

GENERAL NOTES:

- A. EXISTING WORK SHOWN IS FROM ORIGINAL DESIGN DRAWINGS. VERIFY EXISTING CONDITIONS IN THE FIELD.
- B. EXISTING WORK TO REMAIN IS SHOWN SCREENED. REMOVE EXISTING WORK SHOWN DARK, INCLUDING ALL SUPPORTS.
- C. PATCH AND REPAIR ALL CEILINGS AND WALLS WHERE AFFECTED BY REMOVAL OF DUCTS AND ACCESSORIES.
- D. ALL DEMOLITION WORK OF FRAMING AND FINISHES THAT WILL BE REQUIRED TO REMOVE AND INSTALL DUCTWORK AND ACCESSORIES IS NOT SHOWN HERE. COORDINATE EXTENT AS REQUIRED IN THE FIELD.

SHEET NOTES:

- 1. POINT OF DISCONNECT OF DEMO WORK FROM EXISTING TO REMAIN.
- 2. EXISTING WORK TO BE REMOVED.
- 3. REMOVE EXISTING ROOM TEMPERATURE OR PRESSURE CONTROL/MONITOR DEVICE.  
A. REINSTALL IN NEW LOCATION PER MH 2.11.  
B. TURN OVER TO OWNER AFTER REMOVAL.
- 4. REMOVE EXISTING FIRE/SMOKE DAMPER IN WALL OR AT CEILING DIFFUSER NECK. PATCH/REPAIR EXISTING DUCT AND/OR CEILING WHERE FSD WAS REMOVED.  
A. REINSTALL IN NEW LOCATION PER MH 2.11.  
B. TURN OVER TO OWNER AFTER REMOVAL.
- 5. EXISTING WORK TO REMAIN.
- 6. REMOVE EXISTING ROOF EXHAUST FAN AND CONNECTING DUCTWORK THROUGH ROOF. ROOF CURB AND CONDUIT FOR WIRING TO REMAIN FOR RE-USE.
- 7. REMOVE EXISTING CO2 SENSOR AND REINSTALL AT NEW LOCATION PER MH 2.11.
- 8. DISCONNECT HHWS/R BRANCH PIPING DOWNSTREAM OF SHUT-OFF VALVE TO COIL AND UPSTREAM OF CONTROL VALVE.
- 9. DISCONNECT SUPPLY OR EXHAUST DIFFUSER/GRILLE FROM CONNECTING DUCT AND REINSTALL AT NEW CEILING/LOCATION PER MH 2.11. RETAIN DUCT TRANSITION FITTING IF PRESENT.
- 10. REMOVE EXISTING CEILING EXHAUST FAN. DISCONNECT EXHAUST DUCT AT ELBOW CONNECTING TO RISER UP TO ROOF. FAN TO BE REINSTALLED AT NEW LOCATION PER MH 2.11.
- 11. REMOVE EXISTING ARCHITECTURAL CEILING ACCESS PANEL. COORDINATE PATCH AND REPAIR OF CEILING WITH ARCHITECT AS NEEDED.  
A. REINSTALL AT NEW LOCATION PER MH 2.11.
- 12. IF NEEDED TO ACCOMMODATE WALL RELOCATION, DISCONNECT SUPPLY OR EXHAUST DIFFUSER/GRILLE FROM CONNECTING DUCT AND REINSTALL AT NEW CEILING/LOCATION PER MH 2.11. RETAIN DUCT TRANSITION FITTING IF PRESENT.



Department of  
Veterans Affairs  
3801 Miranda Ave., Palo Alto CA

Project Title

520 A WING RENOVATE  
FOR F.O.R PROGRAM

Location

VA MED CTR, PALO ALTO, CA

Project Number

640-12-110P

Building Number

520

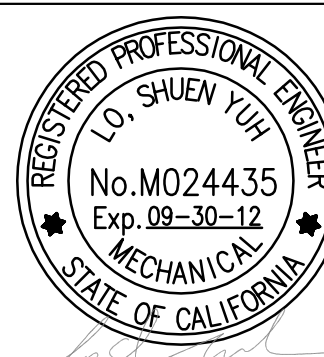
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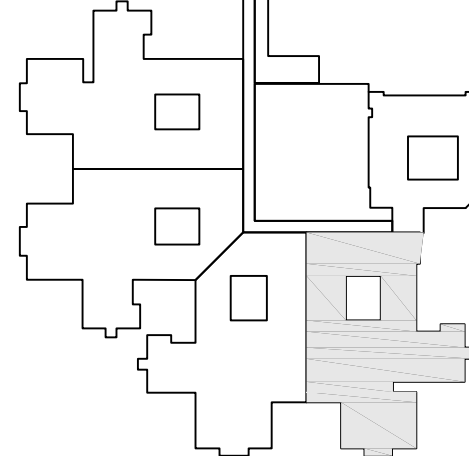
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Key plan:



CONSTRUCTION DOCUMENT  
SET

100% CONSTRUCTION DOCUMENTS 06-15-2012

Revisions:

Date

Approved: Project Director

Drawing Title

PARTIAL FLOOR PLAN  
NURSING UNIT A  
DEMO WORK

Scale:

1/8"=1'-0"

Drawing Number

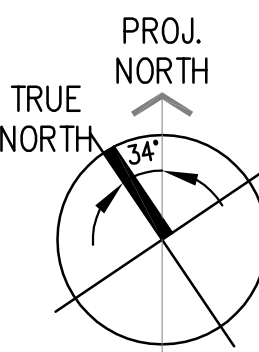
MD 2.11

Date: JUNE 15, 2012

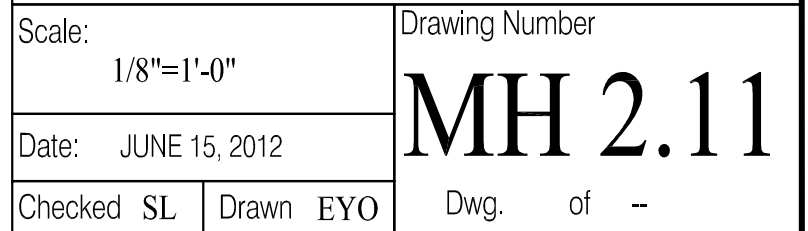
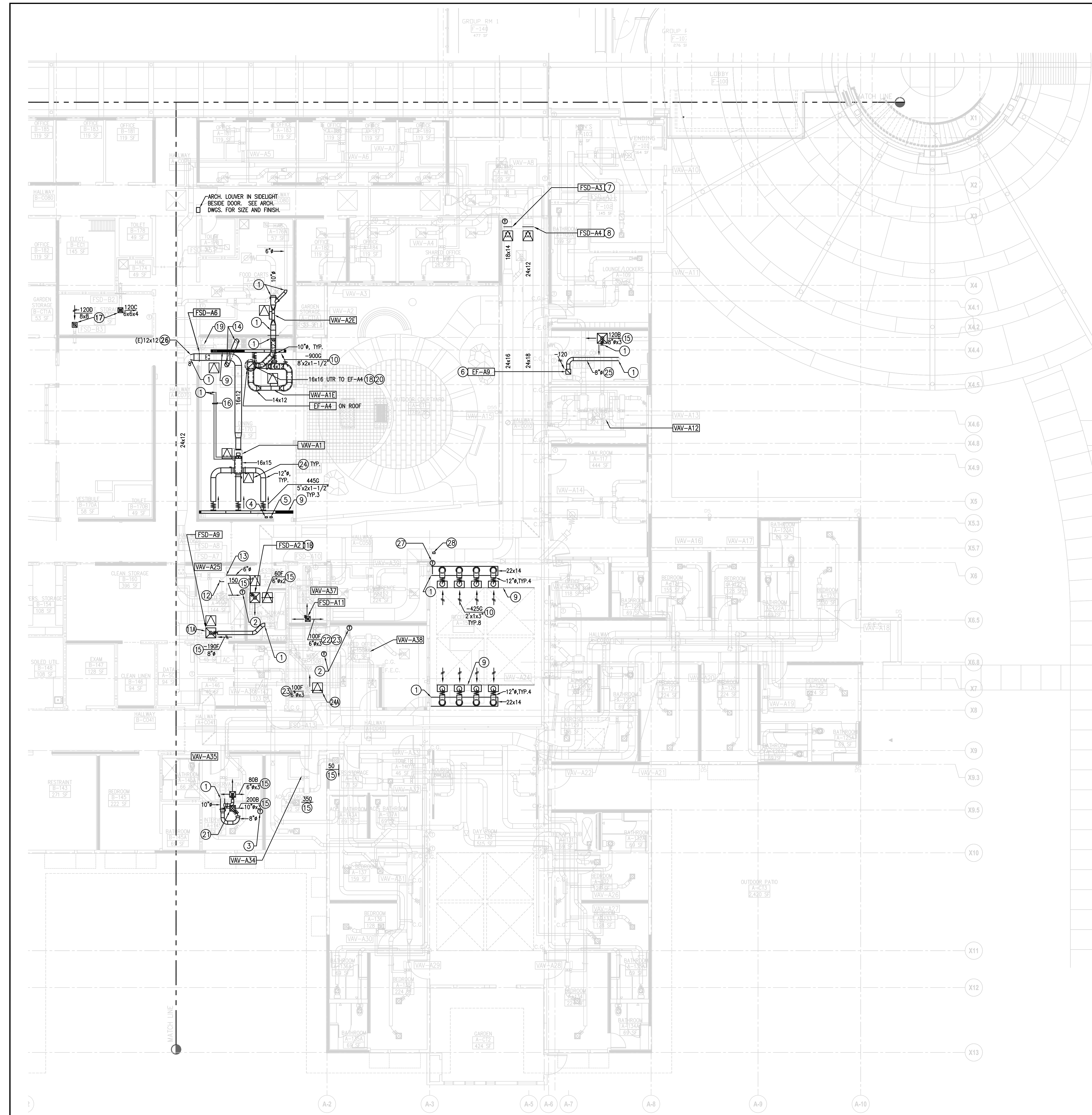
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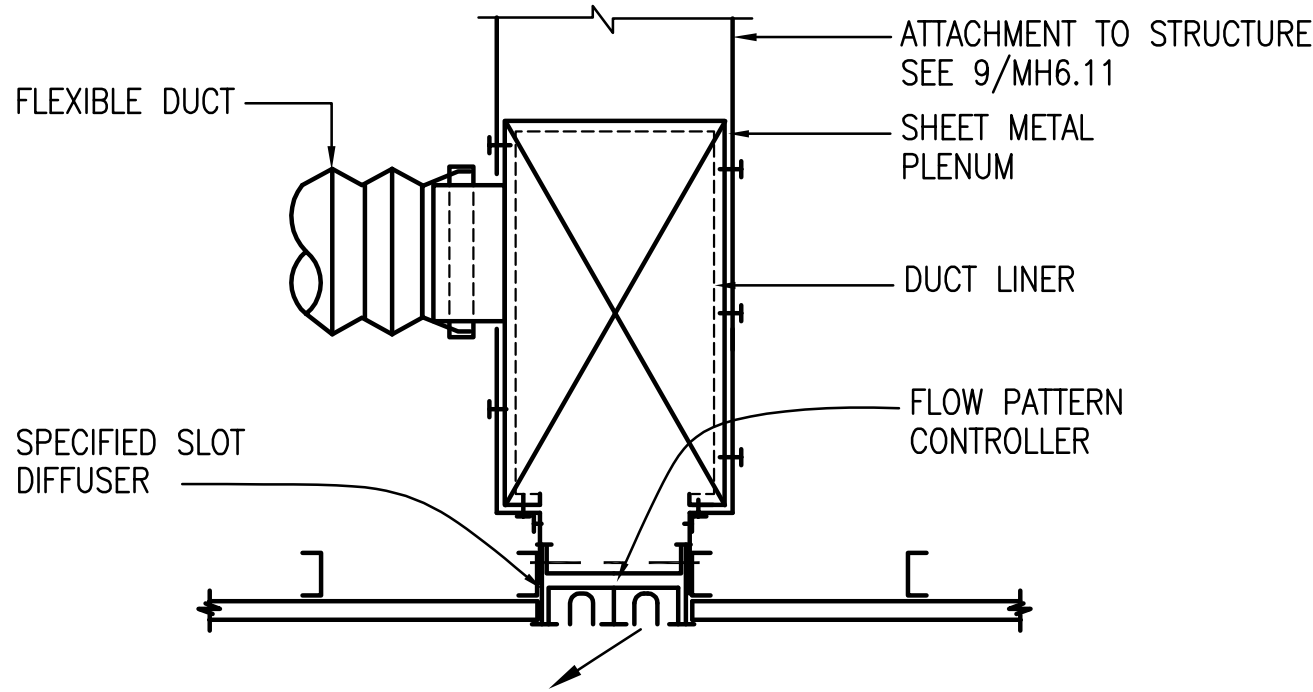
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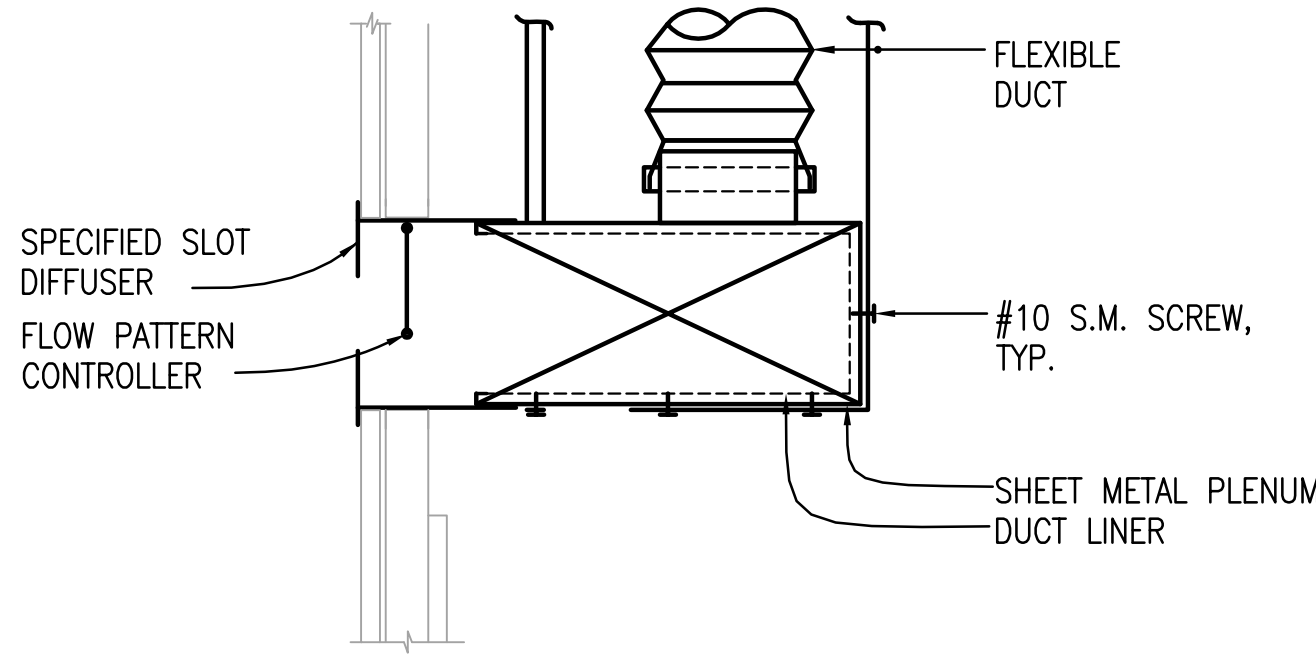


A three inches = one foot  
B one and one half inches = one foot  
C one inch = one foot  
D three quarters inch = one foot  
E one half inch = one foot  
F one quarter inch = one foot  
F one eighth inch = one foot



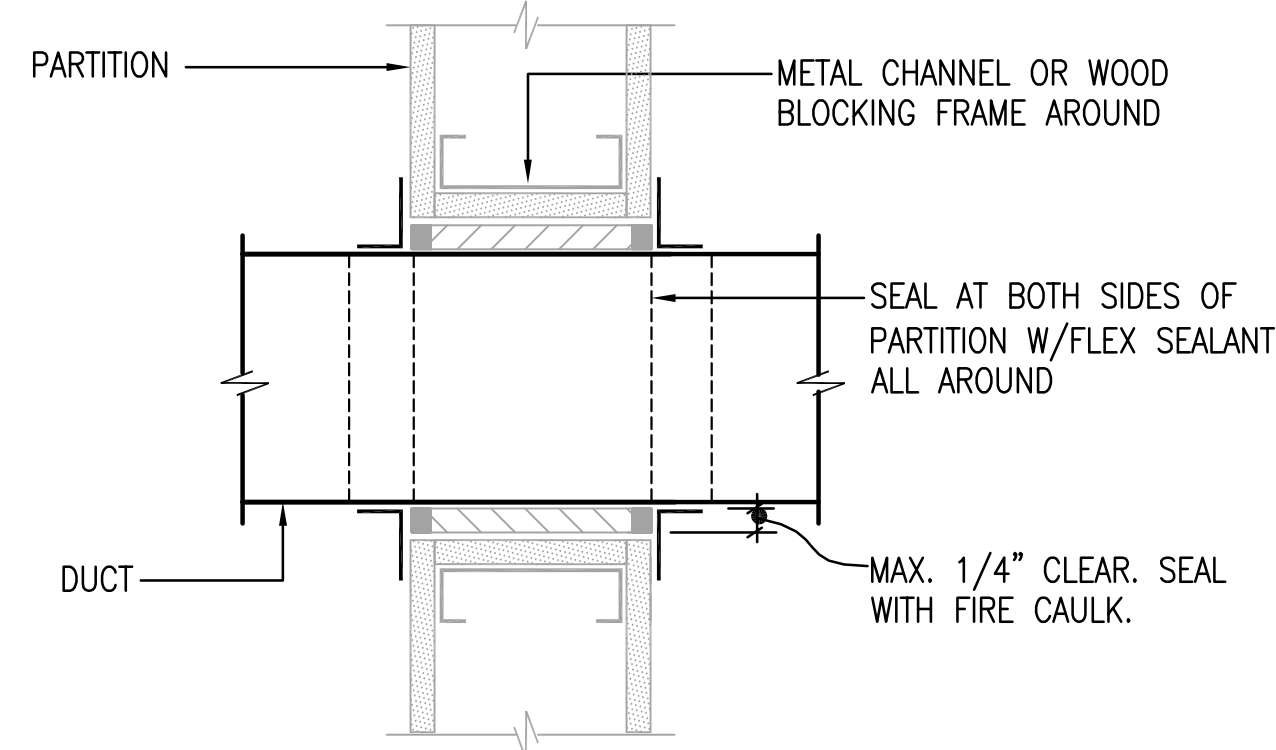
NOTE: 1. SEE PLANS AND SPECIFICATIONS FOR CEILING TYPES.

1 SLOT DIFFUSER



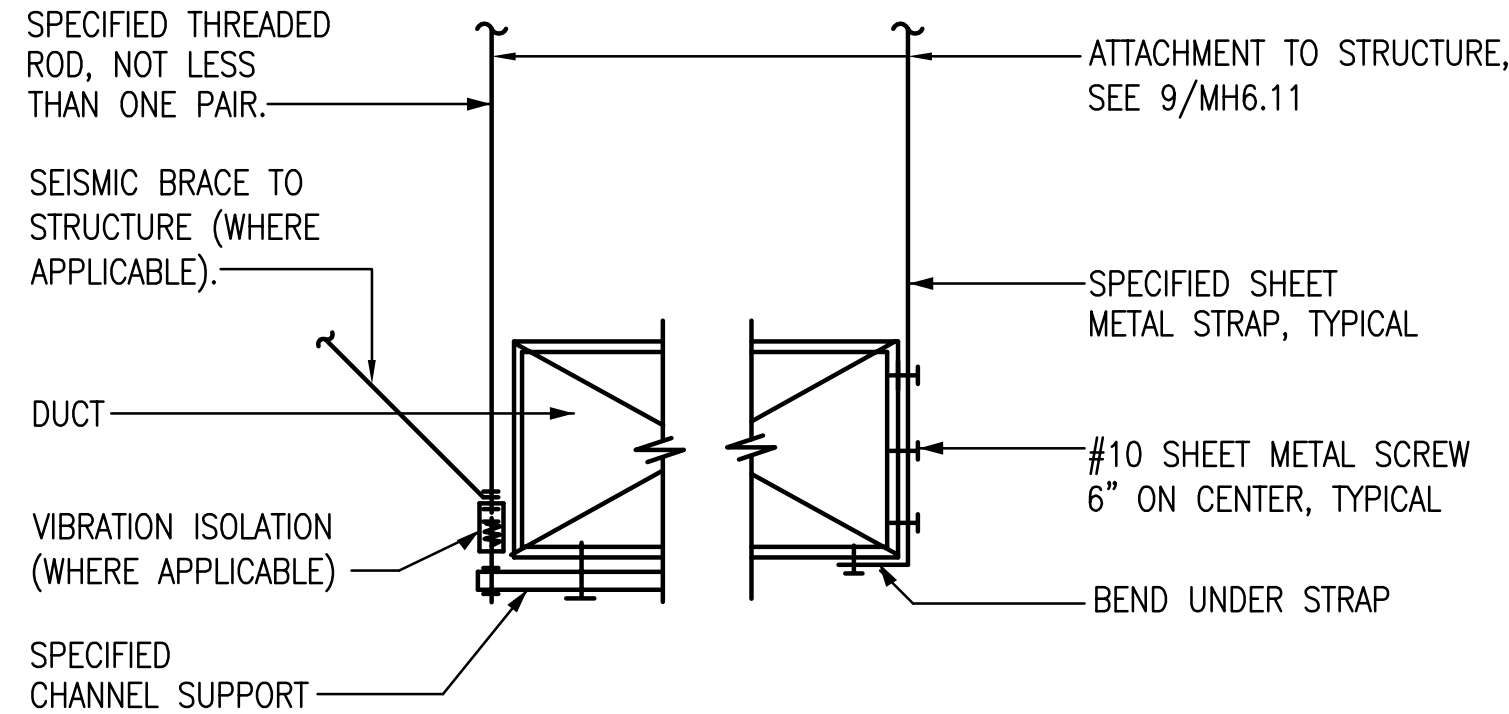
NOTE: 1. SEE PLANS AND SPECIFICATIONS FOR CEILING TYPES.

2 HORIZONTAL SLOT DIFFUSER



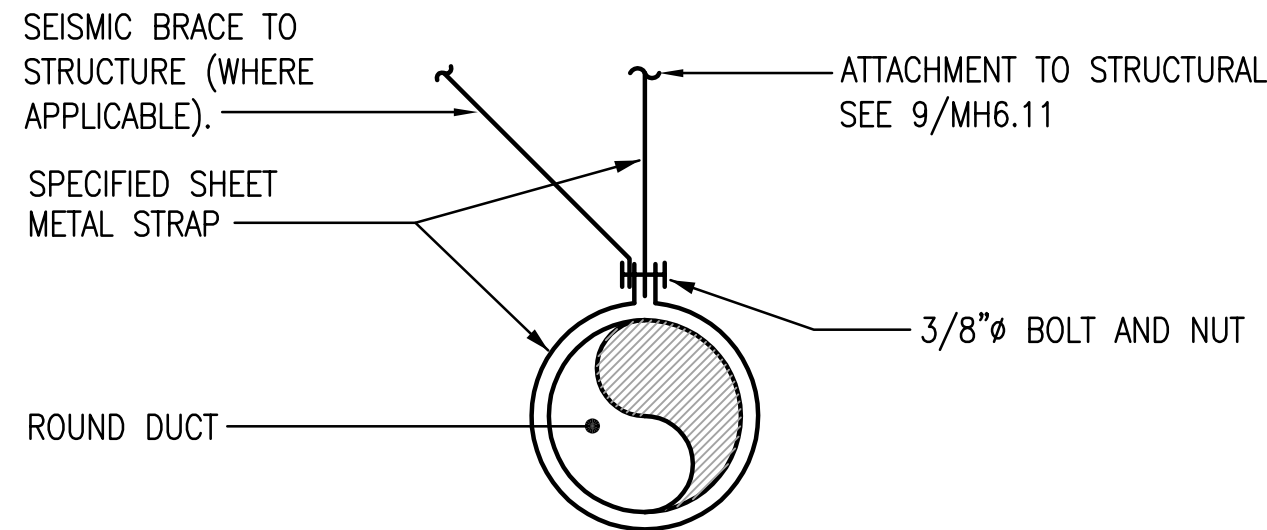
NOTES: 1. DETAIL SIMILAR FOR ALL CONCEALED AND EXPOSED DUCTS THROUGH PARTITION.  
2. PROVIDE FIRE DAMPERS WHERE SHOWN AND WHERE REQUIRED.  
3. CAULK ALL AROUND.  
4. GALVANIZED SHEET METAL ANGLE CLOSURES AT ALL LOCATIONS.  
5. SUPPORT DUCT ON BOTH SIDES OF PARTITION.

3 DUCT THROUGH PARTITION



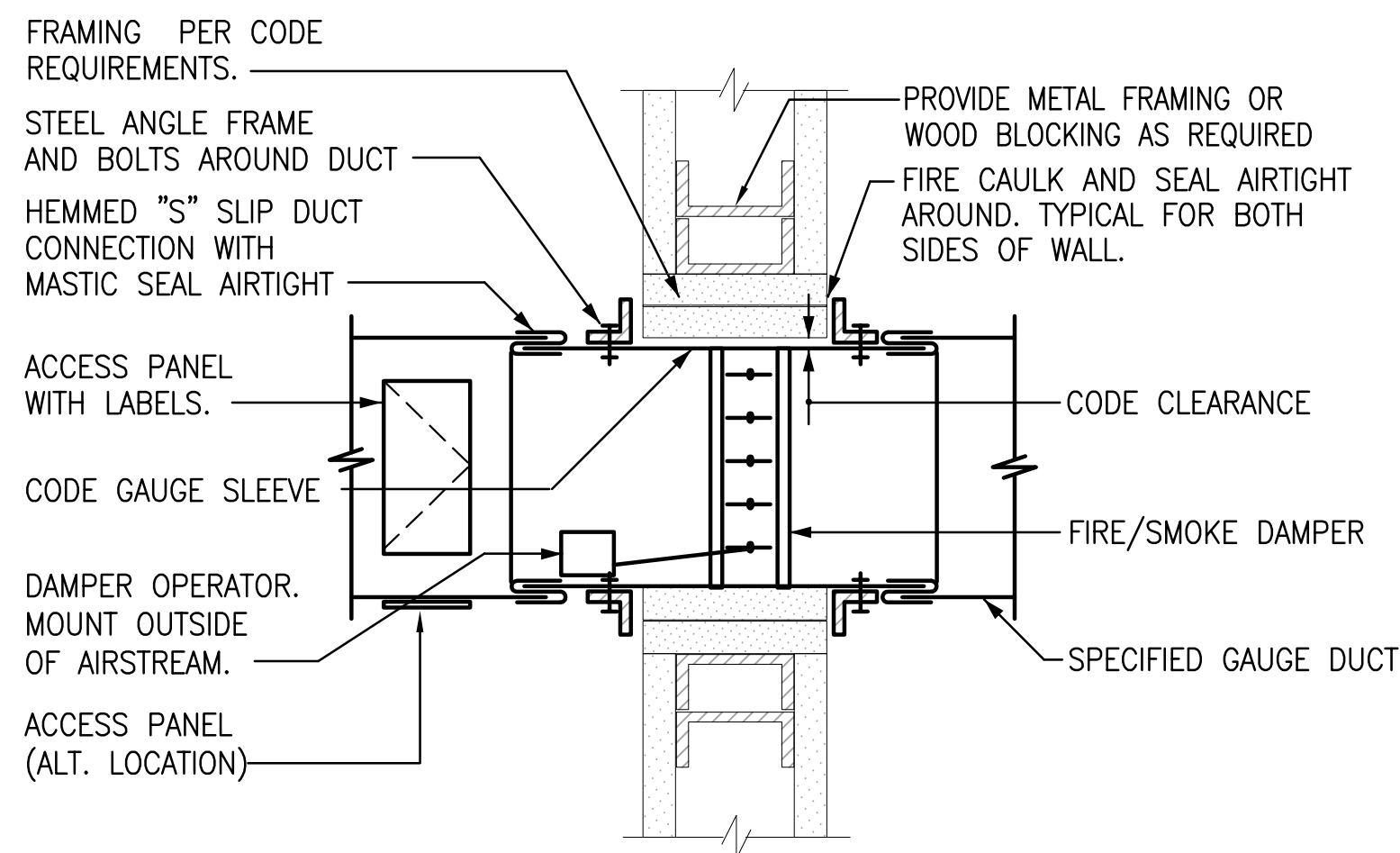
NOTES: 1. USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.  
2. SEE SPECIFICATIONS FOR VIBRATION ISOLATION.

4 RECTANGULAR DUCT SUPPORT



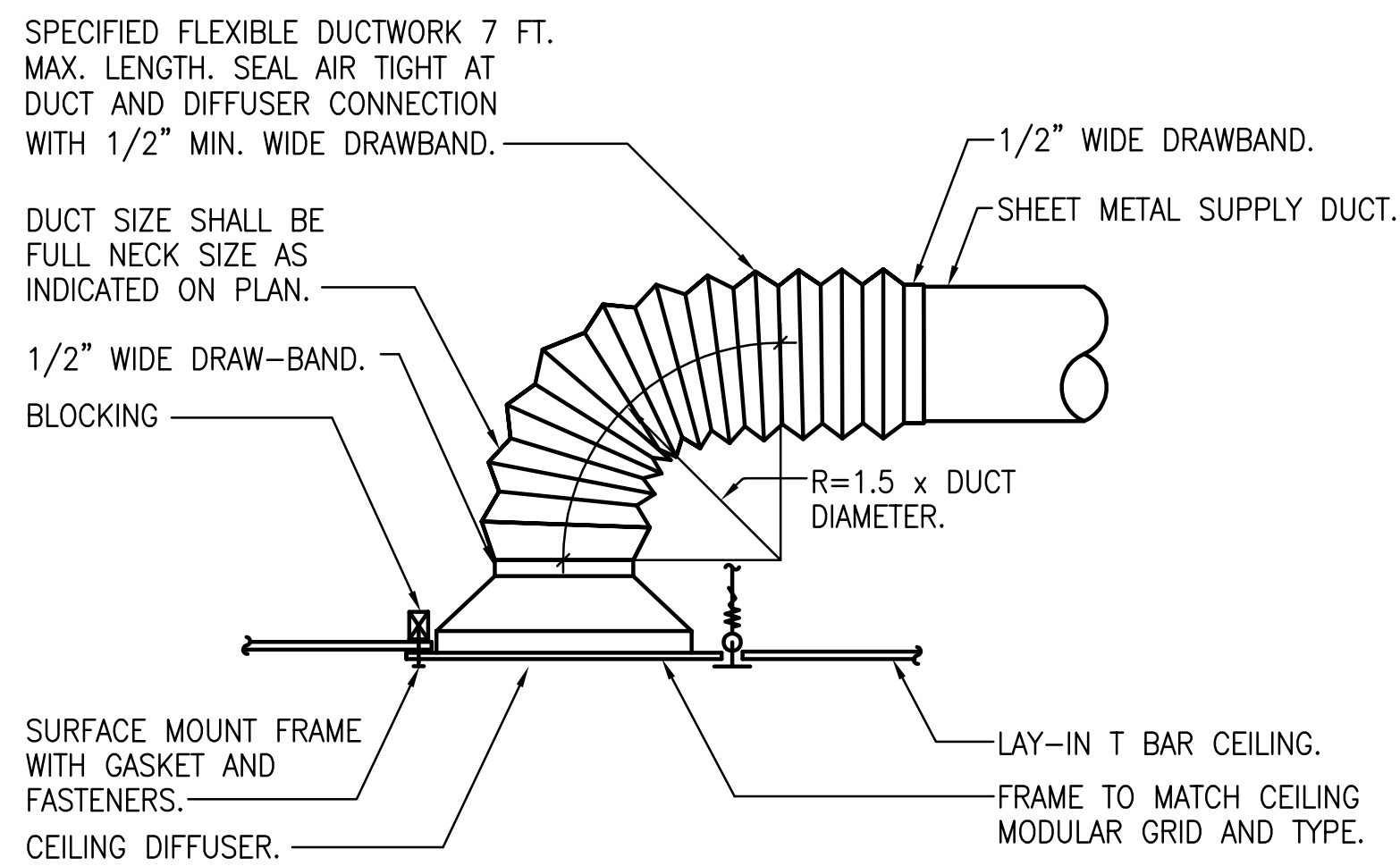
NOTES: 1. USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

5 ROUND DUCT SUPPORT



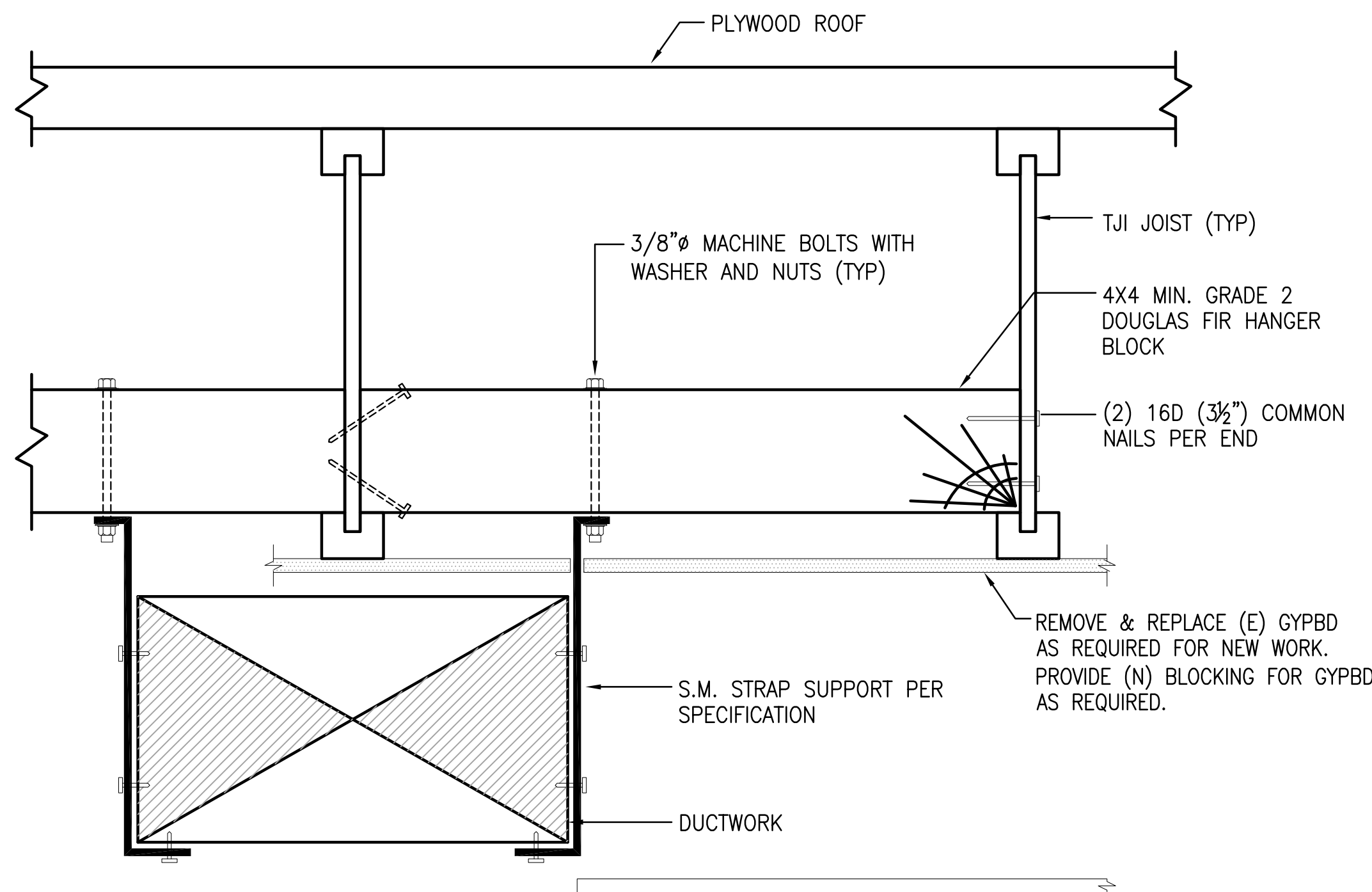
NOTE: 1. DAMPER INSTALLATION SHALL BE PERFORMED AS PER MANUFACTURER'S RECOMMENDATION, AND SHALL COMPLY WITH NFPA 90A AND APPROPRIATE LOCAL CODES.

6 FIRE/SMOKE DAMPER IN DUCT THRU WALL

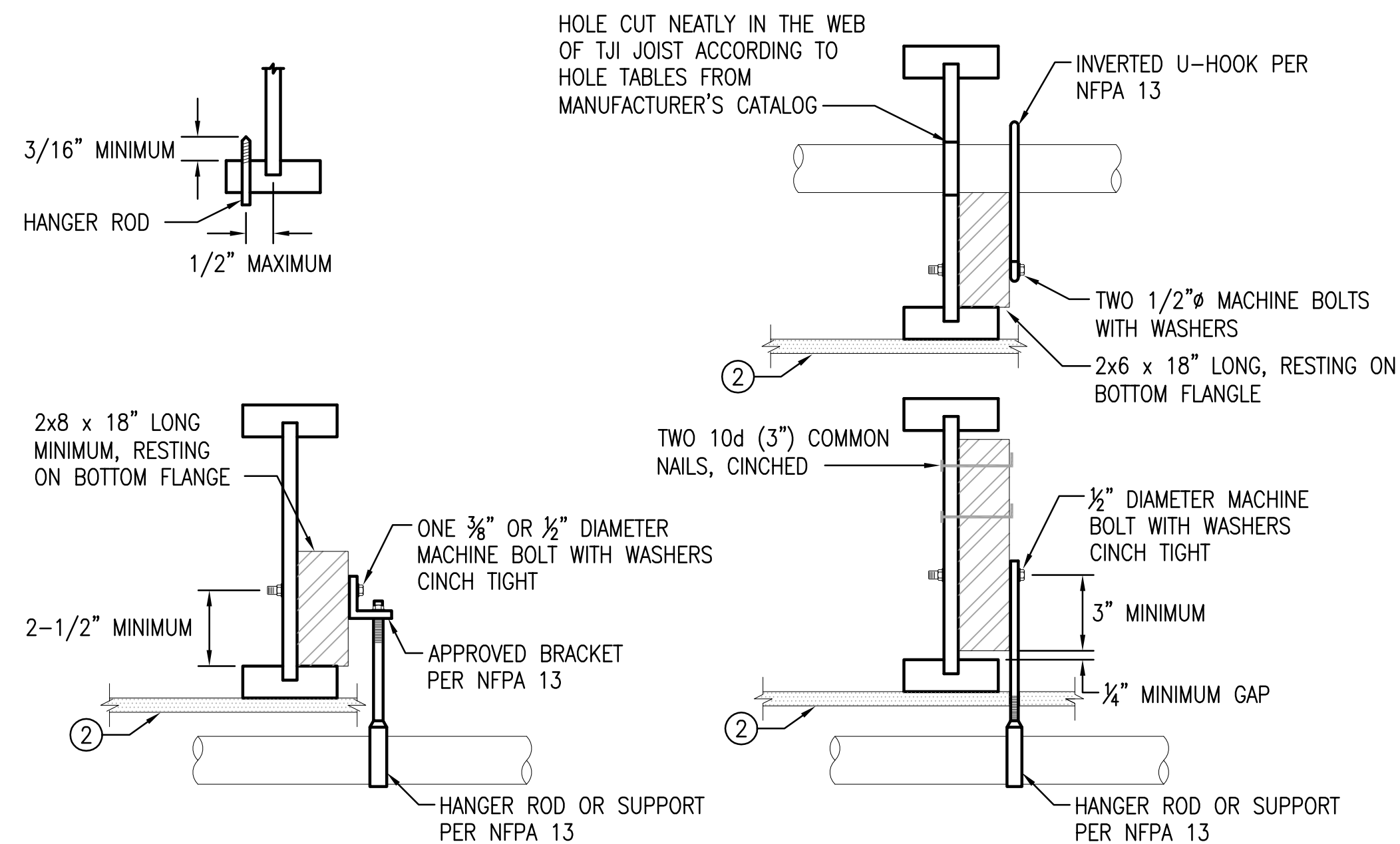


NOTES: 1. SEE DETAIL 2/MH6.12 FOR CEILING DIFFUSER WITH FIRE/SMOKE DAMPER.  
2. CONTRACTOR SHALL PROVIDE SHEET METAL PLENUM BOX ON THE TOP OF DIFFUSER IF THE 1.5 DIAMETER RADIUS CANNOT BE MAINTAINED.  
3. PROVIDE TRANSITION AS NEEDED BETWEEN DUCT AND DIFFUSER NECK.

7 CEILING DIFFUSER DETAIL



8 TYPICAL DUCTWORK SUPPORT DETAIL



NOTES: 1. DETAIL SIMILAR FOR PIPING OR DUCTWORK.  
2. REMOVE AND REPLACE (E) GYPBD AS REQUIRED FOR NEW WORK. PROVIDE (N) BLOCKING FOR GYPBD AS REQUIRED.

9 ATTACHMENT TO STRUCTURE



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CONSTRUCTION DOCUMENT  
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06-15-2012

Revisions:

Date

Approved: Project Director

Drawing Title

DETAILS

Scale:

NONE

Drawing Number

MH 6.11

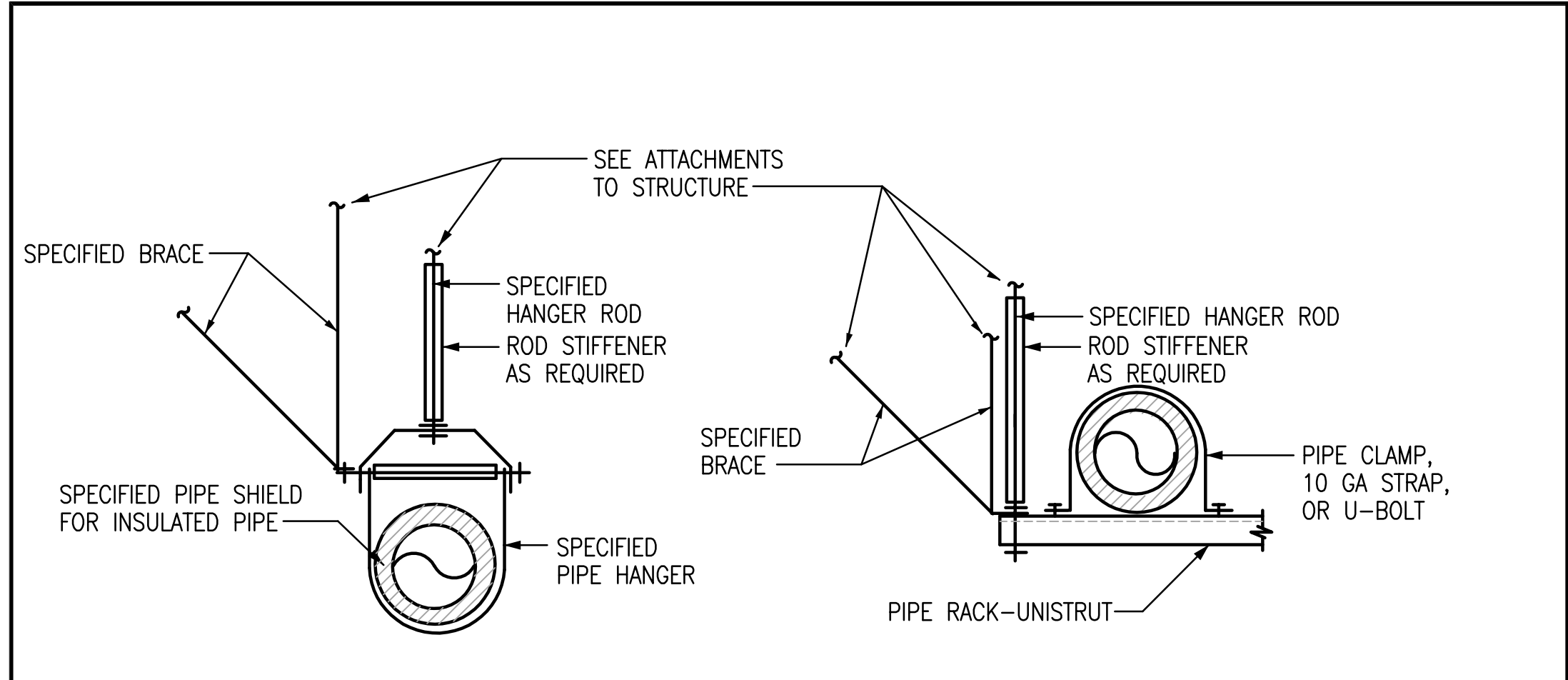
Date: JUNE 15, 2012

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SEE ATTACHMENTS TO STRUCTURE

SPECIFIED BRACE

SPECIFIED HANGER ROD  
ROD STIFFENER AS REQUIRED

SPECIFIED PIPE SHIELD FOR INSULATED PIPE

SPECIFIED PIPE HANGER

SPECIFIED BRACE

SPECIFIED HANGER ROD  
ROD STIFFENER AS REQUIRED

PIPE CLAMP, 10 GA STRAP, OR U-BOLT

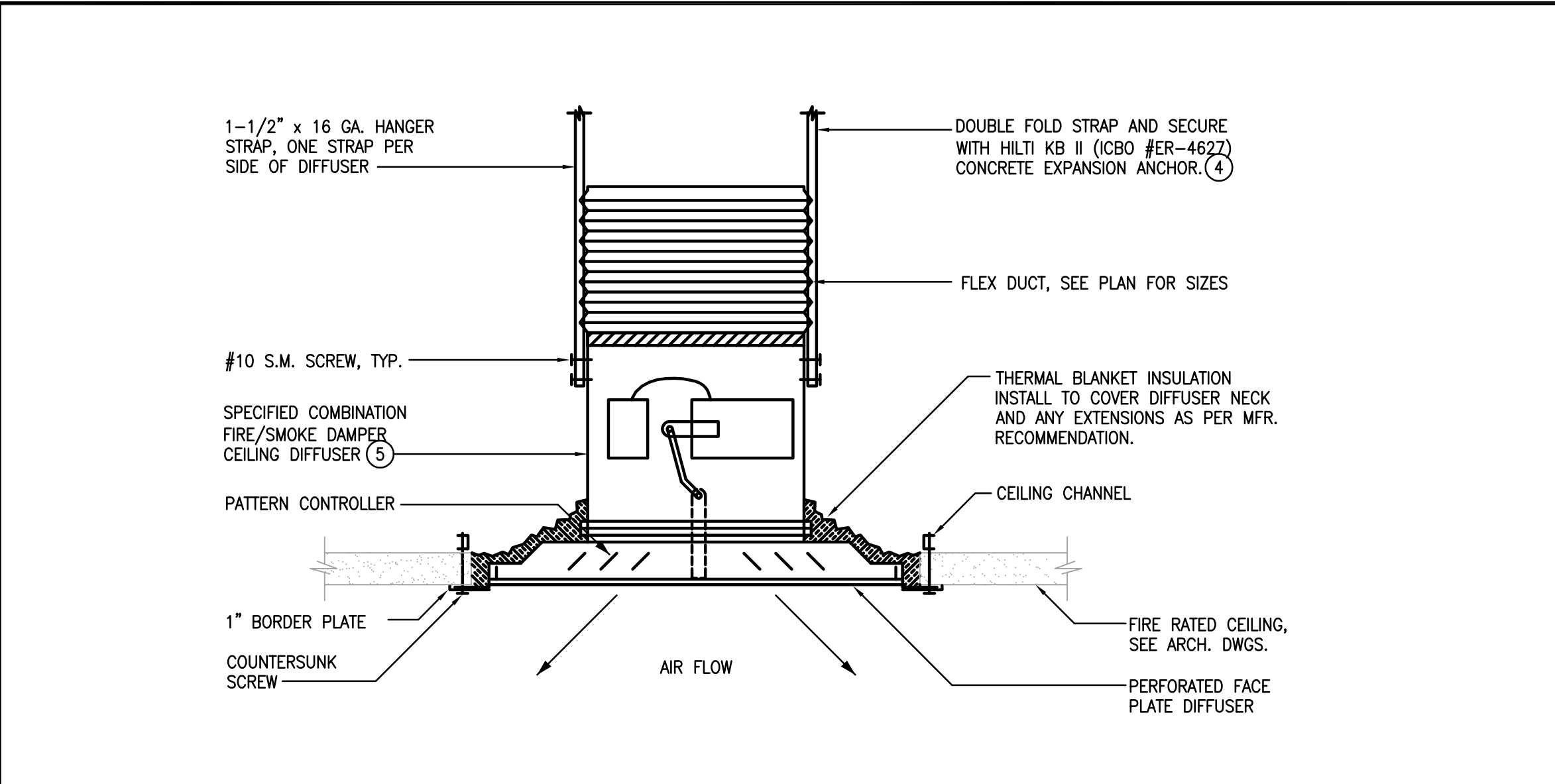
PIPE RACK-UNISTRUT

NOTES:

1. SUPPORT PIPES AT SPECIFIED INTERVALS AND AT EACH CHANGE OF DIRECTION.
2. MULTIPLE PIPES MAY BE SUPPORTED ON A COMMON TRAPEZE. ROD SIZE AND SPACING, TRAPEZE SIZE, AND SUPPORT SPACING SHALL BE GOVERNED BY CUMULATIVE WEIGHT OF SUPPORTED PIPING PER SPECIFICATION REQUIREMENTS.
3. BRACE PIPING LONGITUDINALLY, AND TRANSVERSELY AS SPECIFIED.

1

PIPE SUPPORT AND BRACING



1-1/2" x 16 GA. HANGER STRAP, ONE STRAP PER SIDE OF DIFFUSER

DOUBLE FOLD STRAP AND SECURE WITH HILTI KB II (ICBO #E-4622) CONCRETE EXPANSION ANCHOR

FLEX DUCT, SEE PLAN FOR SIZES

#10 S.M. SCREW, TYP.

SPECIFIED COMBINATION FIRE/SMOKE DAMPER CEILING DIFFUSER

PATTERN CONTROLLER

1" BORDER PLATE

COUNTERSUNK SCREW

AIR FLOW

THERMAL BLANKET INSULATION INSTALL TO COVER DIFFUSER NECK AND ANY EXTENSIONS AS PER MFR. RECOMMENDATION.

CEILING CHANNEL

FIRE RATED CEILING, SEE ARCH. DWGS.

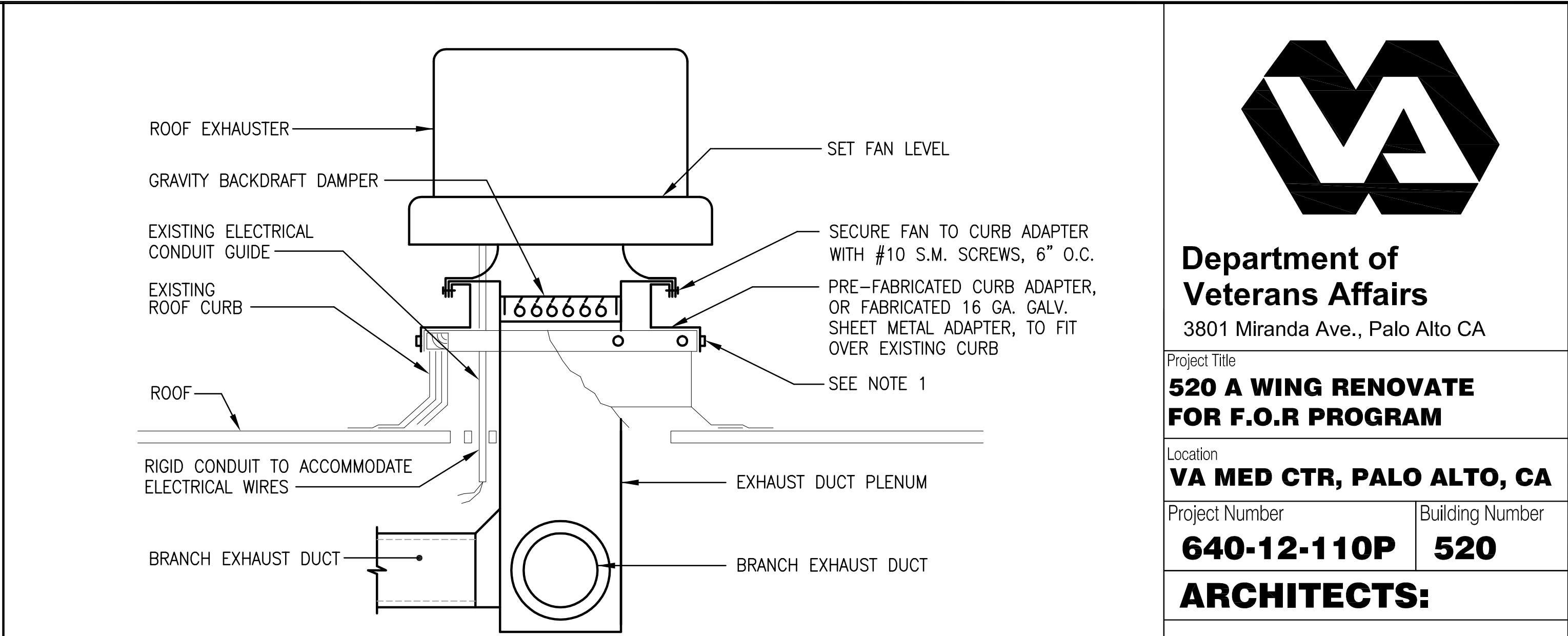
PERFORATED FACE PLATE DIFFUSER

NOTES:

1. DIFFUSER FLANGE TO MATCH CEILING MFR'S. REQUIREMENTS.
2. DETAIL IS SIMILAR FOR RETURN REGISTER, EXCEPT WITHOUT PATTERN CONTROLLER.
3. INSTALLATION SHALL BE PERFORMED AS PER MANUFACTURER'S RECOMMENDATION AND U.L. LISTING.
4. ANCHORAGE SHALL COMPLY WITH OSHPD OPA #0003, OPA #300, OR OPA #120.
5. FIRE SMOKE DAMPER SHALL BE TRIGGERED BY THE SPACE CEILING SMOKE DETECTOR. SEE FIRE ALARM FA-SERIES DRAWINGS.

2

DIFFUSER WITH FIRE/SMOKE DAMPER



ROOF EXHAUSTER

GRAVITY BACKDRAFT DAMPER

EXISTING ELECTRICAL CONDUIT GUIDE

EXISTING ROOF CURB

ROOF

RIGID CONDUIT TO ACCOMMODATE ELECTRICAL WIRES

BRANCH EXHAUST DUCT

SET FAN LEVEL

SECURE FAN TO CURB ADAPTER WITH #10 S.M. SCREWS, 6" O.C.

PRE-FABRICATED CURB ADAPTER, OR FABRICATED 16 GA. GALV. SHEET METAL ADAPTER, TO FIT OVER EXISTING CURB

EXHAUST DUCT PLENUM

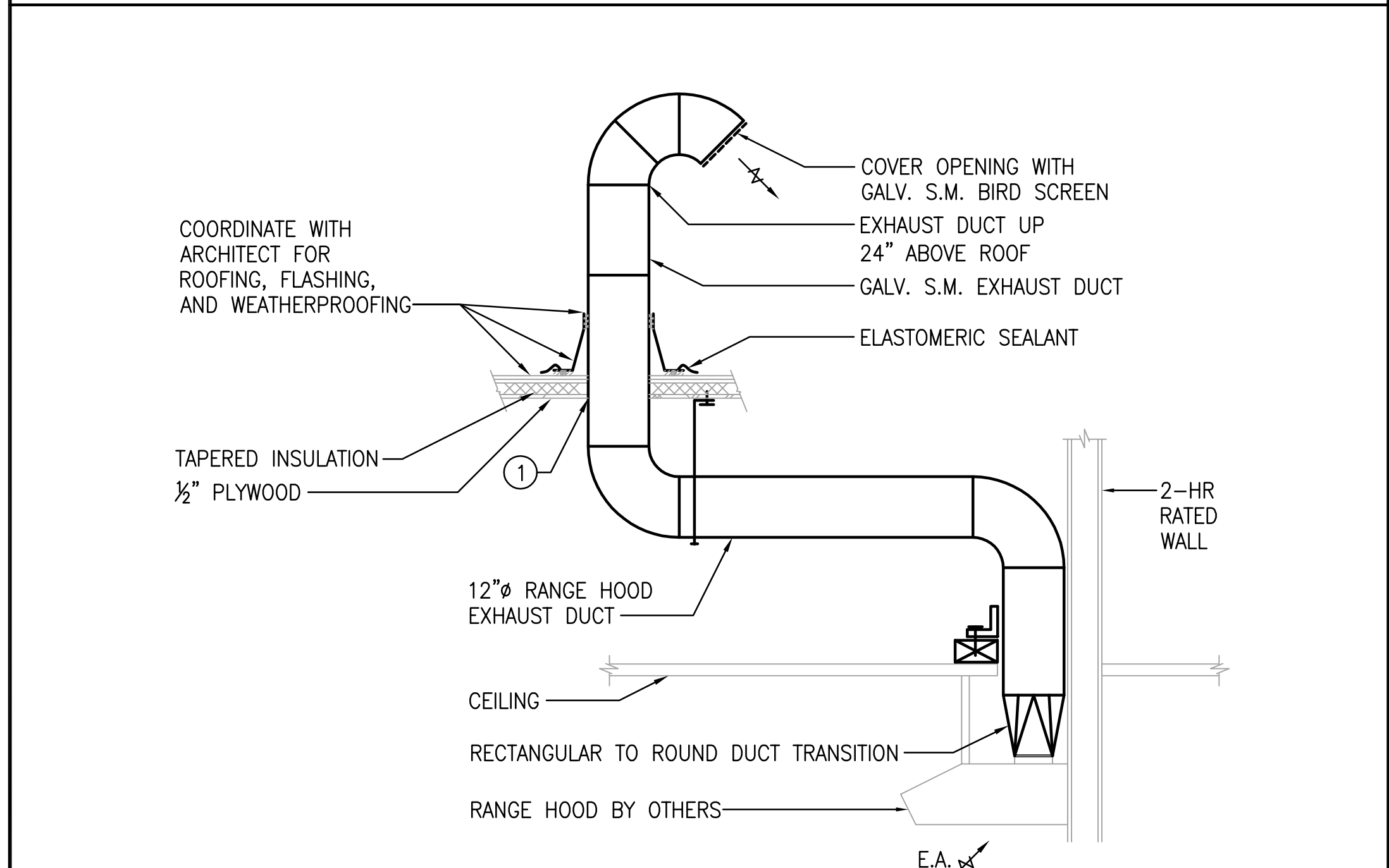
BRANCH EXHAUST DUCT

NOTES:

1. SECURE CURB ADAPTER TO EXISTING ROOF CURB WOOD NAILING STRIP WITH 3/8" CADMIUM PLATED LAG BOLTS, MAX. 12" ON CENTER.
2. SIZE OF DUCT THROUGH ROOF SHALL NOT BE LARGER THAN CURB SUPPLIED WITH FAN.
3. DUCT ROOF PENETRATIONS SHALL BE MIN. 4 FT. FROM ANY 2-HR FIRE-RATED WALL CONSTRUCTION.

3

ROOF EXHAUST FAN MOUNTING DETAIL



COORDINATE WITH ARCHITECT FOR ROOFING, FLASHING, AND WEATHERPROOFING

COVER OPENING WITH GALV. S.M. BIRD SCREEN

EXHAUST DUCT UP 24" ABOVE ROOF

GALV. S.M. EXHAUST DUCT

ELASTOMERIC SEALANT

TAPERED INSULATION

1/2" PLYWOOD

12" RANGE HOOD EXHAUST DUCT

CEILING

RECTANGULAR TO ROUND DUCT TRANSITION

RANGE HOOD BY OTHERS

2-HR RATED WALL

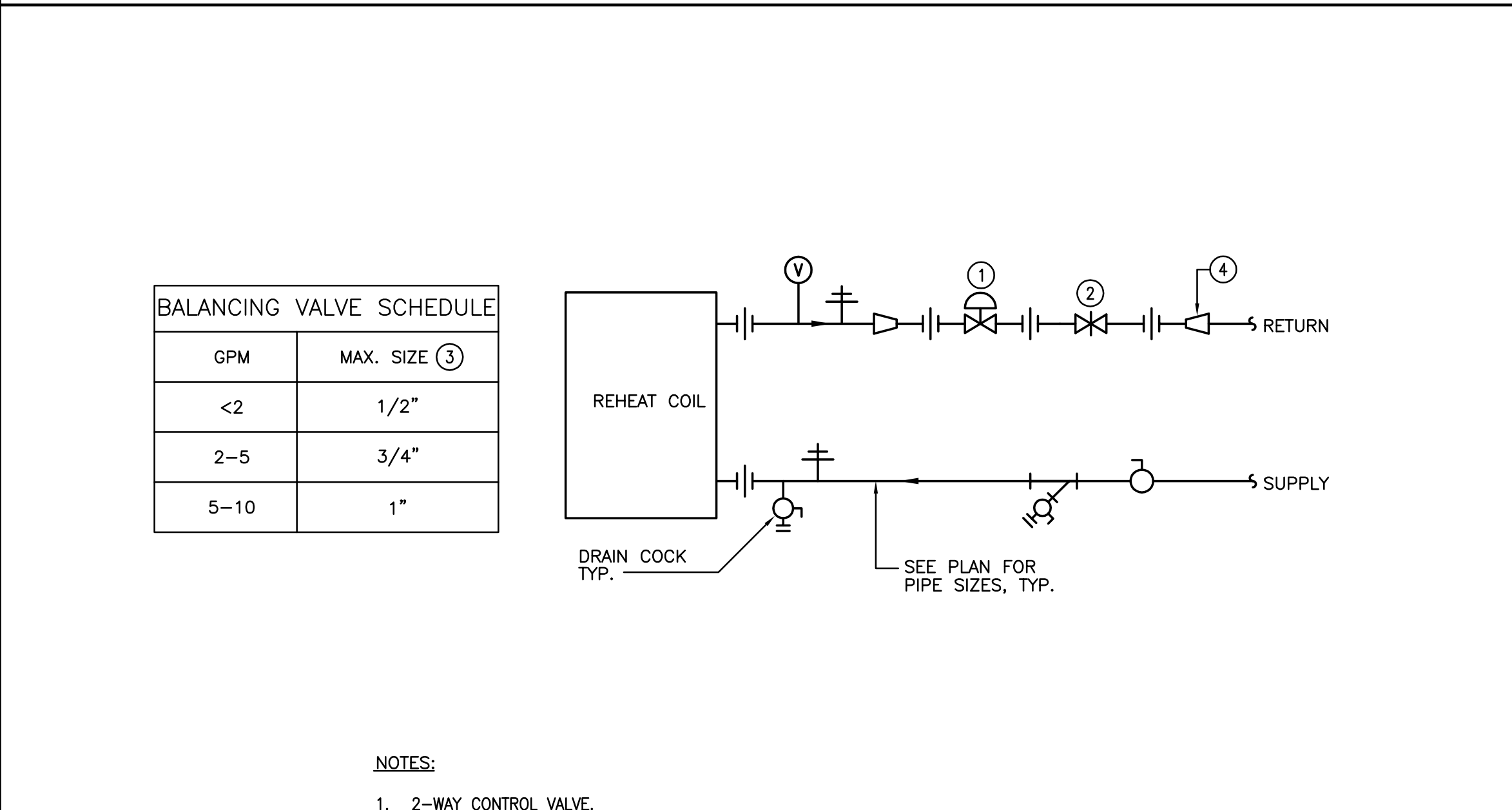
E.A.

NOTES:

1. DUCT ROOF PENETRATIONS SHALL BE MINIMUM 4 FEET FROM ANY 2 HR. FIRE-RATED WALL CONSTRUCTION.
2. MUST BE INSTALLED FOLLOWING ROOF MANUFACTURER'S PROCEDURES FOR PENETRATIONS TO PRESERVE ROOF WARRANTY.

4

RANGE HOOD EXHAUST DUCT THRU ROOF



GPM	MAX. SIZE
<2	1/2"
2-5	3/4"
5-10	1"

REHEAT COIL

DRAIN COCK TYP.

SEE PLAN FOR PIPE SIZES, TYP.

2-WAY CONTROL VALVE

2-WAY VALVE AT REHEAT COIL

SCHEDULED MAX. AIR FLOW

SCHEDULED MIN. AIR FLOW

ROOM SET POINT -3°F

ROOM SET POINT

ROOM SET POINT +3°F

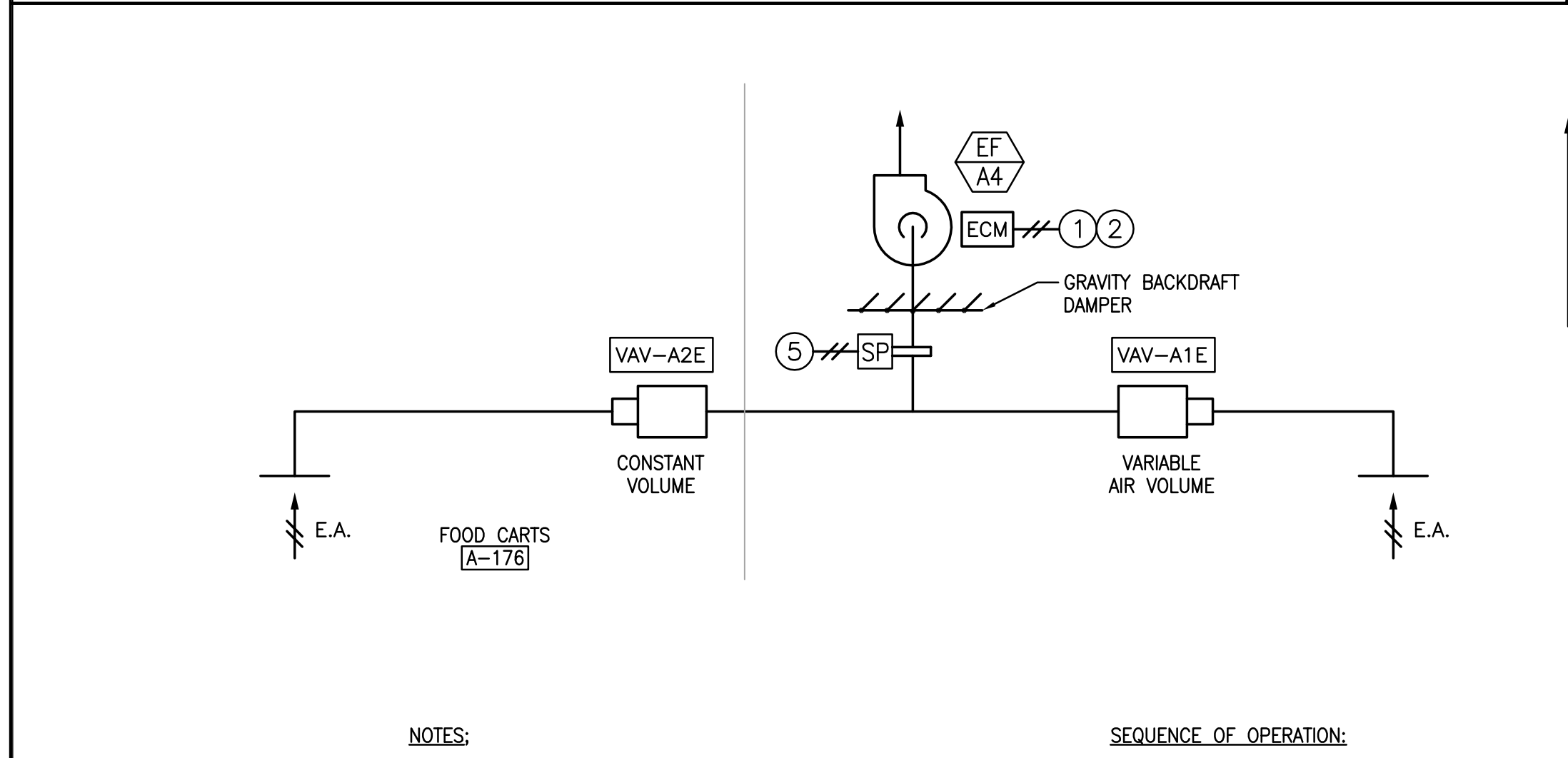
1.5 DEGREE DEAD BAND (±0.75 DEGREES).

NOTES:

1. 2-WAY CONTROL VALVE.
2. VALVE SIZE AS SCHEDULED.
3. BASED ON SPECIFIED VALVE.
4. PROVIDE REDUCERS WHERE BALANCING VALVES ARE SMALLER THAN LINE SIZE.

5

PIPING AT REHEAT COILS



VAV-A2E

CONSTANT VOLUME

VAV-A1E

VARIABLE AIR VOLUME

E.A.

FOOD CARTS (A-176)

DINING (A-170)

KITCHEN EXHAUST HOOD WITH BUILT-IN FAN AND SWITCH, SAD

DISCHARGE UP THROUGH ROOF

EF-A4

ECM

SP

VAV-A1

VARIABLE AIR VOLUME

S.A.

NOTES:

1. FAN STATUS (VIA CURRENT SENSOR) TO DDC PANEL.
2. FAN MODULATION SIGNAL FROM DDC PANEL (0-10 VDC).
3. SEE 6/MH 6.12.
4. SPACE STATIC PRESSURE MONITOR TO DDC PANEL.
5. DUCT STATIC PRESSURE MONITOR TO DDC PANEL.

SEQUENCE OF OPERATION:

EF-A4 FAN SHALL BE INTERLOCKED WITH AC-A. ONCE STARTED, EF-A4 SHALL RUN MODULATE TO MAINTAIN THE DUCT STATIC PRESSURE, INITIALLY SET AT 0.5" W.C. S.P. (ADJUSTABLE).

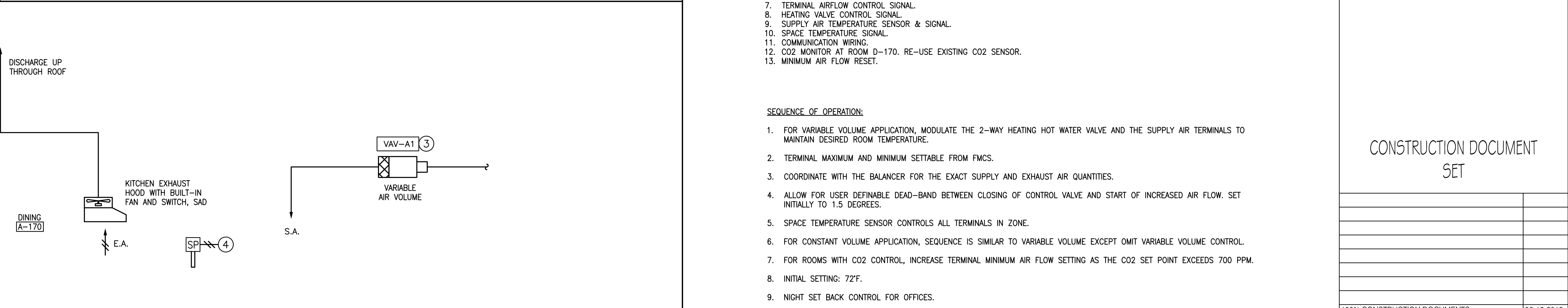
WHEN THE KITCHEN EXHAUST HOOD IS NOT RUNNING, VAV-A1E SHALL MODULATE TO MAINTAIN THE SPACE STATIC PRESSURE SENSOR AT -0.02" W.C. (ADJUSTABLE).

WHEN THE KITCHEN EXHAUST HOOD IS TURNED ON, THE DDC SYSTEM SHALL SEQUENCE THE SUPPLY AND EXHAUST VAV TERMINALS TO MAINTAIN THE SPACE STATIC PRESSURE SETPOINT (-0.02" W.C.). THE EXHAUST VAV TERMINAL SHALL BE BACKED DOWN FIRST, THEN THE SUPPLY VAV TERMINAL SHALL MODULATE TO MAINTAIN THE SPACE STATIC PRESSURE SETPOINT.

WHEN THE ROOM CO2 SENSOR READING EXCEEDS 700 PPM, THE ROOM SUPPLY VAV TERMINAL SHALL GO TO ITS MAXIMUM SETPOINT AND THE EXHAUST VAV TERMINAL SHALL MODULATE TO MAINTAIN THE PRESET ROOM PRESSURE.

7

DINING ROOM TEMPERATURE CONTROL AND VENTILATION SYSTEM



VAV-A2E

CONSTANT VOLUME

VAV-A1E

VARIABLE AIR VOLUME

E.A.

FOOD CARTS (A-176)

DINING (A-170)

KITCHEN EXHAUST HOOD WITH BUILT-IN FAN AND SWITCH, SAD

DISCHARGE UP THROUGH ROOF

EF-A4

ECM

SP

VAV-A1

VARIABLE AIR VOLUME

S.A.

GENERAL NOTES:

A. EXHAUST AIR TERMINAL CONTROL IS SIMILAR, EXCEPT NO REHEAT COIL AND SUPPLY AIR TEMPERATURE SENSOR.

NOTES:

1. SUPPLY VAV/CV TERMINAL
2. SUPPLY VAV/CV TERMINAL AIR FLOW TRANSMITTER.
3. AIR FLOW MONITORING SIGNAL.
4. LOCATE TOP ABOVE CEILING AT TERMINAL.
5. PROVIDE 24V AC TO EACH CONTROLLER.
6. BYPASS MONITOR.
7. TERMINAL AIRFLOW CONTROL SIGNAL.
8. HEATING VALVE CONTROL SIGNAL.
9. SUPPLY AIR TEMPERATURE SENSOR & SIGNAL.
10. SPACE TEMPERATURE SIGNAL.
11. COMMUNICATION WIRING.
12. CO2 MONITOR AT ROOM D-170. RE-USE EXISTING CO2 SENSOR.
13. MINIMUM AIR FLOW RESET.

SEQUENCE OF OPERATION:

1. FOR VARIABLE VOLUME APPLICATION, MODULATE THE 2-WAY HEATING HOT WATER VALVE AND THE SUPPLY AIR TERMINALS TO MAINTAIN DESIRED ROOM TEMPERATURE.
2. TERMINAL MAXIMUM AND MINIMUM SETTABLE FROM FMCS.
3. COORDINATE WITH THE BALANCER FOR THE EXACT SUPPLY AND EXHAUST AIR QUANTITIES.
4. ALLOW FOR USER DEFINABLE DEAD-BAND BETWEEN CLOSING OF CONTROL VALVE AND START OF INCREASED AIR FLOW. SET INITIALLY TO 1.5 DEGREES.
5. SPACE TEMPERATURE SENSOR CONTROLS ALL TERMINALS IN ZONE.
6. FOR CONSTANT VOLUME APPLICATION, SEQUENCE IS SIMILAR TO VARIABLE VOLUME EXCEPT OMIT VARIABLE VOLUME CONTROL.
7. FOR ROOMS WITH CO2 CONTROL, INCREASE TERMINAL MINIMUM AIR FLOW SETTING AS THE CO2 SET POINT EXCEEDS 700 PPM.
8. INITIAL SETTING: 72°F.
9. NIGHT SET BACK CONTROL FOR OFFICES.
  - a. 85°F COOLING, 60°F HEATING, OR AS OTHERWISE DIRECTED. 9:00 P.M. - 6:00 A.M.
- b. OVERRIDE TO NORMAL OPERATION BY PUSHING THE BYPASS BUTTON ON THE ROOM TEMPERATURE SENSOR. OVERRIDE IS TO OPERATE FOR ONE HOUR AFTER ACTIVATION, UNLESS DIRECTED OTHERWISE.

6

CONTROLS FOR VAV AND CV TERMINALS



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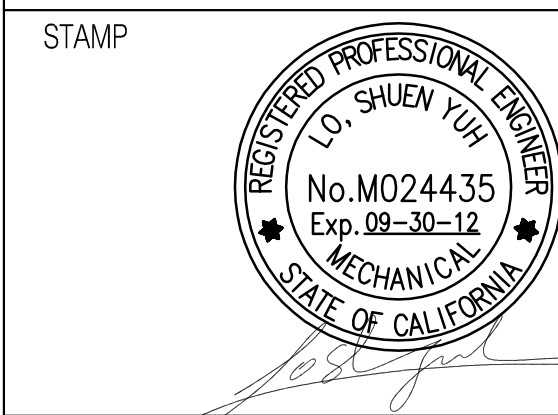
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