GENERAL MECHANICAL NOTES:

1. CONTRACTOR(S) SHALL PROVIDE ALL ITEMS, ARTICLES, EQUIPMENT, TOOLS, APPLIANCES, MATERIALS AND METHODS REQUIRED FOR COMPLETED SYSTEMS.
2. PROVIDE ALL LABOR, SCAFFOLDING, SUPPORTS, SUPERVISION AND INCIDENTALS REQUIRED TO MODIFY AND/OR INSTALL THE SYSTEMS COMPLETE.
3. CONTRACTOR(S) SHALL LOCATE AND PROTECT THE OWNER'S EQUIPMENT, PIPING AND UTILITIES SCHEDULED TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
4. ALL WORK SHALL BE EXECUTED IN A THOROUGHLY SUBSTANTIAL AND CRAFTSMAN LIKE MANNER BY SKILLED MECHANICS IN THE VARIOUS TRADES INVOLVED. FOLLOW MANUFACTURERS' INSTRUCTIONS FOR INSTALLING, CONNECTING AND ADJUSTING ALL EQUIPMENT.
5. CONTRACTOR(S) SHALL FIELD VERIFY ALL DIMENSIONS OF EXISTING ELEMENTS, EQUIPMENT, AND OTHER CONDITIONS HAVING A BEARING ON THE WORK. CONTRACTOR(S) SHALL COORDINATE WITH OTHER TRADES TO ELIMINATE ANY INTERFERENCES WITH LIGHTING FIXTURES, DUCTWORK, PIPING, ETC.
6. CONTRACTOR(S) SHALL PERFORM ALL VERIFICATIONS, OBSERVATIONS, TESTS, AND EXAMINATIONS OF THE WORK PRIOR TO THE ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION.
7. CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
8. CONTRACTOR(S) SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT.
9. FOLLOW MANUFACTURERS' INSTRUCTIONS FOR INSTALLING, CONNECTING AND ADJUSTING ALL EQUIPMENT.
10. DRAWINGS ARE NOT TO BE SCALED. DRAWINGS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY.
11. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
12. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
13. DRAWINGS ARE DIAGRAMMATIC ONLY, FINAL ROUTING OF DUCTWORK AND EQUIPMENT LOCATIONS SHALL BE DETERMINED IN THE FIELD. ADDITIONAL OFFSETS, ELBOWS, ETC., SHALL BE PROVIDED AND INSTALLED WITHOUT ADDITIONAL COST TO THE OWNER.
14. THE MC SHALL FURNISH TO THE GC ALL INFORMATION REQUIRED FOR SETTING OF WALL, ROOF, AND PARTITION OPENINGS FOR MECHANICAL WORK. THIS INFORMATION SHALL BE FURNISHED IN A TIMELY MANNER SUCH THAT CONSTRUCTION SCHEDULE IS NOT JEOPARDIZED.
15. THE TEMPERATURE CONTROL CONTRACTOR SHALL COORDINATE THERMOSTAT/TEMPERATURE SENSOR LOCATIONS WITH ARCHITECTURAL PLANS AND/OR THE OWNER. THERMOSTATS SHALL BE INSTALLED 48-INCHES ABOVE FINISHED FLOORS UNLESS OTHERWISE NOTED.
16. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE CEILING, UNLESS NOTED OTHERWISE.
17. ACCESS PANELS IN CEILINGS AND WALLS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC.
18. DIMENSIONS SHOWN ON DRAWINGS FOR DUCTWORK ARE INSIDE CLEAR. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATING DUCTWORK.
19. ALL DUCTWORK SHALL BE SEALED AND TESTED FOR LEAKS PRIOR TO COVERING WORK.
20. CONTRACTOR SHALL INSTALL ALL BALANCING DEVICES NECESSARY TO ACHIEVE PROPER ADJUSTING AND BALANCING OF MECHANICAL SYSTEMS.
21. PROVIDE FLEXIBLE CONNECTOR AT ALL DUCTWORK CONNECTIONS TO AIR HANDLING EQUIPMENT.
22. INSTALL ALL DUCTWORK AND PIPING AS HIGH ABOVE FINISH FLOOR AS CONDITIONS PERMIT. FURNISH & INSTALL OFFSETS, ELBOWS, ETC., TO RECESS PIPING & DUCTWORK BETWEEN STRUCTURAL TEE'S WHERE POSSIBLE.

TYPICAL ABBREVIATIONS

AC	AIR CONDITIONING UNIT	HV	HEATING AND VENTILATING UNIT
AFF	ABOVE FINISH FLOOR	HW	HOT WATER
AFC	ABOVE FINISH CEILING	HWS	HOW WATER SUPPLY
AHU	AIR HANDLING UNIT	HWR	HOW WATER RETURN
AD	ACCESS DOOR	LAV	LAVATORY
AS	AIR SEPARATOR	LD	LINEAR CEILING DIFFUSER
BOD	BOTTOM OF DUCT	LBS/HR	POUNDS PER HOUR
BOT	BOTTOM	MW	MAKE-UP WATER
BP	BOILER PUMP	MAX.	MAXIMUM
CA	COMBUSTION AIR	MIN.	MINIMUM
CBV	CIRCUIT BALANCING VALVE	MSK	MOP SINK
CO	CLEAN OUT	NOM.	NOMINAL
CP	CONDENSATE PUMP	OA	OUTDOOR AIR
CU	CONDENSING UNIT	P	PUMP(HVAC CIRCULATOR)
CH	CABINET HEATER	PRV	PRESSURE REDUCING VALVE
DF	DRINKING FOUNTAIN	RA	RETURN AIR
DCWS	DOMESTIC COLD WATER SUPPLY	RF	RETURN FAN
DHWS	DOMESTIC HOT WATER SUPPLY	RH	RELATIVE HUMIDITY
DHWR	DOMESTIC HOT WATER RETURN	S&R	SUPPLY AND RETURN
DN	DOWN	SA	SUPPLY AIR
DW	DISHWASHER	SD	SMOKE DAMPER
EA	EXHAUST AIR	SK	SINK
EDH	ELECTRIC DUCT HEATER	SP	STATIC PRESSURE
EER	ENERGY EFFICIENCY RATIO	SUSP. CLG.	SUSPENDED CEILING
EF	EXHAUST FAN	S.S.	STAINLESS STEEL
ERV	ENERGY RECOVERY VENTILATOR	UH	UNIT HEATER
ET	EXPANSION TANK	UV	UNIIT VENTILATOR
EUH	ELECTRIC UNIT HEATER	VD	VOLUME DAMPER
(E)	EXISTING	UR	URINAL
FC.	FLEXIBLE CONNECTION	VFD	VARIABLE FREQUENCY DRIVE
FCU	FAN COIL UNIT	S.G.	SUCTION GUIDE
FL.	FLOOR	T.D.V.	TRIPLE DUTY VALVE
FD	FIRE DAMPER	N.C.	NORMALLY CLOSED
FTR	FIN TUBE RADIATION	N.O.	NORMALLY OPEN
GF	GLYCOL FEEDER	WC	WATER CLOSET
HC	HEATING COIL		
HP	HORSEPOWER		

MECHANICAL LEGEND:

- 26x12 — NEW RECTANGULAR DUCTWORK
- 10Ø — NEW ROUND DUCTWORK
- NEW FLEXIBLE DUCTWORK
- T — THERMOSTAT
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- EXHAUST DIFFUSER
- MAKE-UP DUCT RISER
- SUPPLY DUCT RISER
- RETURN DUCT RISER
- EXHAUST DUCT RISER
- TURNING VANES
- VOLUME DAMPER
- M — MOTORIZED DAMPER
- AD — ACCESS DOOR - FURNISHED BY MC FOR INSTALLATION BY GC

MECHANICAL PIPING LEGEND:

- DIRECTION OF FLOW
- PIPE TURNING DOWN
- PIPE TURNING UP
- TOP TAKE OFF
- BOTTOM TAKE OFF
- BALL VALVE
- CHECK VALVE
- UNION
- HWS — HOT WATER SUPPLY PIPING
- HWR — HOT WATER RETURN PIPING
- C — CONDENSATE PIPING
- R — REFRIGERANT PIPING
- GHWS — GLYCOL HOT WATER SUPPLY PIPING
- GHWR — GLYCOL HOT WATER RETURN PIPING

MECHANICAL KEYED EQUIPMENT LEGEND:

- VRF X — VARIABLE REFRIGERANT FLOW UNIT
- CU X — CONDENSING UNIT
- EF X — EXHAUST FAN
- HRV X — HEAT RECOVERY VENTILATOR
- UH X — HYDRONIC UNIT HEATER
- CH X — HYDRONIC CABINET HEATER
- HRB X — VRF HEAT RECOVERY BOX
- CF X — CEILING FAN
- HR X — HOSE REEL
- P X — HYDRONIC PUMP
- BLR X — BOILER
- ET X — EXPANSION TANK
- AS X — AIR SEPARATOR
- HX X — PLATE & FRAME HEAT EXCHANGER
- BF X — CHEMICAL BAG FILTER
- LV X — LOUVER
- HR X — MOTORIZED HOSE REEL
- ERV X — AIR TO AIR ENERGY RECOVERY VENTILATOR
- KEF X — KITCHEN EXHAUST FAN
- BP X — BOOSTER PUMP
- MAU X — MAKE-UP AIR UNIT
- HWC X — HOT WATER COIL
- RHP X — RADIANT HEAT PANEL
- FT X — FIN TUBE RADIATION
- HMF X — IN-SLAB INDOOR HEATING MANIFOLD
- SMF X — IN-SLAB OUTDOOR HEATING MANIFOLD
- ED-x / XXX CFM — EXHAUST AIR DIFFUSER
- RD-x / XXX CFM — RETURN AIR DIFFUSER
- RG-x / XXX CFM — RETURN AIR GRILLE
- SD-x / XXX CFM — SUPPLY AIR DIFFUSER
- SG-x / XXX CFM — SUPPLY AIR GRILLE
- LD-x / XXX CFM — SUPPLY AIR LINEAR DIFFUSER

APPLICABLE CODES:

2020 BUILDING CODE OF NEW YORK STATE
2020 MECHANICAL CODE OF NEW YORK STATE
2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE

BID PLANS

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