MECHANICAL SPECIFICATIONS

1. SCOPE

The work covered in this section of the specifications consists of furnishing all labor, equipment, and material and in performing all operations in connection with the installation of the complete air conditioning and heating system. All work will be complete and in accordance with this section of the specifications and applicable drawings, and will be subject to the terms and conditions of the contract.

2. SPECIFICATIONS AND DRAWINGS

The mechanical drawings indicate the general arrangement of the air conditioning and heating system. These specifications and drawings shall supplement each other. Equipment, ductwork and piping shall fit into the space allocated and shall provide all necessary clearance for servicing and maintenance.

3. CODES AND STANDARDS

The work shall comply with the latest applicable requirements for the NFPA and all local codes governing this installation as a minimum standard unless specifications listed herein or shown on the plans require a higher minimum standard.

4. PERMITS AND FEES

The HVAC Contractor shall procure all permits and pay all fees associated with the permitting and inspection process. The HVAC Contractor shall also arrange for all inspections.

5. ELECTRICAL

The Electrical Contractor shall furnish and install all conduit, wire, seal-tight, and disconnections. Unless otherwise stipulated, the Electrical Contractor shall connect the air conditioning units.

The HVAC contractor will furnish all materials, wire and connect the thermostat.

6. VIBRATION AND INSULATION

Both the air handler unit and condensing unit shall be placed on vibration isolators. The HVAC contractor shall take all necessary steps to eliminate all excessive vibration and objectional

noise projected by any equipment installed under this contract.

7. INSTALLATION

A. The HVAC Contractor shall supply one thermostat per air system. Staging of heating and cooling shall be indicated on the drawings.

B. All refrigeration piping to be Typle "L" copper with wrought copper fittings. Joints shall be made with silver solder.

C. The refrigeration suction lines shall be insulated as follows: above ground with ½" "Armstrong Armaflex" below ground/slab with same encased P.V.C. conduit. Insulation shall be slipped on piping prior to connection. All butt joints to be sealed with an approved adhesive. Installation of condensate line is by the HVAC Contractor.

Insulate all lines running above ceiling. See detail for underground piping.

D. The supply and return air duct system shall be fabricated of Johns Manville "Superduct Type 800". All fabrication shall be in accordance with the manufacturers written fabrication manual

and follow NAIMA Fibrous Glass Duct Construction Standards. Turning vanes shall be provided in duct at all changes in direction. Vanes shall be Johns Manville "Supervane".

All joints shall be stapled approximately 2" on center with outward clinching steel staples and Fortifiber "Therm-Lock" closure with automatic bond indicator. Tape shall have minimum of

1" overlap on each side of the seam.

E. Supply and return air registers shall be Titus or their metal Metal Aire equivalent as indicated on the drawings. All supply registers are to be equipped with manual dampers.

F. Extractors and turning vanes shall be installed where indicated on the drawings in addition to all bends over 45 degrees.

G. Filters to be 2" Fiberbond Dustlok with Sporex antimicrobial agent and dual ply construction, or its equivalent. Furnish two additional filters for each size of filter used.

8. TESTING AND BALANCING

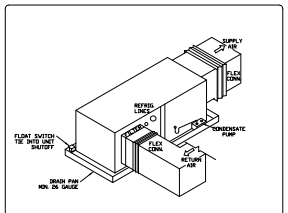
A. Upon completion of work, the HVAC Contractor shall use accurate meters, instruments of type and size as required to determine proper air flow and distributions. Confirm that all fuse sizes are in accordance with the motor nameplate data.

B. Air quantities: Check each blower and diffuser as indicated on drawings for correct and adequate diffusion. Outside air quantities to be checked and adjusted as required.

After spaces have been brought up to design temperatures and equipment is functioning properly, re-balance, if necessary, by means of calibrated thermometers placed in each

room and in open spaces, not over 20' apart. Thermostats: No deviation in temperature of more than 3 degrees Fahrenheit throughout conditioned space. Contractor shall submit

complete data report regarding balancing, in addition to various control settings for approval of Architect.



AIR HANDLER DETAIL

AIR CONDITIONER SCHEDULE

TAG	NOMINAL TON	ELECTRICAL DATA 208 V,1PH,60HZ													COOLING COIL CAPACITY IN BTU/HR			
		INDOOR FAN					OUTDOOR FAN			COMPRESSOR		ELECTRIC HEAT			TOTAL	SENS.	ENT. DB/WB	LAV DB/WB
		CFM	E.S.P	HP	FLA	AMP	HP	FLA	LRA	RLA	LRA	KW	STAGES	MCA				
CU-1/AH-1	3.5	1200-1400	0.55	1.0	7.6	–	1/6	1.3	–	27.6	158	10	1.00	60	41500	34600	80/67	55/57

NOTES:

1. ONE POINT ELECTRICAL CONNECTION
2. UNIT SHALL BE FREE STANDING ON 2" THICK CONCERT PAD EXTENDED 1" ALL AROUND FOR OUTSIDE UNIT AC-1.
3. TOP DISCHARGE AIR FLOW CONFIGURATION
4. EMERGENCY ELECTRIC HEATER SHALL BE PART OF FACTORY SUPPLIED AND INSTALLED.
5. INDOOR AND OUTDOOR UNIT SHALL BE FROM ONE MANUFACTURER.

OUTDOOR AIR SCHEDULE

AREA CLASSIFICATION	ROOMS	AREA (SQFT)	OCCUPANT TOTALS (AS PER TABLE 403.3)	OUTDOOR AIR REQ'D (AS PER TABLE 403.3)	CFM OF OUTDOOR AIR REQUIRED
OFFICE SPACE	ENTIRE AREA SERVED BY AC #1	1,800 SQFT	7 PER 1,000 SQFT = 12.6 PEOPLE	20 CFM	252 CFM

GRILLE AND DIFFUSER SCHEDULE

GRILLE	MANUFACTURER / MODEL #	SUPPLY/ RETURN	CFM	SIZE	LOCATION	NOTES
1	TITUS / TMSA-AA	SUPPLY	SEE PLAN	SEE PLAN	CEILING	ADJUSTABLE TYPE, VOLUME DAMPER
A	TITUS / PAR-AA	RETURN	SEE PLAN	SEE PLAN	CEILING	PERFORATED FACE PLATE

REVISIONS	BY

WILLIAM A. CHRIST, A. PRESIDENT
B.C. ARCHITECTURAL DESIGNS
2707 WASHINGTON BLVD.
BALTIMORE, MARYLAND 21230
CHRIST@BCADESIGNS.COM
410-644-2322

Mechanical Schedules and Details

2100-C Unit Build-Out
Commerce Park Dr
Annapolis, Md. 21401

DRAWN J.A.N. / J.W.C.
CHECKED
DATE 4/24/2010
SCALE AS NOTED
JOB NO. C-054-09

SHEET 2
M - 2
OF 5 SHEETS