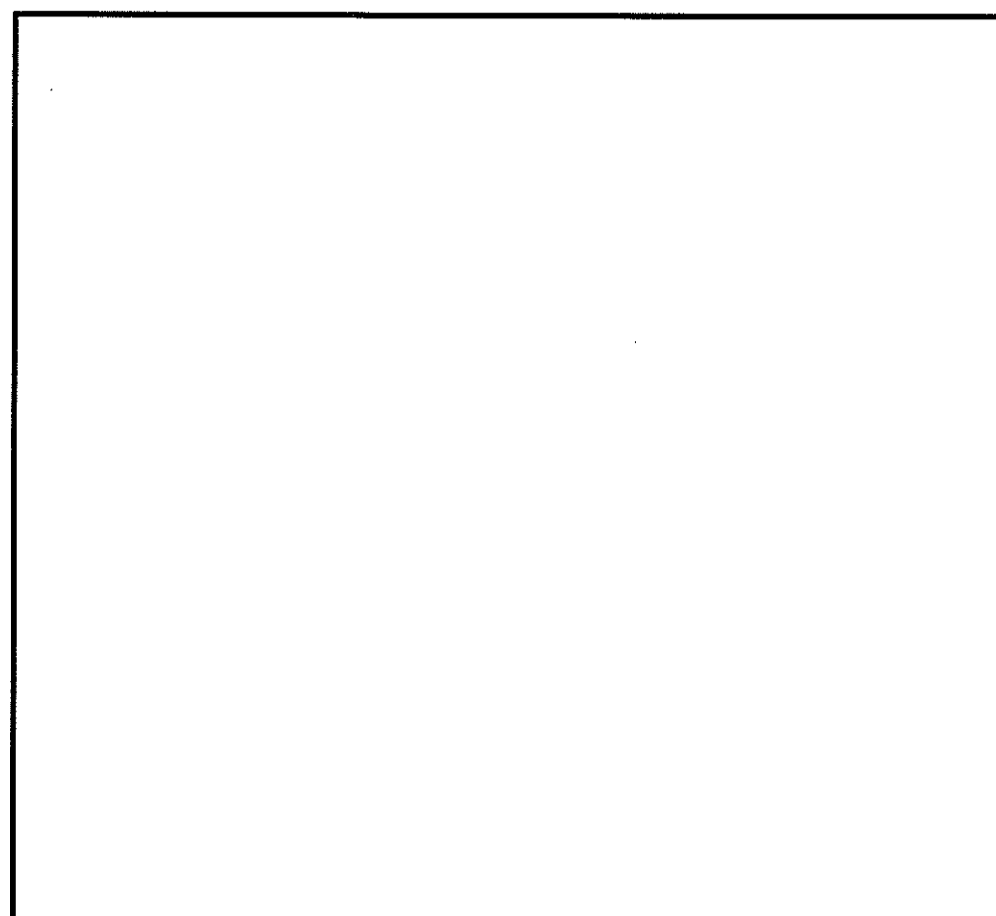


**MECHANICAL GENERAL NOTES**

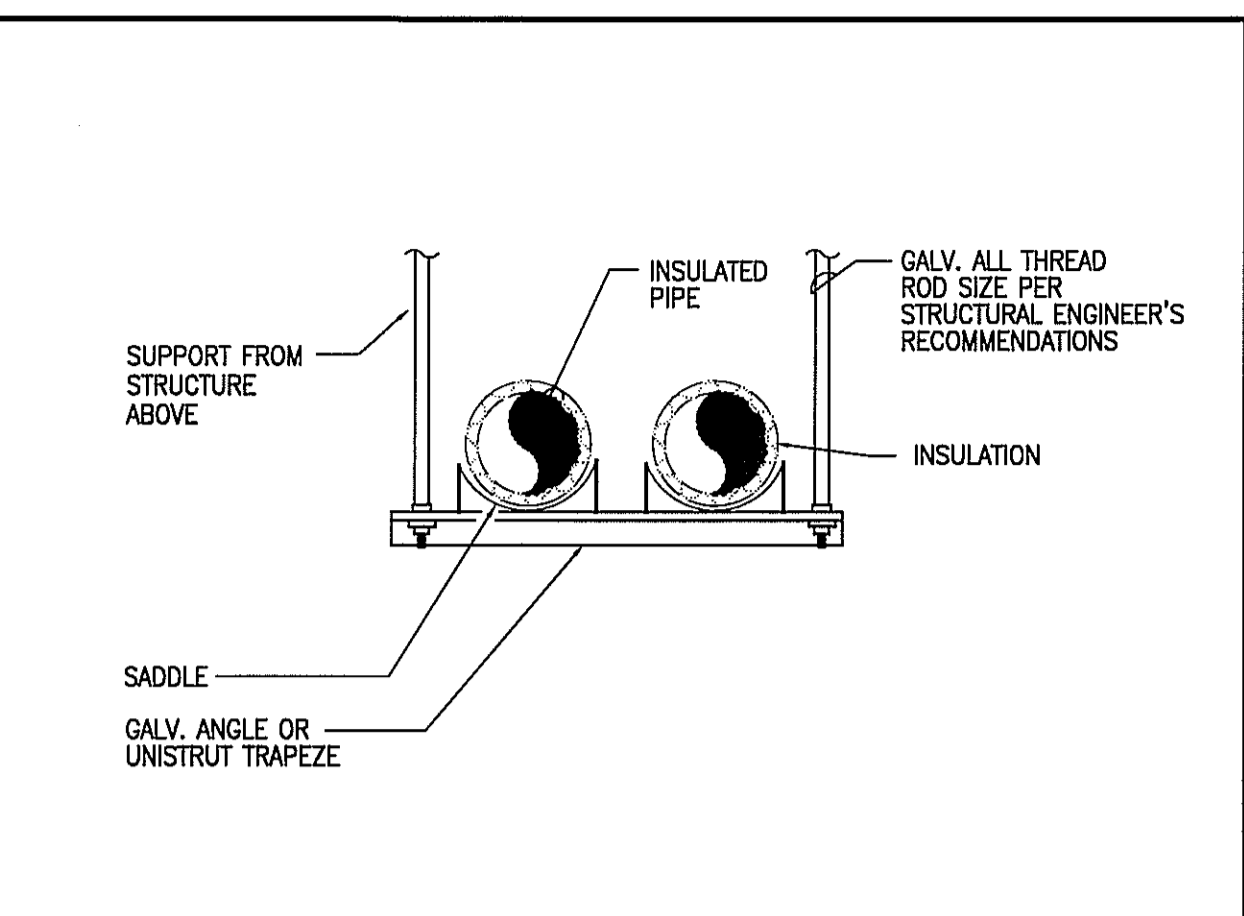
- CODES, RULES AND REGULATIONS - DESIGN OF SYSTEM
  - ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES AND CODES.
  - WHEN THE DRAWINGS CALL FOR MATERIALS OR CONSTRUCTION OF A BETTER QUALITY OR LARGER SIZES THAN REQUIRED BY THE ABOVE MENTIONED CODES AND RULES, WORK SHALL BE AS SPECIFIED OR SHOWN RATHER THAN AS REQUIRED BY CODE. ALL ITEMS OR FEATURES OF THE MECHANICAL SYSTEMS REQUIRED BY CODE SHALL BE INCLUDED, EVEN THOUGH NOT SPECIFIED HEREIN.
  - INSTALLATION OF THE SYSTEMS SHALL BE IN ACCORDANCE WITH THE ABOVE MENTIONED CODES AND REGULATIONS AND ALSO SHALL CONFORM TO GOOD, ACCEPTED MECHANICAL PRACTICES.
- PROVIDE AND INSTALL VOLUME DAMPERS IN ALL BRANCH DUCTS.
- FLEXIBLE CONNECTIONS AT SUPPLY AND RETURN AIR OPENINGS OF ALL AIR CONDITIONING UNITS.
- FLEXIBLE DUCTS TO BE GLASS-FLEX 8"-0", MAXIMUM IN LENGTH, WHERE APPLICABLE.
- COORDINATE EXACT LOCATION OF ALL AIR OUTLETS AND INLETS (DIFFUSERS, REGISTERS AND GRILLES) WITH APPROPRIATE ARCHITECTURAL PLAN, AND VERIFY THEIR LOCATION WITH ARCHITECT ON THE JOB SITE BEFORE INSTALLATION. COLOR AS DIRECTED BY OWNER.
- AUTOMATIC TEMPERATURE CONTROL DEVICE FOR REGULATION OF SPACE TEMPERATURE SHALL BE CAPABLE OF BEING SET FROM 55 TO 85°F, AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE OF UP TO 5°F BETWEEN FULL HEATING AND FULL COOLING AND HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70°F, AND COOLING AT A TEMPERATURE NOT LESS THAN 78°F.
- APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE FASTENED IN PLACE.
- A MAINTENANCE LABEL SHALL BE AFFIXED TO MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNERS USE.
- PROVIDE ACCESS PANEL FOR ALL CEILING MOUNTED EQUIPMENT & VOLUME DAMPERS.
- PROVIDE MIN. 10'-0" SEPARATION BETWEEN POINT OF EXHAUST AND ANY FRESH AIR INTAKE, OR A/C UNIT OSA INTAKE.
- PROVIDE FIRE DAMPER OR SMOKE/FIRE DAMPER WHERE DUCT PENETRATES FIRE RATED CEILING OR WALL IF APPLICABLE.
- TRANSVERSE JOINTS FOR ALL AIR SUPPLY DUCTS INSTALLED WHERE AIR LEAKAGE WOULD BE NON-BENEFICIAL TO THE OCCUPIED AREA, TEMPERATURE REQUIREMENTS SHALL BE SEALED WITH APPROVED MASTIC OR TAPE.
- ALL DUCT SIZES SHOWN ON THE FLOOR PLANS ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR SHALL ENLARGE DUCT SIZE IN ORDER TO ACCOMMODATE LINING INSIDE OF DUCT IF REQUIRED.
- THE MECHANICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND FEES.
- THE PROJECT SHALL BE AIR BALANCED AND A COPY OF THE FINAL REPORT SHALL BE PRESENTED TO THE TENANT AND OWNER.
- ENERGY CONSERVATION STANDARDS FOR NEW NONRESIDENTIAL BUILDINGS HAVE BEEN REVIEWED AND DESIGN SUBSTANTIALLY CONFORMS TO THEM.
- EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2,000 CFM SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT-OFF. THE SMOKE DETECTOR SHALL BE INSTALLED IN THE MAIN SUPPLY AIR DUCT DOWNSTREAM OF THE FILTERS OR THEY MAY BE INSTALLED IN EACH ROOM OR SPACE SERVED BY THE SUPPLY AIR DUCT. DETECTORS SHALL ALSO BE INSTALLED IN THE MAIN RETURN DUCT (IF REQ'D. BY THE LOCAL CODE) AHEAD OF OSA INTAKE. SEE CODE FOR EXEMPTIONS AND LOCAL AUTHORITY FOR CODE INTERPRETATION, OR AS INDICATED ON PLAN.
- ALL EQUIPMENT AND APPLIANCES ARE LISTED PRODUCTS, AND WILL BE INSTALLED ACCORDING TO THEIR LISTING, AND ALL LISTING INFORMATION WILL BE AVAILABLE FOR INSPECTION.
- DUCTWORK CONSTRUCTION DETAILS:
  - MATERIAL: GAL. SHEET METAL GAGE 26 FOR UP TO 14" & GAGE 24 FOR UP TO 23" DUCT.
  - SUPPORT: UP TO 10" DUCT SAME GAGE AS GAL. STEEL DUCT, 1" WIDE OR (NO. 18 GAGE GAL. STEEL WIRE) ON 10 FT. CENTERS, AND UP TO 40" SAME GAGE AS GAL. STEEL DUCT, 1" WIDE OR (NO. 8 GAGE GAL. STEEL WIRE) TIED TO 1" GAL. STEEL BAND AROUND DUCT ON 10 FT. CENTERS.
  - HANGER: UP TO 36" DUCT 1/4" ROUND ROD OR 1" X 1" X 1/8" ANGLE.
- REFER TO DETAILS OR GUIDELINES FOR MECHANICAL CONSTRUCTION REQUIREMENTS. INSTALL IN FULL ACCORDANCE WITH PROPER CODES AND GUIDELINES.
- COORDINATE IN THE FIELD THE EXACT LOCATION OF ALL CEILING MOUNTED GRILLES AND DIFFUSERS WITH LIGHT FIXTURES AND (ARCHITECTUAL) REFLECTED CEILING PLAN.
- ALL EXTERIOR BRACKETS, CLAMPS, AND HANGERS SHALL BE HOT DIPPED GALVANIZED. COAT ALL CUT ENDS AND WELDS WITH "ZRC" COLD GALVANIZING COMPOUND.
- SHOP PRIME ALL MISCELLANEOUS INTERIOR BRACKETS AND HANGERS UNLESS GALVANIZED OR STAINLESS STEEL.

**CHILLED WATER SYSTEM GENERAL NOTES**

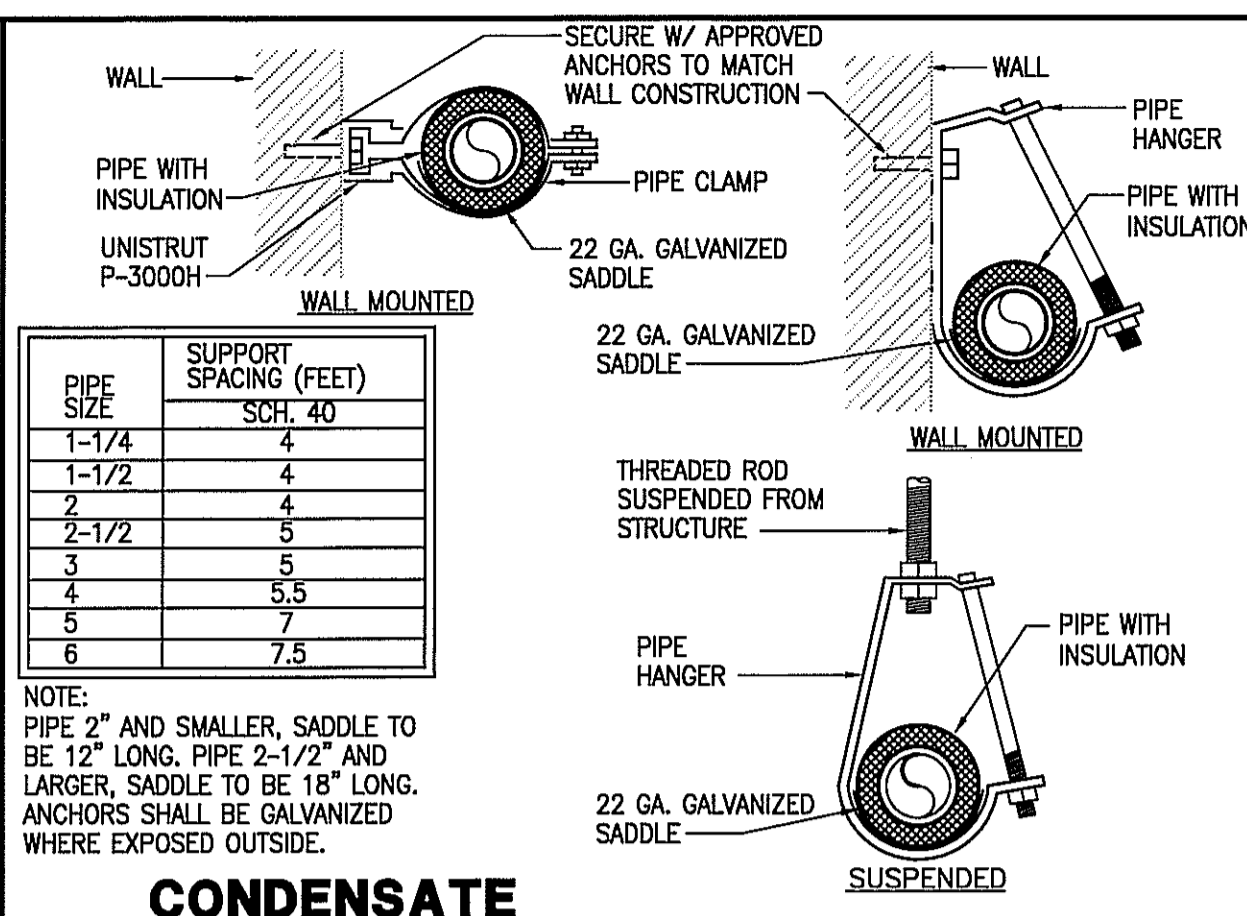
- ALL MATERIALS SHALL COMPLY WITH EXISTING CENTER STANDARDS.
- ALL CHILLED WATER PIPING SHALL BE BLACK SCHEDULE 40 STEEL PIPE CONFORMING TO ASTM A53 OR A120 WITH ANSI/ASTM B16.3 MALLEABLE IRON FITTINGS AND SCREWED JOINTS.
- MODULATING CHILLED WATER CONTROL VALVES SHALL BE OF SAME MANUFACTURER AS EXISTING AT CENTER.
- ALL VALVES SHALL BE OF SAME MANUFACTURER AS EXISTING IN CENTER. ALL VALVES IN INSULATED LINES SHALL HAVE EXTENDED STEMS BEYOND INSULATION.
- CHILLED WATER PIPING SHALL BE INSULATED WITH INSULATION HAVING A CONDUCTIVITY (K) NOT EXCEEDING 0.27 BTU PER IN./H-SF-F WITH JACKET WITH VAPOR BARRIER. THICKNESS SHALL BE 1" FOR PIPE SIZES LESS THAN 1-1/2" AND 1-1/2" FOR PIPE SIZES 1-1/2" THROUGH 4".



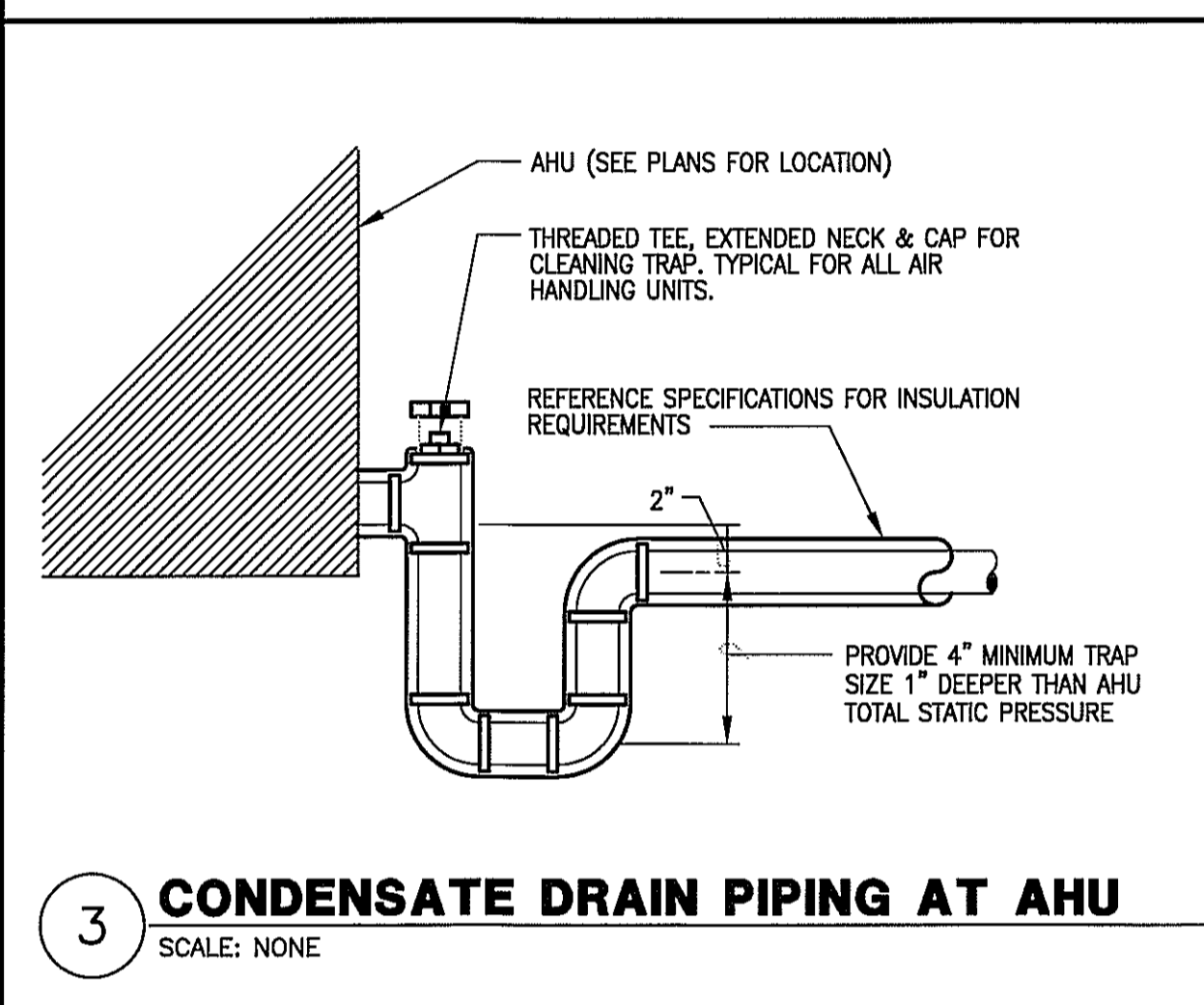
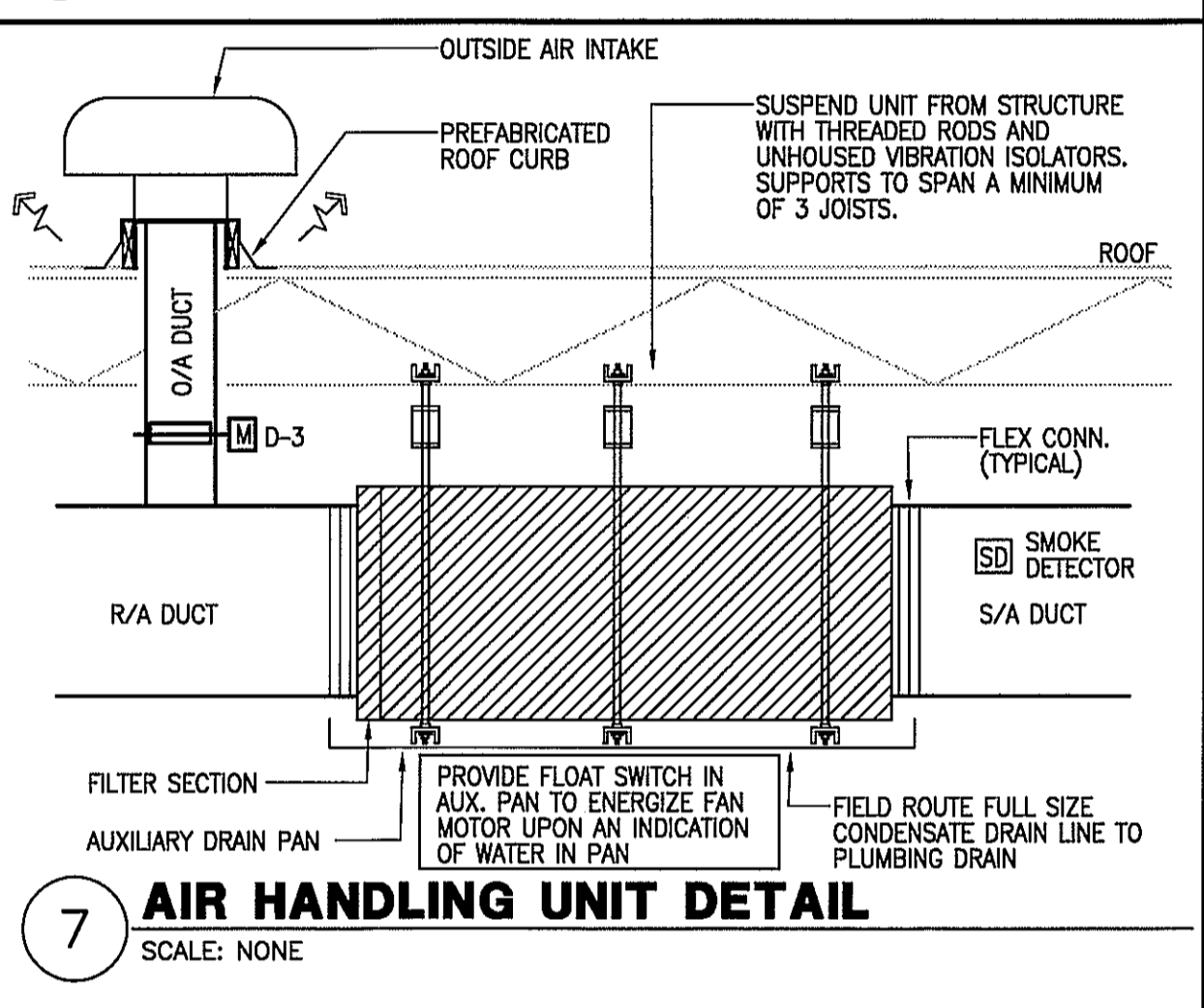
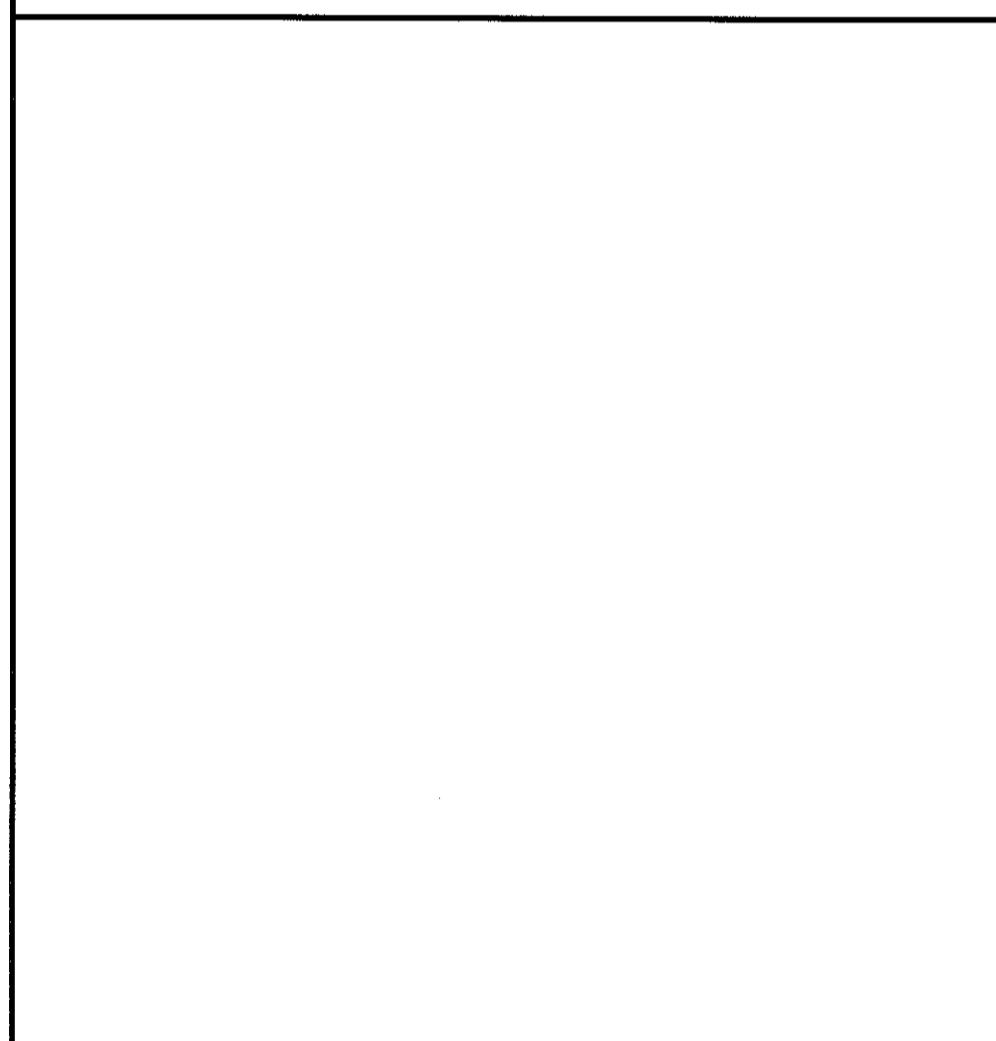
**11 ROOFTOP KITCHEN HOOD EXHAUST FAN**  
SCALE: NO SCALE



**8 PIPE HANGER DETAIL**  
SCALE: NONE

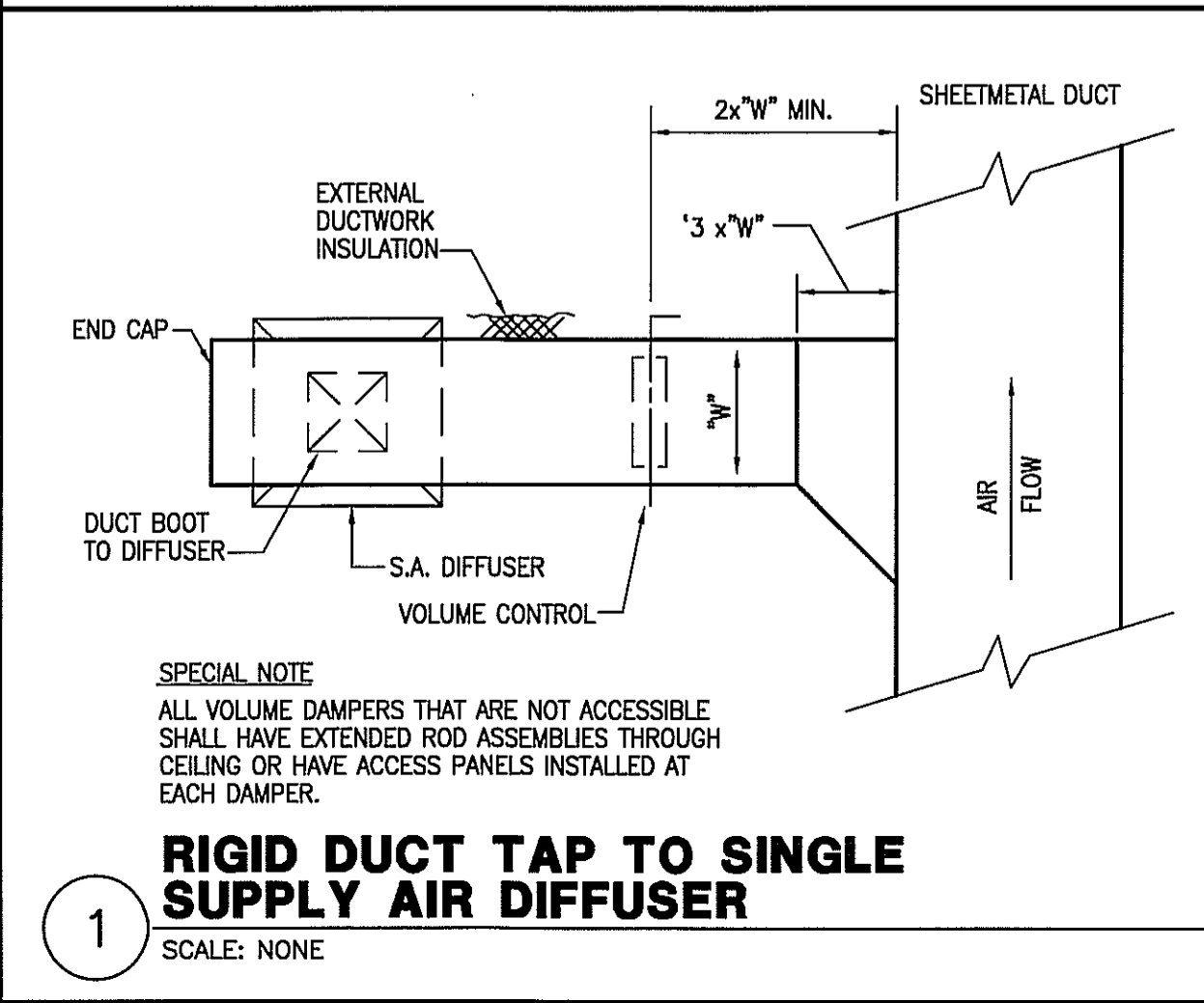
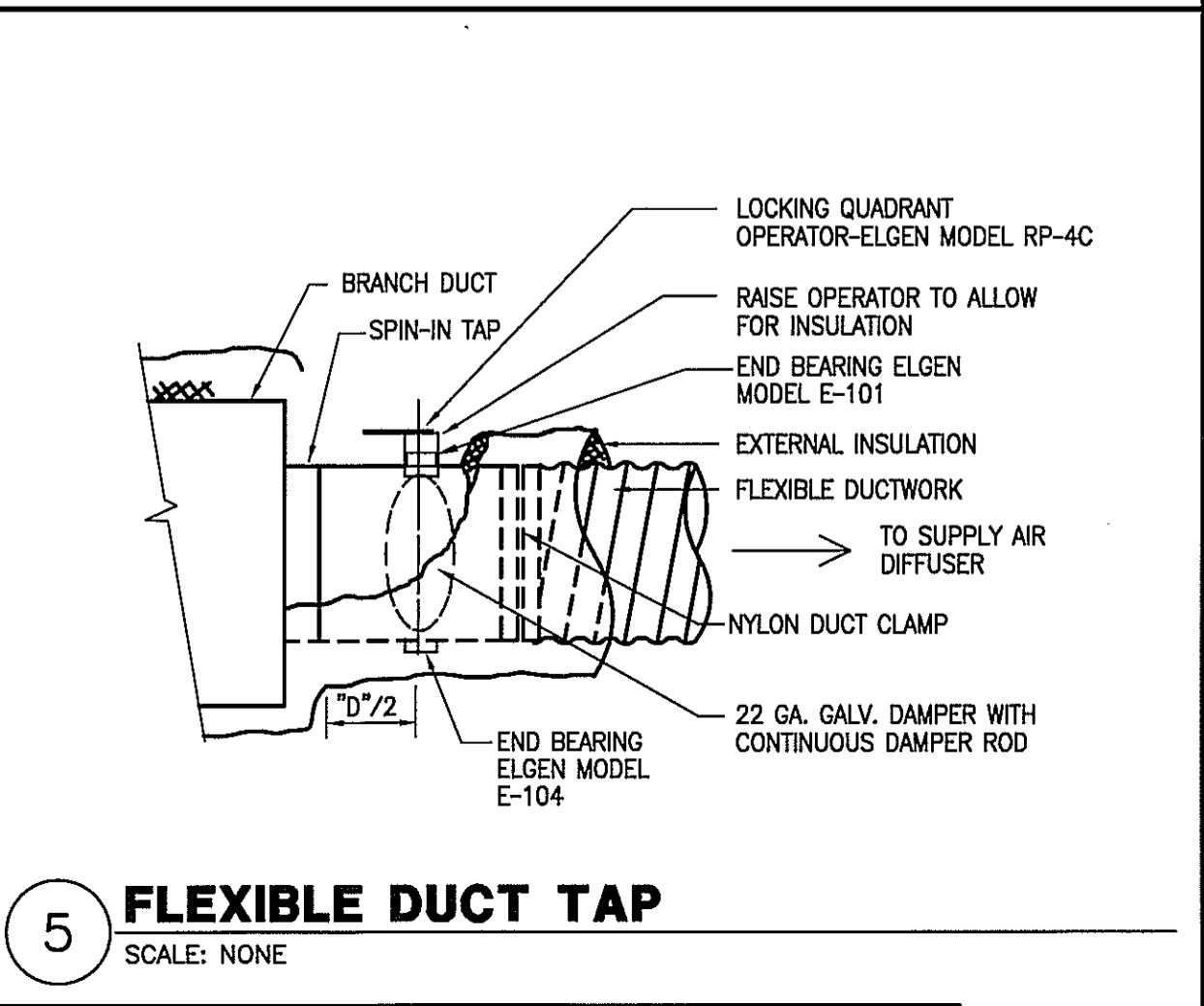
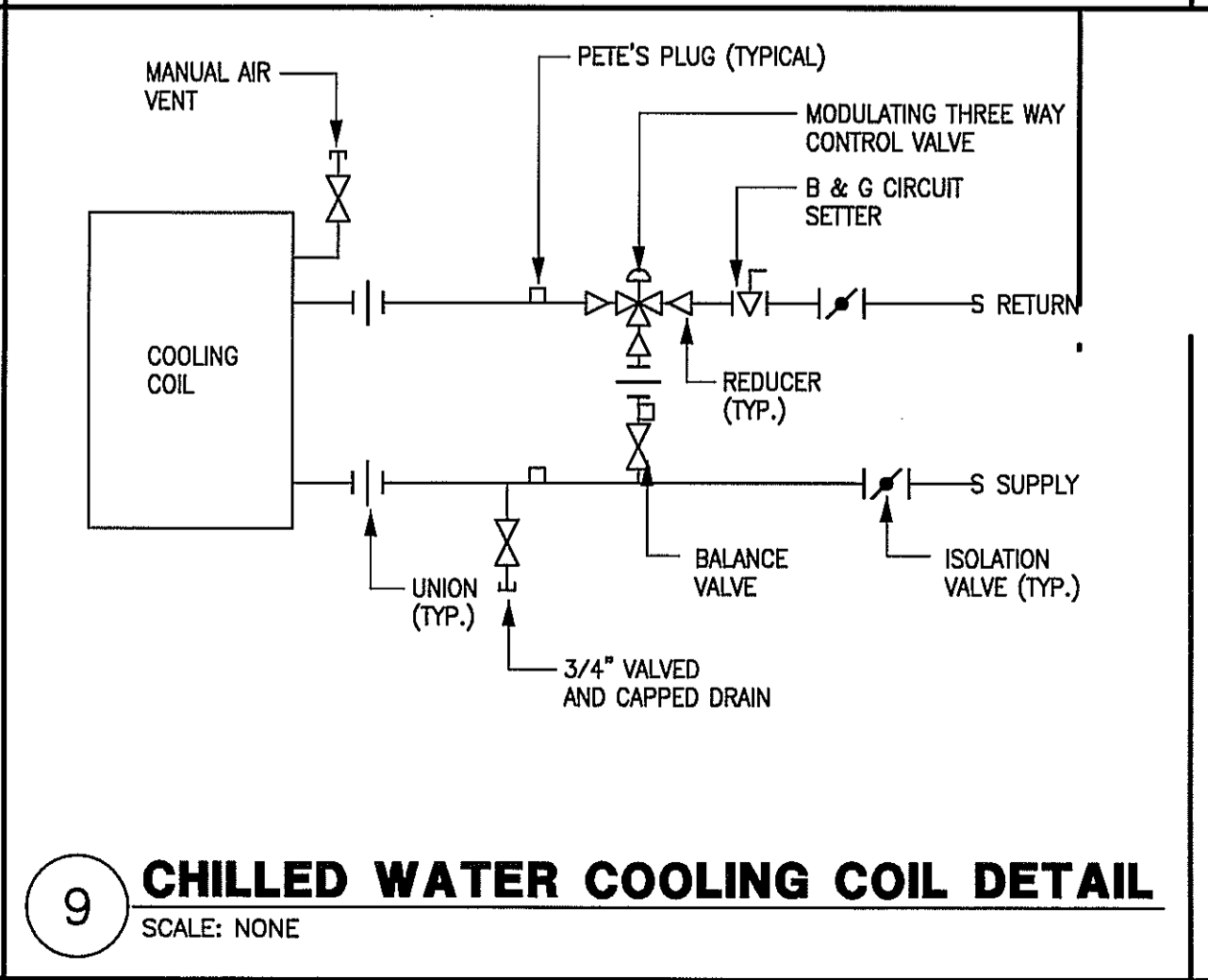
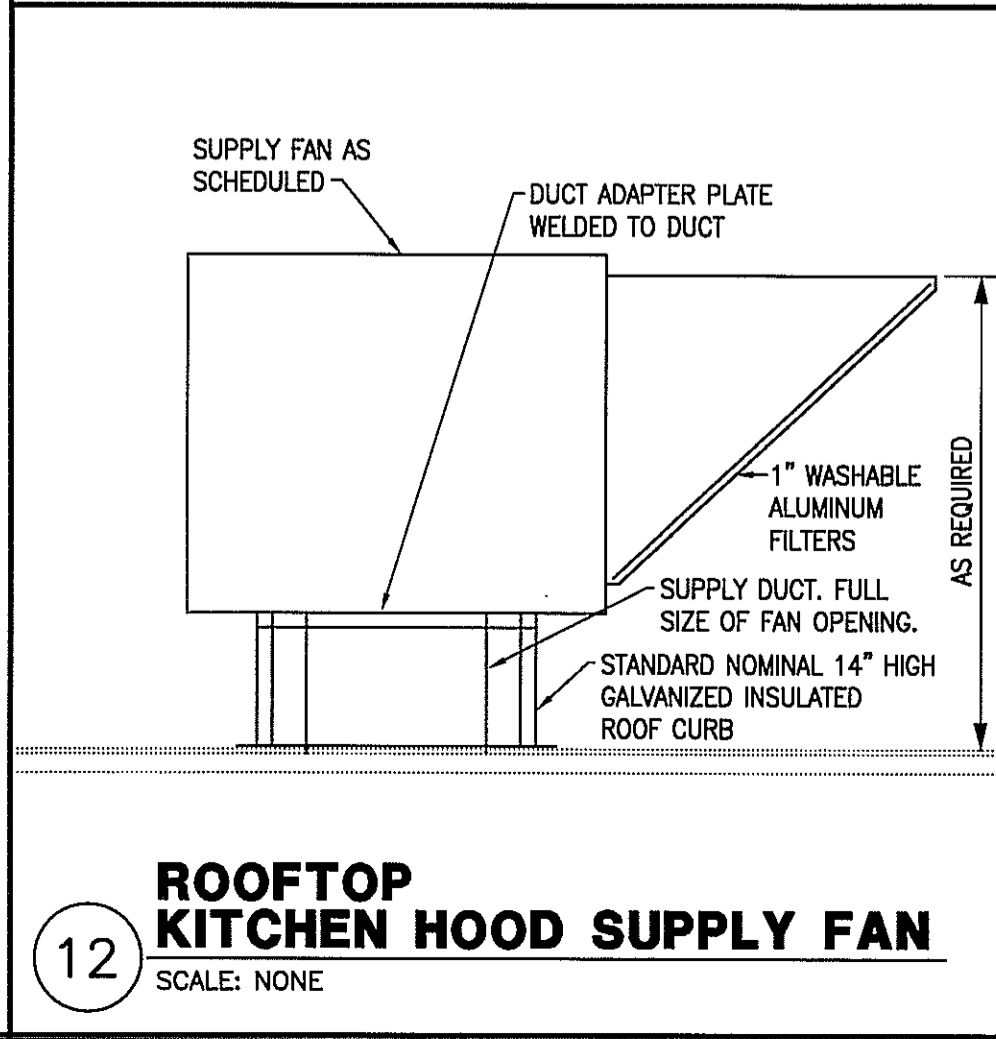
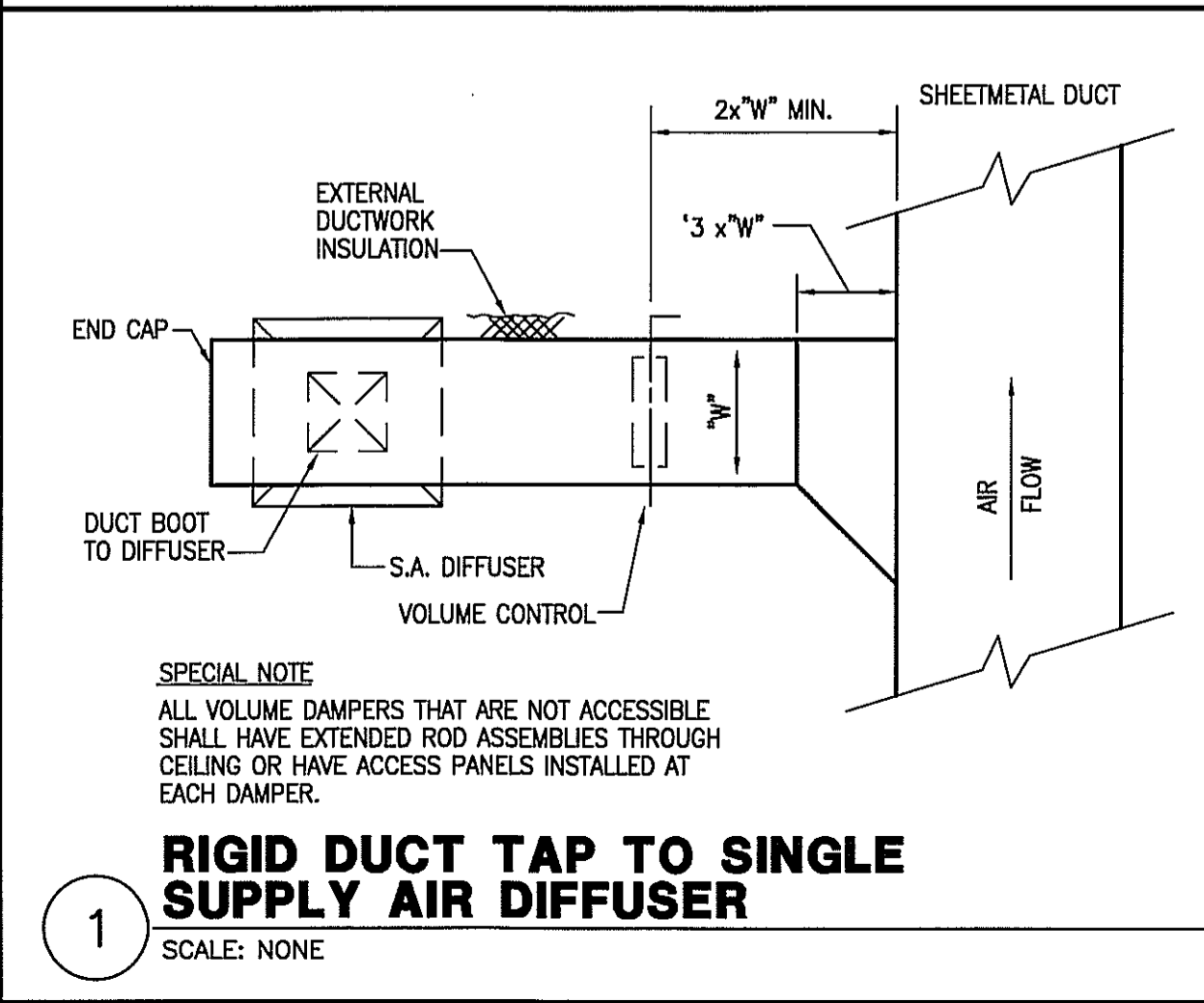
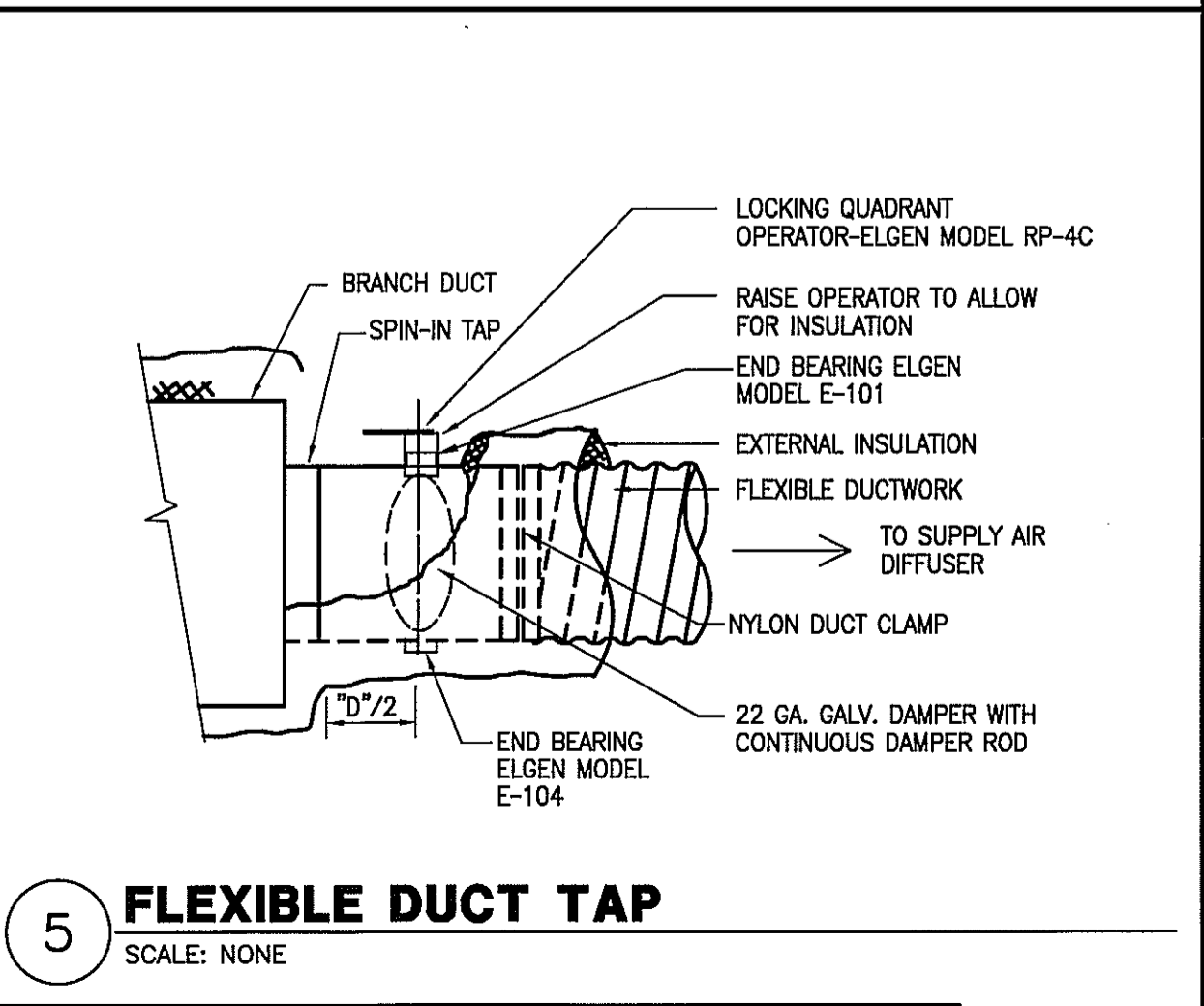
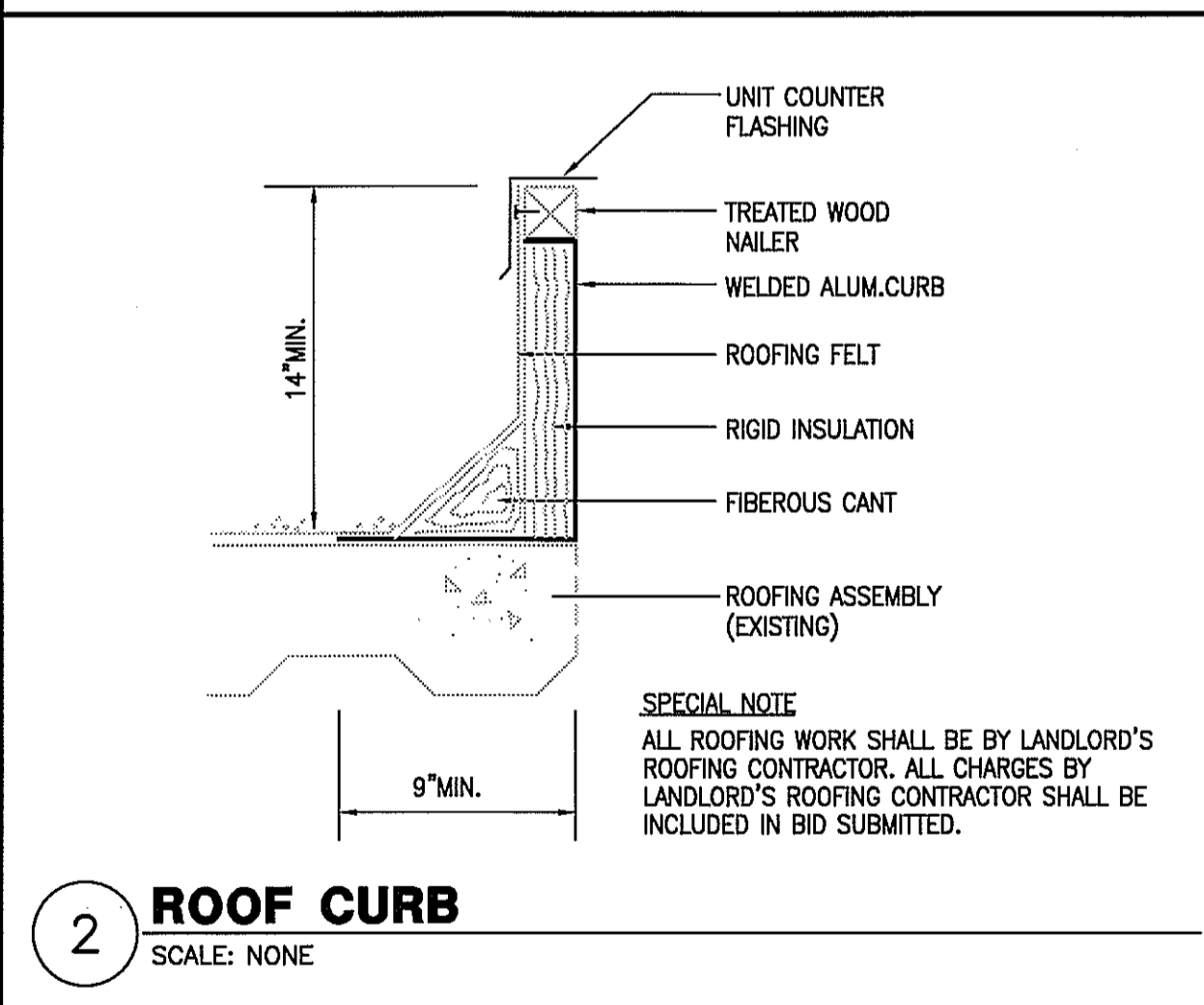
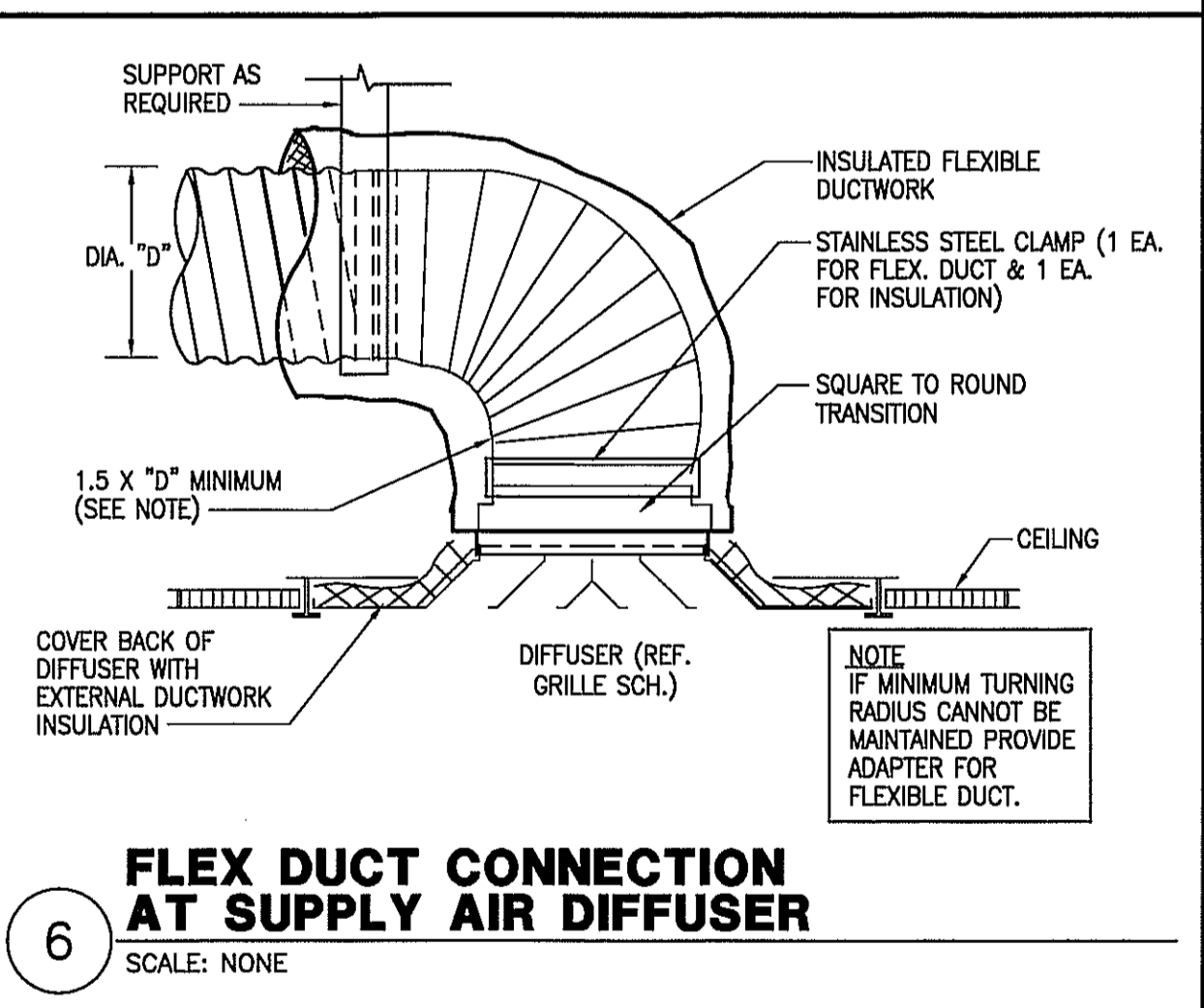
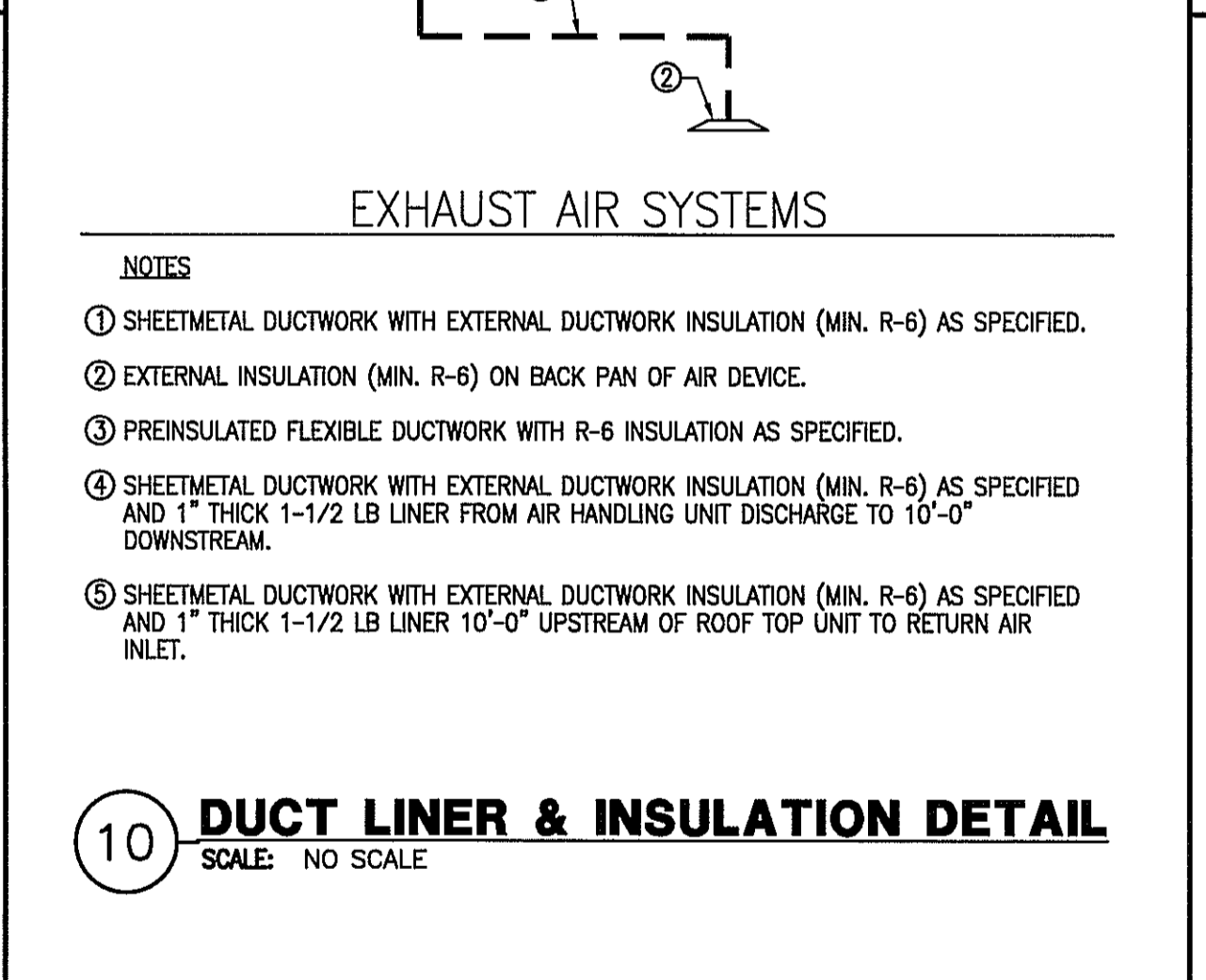
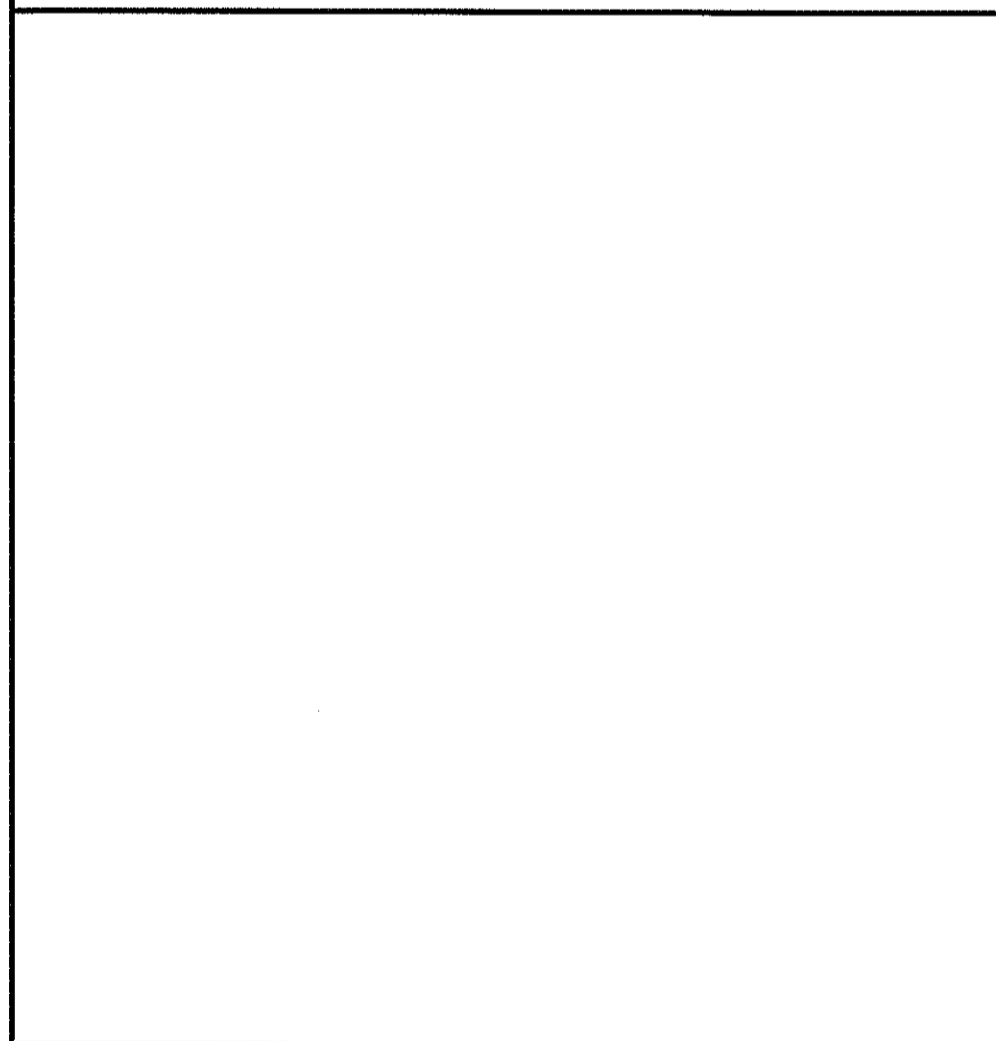


**4 CONDENSATE DRAIN SUPPORT & INSULATION**  
SCALE: NONE



**7 AIR HANDLING UNIT DETAIL**  
SCALE: NONE

**3 CONDENSATE DRAIN PIPING AT AHU**  
SCALE: NONE



**12 ROOFTOP KITCHEN HOOD SUPPLY FAN**  
SCALE: NONE

**9 CHILLED WATER COOLING COIL DETAIL**  
SCALE: NONE

**5 FLEXIBLE DUCT TAP**  
SCALE: NONE

**1 RIGID DUCT TAP TO SINGLE SUPPLY AIR DIFFUSER**  
SCALE: NONE



ISSUE  
09-10-10 ISSUED FOR PERMIT  
10-08-10 DBR REVIEW COMMENTS  
11-02-10 ISSUED FOR CONSTRUCTION

**HARRELL ARCHITECTS, LP**  
9575 Katy Frwy., #200  
Houston, Texas 77024  
tel: 713.722.7071  
fax: 713.722.7072

CONSULTANTS  
**HOLSTE & ASSOCIATES**  
MEP Engineers  
Holste & Associates, Inc.  
Consulting Engineers - Texas Reg. F-5443  
6671 Southwest Frwy., Suite 800  
Houston, Texas 77074 (713) 955-1351  
www.holstemepp.com

PROJECT NAME  
**LUCA & LEONARDO RESTAURANT**  
**LUCA & LEONARDO RESTAURANTE**

PROJECT ADDRESS  
20 WATERWAY  
THE WOODLANDS, TEXAS

PROJECT NUMBER  
10018  
SHEET NAME  
**MECHANICAL DETAILS**  
SHEET NUMBER

**M2.00**