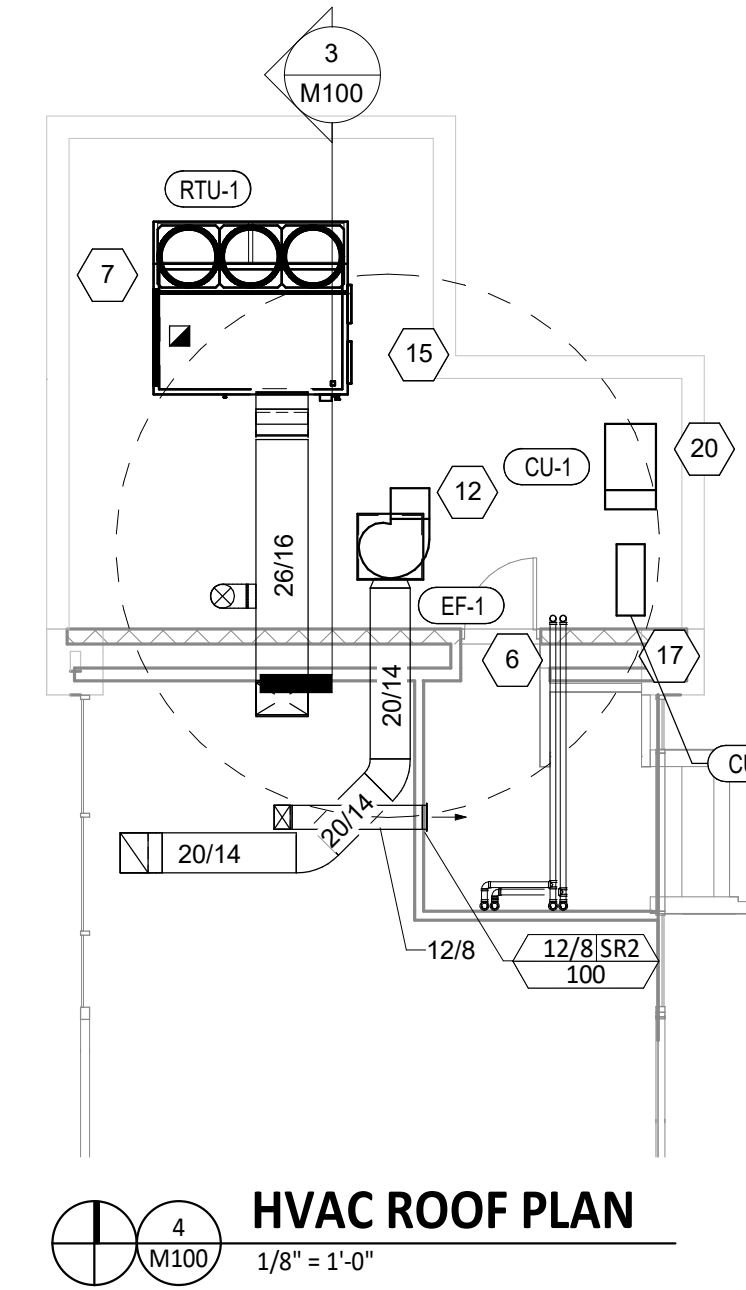
SPACE	AREA	OCCUPANT DENSITY	OCCUPANCY	OUTSIDE AIR			DIST. EFFECTIVENESS	TOTAL OA REQUIRED	TOTAL OA PROVIDED
				CFM/PERSON	CFM/SE	TOTAL			
OFFICE	40 SF	5 PEOPLE/1000 SF	1 PERSON	5	0.06	8 CFM	0.8	10 CFM	131 CFM
KITCHEN	1118 SF	20 PEOPLE/1000 SF	22 PEOPLE	7.5	0.12	299 CFM	0.8	374 CFM	2850 CFM (EF-1)
RESTROOMS	48 SF	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



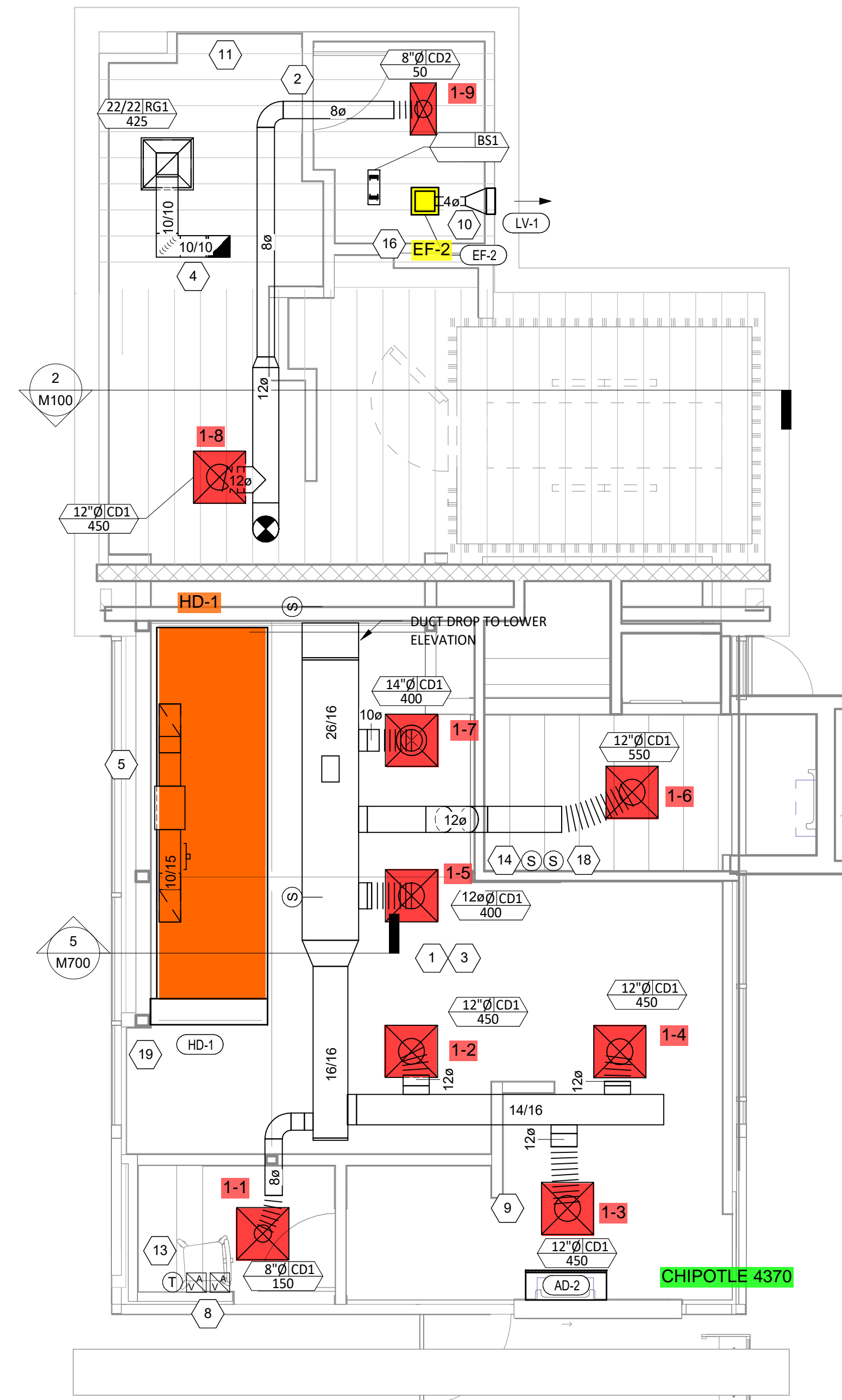
3 M100
1/4" = 1'-0"



2 M100
1/4" = 1'-0"



4 M100
1/8" = 1'-0"



1 M100
1/4" = 1'-0"

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05/09/22 BID SET
08/02/22 CONSTRUCTION SET

Revisions:
1 06/15/22 COUNTY COMMENTS

Drawn: DAA
Checked: DAA

Project No:
2101254

Contents:

HVAC PLAN

M100

FOR CONSTRUCTION

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DAA DAA

Project No:
2101254

Contents:

HVAC DETAILS

M700

PROVIDE FIRE RESISTANT INSULATION ON TYPE I HOOD EXHAUST DUCT FROM CONNECTION TO HOOD TO CONNECTION TO EXHAUST FAN PER DETAIL 3/M700.

SLOPE HORIZONTAL GREASE DUCT A MINIMUM OF 1/4" PER FOOT DOWN TOWARD THE CONNECTION TO THE HOOD.

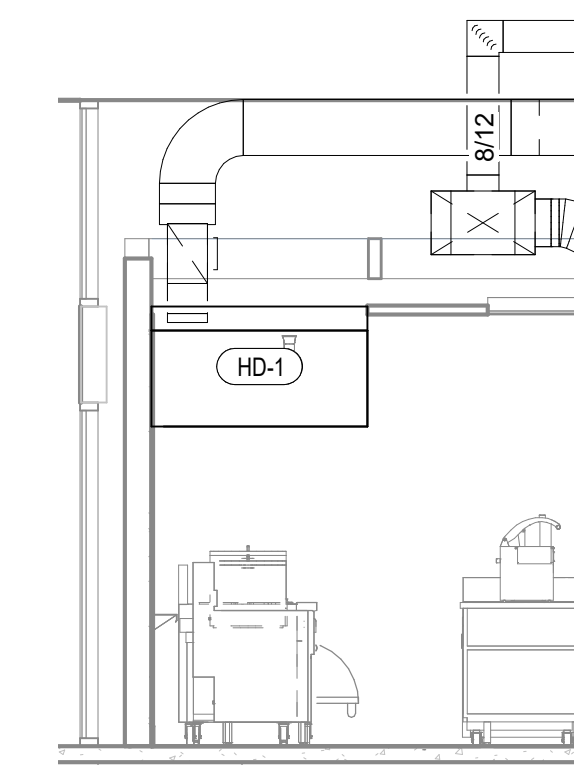
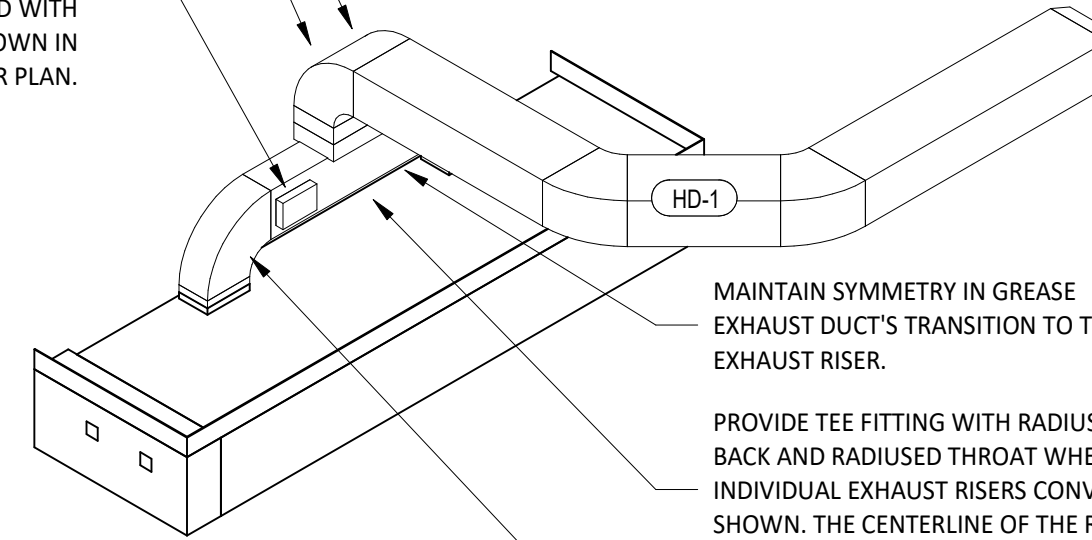
GREASE DUCT CLEANOUTS SHALL BE UL-LISTED DUCTMATE PREINSULATED CLEANOUT DOORS MODEL D128ULWSB1 FOR DUCTS AT LEAST 17" TALL AND DW128ULWSB1 FOR DUCTS LESS THAN 17" TALL. CLEANOUTS SHALL BE FURNISHED BY TENANT. COORDINATE NUMBER AND SIZE REQUIRED WITH ENVIROMATIC. INSTALL AS SHOWN IN THE HVAC FLOOR PLAN.

MAINTAIN SYMMETRY IN GREASE EXHAUST DUCT'S TRANSITION TO THE EXHAUST RISER.

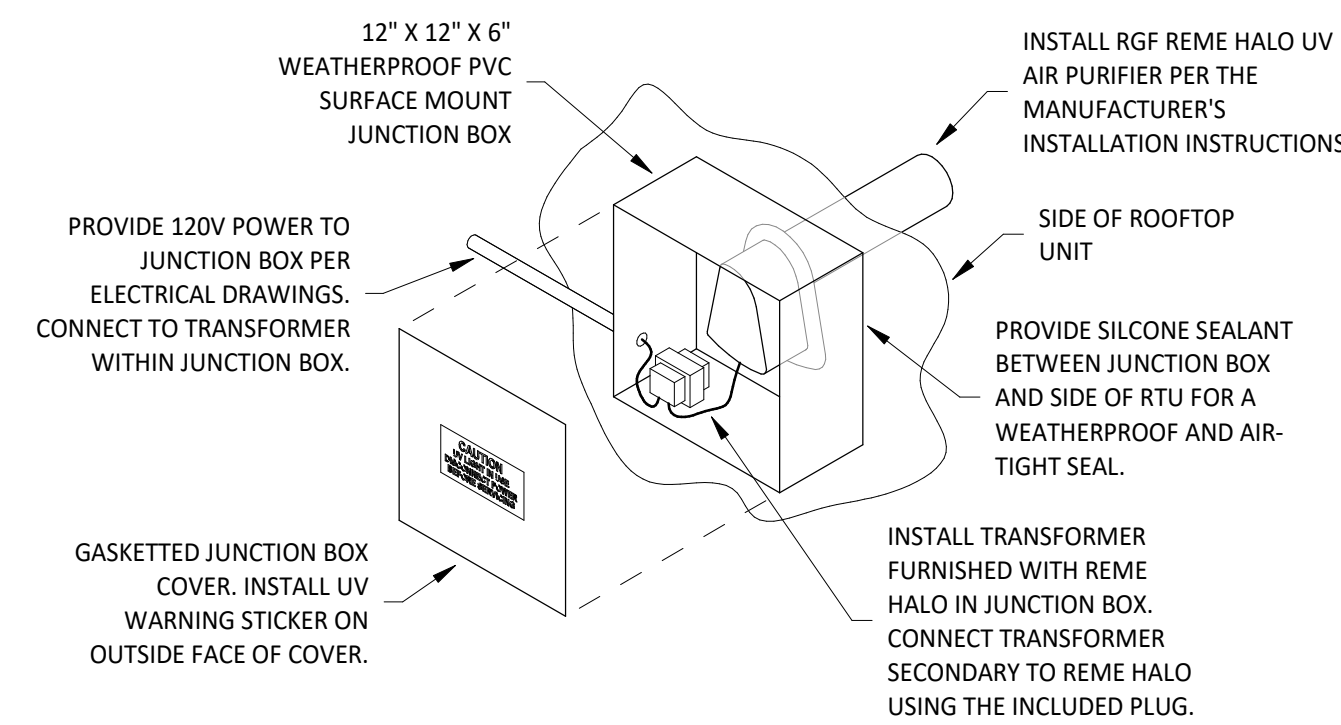
PROVIDE TEE FITTING WITH RADIUSED BACK AND RADIUSED THROAT WHERE INDIVIDUAL EXHAUST RISERS CONVERGE AS SHOWN. THE CENTERLINE OF THE RADI SHALL BE EQUAL TO THE DUCT DIMENSION.

PROVIDE RADIUSED ELBOWS WITH AN INSIDE RADIUS OF 0.5 X THE DUCT DIMENSION AT ALL CHANGES OF DIRECTION IN THE TYPE I HOOD EXHAUST DUCT.

7 HOOD EXHAUST ISOMETRIC
M700 N.T.S.



5 DUCT SECTION AT HOOD
M700 N.T.S.



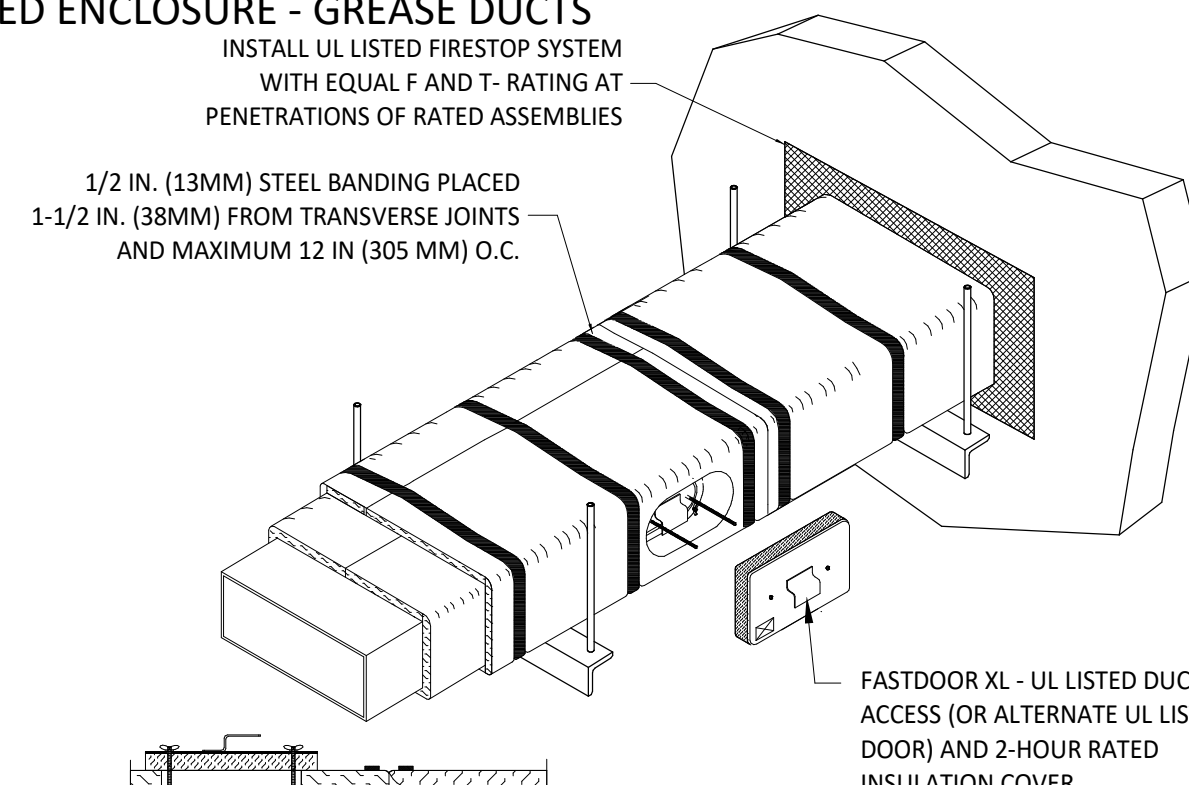
12" X 12" X 6" WEATHERPROOF PVC SURFACE MOUNT JUNCTION BOX
 PROVIDE 120V POWER TO JUNCTION BOX PER ELECTRICAL DRAWINGS. CONNECT TO TRANSFORMER WITHIN JUNCTION BOX.
 GASKETED JUNCTION BOX COVER. INSTALL UV WARNING STICKER ON OUTSIDE FACE OF COVER.
 INSTALL RGF REME HALO UV AIR PURIFIER PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 SIDE OF ROOFTOP UNIT
 PROVIDE SILICONE SEALANT BETWEEN JUNCTION BOX AND SIDE OF RTU FOR A WEATHERPROOF AND AIR-TIGHT SEAL.
 INSTALL TRANSFORMER FURNISHED WITH REME HALO IN JUNCTION BOX. CONNECT TRANSFORMER SECONDARY TO REME HALO USING THE INCLUDED PLUG.

6 UV AIR PURIFIER INSTALLATION
M700 N.T.S.

INSTALLATION LOCATION
 INSTALL AIR PURIFIER WITH JUNCTION BOX ON OUTSIDE FACE OF ROOFTOP UNIT AND WITH UV LAMP TUBE EXTENDING INTO THE INTERIOR OF THE ROOFTOP UNIT. FIELD VERIFY EXACT LOCATION TO AVOID DAMAGING, TOUCHING, OR INTERFERING WITH ANY RTU INTERIOR COMPONENTS. INSTALLATION LOCATION SHALL BE AS FOLLOWS:
TRAME: INSTALL INTO THE SUPPLY AIR STREAM THROUGH THE REMOVABLE PANEL COVERING THE HORIZONTAL DISCHARGE SUPPLY AIR OPENING.
YORK: INSTALL INTO THE SUPPLY AIR PLENUM FROM THE BACK SIDE OF THE UNIT JUST ABOVE THE HEAT EXCHANGER.

FIRE RATED ENCLOSURE - GREASE DUCTS

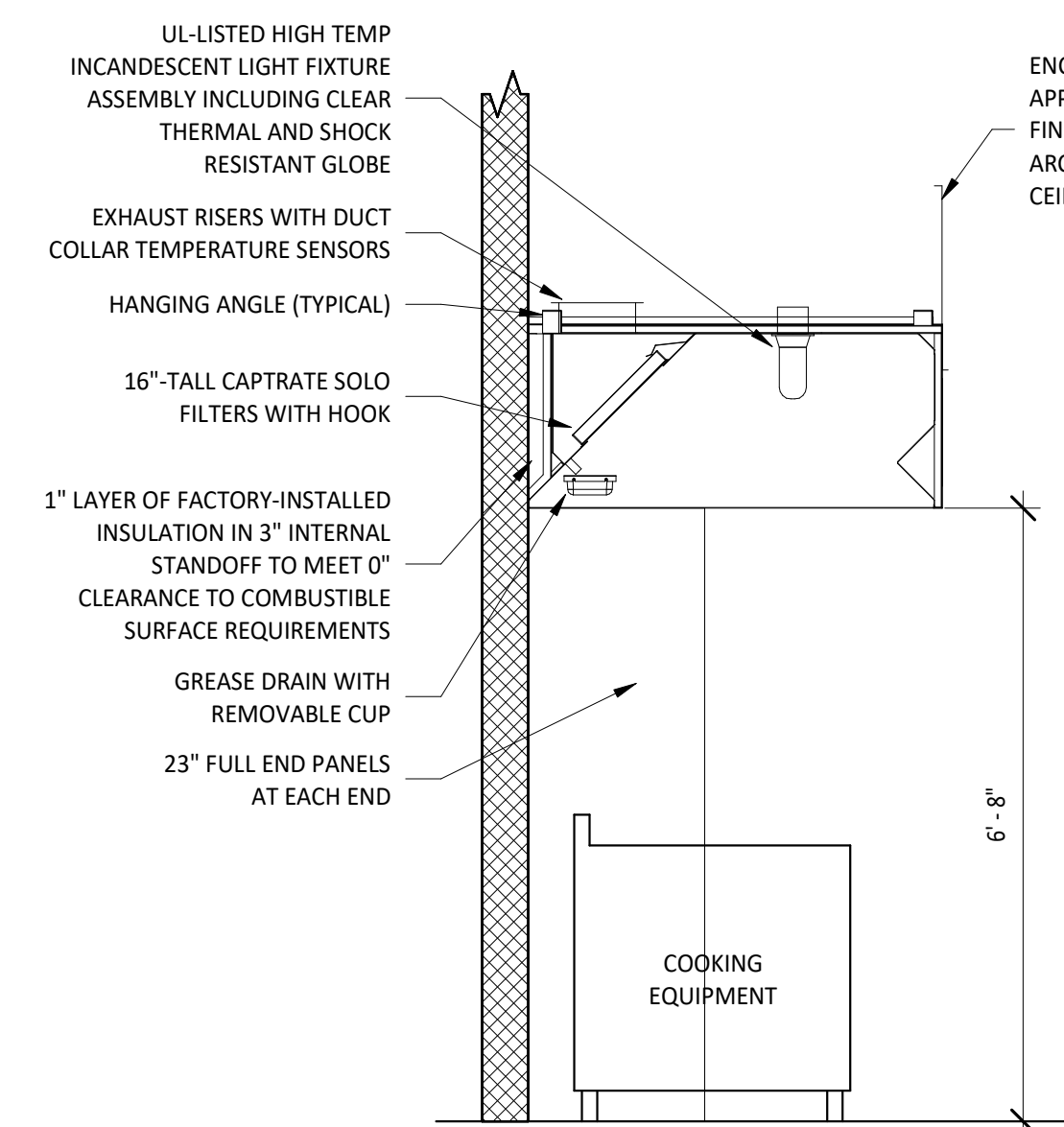
1. THERMAL CERAMICS FIREMASTER FASTWRAP XL IS TESTED TO ASTM E2336 AND UL LISTED PER HNKT-G18 TO PROVIDE ZERO CLEARANCE TO COMBUSTIBLES AND TO PROVIDE A 1- OR 2-HOUR ENCLOSURE. THROUGH PENETRATIONS FIRESTOP SYSTEMS ARE TESTED IN ACCORDANCE WITH ASTM E 814 (UL 1479). ICC CODE EVALUATION PER REPORT UL ER 14229-01.
2. COMPLIANT TO THE FOLLOWING CODES:
 NFPA 96
 INTERNATIONAL MECHANICAL CODES
 UNIFORM MECHANICAL CODE
 CALIFORNIA MECHANICAL CODE
3. INSULATION APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINT ON BOTH LAYERS AT ALL JOINTS.
4. MINIMUM 16 GAUGE CARBON STEEL (OR 18 GAGE STAINLESS STEEL) RECTANGULAR OR ROUND GREASE EXHAUST DUCT
5. INSTALL UL LISTED AND LIQUID TIGHT THERMAL CERAMICS FASTDOOR XL ACCESS DOORS, OR ALTERNATE DOOR UL LISTED PER UL1978, AT ALL CHANGES IN DIRECTION AND AT MINIMUM EVERY 20 FT ON HORIZONTAL RUNS.
6. SUPPORT HANGER SYSTEMS DO NOT NEED TO BE WRAPPED PROVIDED THE HANGER RODS ARE MINIMUM OF 3/8 IN. DIAMETER AND SUPPORTS ARE MINIMUM 2 X 2 X 1/8 IN. STEEL ANGLE OR SMACNA EQUIVALENT SUPPORT SYSTEM.
7. THERMAL CERAMICS DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT AND APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO THE FAN.
8. THERMAL CERAMICS DUCT ENCLOSURE SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND UL LISTINGS.



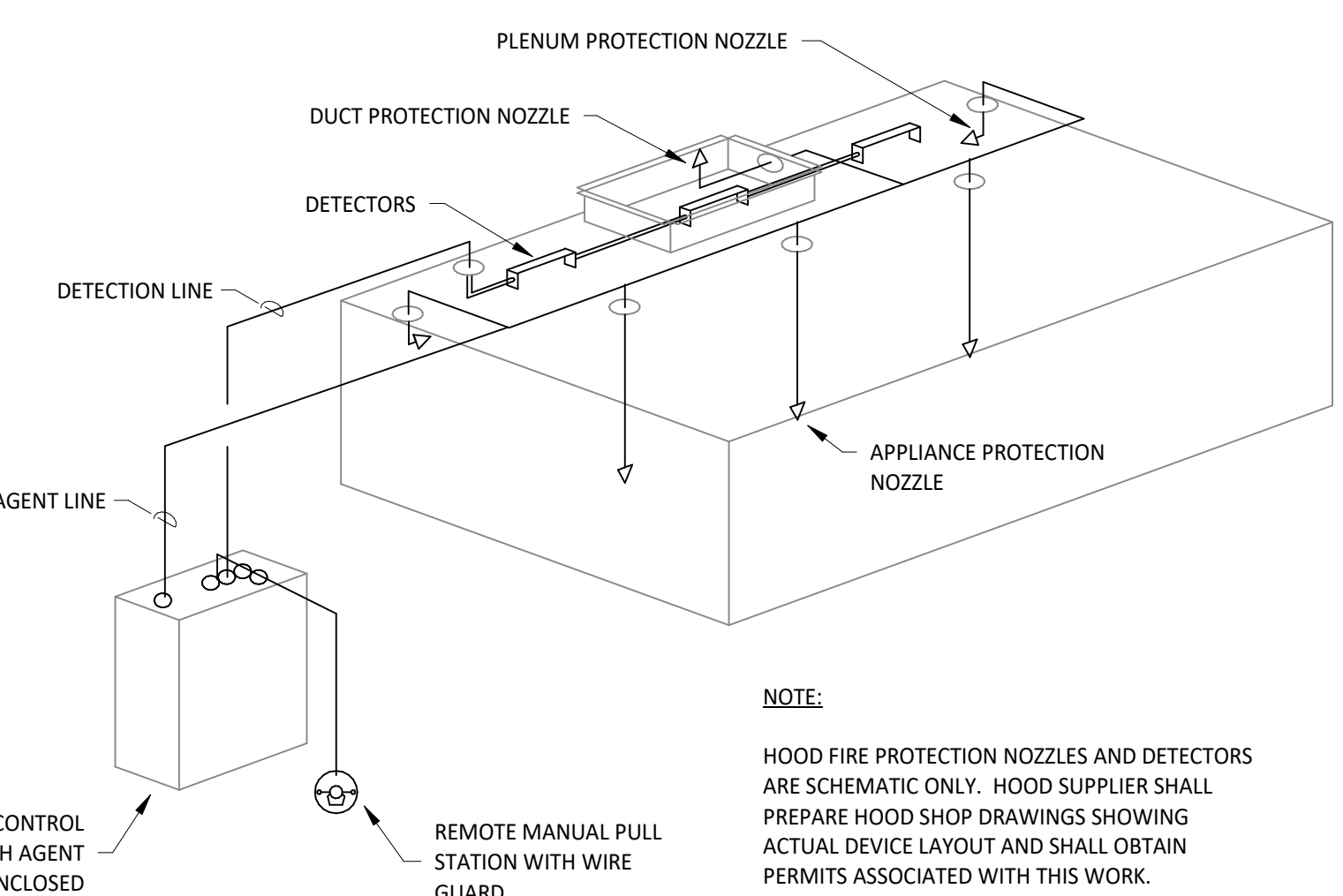
INSTALL UL LISTED FIRESTOP SYSTEM WITH EQUAL F AND T-RATING AT PENETRATIONS OF RATED ASSEMBLIES
 1/2 IN. (13MM) STEEL BANDING PLACED 1-1/2 IN. (38MM) FROM TRANSVERSE JOINTS AND MAXIMUM 12 IN. (305 MM) O.C.
 FASTDOOR XL - UL LISTED DUCT ACCESS (OR ALTERNATE UL LISTED DOOR) AND 2-HOUR RATED INSULATION COVER
 UL LISTED - FASTDOOR XL OR ALTERNATE UL LISTED DOOR INSULATED PER MFG INSTRUCTIONS
 TIGHT COMPRESSION JOINT ON BOTH LAYERS



3 FIREMASTER DUCT WRAP - UL HNKT-G18
M700 N.T.S.



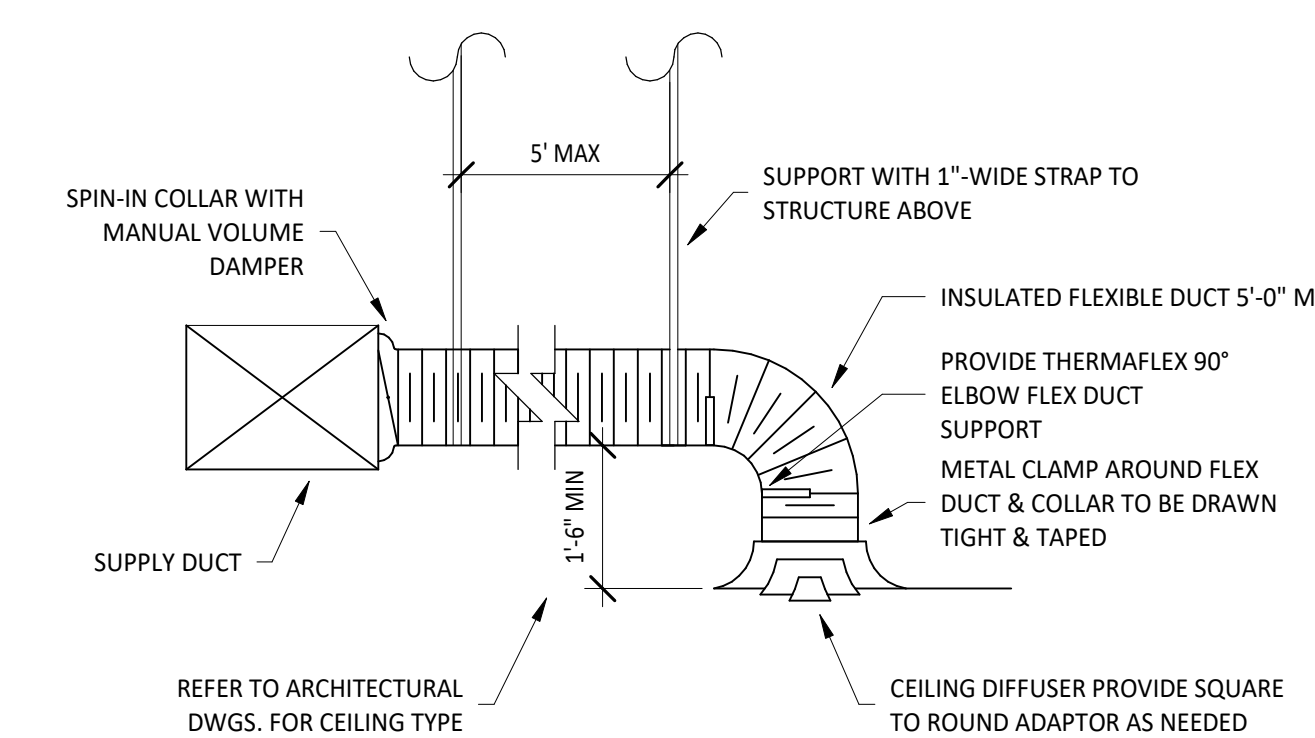
2 HOOD SECTION VIEW
M700 N.T.S.



4 FIRE SUPPRESSION SYSTEM SCHEMATIC
M700 N.T.S.

NOTE:
 HOOD FIRE PROTECTION NOZZLES AND DETECTORS ARE SCHEMATIC ONLY. HOOD SUPPLIER SHALL PREPARE HOOD SHOP DRAWINGS SHOWING ACTUAL DEVICE LAYOUT AND SHALL OBTAIN PERMITS ASSOCIATED WITH THIS WORK.

UL-LISTED HIGH TEMP INCANDESCENT LIGHT FIXTURE ASSEMBLY INCLUDING CLEAR THERMAL AND SHOCK RESISTANT GLOBE
 EXHAUST RISERS WITH DUCT COLLAR TEMPERATURE SENSORS
 HANGING ANGLE (TYPICAL)
 16"-TALL CAPTRATE SOLO FILTERS WITH HOOK
 1" LAYER OF FACTORY-INSTALLED INSULATION IN 3" INTERNAL STANDOFF TO MEET 0" CLEARANCE TO COMBUSTIBLE SURFACE REQUIREMENTS
 GREASE DRAIN WITH REMOVABLE CUP
 23" FULL END PANELS AT EACH END
 ENCLOSURE PANEL TO BE APPROXIMATELY 2" ABOVE FINISHED CEILING. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING HEIGHT.



SPIN-IN COLLAR WITH MANUAL VOLUME DAMPER
 SUPPLY DUCT
 REFER TO ARCHITECTURAL DWGS. FOR CEILING TYPE
 5" MAX
 SUPPORT WITH 1" WIDE STRAP TO STRUCTURE ABOVE
 INSULATED FLEXIBLE DUCT 5'-0" MAX
 PROVIDE THERMAFLEX 90° ELBOW FLEX DUCT SUPPORT
 METAL CLAMP AROUND FLEX DUCT & COLLAR TO BE DRAWN TIGHT & TAPED
 CEILING DIFFUSER PROVIDE SQUARE TO ROUND ADAPTOR AS NEEDED

1 DIFFUSER CONNECTION
M700 N.T.S.

NOTE:
 1. METHOD OF INSTALLATION FOR AIRTIGHT SEAL IS TYPICAL FOR ALL FLEX CONNECTIONS TO AIR DISTRIBUTION DEVICES.