

6/5/2023 3:15:16 PM

215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477

Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Quest Environmental Solutions Wappingers Falls, NY 12590

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119





NUFSD **PROJECTS**

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)

103 Church St Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 12" = 1'-0" SHEET NAME: HVAC SYMBOLS, LEGENDS AND **ABBREVIATIONS**

UNIT VENTILATOR SCHEDULE

1. PROVIDE WITH ELECTRICALLY COMMUTATED FAN MOTOR. OUTSIDE AIRFLOW RATES LISTED IS NON-ECONOMIZER MODE/MINIMUM OCCUPIED OA RATE. THE TESTING AND BALANCING AGENCY SHALL BALANCE THE OA THROUGH THE UV IN NON-ECONOMIZER MODE TO THE SCHEDULED VALUE.

2. PROVIDE EACH UNIT WITH REAR FALSE BACK AND BAFFLE THAT INCLUDES PIPING TUNNEL. THE MECHANICAL CONTRACTOR SHALL PROVIDE ADDITIONAL GASKETING TGO ENSURE A PROPER SEAL OF THE OA PLENUM TO THE INTERIOR OF THE PERIMETER WALL. PROVIDE EACH UV WITH 1" THICK MERV-13 FILTERS.

		T			ELECTRIC	AL DATA		1		SUPPLY FA	N DATA					VRV DX CC	OOLING	COIL						HOT W	ATER HEATING COIL						
					MAY FUSE	:		SUPPLY	OUTSIDE					CAPACITY	CAPACITY										HEATING COIL	TEMPERATURE	TEMPERATURE	PRESSURE DROP	LENGTH WIDTH HER	HT WEIGH	т
Mark	BASIS OF DESIGN MFG. AND MODEL	TYPE	LOCATION	MCA	SIZE	VOLTS	PHASE		AIRFLOW	FAN TYPE	Supply External Static Pressure	FAN SPEED	HP	TOTAL	SENS	EAT DB	EAT W	B LAT DB	LAT WB	COIL ROWS	Actual Heating Water Flow	CAPACITY	EAT L	AT COIL ROWS	VOLUME (GALLONS)	EWT	LWT	(FEET)			REMARKS
UV-MS-1	DAIKIN UAVS9H15	FLOOR MOUNTED	CLASSROOM 100B	3.8 A	15.00	208 V	1	1.083 CFM	360 CFM	FCM	0.00 in-wa	MEDIUM	0.33	38.287 Btu/h	31.321 Btu/h	80.9 °F	62.0 °	F 54.2 °F	50.6 °F	1	2.0 CDM	65.728 Btu/h	/5 1 °E 101	.0 °F 2	0.82 gal	180 °F	114.3 °F	0.65	98" 21.7/8" 30.4	/8" 600 lb	
UV-MS-2	DAIKIN UAVS9H07	FLOOR MOUNTED	CLASSROOM 100A	3.8 A	15.00	208 V	1	,	295 CFM	ECM	0.00 in-wg	HIGH	0.33	23,693 Btu/h	18.898 Btu/h	+ ****	62.8 °F		51.9 °F	4	2.0 GPM	49,516 Btu/h		.0 F 2	0.62 gal	180 °F	130.5 °F	1.21	62" 21 7/8" 30	/8" 370 lk	1, 2
UV-MS-3	DAIKIN UAHF9H15	HORIZONTAL, SEMI-RECESSED, BOTTOM RETURN, REAR	CLASSROOM 102A		 	200 V	+ '-	747 OI W			0.45 in-wg	MEDIUM	0.55	•	10,000 = 10,11					+ -	2.0 GPM			.5 1 2	1 1 1				02 217/0 30		1, 2
OV WOO	Branding of an ortho	OUTSIDE AIR INLET, HORIZONTAL DUCTED DISCHARGE	OE/GORGOW 102/C	12.0 A	15.00	208 V	1	1,330 CFM	630 CFM	ECM	0.40 iii wg	WEDIOW	0.75	43,088 Btu/h	37,497 Btu/h	81.0 °F	62.9 °F	F 55.0 °F	51.7 °F	4	2.0 01 101	73,953 Btu/h	43.3 °F 95.	5 °F 2	0.82 gal	180 °F	106.0 °F	0.65	98" 36" 16 5	/8" 570 lb	
UV-MS-4	DAIKIN UAVS9H15	FLOOR MOUNTED	CLASSROOM 104	3.8 A	15.00	208 V	1	1,083 CFM	555 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,463 Btu/h	34,516 Btu/h	83.5 °F	62.6 °F	F 54.1 °F	48.6 °F	4	2.0 GPM	72,182 Btu/h	31.8 °F 93.	3 °F 2	0.82 gal	180 °F	107.8 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-5	DAIKIN UAVS9H15	FLOOR MOUNTED	CLASSROOM 106	3.8 A	15.00	208 V	1	1,083 CFM	555 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,463 Btu/h	34,516 Btu/h	83.5 °F	62.6 °F	F 54.1 °F	48.6 °F	4	2.0 GPM	72,182 Btu/h	31.8 °F 93.	3°F 2	0.82 gal	180 °F	107.8 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-6	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	SPECIAL ED CLASSROOM 112	3.8 A	15.00	208 V	1	1,083 CFM	495 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,327 Btu/h	33,398 Btu/h	82.5 °F	62.7 °F	F 54.1 °F	48.8 °F	4	2.0 GPM	69,762 Btu/h	36.8 °F 96.	2°F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-7	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 114	3.8 A	15.00	208 V	1	1,083 CFM	500 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,327 Btu/h	33,398 Btu/h	82.5 °F	62.7 °F	F 54.1 °F	48.8 °F	4	2.0 GPM	69,762 Btu/h	36.8 °F 96.	2°F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 <i>°</i>	/8" 600 lb	1, 2
UV-MS-8	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 114.5	3.8 A	15.00	208 V	1	1,083 CFM	540 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,388 Btu/h	34,176 Btu/h	83.2 °F	62.6 °F	F 54.1 °F	48.7 °F	4	2.0 GPM	71,410 Btu/h	33.4 °F 94.	2°F 2	0.82 gal	180 °F	108.6 °F	0.65	98" 21 7/8" 30 <i>°</i>	/8" 600 lb	1, 2
UV-MS-9	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 122	3.8 A	15.00	208 V	1	1,083 CFM	460 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h	V=:= ·		F 54.0 °F	50.1 °F	4	2.0 GPM	68,955 Btu/h		1°F 2	0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lb	1, 2
UV-MS-10	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 124	3.8 A	15.00	208 V	1	1,083 CFM	460 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h	82.2 °F	62.7 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,955 Btu/h	38.5 °F 97.	1°F 2	0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lb	1, 2
UV-MS-11	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 126	3.8 A	15.00	208 V	1	1,083 CFM	475 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h	82.2 °F	62.7 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,955 Btu/h	 	1°F 2	0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lb	1, 2
UV-MS-12	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 128	3.8 A	15.00	208 V	1	1,083 CFM	430 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	81.9 °F	62.8 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h	40.0 °F 98.	1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-13	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 200	3.8 A	15.00	208 V	1	1,083 CFM	435 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	81.9 °F	62.8 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-14	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 202	3.8 A	15.00	208 V	1	1,083 CFM	435 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	00 .		F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-15	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 203	3.8 A	15.00	208 V	1	,	480 CFM	ECM	0.00 in-wg	MEDIUM		39,327 Btu/h	33,398 Btu/h	82.5 °F	62.7 °F	F 54.1 °F	48.8 °F	4	2.0 GPM	69,762 Btu/h		2 °F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-16	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 204	3.8 A	15.00	208 V	1	1,083 CFM	440 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	81.9 °F	62.8 °F		50.1 °F	4	2.0 GPM	68,183 Btu/h		1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-17	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 205	3.8 A	15.00	208 V	1	1,083 CFM	480 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,327 Btu/h	33,398 Btu/h	82.5 °F	62.7 °F	F 54.1 °F	48.8 °F	4	2.0 GPM	69,762 Btu/h		2 °F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-19	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 206	3.8 A	15.00	208 V	1	1,083 CFM	435 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	81.9 °F	62.8 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h		1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-20	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 207	3.8 A	15.00	208 V	1	1,083 CFM	485 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,327 Btu/h	33,398 Btu/h	82.5 °F	62.7 °F	F 54.1 °F	48.8 °F	4	2.0 GPM	69,762 Btu/h		2 °F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-21	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 208	3.8 A	15.00	208 V	1	1,000 01 111	435 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	0		F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h	1010	1°F 2	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 ⁻	/8" 600 lk	1, 2
UV-MS-22	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 210	3.8 A	15.00	208 V	1		445 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	81.9 °F	62.8 °F	F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h			0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-23	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 212	3.8 A	15.00	208 V	1	1,000 01 111	485 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,327 Btu/h	33,398 Btu/h	92.0	62.7 °F		48.8 °F	4	2.0 GPM	69,762 Btu/h	1	2 °F 2	0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-24	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 214	3.8 A	15.00	208 V	1	1,083 CFM	360 CFM	ECM	0.00 in-wg	MEDIUM	0.33	38,287 Btu/h	31,321 Btu/h	+	62.9 °F		50.6 °F	4	2.0 GPM	65,728 Btu/h		.0 °F 2	0.82 gal	180 °F	114.3 °F	0.65	98" 21 7/8" 30 °	/8" 600 lk	1, 2
UV-MS-25	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 216	3.8 A	15.00	208 V	1	1,000 01 111	365 CFM	ECM	0.00 in-wg	MEDIUM	0.33	38,287 Btu/h	31,321 Btu/h		62.9 °F		50.6 °F	4	2.0 GPM	65,728 Btu/h	1 1011	.0 °F 2	0.82 gal	180 °F	114.3 °F	0.65	98" 21 7/8" 30 7	/8" 600 lk	., _
UV-MS-26	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 218	3.8 A	15.00	208 V	1	1,083 CFM	455 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h	<u> </u>	62.7 °F		50.1 °F	4	2.0 GPM	68,955 Btu/h		1°F 2	0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 7	/8" 600 lk	-,-
UV-MS-27	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 220	3.8 A	15.00	208 V	1 1	<u> </u>	455 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h	+		F 54.0 °F	50.1 °F	4	2.0 GPM	68,955 Btu/h		1°F 2	0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 /	/8" 600 lk	1, 2
UV-MS-28	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	SCIENCE LAB 222	3.8 A	15.00	208 V	1		565 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,463 Btu/h	34,516 Btu/h		62.6 °F		48.6 °F	4	2.0 GPM	72,182 Btu/h		3°F 2	0.82 gal	180 °F	107.8 °F	0.65	98" 21 7/8" 30 1	/8" 600 lk	1, 2
UV-MS-29	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	SCIENCE LAB 224	3.8 A	15.00	208 V	1	1,083 CFM	510 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,287 Btu/h	33,722 Btu/h		62.6 °F		48.8 °F	4	2.0 GPM	70,603 Btu/h		2°F 2	0.82 gal	180 °F	109.4 °F	0.65	98" 21 7/8" 30	/8" 600 lk	1, 2
UV-MS-30	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	COMPUTER CLASSROOM 226	3.8 A	15.00	208 V	1	1,000 01 111	445 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	32,715 Btu/h	0 110 1		F 54.0 °F	50.1 °F	4	2.0 GPM	68,183 Btu/h	10.0 1 00.	· · -	0.82 gal	180 °F	111.8 °F	0.65	98" 21 7/8" 30 1	/8" 600 lb	1, 2
UV-MS-31	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	SCIENCE LAB 228	3.8 A	15.00	208 V	1	<u> </u>	545 CFM	ECM	0.00 in-wg	MEDIUM		39,388 Btu/h	34,176 Btu/h			F 54.1 °F			2.0 GPM		33.4 °F 94.		0.82 gal	180 °F	108.6 °F	0.65	98" 21 7/8" 30		,
UV-MS-32	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	SCIENCE LAB 230				1		520 CFM	ECM	0.00 in-wg	MEDIUM	\rightarrow	39,287 Btu/h	33,722 Btu/h			F 54.1 °F			2.0 GPM		35.1 °F 95.		0.82 gal	180 °F	109.4 °F	0.65	98" 21 7/8" 30		
UV-MS-33	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 240	3.8 A			1 1		455 CFM	ECM	0.00 in-wg	MEDIUM	-	39,274 Btu/h	33,061 Btu/h			F 54.0 °F	-		2.0 GPM		38.5 °F 97.		0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 1		
UV-MS-34	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 242	3.8 A	15.00		1		455 CFM	ECM	0.00 in-wg	MEDIUM		39,274 Btu/h	33,061 Btu/h			F 54.0 °F	-		2.0 GPM		38.5 °F 97.		0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30	_	
UV-MS-35	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 244	3.8 A	15.00	208 V	1 1		455 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h			F 54.0 °F		_	2.0 GPM		38.5 °F 97.		0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30		
UV-MS-36	DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM FLOOR MOUNTED WITH DRAFT STOP SYSTEM	CLASSROOM 246	3.8 A	15.00	208 V	1 1	<u> </u>	455 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,274 Btu/h	33,061 Btu/h			F 54.0 °F			2.0 GPM		38.5 °F 97.		0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30	70 000 12	<i>'</i>
UV-MS-37	DAIKIN UAVS9H15		CLASSROOM 248	3.8 A			1 1	 	490 CFM	ECM	0.00 in-wg	MEDIUM	\rightarrow	39,327 Btu/h	33,398 Btu/h			F 54.1 °F			2.0 GPM		36.8 °F 96.		0.82 gal	180 °F	110.2 °F	0.65	98" 21 7/8" 30 1	/8" 600 lk	
UV-MS-38	DAIKIN UAVS9H07 DAIKIN UAVS9H15	FLOOR MOUNTED WITH DRAFT STOP SYSTEM	FACILITY LOUNGE 107 FABRICATION CLASSROOM	3.8 A 3.8 A			1 1		100 CFM	ECM	0.00 in-wg	HIGH MEDIUM	-	23,817 Btu/h	19,817 Btu/h			F 58.6 °F F 54.0 °F			2.0 GPM 2.0 GPM		34.0 °F 98. 38.5 °F 97.		0.45 gal	180 °F	127.9 °F	1.21	62" 21 7/8" 30 ° 98" 21 7/8" 30 °		
UV-MS-39		FLOOR MOUNTED			15.00 15.00		1 1		440 CFM	ECM ECM	0.00 in-wg		-	39,274 Btu/h	33,061 Btu/h			F 54.0 °F		_	2.0 GPM 2.0 GPM		38.5 °F 97.		0.82 gal	180 °F	111.0 °F	0.65	98" 21 7/8" 30 ° 98" 21 7/8" 30 °		
UV-MS-40	DAIKIN UAVS9H15 DAIKIN UAVS9H15	FLOOR MOUNTED	FABRICATION CLASSROOM	3.8 A			1 1		440 CFM		0.00 in-wg	MEDIUM	_	39,274 Btu/h	33,061 Btu/h 34,176 Btu/h			_			2.0 GPM 2.0 GPM				0.82 gal	180 °F	111.0 °F 108.6 °F	0.65		_	
UV-MS-41	מו חפפעאט אואואט	FLOOR MOUNTED	TECH CLASSROOM	3.8 A	15.00	208 V	 	1,083 CFM	550 CFM	ECM	0.00 in-wg	MEDIUM	0.33	39,388 Btu/h	34,170 Dtu/II	03.2 F	UZ.U I	F 54.1 °F	40.7 F	4	12.0 GFIVI	/ 1,410 Dtu/II	33.4 °F 94.	4 [4	0.82 gal	180 °F	100.0 F	0.65	98" 21 7/8" 30 7	/8" 600 lk	Ι, Δ

VARIABLE REFRIGERANT VOLUME HEAT PUMP SCHEDULE

1. RATED INDOOR COOLING CONDITIONS: 80 F DB/67 F WB 2. COOLING OPERATION RANGE: 23 - 122 F DB

	COOLING	ACTUAL					ELECTRICA	L DATA			<u> </u>								1	Τ
Mark	OUTDOOR TEMPERATURE RATING DB	COOLING CAPACITY	RATED HEATING CAPACITY	VOLTS PH	MCA MODULE 1	MCA MODULE 2	MOP MODULE 1	MOP MODULE 2	RLA MODULE 1	RLA MODULE 2	AIRFLOW RATE MODULE 1	AIRFLOW RATE MODULE 2	COMPRESSOR STAGE	REFRIGERANT	EER	IEER	HEATING COP	OPERATING WEIGHT	BASIS OF DESIGN MFG. AND MODEL	REMARKS
HP-MS-3	95 °F	197,558 Btu/h	230,000 Btu/h	208 3	36.3	36.3	45	45	23.8	26.2	5,827 CFM	6,286 CFM	INVERTER	R410A	10.7	20.5	3.8	1,053 lb	DAIKIN RXY216XATJA	1, 2
HP-MS-4	95 °F	260,270 Btu/h	308,000 Btu/h	208 3	55.1	55.1	60	60	33.4	33.4	8,228 CFM	8,228 CFM	INVERTER	R410A	10.5	20.1	3.3	1,390 lb	DAIKIN RXYQ288XATJA	1, 2
HP-MS-5	95 °F	227,069 Btu/h	256,000 Btu/h	208 3	36.3	36.3	45	45	26.2	26.2	6,286 CFM	6,286 CFM	INVERTER	R410A	11	20.8	3.6	1,056 lb	DAIKIN RXYQ240XATJA	1, 2
HP-MS-6	95 °F	301,293 Btu/h	342,000 Btu/h	208 3	55.1	55.1	60	60	37.6	37.6	8,228 CFM	8,228 CFM	INVERTER	R410A	9.5	20.6	3.2	1,390 lb	DAIKIN RXYQ336XATJA	1, 2
HP-MS-7	95 °F	268,274 Btu/h	308,000 Btu/h	208 3	55.1	55.1	60	60	33.4	33.4	8,228 CFM	8,228 CFM	INVERTER	R410A	10.5	20.1	3.3	1,390 lb	DAIKIN RXY288XATJA	1, 2
HP-MS-8	95 °F	265,179 Btu/h	308,000 Btu/h	208 3	55.1	55.1	60	60	33.4	33.4	8,228 CFM	8,228 CFM	INVERTER	R410A	10.5	20.1	3.3	1,390 lb	DAIKIN RXYQ288XATJA	1, 2
HP-MS-9	95 °F	227,518 Btu/h	256,000 Btu/h	208 3	36.3	36.3	45	45	26.2	26.2	6,286 CFM	6,286 CFM	INVERTER	R410A	11	20.8	3.6	1,056 lb	DAIKIN RXYQ240XATJA	1, 2

HEATING WATER RADIATION SCHEDULE

1. PROVIDE WITH SAME END SERIES PIPING CONNECTIONS (SUPPLY AND RETURN CONNECTIONS ON SAME SIDE OF RADIATOR).
2. PROVIDE WITH OPPOSITE END SERIES PIPING CONNECTIONS (SUPPLY AND RETURN CONNECTIONS ON OPPOSITE SIDES OF RADIA

2. PROVIDE WITH	OPPOSITE END SERIES PIPII	NG CONNECTIONS	(SUPPLY AND RET	JRN CONNECTIONS	S ON OPPOSITE SIL	ES OF RADIATOR).				
Mark	CAPACITY (BTU/HR PER LINEAL FOOT)	AVERAGE WATER TEMP.	HEIGHT	SIZE DEPTH	FLOW RATE (GPM)	SIZE LENGTH	PRESSURE DROP		BASIS OF DESIGN MFG. AND MODEL	REMARKS
R-MS-1	2,599	160 °F	20.250 in	5.0 in	3.5	20' - 0"	0.22 Feet	32	RUNTAL R3F-7	2
R-MS-2	2,599	160 °F	20.250 in	5.0 in	3.5	20' - 0"	0.22 Feet	32	RUNTAL R3F-7	2

FAN SCHEDULE

1. PROVIDE FAN WITH ADAPTER CURB TO TRANSITION FROM EXISTING ROOF CURB TO REPLACEMENT FAN CURB.
2. PROVIDE WITH UNIT MOUNTED DISCONNECT. MOTORIZED DAMPER AND ELECTRICALLY COMMUTATED FAN MOTOR TH

2. PROVIDE WITH UNIT MOUNTED DISCONNECT, MOTORIZED DAMPER AND ELECTRICALLY COMMUTATED FAN MOTOR THAT INCLUDES A 0-10 VDC CONTROL INPUT SIGNAL FOR FAN SPEED MODULATION.
3. PROVIDE WITH UNIT MOUNTED DISCONNECT SWITCH AND MOTORIZED DAMPER. FAN TO BE OPERATED VIA A VARIABLE FREQUENCY DRIVE.
4. PROVIDE WITH UNIT MOUNTED DISCONNECT, MOTORIZED DAMPER AND ELECTRICALLY COMMUTATED FAN MOTOR THAT INCLUDES A FAN MOUNTED POTENIOMETER FOR FAN SPEED MODULATION.

						STATIC PRESSURE			MAXIMUM			ELEC	TRICAL DAT	Α	МІ	IN FAN STATIC		BASIS OF DESIGN MFG.	
Mark	LOCATION	SERVICE	TYPE	DRIVE	CFM	STATIC PRESSURE (IN WC)	VFD FAN SPEED SETTING	MINIMUM IMPELLER DIAMETER	SOUND LEVEL (dBA)	RPM	ВНР	НР	VOLTS	PH F		EFFICIENCY	FEI	AND MODEL	REMARKS
EF-MS-8	ROOF	SCIENCE LABS 222/224 RELIEF AIR	CENTRIFUGAL ROOF FAN	DIRECT	1,980	0.8		16.5 in	61	1,061	0.414	1/2	115	1		60%	1.77	COOK 165C17D	1, 2
EF-MS-10	ROOF	SCIENCE LABS 228/230, PREP 228A RELIEF AIR	CENTRIFUGAL ROOF FAN	DIRECT	2,050	0.8		16.5 in	61	1,074	0.430	1/2	115	1		60%	1.76	COOK 165C17D	1, 2
EF-MS-21	ROOF	BOYS LOCKER ROOM	CENTRIFUGAL ROOF FAN	DIRECT	1,650	1		16.5 in	62	1,119	0.435	1/2	115	1		60%	1.69	COOK 165C17D	1, 4
EF-MS-23	ROOF	CAFETERIA 108 RELIEF AIR	CENTRIFUGAL ROOF FAN	BELT	9,500	1.1	54 Hz	30.0 in	71	746	3.623	5	208	3		48%	1.12	COOK 300ACEB	1, 3

DIFFUSER, REGISTER AND GRILLE SCHEDULE

PROVIDE WITH STEEL OPPOSED BLADE DAMPER

Mark	DESCRIPTION/PATTERN	OVERALL SIZE	DUCT CONNECTION SIZE	MOUNTING	MATERIAL	BASIS OF DESIGN MANUFACTURER AND MODEL	REMARK
ER-MS-1	LOUVERED EXHAUST REGISTER, 3/4" SPACING, 45 DEGREE SINGLE DEFLECTION		12"x12"	SURFACE	STEEL	PRICE 530	1

FINNED-TUBE RADIATION SCHEDULE

1.CAPACITY BASED ON EWT=180F, LWT=160F

2.PROVIDE CONTINUOUS ENCLOSURE LENGTH N ALL ROOMS AS SHOWN ON DRAWINGS.
3.ENCLOSURE SHALL BE MINIMUM OF 16 GAUGE METAL.
4.LENGTH INDICATED ON THE PLAN DRAWINGS FOR FIN TUBE REFERS TO THE ACTIVE FIN ELEMENT LENGT

	TED ON THE PLAN DRAWINGS FOR FIN		TO THE ACTIVE FIN	I ELEMENT LENGTH	Н.										
Mark	ТҮРЕ	CAPACITY	ACTIVE FIN TUBE LENGTH	FLOW RATE THROUGH ACTIVE LENGTH	TUBE SIZE	FIN SIZE	FINS PER FOOT	ENTS TIERS	MATERIAL	TYPE	HEIGHT	JRE / MOUN SIZE DEPTH	ITING BOTTOM MOUNTING HEIGHT AFF	BASIS OF DESIGN MFG. AND MODEL	REMARKS
FT-MS-1	FIN TUBE RADIATION	1,150 Btu/h	20' - 0"	2.3 GPM	1"	4-1/4 SQUARE	40	1	Copper	FLAT TOP	24"	5 5/16"	4"	STERLING JVB-T	1, 2, 3, 4

CONDENSATE PUMP SCHEDULE

6/5/2023 3:15:20 PM

					IMDELLED	SUCTION X	FLUID			ELECTRICAL DAT	Ά			BASIS OF DESIGN MFG. AND	
	TYPE	FLOW	HEAD	RPM		DISCHARGE	TEMP	FLUID TYPE	ELECTRICAL	ELECTRICAL	ШD	VOLTS		MODEL	REMARKS
Mark					DIAMETER	(IN. X IN.)			AMPS	WATTS	Ш	VOLIS	F11	MODEL	
CP-MS-1	MINI-CONDENSATE REMOVAL PUMP	4.23 GPH	6.56 ft					CONDENSATE		14 W		120	1	SAUERMANN SI-30	

ARCHITECT

ksqdesigr

NEW YORK OKLAHOMA

KSQ Design
215 W 40th Street 15th Floor
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477 845.943.9601

MEP Engineer

Sage Engineering Associates, LLP
9 Columbia Circle
Albany NY 12203
518.453.6091 office
518.453.6092 fax
www.sagellp.com

Quest Environmental Solutions
1376 Route 9
Wappingers Falls, NY 12590
845.298.6251
www.qualityenv.com

Construction Manager

Jacobs
One Penn Plaza
54th Floor, Suite 5420
New York, NY 10119
646.908.6550

www.jacobs.com





NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

REVISIONS

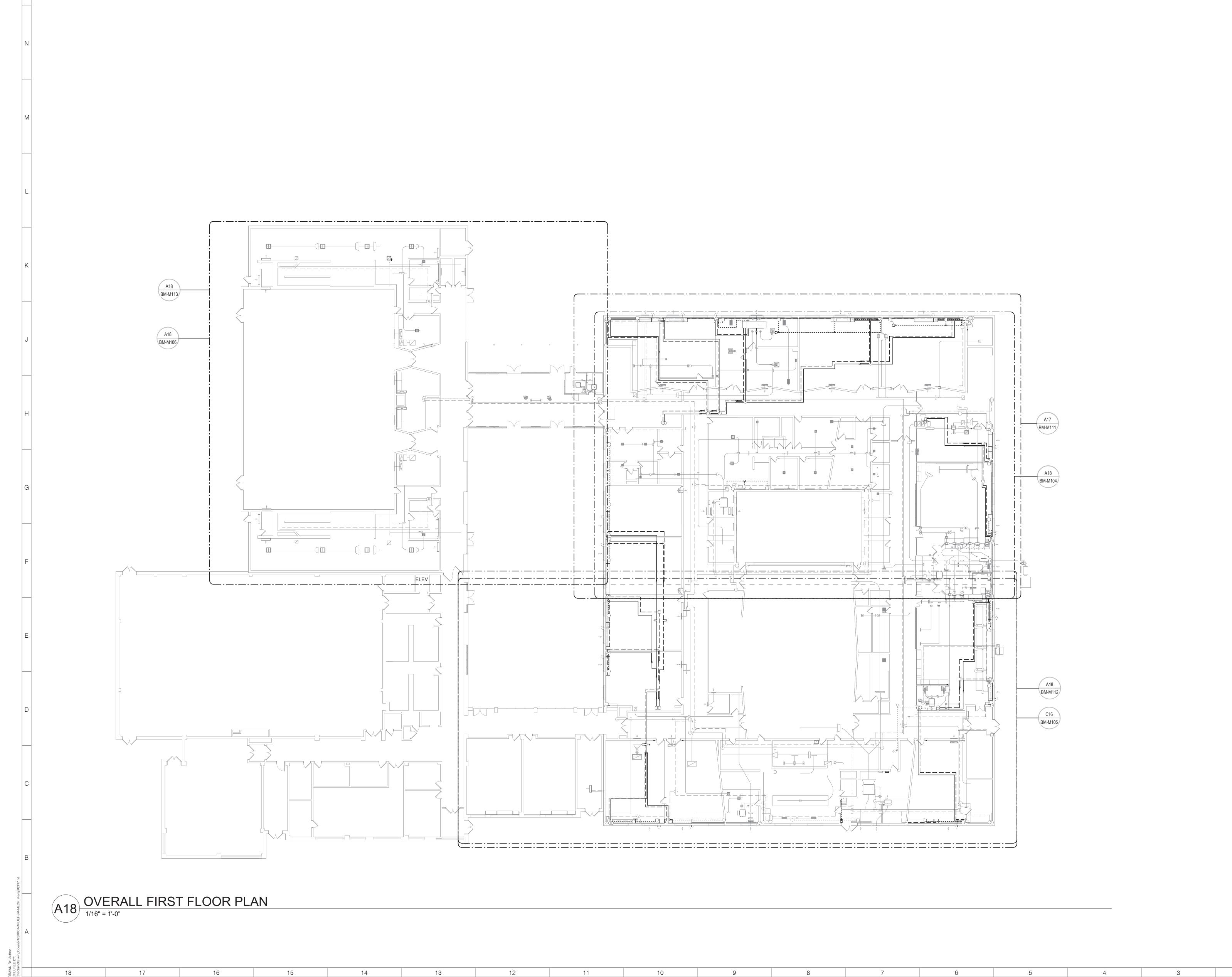
No. Description Date of the second secon

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE:
SHEET NAME:
HVAC SCHEDULES

SHEET NUMBER:



6/5/2023 3:15:24 PM

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office

www.ksq.design Owner

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer Clapper Structural Engineering

160 Partition Street Saugerties, NY 12477 845.943.9601

www.clapperstructural.com MEP Engineer

Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Environmental Engineer **Quest Environmental Solutions** 1376 Route 9 Wappingers Falls, NY 12590

Construction Manager Jacobs One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119 646.908.6550

www.jacobs.com

845.298.6251 www.qualityenv.com





NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

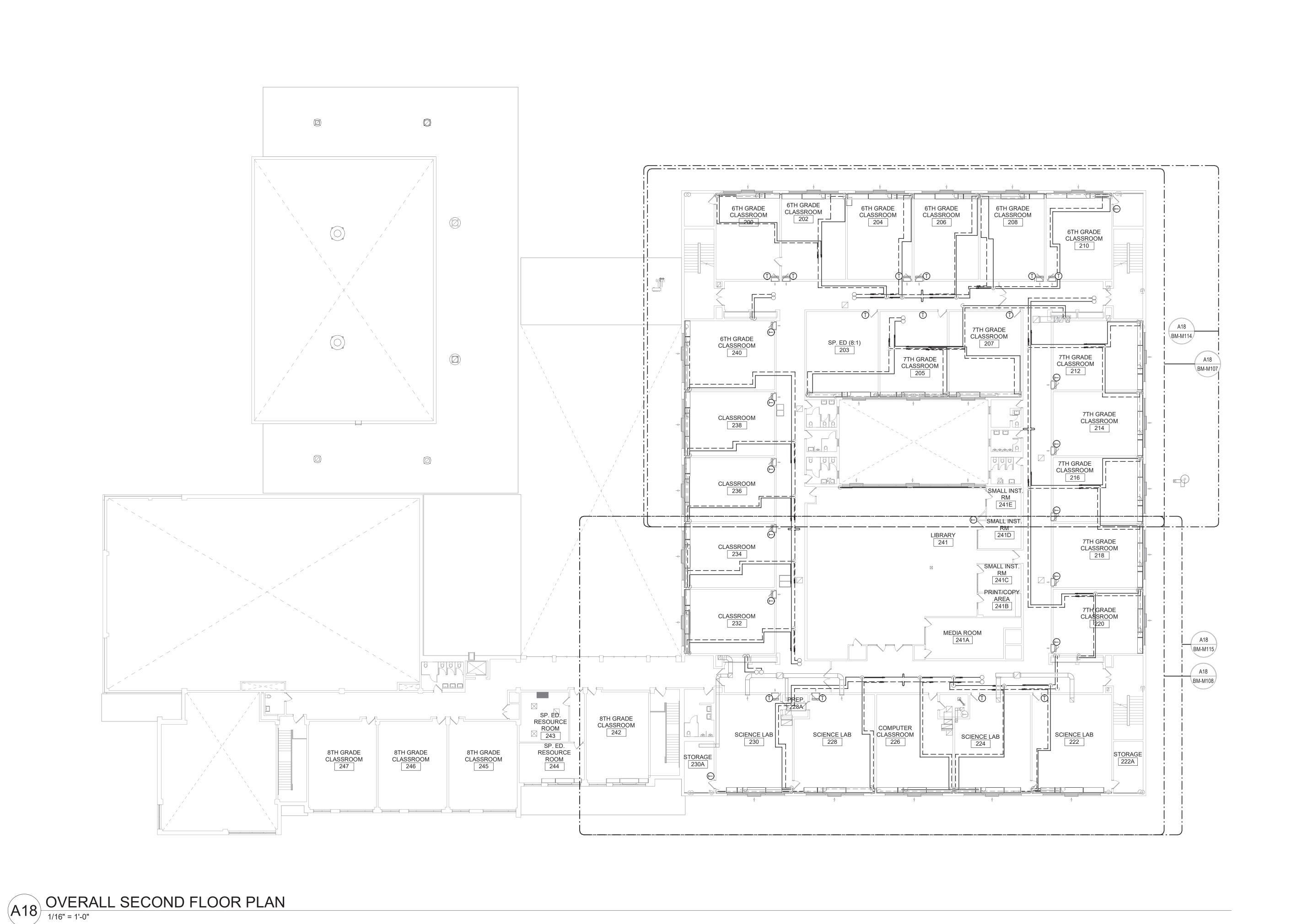
Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/16" = 1'-0"

SHEET NAME: OVERALL FIRST FLOOR

SHEET NUMBER:



6/5/2023 3:15:29 PM

ksqdesigr

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design
215 W 40th Street 15th Floor
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office

http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering
160 Partition Street
Saugerties, NY 12477
845 943 9601

845.943.9601 www.clapperstructural.com

MEP Engineer

Sage Engineering Associates, LLP
9 Columbia Circle
Albany NY 12203
518.453.6091 office
518.453.6092 fax
www.sagellp.com

Quest Environmental Solutions
1376 Route 9
Wappingers Falls, NY 12590

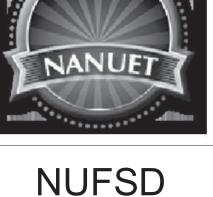
845.298.6251
www.qualityenv.com

Construction Manager

Jacobs
One Penn Plaza

54th Floor, Suite 5420 New York, NY 10119 646.908.6550 www.jacobs.com



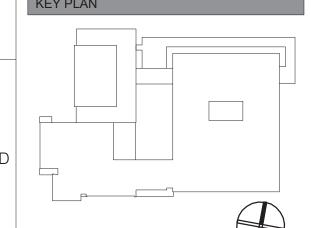


NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

<u>High School</u> 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



No. Description

ISSUED: BID SET ISSUANCE

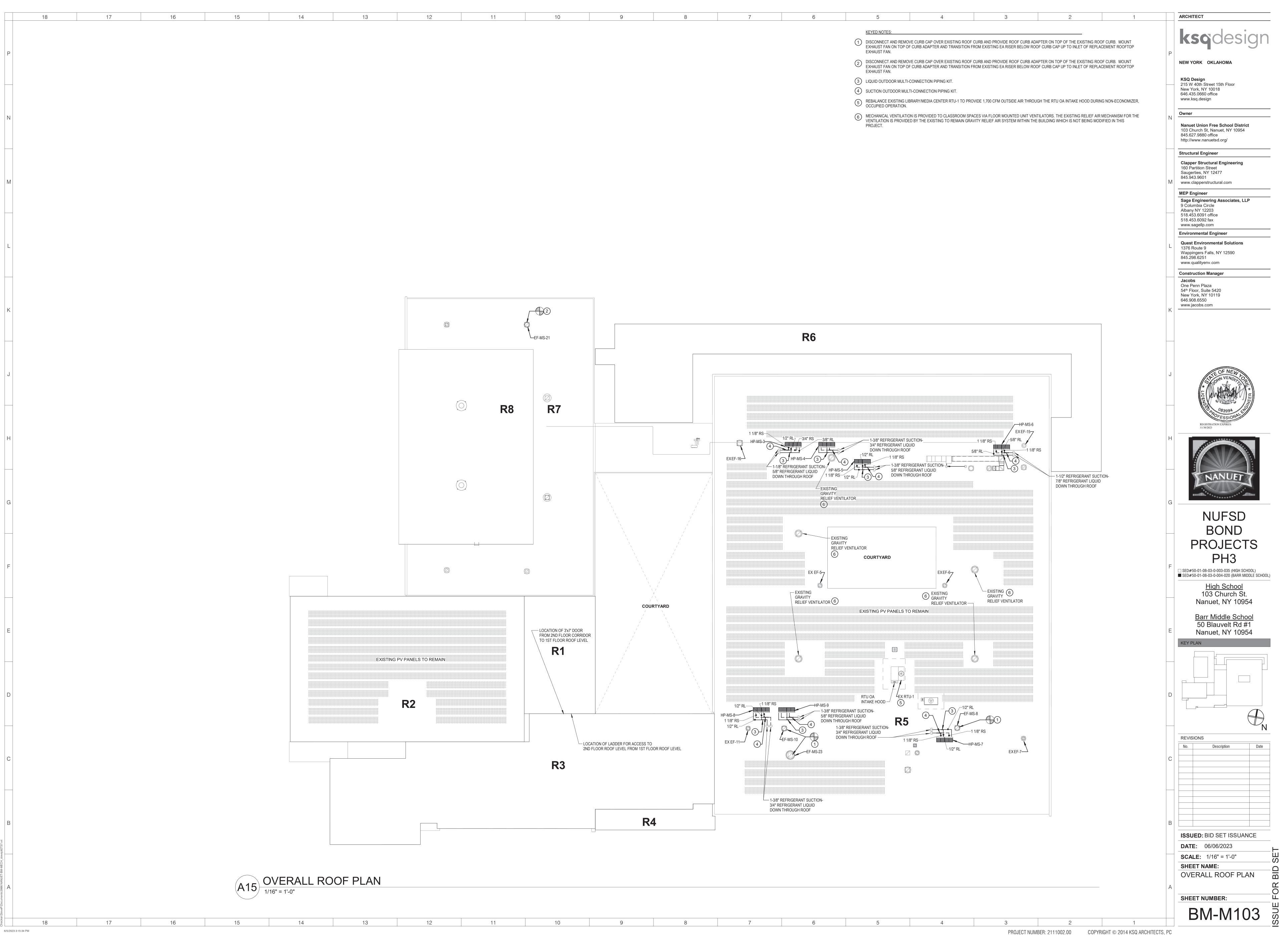
DATE: 06/06/2023

SCALE: 1/16" = 1'-0"

SHEET NAME:

OVERALL SECOND
FLOOR

SHEET NUMBER:



Sage Engineering Associates, LLP 9 Columbia Circle





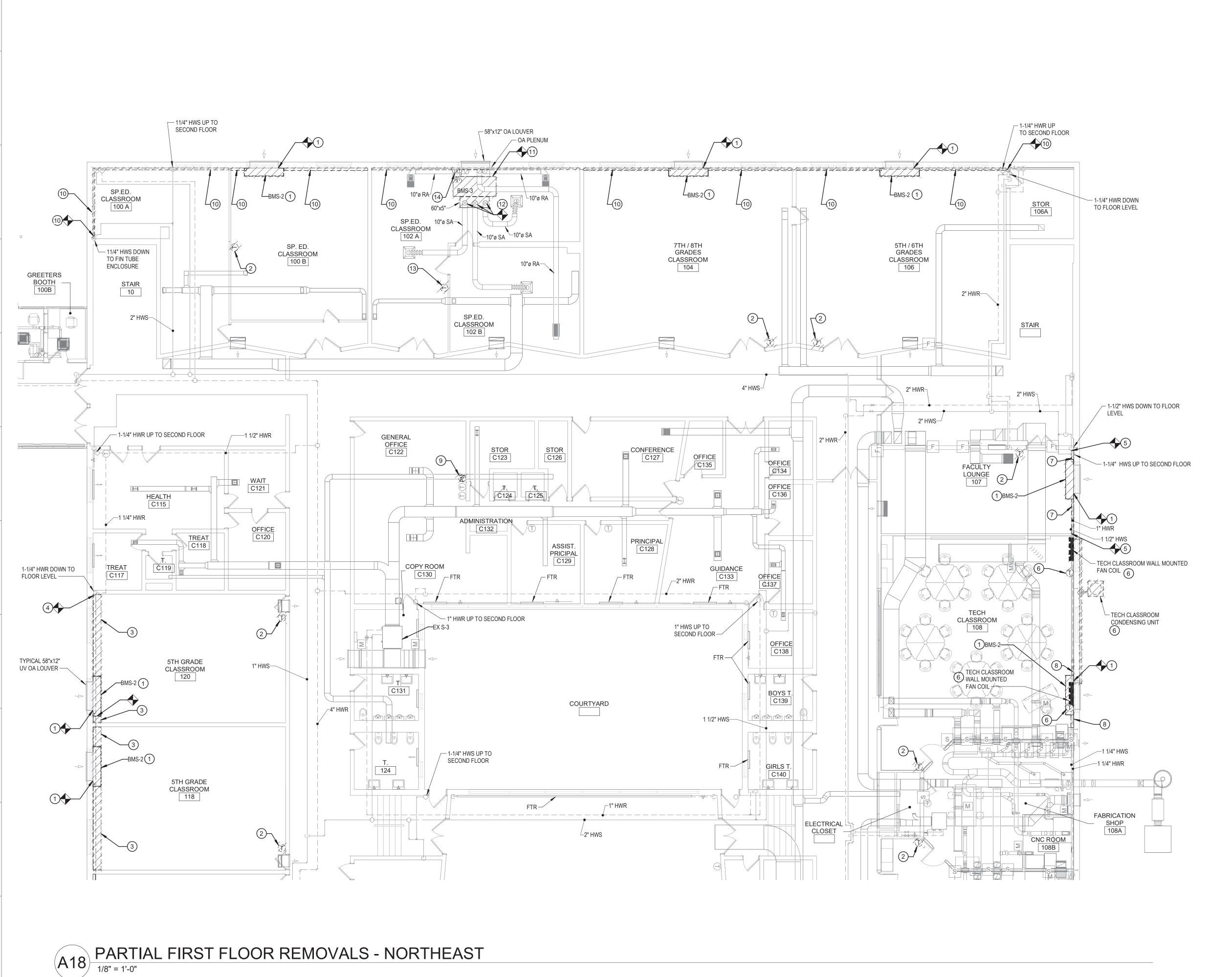
NUFSD **PROJECTS**

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

50 Blauvelt Rd #1 Nanuet, NY 10954

KEY PLAN

ISSUED: BID SET ISSUANCE



6/5/2023 3:15:38 PM

TO FLOOR LEVEL AND CAP.

- DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT OUTSIDE AIR DUCT SLEEVE FROM REMOVED UNIT VENTILATOR AND MAINTAIN OUTSIDE AIR DUCT SLEEVE CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED CONTROL DEVICES.
- DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATOR IN SPACE. REMOVE CONTROL WIRING BETWEEN UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR.
- DISCONNECT AND REMOVE PERIMETER SHELVING/CABINET UNITS AT LOCATION SHOWN AND FIN TUBE RADIATION LOCATED WITHIN PIPING TUNNEL AT REAR OF SHELVING SYSTEM. DISCONNECT AND REMOVE HWS/R PIPING MAINS ROUTED WITHIN PIPING TUNNEL AT REAR OF UV SHELVING SYSTEMS.
- DISCONNECT AND REMOVE HORIZONTAL HWS/HWR PIPING ROUTED WITHIN UV SHELVING CABINET PIPING TUNNEL INCLUDING ASSOCIATED FIN TUBE RADIATION WITHIN THE TUNNEL SYSTEM. DISCONNECT AND REMOVE HWR BRANCH PIPING BACK TO DISCONNECTION POINT SHOWN AT BOTTOM HWR RISER ROUTED DOWN
- 5 DISCONNECT 1-1/2" HWS BETWEEN DISCONNECTION POINTS SHOWN FROM BOTTOM OF HWS RISER ROUTED DOWN TO FLOOR LEVEL TO UPSTREAM OF WALL PENETRATION ENTERING TECH CLASSROOM 108. DISCONNECT AND REMOVE HWS PIPING TO BOTTOM OF RISER AND CAP. DISCONNECT AND REMOVE 1" HWR PIPING FROM REMOVED UV HEATING COIL TO DISCONNECTION POINT SHOWN UPSTREAM OF WALL PENETRATION ENTERING TECH CLASSROOM 108.
- DISCONNECT AND REMOVE EXTERIOR GRADE MOUNTED CONDENSING UNIT, TWO WALL MOUNTED FAN COIL UNITS, TWO FAN COIL UNIT CONTROLLERS AND ALL ASSOCIATED REEDIGEDANT SUCTION// JOHN DIDING RETWEEN FAN COIL UNITS, CONDENSING UNIT, AND CONDENSING UNIT AND CON ASSOCIATED REFRIGERANT SUCTION/LIQUID PIPING BETWEEN FAN COIL UNITS, CONDENSING UNIT AND CONDENSING UNIT SUPPORT PAD. REMOVE ALL ASSOCIATED CONTROL WIRING. DISPOSE OF REFRIGERANT WITHIN THE ENTIRE SYSTEM PER SECTION 608 OF THE ENVIRONMENTAL PROTECTION AGENCY'S CLEAN AIR ACT.
- 7 DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURE SYSTEMS WITHIN FACULTY LOUNGE 107.
- B DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURE SYSTEMS WITHIN TECH CLASSROOM 108 AT LOCATIONS SHOWN. MAINTAIN HWS/HWR PIPING MAINS ROUTED ALONG PERIMETER WALL BEHIND REMOVED ENCLOSURE UNITS.
- DISCONNECT AND REMOVE AIR HANDLING UNIT S-3 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC
- DISCONNECT AND REMOVE FIN TUBE RADIATION AND ASSOCIATED FIN TUBE ENCLOSURE UNITS AT ALL LOCATIONS SHOWN. DISCONNECT AND REMOVE HWS/R PIPING MAINS ROUTED THROUGH FIN TUBE ENCLOSURE TO DISCONNECTION POINTS SHOWN AT BASE OF ASSOCIATED HWS/R RISER DROPS AND CAP.
- DISCONNECT AND REMOVE SEMI-RECESSED, HORIZONTAL, DUCTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT UV FROM REAR INLET OA PLENUM. MAINTAIN OA PLENUM FOR RECONNECTION TO REPLACEMENT UNIT VENTILATOR AS SHOWN ON DRAWING MS M-111. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS, DAMPER ACTUATORS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED CONTROL DEVICES.
- (12) DISCONNECT AND REMOVE HORIZONTAL, CONCEALED RECTANGULAR SA DUCTWORK FROM OUTLET OF REMOVED HORIZONTAL UNIT VENTILATOR. DISCONNECT AND MAINTAIN 10" ROUND SA TAPS CONNECTED TO THE TOP OF REMOVED HORIZONTAL SA OUTLET DUCTWORK.
- (13) DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN. MAINTAIN CONTROL WIRING AT WALL LOCATION FOR REPLACEMENT SPACE TEMPERATURE SENSOR AS SHOWN ON DRAWING MS-M111.
- DISCONNECT AND REMOVE VERTICAL HWS/R PIPING FROM REMOVED FLOOR FIN TUBE ENCLOSURE SYSTEM TO REMOVED UV HEATING COIL. DISCONNECT AND REMOVE ASSOCIATED VERTICAL PIPING ENCLOSURE UNIT CONCEALING THE HWS/R VERTICAL PIPING ROUTED FROM FLOOR TO CEILING. DISCONNECT AND REMOVE HWS/R PIPING ROUTED TO HORIZONTAL UV HEATING COIL INCLUDING ASSOCIATED CONTROL VALVES AND HYDRONIC ACCESSORIES.

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office

http://www.nanuetsd.org/ Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477

845.943.9601

www.clapperstructural.com

MEP Engineer Sage Engineering Associates, LLP 9 Columbia Circle

Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Environmental Engineer Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251

www.qualityenv.com **Construction Manager** One Penn Plaza

54th Floor, Suite 5420 New York, NY 10119

646.908.6550 www.jacobs.com



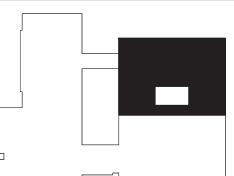


NUFSD BOND **PROJECTS** PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/8" = 1'-0"

SHEET NAME: PARTIAL FIRST FLOOR **REMOVALS** -NORTHEAST

DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATOR IN SPACE. REMOVE CONTROL WIRING BETWEEN UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR. 3 DISCONNECT AND REMOVE PERIMETER SHELVING/CABINET UNITS AT LOCATION SHOWN AND FIN TUBE RADIATION LOCATED WITHIN PIPING TUNNEL AT REAR OF SHELVING SYSTEM. DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURE UNITS AT LOCATIONS SHOWN INCLUDING ASSOCIATED FIN TUBE RADIATION WITHIN THE PIPING ENCLOSURE SYSTEM. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING WITHIN FIN TUBE ENCLOSURE SYSTEM BACK TO DISCONNECTION POINT SHOWN. DISCONNECT AND REMOVE HWS TO BOTTOM OF RISER ROUTED TO FLOOR LEVEL AND CAP AT DISCONNECTION POINT. Owner DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT OUTSIDE AIR DUCT SLEEVE FROM REMOVED UNIT VENTILATOR AND MAINTAIN OUTSIDE AIR DUCT SLEEVE CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL BACK TO BOTTOM OF HWS/R RISERS WITHIN ADJACENT VERTICAL CHASE. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED CONTROL DEVICES. (6) DISCONNECT AND REMOVE AIR HANDLING UNIT S-4 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC OPERATOR DIAL. DISCONNECT AND REMOVE PNEUMATIC CONTROL PANEL INCLUDING ALL PNEUMATIC ON/OFF SWITCHES AND PNEUMATIC OPERATOR DIALS FROM REMOVED PNEUMATIC CONTROLS SERVING EXHAUST FANS AND AIR HANDLING UNIT S-1. REMOVE PNEUMATIC TUBING FROM CONTROL PANEL BACK TO ASSOCIATED PNEUMATIC PIPING MAIN AND CAP. REMOVE LINE VOLTAGE POWER FROM REMOVED PANEL BACK TO ASSOCIATED PANELBOARD. REMOVE ALL LOW VOLTAGE CONTROL WIRING FROM PANEL BACK TO ASSOCIATED SOURCE. (8) DISCONNECT AND REMOVE TWO PNEUMATIC THERMOSTATS AT LOCATIONS SHOWN. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF ONE THERMOSTAT AND REUSE SECOND LOCATION FOR REPLACEMENT SPACE TEMPERATURE SENSOR AS SHOWN ON DRAWING MS M-112. 9 DISCONNECT AND REMOVE GREASE HOOD EXHAUST FAN EF-3 PNEUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC OPERATOR DIAL. (10) DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURE UNITS AT LOCATIONS SHOWN INCLUDING ASSOCIATED HWS/HWR BRANCH PIPING WITHIN FIN TUBE ENCLOSURE SYSTEM BETWEEN DISCONNECTION POINTS SHOWN. DISCONNECT AND REMOVE HWR PIPING TO BOTTOM OF RISER TO FLOOR LEVEL AND CAP AT DISCONNECTION POINT. DISCONNECT AND REMOVE HWS/R PIPING ROUTED WITHIN HORIZONTAL ENCLOSURE SYSTEMS TO WALL PENETRATION POINT BETWEEN STORAGE 123 AND CLASSROOM 114, AND CAP HWS/R PIPING AT WALL PENETRATION. (11) DISCONNECT AND REMOVE 1" HWS/R PIPING TO BOTTOM OF HWS/R RISERS AND CAP AT DISCONNECTION POINTS SHOWN. (12) DISCONNECT AND REMOVE HWS BRANCH PIPING TO DISCONNECTION POINT SHOWN JUST UPSTREAM OF PENETRATION INTO VERTICAL PIPING CHASE. (13) DISCONNECT AND REMOVE HWR BRANCH PIPING TO DISCONNECTION POINT SHOWN JUST UPSTREAM OF PENETRATION INTO VERTICAL PIPING CHASE. - 1-1/4" HWS/R DOWN TO CLASSROOM TYPICAL 58"x12" UV OA LOUVER -SP.ED. REL. SERVICE 2 1/2" HWS---1 STAGE 111 MULTIPURPOSE / CAFETERIA 108 FABRICATION CLASSROOM DOWN TO FLOOR LEVEL 5TH GRADE CLASSEROOM 116.5 110 1-1/4" HWS UP TO SECOND FLOOR — 1-1/4" HWS DOWN TO FLOOR LEVEL - 1-1/4" HWR UP TO SECOND FLOOR 44"x20" SA-- 1-1/2" HWR DOWN TO FLOOR LEVEL _2" HWR 1 1/4" HWS-SERVING 116 VIDEO PRODUCTION-110A CLASSROOM 5TH GRADE CLASSROOM 114.5 RECEIVING CUSTODIAL 119 5TH GRADE CLASSROOM 48"x24" CAFETERIA SP.ED. CLASSROOM 48"x18" GREASE HOOD EA UP —— — VERTICAL SHEETROCK PIPING CHASE CLASSROOM RECESSED CABINET UNIT HEATER ~1 1/4" HWS 🔏 1-1/4" HWR DOWN TO FLOOR LEVEL ——— 1" HWR DOWN TO FLOOR ——— 1-1/4" HWS DOWN
TO FLOOR

1" HWS UP TO
SECOND FLOOR — 1" HWR UP TO - 1" HWS DOWN TO FLOOR ∠ FIN TUBE ENCLOSURE SECOND FLOOR PARTIAL FIRST FLOOR REMOVALS - SOUTHEAST PROJECT NUMBER: 2111002.00 COPYRIGHT © 2014 KSQ ARCHITECTS, PC 6/5/2023 3:15:42 PM

ksodesi

NEW YORK OKLAHOMA

ARCHITECT

DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT OUTSIDE AIR DUCT SLEEVE FROM REMOVED UNIT VENTILATOR AND MAINTAIN OUTSIDE AIR DUCT SLEEVE CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED

KSQ Design
215 W 40th Street 15th Floor
New York, NY 10018
646.435.0660 office

www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477 845.943.9601

www.clapperstructural.com

MEP Engineer

Sage Engineering Associates, LLP
9 Columbia Circle
Albany NY 12203
518.453.6091 office
518.453.6092 fax

518.453.6092 fax
www.sagellp.com

Environmental Engineer

Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251

Wappingers Falls, NY 12590 845.298.6251 www.qualityenv.com

Jacobs
One Penn Plaza
54th Floor, Suite 5420
New York, NY 10119
646.908.6550
www.jacobs.com



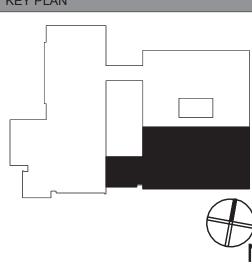


NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH0OL)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH0OL)

<u>High School</u> 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



REVISIONS

No. Description Date of the second description Date

DATE: 06/06/2023

DATE: 06/06/2023

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

SHEET NAME:

PARTIAL FIRST FLOOR
REMOVALS SOUTHEAST

ARCHITECT DISCONNECT AND REMOVE BASEMENT AIR HANDLING UNIT S-8 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED DISCONNECT AND REMOVE BASEMENT AIR HANDLING UNIT S-7 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC OPERATOR DIAL. NEW YORK OKLAHOMA KSQ Design DISCONNECT AND REMOVE BASEMENT AIR HANDLING UNIT S-6 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design Owner 845.627.9880 office http://www.nanuetsd.org/ Structural Engineer 160 Partition Street Saugerties, NY 12477 845.943.9601 www.clapperstructural.com MEP Engineer Albany NY 12203 518.453.6091 office 518.453.6092 fax 16"x16" EA UP TO www.sagellp.com EF-22 ON ROOF — Environmental Engineer CUH-A 1376 Route 9 **BOYS LOCKER** ROOM 845.298.6251 www.qualityenv.com Construction Manager _____ 20"x20" EA UP TO One Penn Plaza 54th Floor, Suite 5420 EF-21 ON ROOF — New York, NY 10119 646.908.6550 www.jacobs.com >-- 1-1/4" HWS/R DOWN TO BASEMENT SECURE VESTIBULE— 100A __4" HWS ^{_}4" HWR ENTRY VESTIBULE C107 5 / 6 GRADES GYMNASIUM 1-1/4" HWS/R DOWN TO BASEMENT GIRLS LOCKER 16"x16" EA UP TO EF-20 ON ROOF 20"x20" EA UP TO EF-19 ON ROOF — **DATE:** 06/06/2023 SHEET NAME: REMOVALS - NORTHWEST SHEET NUMBER: PARTIAL FIRST FLOOR REMOVALS - NORTHWEST

1/8" = 1'-0" BM-M106 SS PROJECT NUMBER: 2111002.00 COPYRIGHT © 2014 KSQ ARCHITECTS, PC 6/5/2023 3:25:06 PM

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954

Clapper Structural Engineering

Sage Engineering Associates, LLP 9 Columbia Circle

Quest Environmental Solutions Wappingers Falls, NY 12590



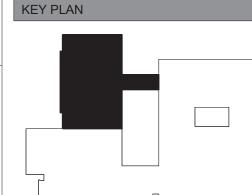


NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

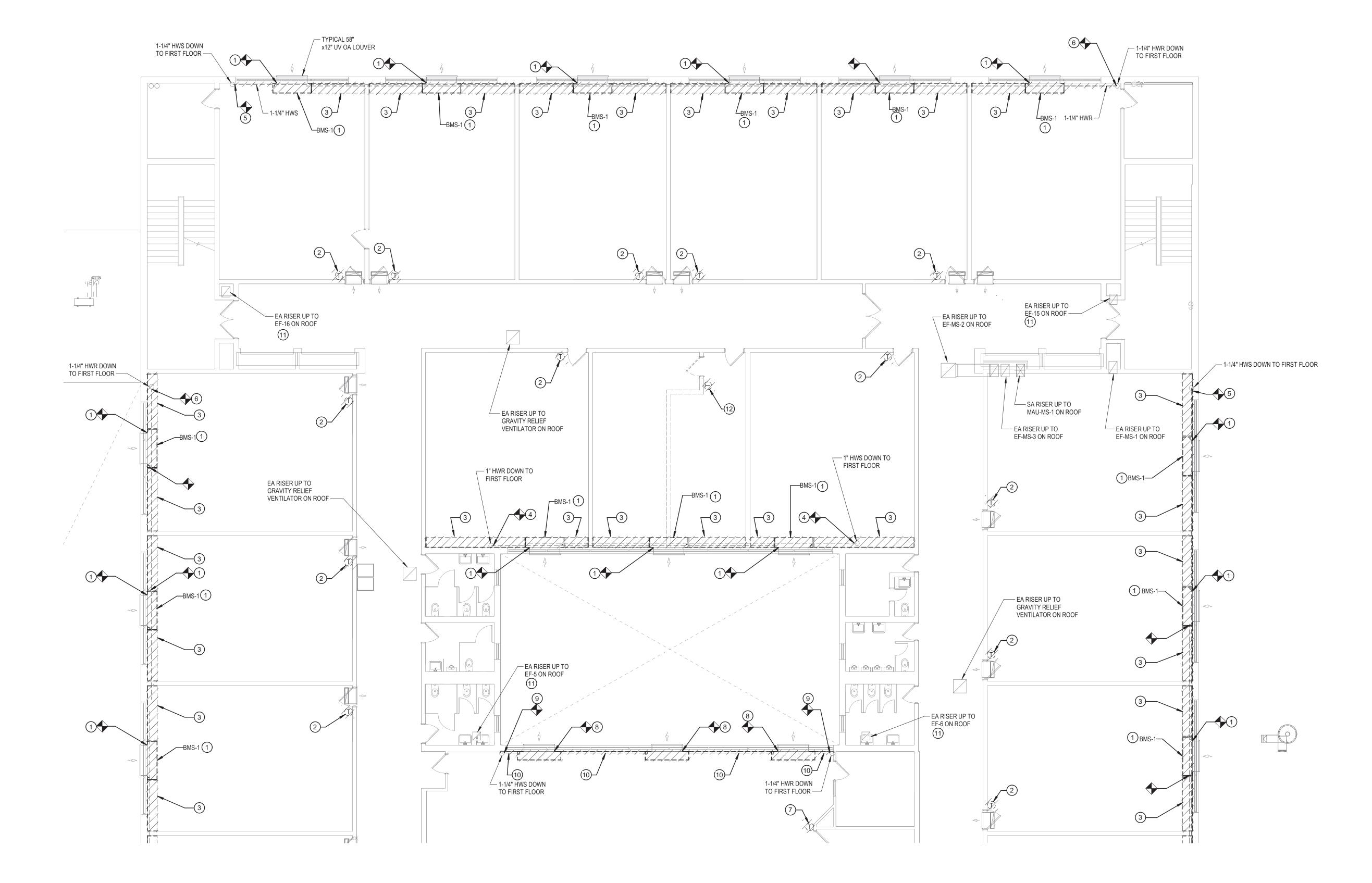


ISSUED: BID SET ISSUANCE

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

PARTIAL FIRST FLOOR

- DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT OUTSIDE AIR DUCT SLEEVE FROM REMOVED UNIT VENTILATOR AND MAINTAIN OUTSIDE AIR DUCT SLEEVE CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED CONTROL DEVICES.
- DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATOR IN SPACE. REMOVE CONTROL WIRING BETWEEN UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR.
- 3 DISCONNECT AND REMOVE PERIMETER SHELVING/CABINET UNITS AT LOCATION SHOWN AND FIN TUBE RADIATION LOCATED WITHIN PIPING TUNNEL AT REAR OF SHELVING SYSTEM.
- DISCONNECT AND REMOVE 1" HWS/HWR PIPING ROUTED WITHIN PIPING TUNNEL BEHIND UNIT VENTILATORS AND CABINET SHELVING SYSTEMS BACK TO DISCONNECTION POINTS SHOWN AT POINT OF RISER PENETRATION THROUGH FLOOR AND CAP.
- DISCONNECT AND REMOVE HWS/HWR ROUTED BEHIND REMOVE UNIT VENTILATORS AND CABINET SHELVING SYSTEMS. REMOVE HWS BACK TO FLOOR PENETRATION AND CAP ABOVE FLOOR.
- 6 DISCONNECT AND REMOVE HWS/HWR ROUTED BEHIND REMOVE UNIT VENTILATORS AND CABINET SHELVING SYSTEMS. REMOVE HWR BACK TO FLOOR
- PENETRATION AND CAP ABOVE FLOOR.
- DISCONNECT AND REMOVE TEMPERATURE SENSOR AT LOCATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATORS IN SPACE. REMOVE CONTROL WIRING BETWEEN REMOVED UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR. DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT AND REMOVE OUTSIDE AIR DUCT SLEEVE FROM REMOVED
- DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT AND REMOVE OUTSIDE AIR DOCT SLEEVE FROM REMOVED UNIT VENTILATOR CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. PROVIDE A 1" THICK, ALUMINUM FACED GLASS FIBER BOARD PANEL OVER THE INTERIOR FACE OF THE EXTERIOR OPENING. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, SENSORS, RELAYS AND CONTROL DEVICES.
- 9 DISCONNECT AND REMOVE 1-1/4" HWS/HWR PIPING LOCATED BETWEEN RISERS TO DISCONNECTION POINTS SHOWN ABOVE FLOOR PENETRATIONS AND CAP.
- DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURES BETWEEN REMOVED UNIT VENTILATORS AT LOCATIONS SHOWN INCLUDING ASSOCIATED HWS/R PIPING ROUTED WITHIN THE ENCLOSURE UNITS.
- DISCONNECT AND REMOVE PNEUMATIC DAMPER, SENSORS AND RELAYS FROM EA RISER UP TO ROOFTOP EXHAUST FAN. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE SHEETMETAL SLEEVE AT LOCATION OF REMOVED DAMPER TO MAINTAIN SEALED FA RISER UP THROUGH POOF PNEUMATIC PIPING MAIN AND CAP. PROVIDE SHEETMETAL SLEEVE AT LOCATION OF REMOVED DAMPER TO MAINTAIN SEALED EA RISER UP THROUGH ROOF PENETRATION.
- DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATOR IN SPACE. REMOVE CONTROL WIRING BETWEEN REMOVED UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR.



PARTIAL SECOND FLOOR REMOVALS -

NORTHEAST

6/5/2023 3:15:46 PM

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design

Owner

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street

Saugerties, NY 12477 845.943.9601

www.clapperstructural.com

MEP Engineer Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203 518.453.6091 office

518.453.6092 fax www.sagellp.com **Environmental Engineer**

Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251 www.qualityenv.com

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119

646.908.6550 www.jacobs.com



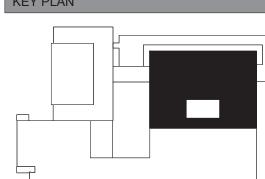


NUFSD BOND **PROJECTS** PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE**: 1/8" = 1'-0"

SHEET NAME: PARTIAL SECOND FLOOR **REMOVALS** -NORTHEAST

DISCONNECT AND REMOVE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. DISCONNECT OUTSIDE AIR DUCT SLEEVE FROM REMOVED UNIT VENTILATOR AND MAINTAIN OUTSIDE AIR DUCT SLEEVE CONNECTED TO EXTERIOR OUTSIDE AIR LOUVER. DISCONNECT AND REMOVE HWS/HWR BRANCH PIPING TO REMOVED UNIT VENTILATOR HEATING COIL. DISCONNECT AND REMOVE HEATING COIL CONTROL VALVE, DAMPERS AND ALL ASSOCIATED UNIT VENTILATOR CONTROL WIRING, DDC CONTROLLER, SENSORS, RELAYS, GRAPHICS, PROGRAMMING, SEQUENCES OF OPERATIONS AND ASSOCIATED 2 DISCONNECT AND REMOVE SPACE TEMPERATURE SENSOR AT LOATION SHOWN. DISCONNECT AND REMOVE DDC PROGRAMMING FROM REMOVED UNIT VENTILATOR IN SPACE. REMOVE CONTROL WIRING BETWEEN UNIT VENTILATOR DDC CONTROLLER AND SPACE SENSOR. ① DISCONNECT AND REMOVE PERIMETER SHELVING/CABINET UNITS AT LOCATION SHOWN AND FIN TUBE RADIATION LOCATED WITHIN PIPING TUNNEL AT REAR OF SHELVING SYSTEM. DISCONNECT AND REMOVE HWS/HWR ROUTED BEHIND REMOVE UNIT VENTILATORS AND CABINET SHELVING SYSTEMS. REMOVE HWS BACK TO FLOOR PENETRATION AND CAP ABOVE FLOOR. DISCONNECT AND REMOVE ABANDONED EXHAUST AIR DUCTWORK AT LOCATION SHOWN. DISCONNECT AND REMOVE PNEUMATIC DAMPER, SENSORS AND RELAYS FROM 16"x16" ABANDONED EA RISER. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. 6 DISCONNECT AND REMOVE HORIZONTAL PIPING ENCLOSURE UNITS AT LOCATIONS SHOWN. DISCONNECT AND REMOVE EA BRANCH AND ASSOCIATED EA REGISTER SERVING COMPUTER SERVER ROOM BACK TO DISCONNECTION POINT SHOWN AND CAP. SERVER ROOM VENTILATION SHALL BE PROVIDED BY DEDICATED SERVER ROOM ROOFTOP EXHAUST FAN. DISCONNECT AND REMOVE PNEUMATIC DAMPER, SENSORS AND RELAYS FROM EA RISER UP TO EF-8 ON ROOF. DISCONNECT AND REMOVE EF-8 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC OPERATOR DIAL. PROVIDE SHEETMETAL SLEEVE AT LOCATION OF REMOVED DAMPER TO MAINTAIN SEALED EA RISER UP THROUGH ROOF PENETRATION. DISCONNECT AND REMOVE PNEUMATIC DAMPER, SENSORS AND RELAYS FROM EA RISER UP TO EF-10 ON ROOF. DISCONNECT AND REMOVE EF-8 PENUMATIC OPERATOR DIAL AT LOCATION SHOWN INCLUDING ASSOCIATED PNEUMATIC TUBING. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE STAINLESS STEEL COVER PLATE OVER LOCATION OF REMOVED PNEUMATIC OPERATOR DIAL. PROVIDE SHEETMETAL SLEEVE AT LOCATION OF REMOVED DAMPER TO MAINTAIN SEALED EA RISER UP THROUGH ROOF PENETRATION. DISCONNECT AND REMOVE PNEUMATIC DAMPER, SENSORS AND RELAYS FROM EA RISER UP TO ROOFTOP EXHAUST FAN. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. PROVIDE SHEETMETAL SLEEVE AT LOCATION OF REMOVED DAMPER TO MAINTAIN SEALED EA RISER UP THROUGH ROOF PENETRATION. DISCONNECT AND REMOVE HWS/HWR ROUTED BEHIND REMOVE UNIT VENTILATORS AND CABINET SHELVING SYSTEMS. REMOVE HWR BACK TO FLOOR PENETRATION AND CAP ABOVE FLOOR. 7TH GRADE CLASSROOM 218

NEW YORK OKLAHOMA KSQ Design 215 W 40th Street 15th Floor

New York, NY 10018 646.435.0660 office

ARCHITECT

www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477

845.943.9601 www.clapperstructural.com

MEP Engineer Sage Engineering Associates, LLP

9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Environmental Engineer Quest Environmental Solutions 1376 Route 9

Wappingers Falls, NY 12590 845.298.6251 www.qualityenv.com

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119 646.908.6550 www.jacobs.com



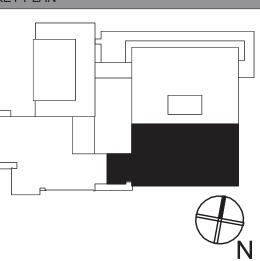


NUFSD BOND **PROJECTS** PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

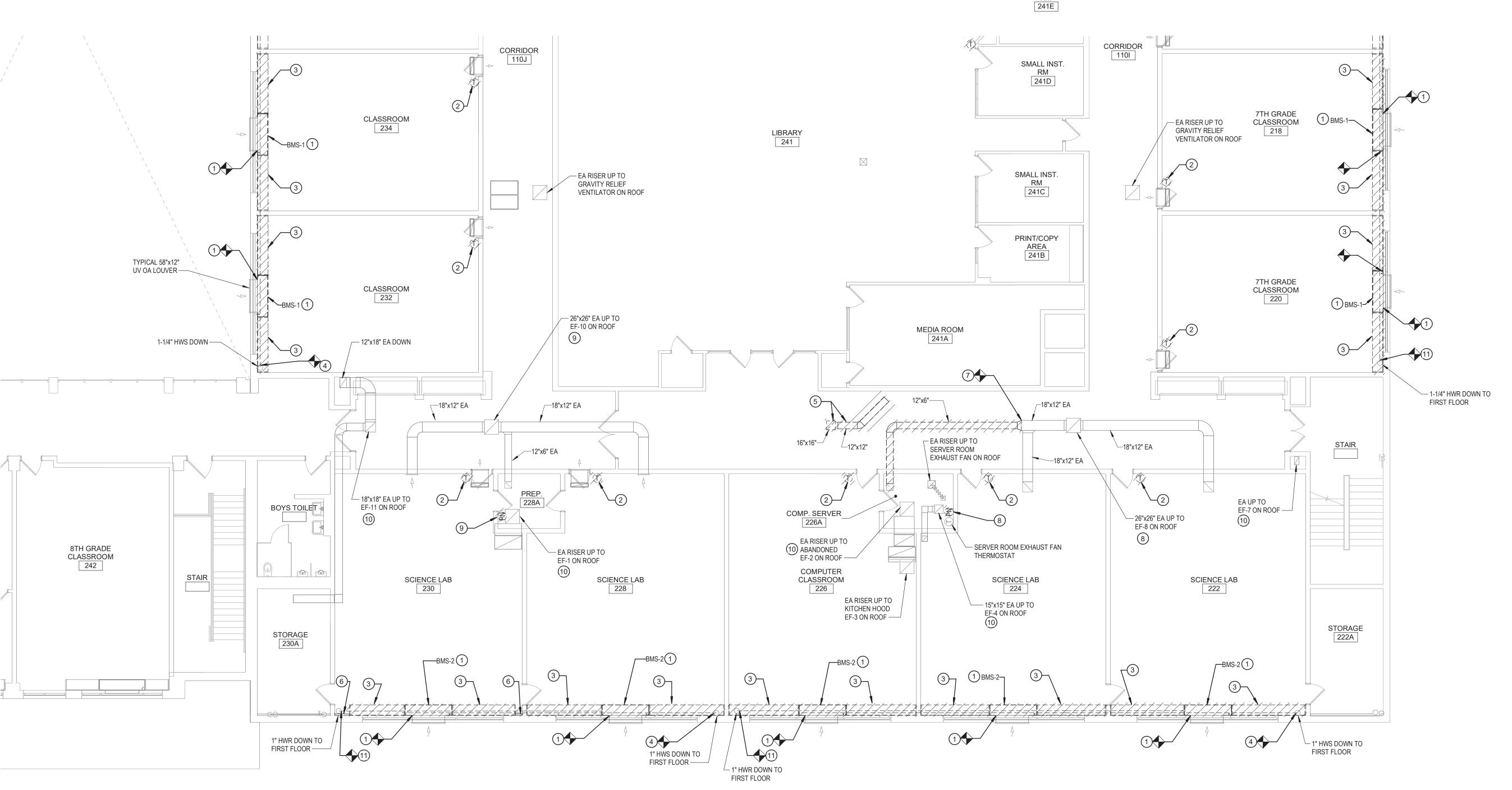


ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/8" = 1'-0"

SHEET NAME: PARTIAL SECOND FLOOR REMOVALS -SOUTHEAST

SHEET NUMBER: BM-M108



6/5/2023 3:15:49 PM

ARCHITECT DISCONNECT AND REMOVE ROOFTOP EXHAUST FAN. REMOVE FAN FROM ROOF CURB AND PROVIDE CAP OVER CURB OPENING. DISCONNECT AND REMOVE ALL ASSOCIATED CONTROLS AND WIRING FROM REMOVED FAN. DISCONNECT AND REMOVE ABANDONED ROOFTOP EXHAUST FAN. REMOVE FAN FROM ROOF CURB AND PROVIDE CURB CAP OVER CURB OPENING. DISCONNECT AND REMOVE ALL ASSOCIATED CONTROLS AND WIRING FROM REMOVED FAN. NEW YORK OKLAHOMA KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design Owner Nanuet Union Free School District 845.627.9880 office http://www.nanuetsd.org/ Structural Engineer 160 Partition Street Saugerties, NY 12477 845.943.9601 M www.clapperstructural.com MEP Engineer Sage Engineering Associates, LLP
9 Columbia Circle
Albany NY 12203
518.453.6091 office 518.453.6092 fax www.sagellp.com **Environmental Engineer** Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251 www.qualityenv.com Construction Manager Jacobs One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119 646.908.6550 www.jacobs.com GYMNASIUM GRAVITY RELIEF __EF-18 VENTILATOR GRAVITY RELIEF
VENTILATOR GYMNASIUM GRAVITY RELIEF VENTILATOR GRAVITY RELIEF
VENTILATOR GRAVITY RELIEF
VENTILATOR GRAVITY RELIEF VENTILATOR GRAVITY RELIEF VENTILATOR COMPUTER SERVER ROOM EXHAUST FAN **ISSUED:** BID SET ISSUANCE **DATE:** 06/06/2023 **SCALE**: 1/16" = 1'-0" SHEET NAME: OVERALL ROOF REMOVAL PLAN

1/16" = 1'-0" SHEET NUMBER: BM-M109 SS PROJECT NUMBER: 2111002.00 COPYRIGHT © 2014 KSQ ARCHITECTS, PC 6/5/2023 3:15:50 PM

103 Church St, Nanuet, NY 10954

Clapper Structural Engineering





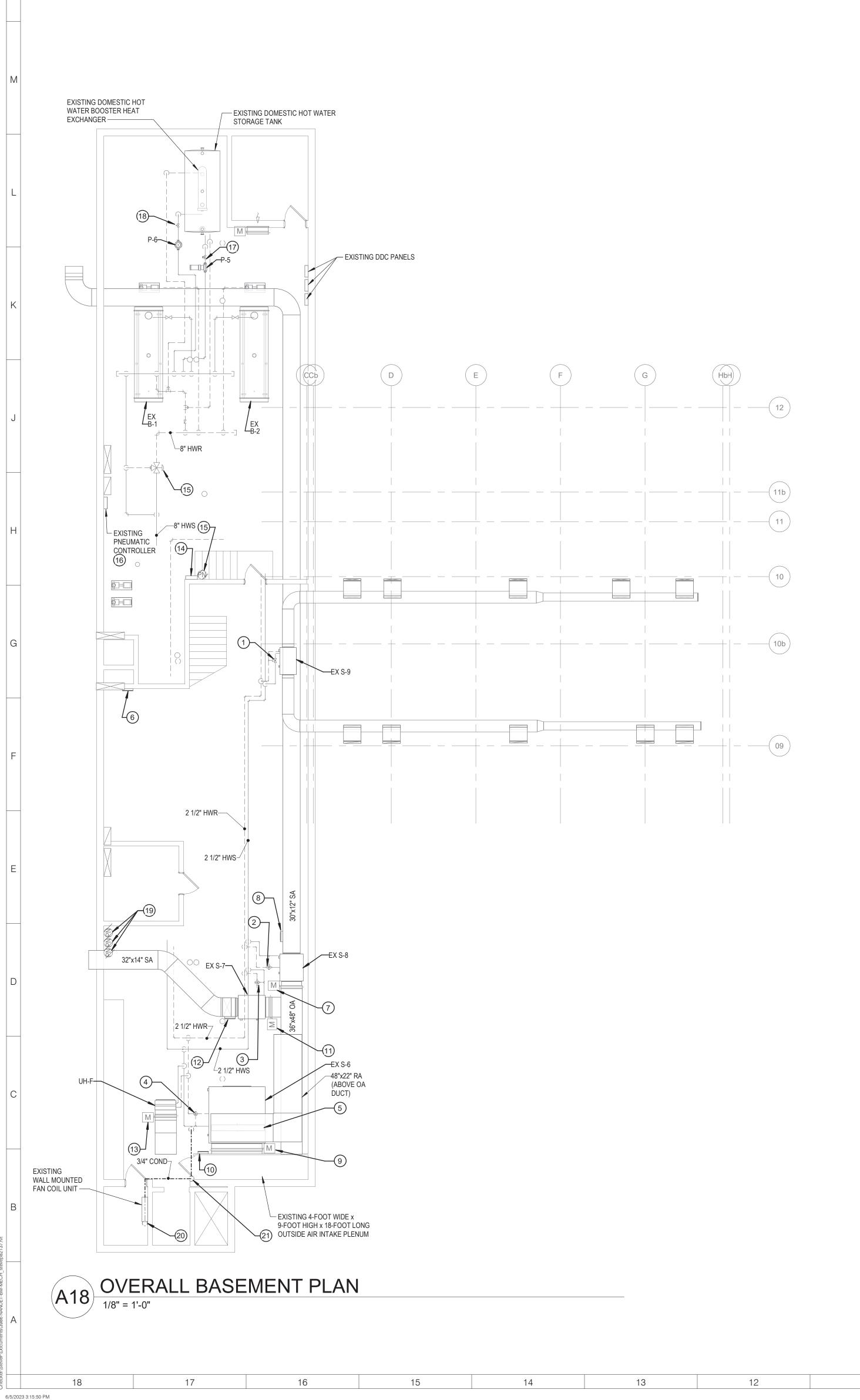
NUFSD BOND PROJECTS

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
☐ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

<u>High School</u> 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

ROOF REMOVAL PLAN



- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-9 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 4.9 GPM. DISCONNECT AND REMOVE ALL S-9 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-9 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED IN
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-8 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 9.6 GPM. DISCONNECT AND REMOVE ALL S-8 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-8 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED IN
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-7 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 9.6 GPM. DISCONNECT AND REMOVE ALL S-7 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-7 INTO THE EXISTING S-9 DDC SYSTEM CONTROLLER OUTLINED
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 28.5 GPM. DISCONNECT AND REMOVE ALL S-6 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-6 INTO THE EXISTING S-6 DDC SYSTEM CONTROLLER OUTLINED IN
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 PNEUMATIC MOTORIZED RETURN AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- 6 LOCATION OF EXISTING AIR HANDLING UNIT S-9 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSPORTED INCLUDING ASSOCIATED BNEUMATIC TURNSPORTED SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSPORTED BNEUMATIC TURNSPORTED SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TURNSPORTED BNEUMATIC TURNSPORTED SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TURNSPORTED BNEUMATIC TURNSPORTED SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TURNSPORTED BNEUMATIC TURNSPORTED SYSTEM CONTROLLER. DISCONNECT AND REMOVE 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TURNSPORTED BNEUMATIC BNEUMATI TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATOR. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE OUTLINED IN KEYED NOTE 1 INTO THE S-9 DDC CONTROLLER AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-8 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-8. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- 8 LOCATION OF EXISTING AIR HANDLING UNIT S-8 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 2 AND 7 INTO THE S-8 DDC CONTROLLER AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-6 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DISCONTROL OF DESCRIPTION OF DAMPER ACTUATOR. WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-6. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- LOCATION OF EXISTING AIR HANDLING UNIT S-6 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPERS OUTLINED IN KEYED NOTES 4, 5 AND 9 INTO THE S-6 DDC CONTROLLER AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-7 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-7. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- LOCATION OF EXISTING AIR HANDLING UNIT S-7 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 3 AND 11 INTO THE S-8 DDC CONTROLLER AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING HYDRONIC UNIT HEATER UH-F DUAL PNEUMATIC FACE AND BAYPASS DAMPER AT LOCATION SHOWN AND REPLACE WITH MANUAL DAMPER OPERATOR LOCKED IN OPEN POSITION. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- (14) LOCATION OF EXISTING BUILDING HEATING PLANT DDC SYSTEM CONTROLLER.
- DISCONNECT AND REMOVE MAIN BUILDING HEATING LOOP 3-WAY PNEUMATIC MIXING CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. DISCONNECT AND REMOVE 3 -WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATOR LOCATED ADJACENT TO BUILDING HEATING PLANT DDC SYSTEM CONTROLLER. REMOVE ASSOCIATED WIRING BACK TO CONTROL PANEL AS REQUIRED. AT LOCATIONG OF REMOVED PNEUMATIC 3-WAY MIXING VALVE PROVIDE AN ELECTRONIC 3-WAY MIXING CONTROL VALVE RATED AT 550 GPM. TIE OPERATION OF MIXING VALVE INTO EXISTING BUILDING HEATING PLANT DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
- DISCONNECT AND REMOVE PNEUMATIC PIPING AND ASSOCIATED PRESSURE DIAL WITHIN THE PNEUMATIC CONTROL PANEL RELATED TO THE CONTROL PRESSURE ON THE MAIN HOT WATER SURDIVE AND ASSOCIATED PRESSURE DIAL WITHIN THE PNEUMATIC CONTROL PANEL RELATED TO THE CONTROL PRESSURE ON THE MAIN HOT WATER SURDIVE AND ASSOCIATED PRESSURE DIAL WITHIN THE PNEUMATIC CONTROL PANEL RELATED TO THE CONTROL PRESSURE ON THE MAIN HOT WATER SUPPLY 3-WAY VALVE OUTLINED IN KEYED NOTE 15. REMOVE PNEUMATIC PIPING BACK TO ASSOCIATED PIPING MAIN
- DISCONNECT AND REMOVE EXISTING DOMESTIC HOT WATER STORAGE TANK 2-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 160 GPM. DISCONNECT AND REMOVE ALL STORAGE TANK PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM THE STORAGE TANK INTO THE EXISTING DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
- DISCONNECT AND REMOVE EXISTING DOMESTIC HOT WATER BOOSTER HEATER HEAT EXCHANGER 2-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 20 GPM. DISCONNECT AND REMOVE ALL HEAT EXCHANGER PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM THE HEAT EXCHANGER INTO THE EXISTING DDC SYSTEM CONTROLLER OUTLINED IN KEYED NOTE 14.
- DISCONNECT AND REMOVE ALL EXISTING AIR HANDLING UNITS S-6. S-7 AND S-8 PNEUMATIC CONTROL FAN OPERATORS. SENSORS AND RELAY DEVICES. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. CONVERT ALL PNEUMATIC CONTROL DEVICES SERVING S-6, S-7 AND S-8 TO ELECTRONIC AND PROVIDE RELAYS FROM FAN START/STOP MOTOR STARTER TO EXISTING DDC CONTROL PANELS SERVING EACH UNIT TO ALLOW FOR ELECTRONIC FAN DIGITAL START/STOP OPERATION. DISCONNECT AND REMOVE PNEUMATIC TUBING BETWEEN PNEUMATIC CONTROL DEVICES AND EXISTING S-6, S-7 AND S-8 SPACE SENSORS. PROVIDE RELAYS FROM EXISTING S-6, S-7 AND S-8 SPACE SENSORS TO EXISTING DDC CONTROL PANELS SERVING EACH UNIT TO ALLOW FOR ELECTRONIC ANALOG INPUT OF EACH SPACE TEMPERATURE TO THE DDC SYSTEM.
- DISCONNECT AND REMOVE OPEN-ENDED PVC HOSE FROM CONDENSATE DRAIN OUTLET CONNECTION ON EXISTING ELEVATOR MACHINE ROOM FAN COIL UNIT AND PROVIDE A 3/4" HARD PIPED CONNECTION TO THE CONDENSATE OUTLET. PROVIDE A P-TRAP BELOW FAN COIL UNIT, THEN ROUTE 3/4" CONDENSATE PIPING THROUGH ELEVATOR MACHINE ROOM TO MECHANICAL AREA OF BASEMENT AS SHOWN.
- PROVIDE 3/4" CONDENSATE DROP DOWN AT LOCATION SHOWN TO FLOOR LEVEL, THEN ROUTE 3/4" CONDENSATE PIPING BELOW BOTTOM OF DOOR OPENING TO OA INTAKE PLENUM, THEN ROUTE 3/4" CONDENSATE PIPING ALONG FLOOR LEVEL TO NEW FLOOR DRAIN BEING PROVIDED ON PLUMBING DRAWINGS. TERMINATE CONDENSATE PIPING OPEN-ENDED ABOVE NEW FLOOR DRAIN.

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477

845.943.9601 www.clapperstructural.com

MEP Engineer Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203

518.453.6091 office 518.453.6092 fax www.sagellp.com **Environmental Engineer**

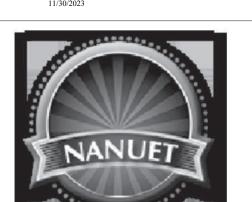
Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251

www.qualityenv.com

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119 646.908.6550

www.jacobs.com





PROJECTS

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L) ■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

> High School 103 Church St Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

REVISIONS

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/8" = 1'-0" SHEET NAME:

BASEMENT PLANS

SHEET NUMBER:

BM-M110 📆

KEYED NOTES: 1 DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 4 GPM. DISCONNECT AND REMOVE ALL S-4 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-4

DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 6.2 GPM. DISCONNECT AND REMOVE ALL S-3 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-3 INTO THE EXISTING SIEMENS DDC CONTROLLER SERVING S-3.

INTO THE EXISTING SIEMENS DDC SYSTEM.

- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 PNEUMATIC MOTORIZED RETURN AIR DAMPER ACTUATOR AT LOCATION arphi SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- ↑ DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-3 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM CONTROLLER SERVING S-3. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- LOCATION OF EXISTING AIR HANDLING UNIT S-3 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-✓ PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPERS OUTLINED IN KEYED NOTES 2, 3 AND 4 INTO THE S-3 DDC CONTROLLER AS
- PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK (S) WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
- ¬ PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT arphi ventilator located within same space as sensor as required. Provide control wiring between sensor and unit VENTILATOR DDC CONTROLLER AS REQUIRED.
- \searrow PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1, WIRED NAVIGATION REMOTE CONTROLLER 2, VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
- AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A 9) BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL.
- 🤿 PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION arphi PIPING DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE SECOND FLOOR UV DRAIN PAN. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING TO PIPING TUNNEL AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.

EXISTING 1-1/4" HWS UP TO SECOND FLOOR -

5/8" REFRIGERANT

3/8" REFRIGERANT

SUCTION-

6/5/2023 3:15:58 PM

KEYED NOTES (CONTINUED):

5/8" REFRIGERANT SUCTION

3/8" REFRIGERANT LIQUID

3/4" CONDENSATE DOWN

- (11) CONNECT TO EXISTING 1-1/4" HWR RISER AT FLOOR LEVEL AND ROUTE 1-1/4" HWR PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
- ROUTE 1-1/4" COMBINED CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET AND CONDENSATE FROM SECOND FLOOR UV DRAIN PAN(S) OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.
- (13) TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
- (14) TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT. (15) 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE TO VERTICAL PIPING ENCLOSURE AND DROP DOWN INTO SHELVING SYSTEM PIPING TUNNEL.
- (16) PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UNIT VENTILATOR AND WALL AT LOCATIONS SHOWN.
- PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1, WIRED NAVIGATION REMOTE CONTROLLER 2, VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3, VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL.
- (18) ROUTE HWS/HWR PIPING MAINS WITHIN PIPING TUNNELS AT REAR OF UNIT VENTILATORS AND UNIT VENTILATOR SHELVING CABINET SYSTEMS.
- PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
- CONNECT TO BOTTOM OF EXISTING 1-1/2" HWS RISER AT CONNECTION POINT SHOWN AND ROUTE 1-1/2" HWS WITHIN UV-MS-38 AND ASSOCIATED SHELVING CABINET SYSTEM PIPING TUNNEL. RECONNECT HORIZONTAL 1-1/2" HWS PIPING TO EXISTING HWS AT CONNECTION POINT SHOWN AT WALL PENETRATION TO TECH CLASSROOM 108 AND ROUTE 1" HWR PIPING FROM UV-MS-38 HEATING COIL WITHIN PIPING TUNNEL SYSTEM AND RECONNECT TO WITH TOP OF UNIT VENTILATOR UV-MS-1. PROVIDE 1" HWS/R BRANCHES TO UV-MS-1 HEATING COIL AND ROUTE 1-1/4" HWS/R HWR MAIN AT WALL PENETRATION AS SHOWN.
- (21) ROUTE 5/8" REFRIGERANT SUCTION-3/8" REFRIGERANT LIQUID DOWN TO UV UTILITY COMPARTMENT WITHIN VERTICAL CHASE WALL SYSTEM.
- 🥽 PROVIDE HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN END OF UV-MS-41 AND END OF EXISTING PIPING ENCLOSURE AT LOCATION SHOWN. THE SIZE OF THE HORIZONTAL PIPING ENCLOSURE UNIT SHALL MATCH THE SIZE OF THE EXISTING ENCLOSURE INSTALLED ADJACENT TO THE NEW UNIT.
- C DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER ACTUATOR AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATOR . TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
- √ DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENCLOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 2.0 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 2.4 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.

__1 1/4" HWS

-1 1/4" HWR

- EXISTING OA LOUVER

— EXISTING OA PLENUM

KEYED NOTES (CONTINUED)

TYPICAL EXISTING 58"X12"

UV OA LOUVER

- (27) ROUTE 1-1/4" CONDENSATE DRAIN PIPING DOWN THROUGH CEILING ALONG WALL AND TERMINATE ABOVE FLOOD RIM OF EXISTING DRINKING FOUNTAIN AT LOCATION SHOWN WITH MITER CUT OPEN-ENDED OUTLET.
- (28) PROVIDE CLEANOUT PLUG AT LOCATION SHOWN WITHIN CONDENSATE DRAIN PIPING.
- (29) CONNECT TO EXISTING 1-1/4" HWS RISER AT BASE OF RISER AND ROUTE 1-1/4" HWS PIPING MAIN THROUGH 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE. PROVIDE PIPE ENCLOSURE UNITS AROUND PERIMETER OF SPACE AS SHOWN. TERMINATE HORIZONTAL ENCLOSURE AT SIDE OF UV-MS-2. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-2. PROVIDE A 1" HWS BRANCH TO UV-MS-2 AND A 1" HWR CONNECTION TO UV-MS-2 HEATING COIL. CONTINUE 1-1/4" HWS AND 1" HWR THROUGH UV PIPING TUNNEL TO CLASSROOM 100B.
- PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-(30) SUCTION PIPING DROPS. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF HORIZONTAL PIPING ENCLOSURE UNIT AND CONNECT TO UV-MS-2 DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
- ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH $^{\prime\prime}$ MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.

OPENING IN THE REAR OF THE UV OUTSIDE AIR DUCT PLENUM THE SIZE OF THE DUCT SLEEVE.

- PROVIDE 36" WIDE x 10-3/8" HIGH OUTSIDE AIR LOUVER FURNISHED WITH UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE A 32 / 36 'x10" OUTSIDE AIR DUCT SLEEVE FROM THE INTERIOR OF THE LOUVER CONNECTION TO THE REAR OF UV-MS-2. PROVIDE AN
- PROVIDE WALL MOUNTED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN SERVING UV-MS-2. PROVIDE CONTROL WIRING FROM NEAREST DDC CONTROLLER TO SENSOR AND UV DDC CONTROLLER AS REQUIRED.
- PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-1, MOUNT TOP OF ENCLOSURE EVEN MAINS THROUGH UV PIPING TUNNEL TO CLASSROOM 102A.
- PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE FIN TUBE ENCLOSURE 35) SYSTEM AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS.
- PROVIDE WALL-TO-WALL, 24" HIGH x 5-5/16" DEEP FIN TUBE ENCLOSURE WITHIN WITHIN CLASSROOM 102A. PROVIDE 20-FEET OF ACTIVE FIN TUBE FT-MS-1 WITHIN THE ENCLOSURE CENTERED IN THE CLASSROOM. PROVIDE 1" HWS/R BRANCH CONNECTIONS FROM THE 1-1/4" HWS/R MAINS TO THE ACTIVE FIN TUBE. ROUTE THE 1-1/4" HWS MAIN BELOW THE ACTIVE FIN TUBE AND THE 1-1/4" HWR MAIN ABOVE THE ACTIVE FIN TUBE AS REQUIRED. BALANCE FLOW THROUGH 20-FEET OF ACTIVE FIN TUBE TO 2.3
- PROVIDE A 16" DEEP x 8" WIDE VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM 102A TO CONCEAL 3/4" CONDENSATE DRAIN RISER AND 1" HWS/R RISERS. ROUTE 3/4" CONDENSATE FROM UV-MS-3 DRAIN PAN, COMBINE WITH 3/4" DRAIN RISER ROUTED UP THROUGH FLOOR TO A 1" CONDENSATE MAIN, DROP 1" CONDENSATE RISER DOWN THROUGH VERTICAL ENCLOSURE, THEN ROUTE 1" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED. CONNECT TO 1-1/4" HWS/R MAINS WITHIN 18" HIGH HORIZONTAL PIPE ENCLOSURE WITHIN CLASSROOM 102A AND PROVIDE 1" HWS/R BRANCHES TO HORIZONTAL, SEMI-RECESSED UV-MS-3 HEATING COIL. ROUTE HWS/R RISERS TO ABOVE CEILING WITHIN VERTICAL PIPE ENCLOSURE. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.

5/8" REFRIGERANT SUCTION-

1 1/4" HWR-

3/8" REFRIGERANT LIQUID-

1" CONDENSATE DOWN —

-1" HWS

-1 1/4" HWR `

— EXISTING 1-1/4" HWR UP TO SECOND FLOOR

(24) EXISTING 3/4" HWS/R UP

- REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM CEILING UV DX COILS AND 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
- 2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
- THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE
- 4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION

SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED

5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH

SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES

- CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER. 6. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15
- REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES. 7. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
- 8. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL

KEYED NOTES (CONTINUED):

DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.

- 10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE SEMI-RECESSED HORIZONTAL UNIT VENTILATOR UV-MS-3 AT LOCATION SHOWN. PROVIDE UV WITH BOTTOM RETURN AIR INLET STAMPED 39 register, rear ducted outside air inlet and front discharge ducted sa outlet. Extend existing oa plenum to rear outside air inlet on
 - PROVIDE WALL MOUNTED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN SERVING UV-MS-3 AND FIN TUBE RADIATION FT-MS-1 CONTROL VALVE. PROVIDE CONTROL WIRING FROM NEAREST DDC CONTROLLER TO SENSOR AND UV DDC CONTROLLER AS REQUIRED.
 - PROVIDE 72"x5" SA PLENUM CONNECTED TO FRONT DISCHARGE OUTLET ON UV-MS-3. INSULATE THE SA PLENUM WITH 2" THICK FLEXIBLE GLASS FIBER DUCT WRAP INSULATION. CONNECT THE EXISTING, THREE 10" ROUND SA BRANCHES TO THE TOP OF THE 72"x5" SA PLENUM AS REQUIRED. INSTALL UV-MS-3 SO

THAT THE THE BOTTOM OF THE SA PLENUM, WITH INSULATION, IS ABOVE THE TOP OF THE EXISTING SUSPENDED CEILING SYSTEM.

- (41) REBALANCE SUPPLY AIRFLOW THROUGH EXISTING LAY-IN SA DIFFUSERS UTILIZING EXISTING IN-DUCT VOLUME DAMPERS ON EACH SA BRANCH TO 430 CFM WITH UV-MS-3 OPERATING AT DESIGN SUPPLY AIRFLOW.
- (42) REBALANCE SUPPLY AIRFLOW THROUGH EXISTING LAY-IN SA DIFFUSER UTILIZING EXISTING IN-DUCT VOLUME DAMPERS ON EACH SA BRANCH TO 480 CFM WITH UV-MS-3 OPERATING AT DESIGN SUPPLY AIRFLOW.
- PROVIDE EXTERNALLY MOUNTED WIRED NAVIGATION REMOTE CONTROLLER, VARIABLE REFRIGERANT VOLUME CONTROL BOX AND VARIABLE REFRIGERANT Y VOLUME EXPANSION VALVE KIT SERVING HORIZONTAL UNIT VENTILATOR UV-MS-3 AT LOCATION SHOWN ABOVE EXISTING SUSPENDED CEILING SYSTEM. ROUTE LIQUID/SUCTION REFRIGERANT PIPING TO EXPANSION VALVE KIT AND UV DX COIL AS REQUIRED.
- (44) PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-4. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT

YENTILATOR UV-MS-4. PROVIDE 1" HWS/R BRANCHES TO UV-MS-4 HEATING COIL AND ROUTE HWS/R MAINS THROUGH UV PIPING TUNNEL TO CLASSROOM 106.

- PROVIDE 16" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE TWO SECOND FLOOR CONDENSATE RISERS DROPS. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF HORIZONTAL PIPING ENCLOSURE AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING FROM VERTICAL DROP THROUGH HORIZONTAL PIPING ENCLOSURE AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM
- PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE ON EITHER SIDE OF UV-MS-5. MOUNT TOP OF ENCLOSURE EVEN WITH TOP OF UNIT VENTILATOR UV-MS-5. PROVIDE 1" HWS/R BRANCHES TO UV-MS-5 HEATING COIL AND ROUTE 1-1/4" HWR MAIN THROUGH UV PIPING TUNNEL PAST UV-MS-5. THROUGH THE HORIZONTAL PIPING ENCLOSURE AND CONNECT TO THE EXISTING 1-1/4" HWR RISER AT THE CONNECTION POINT SHOWN AT BOTTOM RISER.
- PROVIDE MINI-CONDENSATE REMOVAL PUMP AT LOCATION SHOWN ATTACHED TO UV-MS-3. ROUTE CONDENSATE FROM HORIZONTAL UV DRAIN PAN OUTLET TO INLET OF PUMP. THEN ROUTE CONDENSATE DRAIN PIPING FROM OUTLET OF PUMP TO 3/4" CONDENSATE DRAIN PIPING LINE AS SHOWN.
- 🕽 DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 8.7 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SDACE TEMPERATURE SENSOR, INI CURING ASSOCIATED PNEUMATIC TURING AND PROVIDE REDI ACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED.
- 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE CONDENSATE PIPING TO DRINKING FOUNTAIN TERMINATION OUTLET AS OUTLINED IN KEYED
- (50) PROVIDE 1" CONDENSATE DRAIN RISER UP THROUGH FLOOR AT LOCATION SHOWN.

TOP OF HORIZONTAL PIPING ENCLOSURE UNIT TO UNDERSIDE OF EXISTING SUSPENDED CEILING SYSTEM.

LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN- $^\prime$ ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.



www.ksq.design

ARCHITECT

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477

845.943.9601 www.clapperstructural.com

MEP Engineer Sage Engineering Associates, LLP 9 Columbia Circle

Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Environmental Engineer

Quest Environmental Solution 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251

www.qualityenv.com **Construction Manager** One Penn Plaza

54th Floor, Suite 5420

New York, NY 10119

646.908.6550

www.jacobs.com



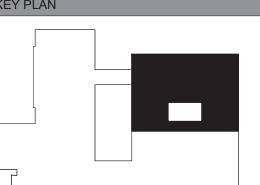


NUFSD BOND **PROJECTS**

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL) ■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

> High School 103 Church St Nanuet, NY 10954

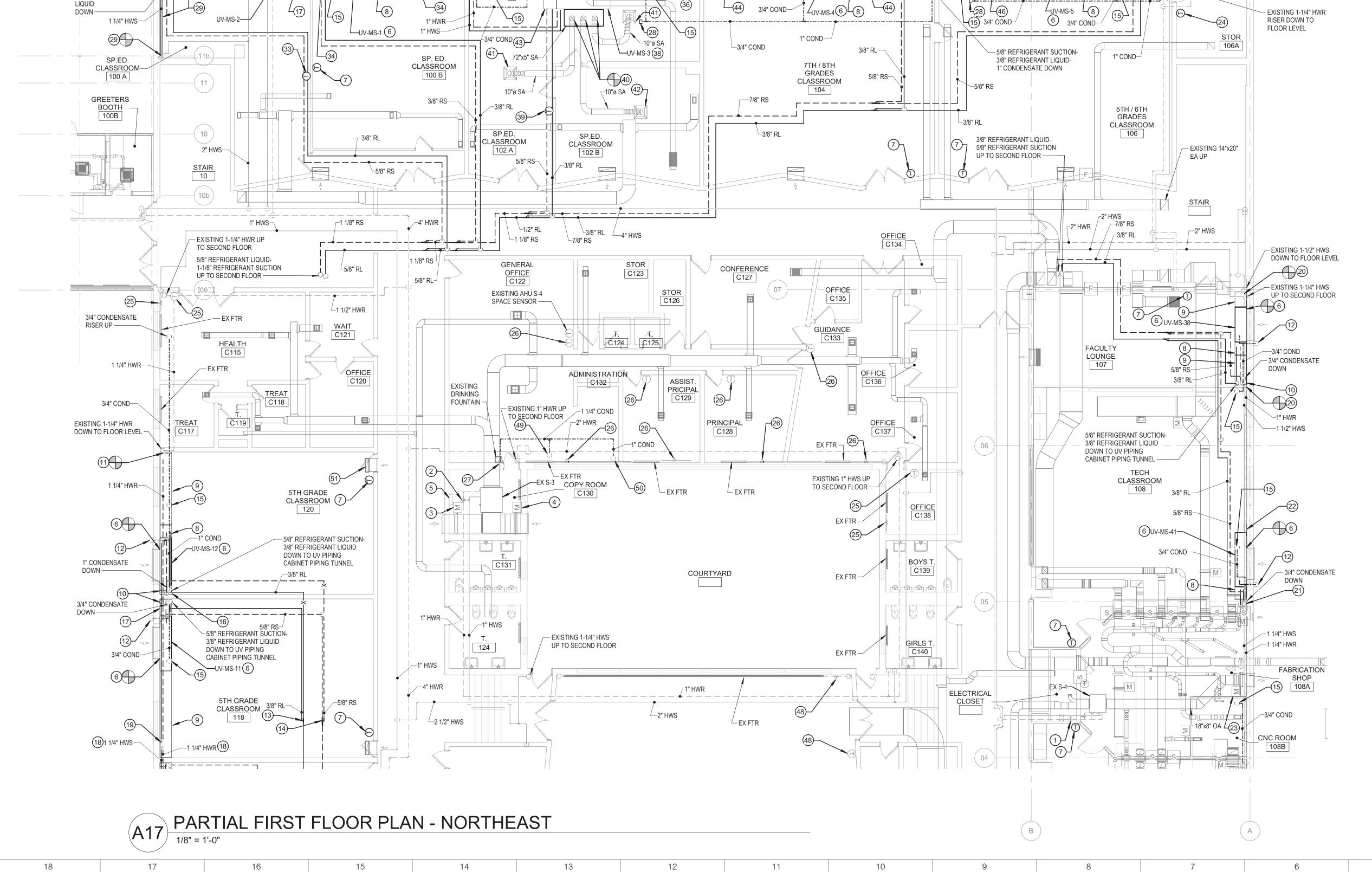
Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/8" = 1'-0" **SHEET NAME:** PARTIAL FIRST FLOOR

PLAN - NORTHEAST **SHEET NUMBER:**



KEYED NOTES:

- (1) DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-1 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 39 GPM. DISCONNECT AND REMOVE ALL S-1 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-1 INTO THE EXISTING SIEMENS DDC
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-4 PNEUMATIC THERMOSTAT. CAP PNEUMATIC TUBING ABOVE CEILING SYSTEM. PROVIDE ullet DDC SYSTEM SPACE SENSOR AT LOCATION OF REMOVED PNEUMATIC THERMOSTAT CONNECTED TO S-4 OPERATION.
- S DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 3-WAY PNEUMATIC CONTROL VALVE. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 3-WAY CONTROL VALVE RATED AT 39 GPM. DISCONNECT AND REMOVE ALL S-2 PNEUMATIC SENSORS AND CONTROL DEVICES AND CONVERT TO ELECTRONIC. TIE ALL ELECTRONIC SENSORS FROM S-2 INTO THE EXISTING SIEMENS DDC
- PROVIDE DDC SYSTEM SPACE SENSOR AT LOCATION OF REMOVED PNEUMATIC THERMOSTAT CONNECTED TO EXISTING AHU S-2 OPERATION IN CONJUNCTION WITH REPLACEMENT 2-WAY CONTROL VALVE OUTLINED IN KEYED NOTE 28.
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 PNEUMATIC MOTORIZED RETURN AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-2 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR ullet OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED.
- PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR LOCATED WITHIN SAME SPACE AS SENSOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER
- 🦴 PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT.
- AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE ツ CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL.
- > PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING U DROPS AND THE 3/4" CONDENSATE RISER DROP FROM THE SECOND FLOOR UV DRAIN PAN. ROUTE VERTICAL SUCTION/LIQUID PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING FROM TO PIPING TUNNEL AND CONNECT TO HORIZONTAL CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET PRIOR TO EXITING THROUGH EXTERIOR WALL. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM.
- (12) CONNECT TO EXISTING 1-1/4" HWS RISER AT FLOOR LEVEL AND ROUTE 1-1/4" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN.
- (13) ROUTE 1" HWR FROM UV-MS-9 HEATING COIL WITHIN SHELVING CABINET PIPING TUNNEL TO CLASSROOM 116 PIPING TUNNEL
- ROUTE 1-1/4" COMBINED CONDENSATE DRAIN PIPING FROM FIRST FLOOR UV DRAIN PAN OUTLET AND CONDDENSATE FROM SECOND FLOOR UV DRAIN PAN OUT THROUGH EXTERIOR WALL. TERMINATE PIPING WITH MITER CUT ELBOW FACING GRADE LEVEL AND PITCH PIPING TOWARDS THE EXTERIOR WALL PENETRATION AS REQUIRED.
- (15) TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT.
- (16) TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT.
- (17) 3/4" CONDENSATE DRAIN RISER UP THROUGH FLOOR. ROUTE TO VERTICAL PIPING ENCLOSURE AND DROP DOWN INTO SHELVING SYSTEM PIPING
- (18) PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UNIT VENTILATOR AND WALL AT LOCATIONS SHOWN.

PARTIAL FIRST FLOOR PLAN - SOUTHEAST

6/5/2023 3:16:04 PM

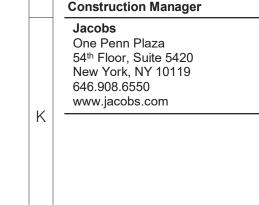
KEYED NOTES (CONTINUED):

VENTILATOR.

- (19) ROUTE 3/4" CONDENSATE DRAIN FROM RISER UP THROUGH FLOOR AND THE 3/8" LIQUID-5/8" SUCTION PIPING DROPS DOWN THROUGH VERTICAL CHASE TO WITHIN UNIT VENTILATOR PIPING TUNNEL. ROUTE SUCTION/LIQUID PIPING TO EXPANSION VALVE KIT WITHIN UTILITY COMPARTMENT AND UV DX COIL AS REQUIRED. ROUTE CONDENSATE DRAIN PIPING TO UV-MS-40 CONDENSATE DRAIN LINE AS REQUIRED.
- COMBINE TWO 3/4" CONDENSATE DRAINS FROM TWO RISER LOCATIONS UP THROUGH FLOOR TO ONE 1" CONDENSATE RISER DROP, AND THE 3/8" LIQUID-5/8" SUCTION PIPING DROPS DOWN THROUGH VERTICAL CHASE TO WITHIN UNIT VENTILATOR PIPING TUNNEL. ROUTE SUCTION/LIQUID PIPING TO EXPANSION VALVE KIT WITHIN UTILITY COMPARTMENT AND UV DX COIL AS REQUIRED. ROUTE 1" CONDENSATE DRAIN PIPING TO UV-MS-39 CONDENSATE DRAIN LINE AS REQUIRED.
- (21) CONNECT TO EXISTING 1" HWS DROP AT BASE OF RISER AND ROUTE 1" HWS TO UV-MS-6 HEATING COIL.
- (22) CONNECT TO EXISTING 1" HWR DROP AT BASE OF RISER AND ROUTE 1" HWR TO UV-MS-6 HEATING COIL.
- PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL.
- (24) ROUTE 1" CONDENSATE DRAIN PIPING TO 6" ABOVE EXISTING SLOP SINK FLOOD RIM. TERMINATE OPEN-ENDED WITH MITER CUT OUTLET.
- LOCATION OF EXISTING AIR HANDLING UNIT S-1 DDC SYSTEM CONTROLLER. DISCONNECT AND REMOVE DAMPER ELECTRIC-TO-PNEUMATIC TRANSDUCER AND 3-WAY CONTROL VALVE ELECTRIC-TO-PNEUMATIC TRANSDUCER INCLUDING ASSOCIATED PNEUMATIC TUBING AND PNEUMATIC DIAL OPERATORS. REMOVE PNEUMATIC TUBING BACK TO PNEUMATIC PIPING MAIN AND CAP. TIE ELECTRONIC CONTROL VALVE AND ELECTRONIC MOTORIZED DAMPER OUTLINED IN KEYED NOTES 1 AND 26 INTO THE S-1 DDC CONTROLLER AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT S-1 PNEUMATIC MOTORIZED OUTSIDE AIR DAMPER AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER. TIE CONTROL OF DAMPER INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- DISCONNECT AND REMOVE EXISTING HYDRONIC UNIT HEATER UH-E DUAL PNEUMATIC FACE AND BAYPASS DAMPER ACTUATORS AT LOCATION SHOWN AND REPLACE WITH ELECTRONIC MOTORIZED DAMPER ACTUATORS. TIE CONTROL OF DAMPERS INTO EXISTING DDC SYSTEM. REMOVE PNEUMATIC TUBING FROM REMOVED DAMPER BACK TO PNEUMATIC PIPING MAIN.
- DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN OUTLINED IN KEYED NOTE 4 AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM.
- PROVIDE EXHAUST REGISTER ER-MS-1 AT LOCATION SHOWN AT LOCATION OF MISSING REGISTER. CONNECT EXISTING 12"x12" EA DROP TO REGISTER AS REQUIRED. BALANCE AIRFLOW THROUGH REGISTER TO 150 CFM WITH EXISTING EXHAUST FAN EF-11 OPERATING.
- PROVIDE 24" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE BETWEEN END OF UV-MS-7 AND WALL BETWEEN STORAGE 123 AND CLASSROOM 114. ROUTE HWS/R BRANCH PIPING ROUTED FROM STORAGE 123 INTO THE PIPING ENCLOSURE.
- CONNECT TO EXISTING HWS/R ROUTED THROUGH STORAGE ROOM 123 WALL INTO CLASSROOM 114. ROUTE HWS/R THROUGH HORIZONTAL PIPE ENCLOSURE, PROVIDE 1" (31) HWS/R BRANCHES TO UV-MS-7 HEATING COIL, THEN ROUTE 1" HWS TO UV-MS-8 WITHIN CLASSROOM 114.5 THROUGH THE UV PIPING TUNNELS, AND ROUTE 1-1/4" HWS THROUGH THE UV PIPING TUNNELS TO THE SECOND CONNECTION POINT SHOWN UPSTREAM OF THE HWR PENETRATION THROUGH THE EXISTING VERTICAL CHASE. PROVIDE A 1" HWR CONNECTION TO THE UV-MS-8 HEATING COIL AS REQUIRED.
- APROVIDE DAIKIN MODEL DCM014A51 BACNET INTERFACE AT LOCATION SHOWN CAPABLE OF INTEGRATION WITH THE BUILDING'S EXISTING DIRECT DIGITAL CONTROL (DDC) SYSTEM. THE DDC SHALL PROVIDE A LOW VOLTAGE CONNECTION FROM THE NEAREST DDC CONTROL PANEL TO THE BACNET INTERFACE AS REQUIRED. THE BACNET INTERFACE DEVICE SHALL ALLOW THE DDC SYSTEM TO MONITOR AND CONTROL THE VARIABLE REFRIGERANT VOLUME INDOOR AND OUTDOOR UNITS INSTALLED. TWISTED PAIR COMMUNICATION WIRING SHALL BE PROVIDED FROM EACH ROOFTOP HEAT PUMP UNIT TO THE BACNET INTERFACE DEVICE, AND TWISTED PAIR COMMUNICATION WIRING SHALL BE PROVIDED FROM EACH HEAT PUMP UNIT TO EACH CONTROLLER KIT LOCATED WITHIN THE UTILITY COMPARTMENT OF EACH NEW UNIT
- PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 3/8" REFRIGERANT LIQUID AND 7/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 3/8" LOOP SHALL BE 28-1/2" LONG x 17-1/2" HIGH. THE 7/8" LOOP SHALL BE 28-1/2" LONG x 19-3/4" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS. INSTALL REFRIGERANT MAINS AT DIFFERENT ELEVATIONS TO ALLOW LOOPS TO AVOID CONFLICT WITHIN CEILING PLENUM.
- (34) PROVIDE CLEANOUT PLUG AT LOCATION SHOWN WITHIN CONDENSATE DRAIN PIPING.
- CONNECT TO EXISTING 3/4" HWS AND 1-1/4" HWR PIPING LINES AT CONNECTION POINT SHOWN UPSTREAM OF PIPING PENETRATIONS THROUGH EXISTING VERTICAL SHEETROCK PIPING CHASE.
- DISCONNECT, REMOVE AND REINSTALL EXISTING PLYWOOD SERVING AS BOTTOM OF SOFFIT WITHIN CLASSROOM 116.5 AS REQUIRED TO PROVIDE REFRIGERANT RISERS CALLED OUT. UTILIZE EXISTING SCREWS WITHIN PLYWOOD SOFFIT AS REQUIRED TO REMOVE/REINSTALL.
- (37) LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.

GENERAL NOTES:

- 1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.
- 2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.
- 3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.
- 4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.
- 5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.
- 6. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.
- 7. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.
- 8. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.
- 10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.



ARCHITECT

NEW YORK OKLAHOMA

215 W 40th Street 15th Floor

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954

Clapper Structural Engineering

Sage Engineering Associates, LLP

New York, NY 10018

845.627.9880 office

Structural Engineer

160 Partition Street

845.943.9601

MEP Engineer

9 Columbia Circle

518.453.6091 office

518.453.6092 fax

www.sagellp.com

1376 Route 9

845.298.6251

www.qualityenv.com

Environmental Engineer

Quest Environmental Solutions

Wappingers Falls, NY 12590

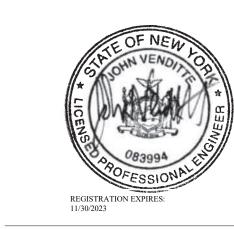
Saugerties, NY 12477

www.clapperstructural.com

http://www.nanuetsd.org/

646.435.0660 office

www.ksq.design



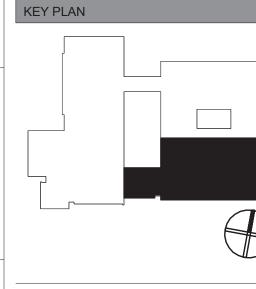


NUFSD BOND **PROJECTS** PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL) ■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

> High School 103 Church St Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



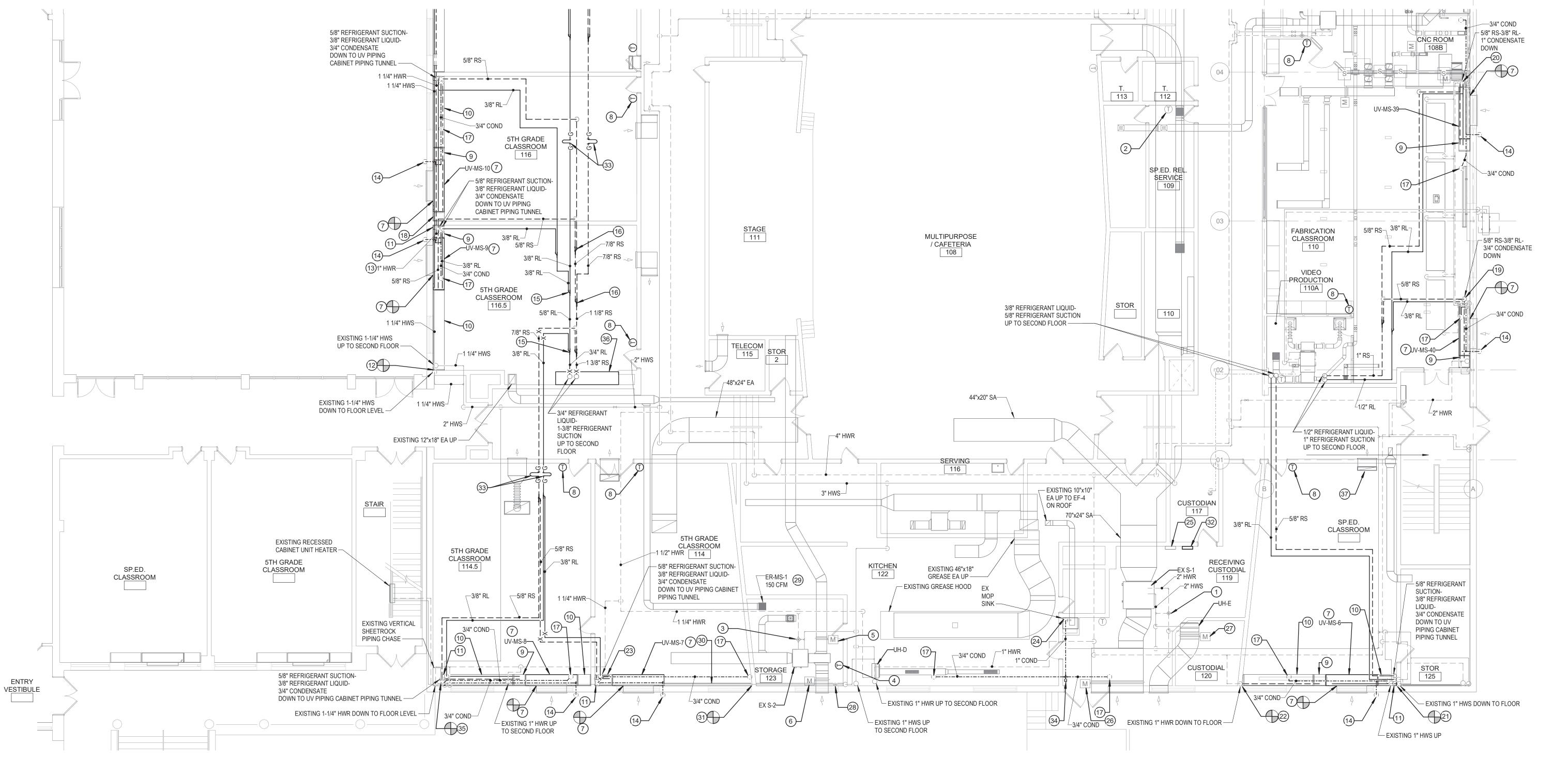
REVISIONS

ISSUED: BID SET ISSUANCE DATE: 06/06/2023

SCALE: 1/8" = 1'-0" **SHEET NAME:** PARTIAL FIRST FLOOR

SHEET NUMBER:

PLAN - SOUTHEAST



KEYED NOTES: 1) DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 0.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED. 2) DISCONNECT AND REMOVE EXISTING GRAVITY ACTUATED DAMPER WITHIN EXISTING 20"x20" EA RISER AND PROVIDE A MOTORIZED DAMPER TO REPLACE THE GRAVITY ACTUATED DAMPER TIED TO THE OPERATION OF REPLACEMENT ROOFTOP EXHAUST FAN EF-MS-21. DISCONNECT, REMOVE AND REINSTALL EXISTING SUSPENDED CEILING SYSTEM AS REQUIRED TO REPLACE THE DAMPER. www.ksq.design 3 DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 0.4 GPM AT Owner LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. DISCONNECT AND REMOVE EXISTING SPACE TEMPERATURE SENSOR INLCUDING ASSOCIATED PNEUMATIC TUBING AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE CONTROL WIRING BETWEEN CONTROL VALVE AND REPLACEMENT SENSOR AS REQUIRED. www.sagellp.com EXISTING 20"x20" EA UP TO EF-MS-21 ON ROOF -- EXISTING 5-FEET FIN TUBE RADIATION **BOYS LOCKER** 646.908.6550 www.jacobs.com EXISTING AHU S-8 SENSOR — EXISTING 7-FEET FIN TUBE RADIATION EXISTING AHU S-6 SENSOR — **ENTRY** VESTIBULE EXISTING AHU S-7 SENSOR — — EXISTING FIN TUBE RADIATION GIRLS LOCKER ROOM STOR 116.19 COURTYARD PARTIAL FIRST FLOOR PLAN - NORTHWEST

1/8" = 1'-0"

6/5/2023 3:16:06 PM

NEW YORK OKLAHOMA

ARCHITECT

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477 845.943.9601

www.clapperstructural.com MEP Engineer

Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax

Environmental Engineer **Quest Environmental Solutions** 1376 Route 9 Wappingers Falls, NY 12590

845.298.6251 www.qualityenv.com

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119



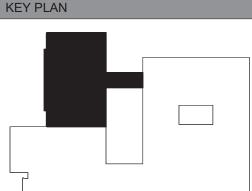


NUFSD BOND PROJECTS PH3

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)
☐ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

SCALE: 1/8" = 1'-0" SHEET NAME: PARTIAL FIRST FLOOR PLAN - NORTHWEST

SHEET NUMBER:

KEYED NOTES: 1) PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED. 2 PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. 4 AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL. PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING 💚 DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM. (6) CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1-1/4" HWR PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN. 7 ROUTE HWS/HWR PIPING MAINS WITHIN PIPING TUNNELS AT REAR OF UNIT VENTILATORS AND UNIT VENTILATOR SHELVING CABINET SYSTEMS. R PROVIDE 1-1/4" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS SHALL BE 13.812" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE HWS AND HWR COMPENSATORS. (9) ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET DOWN THROUGH FLOOR TO FIRST FLOOR CEILING PLENUM. (10) TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT. (11) TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT. PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. PROVIDE UNIT VENTILATOR SYSTEM SHELVING/CABINET FILLER PIECE BETWEEN END OF UTILITY COMPARTMENT AND WALL TO FILL GAP BETWEEN UTILITY COMPARTMENT END AND WALL. (13) CONNECT TO EXISTING 1" HWS/HWR RISERS JUST ABOVE FLOOR PENETRATION AT CONNECTION POINT SHOWN AND ROUTE 1" HWS/R PIPING WITHIN UV AND SHELVING CABINET SYSTEM PIPING TUNNELS TO UV HEATING COILS AS REQUIRED. CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL. PROVIDE 1" HWS BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWR CONNECTION TO UV-MS-23 HEATING COIL AND ROUTE HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN. PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING OWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM. CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL. PROVIDE 1" HWS BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWR CONNECTION TO UV-MS-13 HEATING COIL AND ROUTE HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN. CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN. 5/8" REFRIGERANT SUCTION-3/8" REFRIGERANT LIQUID DOWN TO HORIZONTAL PIPING ENCLOSURE UNIT

6/5/2023 3:16:11 PM

KEYED NOTES (CONTINUED): SUCTION/LIQUID REFRIGERANT PIPING WITHIN HORIZONTAL ENCLOSURE TO UV PIPING TUNNEL.

(18) PROVIDE 18" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN WALL AND END OF UNIT VENTILATOR AT LOCATION SHOWN. ROUTE HWS PIPING AND

PROVIDE 18" HIGH x 5" DEEP HORIZONTAL PIPING ENCLOSURE UNIT BETWEEN WALL AND END OF UV UTILITY COMPARTMENT AT LOCATION SHOWN. ROUTE HWR PIPING AND SUCTION/LIQUID REFRIGERANT PIPING WITHIN HORIZONTAL ENCLOSURE TO UV PIPING TUNNEL.

(20) CONNECT TO EXISTING 1-1/4" HWS/R RISERS ABOVE FLOOR PENETRATIONS AT CONNECTION POINTS SHOWN AND ROUTE HWS/R TO RADIATOR UNITS AS REQUIRED. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN. PROVIDE CONTROL WIRING FROM SENSOR TO CONTROL VALVE SERVING RADIATOR UNITS R-MS-1/R-MS-2 AS REQUIRED.

PROVIDE HORIZONTAL AND VERTICAL TRIM COVERS AT LOCATIONS SHOWN TO CONCEAL THE HWS/HWR PIPNG SERVING R-MS-1/R-MS-2 FURNISHED BY THE RADIATOR MANUFACTURER, WITH HEIGHT AND DEPTH OF TRIM COVER TO MATCH THE RADIATOR HEIGHT AND DEPTH.

PROVIDE 3/4" EXPANSION COMPENSATOR FLEXIBLE CONNECTOR AT LOCATION SHOWN BETWEEN TWO RADIATOR UNITS R-MS-1 AND R-MS-2. INSTALL THE FLEXIBLE CONNECTOR IN A U-BEND FORMAT WITH THE U FACING DOWN. CONNECT THE OUTLET PIPING FROM R-MS-1 TO THE INLET OF R-MS-2. PROVIDE A HORIZONTAL WALL TRIM COVER OVER THE PIPING AND FLEXIBLE CONNECTOR BETWEEN THE TWO RADIATOR UNITS FURNISHED BY THE RADIATOR MANUFACTURER, WITH HEIGHT AND DEPTH OF TRIM COVER TO MATCH THE RADIATOR HEIGHT AND DEPTH.

PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF ROOFTOP EXHAUST FAN CONNECTED TO EA RISER. PROVIDE CONTROL RELAY TO EXISTING EXHAUST FAN AND TIE OPERATION OF EXHAUST FAN TO DDC SYSTEM.

DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM.

DISCONNECT AND REMOVE DAMAGED SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR TIED TO UV-MS-21 DDC CONTROLLER. PROVIDE CONTROL WIRING FROM REPLACEMENT SENSOR TO UV CONTROLLER AS REQUIRED.

PROVIDE REPLACEMENT SPACE TEMPERATURE SENSOR TIED TO UV-MS-22 DDC CONTROLLER. PROVIDE CONTROL WIRING FROM REPLACEMENT SENSOR TO UV CONTROLLER AS REQUIRED.

PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR UV-MS-17 DDC CONTROLLER AS REQUIRED.

PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 7/8" REFRIGERANT LIQUID AND 1-1/2" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 7/8" LOOP SHALL BE 28-3/4" LONG x 21" HIGH. THE 1-1/2" LOOP SHALL BE 31" LONG x 25" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.

PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 5/8" REFRIGERANT LIQUID AND 1-1/4" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 5/8" LOOP SHALL BE 28-1/2" LONG x 193/4" HIGH. THE 1-1/4" LOOP SHALL BE 30" LONG x 23" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS.

ROUTE 3/4" CONDENSATE DRAIN PIPING FROM DRAIN PAN OUTLET OF UV-MS-20 WITHIN UV PIPING TUNNEL SYSTEM AND CONNECT TO HORIZONTAL DRAIN PIPING WITHIN PIPING

ROUTE 3/4" CONDENSATE DRAIN PIPING FROM DRAIN PAN OUTLET OF UV-MS-17 WITHIN UV PIPING TUNNEL SYSTEM AND CONNECT TO 3/4" HORIZONTAL DRAIN PIPING ROUTED FROM UV-MS-17. AT POINT OF COMBINING TWO UV CONDENSATE DRAINS, INCREASE HORIZONTAL CONDENSATE DRAIN PIPING TO 1", THEN ROUTE THROUGH UV PIPING TUNNEL SYSTEMS TO POINT OF DROP DOWN TO FIRST FLOOR AS OUTLINED ON KEYED NOTE 33.

(33) PROVIDE 1" CONDENSATE DRAIN PIPING DROP DOWN TO FIRST FLOOR AT LOCATION SHOWN FROM WITHIN UV PIPING TUNNEL SYSTEM.

□1 1/4" HWS 5/8" REFRIGERANT SUCTION-

3/8" REFRIGERANT LIQUID

CABINET PIPING TUNNEL —

DOWN TO UV PIPING

☐1 1/4" HWS 5/8" REFRIGERANT SUCTION-

3/8" REFRIGERANT LIQUID

↑ 1 1/4" HWR-

DOWN TO UV PIPING

CABINET PIPING TUNNEL -

5/8" REFRIGERANT SUCTION-

3/8" REFRIGERANT LIQUID

CABINET PIPING TUNNEL -

DOWN TO UV PIPING

(34) LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS.

—1 1/4" HWS

1 1/4" HWR-

5/8" REFRIGERANT SUCTION-

CABINET PIPING TUNNEL ——

1 1/4" HWR-

- EXISTING 1-1/4" HWR DOWN

TO FIRST FLOOR

3/8" REFRIGERANT LIQUID

DOWN TO UV PIPING

GENERAL NOTES:

1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT.

2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION.

3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES.

4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400.

5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS. SIZE PIPING AND PROVIDE BRANCH

CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER.

6. ROUTE REFRIGERANT PIPING THROUGH THE ROOF TO THE ROOF MOUNTED HEAT PUMP SYSTEMS. PROVIDE A PIPE CURB AND SIDE REFRIGERANT PIPIPNG OUTLET PORTAL AT THE ROOF PENETRATION OF EACH HEAT PUMP SYSTEM.

7. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES.

8. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS.

THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL.

10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS.

ARCHITECT

NEW YORK OKLAHOMA

215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477 845.943.9601

www.clapperstructural.com MEP Engineer Sage Engineering Associates, LLP

9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com **Environmental Engineer**

Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590 845.298.6251

www.qualityenv.com Construction Manager One Penn Plaza

54th Floor, Suite 5420 New York, NY 10119

646.908.6550

www.jacobs.com

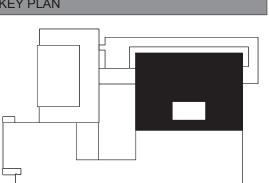


NUFSD BOND

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL) ■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

> 103 Church St Nanuet, NY 10954

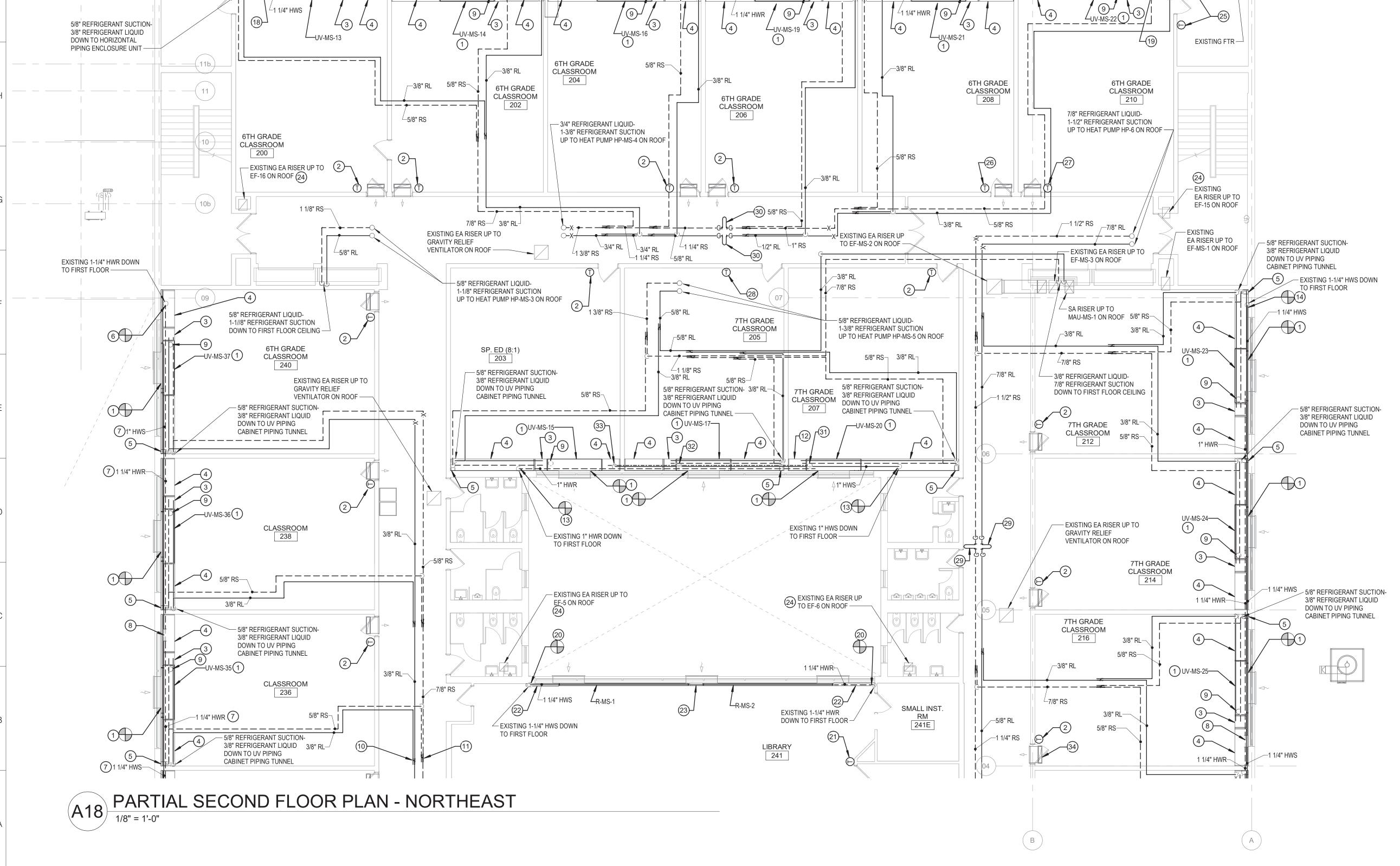
Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954



ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 **SCALE:** 1/8" = 1'-0"

> SHEET NAME: PARTIAL SECOND FLOOR PLAN - NORTHEAST



KEYED NOTES: **GENERAL NOTES:** 1) PROVIDE FLOOR MOUNTED UNIT VENTILATOR AT LOCATION SHOWN. PROVIDE UNIT VENTILATOR WITH FULLY CLOSED ADAPTER-BACK WITH REAR OUTDOOR AIR OPENING TO BE 1. REFRIGERANT PIPING NOTE: 90 DEGREE ELBOWS SHALL BE KEPT A MINIMUM OF 20" FROM BRANCH CONNECTOR 'Y' JOINTS. IN ADDITION, BRANCH CONNECTOR 'Y' JOINTS SHALL BE CUT IN FIELD TO MATCH EXISTING WALL OUTDOOR AIR OPENING SIZE. CONNECT TO EXISTING OA DUCT SLEEVE AS REQUIRED AND EXTEND INTO REAR OUTDOOR AIR OPENING A MINIMUM OF 40" FROM ANOTHER BRANCH 'Y' CONNECTOR JOINT. ON THE UNIT VENTILATOR. CONNECT TO HWS/HWR PIPING ROUTED WITHIN UNIT VENTILATOR SHELVING SYSTEM PIPING TUNNEL AND PROVIDE 1" HWS/HWR BRANCH CONNECTIONS TO UV HEATING COIL CONNECTIONS AS REQUIRED. 2. REFRIGERANT PIPING NOTE: THE HEAT PUMP SYSTEM MANUFACTURER SHALL INSPECT ALL FIELD INSTALLED REFRIGERANT PIPING PRIOR TO INSULATION INSTALLATION. 2 PROVIDE REPLACEMENT TEMPERATURE SENSOR AT LOCATION SHOWN AND UTILIZE FOR SPACE TEMPERATURE CONTROL OF UNIT VENTILATOR AS REQUIRED. PROVIDE 3. THE EXISTING SUSPENDED CEILING SYSTEMS LOCATED WITHIN THE SCOPE OF WORK AREA OUTSIDE OF AREAS BEING RENOVATED BY THE GENERAL CONTRACTOR SHALL BE CONTROL WIRING BETWEEN SENSOR AND UNIT VENTILATOR DDC CONTROLLER AS REQUIRED. DISCONNECTED AND REMOVED TO ALLOW FOR THE INSTALLATION WORK AND REINSTALLED FOLLOWING COMPLETION OF THE WORK BY THE MECHANICAL CONTRACTOR. THE SUSPENDED CEILING GRID SYSTEMS SHALL BE REMOVED AND MODIFIED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF WORK. THE CEILING TILES PROVIDE 24" WIDE x 21-7/8" DEEP UTILITY COMPARTMENT AT LOCATION SHOWN FOR HOUSING DDC SYSTEM CONTROLLER AND VARIABLE REFRIGERANT VOLUME CONTROL SHALL BE REMOVED AS REQUIRED TO COMPLETE THE WORK AND REINSTALLED FOLLOWING THE COMPLETION OF THE INSTALLATION WORK. ANY CEILING TILES DAMAGED COMPONENTS. THE UTILITY COMPARTMENT SHALL HOUSE THE FOLLOWING VARIABLE REFRIGERANT VOLUME CONTROL COMPONENTS: 1. WIRED NAVIGATION REMOTE DURING THE INSTALLATION WORK SHALL BE REPLACED BY THE MECHANICAL CONTRACTOR TO MATCH THE EXISTING CEILING TILES. CONTROLLER 2. VARIABLE REFRIGERANT VOLUME CONTROL BOX AND 3. VARIABLE REFRIGERANT VOLUME EXPANSION VALVE KIT. 4. ALL CUTTING, PATCHING, AND FIREPROOFING ASSOCIATED WITH THE INSTALLATION WORK SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR. PATCHED AREAS SHALL 4 AT LOCATIONS CALLED OUT, PROVIDE 21-7/8" DEEP PERIMETER SHELVING CABINETS. THE CABINETS SHALL BE 30" HIGH THAT INCLUDE A BASE CABINET, ONE SHELF, A STEEL TOP WITH LOUVER OUTLET, A FRONT SKIRT WITH LOUVER INLET AND A BACK WALL ANGLE. THE SHELVING CABINETS SHALL INCLUDE A 5-7/8" DEEP PIPE SPACING CAVITY AT THE REAR MATCH EXISTING CONDITIONS. ALL REFRIGERANT PIPING AND CONDENSATE PIPING PENETRATIONS THROUGH CORRIDOR WALLS SHALL BE FIREPROOFED PER SPECIFICATION SECTION 078400. OF THE CABINET SYSTEM. THE SHELF SHALL BE 10-1/2" DEEP AND THE SYSTEM SHALL INCLUDE A 3" HIGH OPENING AT THE BOTTOM (COVERED BY THE LOUVERED INLET FRONT 5. ROUTE REFRIGERANT SUCTION AND LIQUID PIPING FROM THE UNIT VENTILATOR DX COIL CONNECTIONS TO THE HEAT PUMP UNITS, SIZE PIPING AND PROVIDE BRANCH SKIRT) THAT ALLOWS AIR MOVEMENT THROUGH THE BOTTOM-FRONT OF THE SYSTEM AND OUT THE TOP-REAR OF THE SYSTEM. PROVIDE PERIMETER SHELVING CABINET SYSTEM FILLER SECTIONS WHERE REQUIRED TO TERMINATE SHELVING SYSTEMS AT END POINTS SHOWN. THE FILLER SECTION SHALL BE FIELD CUT TO FIT BETWEEN THE END CONNECTOR 'Y' JOINTS PER THE DRAWING. CONFIRM PIPING SIZES AND BRANCH CONNECTOR 'Y' JOINT LOCATIONS REQUIRED WITH HEAT PUMP SYSTEM MANUFACTURER. PANEL AND THE LAST SHELVING CABINET SYSTEM. THE FILLER SECTION SHALL INCLUDE A FLOOR ANGLE, FRONT PANEL, STEEL TOP, BACK WALL ANGLE. THE SYSTEM SHALL BE 6. ROUTE REFRIGERANT PIPING THROUGH THE ROOF TO THE ROOF MOUNTED HEAT PUMP SYSTEMS. PROVIDE A PIPE CURB AND SIDE REFRIGERANT PIPIPNG OUTLET PORTAL AT MANUFACTURED BY HVAC CUSTOM ENCLOSURE CO.; LLC DRAWING NUMBER SC164-0028 OR EQUAL. PROVIDE END CAPS ON SHELVING CABINETS WHERE SYSTEMS TERMINATE SHORT OF A WALL SYSTEM AND CONNECT TO A HORIZONTAL PIPING ENCLOSURE SYSTEM. THE ROOF PENETRATION OF EACH HEAT PUMP SYSTEM. 🧙 PROVIDE 12" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING 7. THE SMALLEST VOLUME ROOM THAT THE REFRIGERANT PIPING SYSTEMS ROUTE THROUGH FOR EACH OF THE HEAT PUMP SYSTEMS IS BELOW THE ASHRAE STANDARD 15 🕘 DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF REFRIGERANT CONCENTRATION LIMIT OF 26 POUNDS PER 1,000 CUBIC FEET OF ROOM VOLUME FOR OCCUPIED SPACES. VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM. 8. PROVIDE FIRESTOPPING PER SPECIFICATION SECTION 078400 AT ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AND STORAGE ROOM WALLS. (6) CONNECT TO EXISTING 1-1/4" HWS RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1-1/4" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN. 9. THE UV UTILITY COMPARTMENT SHALL INCLUDE A REMOVABLE FRONT PANEL, STANDARD #1/4-20 HEX FASTENER, STEEL TOP AND BACK WALL F-CHANNEL. (7) ROUTE 1" HWR FROM UV-MS-33 HEATING COIL WITHIN SHELVING CABINET PIPING TUNNEL TO CLASSROOM 234 PIPING TUNNEL. 10. ROUTE REFRIGERANT SUCTION-LIQUID PIPING WITHIN UNIT VENTILATOR PIPING TUNNELS AND UNIT VENTILATOR SHELVING SYSTEM TUNNELS TO DX COOLING COIL CONNECTIONS CONNECT TO EXISTING 1-1/4" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1-1/4" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE AND UV EXPANSION VALVE KITS PER THE MANUFACTURER'S RECOMMENDATIONS. 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN. (9) ROUTE 3/4" CONDENSATE DRAIN PIPING FROM UV DRAIN PAN OUTLET DOWN THROUGH FLOOR TO FIRST FLOOR CEILING PLENUM. (10) TYPICAL REFRIGERANT LIQUID BRANCH CONNECTOR 'Y' FITTING JOINT. (11) TYPICAL RERIGERANT SUCTION BRANCH CONNECTOR 'Y' FITTING JOINT. (12) CONNECT TO EXISTING 1" HWS RISER ABOVE FLOOR PENETRATION LOCATION AND ROUTE 1" HWS PIPING MAIN WITHIN SHELVING CABINET PIPING TUNNEL AS SHOWN. PROVIDE 8" WIDE x 8" DEEP VERTICAL PIPE ENCLOSURE UNIT AT CORNER OF CLASSROOM TO CONCEAL REFRIGERANT LIQUID-SUCTION PIPING DROPS. ROUTE VERTICAL PIPING DOWN THROUGH TOP OF UNIT VENTILATOR SHELVING CABINET TOP AND CONNECT TO UV DX COIL CONNECTION AND UV EXPANSION VALVE KIT AS REQUIRED. HEIGHT OF VERTICAL PIPING ENCLOSURE SHALL EXTEND FROM TOP OF SHELVING CABINET SYSTEM TO UNDERSIDE OF SUSPENDED CEILING SYSTEM. CONNECT TO EXISTING 1" HWR RISER ABOVE FLOOR PENETRATION AND ROUTE 1" HWR PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNELS. PROVIDE 1" HWR BRANCHES TO UV HEATING COILS AT EACH UV LOCATION. PROVIDE 1" HWS CONNECTION TO EACH UV HEATING COIL AND ROUTE HWS PIPING WITHIN UV AND UV SHELVING CABINET SYSTEM PIPING TUNNEL AS SHOWN. PROVIDE 1" EXPANSION COMPENSATORS ON THE HWS/HWR PIPING MAINS ROUTED WITHIN THE UNIT VENTILATOR PIPING TUNNEL AT LOCATION SHOWN. THE COMPENSATORS 15) SHALL BE 12.5" LONG. PROVIDE ANCHORS ON EACH END OF BOTH THE HWS/R RUNS AND PROVIDE PIPE GUIDES WITHIN 14 PIPE DIAMETERS OF THE COMPENSATORS ON BOTH THE PROVIDE 5" DEEP x 24" HIGH HORIZONTAL PIPING ENCLOSURE UNITS AT LOCATIONS SHOWN TO CONCEAL PIPING ROUTED TO UNIT VENTILATORS. ALIGN TOP OF ENCLOSURE UNITS WITH TOP OF UNIT VENTILATOR CABINETS. > PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF PROVIDE MOTORIZED DAMPER WITHIN EXISTING EA DUCT RISER. MODIFY EA RISER AS REQUIRED FOR DAMPER INSTALLATION. TIE CONTROL OF DAMPER TO OPERATION OF CONTROL REPORT OF EXHAUST FAN CONNECTED TO EA RISER. PROVIDE CONTROL RELAY TO EXISTING EXHAUST FAN AND TIE OPERATION OF EXHAUST FAN TO DDC SYSTEM. 19 DISCONNECT AND REMOVE EXISTING 2-WAY PNEUMATIC CONTROL VALVE WITHIN EXISTING FIN TUBE ENLCOSURE SYSTEM. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO PNEUMATIC MAIN. PROVIDE ELECTRONIC 2-WAY CONTROL VALVE RATED AT 1.5 GPM AT LOCATION OF REMOVED PNEUMATIC CONTROL VALVE. MODIFY HWS BRANCH PIPING AS REQUIRED FOR INSTALLATION OF ELECTRONIC CONTROL VALVE. PROVIDE SPACE TEMPERATURE SENSOR AT LOCATION SHOWN AND TIE OPERATION OF CONTROL VALVE/SENSOR INTO EXISTING SIEMENS DDC SYSTEM. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 1/2" REFRIGERANT LIQUID AND 1-1/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 1/2" LOOP SHALL BE 28-1/2" (20) LONG x 17-1/2" HIGH. THE 1-1/8" LOOP SHALL BE 30" LONG x 23" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE UL-207 LISTED EXPANSION LOOP FOR THE 3/8" REFRIGERANT LIQUID AND 7/8" REFRIGERANT SUCTION LINES AT LOCATION SHOWN. THE 3/8" LOOP SHALL BE 28-1/2" LONG x 17-1/2" HIGH. THE 7/8" LOOP SHALL BE 28-1/2" LONG x 19-3/4" WIDE. PROVIDE PIPE GUIDES ON EITHER SIDE OF LOOP AND PIPE ANCHORS AT END OF PIPING RUNS PER LOCATION OF TYPICAL CEILING MOUNTED RELIEF AIR REGISTER DUCTED THROUGH CORRIDOR WALL TO CORRIDOR CEILING PLENUM, TERMINATED OPEN-ENDED ABOVE CEILING PLENUM FOR RELIEF AIR OF CLASSROOMS. 1 1/4" HWS---SMALL INST. 241D CLASSROOM 1) UV-MS-26-- EXISTING EA RISER UP TO **GRAVITY RELIEF** VENTILATOR ON ROOF · - - - - - - - - - - - -SMALL INST - EXISTING EA RISER UP TO GRAVITY RELIEF VENTILATOR ON ROOF 1 1/4" HWR-7)1" HWR— 5/8" REFRIGERANT SUCTION-____ 3/8" REFRIGERANT LIQUID PRINT/COPY DOWN TO UV PIPING CABINET PIPING TUNNEL AREA 241B (1) UV-MS-27— 1/2" RL---5/8" RL-MEDIA ROOM 1" RS-1-3/8" REFRIGERANT SUCTION 5/8" RS— F - - + | - - - -7TH GRADE - EXISTING 26"x26" EA UP TO (17) - 3/8" REFRIGERANT DOWN TO FIRST FLOOR CEILING -CLASSROOM EF-MS-10 ON ROOF LIQUID-5/8" REFRIGERANT 3/4" REFRIGERANT LIQUID------SUCTION - 5/8" REFRIGERANT LIQUID-1-3/8" REFRIGERANT SUCTION DOWN TO FIRST FLOOR 1-3/8" REFRIGERANT 6 UP TO HEAT PUMP HP-MS-7 ON ROOF -SUCTION UP TO HEAT PUMP HP-MS-9 ON ROOF EXISTING 1-1/4" HWS DOWN -- EXISTING 1-1/4" HWR DOWN TO FIRST FLOOR [∠]5/8" RL - 1/2" REFRIGERANT 5/8" REFRIGERANT SUCTION-—1 3/8" RS 3/8" REFRIGERANT LIQUID 1" REFRIGERANT DOWN TO UV PIPING CABINET PIPING TUNNEL -SUCTION 12"x18" EA DOWN ---DOWN TO FIRST rX+--+G-1+G----FLOOR CEILING _7/8" RS EXISTING EA UP TO 3/4" REFRIGERANT LIQUID-EF-7 ON ROOF ----1-3/8" REFRIGERANT SUCTION ∕-3/8" RL UP TO HEAT PUMP HP-MS-8 ON ROOF ¹ - EXISTING 18"x18" EA UP TO EF-11 ON ROOF 8TH GRADE - EXISTING 26"x26" EA UP TO $(\widehat{17})$ EXISTING EA RISER UP TO CLASSROOM 242 - EXISTING 15"x15" EA UP TO EF-MS-8 ON ROOF EF-MS-23 ON ROOF EF-4 ON ROOF COMPUTER SCIENCE LAB SCIENCE LAB CLASSROOM

EXISTING EA RISER

KITCHEN HOOD

EF-3 ON ROOF —

UP TO

__UV-MS-301

— 5/8" REFRIGERANT SUCTION-

3/8" REFRIGERANT LIQUID

PIPING TUNNEL

- EXISTING 1" HWR DOWN

TO FIRST FLOOR

TO FIRST FLOOR

DOWN TO UV PIPING CABINET

- 5/8" REFRIGERANT SUCTION-

DOWN TO UV PIPING CABINET

3/8" REFRIGERANT LIQUID

PIPING TUNNEL

__UV-MS-32(1)

STORAGE

EXISTING FTR —

PARTIAL SECOND FLOOR PLAN - SOUTHEAST

6/5/2023 3:16:15 PM

TO FIRST FLOOR

SCIENCE LAB

224

— 5/8" REFRIGERANT SUCTION-

DOWN TO UV PIPING CABINET

3/8" REFRIGERANT LIQUID

PIPING TUNNEL

-4-3-9

L-----

5/8" RS

5/8" REFRIGERANT SUCTION-3/8" REFRIGERANT LIQUID

PIPING TUNNEL

DOWN TO UV PIPING CABINET

__UV-MS-29 1 /1" HWR-

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023

ARCHITECT

KSQ Design

NEW YORK OKLAHOMA

215 W 40th Street 15th Floor

Nanuet Union Free School District

103 Church St, Nanuet, NY 10954

Clapper Structural Engineering

Sage Engineering Associates, LLP

New York, NY 10018

646.435.0660 office

845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

160 Partition Street

845.943.9601

MEP Engineer

9 Columbia Circle

Albany NY 12203 518.453.6091 office 518.453.6092 fax

www.sagellp.com

1376 Route 9

845.298.6251

www.qualityenv.com

Construction Manager

One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119

646.908.6550

www.jacobs.com

Environmental Engineer

Quest Environmental Solutions

NUFSD

BOND

PROJECTS

■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCHOOL)

High School

103 Church St

Nanuet, NY 10954

Barr Middle School

50 Blauvelt Rd #1 Nanuet, NY 10954

☐ SED#50-01-08-03-0-003-035 (HIGH SCHOOL)

Wappingers Falls, NY 12590

Saugerties, NY 12477

www.clapperstructural.com

www.ksq.design

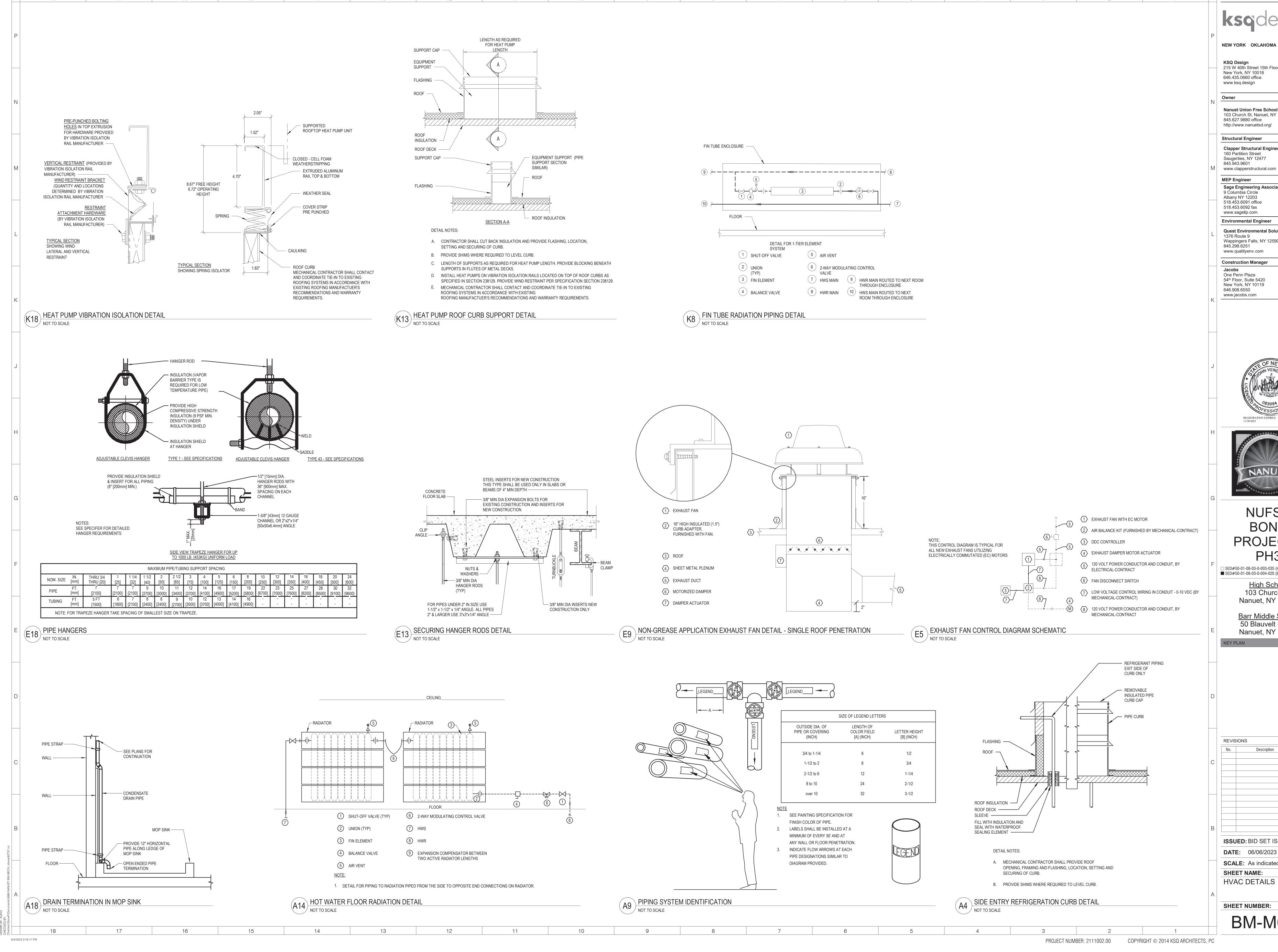
SCALE: 1/8" = 1'-0"

SHEET NAME:

PARTIAL SECOND FLOOR

SHEET NUMBER:

PLAN - SOUTHEAST



215 W 40th Street 15th Floor

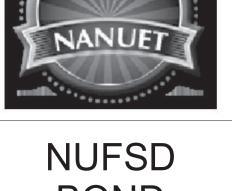
ARCHITECT

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954

Clapper Structural Engineering

Sage Engineering Associates, LLP

Quest Environmental Solutions Wappingers Falls, NY 12590



BOND **PROJECTS**

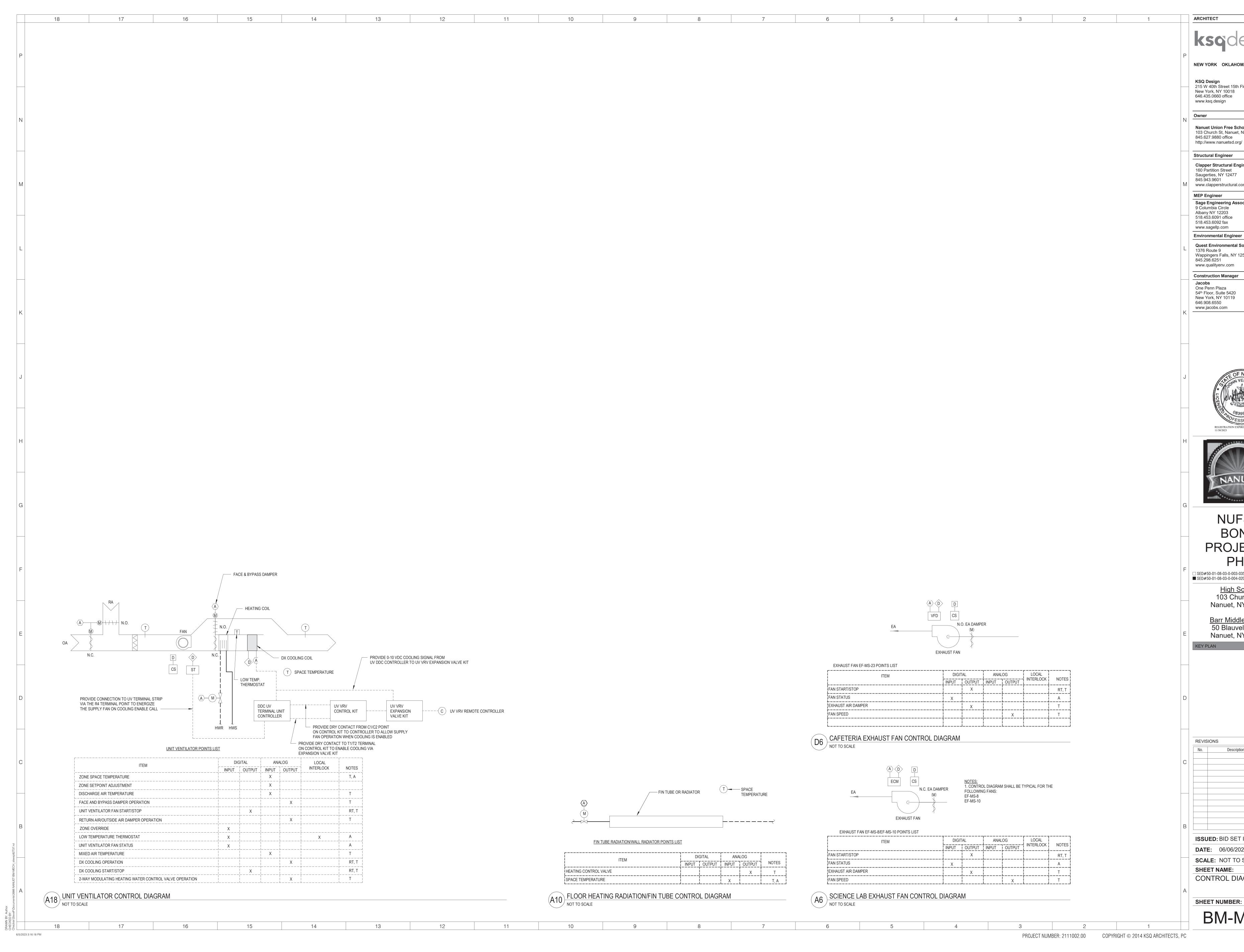
☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

ISSUED: BID SET ISSUANCE **DATE:** 06/06/2023

SCALE: As indicated **HVAC DETAILS**



NEW YORK OKLAHOMA

KSQ Design 215 W 40th Street 15th Floor New York, NY 10018 646.435.0660 office

www.ksq.design

Nanuet Union Free School District 103 Church St, Nanuet, NY 10954 845.627.9880 office http://www.nanuetsd.org/

Structural Engineer

Clapper Structural Engineering 160 Partition Street Saugerties, NY 12477 845.943.9601

www.clapperstructural.com MEP Engineer

Sage Engineering Associates, LLP 9 Columbia Circle Albany NY 12203 518.453.6091 office 518.453.6092 fax www.sagellp.com

Quest Environmental Solutions 1376 Route 9 Wappingers Falls, NY 12590

845.298.6251 www.qualityenv.com

Construction Manager One Penn Plaza 54th Floor, Suite 5420 New York, NY 10119 646.908.6550





NUFSD BOND **PROJECTS**

☐ SED#50-01-08-03-0-003-035 (HIGH SCH00L)
■ SED#50-01-08-03-0-004-020 (BARR MIDDLE SCH00L)

High School 103 Church St. Nanuet, NY 10954

Barr Middle School 50 Blauvelt Rd #1 Nanuet, NY 10954

REVISIONS

ISSUED: BID SET ISSUANCE

DATE: 06/06/2023 SCALE: NOT TO SCALE

SHEET NAME: CONTROL DIAGRAMS

SHEET NUMBER: