SCHEDULE OF PACKAGED ROOFTOP UNITS (WITH ENERGY RECOVERY)

MARK	SERVICE	LOCATION	MODEL No.	AIRFLOW CONDITIONS O.A. CFM	E.A. CFM	R.A. CFM	S.A.ESP. IN. WC	R.A.ESP. IN. WC.	SUPPLY FAN TYPE	CFM	T.S.P. IN. W.C.	HP	EXHAUST FAN TYPE	CFM	T.S.P. IN. W.C.	HP	ENTHALPY L.A.T.SUMMER DB°F	WB°F	L.A.T.WINTER DB°F	WB°F	HP (2)	GAS HEATING DATA INPUT MBH	OUTPUT MBH	ENT. AIR TEMP. DB °F	LVG. AIR TEMP. DB °F	CONDENSING UNIT DATA REFRIG.	ENT. AIR TEMP. DB °F	DX COOLING COIL DATA CAPACITY TOTAL/SEN. MBH		VELOCITY F.P.M.	E.A.T. °F DB/WB		L.A.T. °F DB/WB		HOT WATER HEATING COIL DATA CAPACITY TOTAL MBH	VELOCITY F.P.M.	E.A.T. °F DB/WB	L.A.T. °F DB/WB	GPM	FILTERS INTAKE	RETURN	ELECTRICAL DATA VOLTAGE	MCA	MOCP	DIMENSIONS L	W	H	WEIGHT LBS	REMARKS
RTU 1	GYMNASIUM	ROOF	ERP-E-07-EW02-C-H-AZ (1A)	1700	1700	6300	1.5	1.0	PLENUM	8000	4.36	10.0	PLENUM	8000	2.98	7.5	79.6	66.8	47.6	40.3	1/4	–	–	–	–	R410	92	235	182	500	76.0/63.5	55/54		SEE (HWC 1-8)	–	–	–	–	MERV 13		208/3/60	144.6	175	301	93	86	9,500	REFER TO 4 5 6 7 8 9 10
RTU 2	MEDIA CENTER	ROOF	ZVT075I8V2TCE4SFA7 (1B)	950	950	1850	1.0	1.0	PLENUM	2800	1.5	3.0	PLENUM	2800	1.0	3.0	79.3	67.2	55.1	43.3	1/4	180	144	42	90			90	67	500	82.1/75.1	52/52		–	–	–	–	–	MERV 13			69.8	80	120	60	52	1,700	REFER TO 4 5 6 7 10
RTU 3	MUSIC 20	ROOF	ZWTA5C00V2TCA43FA8 (1B)	530	530	1470	1.0	1.0	PLENUM	2000	1.5	2.0	PLENUM	2000	1.0	2.0	79.3	67.2	55.1	43.3	1/4	–	–	–	–			60	45	500	82.1/75.1	52/52		SEE (HWC 1-9)	–	–	–	–	MERV 13			48.0	60	90	60	42	1,000	REFER TO 4 5 6 7 8 9 10
RTU 4	CAFETERIA 54	ROOF	CV15C0DQ2S1CCT14E1 (1B)	2000	2000	3000	1.5	1.0	PLENUM	5000	1.5		PLENUM	5000	1.0		79.3	67.2	55.1	43.3	1/4	–	–	–	–			180	133	500	82.1/75.1	52/52		–	–	–	–	–	MERV 13			107.6	125	130	89	50	2,300	REFER TO 4 5 6 7 8 9 10
RTU 5	GRAY BOX	ROOF	ERP-E-07-EW03-C-H-AZ (1B)	1700	1700	6300	1.5	1.0	PLENUM	8000	4.36	10	PLENUM	8000	2.98	7.5	79.9	67.0	47.7	40.2	1/4	–	–	–	–			254	190	500	76.9/64.6	55/54		SEE (HWC 1-7)	–	–	–	–	MERV 13			144.6	175	301	93	86	9,500	REFER TO 4 5 6 7 8 9 10

NOTES
1. (1A) AS MANUFACTURED BY "TEMPMASTER". (1B) AS MANUFACTURED BY "ANNEXAIR". (KLIMA NEW YORK, LLC 212 678-5100)
2. FROST CONTROL BY V.F.D.
3. DESIGN AIR CONDITION: SUMMER O.A. (95°F/75°F) R.A. (75°F/63°F); WINTER O.A. (0°F/0°F) R.A. (70°F/53°F).
4. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S SUPERVISION FOR FIELD INSTALLATION AND START-UP.
5. PROVIDE ROOFTOP UNIT WITH STAGED COOLING, ENAMELED FINISH (COLOR TO BE DETERMINED BY ARCHITECT), MOTORIZED CONTROL DAMPERS, DAMPER END SWITCHES, 100% ENTHALPY ECONOMIZER CONTROLS, FROST PROTECTION, HOT GAS BY-PASS, ENERGY RECOVERY WHEEL, DIRTY FILTER CONTACTS, BLOWER SHEAVE AND BELT FOR SELECTED STATIC USE, DISCONNECT SWITCH, VFD'S, POWERED CONVENIENCE OUTLET, PHASE MONITOR, 4" THICK MERV 13 PLEATED FILTERS (AS NOTED), STAINLESS STEEL GAS FIRED HEATING SECTION (AS NOTED), STAINLESS STEEL DRAIN PAN, HINGED ACCESS PANELS, GAS PIPING KIT WITH VALVES AND FITTINGS FOR BOTTOM CONNECTION AND BACNET COMPARABLE AUTOMATED CONTROLS (AS NOTED). PROVIDE FIELD INSTALLED FULL ECONOMIZER/POWER EXHAUST (POWER EXHAUST FOR RTU-1, RTU-2 & RTU-5. RTU-3 & RTU-4 SHALL HAVE BAROMETRIC RELIEF ONLY), INTAKE AND EXHAUST HOODS AND DUAL ENTHALPY HUMIDITY SENSORS.
6. PROVIDE POWERED 120 VOLT GFI SERVICE RECEPTACLE.
7. INSTALL RTU ON STEEL DUNNAGE SUPPORT.
8. DUCT MOUNTED HOT WATER HEATING COIL.
9. CONDENSING UNIT ATTACHED TO UNIT BASE RAIL.
10. REFRIGERANT R-410A.

SCHEDULE OF ROOFTOP ENERGY RECOVERY UNITS

MARK	SERVICE	LOCATION	GENERAL DATA MINIMUM AIR CFM MIN/MAX	MODEL No. (1)	SUPPLY FAN DATA CFM	EXT. S.P. IN WG	TYPE	MOTOR HP	RETURN-EXHAUST FAN CFM	EXT. S.P. IN WG	TYPE	MOTOR HP	HEAT TRANSFER WHEEL SUMMER LAT DB °F	WB °F	WINTER LAT DB °F	WB °F	MOTOR H.P.	COOLING COIL DATA (3)	HEATING COIL DATA (2)(3) MARK		ELECTRICAL DATA MCA	MOCP	ELECTRIC SERVICE	ERU DIMENSION & WTS. L	W	H	WTS-#	FILTERS	REMARKS
ERU 1	1951 CLSRMS NORTHEAST	ROOF	3000	U-ERV-3000	3000	1.5	CENTRIFUGAL	–	3000	1.5	CENTRIFUGAL	–	82.6	71.6	37.7	26.7	1/4	PROVIDE SPACE WITHIN UNIT FOR FUTURE D/X COOLING COIL. INCLUDE ACCESS SECTION	HWC 1-1	REFER TO SCHEDULE OF DUCT MOUNTED HOT WATER COILS	29.1	40	208/1/60	56	60	46	600	MERV 13	REFER TO 4 5 6
ERU 2	1951 CLSRMS NORTHEAST	ROOF	2900	U-ERV-3000	2900	1.5		–	2900	1.5		–							HWC 1-2		29.1	40		56	60	46	600		REFER TO 4 5 6
ERU 3	1951 CLSRMS SOUTHWEST	ROOF	2500	U-ERV-2400	2500	1.5		–	2500	1.5		–							HWC 1-3		22.8	35		56	48	46	500		REFER TO 4 5 6
ERU 4	1951 CLSRMS SOUTHWEST	ROOF	2000	U-ERV-1800	2000	1.5		–	2000	1.5		–							HWC 1-4		15.4	25		56	36	46	500		REFER TO 4 5 6
ERU 5	1951 CLSRMS SOUTH	ROOF	1000	U-ERV-1200	1000	1.5		–	1000	1.5		–							HWC 1-5		19.2	25		56	24	46	500		REFER TO 4 5 6
ERU 6	MAIN OFFICE	ROOF	200	U-ERV-600	200	0.75		–	200	0.75		–						–	–	–	10.6	15		56	12	46	400		REFER TO 4 5
ERU 7	MAKER SPACE	ROOF	380	U-ERV-600	380	0.75		–	380	0.75		–						–	–	–	10.6	15		56	12	46	400		REFER TO 4 5
ERU 8	TOILET ROOMS T-7, 8, 9, 14, 22C	ROOF	630	U-ERV-1200	630	0.75		–	700	0.75		–						–	HWC 1-6	REFER TO SCHEDULE OF DUCT MOUNTED HOT WATER COILS	19.2	25		56	24	46	500		REFER TO 4 5
ERU 9	NURSE & OFFICES	ROOF	180	U-ERV-600	180	0.75		–	180	0.75		–						–	–	–	10.6	15		56	12	46	400		REFER TO 4 5
ERU 10	TOILET ROOMS T-1, T-2	ROOF	420	U-ERV-600	420	0.75		–	450	0.75		–						–	HWC 1-10	REFER TO SCHEDULE OF DUCT MOUNTED HOT WATER COILS	10.6	15		56	12	46	400		REFER TO 4 5
ERU 11	TOILET ROOMS T-5, T-6	ROOF	420	U-ERV-600	420	0.75		–	450	0.75		–						–	HWC 1-11	REFER TO SCHEDULE OF DUCT MOUNTED HOT WATER COILS	10.6	15		56	12	46	400		REFER TO 4 5

NOTES
1. AS MANUFACTURED BY "ENERGY WALL". (KLIMA NEW YORK, LLC 212 678-5100)
2. WINTER L.A.T. IS BASED ON FROST CONTROL.
3. DESIGN AIR CONDITION: SUMMER O.A. (95°F/75°F) R.A. (75°F/63°F); WINTER O.A. (0°F/0°F).
4. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE FACTORY MOUNTED INTEGRAL VFD FOR SUPPLY AND RETURN FANS WITH EC PREMIUM EFFICIENCY MOTORS. PROVIDE FROST CONTROL FOR ENERGY RECOVERY EXCHANGER. PROVIDE PRE-FILTER/FINAL FILTERS COMBINATION FOR OUTSIDE AIR INTAKES AND PRE-FILTER FOR RETURN AIR PRIOR TO HEAT EXCHANGER. PROVIDE FILTER REPLACEMENT AT PROJECT COMPLETION.
6. INSTALL ERU ON STEEL DUNNAGE PLATFORM.

SCHEDULE OF REGISTERS AND DIFFUSERS

MARK	TYPE	SERVICE	MODEL No. (1)	DIRECTION DISCHARGE	DAMPER TYPE	FINISH	TYPE	REMARKS
A	CEILING DIFFUSER	SUPPLY	620	DOUBLE DEFLECTION	OPPOSED BLADE	PER ARCH.	SURFACE	REFER TO 2 3 4
B	CEILING REGISTER	EXHAUST	635	–	OPPOSED BLADE	PER ARCH.	SURFACE	REFER TO 2 3 6
C	CEILING DIFFUSER	SUPPLY	SCD	4-WAY	OPPOSED BLADE	PER ARCH.	LAY-IN	REFER TO 2 3 4
D	DUCT SUPPLY REGISTER	SUPPLY	SDG ST	DOUBLE DEFLECTION	OPPOSED BLADE	PER ARCH.	SURFACE	REFER TO 2 3 4
E	CEILING GRILLE	EXHAUST	635	–	OPPOSED BLADE	PER ARCH.	SURFACE	REFER TO 2 3 6
F	CEILING GRILLE	EXHAUST	635	–	OPPOSED BLADE	PER ARCH.	LAY-IN	REFER TO 2 3 6
G	CEILING DIFFUSER	SUPPLY	SCD	2-WAY	OPPOSED BLADE	PER ARCH.	LAY-IN	REFER TO 2 3 4
H	CEILING GRILLE	TRANSFER	635	–	OPPOSED BLADE	PER ARCH.	SURFACE	REFER TO 2 3 6
I	CEILING DIFFUSER	SUPPLY	SCD	3-WAY	OPPOSED BLADE	PER ARCH.	LAY-IN	REFER TO 2 3 4
X	EXISTING REGISTER/GRILLE							

NOTES
1. AS MANUFACTURED BY "PRICE".
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE MOUNTING FRAME COMPATIBLE W/ MOUNTING SURFACE. COORDINATE ALL BORDER TYPES, COLORS, FINISHES AND DIMENSIONS WITH ARCHITECT.

(4) SUPPLY NECK SIZE PER CFM RANGE (NOT TO EXCEED 500 fpm)								(5) RETURN NECK SIZE PER CFM RANGE (NOT TO EXCEED 675 fpm)							
50 TO 99	100 TO 299	300 TO 499	500 TO 799	800 TO 1199	1200 TO 1499	1500 TO 1999	2000 TO 2399	50 TO 149	150 TO 249	250 TO 399	400 TO 599	600 TO 799	800 TO 1099	1100 TO 1199	1200 TO 2399
6x6	9x9	12x12	15x15	18x18	21X21	24X24		6x6	8X8	10X10	12X12	14X14	16X16	18X18	24X24

SCHEDULE OF DUCT MOUNTED HOT WATER COILS

MARK	GENERAL DATA SERVICE	LOCATION	SIZE WIDTH (IN.)	HEIGHT INCHES	FACE AREA (FT²)	ROWS	FINS PER INCH	AIR SIDE CFM	MBH	PRESS. DROP (" WC)	VELOCITY FPM	E.A.T. °F	L.A.T. °F	WATER SIDE FLOW RATE (GPM)	PRESS. DROP Δ HEAD (FT)	REMARKS
HWC 1-1	1951 CLSRMS NORTHEAST	CEILING	–	–	20	2 MINIMUM	VARIABLE	3000	272	0.2" MAX	500	6	90	28.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-2	1951 CLSRMS NORTHEAST	CEILING	–	–	20	2 MINIMUM	VARIABLE	2750	250	0.2" MAX	500	6	90	25.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-3	1951 CLSRMS SOUTHWEST	CEILING	–	–	20	2 MINIMUM	VARIABLE	2500	227	0.2" MAX	500	6	90	23.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-4	1951 CLSRMS SOUTHWEST	CEILING	–	–	20	2 MINIMUM	VARIABLE	2000	182	0.2" MAX	500	6	90	19.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-5	1951 CLSRMS SOUTH	CEILING	–	–	20	2 MINIMUM	VARIABLE	2000	182	0.2" MAX	500	6	90	19.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-6	GYMNASIUM	STORAGE ROOM	–	–	20	2 MINIMUM	VARIABLE	8000	337	0.2" MAX	500	51	90	34.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-7	GRAY BOX	CEILING	–	–	20	2 MINIMUM	VARIABLE	8000	337	0.2" MAX	500	51	90	34.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-8	MUSIC 20	CEILING	–	–	20	2 MINIMUM	VARIABLE	2000	91	0.2" MAX	500	48	90	10.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-9	TOILET ROOMS T-7, 8, 9, 14, 22C	CEILING	–	–	20	2 MINIMUM	VARIABLE	630	58	0.2" MAX	500	6	90	6.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-10	TOILET ROOMS T-1, T-2	CEILING	–	–	20	2 MINIMUM	VARIABLE	420	38	0.2" MAX	500	6	90	4.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-11	TOILET ROOMS T-5, T-6	CEILING	–	–	20	2 MINIMUM	VARIABLE	420	38	0.2" MAX	500	6	90	4.0	5 FT. MAX	REFER TO 1 2 3
HWC 1-12	CAFETERIA 54	CEILING	–	–	20	2 MINIMUM	VARIABLE	5000	276	0.2" MAX	500	39	90	28.0	5 FT. MAX	REFER TO 1 2 3

NOTES
1. ENTERING WATER TEMPERATURE 180°F, 20°F ΔT.
2. PROVIDE INSPECTION AND CLEANING DUCT ACCESS DOOR ON UPSTEAM SIDE OF COIL.
3. THE HOT WATER COIL IS SIZED TO HANDLE OUTDOOR AIR QUANTITIES AT 100 PERCENT OF OCCUPANCY WITHOUT HAVING TO RESORT TO CLOSING OUTDOOR AIR INTAKE DAMPERS ON A "DESIGN HEATING DAY" TO PREVENT FREEZE-UP.

SCHEDULE OF INDOOR DUCTLESS AIR HANDLING UNITS

MARK	GENERAL DATA SERVICE	MODEL No. (1)	MOUNTING LOCATION	CAPACITY COOLING (MBH)	CFM	PHYSICAL DATA UNIT WEIGHT (POUNDS)	L	D	H	ELECTRICAL DATA SERVICE	MCA	REMARKS
AC 1	DATA	LSN120HSV5	HIGH WALL	14.0	459	44	30	8	12	208/1/60	1.0	REFER TO 2 3 5 6 7

NOTES
1. AS MANUFACTURED BY "LG". (KLIMA NEW YORK, LLC 212 678-5100)
2. CAPACITIES BASED ON 40°F SST, 95°F AMBIENT.
3. PROVIDE MINI SPLIT INLINE CONDENSATE PUMP.
4. REFRIGERANT R410 A.
5. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
6. UNIT SHALL BE CONTROLLED VIA MFGR. NETWORK CONTROLLER.
7. INDOOR UNIT POWERED FROM OUTDOOR UNIT.

SCHEDULE OF OUTDOOR CONDENSING UNITS

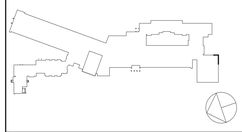
MARK	GENERAL DATA SERVICE	MODEL No. (1)	CAPACITY COOLING (MBH)	PHYSICAL DATA UNIT WEIGHT (POUNDS)	L	D	H	ELECTRICAL SUPPLY SERVICE	MCA	EER	REMARKS
CU 1	DATA	LSU120HSV5	14.0	150	30"	14"	21"	208/1/60	10.0	12.5	REFER TO 2 3 4 5 6 7 8

NOTES
1. AS MANUFACTURED BY "LG". (KLIMA NEW YORK, LLC 212 678-5100)
2. REFRIGERANT R-410A.
3. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
4. SECURE UNIT TO ROOF MOUNTED 3" THICK PRECAST CONCRETE EQUIPMENT CONDENSING UNIT PADS.
5. DC INVERTER COMPRESSOR SPEED CONTROL BASED ON SYSTEM LOAD.
6. UNIT SHALL BE CONTROLLED VIA MANUFACTURER'S DDC NETWORK CONTROLLER TO INDOOR HARDWIRED CONTROLLER.
7. PROVIDE UNIT WITH SNOW/WIND GUARD AT FAN INTAKE. DISCONNECT SWITCH, ROOF CURB EQUIPMENT SUPPORTS, VIBRATION ISOLATION PADS AND LOW AMBIENT CONTROLS. EXTEND CONTROL WIRING FROM OUTDOOR UNIT TO INDOOR UNIT.
8. LOW SOUND CONDENSER FAN.

BEFORE FABRICATION THIS CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND CONDITIONS ON JOB AND COORDINATE HIS WORK WITH THE WORK OF ALL OTHER CONTRACTORS

Revision Schedule

No.	Description	Date
1	SED Submission	09/15/2020
2	SED Submission Addendum#1	01/08/2021
3	ISSUED FOR BID	01/19/2021



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Midland Elementary School

312 Midland Ave, Rye NY 10580

SCHEDULES

SEAL & SIGNATURE

DATE:	12/18/19
PROJECT No:	9200
DRAWING BY:	BGA
CHK BY:	BGA
DWG No:	H2-301