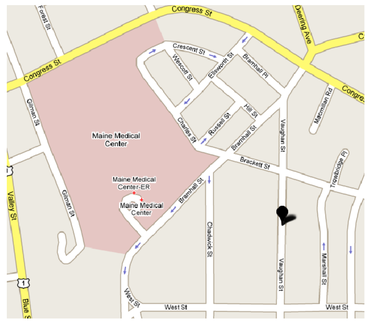
MMC ~ 229 VAUGHAN STREET

MECHANICAL UPGRADES

PORTLAND, MAINE

ALLIED PROJECT No. 06003

AREA PLAN



ISSUED FOR CONSTRUCTION

30 JULY, 2007

INDEX OF DRAWINGS

Allied Engineering

Structural Mechanical Electrical Commissioning

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

APPROVED FOR ___ BY	TITLE	DATE	APPROVED FOR ___ BY	TITLE	DATE				
APPROVED FOR ___ BY	TITLE	DATE	APPROVED FOR ___ BY	TITLE	DATE				

D1 PIPING SYMBOLS LEGEND

NONE

- PIPE ELBOW TURNED DN
- PIPE ELBOW TURNED UP
- PIPING TEE DOWN
- PIPING TEE UP
- PIPE RISER
- 45° ELBOW DOWN
- PIPING TO BE REMOVED
- CAPPED PIPING
- CAPPED BELOW FINISHED FLOOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- DIRECTION OF FLOW
- PIPING PITCHES DOWN
- PIPE GUIDE
- EXPANSION JOINT
- PIPE ANCHOR
- UNION
- FLANGED CONNECTION
- BACKFLOW PREVENTER
- FLEXIBLE CONNECTION
- SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS
- GATE VALVE – OUTSIDE SCREW & YOKE (OS&Y)
- GLOBE VALVE
- LOCKABLE BALL VALVE
- PLUG VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- LOCK & SHIELD VALVE
- CHECK VALVE
- AIR ELIMINATOR
- BALANCING VALVE (CIRCUIT SETTER)
- AUTOMATIC AIR VENT
- MANUAL AIR VENT W/4" HIGH CHAMBER
- STRAINER
- STRAINER W/BLOWDOWN VALVE AND CAP
- EXPANSION VALVE (AUTOMATIC)
- RELIEF/SAFETY VALVE
- PRESSURE GAUGE/COCK
- SIGHT GLASS
- PRESSURE REDUCING VALVE
- FLOW SWITCH
- SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR
- STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T. = THERMOSTAT, B.T. = BUCKET TRAP)
- PUMP – POINT OF TRIANGLE INDICATES DIRECTION OF FLOW
- GAS SHUT-OFF VALVE
- HOSE END DRAIN VALVE W/CAP
- TEMPERATURE/PRESSURE TAP (PETE'S PLUG)
- THERMOMETER/COCK
- SOLENOID VALVE
- ORIFICE FLOWMETER
- DIFFERENTIAL PRESSURE TRANSMITTER
- HUMIDIFIER
- FINNED TUBE BASEBOARD
- HOSE BIB/WALL HYDRANT
- FLOOR CLEANOUT
- FUSIBLE LINK VALVE
- WALL CLEANOUT
- AQUASTAT
- EXPANSION LOOP
- FLOOR DRAIN
- SHOCK ABSORBER (WATER HAMMER ARRESTER)
- FIRE DEPARTMENT CONNECTION
- FREE STANDING FIRE DEPARTMENT CONNECTION
- WATER GONG

D6 AIR DISTRIBUTION SYMBOLS LEGEND

SCALE

- DUCTWORK ~ FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST, FA= FRESH AIR F.D. = FLAT OVAL
- ACCOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)
- DUCTWORK TO BE REMOVED
- DUCT TRANSITION
- SQUARE TO ROUND TRANSITION
- FLEX DUCT ~ DOUBLE LINE
- FLEX DUCT ~ SINGLE LINE
- CHANGE IN ELEVATION (UP OR DOWN)
- SUPPLY DUCT TURNED UP/DN
- RETURN DUCT TURNED UP/DN
- EXHAUST DUCT TURNED UP/DN
- ROUND DUCT TURNED UP/DN
- MITERED DUCT ELBOW W/TURNING VANES
- RADIUS DUCT ELBOW
- DUCT/PIPE CAP (SINGLE/DOUBLE LINE)
- SMOKE DAMPER
- DAMPER ~ FIRE
- FIRE AND SMOKE DAMPER
- VOLUME DAMPER
- BACKDRAFT DAMPER
- DAMPER ~ MOTORIZED
- FLEXIBLE CONNECTOR
- THERMOSTAT OR TEMP. SENSOR (AS SPECIFIED)
- HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)
- SWITCH
- ACCESS PANEL
- DUCT SMOKE DETECTOR
- FAN ~ EXHAUST ROOF
- FAN ~ SUPPLY ROOF VENT
- CEILING DIFFUSER ~ 4-WAY BLOW
- CEILING DIFFUSER ~ 3-WAY BLOW
- CEILING DIFFUSER ~ 2-WAY BLOW
- CEILING DIFFUSER ~ CORNER BLOW
- CEILING RETURN GRILLE
- CEILING EXHAUST GRILLE
- POINT OF CONNECTION EXISTING TO NEW
- DIRECTION OF AIR FLOW (SUPPLY)
- DIRECTION OF AIR FLOW (RETURN)
- R, G & D TAG: DIFFUSER, REGISTER OR GRILLE No. / QUANTITY / CFM AIR FLOW
- FINTUBE TAG: FINTUBE No. / LENGTH / GPM
- VAV TAG: VAV No. / MINIMUM CFM / MAXIMUM CFM / GPM
- EQUIPMENT TAG: TYPE DESIGNATOR / NUMBER
- DETAIL No. / DETAIL REFERENCE SYMBOL / SHEET DETAIL LOCATED ON
- SECTION No. / SECTION REFERENCE SYMBOL / SHEET SECTION LOCATED ON

A1 PIPING LINETYPE LEGEND

NONE

- ACID — ACID WASTE
- AR — ARGON
- ATV — AIR RELIEF
- BBD — BOILER BLOWDOWN
- C — CONDENSATE
- C — CONDENSATE (BELOW FLOOR)
- CA — COMPRESSED AIR
- CDA — CLEAN DRY AIR
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC WATER RECIRC.
- D — DRAIN
- FOD — FUEL OIL DISCHARGE
- FOF — FUEL OIL FILL
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL TANK VENT
- GHR — GLYCOL HEATING RETURN
- GHS — GLYCOL HEATING SUPPLY
- H — HUMIDIFICATION LINE
- H2 — HYDROGEN GAS
- HPH2 — HIGH PRESSURE HYDROGEN GAS
- HCV — HOUSE CLEANING VAC.
- HE — HELIUM GAS
- HPC — HIGH-PRESSURE CONDENSATE
- HPS — HIGH-PRESSURE CONDENSATE SUPPLY
- HTWR — HIGH-TEMP. HOT WATER RETURN
- HWR — LOW-HOT. WATER RETURN
- HWS — HOT WATER SUPPLY
- IND — INDUSTRIAL WASTE
- IW — INDIRECT DRAIN
- LN — LIQUID NITROGEN
- LOX — LIQUID OXYGEN
- LPC — LOW-PRESSURE CONDENSATE
- LPG — LIQUID PETROLEUM GAS
- LPS — LOW-PRESSURE STEAM
- MA — MEDICAL AIR
- MPC — MEDIUM-PRESSURE CONDENSATE
- MPS — MEDIUM-PRESSURE STEAM
- MU — MAKEUP WATER
- N2 — NITROGEN
- NG — NATURAL GAS
- NO — NITROUS OXIDE
- NPW — NON-POTABLE WATER
- OX — OXYGEN
- PC — PUMPED CONDENSATE
- PCWR — PROCESSED COLD WATER RETURN
- PCWS — PROCESSED COLD WATER SUPPLY
- RD — REFRIGERANT DISCHARGE
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SANITARY SOIL WASTE (ABOVE FLOOR)
- SANITARY SOIL WASTE (BELOW FLOOR)
- SANITARY SOIL VENT (ABOVE FLOOR)
- SANITARY SOIL VENT (BELOW FLOOR)
- SV — SANITARY WASTE & VENT COMBINATION
- SD — STORM DRAIN ABOVE FLOOR OR GRADE
- SD — STORM DRAIN BELOW FLOOR OR GRADE
- SP — SPRINKLER MAIN PIPING
- SW — SOFT WATER
- TP — TRAP PRIMER PIPING ABOVE GRADE
- TP — TRAP PRIMER PIPING BELOW GRADE
- TWR — TEMPERED RETURN WATER
- TWS — TEMPERED SUPPLY WATER
- VAC — VACUUM (AIR)
- VC — VACUUM CLEANING
- VPD — VACUUM PUMP DISCHARGE

A4 ABBREVIATIONS

NONE

AAV	AUTOMATIC AIR VENT
AC	ABOVE CEILING
ACC	AIR COOLED CONDENSER
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AD	ACCESS DOOR
AE	ACID EXHAUST
AW	ACID WASTE
AFF; A.F.F.	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APPROX	APPROXIMATE; APPROXIMATELY
APMR	AS PER MFR'S RECOMMENDATIONS
ATC	AUTOMATIC TEMPERATURE CONTROL
AV	AIR VENT
BC	BALANCING COCK
BDD	BACKDRAFT DAMPER
BG	BLAST GATE
BF	BARRIER FREE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
B.T.U.	BRITISH THERMAL UNIT
C; CONV.	CONVECTOR
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
C.O.	CLEANOUT
CM	CONSTRUCTION MANAGER
CNTR	COUNTER; COUNTERTOP
CONN	CONNECT; CONNECTION
CONT	CONTINUE; CONTINUATION
COORD	COORDINATE
CORR	CORRIDOR
CR	CHEMICAL RESISTING
CT	COOLING TOWER
CTE	CONNECT TO EXISTING
CTR	CENTER
CTRLN	CENTERLINE
CU	COPPER
CUH	CABINET UNIT HEATER
C.V.	CONTROL VALVE
CW	COLD WATER, CONDENSER WATER
DB	DRY BULB TEMPERATURE, °F
DC	DOUBLE CONTAINED
DDC	DIRECT DIGITAL CONTROL
DET	DETAIL
DIA	DIAMETER
DIC	DOWN IN CHASE
DIW	DOWN IN WALL
DN	DOWN
DS	DOWNSPOUT
DT	DROP AND TRANSITION
DV	DRAIN VALVE
DWG	DRAWING
EA	EXHAUST AIR
EF	EXHAUST FAN
EL; ELEV	ELEVATION
ELONG	ELONGATE
ENC	ENCLOSURE
ER	EXHAUST REGISTER
ET	EXPANSION TANK
EX.;(E)	EXISTING
F & T	FLOAT AND THERMOSTATIC
FBO	FURNISHED BY OTHERS
FBP	FACE AND BYPASS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD–#	FLOOR DRAIN TAG
FD	FIRE DAMPER
FIN	FINISH
FL	FLOOR
FTG	FOOTING
FTR	FINNED TUBE RADIATION
FS	FLOW SWITCH
FM	FORCE MAIN
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GV	GRAVITY VENTILATOR
H	HUMIDIFIER
HB	HOSE BIB
HC; HDC	HANDICAP ACCESS
HGT, HT.	HEIGHT
HP	HEAT PUMP
HPT	HOSE PIPE THREAD
HRU	HEAT RECOVERY UNIT
HTR	HEATER
H & V	HEATING AND VENTILATION
HVAC	HEATING, VENTILATING, & AIR COND.
HW	HOT WATER
HWR	HOT WATER RETURN
HX	HEAT EXCHANGER
IN WG	INCHES WATER GAUGE
INCL	INCLUDING
INV EL	INVERT ELEVATION
IPS	IRON PIPE SIZE
KE–#	KITCHEN EQUIPMENT NUMBER
LD	LINEAR DIFFUSER
LE–#	SCIENCE LAB EQUIPMENT NUMBER
LPG	LIQUID PETROLEUM GAS
LPR	LOW PRESSURE STEAM RETURN
LPS	LOW PRESSURE STEAM SUPPLY
MAX	MAXIMUM
MBH	1000 BTU/HR.
MFR	MANUFACTURER
MIN	MINIMUM
MOD	MOTOR OPERATOR DAMPER
MPG	MEDIUM PRESSURE GAS
MPV	MULTI–PURPOSE VALVE
MTD	MOUNTED
MTG	MOUNTING
MUA	MAKE UP AIR
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OED	OPEN ENDED DUCT
P–#	PLUMBING FIXTURE TAG
PCHWS	PRIMARY CHILLED WATER SUPPLY
PCHWR	PRIMARY CHILLED WATER RETURN
PD	PUMPED DISCHARGE
PPE	PRE PURCHASED EQUIPMENT
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RD	ROOF DRAIN
REC	RECOMMENDATION
REG	REGULAR
RF	RETURN FAN
RG	RETURN GRILLE
RHC	REHEAT COIL
RM	ROOM
RPZ	REDUCED PRESSURE BFP
RR	RETURN REGISTER
RV	RELIEF VALVE
S	SUPPLY AIR
SA–" "	SHOCK ABSORBER OF PDI SIZE (" ") AS INDICATED
SCHWS	SECONDARY CHILLED WATER SUPPLY
SCHWR	SECONDARY CHILLED WATER RETURN
SL	SOIL
SCV	SELF CONTAINED VALVE
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SGL	SINGLE
SHT	SHEET
SK	SINK
SPLR	SPRINKLER
SQ FT	SQUARE FEET
S/O	SHUT OFF
SR	SUPPLY REGISTER
SS; S.S.	STAINLESS STEEL
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TP	TRAP PRIMER
TSP	TOTAL STATIC PRESSURE
TTS	TIGHT TO STEEL
TV	TURNING VANE
TW	TEMPERED WATER
TYP	TYPICAL
UH	UNIT HEATER
UIC	UP IN CHASE
UIW	UP IN WALL
UV	UNIT VENTILATOR
V	VENT
VB	VACUUM BREAKER
VCFF	VALVE & CAP FOR FUTURE
VD	VOLUME DAMPER – MANUAL
VLV	VALVE
VS	VENT STACK
VTR; V.T.R.	VENT THROUGH ROOF
W	WASTE
W/	WITH
WB	WET BULB TEMPERATURE, °F
WCO	WALL CLEANOUT
WH	WATER HEATER
WHYD	WALL HYDRANT
NTS	NOT TO SCALE
12"ø	12" DIAMETER DUCT
@	AT
&	AND
%	PERCENT

NOTE

ALL GENERAL NOTES, SYMBOL LEGENDS, AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL HVAC DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN.

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

IAN A. MACDONALD No. 6990 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

Date: 07/30/2007
Drawn By: VAC
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL LEGEND, NOTES, AND ABBREVIATIONS

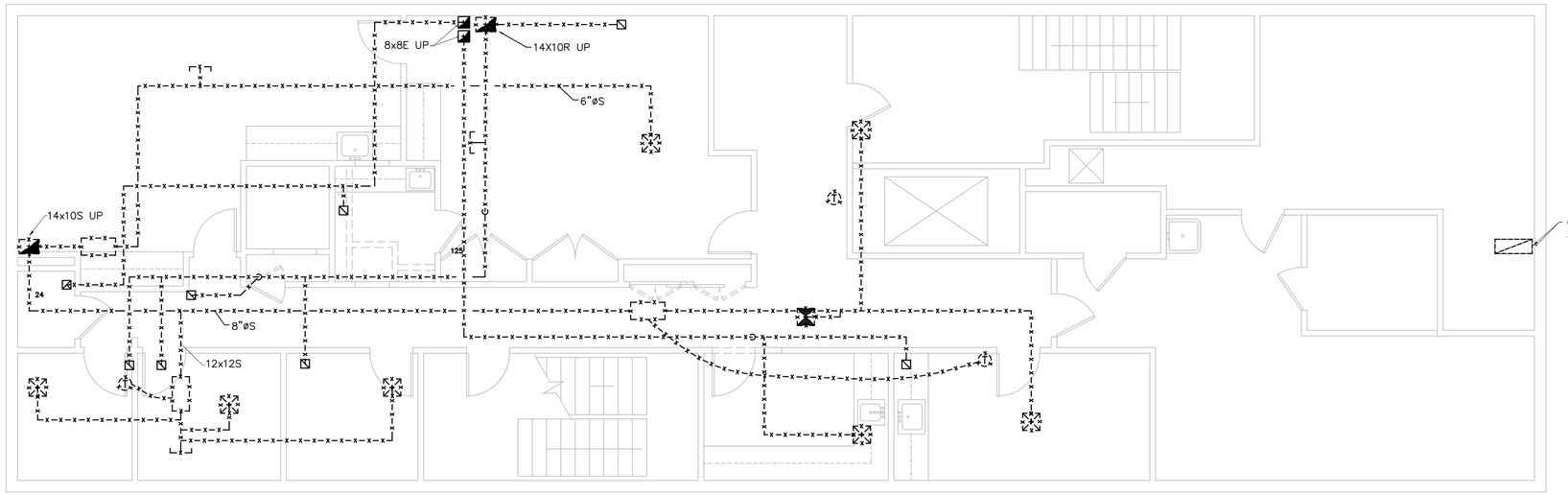
MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

M-000

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003M.dwg Jul 30, 2007 - 2:58pm

GENERAL NOTES:

1. REMOVE EXISTING HVAC AND EXHAUST DUCTWORK; GENERAL LAYOUT SHOWN, VERIFY IN FIELD.

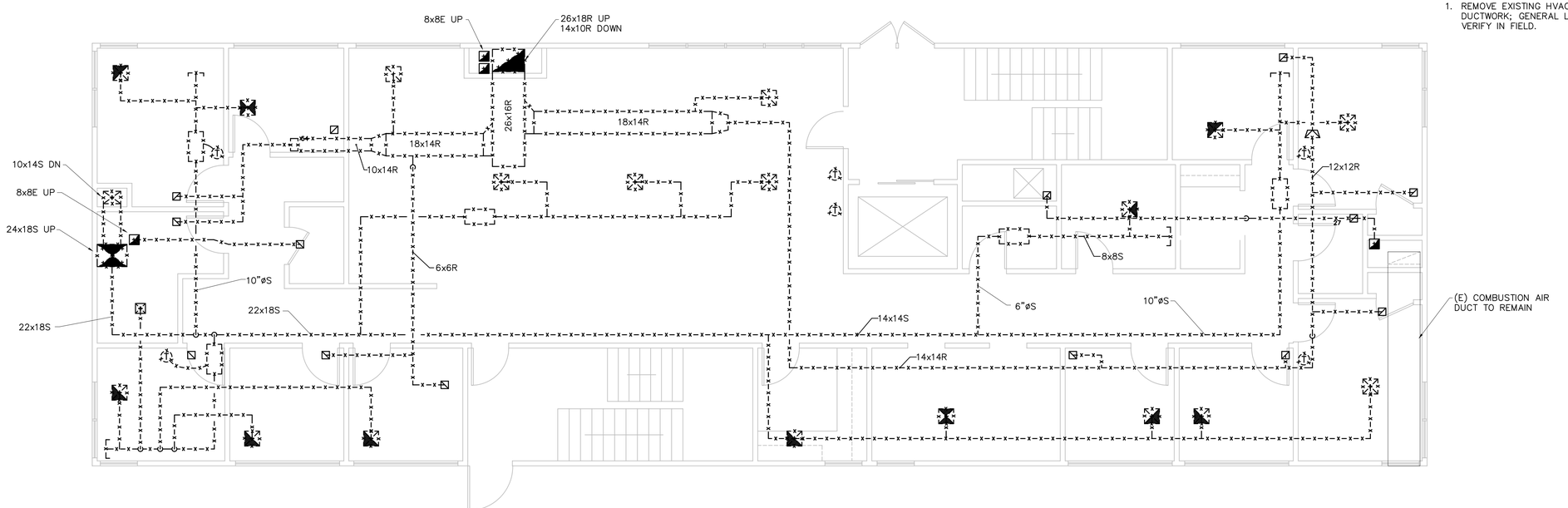


D1 | MECHANICAL DEMOLITION PLAN ~ GROUND FLOOR

1/4" = 1'-0"

GENERAL NOTES:

1. REMOVE EXISTING HVAC AND EXHAUST DUCTWORK; GENERAL LAYOUT SHOWN, VERIFY IN FIELD.



A1 | MECHANICAL DEMOLITION PLAN ~ FIRST FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

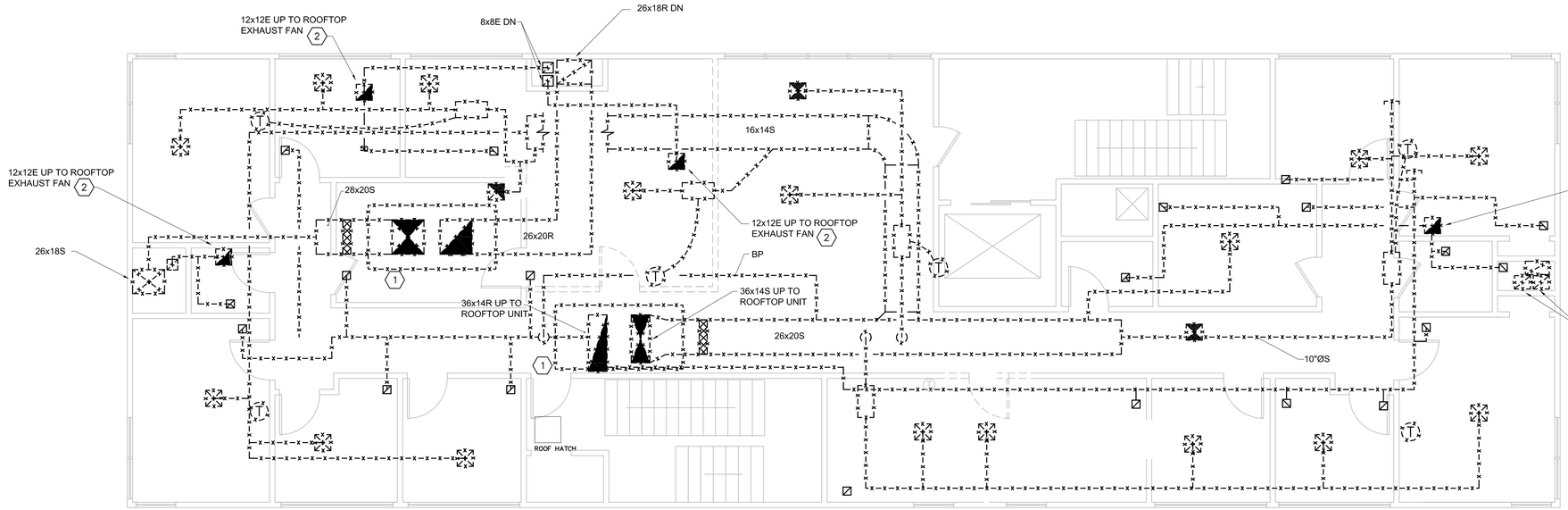
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 1" 0

MECHANICAL PLANS

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

MD-100

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files --current CAD files\06003M.dwg Jul 30, 2007 - 2:59pm



GENERAL NOTES:

1. REMOVE EXISTING HVAC AND EXHAUST DUCTWORK; GENERAL LAYOUT SHOWN, VERIFY IN FIELD.

DRAWING KEYNOTES:

(1) REMOVE (E) RTU AND ROOF CURB. COORDINATE (E) DUCT PENETRATIONS WITH NEW RTU/DUCT MAINS.

(2) REMOVE (E) EXHAUST FAN ON ROOF.

NORTH

D1 | MECHANICAL DEMOLITION PLAN ~ SECOND FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

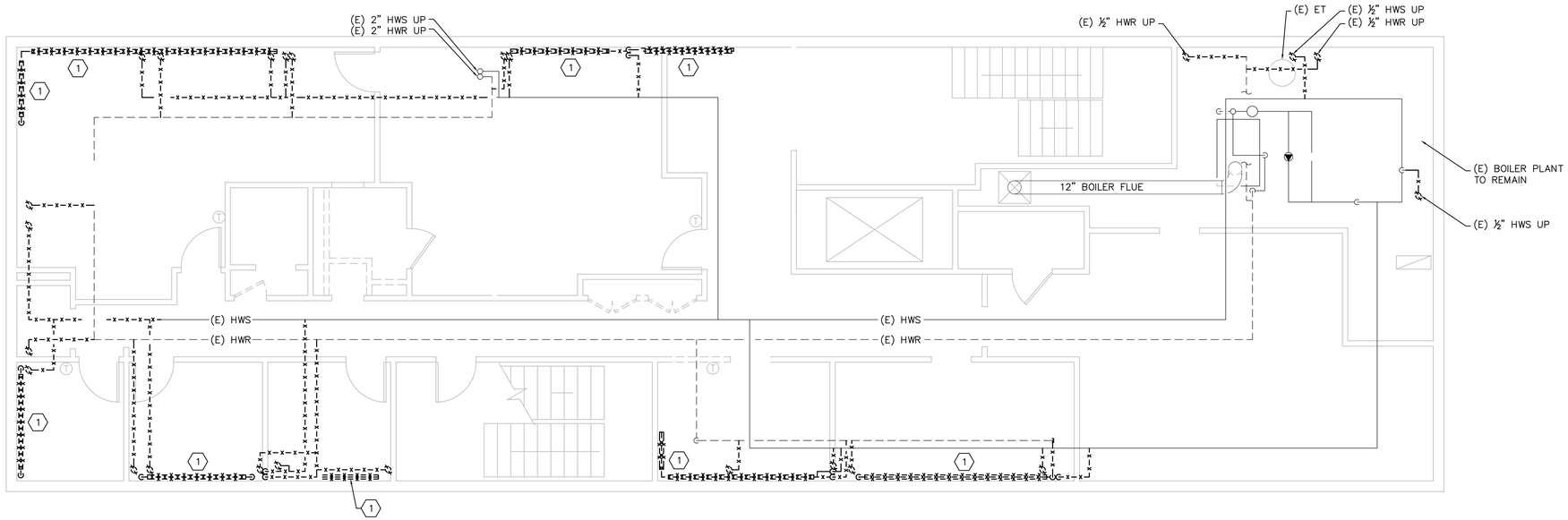
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PLANS

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

MD-101

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files --current CAD files\06003M.dwg Jul 30, 2007 - 2:59pm



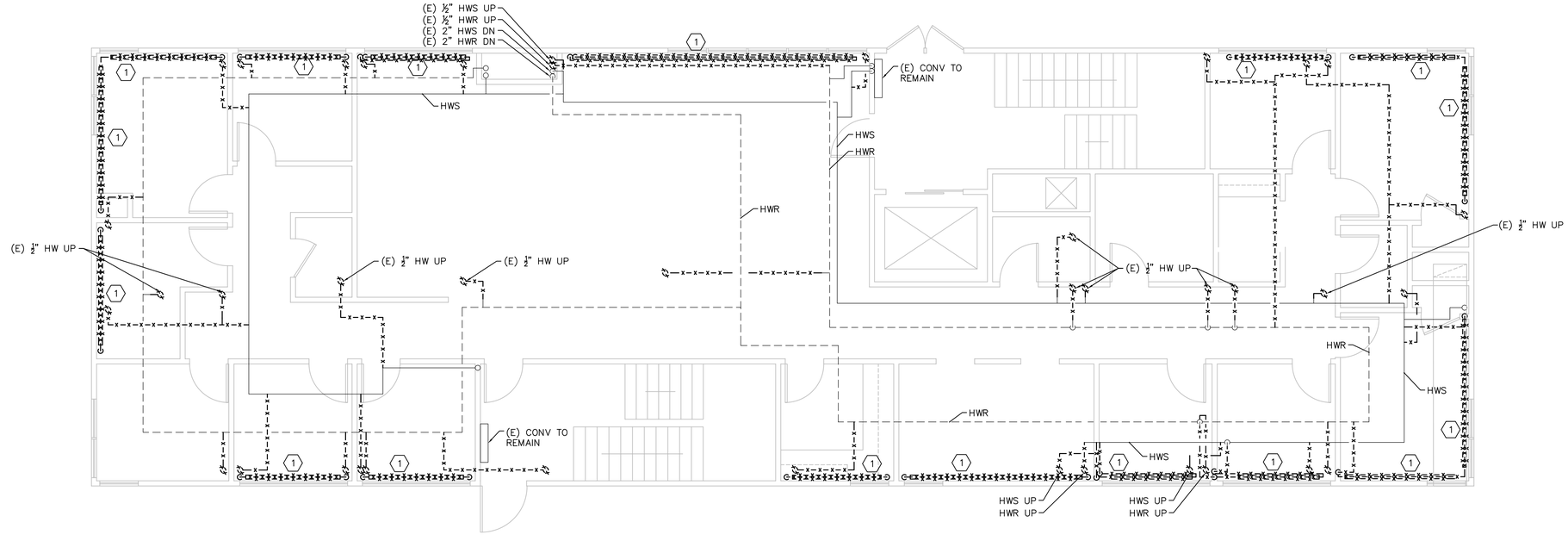
DRAWING KEYNOTES:

1. REMOVE (E) FTR COMPLETE AND CAP HWS & HWR AT MAINS.

NORTH

D1 | MECHANICAL PIPING DEMOLITION PLAN ~ GROUND FLOOR

1/4" = 1'-0"



DRAWING KEYNOTES:

1. REMOVE (E) FTR COMPLETE AND CAP HWS & HWR AT MAINS.

NORTH

A1 | MECHANICAL PIPING DEMOLITION PLAN ~ FIRST FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

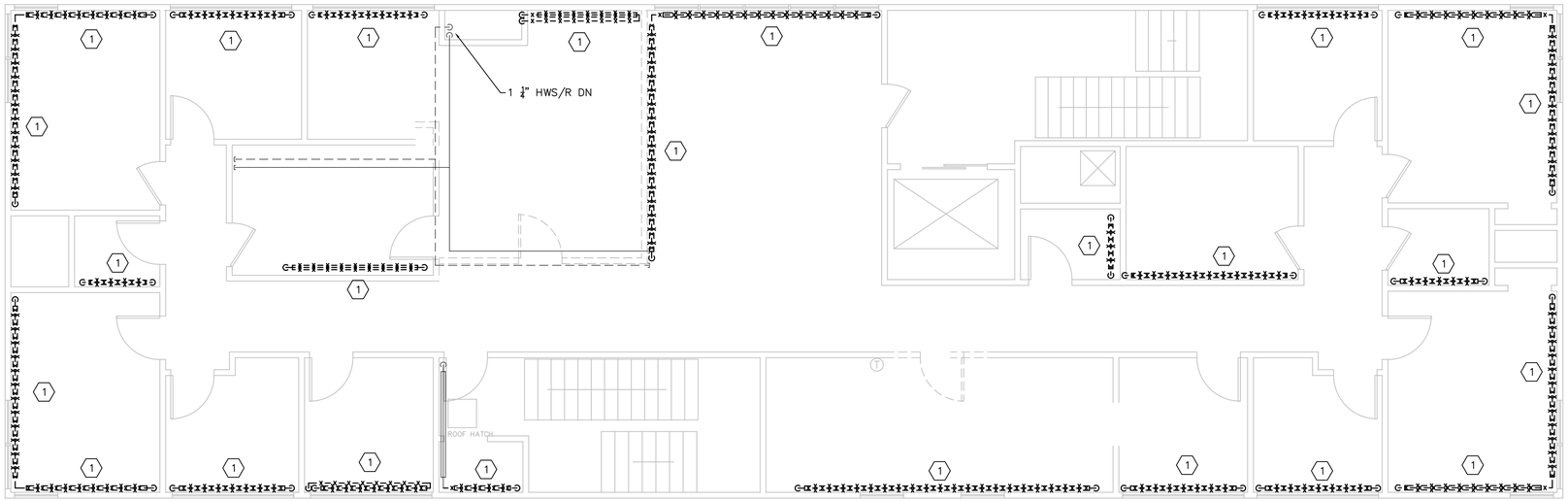
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PIPING DEMOLITION PLANS ~ GROUND & FIRST FLOORS

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

MD-102

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003MP.dwg Jul 30, 2007 ~ 3:01pm



DRAWING KEYNOTES:

1 REMOVE (E) FTR COMPLETE AND CAP HWS & HWR AT MAINS.

NORTH

D1 | MECHANICAL PIPING DEMOLITION PLAN ~ SECOND FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

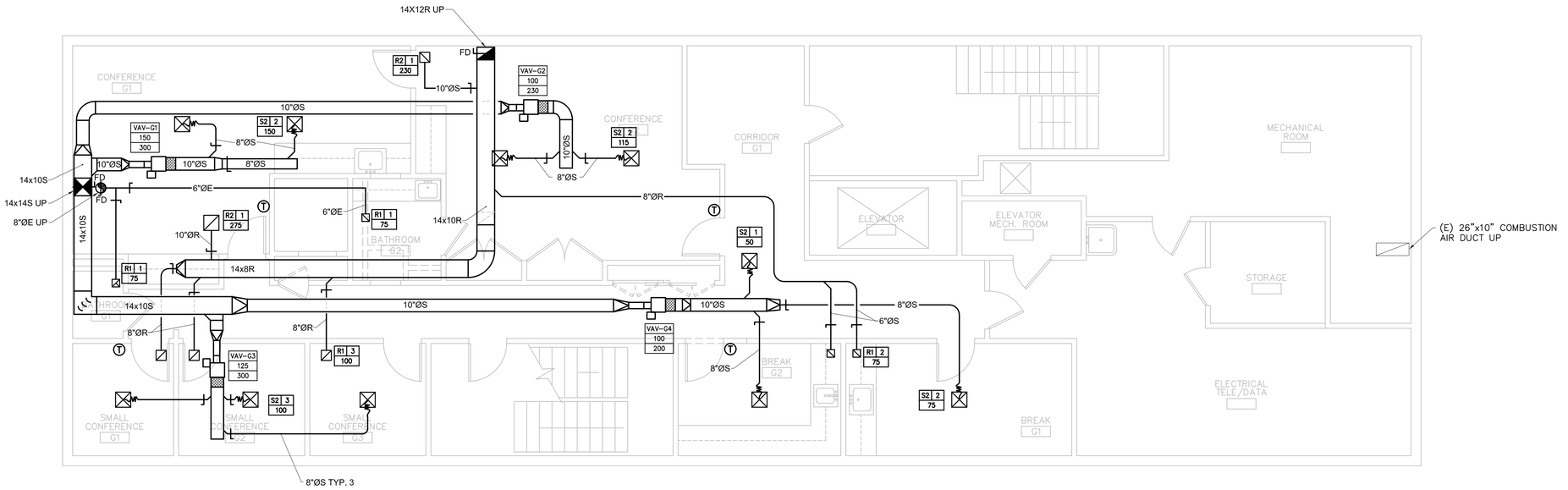
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PIPING DEMOLITION PLAN ~ SECOND FLOOR

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

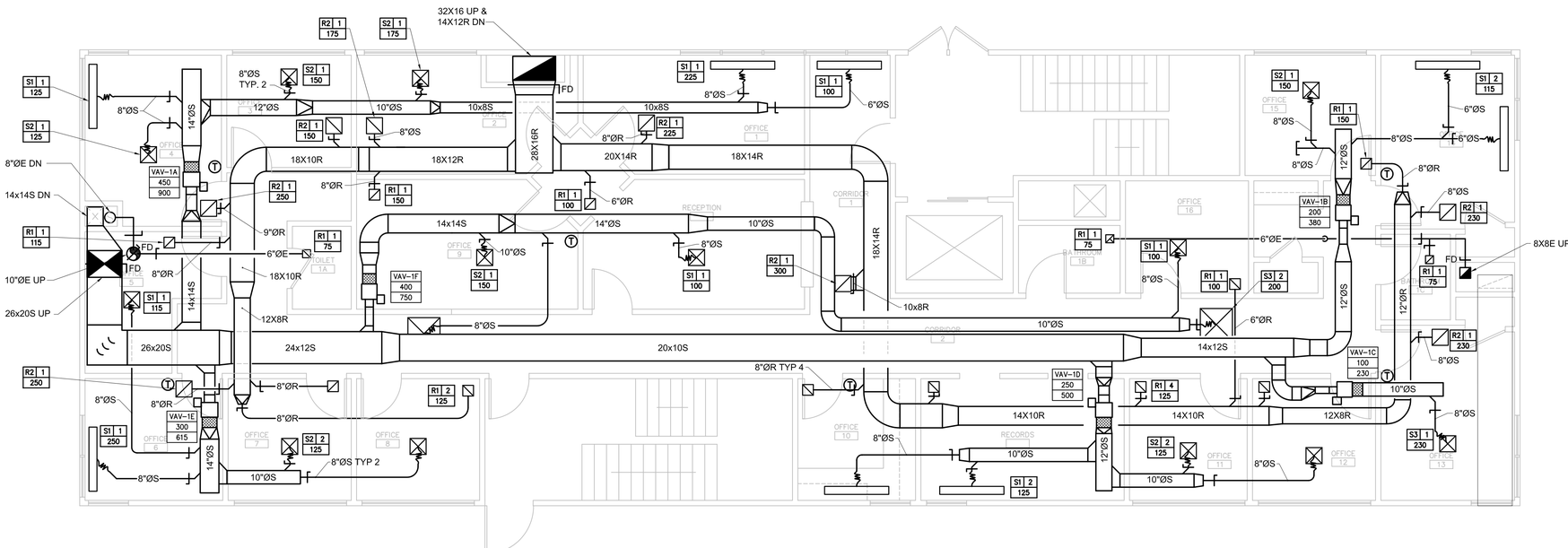
MD-103

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003MP.dwg Jul 30, 2007 ~ 3:01pm



D1 | MECHANICAL PLAN ~ GROUND FLOOR

1/4" = 1'-0"



A1 | MECHANICAL PLAN ~ FIRST FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED PROFESSIONAL ENGINEER

REVISIONS

DESCRIPTION	BY	DATE	NUMBER

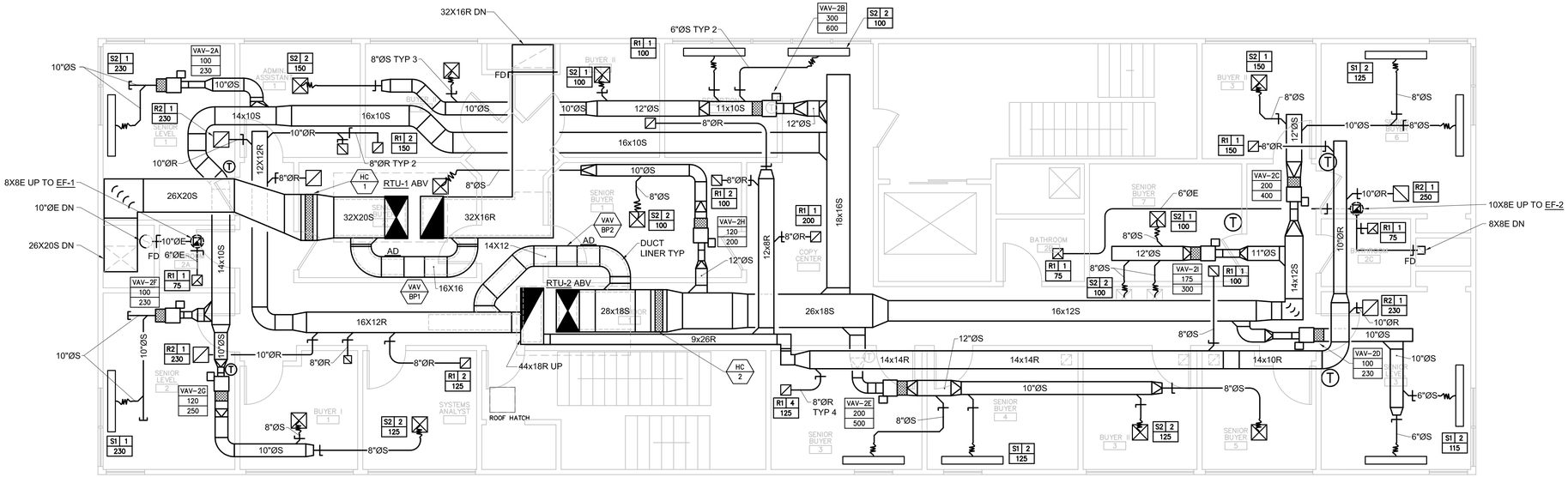
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PLANS ~ FIRST AND SECOND FLOOR

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

M-100

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003M.dwg Jul 30, 2007 - 2:59pm



NORTH

D1	MECHANICAL PLAN ~ SECOND FLOOR
1/4" = 1'-0"	

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

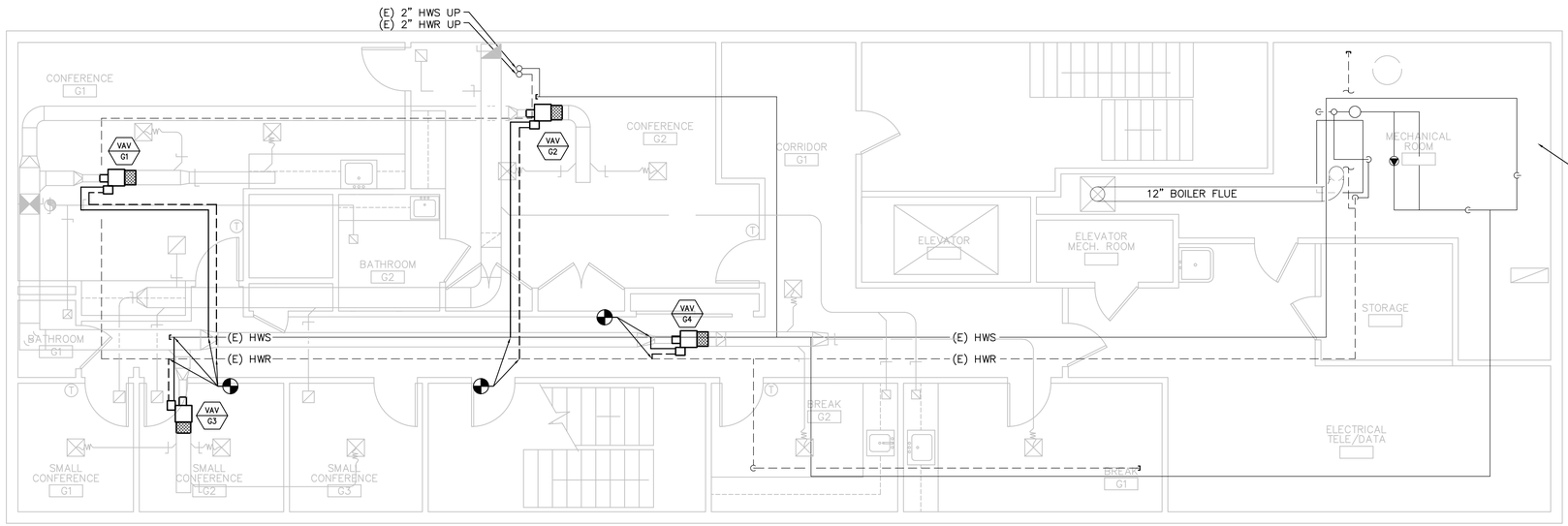
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PLAN ~ SECOND FLOOR

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

M-101

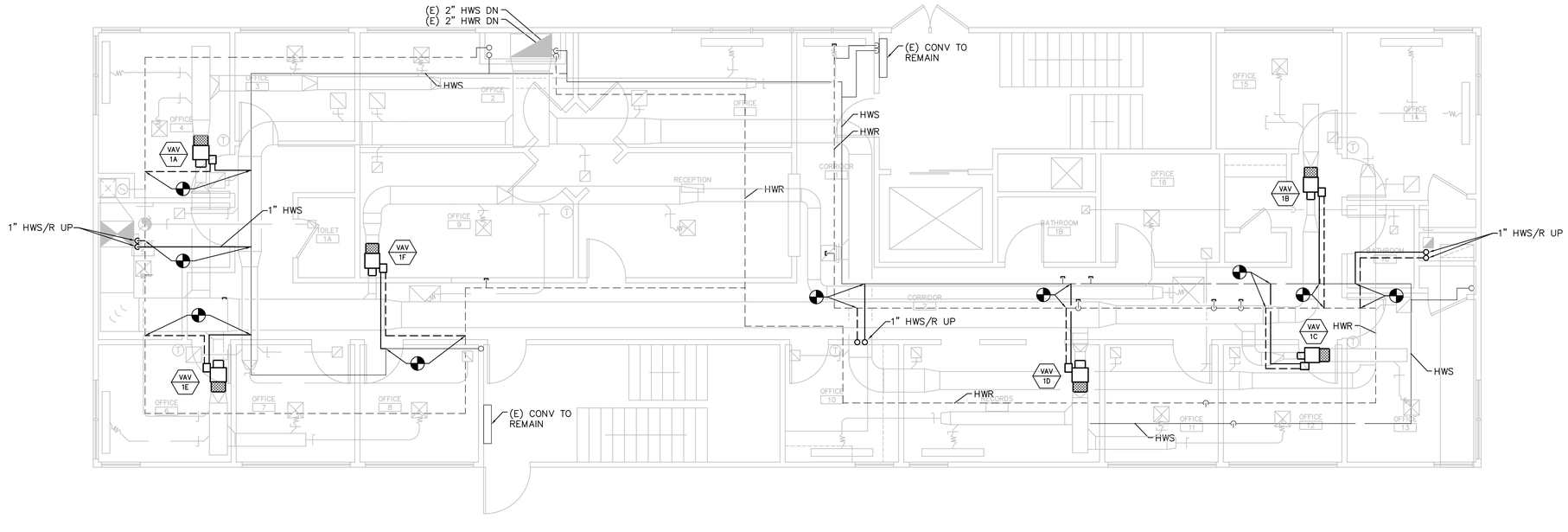
NOTE: SEE VAV BOX SCHEDULE FOR HWS/R RUNOUT SIZES.



D1 MECHANICAL PIPING PLAN ~ GROUND FLOOR

1/4" = 1'-0"

NOTE: SEE VAV BOX SCHEDULE FOR HWS/R RUNOUT SIZES.



A1 MECHANICAL PIPING PLAN ~ FIRST FLOOR

1/4" = 1'-0"

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

IAN A. MACDONALD No. 6990 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

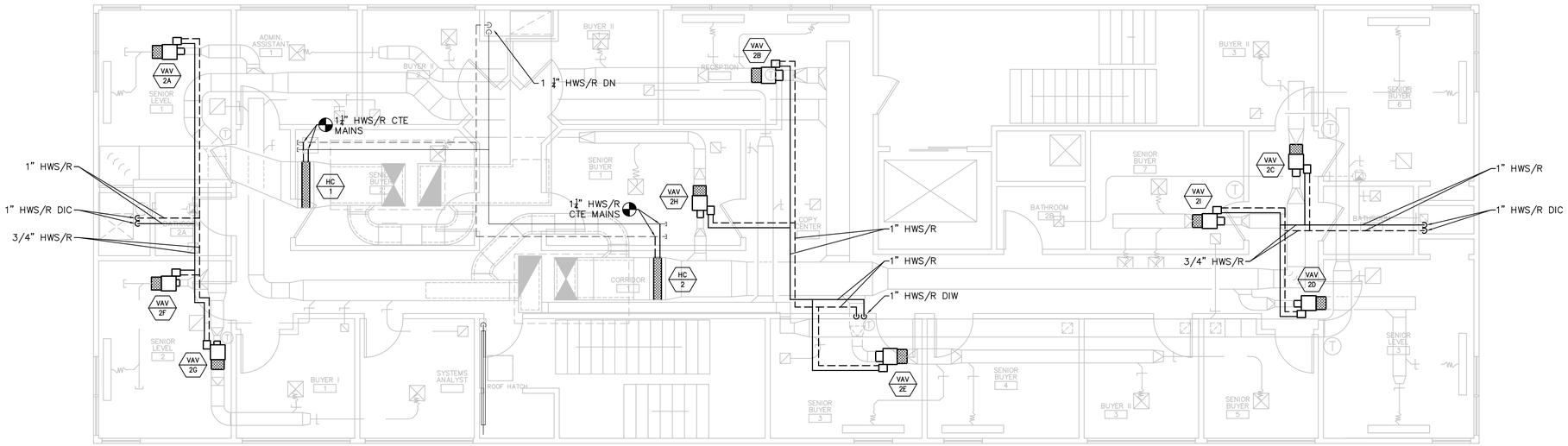
MECHANICAL PIPING PLANS ~ GROUND & FIRST FLOORS

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

MP-100

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003MP.dwg Jul 30, 2007 ~ 3:02pm

NOTE: SEE VAV BOX SCHEDULE FOR HWS/R RUNOUT SIZES.



NORTH

D1	MECHANICAL PIPING PLAN ~ SECOND FLOOR
1/4" = 1'-0"	

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

IAN A. MACDONALD No. 6990 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

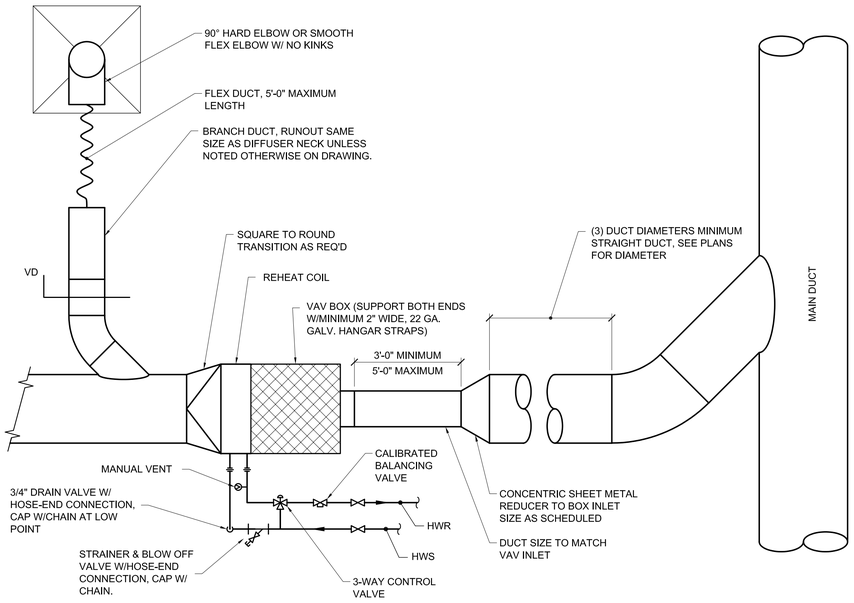
Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL PIPING PLAN ~ SECOND FLOOR

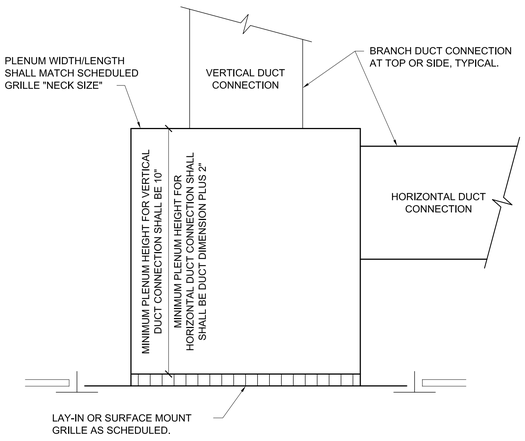
MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

MP-101

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003MP.dwg Jul 30, 2007 ~ 3:02pm



A1	DETAIL ~ VAV BOX SCHEMATIC
NTS	



A1	DETAIL ~ RETURN/EXHAUST AIR REGISTER BOOT
NTS	

ROOFTOP UNIT SCHEDULE

GENERAL	ITEM	RTU-1	RTU-2
	SERVES	FIRST/GROUND	SECOND
	MFR	TRANE	TRANE
	MODEL	THC120E	THC092E
	NOMINAL TONS	10	7.5
	VOLTS-PH-HZ	CONFIRM IN FIELD	CONFIRM IN FIELD
	MAX BREAKER SIZE (AMPS)	COORD W/ELECT CONTRACTOR.	COORD W/ELECT CONTRACTOR.
FILTER SECTION	PRE-FILTERS	(4) 20"X25"X2"	(4) 20"X25"X2"
	TYPE	AS SPECIFIED	AS SPECIFIED
SUPPLY FAN	TYPE	FC	FC
	SUPPLY AIRFLOW, cfm	4,000	3,000
	OUTSIDE AIRFLOW, cfm	760	360
	ESP, in.wc.	1.25"	1"
	HP	5	3
RELIEF/EXHAUST FAN	TYPE	FC	FC
	HP	1	1
DX COOLING COIL	ENT. AIR, DB/WB	80/67	80/67
	TBTUH	118,000	94,000
	SBTUH	110,300	89,300
	TONS	9.8	7.8
	MIN COIL AREA, sf.	12.36	12.36
	COIL FACE VELOCITY (FPM)	324	243
	REFRIGERANT	R410a	R410a
CONDENSING SECTION	REFRIGERANT	R-22	R-22
	AMBIENT DB, deg-F.	95	95
	MIN OA TEMP, deg-F.	50	50
	SCROLL COMP QTY	2	2
OVERALL DIMENSIONS	LENGTH	88 5/8"	88 5/8"
	WIDTH	53 1/4"	53 1/4"
	HEIGHT	46 7/8"	46 7/8"
	CURB HEIGHT	14"	14"
	OPERATING WEIGHT, lbs.	1,200	1,100

DUCT HEATING COIL SCHEDULE

TAG	SERVES	AIRFLOW	LENGTH	HEIGHT	FACE VEL	EDB	LDB	MBH	MAX APD	GPM	EWT	LWT	MAX WPD	RUNOUT SIZE
HC-1	RTU-1	4000	36	24	667	30	60	129.6	0.2"	8.6	180	150	3'	1-1/4"
HC-2	RTU-2	3000	33	18	727	30	60	97.2	0.2"	6.5	180	150	3'	1-1/4"

FAN SCHEDULE

TAG	LOCATION	SERVES	COOK MODEL	TYPE	DRIVE	CFM	SP	WATTS	FAN RPM	VOLTS/ PH	MAX SONES	WEIGHT (LBS.)	DMPR	NOTES
EF-1	ROOF	EAST TOILETS	ACE-D 100C15DH	DOWNBLAST ROOF EXH	DIRECT	300	0.75"	108	1467	CONFIRM IN FIELD	9.4	30	BDD	
EF-2	ROOF	WEST TOILETS	ACE-D 100C15DH	DOWNBLAST ROOF EXH	DIRECT	300	0.75"	108	1467	CONFIRM IN FIELD	9.4	30	BDD	

REGISTERS - GRILLES - DIFFUSERS (RGD) SCHEDULE

TAG	PRICE MODEL	TYPE	NECK SIZE	FACE SIZE	CFM RANGE	MAX TOTAL P.D. (IN.W.C.)	MAX NC LEVEL	BORDER TYPE	BLOW	NOTES
S-1	TBDVI675	T-BAR SLOT DIFFUSER	8" DIA	48" X 2-3/4"	0 - 250	0.18"	27	LAY-IN	VERTICAL	
S-2	SCDA	SQ. CEILING SUPPLY DIFFUSER	6" DIA	12" X 12"	0-150	0.10"	22	LAY-IN	4-WAY, ADJUSTABLE	
S-3	SCDA	SQ. CEILING SUPPLY DIFFUSER	8" DIA	24" X 24"	151-275	0.07"	19	LAY-IN	4-WAY, ADJUSTABLE	
R-1	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	8" X 8"	8" X 8"	0-170	0.05"	23	SURFACE MT.	----------	
R-2	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	12" X 12"	12" X 12"	171-440	0.05"	27	SURFACE MT.	----------	
R-3	630	ALUM. RETURN GRILLE, 3/4" SPACING, 35 DEG VANES	22" X 10"	22" X 10"	140-550	0.03"	27	LAY-IN	----------	

VAV BOX SCHEDULE

TAG	FLOOR	SERVES	CFM MAX	CFM MIN	Trane Model No.	INLET SIZE	OUTLET SIZE	MAX RAD. NC	A .P. D . AT MAX. COOLING	MBH	GPM	MAX WPD	EWT	LWT	EAT	LAT	ROWS	RUNOUT SIZE
VAV-G1	G	CONFERENCE 1	300	150	VCWF06	5	10"x 8"	37	0.15"	9.7	1.0	0.3'	180	160	55	85	2	1/2"
VAV-G2	G	CONFERENCE 2	230	120	VCWF05	5	10"x 8"	37	0.15"	7.5	0.7	0.3'	180	160	55	85	2	1/2"
VAV-G3	G	OFFICES	300	125	VCWF06	5	10"x 8"	28	0.40"	13.0	1.3	2.3'	180	160	55	95	2	1/2"
VAV-G4	G	BREAK ROOMS	200	100	VCWF04	5	10"x 8"	28	0.15	8.6	0.9	0.3'	180	160	55	95	2	1/2"
VAV-1A	1	S. OFFICES	900	450	VCWF08	10	11"x 10"	28	0.45"	38.9	3.9	0.3'	180	160	55	95	2	1"
VAV-1B	1	SW. CORNER OFFICES	380	200	VCWF06	6	10"x 8"	35	0.45"	16.4	1.6	0.3'	180	160	55	95	2	3/4"
VAV-1C	1	NW. CORNER OFFICES	230	100	VCWF05	5	10"x 8"	37	0.15"	9.9	1.0	0.3'	180	160	55	95	2	1/2"
VAV-1D	1	N. OFFICES	500	250	VCWF08	8	11"x 10"	28	0.40"	21.6	2.2	2.3'	180	160	55	95	2	3/4"
VAV-1E	1	NE. OFFICES	615	300	VCWF08	8	11"x 10"	28	0.40"	26.6	2.7	0.3'	180	160	55	95	2	3/4"
VAV-1F	1	CORE AREA	750	400	VCWF06	8	11"x 10"	35	0.45"	24.3	2.4	0.3'	180	160	55	85	2	3/4"
VAV-BP1	2	RTU-1 BYPASS DUCT	3200		VARA2R	16X16				---	---	---	---	---	---	---	---	---
VAV-2A	2	SW. CORNER OFFICE	230	100	VCWF05	5	10"x 8"	37	0.40"	9.9	1.0	2.3'	180	160	55	95	2	1/2"
VAV-2B	2	S. OFFICES	600	300	VCWF08	8	11"x 10"	35	0.45"	25.9	2.6	0.3'	180	160	55	95	2	3/4"
VAV-2C	2	SW. CORNER OFFICES	400	200	VCWF06	6	10"x 8"	28	0.40"	17.3	1.7	2.3'	180	160	55	95	2	3/4"
VAV-2D	2	NW. CORNER OFFICE	230	100	VCWF05	5	10"x 8"	37	0.45"	9.9	1.0	0.3'	180	160	55	95	2	1/2"
VAV-2E	2	N. OFFICES	500	200	VCWF08	8	11"x 10"	28	0.40"	21.6	2.2	2.3'	180	160	55	95	2	3/4"
VAV-2F	2	NE. CORNER OFFICES	230	100	VCWF05	5	10"x 8"	37	0.45"	9.9	1.0	0.3'	180	160	55	95	2	3/4"
VAV-2G	2	NE. CORNER OFFICE	250	120	VCWF05	5	10"x 8"	37	0.40"	10.8	1.1	0.3'	180	160	55	95	2	1/2"
VAV-2H	2	CORE OFFICES WEST	200	120	VCWF05	5	10"x 8"	28	0.40"	6.5	0.6	0.3'	180	160	55	85	2	1/2"
VAV-2I	2	CORE OFFICES EAST	350	175	VCWF06	6	10"x 8"	28	0.40"	11.3	1.1	0.3'	180	160	55	85	2	1/2"
VAV-BP2	2	RTU-2 BYPASS DUCT	2300		VARA1R	14X12				---	---	---	---	---	---	---	---	---

160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

Allied Engineering
Structural Mechanical Electrical Commissioning

STATE OF MAINE
IAN A. MACDONALD
No. 6990
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NUMBER	DATE	BY	DESCRIPTION

Date: 07/30/2007
Drawn By: VAG
Checked By: IAM
Project Mgr: IAM
Project No: 06003
Cad File: 06003M.DWG
Graphic Scale: 0 1"

MECHANICAL DETAILS & SCHEDULES

MMC ~ 229 VAUGHN STREET
MECHANICAL UPGRADES
PORTLAND, MAINE

M-500

N:\Projects\2006\06003 ~ 229 Vaughn Street\00 Drawing Files ~current CAD files\06003M.dwg Jul 30, 2007 ~ 3:00pm