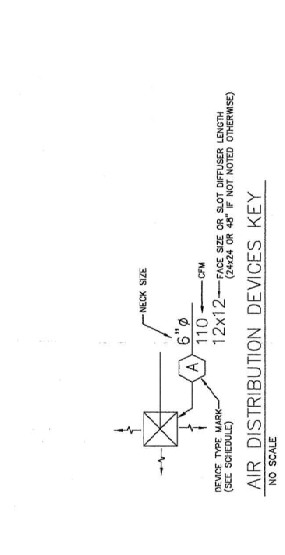


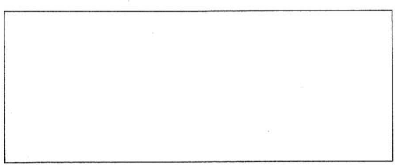
FIRE BARRIER PENETRATION SEALANT SYSTEM SCHEDULE		
PENETRATION MATERIAL	MAXIMUM PENETRANT DIAMETER	CONSTRUCTION TYPE
INSUL. STEEL PIPE	30"	2 HR. CONC. FLOOR
INSUL. STEEL PIPE	30"	1 OR 2 HR. CONC. OR CONC. BLK. WALL
INSUL. COPPER PIPE	4"	2 HR. CONC. FLOOR
INSUL. COPPER PIPE	4"	1 OR 2 HR. CONC. OR CONC. BLK. WALL
INSUL. STEEL PIPE	12"	1 OR 2 HR. STUD WALL
INSUL. COPPER PIPE	4"	1 OR 2 HR. STUD WALL
UNINSUL. STEEL PIPE	12"	1 OR 2 HR. STUD WALL
UNINSUL. COPPER PIPE	8"	1 OR 2 HR. STUD WALL
STEEL CONDUIT	4"	1 OR 2 HR. STUD WALL
UNINSUL. STEEL PIPE	20"	2 HR. CONC. FLOOR OR WALL
UNINSUL. STEEL PIPE	6"	2 HR. CONC. FLOOR OR WALL
STEEL CONDUIT	4"	2 HR. CONC. FLOOR OR WALL

PIPE AND CONDUIT FIRE PENETRATION NOTES:

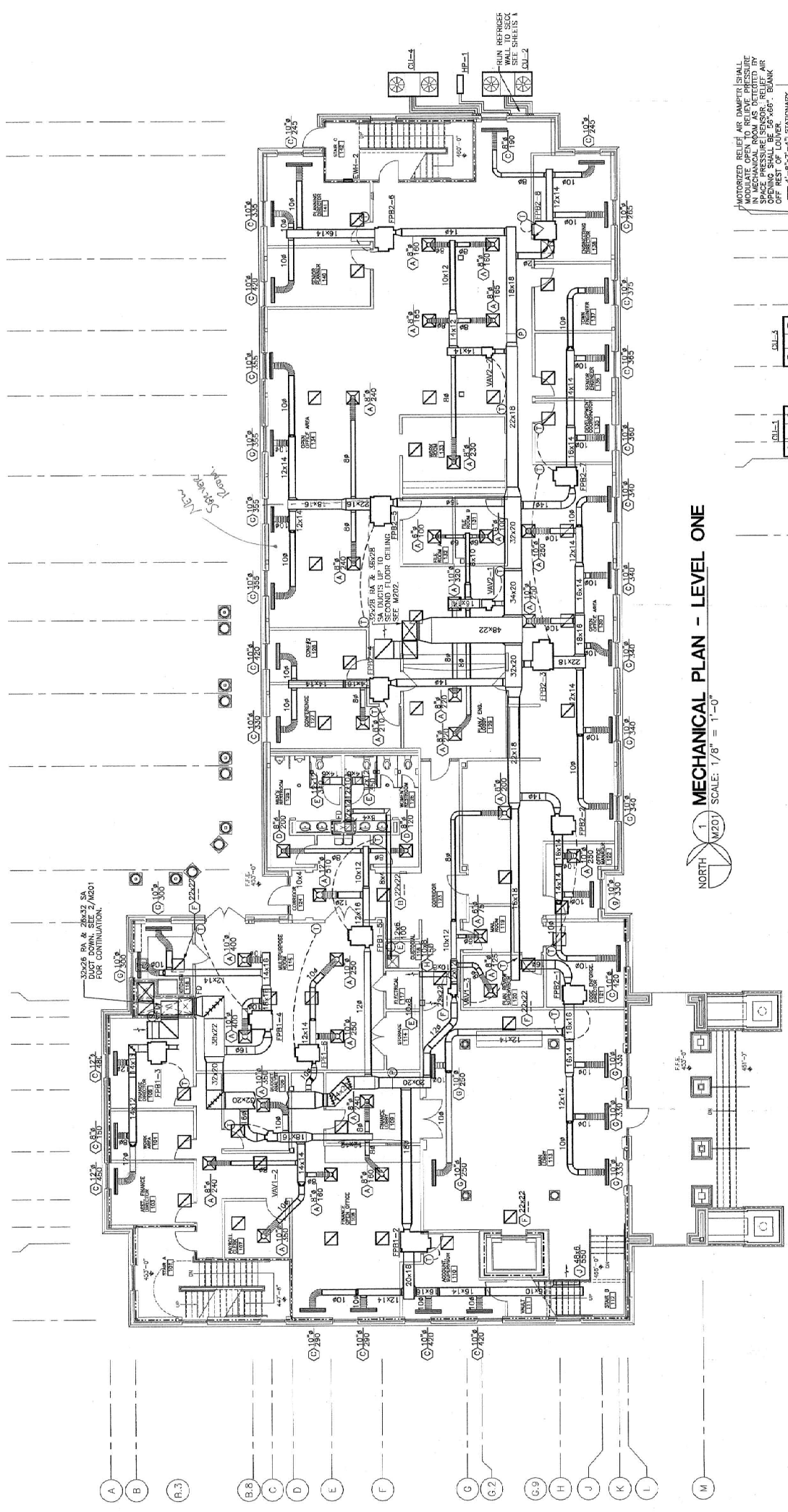
- ALL PIPE AND CONDUIT PENETRATIONS THROUGH RATED PARTITIONS, WALLS OR FLOORS SHALL BE INSTALLED EXACTLY ACCORDING TO THE U.L. LISTED SYSTEM SCHEDULE. PENETRATIONS SHALL BE INSTALLED EXACTLY ACCORDING TO THE U.L. LISTED SYSTEM SCHEDULE. APPROVAL PRIOR TO INSTALLATION.
- PROVIDE SLEEVES IN ALL PIPE AND CONDUIT PENETRATIONS THROUGH 2-HOUR RATED GYPSUM BOARD/STUD PARTITIONS, IF APPLICABLE.
- WHERE THE U.L. LISTED FIRE PENETRATION REQUIRES PIPE INSULATION, PROVIDE 1-INCH THICK, 3.5 PCF FIBROUS GLASS INSULATION FOR THE PENETRATION.
- WHERE THE U.L. LISTED FIRE PENETRATION SYSTEM DOES NOT SHOW INSULATION AND INSULATION IS SPECIFIED, DELETE THE INSULATION AT THE PENETRATION. PROVIDE 1-INCH THICK, 3.5 PCF FIBROUS GLASS INSULATION FOR THE BARRIER AFTER THE FIRE STOPPING IS COMPLETED.
- WHERE THE U.L. LISTED FIRE PENETRATION SYSTEM REQUIRES THICKER CONCRETE IN THE VICINITY OF THE PENETRATION, PROVIDE THE THICKER CONCRETE.
- THE ANNULAR SPACE BETWEEN THE PIPING (INCLUDING INSULATION AS SPECIFIED) AND THE PARTITION SHALL NOT BE LARGER OR SMALLER THAN SHOWN ON THE U.L. SYSTEM LISTING.
- SEE ARCHITECTURAL PLANS FOR RATED PARTITIONS AND RATINGS OF FLOOR CONSTRUCTIONS.
- OR APPROVED EQUIVALENT SYSTEMS (SEE U.L. LISTING FOR "THROUGH PENETRATION FIRESTOP SYSTEMS (AIEFZ)"; LATEST REVISION).
- REVIEW PROJECT SPECIFICATIONS AND HIDING INSTRUCTIONS TO DETERMINE IF THE FIRE BARRIER PENETRATION SEALANT WORK IS PROVIDED UNDER THE MECHANICAL CONTRACT.



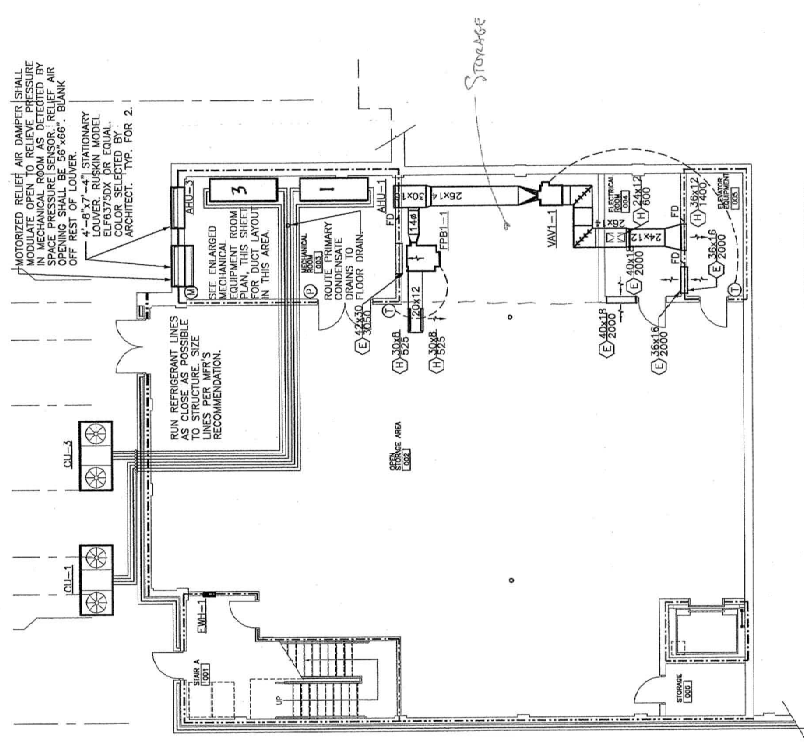
AIR DISTRIBUTION SCHEDULE	
MARK	DESCRIPTION
(A)	UNIVERSAL FACE 5/8" ORIFICES, METAL BLADES WITH OPERATOR IN AIR DAMPER UNUSUAL "W" OR "V" PANEL SIZE, HANG SUITABLE FOR LAT. IN 1-BAY CEILING, STEEL CONSTRUCTION, NOTES 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 5.0, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.0, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.0, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 13.0, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 14.0, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 15.0, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.0, 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9, 17.0, 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 18.0, 18.1, 18.2, 18.3, 18.4, 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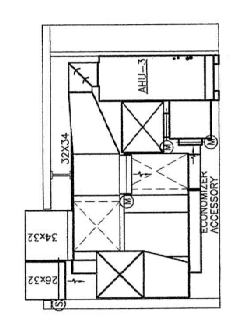
Division President	Robert Bishop, AIA
Job Designer	David L. Cole, P.E.
Detail Designer	David L. Cole, P.E.
Date Drawn	2/14/02
Drawing File Name	2700M201
Revisions	
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
No.	Date
Issue Date	April 30, 2002



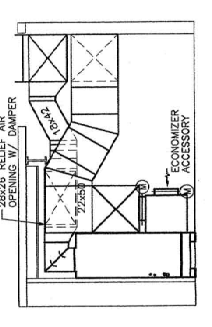
1 MECHANICAL PLAN - LEVEL ONE
 SCALE: 1/8" = 1'-0"
 NORTH



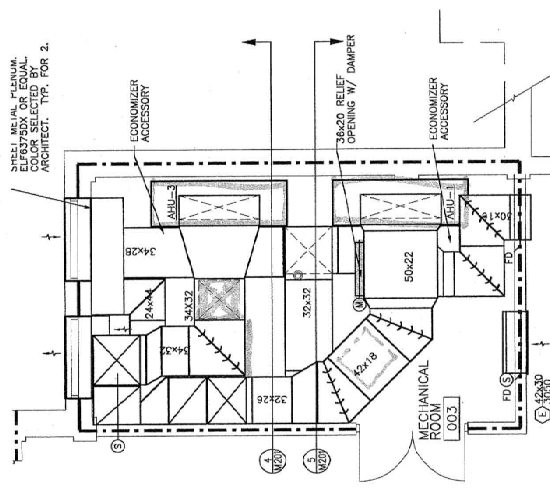
2 MECHANICAL PLAN - LEVEL ZERO
 SCALE: 1/8" = 1'-0"



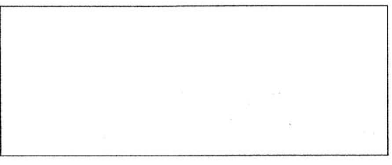
4 SECTION
 SCALE: 1/4" = 1'-0"



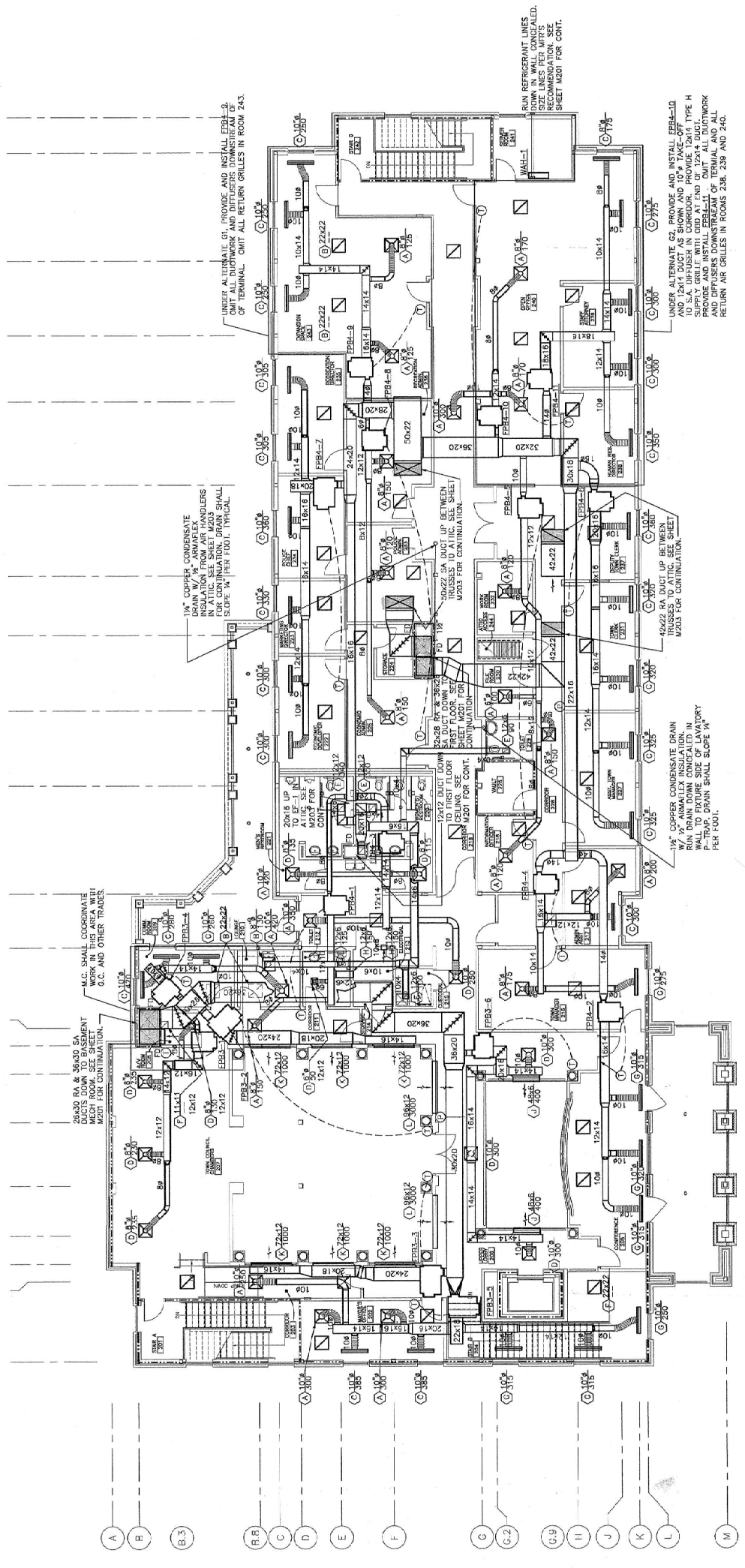
5 SECTION
 SCALE: 1/4" = 1'-0"



3 MECHANICAL ROOM PLAN
 SCALE: 1/4" = 1'-0"



Division President	Robert Blincoe, M.A.	
Job Captain	David L. Cole, P.E.	
Owner	Holly Springs, N.C.	
Design	David L. Cole, P.E.	
Scale	As Shown	
Date	2/14/02	
Drawing File Name	27020M202	
REVISIONS		
No.	Date	Description
1	04/30/02	ISSUE DATE



FLOOR PLAN - LEVEL TWO

SCALE: 1/8" = 1'-0"

SYSTEM NO.	LOCATION	MANUFACTURER	MODEL NUMBER	CFM	TYPE OF DRIVE	MOTOR H.P.	VOLTAGE / PHASE / CYCLES	TYPE OF FAN	ARRANGEMENT	CFM	COIL ARRANGEMENT (DRAWTROUGH/BLWTHROUGH)	TYPE OF COILING (CHILLED WATER/WX)	FINN PER INCH	ROWS	FACE VELOCITY IN F.P.M.	E.A.T. DEGREES F. DB/WB	TOTAL CAPACITY IN MBH	CFM	FILTER ARRANGEMENT (DRAWTROUGH/BLWTHROUGH)	TYPE OF FILTER (BAG/CARTRIDGE/F.T.C.)	FILTER EFFICIENCY %	NUMBER AND SIZE OF FILTERS	FACE VELOCITY IN F.P.M.	TYPE OF SYSTEM (SPLIT/SINGLE PACKAGE)	NUMBER AND H.P. OF EACH FAN	VOLTAGE/PHASE/CYCLES	TYPE OF ELECTRICAL CONNECTION	NUMBER OF COMPRESSORS	CAPACITY OF UNIT IN BTUH	VOLTAGE/PHASE/CYCLES	MANUFACTURER	MODEL NUMBER
AHU-1/01-1	BASEMENT	TRANE	TWE240B4	9,600	BELT	5.0	480/3/60	CENTRIFUGAL	VERTICAL	9,600	THROWAWAY	DT	12	3	216	77.9/85.0	186.7	9,600	DT	THROWAWAY	30%	(4) 16x25x2	864	SPLIT	2/1.0	480/3/60	SINGLE POINT	2	240,000	381/750	TRANE	T1A240B4
AHU-2/01-2	TRANE	TRANE	TWE240B4	9,600	BELT	5.0	480/3/60	CENTRIFUGAL	VERTICAL	9,600	THROWAWAY	DT	12	3	216	77.9/85.0	186.7	9,600	DT	THROWAWAY	30%	(4) 16x25x2	864	SPLIT	2/1.0	480/3/60	SINGLE POINT	2	240,000	381/750	TRANE	T1A240B4
AHU-3/01-3	TRANE	TRANE	TWE240B4	9,600	BELT	5.0	480/3/60	CENTRIFUGAL	VERTICAL	9,600	THROWAWAY	DT	12	3	216	77.9/85.0	186.7	9,600	DT	THROWAWAY	30%	(4) 16x25x2	864	SPLIT	2/1.0	480/3/60	SINGLE POINT	2	240,000	381/750	TRANE	T1A240B4
AHU-4/01-4	TRANE	TRANE	TWE240B4	9,600	BELT	5.0	480/3/60	CENTRIFUGAL	VERTICAL	9,600	THROWAWAY	DT	12	3	216	77.9/85.0	186.7	9,600	DT	THROWAWAY	30%	(4) 16x25x2	864	SPLIT	2/1.0	480/3/60	SINGLE POINT	2	240,000	381/750	TRANE	T1A240B4

NOTES:
 1. MOTOR SHALL HAVE A MINIMUM 0.5 F.T.R.
 2. PROVIDE LOW AMBIENT KIT FOR ALL SYSTEMS.
 3. PROVIDE MOUNTING SUBBASE FOR VERTICAL UNITS.
 4. PROVIDE AUXILIARY CONDENSATE DRAIN PAN WITH FLOAT SWITCH FOR ALL UNITS.
 5. CAPACITY LISTED IS AT ARI STANDARD CONDITIONS AND AIRFLOW INDICATED.
 6. DISCONNECT BY E.C. FUSE SIZED PER UNIT NAMEPLATE.
 7. EQUALS BY CARRIER, TONK AND MOUNTING.

UNIT NO.	SERVICE	LOCATION	FAN TYPE	DRIVE	WHEEL TYPE	CFM	S.P. (IN. W.G.)	APPROX. RPM	HP	V./% STARTER	DISC. SW. BY	CONTROL SCHEME	MFR. & MODEL	NOTES
EF-1	TOILET EXHAUST	ATTIC	CENTRIFUGAL IN-LINE	BELT	DW01 FC	1,000	1.0"	1,132	1	480/3	M.C.	ON/OFF	COOK DB-10	ALL

NOTES:
 1. PROVIDE VIBRATION ISOLATION - SEE SPEC'S AND CONCRETE BALANCED BACK-DRAFFT DAMPER.
 2. PROVIDE BUILT-IN THERMAL O.L. PROTECTION, LINED HOUSING, & B.D. DAMPER.
 3. PROVIDE BUILT-IN THERMAL O.L. PROTECTION, LINED HOUSING, & B.D. DAMPER.
 4. PROVIDE BUILT-IN THERMAL O.L. PROTECTION, LINED HOUSING, & B.D. DAMPER.
 5. SIMILAR UNITS, MFRD. BY PENN. BREKERT, ACME OR LOREN COOK MAY BE SUBMITTED WITHOUT PRIOR APPROVAL.

BOX NO.	COOLING (PRIMARY) AIR DATA				HEATING COIL DATA				ELECTRICAL DATA				NOTES			
	MAX. CFM	MIN. CFM	INLET	TYPE	CFM	EXT. S.P.	HP	WHEEL TYPE	CFM	WHEEL TYPE	CFM	WHEEL TYPE		CFM	WHEEL TYPE	
FPB1-1	1,050	175	89	475	0.50"	1/8	277/1	HIGH	850	4.5	2	480/3	10.3	15	VPEE-1107	ALL
FPB1-2	1,970	250	129	950	0.50"	1/3	277/1	MED	1,200	7.5	2	480/3	17.0	20	VPEE-2415	ALL
FPB1-3	1,080	150	89	500	0.50"	1/3	277/1	LOW	650	4.5	2	480/3	11.5	15	VPEE-1111	ALL
FPB1-4	1,900	450	129	750	0.50"	1/3	277/1	LOW	1,200	8.5	2	480/3	16.5	20	VPEE-2415	ALL
FPB1-5	830	110	89	350	0.50"	1/8	277/1	HIGH	500	3.5	2	480/3	8.8	15	VPEE-1107	ALL
FPB2-1	1,500	350	109	650	0.50"	1/3	277/1	LOW	1,000	7.0	2	480/3	15.3	20	VPEE-1711	ALL
FPB2-2	1,000	150	89	500	0.50"	1/3	277/1	LOW	650	4.5	2	480/3	11.5	15	VPEE-1111	ALL
FPB2-3	2,200	280	129	1,150	0.50"	1/3	277/1	MED	1,400	8.5	2	480/3	18.5	20	VPEE-2415	ALL
FPB2-4	960	320	89	320	0.50"	1/8	277/1	HIGH	640	5.0	2	480/3	11.0	15	VPEE-1107	ALL
FPB2-5	1,900	300	129	900	0.50"	1/3	277/1	MED	1,200	8.0	2	480/3	17.8	20	VPEE-2415	ALL
FPB2-6	1,000	150	89	500	0.50"	1/3	277/1	LOW	650	4.5	2	480/3	11.5	15	VPEE-1111	ALL
FPB2-7	1,100	150	89	525	0.50"	1/3	277/1	LOW	675	4.5	2	480/3	11.5	15	VPEE-1111	ALL
FPB2-8	700	110	89	340	0.50"	1/8	277/1	HIGH	450	3.5	2	480/3	8.8	15	VPEE-1107	ALL
FPB3-1	830	175	89	375	0.50"	1/8	277/1	HIGH	500	4.0	2	480/3	9.5	11	VPEE-1107	ALL
FPB3-2	3,000	450	149	1,400	0.50"	1/2	277/1	HIGH	1,850	14.0	2	480/3	27.4	30	VPEE-3220	ALL
FPB3-3	3,000	450	149	1,400	0.50"	1/2	277/1	HIGH	1,850	14.0	2	480/3	27.4	30	VPEE-3220	ALL
FPB3-4	1,380	200	109	650	0.50"	1/3	277/1	MED	850	5.5	2	480/3	13.0	15	VPEE-1711	ALL
FPB3-5	2,500	350	149	1,150	0.50"	1/2	277/1	MED	1,500	9.5	2	480/3	20.7	25	VPEE-3220	ALL
FPB3-6	1,700	300	109	800	0.50"	1/3	277/1	MED	1,100	7.0	2	480/3	15.3	20	VPEE-1711	ALL
FPB4-1	350	60	69	250	0.50"	1/8	277/1	HIGH	310	2.0	2	480/3	6.3	15	VPEE-0604	ALL
FPB4-2	950	240	89	360	0.50"	1/8	277/1	HIGH	600	4.5	2	480/3	11.5	15	VPEE-1107	ALL
FPB4-3	850	110	89	440	0.50"	1/3	277/1	LOW	550	3.5	2	480/3	10.0	15	VPEE-1111	ALL
FPB4-4	900	100	89	450	0.50"	1/3	277/1	LOW	600	4.0	2	480/3	10.8	15	VPEE-1111	ALL
FPB4-5	490	100	69	250	0.50"	1/8	277/1	HIGH	350	2.5	2	480/3	7.3	15	VPEE-0607	ALL
FPB4-6	1,650	200	109	850	0.50"	1/3	277/1	MED	1,050	6.5	2	480/3	14.5	15	VPEE-1711	ALL
FPB4-7	1,900	300	129	900	0.50"	1/3	277/1	MED	1,200	7.5	2	480/3	17.0	20	VPEE-2415	ALL
FPB4-8	420	85	69	215	0.50"	1/8	277/1	HIGH	300	2.5	2	480/3	7.3	15	VPEE-0607	ALL
FPB4-9	1,000	150	89	500	0.50"	1/3	277/1	LOW	650	4.5	2	480/3	11.5	15	VPEE-1111	ALL
FPB4-10	640	130	69	320	0.50"	1/8	277/1	HIGH	400	3.5	2	480/3	8.8	15	VPEE-0607	ALL
FPB4-11	1,400	200	109	700	0.50"	1/3	277/1	MED	900	6.0	2	480/3	13.8	15	VPEE-1711	ALL

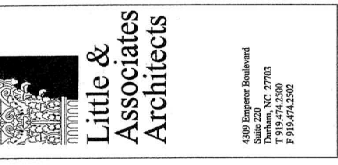
NOTES:
 1. SELECTION BASED UPON TRANE "VPEE" EXCEPT AS NOTED; EQUIV. BY CARRIER, ENVOTEC OR NALOR MAY BE SUBMITTED WITHOUT PRIOR APPROVAL.
 2. MAXIMUM UNITS SHALL BE MAXIMUM 18" HIGH.
 3. MAX. AIR P.D. (IN.) SHALL BE 0.5" FOR UNIT PRIMARY COOLING AIRFLOW AND HEATING COIL, UNLESS NOTED OTHERWISE.
 4. ALL STARTERS AND DISCONNECTS BY TERMINAL MANUFACTURER.
 5. SEE GENERAL NOTES AND INSTALLATION DETAIL FROM COMPONENTS SUPPLIED FROM & BY THE CONTROLS SUR-CONTR. TO THE TERMINAL UNIT MFR.
 6. PROVIDE BUILT-IN THERMOSTAT DISCONNECT SWITCH AND NEMA 1 UNIT DISCONNECT SWITCH FUSED PER UNIT NAMEPLATE.
 7. PROVIDE OPTIONAL FILTER PACK & 2 SETS OF FILTERS.
 8. ALL TERMINAL UNITS SHALL HAVE DIRECT DIGITAL CONTROLS.
 9. IF NO ROUNDOUT SIZE IS SHOWN ON PLANS, ROUNDOUT SHALL BE SAME SIZE AS TERMINAL INLET.
 10. IF NO ROUNDOUT SIZE IS SHOWN ON PLANS, ROUNDOUT SHALL BE SAME SIZE AS TERMINAL INLET.

BOX REL.	MFR.	MODEL NO. & SIZE DESIGNATION	COOLING AIR DATA				NOTES
			MAX. CFM	MIN. CFM	TYPE	CONTROL	
VAV1-1	TRANE	VCCE-24	2,000	200	VAV	12"	ALL
VAV1-2	TRANE	VCCE-17	1,500	150	VAV	10"	ALL
VAV1-3	TRANE	VCCE-08	500	110	VAV	6"	ALL
VAV2-1	TRANE	VCCE-11	860	110	VAV	6"	ALL
VAV2-2	TRANE	VCCE-11	860	110	VAV	6"	ALL

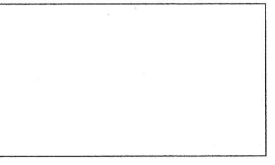
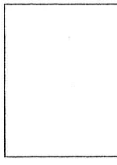
NOTES:
 1. SELECTION BASED UPON TRANE SERIES VCC; EQUIV. UNITS BY CARRIER, NALOR, OR ENVOTEC MAY BE SUBMITTED WITHOUT PRIOR APPROVAL.
 2. MAX. AIR P.D. (IN.) SHALL BE 0.30" FOR UNIT COOLING AIRFLOW UNLESS OTHERWISE NOTED.
 3. TERMINAL UNITS SHALL BE MAXIMUM 14" HIGH.
 4. SET GENERAL NOTES AND INSTALLATION DETAIL FROM COMPONENTS SUPPLIED FROM & FROM THE CONTROLS SUR-CONTR. TO THE AIR TERMINAL UNIT MFR.
 5. PROVIDE BUILT-IN THERMOSTAT DISCONNECT SWITCH AND NEMA 1 UNIT DISCONNECT SWITCH FUSED PER UNIT NAMEPLATE.
 6. PROVIDE CONTROLS POWER TRANSFORMER, DISC. SWITCH AND FUSES.
 7. ALL TERMINALS SHALL BE 120V/1P.
 8. ALL TERMINALS SHALL HAVE DIRECT DIGITAL CONTROLS.
 9. IF NO ROUNDOUT SIZE IS SHOWN ON PLANS, ROUNDOUT SHALL BE SAME SIZE AS TERMINAL INLET.

UNIT NUMBER	MFR.	MODEL NUMBER	INDOOR UNIT				OUTDOOR UNIT				NOTES										
			MAX. CAPACITY	MIN. CAPACITY	TYPE	CONTROL	MAX. CAPACITY	MIN. CAPACITY	TYPE	CONTROL											
WALL 1/APP-1	EM	WHP-12	310	HIGH	0.20	208/1P	0.25	15	EM	SHC	120	1/8"	208/1P	7.0	15	12.0	24.5	11.2	1/4"	1/2"	ALL

NOTES:
 1. SYSTEM SHALL HAVE A MINIMUM 10.0 SEER RATING AND HEAT PUMP COP SHALL BE MINIMUM 3.1.
 2. FURNISH AND INSTALL A 24V REMOTE THERMOSTAT AS SHOWN ON PLANS.
 3. HEAT PUMP SHALL INTERFACE WITH THERMOSTAT DRIVERS OF A 24V CONTROL CONNECTION.
 4. PROVIDE BUILT-IN THERMOSTAT DISCONNECT SWITCH AND NEMA 1 UNIT DISCONNECT SWITCH FUSED PER UNIT NAMEPLATE.
 5. INDOOR AND OUTDOOR UNITS SHALL BE FURNISHED WITH A THERMOSTAT EXPANSION VALVE.
 6. PROVIDE CONDENSATE PUMP WITH SAFETY FLOAT SWITCH TO SHUT DOWN UNIT IN CASE OF CONDENSATE OVERFLOW.
 7. UNIT SHALL BE FURNISHED WITH LOW AMBIENT KIT.
 8. PROVIDE AND INSTALL DISCONNECT, FUSE SIZED PER UNIT NAMEPLATE.



4189 Englewood Boulevard
 Suite 220
 Raleigh, NC 27611
 T 919.771.3300
 F 919.771.3302



Holly Springs Town Hall
 Holly Springs, North Carolina
 MECHANICAL SCHEDULES

Division President	Robert Blinn, AIA
Job Captain	David L. Cole, P.E.
Designer	David E. Cole, P.E.
Date Drawn	2/14/02
Drawing File Name	27030401
Revisions	

Project Number
511576000
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 Issue Date: April 30, 2002