

MARK	MODEL	COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH)	SYSTEM SEER	COMPRESSOR QTY/RUA	FAN QTY/FLA	MAX MCA/MFS	VOLT/#	WGT(LBS)	DIMENSIONS	MARK	MODEL	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP	TOTAL COOLING CAPACITY	SENSIBLE COOLING CAPACITY	AUX. ELEC. (KW)	MAX MCA/MFS	VOLT/#	WGT(LBS)	DIMENSIONS
CU-1	TWA180	180.0	185.0	9.9	---	---	62.7/80	208/3	800	89" x 34" x 39"H	AHU-1	TWE-180	5525	1000	1.0	165.0	---	22.5	90/90	208/3	850	80" x 26" x 82"H
CU-2	2TWA3042	42.0	36.0	12.0	1/9.5	1/1.3	13/20	208/3	300	38" x 35" x 42"H	AHU-2	2TEC3F042	1100	220	0.5	42.0	---	7.2	37/40	208/3	175	24" x 21" x 52"H
CU-3	2TWA3035	36.0	32.0	13.0	1/7.8	1/1.3	11/15	208/3	275	38" x 35" x 38"H	AHU-3	2TEC3F035	850	190	0.5	36.0	---	7.2	37/40	208/3	175	24" x 21" x 52"H
CU-4	2TWA3042	42.0	36.0	12.0	1/9.5	1/1.3	13/20	208/3	300	38" x 35" x 42"H	AHU-4	2TEC3F042	1050	210	0.5	42.0	---	7.2	37/40	208/3	175	24" x 21" x 52"H
CU-4a	2TWA3060	60.0	52.0	12.0	1/17.3	1/1.2	23/40	208/3	325	38" x 35" x 42"H	AHU-4a	2TEC3F060	1475	290	0.5	60.0	---	11.25	45/50	208/3	200	24" x 21" x 58"H

NOTES:
 1. CU-1 THRU 4 AND 4a SELECTIONS ARE BASED ON TRANE.
 2. PROVIDE EVAPORATOR DEFROST CONTROL WITH TXV FOR LOW AMBIENT COOLING TO 30°F ON ALL SYSTEMS.
 3. HEATING CAPACITY BASED ON 47°F AMBIENT TEMPERATURE.
 4. EQUIPMENT REQUIRING FUSED PROTECTION SHALL BE FUSED INTEGRALLY TO THE EQUIPMENT.
 5. PROVIDE CU-4 IN BASE BID 05 CU-4a IF ALTERNATE IS ACCEPTED.

NOTES:
 1. ALL SELECTIONS ARE BASED ON TRANE.
 2. SINGLE POINT POWER CONNECTION ON AHU-1 THRU 4 AND 4a.
 3. EQUIPMENT REQUIRING FUSED PROTECTION SHALL BE FUSED INTEGRALLY TO THE EQUIPMENT.
 4. FLOOD SEPARATE OVERFLOW DRAIN LINE FROM EACH AIR HANDLER. PROVIDE TRAP WITH INTEGRAL FLOAT SWITCH BY E-Z-TRAP. WIRE TO SHUT-OFF UNIT.
 5. THERMOSTAT SHALL BE VICONICS LON BASED DEVICE TO CONTROL UP TO TWO STAGE ELECTRIC HEAT CONTROL. TWO STAGES OF COOLING CONTROL AND A DEHUMIDIFICATION CYCLE. PROVIDE HUMIDISTAT.
 6. PROVIDE AHU-4 IN BASE BID 05 AHU-4a IF ALTERNATE IS ACCEPTED.

HEAT PUMP CONDENSING UNITS 09
NO SCALE M-1

HEAT PUMP AIR HANDLING UNITS 08
NO SCALE M-1

MARK	PURPOSE	CFM	SIZE	FLEX DUCT	MAKE	MODEL	REMARKS
A	SUPPLY	25-75	24 x 24	8"	METALAIR	5500S	①②③④
B	SUPPLY	125-250	24 x 24	8"	METALAIR	5500S	①②③④
C	SUPPLY	250	24 x 24	10"	METALAIR	5500S	①②③④
D	SUPPLY	250	48 x 24	10"	METALAIR	6675	①②⑥
E	SUPPLY	275	12 x 8	---	METALAIR	H4004S	①②④⑥
R	RETURN/EXH	75-100	24 x 24	6"	METALAIR	SRH	①②③④⑤
S	RETURN/EXH	150-250	24 x 24	6"	METALAIR	SRH	①②③④
T	RETURN/EXH	395	24 x 24	10"	METALAIR	SRH	①②③④
U	RETURN/EXH	660	24 x 24	12"	METALAIR	SRH	①②③④
V	RETURN/EXH	790-850	24 x 24	14"	METALAIR	SRH	①②③④
W	RETURN/EXH	1050	24 x 24	16"	METALAIR	SRH	①②③④

REMARKS:
 ① SUPPLY WITH OFF-WHITE ENAMEL FINISH.
 ② SUPPLY WITH TRIM TO MATCH CEILING/WALL TYPE.
 ③ PROVIDE GRILLE WITH ROUND NECK OR SUPPLY SQUARE-TO-ROUND TRANSITION.
 ④ ALL CEILING MOUNTED RETURN GRILLES SHALL BE FULL-FACED. NO LAY-IN PANELS ALLOWED.
 ⑤ GRILLES MAY BE 12 x 12 DUE TO SPACE LIMITATIONS.
 ⑥ GRILLE IS 2 SLOT, 3/4" LAY-IN FRAME, WITH INSULATED PLENUM. GRILLE SHALL BE COLOR WHITE TO MATCH THE T-BAR.

AIR DISTRIBUTION SCHEDULE 06
NO SCALE M-1

MARK	MAKE	MODEL	CFM	S.P.	SONES	H.P./W	VOLT/#	REMARKS
F-1,2	GREENHECK	SP-A110	300	0.25"	3	121W	120/1	①②
F-3,4	GREENHECK	SP-A110	75	0.25"	2	49W	120/1	①②
F-5,6	GREENHECK	SP-A200	150	0.25"	2	48W	120/1	①②④
F-7	GREENHECK	SP-A410	300	0.25"	3	121W	120/1	①③④

REMARKS:
 ① PROVIDE TRANSITIONS TO CONNECT TO FAN, SERVICE DISCONNECT SWITCH, SPEED CONTROLLER, CEILING GRILLE AND HANGING VIBRATION ISOLATION KIT.
 ② CONTROL WITH DDC SYSTEM.
 ③ CONTROL WITH A THERMOSTAT SET TO 85°F.
 ④ PROVIDE BRICK VENT, 16" x 8", FOR FANS F-6 & 7.

NOTES:
 1. COORDINATE LOCATION AND SIZES OF ALL FANS WITH THE GENERAL CONTRACTOR BEFORE CEILING/WALLS/ROOFS/SOFFITS ARE CONSTRUCTED.

FAN SCHEDULE 03
NO SCALE M-1

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE: PRESCRIPTIVE X ENERGY COST BUDGET _____

CLIMATE ZONE: 6B

Exterior Design Conditions
 Winter Dry Bulb: 22 degrees F
 Summer Dry Bulb: 92 degrees F
 Summer Wet Bulb: 78 degrees F

Interior Design Conditions
 Winter Dry Bulb: 70 degrees F
 Summer Dry Bulb: 75 degrees F
 Relative Humidity: 50%

Degree Days
 Heating: 2,456
 Cooling: 5,878

Building Heating Load: 433 MBH
 Building Cooling Load: 26 1/2 TONS

Mechanical Spacing Conditioning System
 Unitary
 Description of Unit: See schedules on plans and specifications
 Heating Efficiency:
 Cooling Efficiency:
 Heat Output of Unit:
 Cooling Output of Unit:

Boiler: Total boiler output. If oversized, state reason. N/A MBH
 Chiller: Total chiller capacity. If oversized, state reason. N/A TONS

List Equipment Efficiencies: See schedules on plans.
 Equipment Schedules with Motors (Mechanical System)
 Motor Horsepower:
 Number of Phases:
 Minimum Efficiency:
 Motor Type:

DESIGNER STATEMENT:
 To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina State Energy Code.

NAME: Steve W. Campbell, P.E.
 TITLE: Vice President

MECHANICAL ENERGY FORM 04
NO SCALE M-1

- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER TRADES PRIOR TO INSTALLATION OF ANY OF HIS PIPING, DUCTWORK, OR EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
- IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS. HE SHALL PROVIDE TO THE ENGINEER, SCALED DRAWINGS OF ALL MECHANICAL SPACES.
- ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL AND CONTROL CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER THIS CONTRACT. REFER TO THE ELECTRICAL PLANS FOR LOCATIONS OF JUNCTION BOXES, DISCONNECTS, CIRCUIT BREAKERS (PANELBOARDS), TYPE, SIZE AND NUMBER OF CONDUCTORS AND CONDUITS TO EQUIPMENT SHALL BE EQUAL TO THE LATEST NATIONAL ELECTRICAL CODE REGULATIONS. THE MECHANICAL CONTRACTOR TO THE JUNCTION BOXES OR DISCONNECTS SWITCHES. IN CASE OF MECHANICAL EQUIPMENT CONNECTION TO A CIRCUIT BREAKER, THE NUMBER AND SIZE OF THE CONDUCTORS AND CONDUITS SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE REGULATIONS. ALL MOTOR STARTERS, SWITCHES, CONTROL DEVICES, ETC. PROVIDED BY THIS CONTRACTOR SHALL BE RECESSED IN THE WALLS, EXCEPT WHEN THESE ITEMS ARE LOCATED IN THE MECHANICAL ROOM. PROVIDE A NAMEPLATE FOR ALL EQUIPMENT, SWITCHES, CONTROL DEVICES, ETC. SEE THE GENERAL PROVISIONS SECTION OF THE MECHANICAL SPECIFICATIONS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT DEVICES. ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER PRIME CONTRACTORS PRIOR TO INSTALLATION.
- THE MECHANICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PENETRATIONS (PERTAINING TO HIS WORK) THROUGH THE ROOF, WALLS, FLOORS AND THE WATERPROOFING AROUND THE OPENINGS.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF ALL PENETRATIONS THROUGH THE ROOF WITH THE GENERAL CONTRACTOR AND THE ROOFING CONTRACTOR.
- ALL FLOOR AND FIRE WALL PIPE PENETRATIONS SHALL BE FIRE SEALED AS DETAILED.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF FLOORS AND WALLS PERTAINING TO HIS WORK, UNLESS OTHERWISE NOTED.
- CONDENSATE DRAINS SHALL BE A MINIMUM OF 1/2" COPPER INSULATED WITH A 25/50 RATED CLOSED CELL RUBBER TUBING HAVING A NOMINAL WALL THICKNESS OF 1/2". A P-TRAP SHALL BE INSTALLED IN PIPE AT THE UNIT. ALL CONDENSATE LINES SHALL BE ROUTED TO A FLOOR DRAIN OR AS INDICATED ON PLANS.
- DUCT DIMENSIONS SHOWN ARE SHEET METAL SIZES. SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK IS TO BE INSULATED WITH 2" 3/4" I.B. FOIL BACKED FIBERGLASS INSULATION.
- EXHAUST DUCTWORK IS TO BE UNINSULATED.
- INSTALL FLEXIBLE DUCT CONNECTION AT SUPPLY AND RETURN DUCTWORK CONNECTIONS TO ALL AIR HANDLING UNITS, ETC.
- PROVIDE SHEET METAL COLLAR AT ALL LOCATIONS WHERE DUCTS PENETRATE WALLS. COLLARS SHALL BE OF A GAGE EQUIVALENT TO THE DUCTWORK.
- PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS THROUGH THE FIRE RATED WALLS, AS SHOWN ON THE PLANS AND AS REQUIRED BY CODE. ALL OPENINGS AROUND DUCT PENETRATIONS MUST BE SEALED WITH FIRESTOPPING MATERIAL. PENETRATIONS THROUGH FIRE RATED WALLS OF 3 HOURS OR MORE SHALL BE PROTECTED BY A LISTED FIRE DOOR, SATISFACTORY FOR CLASS A OPENINGS, ON BOTH SIDES OF THE WALL.
- ALL ACCESS DOORS IN THE DUCTWORK SHALL BE LOCATED TO EASILY ACCESS FIRE DAMPERS. IF CEILING ACCESS PANELS ARE ALSO REQUIRED THEN COORDINATE LOCATION WITH ALL OTHER DISCIPLINES. ALL ACCESS DOORS IN DUCTWORK FOR FIRE DAMPERS, DUCT-MOUNTED COILS, CONTROL DAMPERS, HUMIDIFIERS, DUCT SMOKE DETECTORS, ETC., SHALL CONFORM TO THE FOLLOWING SCHEDULE:

DUCT WIDTH	ACCESS DOOR SIZE
UP TO 17" WIDE	12"x12" (OR AS LARGE AS POSSIBLE)
18" TO 22"	16"x16"
22" AND LARGER	18"x18"

- PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE REQUIRED FOR SYSTEM BALANCING, AS SHOWN ON THE PLANS AND AS REQUIRED.
- PROVIDE ADJUSTABLE CONTROL DEFLECTION DEVICES AT ALL BRANCH DUCT TAKE-OFFS.
- ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS, UNLESS NOTED OTHERWISE. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
- THE MECHANICAL CONTRACTOR SHALL INSTALL SMOKE DETECTORS (PROVIDED AND WIRED BY THE ELECTRICAL CONTRACTOR) IN THE RETURN AIR DUCT OF EACH AIR HANDLING UNIT.
- LOCATE THERMOSTATS 48" ABOVE FINISHED FLOOR OR AS NOTED ON THE PLANS.
- AN ADDITIONAL TAMPER-PROOF COVER SHALL BE PROVIDED OVER ALL THERMOSTATS. ALL THERMOSTATS, WIRING, AND CONDUIT ARE PROVIDED BY THE MECHANICAL CONTRACTOR.
- WHERE OUTDOOR AIR INTAKE DUCTWORK CONNECTS TO OUTDOOR AIR LOUVERS, DUCTWORK SHALL BE PRIME AND PAINTED BLACK TO PREVENT DUCTWORK FROM BEING VISIBLE.
- ALL DUCT LAYOUT AND LOCATIONS SHOWN ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND COORDINATE THE DUCT LAYOUT WITH ALL CONTRACTORS PRIOR TO INSTALLATION.
- ALL DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL BE SUPPORTED FROM THE BUILDING SUPPORT STRUCTURE AND NOT THE ROOF.
- ALL EQUIPMENT SHALL MEET OR EXCEED ALL REQUIREMENTS AS DESCRIBED IN THE LATEST VERSION OF ASHRAE STANDARD 90.1 AND THE INTERNATIONAL ENERGY CONSERVATION CODE WITH NORTH CAROLINA AMENDMENTS.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE ROUGH-IN OF HYDRONIC PIPING WITH THE GENERAL CONTRACTOR.
- ALL HYDRONIC PIPING SHALL BE PERMANENTLY IDENTIFIED BY THEIR CONTENT, FUNCTION, AND DIRECTION OF FLOW (I.E., HOT WATER SUPPLY -). ALL IDENTIFICATION MARKERS SHALL BE PERMANENTLY STENCILED ON THE PIPING IN A LEGIBLE MANNER AT NO GREATER DISTANCE THAN 10'-0" ON CENTER. ALL PIPING IN THE MECHANICAL ROOMS AND FINISHED AREAS ARE TO BE PAINTED AS FOLLOWS:
REFRIGERANT LINES BLUE
- FLEXIBLE PIPE CONNECTIONS SHALL BE PROVIDED AT ALL HYDRONIC PIPING CONNECTIONS AT AIR HANDLING UNITS, ETC.
- A MANUAL AIR VENT SHALL BE INSTALLED AT EVERY HIGH POINT OF THE ENTIRE HYDRONIC PIPING SYSTEM.
- ALL NEW UNDERGROUND WATER PIPING SHALL BE INSTALLED A MINIMUM OF 24" BELOW FINISHED GRADE TO PIPE CROWN. COORDINATE WITH ALL CONTRACTORS PRIOR TO INSTALLING UNDERGROUND PIPING.
- ALL EXTERIOR WATER PIPING ABOVE GROUND SHALL BE WRAPPED WITH ELECTRIC TRACE LINE PRIOR TO INSULATION. WRAP INSULATION WITH ALUMINUM JACKET AND SEAL ALL JOINTS.
- ALL EQUIPMENT REMOVED FROM THE BUILDING, DURING DEMOLITION, SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TURNED OVER TO THE OWNER FOR DISPOSAL. CARE SHOULD BE TAKEN IN REMOVAL OF ITEMS TO MINIMIZE DAMAGE. ANY ITEM WHICH IS NOT WANTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES.
- DO NOT INSTALL HYDRONIC PIPING OR DUCTWORK OVER ANY ELECTRICAL SWITCHGEAR.
- PROVIDE EQUIPMENT SUPPORT PAD FOR ALL BASE MOUNTED EQUIPMENT. PAD SHALL BE 4" HIGH FOR ALL OTHER MECHANICAL EQUIPMENT, INCLUDING AIR HANDLING UNITS ETC. 4" MINIMUM FROM EQUIPMENT TO END OF PAD ON ALL SIDES.
- MECHANICAL ROOMS HAVE GYPSUM BOARD CEILINGS. MECHANICAL CONTRACTOR SHALL INSTALL HANGER RODS BEFORE CEILING IS INSTALLED, AND SHALL COMPLETE PIPING INSTALLATION AFTER THE CEILING HAS BEEN INSTALLED.

GENERAL NOTES 02
NO SCALE M-1

SYMBOL	DESCRIPTION
	FLEXIBLE DUCT
	SUPPLY DUCT
	RETURN DUCT
	EXHAUST DUCT
	OUTSIDE AIR INTAKE
	BALANCING DAMPER, RUSKIN "MD-25" WITH EXTENDED SHAFT & HAND QUADRANT
	SUPPLY GRILLE
	RETURN GRILLE
	THERMOSTAT - SUBSCRIPT INDICATES AIR HANDLING UNIT NUMBER
	CEILING MOUNTED EXHAUST FAN
	MOTORIZED DAMPER, RUSKIN MODEL #CD-50 WITH SPRING LOADED RETURN, 120/16. EQUALS BY CESCO AND NCA.
	THERMOSTAT - SUBSCRIPT INDICATES AIR HANDLING UNIT NUMBER
	REFRIGERANT PIPING
	COPPER CONDENSATE LINE
	ONE HOUR FIRE RATED CONSTRUCTION
	FIRE DAMPER, ONE HOUR UNLESS OTHERWISE NOTED

SYMBOL LEGEND 01
NO SCALE M-1

AIR CONDITIONER

AC-1:
MITSUBISHI MODEL #MSZ-AD9NA WALL MOUNTED INVERTER TYPE HEAT PUMP UNIT, 230 CFM, 9.0 TMBH, 7.0 SMH COOLING (AT ARI CONDITIONS), 10.9 MBH HEATING AT 17°F, 15.0 SEER, 1.0 MCA, 15 MFS, 208/1, 31"L x 9"D x 12"H, 30 POUNDS. PROVIDE WITH COOLING, 1.0 MCA, 15 MFS, 208/1, 31"L x 9"D x 12"H, 30 POUNDS. PROVIDE WITH WALL MOUNTED REMOTE CONTROLLER AND CONDENSATE DRAIN PUMP. WIRING, POWER AND CONTROL BETWEEN THE CONDENSING UNIT AND AIR HANDLER IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

ACCU-1:
MITSUBISHI MODEL #MUZ-AD9NA CONDENSING UNIT, 12 MCA, 15 MFS, 208/1. PROVIDE WITH LOW AMBIENT COOLING DOWN TO 23°F. 32"L x 12"D x 22"H, 65 POUNDS.

LOUVERS

RUSKIN MODEL ELF375DX 4" DEEP ALUMINUM DRAINABLE BLADE LOUVER. PROVIDE WITH BIRDSCREEN, AMCA RATED FOR WATER AND AIR PENETRATION. FURNISHED BY THE MECHANICAL CONTRACTOR. INSTALLED BY THE GENERAL CONTRACTOR. PROVIDE CUSTOM COLOR BAKED ENAMEL FINISH AS SPECIFIED BY THE ARCHITECT, EQUALS BY CARNES AND GREENHECK.

L-1: 24" x 16", MIN. 1.20 SQ. FT. FREE AREA. EXHAUST FOR FANS F-1,2.
 L-2: 24" x 16", MIN. 1.10 SQ. FT. FREE AREA. EXHAUST FOR FANS F-3,4,5.
 L-3: 48" x 24", MIN. 4.00 SQ. FT. FREE AREA. OUTSIDE AIR INTAKE FOR AHU-1,2,3,4(4a).

ELECTRIC HEATERS

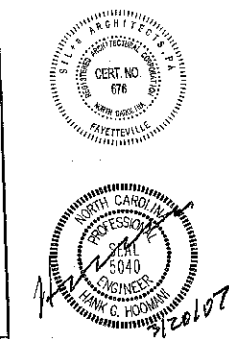
UH-1:
MODINE #HE-30, 3.0 KW, 208/3/60 WITH THERMOSTAT. PROVIDE HANGING BRACKET AND SERVICE DISCONNECT.

MECHANICAL EQUIPMENT 05
NO SCALE M-1

DESIGN CONDITIONS	SUMMER		WINTER	
	INDOOR	OUTDOOR	INDOOR	OUTDOOR
DESIGN CONDITIONS	75°F, 50% RH	92°F DB, 78°F WB	70°F	22°F
DESIGN LOAD	26 1/2 TONS	BASE BID 26 1/2 TONS	420 MBH	BASE BID 433 MBH

LOAD SUMMARY 01
NO SCALE M-1

sfi+a
ARCHITECTS
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 Fayetteville, NC 28301
 Phone: 910.484.4989
 Fax: 910.484.1466
 www.sfi+a.biz



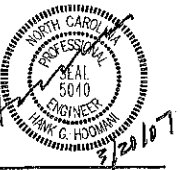
CONSULTING ENGINEERS
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**ADDITIONS
 BLUE CREEK & NORTHWOODS ELEMENTARY SCHOOLS**
Schedules, Notes, Legends, Details

Project #: 005910001
 Drawn By: 005990000
 Checked By: PDC
 Issue Date: HIGH
 Revisions: 02/28/2007

M-1

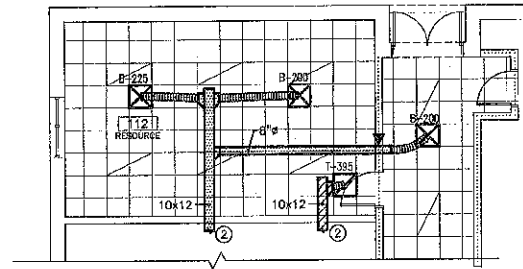
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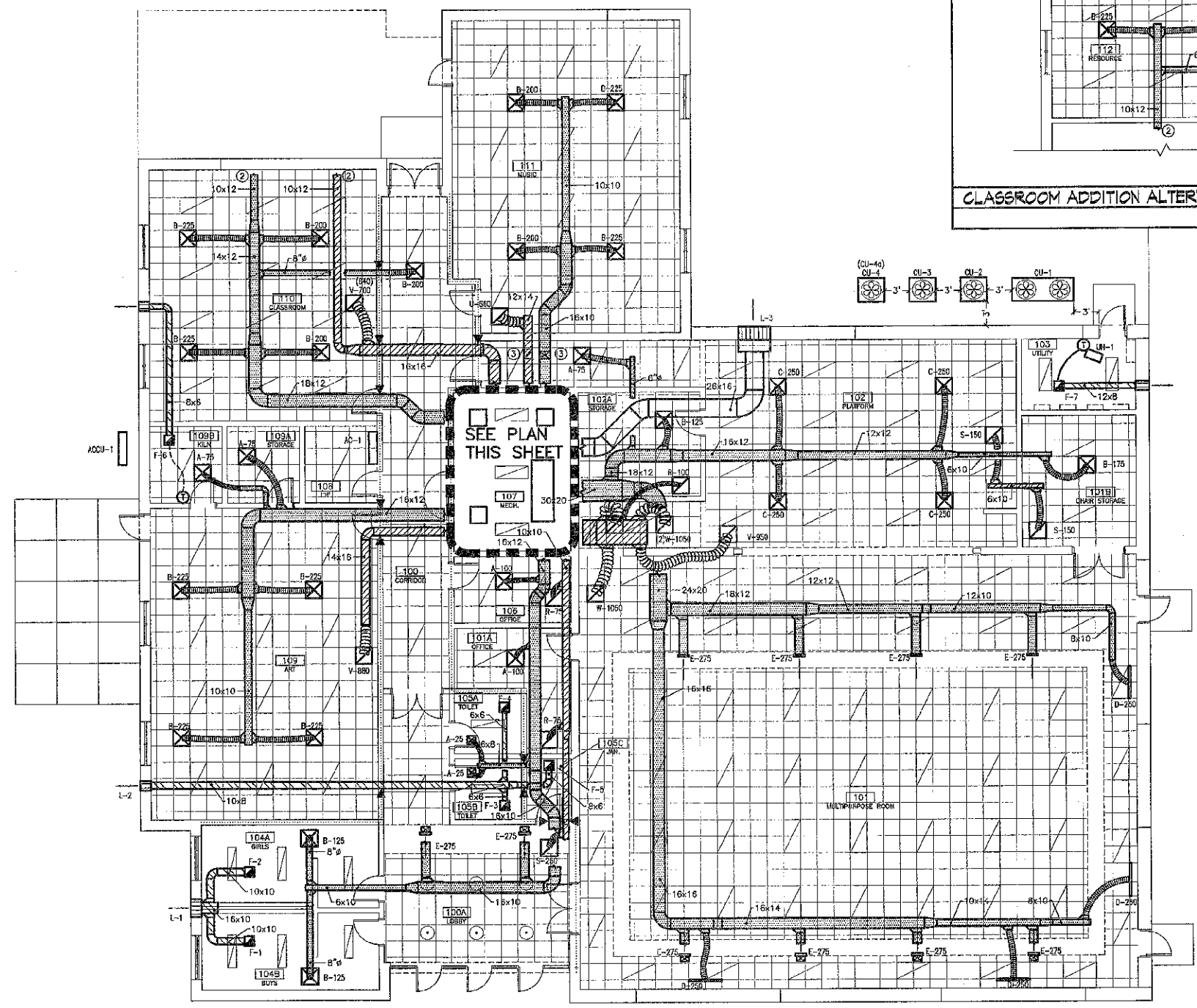
CONSULTING ENGINEERS
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**ADDITIONS
BLUE CREEK & NORTHWOODS ELEMENTARY SCHOOLS**
Mechanical Floor Plan

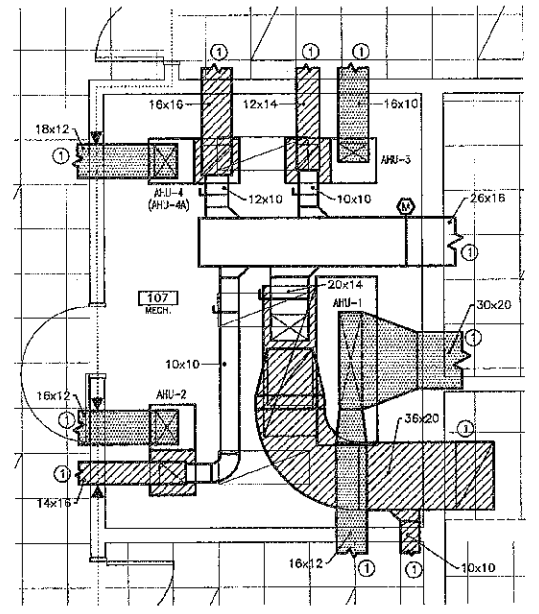
Project #: 00330001
Drawn By: 00330000 PDC
Checked By: HEH
Issue Date: 02/28/2007
Revisions:



CLASSROOM ADDITION ALTERNATE MECHANICAL PLAN 02
SCALE: 1/8" = 1'-0" M-2



01 MECHANICAL FLOOR PLAN
M-2 1/8" = 1'-0"



02 MECHANICAL ROOM PLAN
M-2 1/4" = 1'-0"

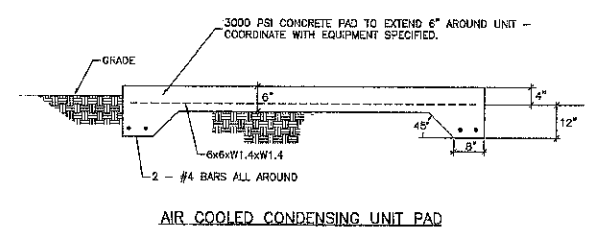
03 ENLARGED MECHANICAL ROOM 107
SCALE: 1/4" = 1'-0" M-2

- NOTES: (AS INDICATED ON THIS PLAN BY A NUMBER IN A ○)
- KEEP DUCTS TIGHT TO STRUCTURE AS THEY EXIT MECHANICAL ROOM.
 - CAP DUCTS AT THIS LOCATION IN BASE BID. CONTINUE DUCTWORK IF CLASSROOM ADDITION ALTERNATE IS TAKEN.
 - TURN DUCT TO BE ABOVE HIGHER MUSIC 107 CEILING.

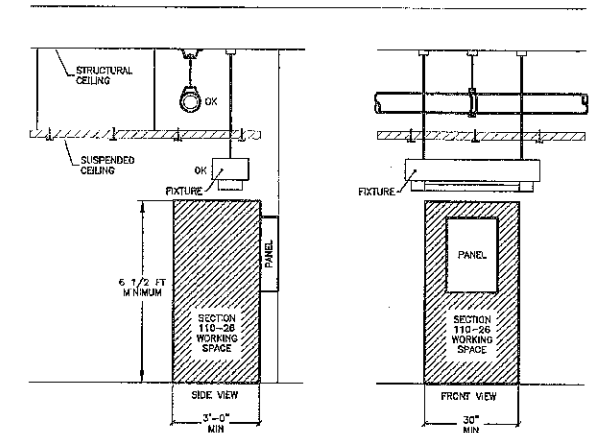
MECHANICAL FLOOR PLAN 01
SCALE: 1/8" = 1'-0" M-2

M-2

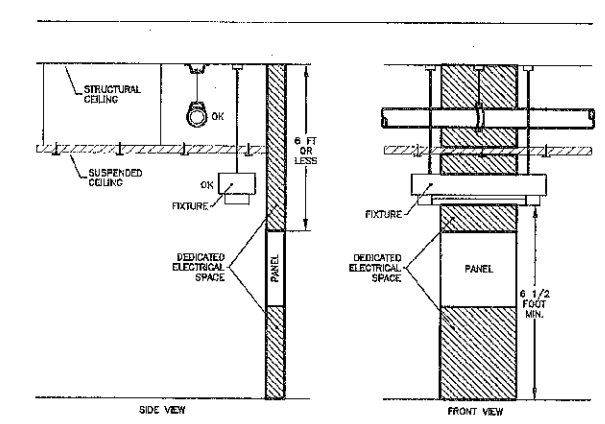
QC 111



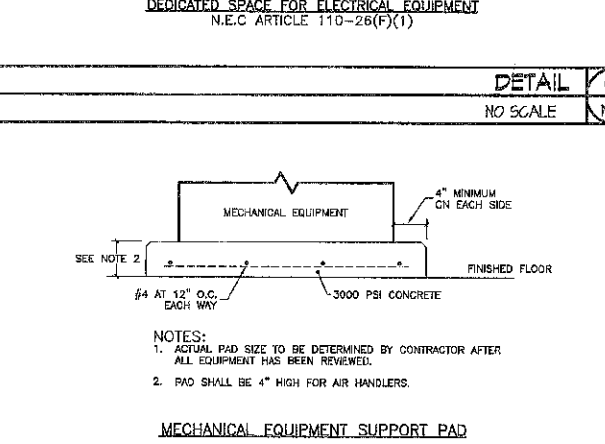
DETAIL 09
NO SCALE M-3



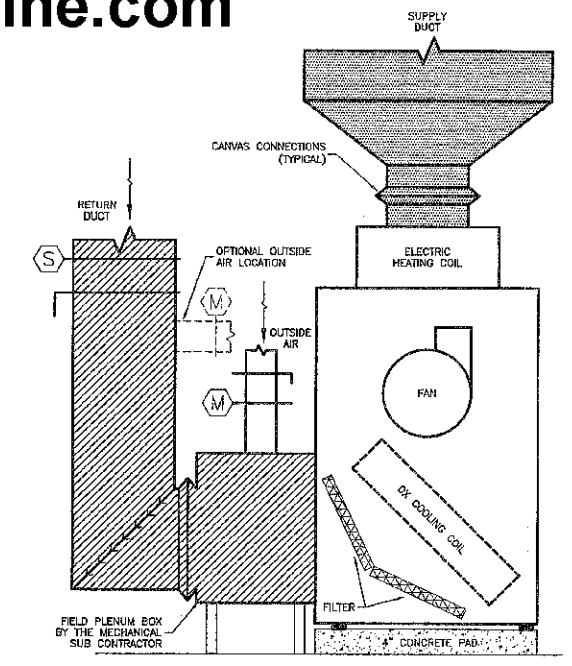
DETAIL 10
NO SCALE M-3



DETAIL 11
NO SCALE M-3

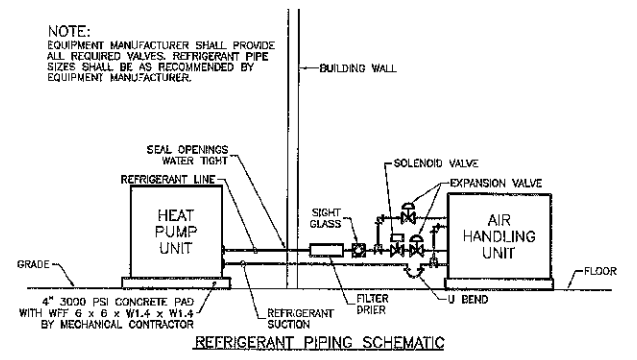


DETAIL 12
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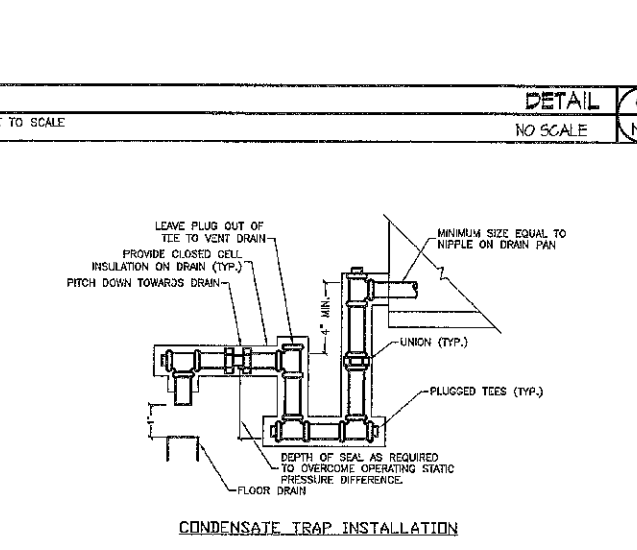


DETAIL 01
NO SCALE M-3

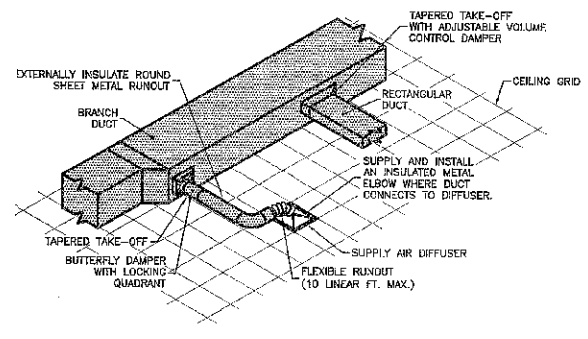
VALVING AND PIPING SHALL NOT INTERFERE WITH ACCESS PANELS
VERTICAL DRAW THROUGH AIR HANDLER



DETAIL 02
NO SCALE M-3

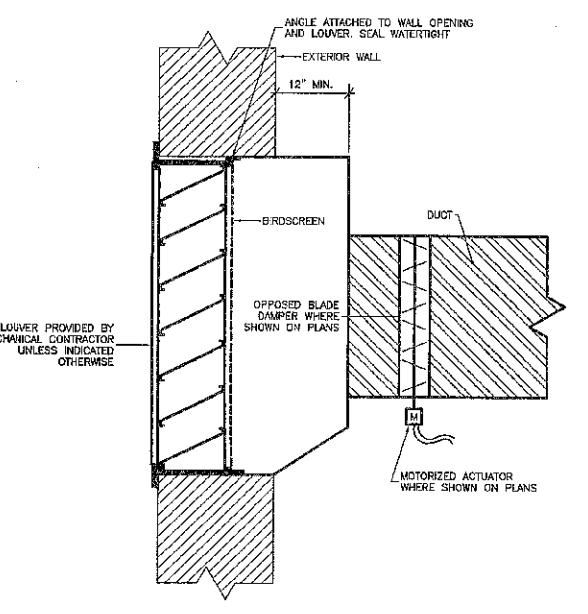


DETAIL 03
NO SCALE M-3



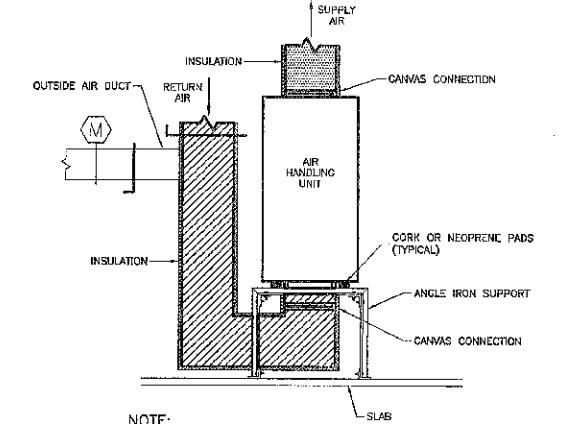
DETAIL 04
NO SCALE M-3

NOTE: PROVIDE TAPERED TAKE-OFF WITH ADJUSTABLE VOLUME DAMPER, AIR DISTRIBUTING GRID, OR RADIAL TAKE-OFF WITH STRAIGHTENING VANES AT TAKE-OFF.
SUPPLY AIR TAKE-OFF



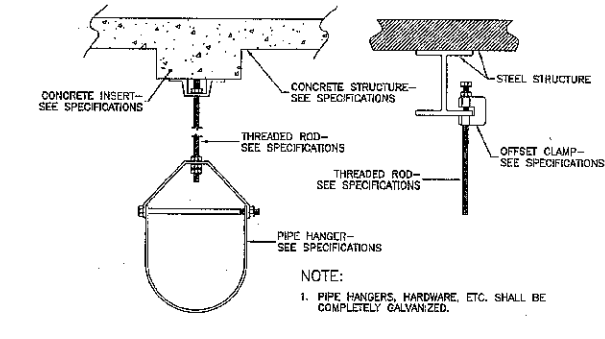
DETAIL 05
NO SCALE M-3

OUTSIDE AIR/EXHAUST LOUVER



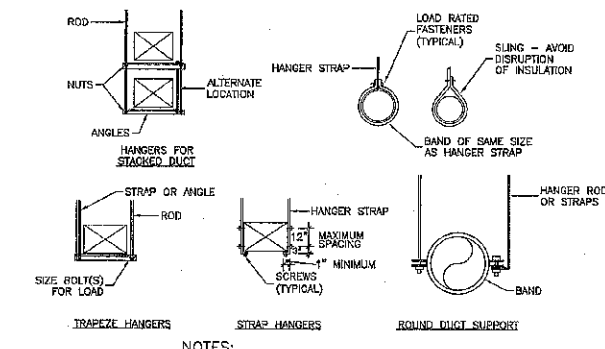
DETAIL 06
NO SCALE M-3

NOTE: 1. ROUTE CONDENSATE DRAIN TO NEAREST FLOOR DRAIN.
VERTICAL AIR HANDLING UNIT



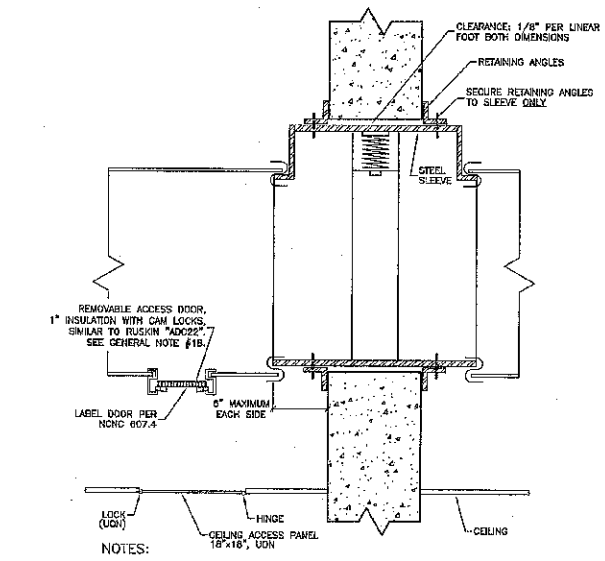
DETAIL 07
NO SCALE M-3

NOTE: 1. PIPE HANGERS, HARDWARE, ETC. SHALL BE COMPLETELY GALVANIZED.
HANGERS



DETAIL 08
NO SCALE M-3

NOTE: 1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES. 2. DO NOT EXCEED LOAD RATINGS FOR METHOD USED.
TYPICAL DUCT HANGERS FROM SMAGMA DUCT STANDARDS



DETAIL 09
NO SCALE M-3

NOTE: 1. INSTALL FIRE DAMPER IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION DETAILS. DO NOT VARY FROM THOSE INSTRUCTIONS IN ANY WAY. DO NOT FIRSTSTOP THE GAP BETWEEN THE FIRE DAMPER SLEEVE AND THE PENETRATION UNLESS SPECIFICALLY REQUIRED BY THE DAMPER MANUFACTURER'S INSTALLATION INSTRUCTIONS. 2. FIRE DAMPER SHALL HAVE BLADES OUT OF THE AIR STREAM TYPE-B. 3. SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH: - 1/2" LONG WELDS OR - 1/2" BOLTS AND NUTS IN HOLES PROVIDED OR - #10 STEEL SCREWS OR - MINIMUM 1/4" X 1/4" STEEL RIVETS. 4. CEILING ACCESS PANEL IS REQUIRED IN GYPSON BOARD CEILING. 5. COORDINATE TYPE OF CEILING ACCESS PANEL WITH ARCHITECTURAL PLANS. COORDINATE LOCATION OF CEILING ACCESS PANEL WITH ALL CONTRACTORS. 6. THIS TYPICAL FIRE DAMPER DETAIL IS GENERIC GUIDANCE ONLY. INSTALL FIRE DAMPER IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION DETAILS. DO NOT VARY FROM THOSE INSTRUCTIONS IN ANY WAY. DO NOT FIRSTSTOP THE GAP BETWEEN THE FIRE DAMPER SLEEVE AND THE PENETRATION UNLESS SPECIFICALLY REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
FIRE DAMPER

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REGISTERED PROFESSIONAL ENGINEER
NO. 0040
MARK G. HOODMAN
6/20/07

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ADDITIONS
BLUE CREEK & NORTHWOODS ELEMENTARY SCHOOLS
Details and Controls

Project #: 00581000
00581000
Checked By: PDC
Issue Date: 02/28/2007
Revisions:

M-3