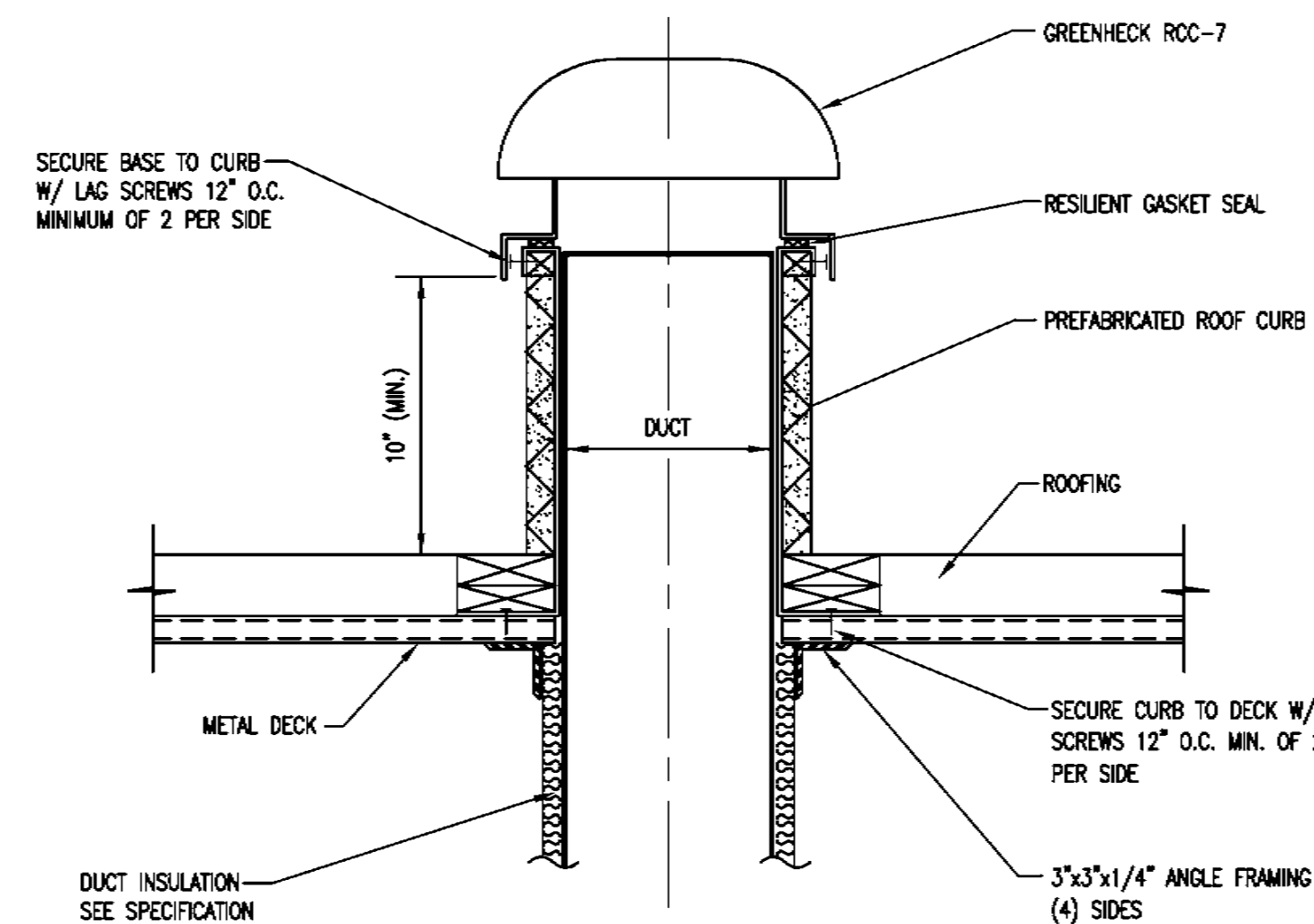


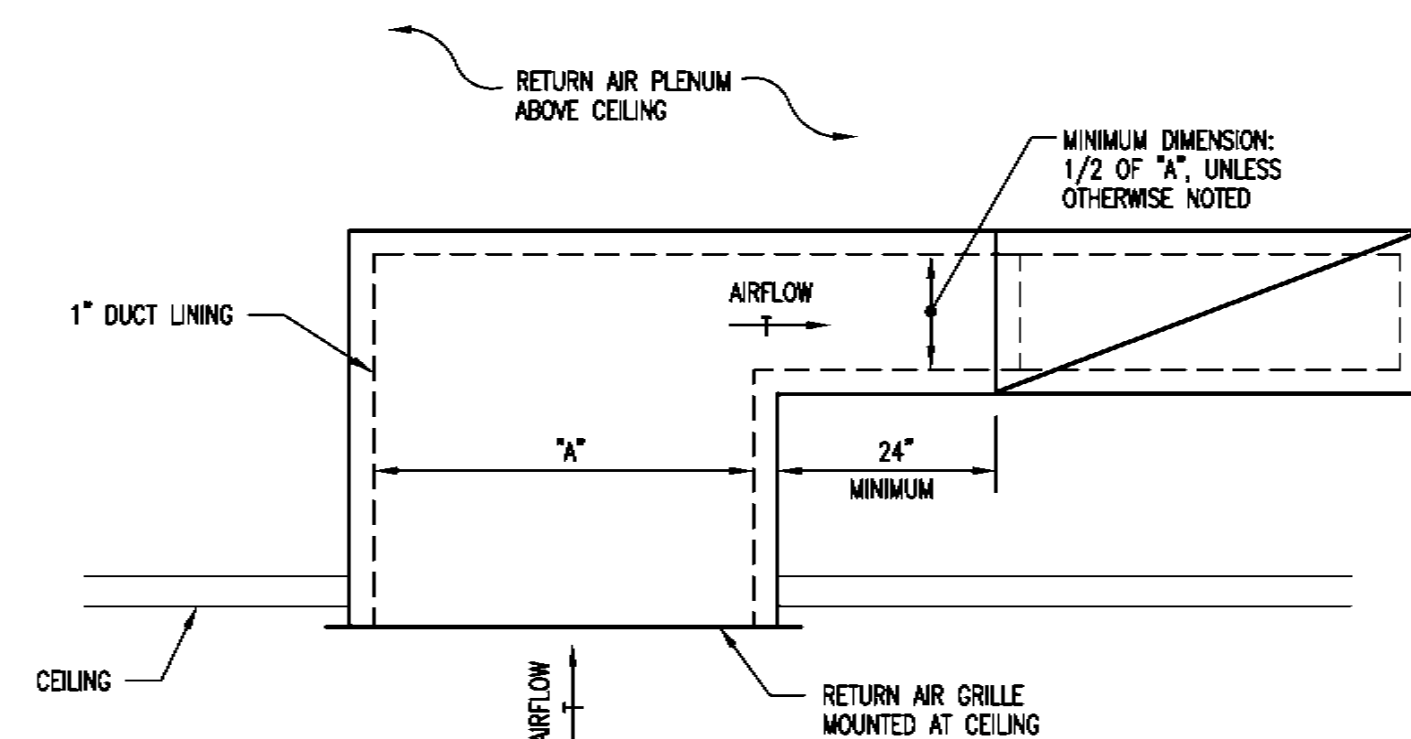
**DUCT BRANCH TAKE-OFF DETAILS**

N.T.S.



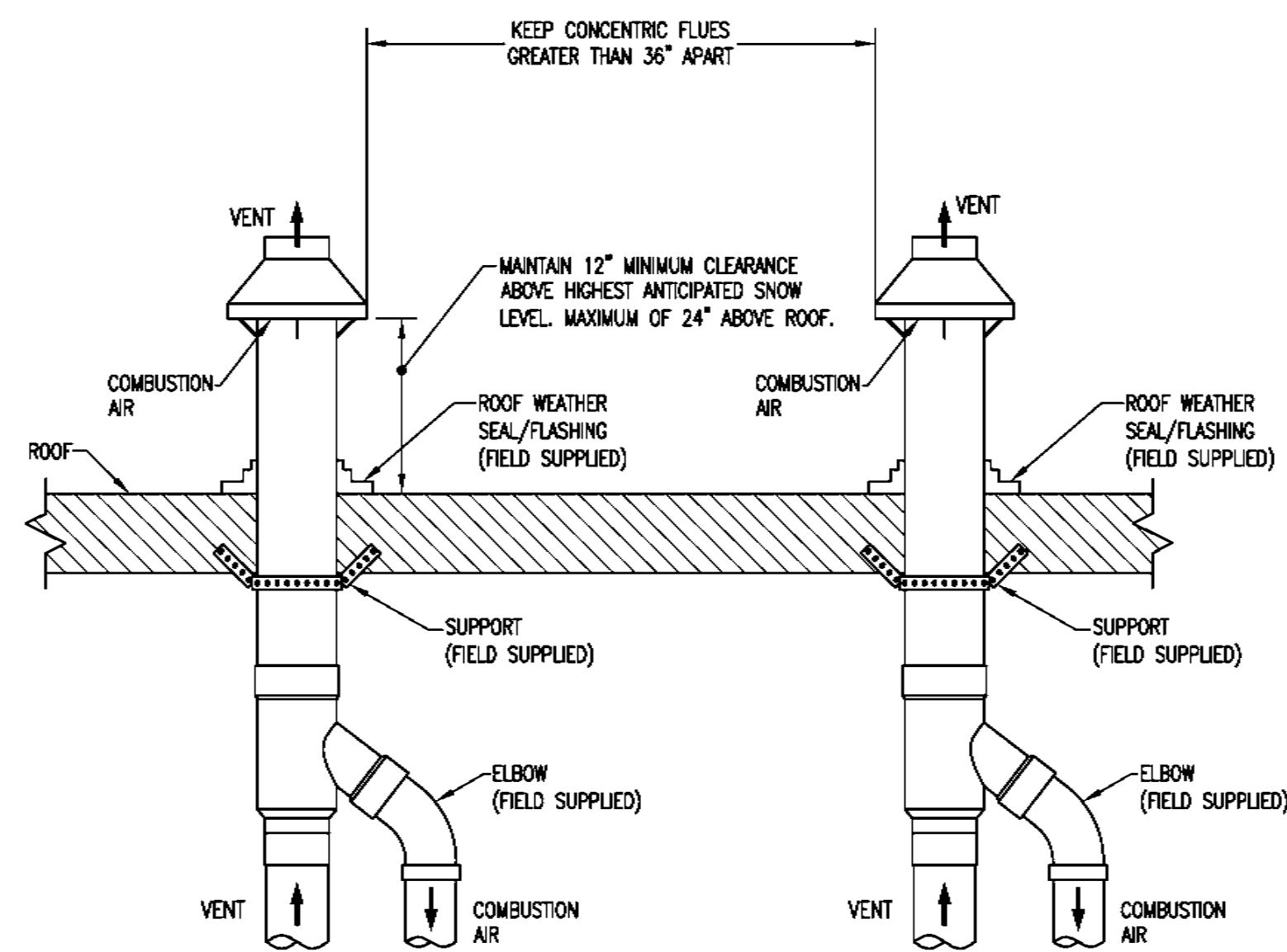
**EXHAUST THRU ROOF DETAIL**

N.T.S.



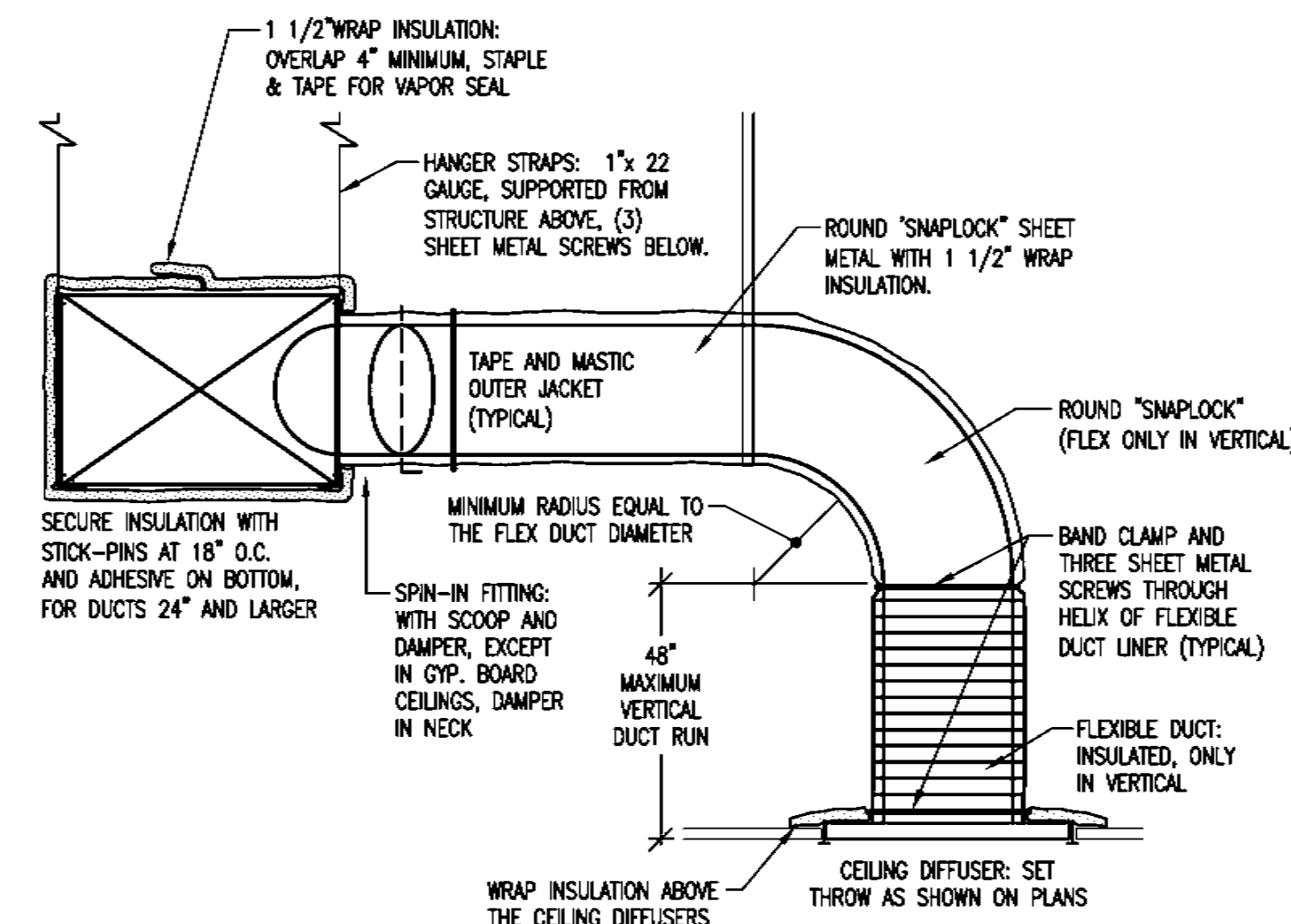
**CEILING TRANSFER GRILLE DETAIL**

N.T.S.



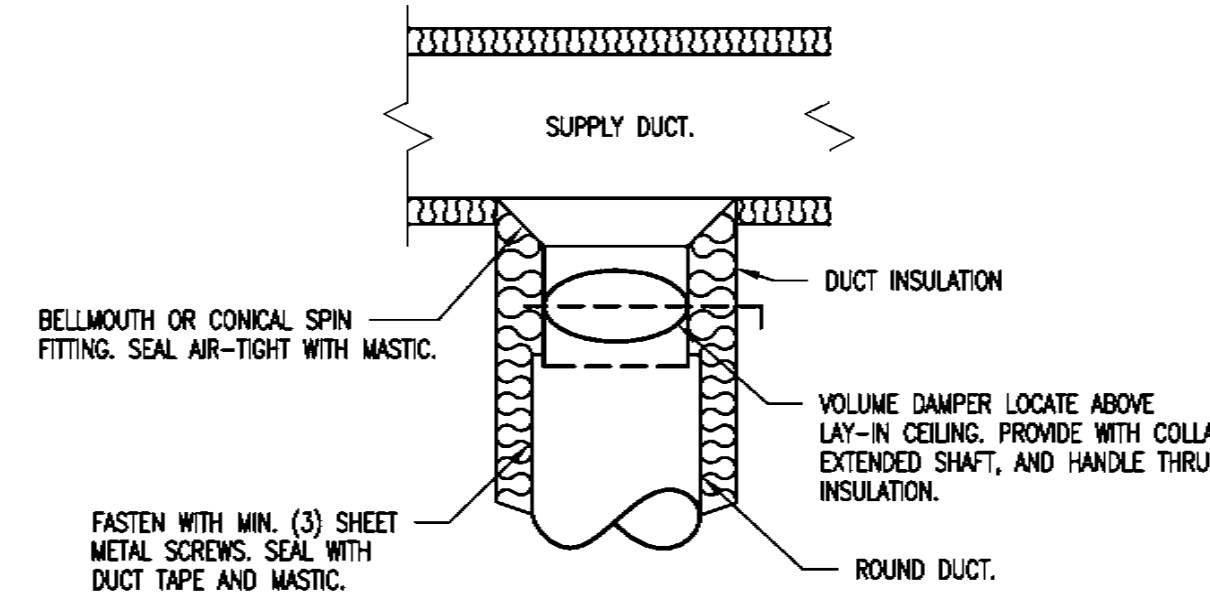
**CONCENTRIC VENT ROOF TERMINATION**

N.T.S.



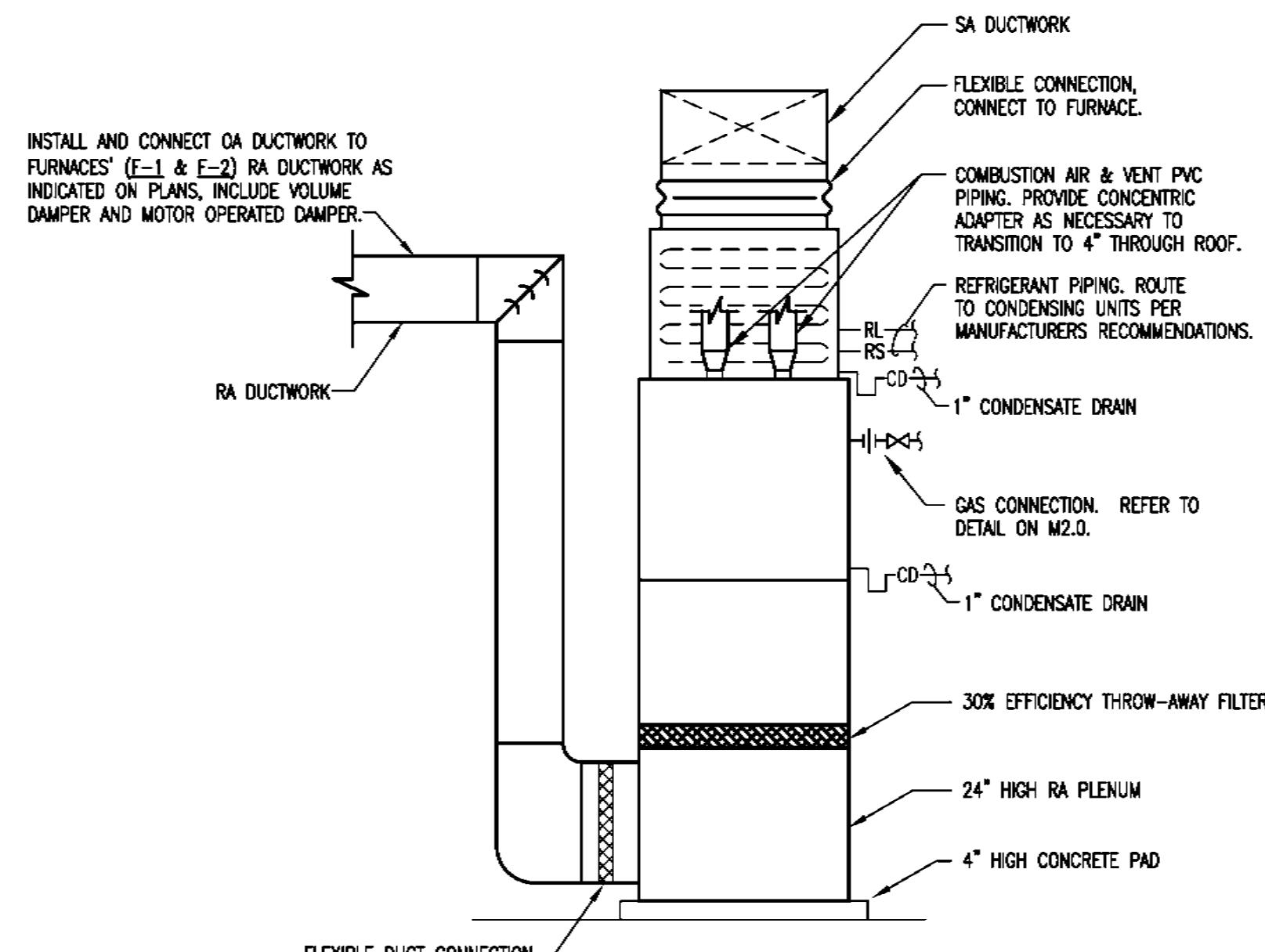
**CEILING DIFFUSER CONNECTION DETAIL**

N.T.S.



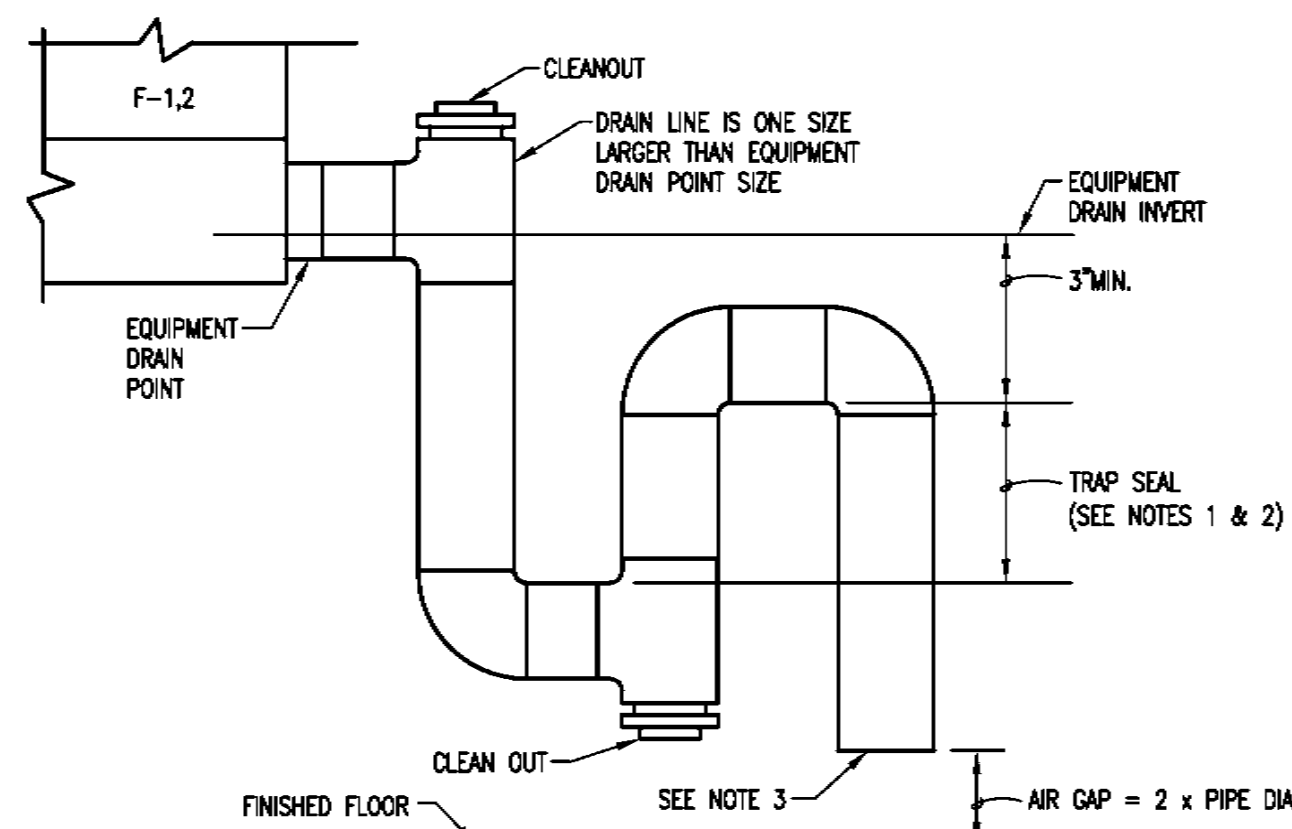
**ROUND DUCT TAKE-OFF DETAIL**

N.T.S.



**UPFLOW FURNACE DETAIL**

N.T.S.



**CONDENSATE DRAIN FLOOR**

N.T.S.

FAN SCHEDULE	
MARK	EF-1
MANUFACTURER	GREENHECK
MODEL No.	CSP-A290
SERVICE	TOILET ROOMS
FAN TYPE	CABINET
CFM	225
TOTAL STATIC PRESSURE (\"/>	

- REMARKS:
- APPROVED EQUALS IS OKOK.
  - STANDARD CONSTRUCTION FEATURES:
    - SOUND ABSORBING INSULATION
    - RECTANGULAR INLET AND OUTLET DUCT COLLAR
    - OUTLET WITH INTEGRAL SPRING LOADED BACKDRIFT DAMPER
    - ADJUSTABLE MOUNTING BRACKETS
  - OPTIONS & ACCESSORIES:
    - MODEL ROC-7 CURB MOUNTED ROOF CAP
    - ISOLATION KIT
    - MOTOR W/THERMAL OVERLOADS
    - CURB GFI-15-012

LOUVER SCHEDULE		
MARK	L-1	L-2
MANUFACTURER	GREENHECK	GREENHECK
MODEL No.	EHH-601	EHH-601
SERVICE	INTAKE	RELIEF
SIZE (LxH)	36x30	36x30
FINISH	BY ARCH.	BY ARCH.
REMARKS	1,2	1,2

- NOTE: COORDINATE LOUVER LOCATIONS WITH BUILDING ELEVATIONS.
- REMARKS:
- PROVIDE INTERNAL ALUMINUM BRD SCREEN.
  - APPROVED EQUALS: RUSKIN AND AROLITE.

VVT BOX SCHEDULE	
MARK	WT-1
MANUFACTURER	JCI
MODEL No.	755
INLET DIAMETER	8"
CFM	200
CFM (MAX.)	450
ELECTRICAL (VOLT/PH)	208/1
REMARKS	1,2

- REMARKS:
- APPROVED EQUALS: CARRIER AND TRANE.
  - PROVIDE WITH TEMPERATURE SENSOR AND CONTROL TRANSFORMER.

UNIT HEATER SCHEDULE (ELECTRIC)				
MARK	EUH-1	EUH-2,3	EUH-4	EUH-5
MANUFACTURER	QMARK	QMARK	QMARK	QMARK
MODEL No.	CDF-RE	CDF-RE	AMH404	CDF-RE
TYPE	RECESSED	CLMG. RECESSED	SURFACE MTD.	CLMG. RECESSED
CFM	150	150	150	150
MBH	10.2	5.1	5.1	10.2
KW	4.0	2.0	1.5	3.0
ELECTRICAL DATA (VOLT/PH.)	208/1	208/1	208/1	208/1
REMARKS	3,4,6	1,2,3	3,5,6	1,2,3

- REMARKS:
- PROVIDE WITH RECESSED ENCLOSE.
  - FURNISH WITH REMOTE THERMOSTAT.
  - APPROVED EQUAL: MARCEL.
  - PROVIDE WITH CDF-TX TRIM KIT.
  - PROVIDE WITH SURFACE MOUNTING FRAME.
  - FURNISH WITH INTEGRAL THERMOSTAT.

GRILLE AND DIFFUSER SCHEDULE					
MARK	CD-1	CD-2	G-1	G-2	G-3
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL No.	OMNI	OMNI	350RL	300RL	350RL
FRAME OR BORDER TYPE	LAY-IN	LAY-IN	LAY-IN	SURFACE	SURFACE
MODULE SIZE	24x24	12x12	SEE PLANS	SEE PLANS	SEE PLANS
DAMPER MODEL NUMBER	NA	NA	NA	NA	NA
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE
REMARKS	1,2	1,2	2	2	2

- REMARKS:
- ALL CEILING DIFFUSERS ARE 4-WAY THROW UNLESS INDICATED OTHERWISE ON PLAN.
  - APPROVED EQUALS: PRICE & KREUER.

FURNACE SCHEDULE (GAS-FIRED)		
MARK	F-1	F-2
MANUFACTURER	JCI	JCI
MODEL No.	TGS120020MP11	TGS120020MP11
SERVICE	BANK	BANK
SA CFM	1800	1800
OA CFM	350	400
ESP (\"/>		

- REMARKS:
- APPROVED EQUALS: CARRIER AND TRANE.
  - PROVIDE UPFLOW CASED COOLING COIL TO MATCH CONDENSING UNIT CAPACITY. (FC60)
  - PROVIDE DIGITAL 7-DAY PROGRAMMABLE THERMOSTAT.
  - PROVIDE CONCENTRIC VENT KIT. (S1-1C10303 (S))
  - TWO STAGE GAS BURNER.

DUCTLESS SPLIT AIR CONDITIONING UNIT SCHEDULE	
MARK	AC-1
MANUFACTURER	EMI
MODEL No.	WLG24
SERVICE	ETO
SUPPLY CFM	800
COOLING TOTAL CAPACITY (MBH)	24.0
SUPPLY FAN MOTOR (WATTS)	40.0
ELECTRIC HEAT (KW)	NA
FILTER TYPE	2\"/>

- REMARKS:
- POWER IS SUPPLIED FROM THE OUTDOOR UNIT (CU-3)
  - PROVIDE WITH REMOTE THERMOSTAT
  - MANUFACTURER TO PROVIDE CONDENSATE PUMP.
  - APPROVED EQUALS: SANYO AND MITSUBISHI.

AIR COOLED CONDENSING UNIT SCHEDULE		
MARK	CU-1,2	CU-3
MANUFACTURER	JCI	EMI
MODEL No.	TC0060	S1004
SERVICE	F-1,2	AC-1
CAPACITY (MBH)	57.0	24.0
AMBIENT TEMPERATURE (°F)	95°	95°
REFRIGERANT TYPE	R-410a	R-410a
SUCTION TEMPERATURE (°F)	45°	45°
COMPRESSOR NUMBER/RLA	1/17.9	1/10.0
No. OF STAGES	1	1
CONDENSOR NUMBER FANS / HP EA.	1/0.25	1/60.0W
ELECTRICAL (VOLT/PH.)	208/3	208/1
SEER	13.0	13.0
MCA	23.9	13.8
MOCP	40	23.8
OPER. WT. (LBS)	195	200
REMARKS	1,2	2,3

- REMARKS:
- APPROVED EQUALS: CARRIER AND TRANE.
  - PROVIDE DRAINAGE HEATER, LOW PRESSURE SWITCH AND LOW AMBIENT CONTROL TO O' F.
  - APPROVED EQUALS: SANYO & MITSUBISHI.

**vocon.**  
 3142 PROSPECT AVENUE  
 CLEVELAND, OH  
 44115 - 2612

T 216.588.0800  
 866.787.7021  
 F 216.588.0801  
 E vocon@vocon.com

WORKLEY Architects, Inc.  
 D/B/A

vocon.architecture

THORSON BAKER & Associates, Inc.  
 Consulting Engineers  
 3300 West Steeles Road  
 North Olmsted, Ohio 44130  
 (330) 659-6666 Ph.  
 (330) 659-6675 Fax

**PROFESSIONAL SEAL:**

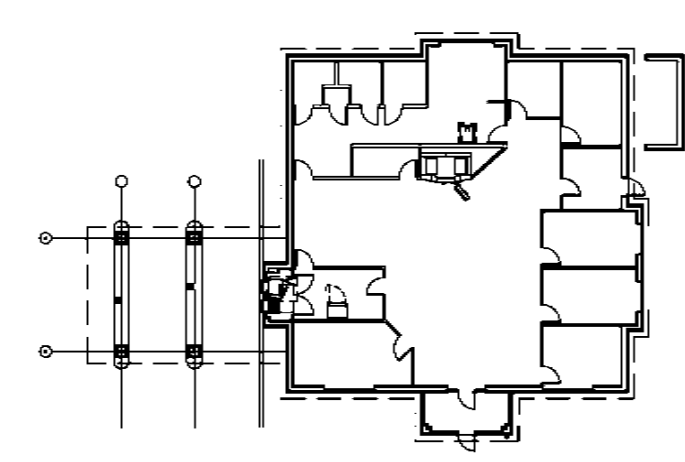
I hereby certify that this drawing, plan, specification, or report was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer, respectively, under the laws of the State of which govern this project.

**WARNING:** per IAW No person may alter these documents unless persona is, "or under the direct supervision of" the licensed architect (or Engineer, respectively).

Date: \_\_\_\_\_  
 Registration No: \_\_\_\_\_

PROPOSED NEW CONSTRUCTION FOR:

**KeyBank National Association**  
 181ST AND HALSEY  
 1532 NE 181ST AVE  
 PORTLAND, OR 97230



**APPROVAL:**

No.	Date	Description
1	Oct. 26, 2009	100% Permit Set

**CD, REVISIONS:**

No.	Date	Description
1	Nov 16, 2009	Clarification Revision #1

DRAWN BY: TBA  
 CHECKED BY: AAT  
 JOB NUMBER: 7030.00

DRAWING PHASE: \_\_\_\_\_  
 SHEET TITLE: \_\_\_\_\_

HVAC SCHEDULES AND DETAILS

SHEET NUMBER: **M1.0**





