

**DAMMON ENGINEERING, INC.**

CHIEF ENGINEER  
EMMETT DAMMON, P.E.

CHIEF ARCHITECT  
ROBERT WILTSE

1095 FLORIDA AVENUE  
SLIDELL, LA. 70458  
OFFICE: 985-649-5832  
FAX: 985-641-5950

WEBSITE:  
WWW.DAMMONENGINEERING.COM

EMAIL:  
DAMMONENG@BELLSOUTH.NET

ARCHITECTURE  
ENGINEERING  
STUDIES  
PLANNING  
INVESTIGATION  
EXPERT WITNESS

**OFFICE RENOVATION/ ADDITION**

M NATAL CONTRACTORS, INC.  
394 VOTERS RD.  
SLIDELL, LA

**VENTILATION & ZONE I MECHANICAL PLAN**

REV:

SCALE: AS NOTED

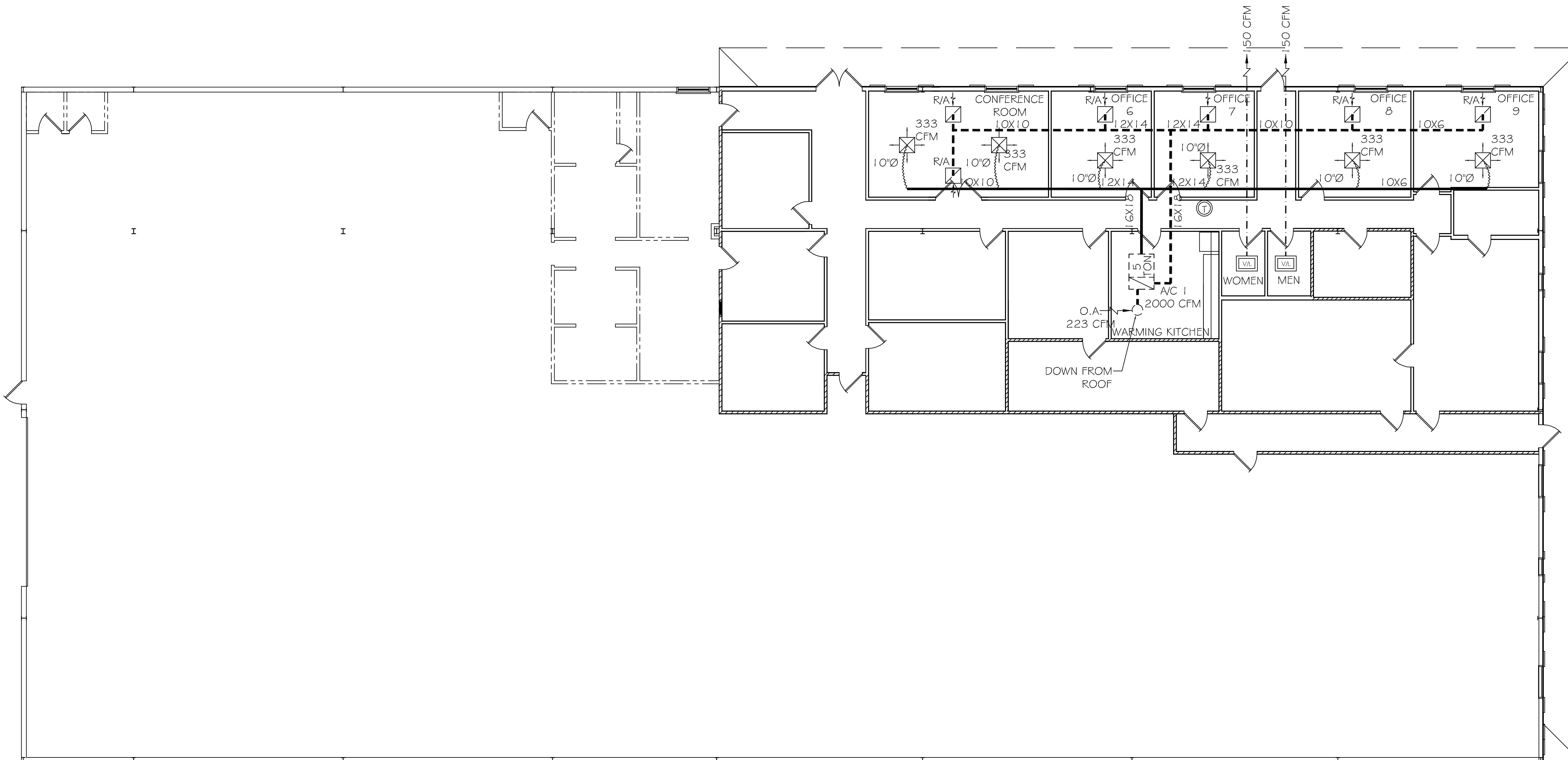
JOB#: 1956

DATE: 07-16-08

SHEET 10

**M-1**

OF 12



**EXHAUST FAN SCHEDULE**

LOC	CFM	VOLTAGE	TYPE	MANF.
TOILETS	150	120	VENT/LIGHT	BROAN

**ZONE I MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**FRESH AIR REQUIREMENTS PER A/C TABLE 403.3**

ROOM NAME	SQUARE FEET	O.A.	ZONE	HEAT (KW)	ELECTRICAL			COMMENTS
					VOLTAGE	MCA	CKT BRKR	
CORRIDOR	640	27	3	1.5	208V, 1Ø	-	-	
OFFICE 1	141	20	3	1.5	208V, 1Ø	-	-	
OFFICE 2	155	21	3	1.5	208V, 1Ø	-	-	
OFFICE 3	150	21	3	1.5	208V, 1Ø	-	-	
CONFERENCE	323	322	1	1.5	208V, 1Ø	-	-	
OFFICE 4	205	29	3	1.5	208V, 1Ø	-	-	
OFFICE 5	204	29	3	1.5	208V, 1Ø	-	-	
OFFICE 6	179	25	1	1.5	208V, 1Ø	-	-	
OFFICE 7	179	25	1	1.5	208V, 1Ø	-	-	
PLAN	181	25	3	1.5	208V, 1Ø	-	-	
FILE 1	247	35	3	1.5	208V, 1Ø	-	-	
KITCHEN	195	29	3	1.5	208V, 1Ø	-	-	
MENS REST.	47	75	2	1.5	208V, 1Ø	-	-	
WOMENS REST.	47	75	2	1.5	208V, 1Ø	-	-	
FILE 2	108	15	2	1.5	208V, 1Ø	-	-	
FITNESS	354	50	2	1.5	208V, 1Ø	-	-	
OFFICE 8	201	28	1	1.5	208V, 1Ø	-	-	
OFFICE 9	205	29	1	1.5	208V, 1Ø	-	-	
CLOSET	64	9	2	1.5	208V, 1Ø	-	-	
OFFICE 10	364	51	2	1.5	208V, 1Ø	-	-	

145EER, R410A REFRIGERANT HEAT PUMP

**MECHANICAL NOTES:**

- CONCEALED DUCTWORK TO BE UL-181, CLASS 1 FIBERGLASS DUCTBOARD. DUCTS SHALL BE SIZED TO LIMIT MAIN DUCTS TO 1000 FPM AND SECONDARY DUCTS TO 600 FPM. INSULATE DUCTWORK TO R-8. TO BE INSTALLED PER SMACNA STANDARDS.
- EXPOSED DUCTWORK TO BE GALVANIZED SHEET METAL PER SMACNA STANDARDS. INSULATE DUCTWORK TO R-8.
- ROUND FLEXIBLE DUCT TO BE UL-181, CLASS 1, AIR DUCT MATERIALS.
- DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- IN ALL SYSTEMS OVER 2000 CFM AND LESS THAN 15000 CFM, SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72E IN THE RETURN AIR DUCT DOWNSTREAM OF THE AIR HANDLING UNIT, AND ALL FILTERS TO AUTOMATICALLY STOP THE FAN.
- PROVIDE U.L. LISTED 125°F FIRESTAT IN RETURN AIR OF EACH SYSTEM UNDER 2000 CFM TO SHUT DOWN THE FAN IN THE EVENT OF A FIRE.
- PROVIDE U.L. RATED FIRE DAMPERS WHERE REQUIRED AT ALL DUCT PENETRATIONS OF FIRE-RATED ASSEMBLIES AND WHERE REQUIRED BY CODE, INCLUDING OUTSIDE AIR INTAKES.
- CONDENSATE DRAINS TO BE PVC PIPE RUN TO PLUMBERS P-TRAP WITHIN FIVE FEET OF AIR HANDLING UNITS.
- ALL AIR HANDLING SYSTEMS TO BE BALANCED TO ASSURE PROPER AIR FLOWS PER PLANS.
- ALL THERMOSTATS TO BE AUTOMATIC CHANGEOVER WITH HEAT SWITCH.
- EXHAUST FAN TO BE BROAN MODEL NO. 100 CF OR EQUAL. FAN SHALL BE CONTROLLED BY A SWITCH ON THE WALL IN THE SAME LOCATION AS LIGHT SWITCH(ES). PROVIDE BACK DRAFT DAMPER.
- PROVIDE AND INSTALL WATERPROOF GRILLE VENT IN PROPER ROOF LOCATION FOR PLUMBING FIXTURE EXHAUST.
- ALL SUPPLY AIR VENTS SHALL BE EQUIPPED WITH AIR CONTROL DAMPERS.
- LOCATE OUTDOOR UNITS AS SHOWN ON ARCHITECTURAL DRAWINGS.
- REFRIGERANT LINES SHALL BE SIZED BY UNIT MANUFACTURER AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- FRESH AIR SHALL BE SUPPLIED TO EACH AIR HANDLER THROUGH EXTERIOR WALL. DUCT SHALL BE SUPPLIED WITH A CONTROL DAMPER.
- INSTALL FIRE DAMPER WHERE S.A. AND R.A. DUCTS PENETRATE 1 HOUR RATED CEILINGS.
- ALL ELECTRICAL, MECHANICAL AND PLUMBING PENETRATING FIRE WALLS SHALL BE FIRE CAULKED. (PENETRATIONS THROUGH RATED CONSTRUCTION SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN TESTED IN ACCORDANCE WITH ASTM-E8-14.
- REFRIGERANT LINES SHALL BE 3/4" TYPE L HARD COPPER.
- DRAWN DIAGRAMMATICALLY.

**NOTES**

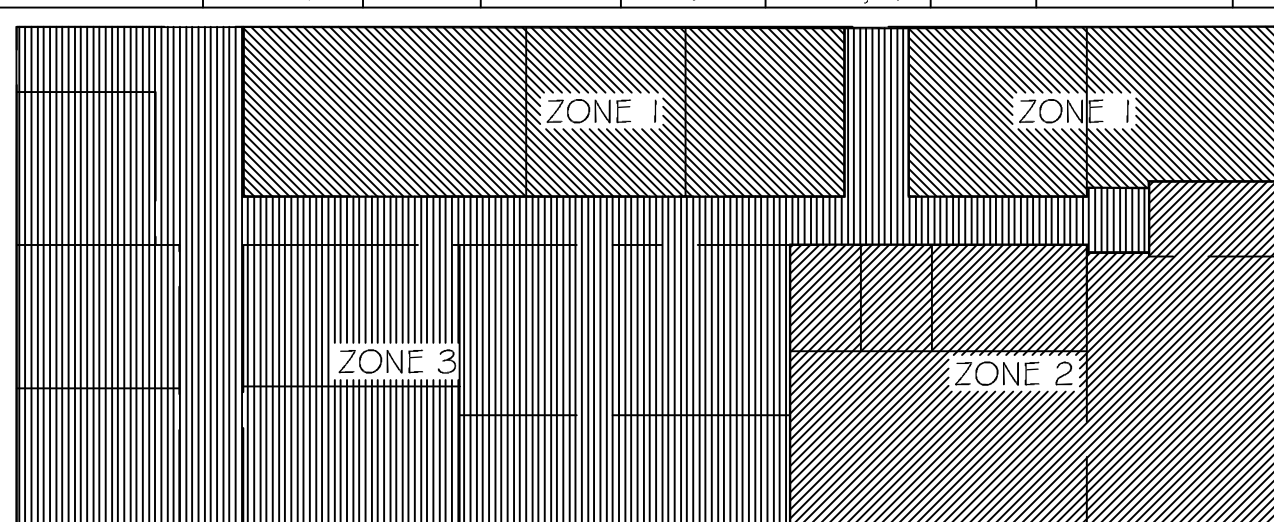
- REFER TO STRUCTURAL DRAWINGS TO COORDINATE LOCATION(S) & MOUNTING OF MECHANICAL EQUIPMENT.
- FLEXIBLE DUCTWORK LENGTH NOT TO EXCEED 10'-0".
- REFER TO REFLECTED CEILING PLAN FOR FINAL GRILLE AND DIFFUSER LOCATION(S) AND COORDINATE AS REQUIRED.
- FINAL LOCATION OF TEMPERATURE CONTROLS TO BE COORDINATED WITH OWNER AT JOB SITE.
- PROVIDE AND INSTALL SMOKE DETECTORS, AS APPROVED BY LOCAL AHJ'S, IN RETURN AIR AND SUPPLY AIR DUCT OF AIR HANDLING UNITS (AHU-1, 2 & 3). PLACE NEAR R/A AND S/A OPENING OF AHU AND PROVIDE WITH ACCESS PANEL. WIRING BY ELECTRICAL CONTRACTOR.

**NOTE:**

FRESH AIR INTAKES ARE REQUIRED TO HAVE MOTORIZED OR GRAVITY DAMPERS TO SHUT OFF WHEN SYSTEM IS NOT RUNNING. ALL THERMOSTATS MUST BE PROGRAMMABLE. SEE SECTIONS 502.4.4 OR 503.2.4.3 2006 INTERNATIONAL ENERGY CODE.

**LEGEND**

- - - SUPPLY AIR DUCT
- - - RETURN AIR DUCT
- - - EXHAUST DUCT
- - - 1 HR. RATED WALL
- ⊗ -24 X 24 SUPPLY AIR GRILLE
- ⊙ -24 X 24 RETURN AIR GRILLE
- ⊕ -THERMOSTAT



**MECHANICAL KEY PLAN**