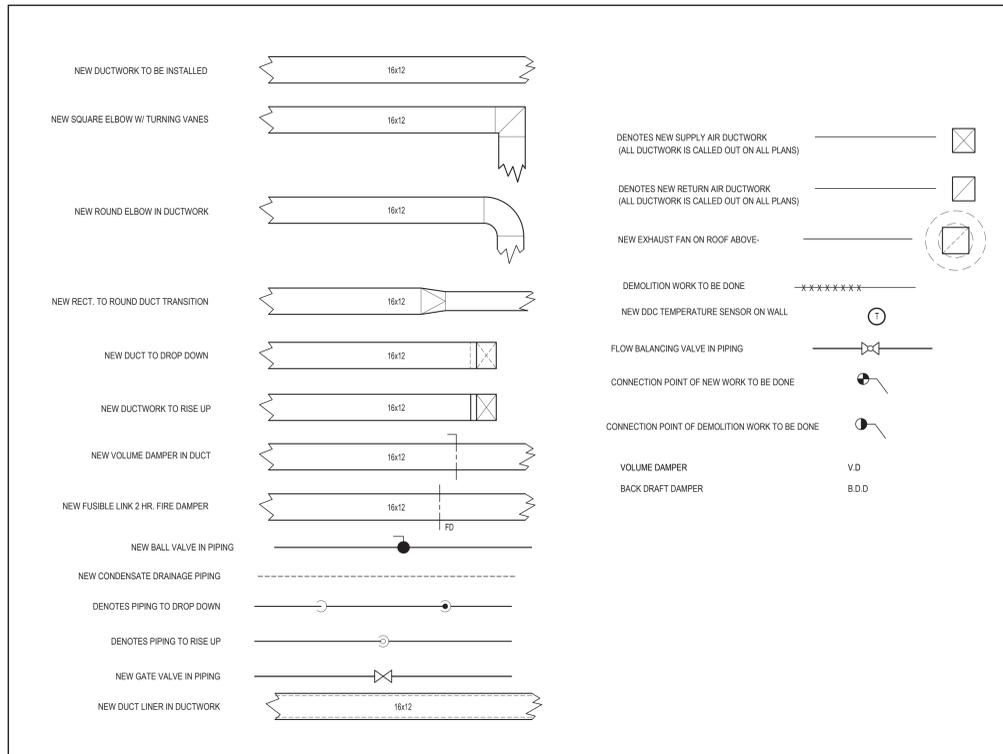


MECHANICAL LEGEND, SYMBOLS, AND ABBREVIATIONS



CONTRACTOR ABBREVIATIONS:

M.C. = MECHANICAL CONTRACTOR	P.C. = PLUMBING CONTRACTOR
C.C. = CONTROLS CONTRACTOR	E.C. = ELECTRICAL CONTRACTOR
R.C. = CERTIFIED ROOFING CONTRACTOR	

VENTILATION SCHEDULE

Room Number	Occupancy Classification	Occupancy Density (People Per 1000SF)	People Outdoor Airflow Rate in Breathing Zone, Rp (CFM/Person)	Area Outdoor Airflow Rate in Breathing Zone, Ra (CFM/SF)	Exhaust Airflow Rate (CFM/SF)	Area (SF)	Number of People (Pz)	Ventilation in Breathing Zone, Vz (CFM)	Zone Air Distribution Effectiveness, Ez	Corrected Zone Outdoor Airflow CFM, Voz	OAI (CFM) Supplied
1	Auditorium	150	5	0.06	0	3784	568	3068	1	3068	4000
2	Stages OR Studio	70	10	0.06	0	763	54	586	1	586	600
002	Classroom (age 9 plus)	35	10	0.12	0	576	21	280	0.8	350	350
002A Comp Rm	Classroom (age 9 plus)	35	10	0.12	0	576	21	280	0.8	350	350
004	Classroom (age 9 plus)	35	10	0.12	0	878	31	416	0.8	520	520
006	Classroom (age 9 plus)	35	10	0.12	0	486	18	239	0.8	299	300
008	Classroom (age 9 plus)	35	10	0.12	0	569	20	269	0.8	337	340
003	Classroom (age 9 plus)	35	10	0.12	0	324	12	159	0.9	177	200
012a	Classroom (age 9 plus)	35	10	0.12	0	275	10	133	0.8	167	180
012	Classroom (age 9 plus)	35	10	0.12	0	716	26	346	0.8	433	450
013	Classroom (age 9 plus)	35	10	0.12	0	582	21	280	0.8	350	360
BSM Art Room	Classroom (age 9 plus)	35	10	0.12	0	1126	40	536	0.9	596	600
Computer Room	Classroom (age 9 plus)	35	10	0.12	0	1400	49	658	0.9	732	730
100	Classroom (age 9 plus)	35	10	0.12	0	890	32	427	0.9	475	475
101	Classroom (age 9 plus)	35	10	0.12	0	680	24	322	0.9	358	360
102	Classroom (age 9 plus)	35	10	0.12	0	788	28	375	0.9	417	420
103	Classroom (age 9 plus)	35	10	0.12	0	653	23	309	0.9	344	350
104	Classroom (age 9 plus)	35	10	0.12	0	488	18	239	0.9	266	270
106	Classroom (age 9 plus)	35	10	0.12	0	575	21	279	0.9	310	350
108	Classroom (age 9 plus)	35	10	0.12	0	568	20	269	0.9	299	300
112	Classroom (age 9 plus)	35	10	0.12	0	577	21	280	0.9	312	320
114	Classroom (age 9 plus)	35	10	0.12	0	462	17	226	0.9	252	250
113	Classroom (age 9 plus)	35	10	0.12	0	479	17	228	0.9	254	250
200A	Classroom (age 9 plus)	35	10	0.12	0	674	24	321	0.9	357	260
201	Classroom (age 9 plus)	35	10	0.12	0	678	24	322	0.9	358	360
202	Classroom (age 9 plus)	35	10	0.12	0	623	22	295	0.9	328	330
203	Classroom (age 9 plus)	35	10	0.12	0	678	24	322	0.9	358	360
204	Classroom (age 9 plus)	35	10	0.12	0	721	26	347	0.9	386	400
204A	Classroom (age 9 plus)	35	10	0.12	0	178	7	92	0.9	103	120
206	Classroom (age 9 plus)	35	10	0.12	0	609	22	294	0.9	327	330
200A	Classroom (age 9 plus)	35	10	0.12	L	674	24	321	0.9	357	260
208	Classroom (age 9 plus)	35	10	0.12	0	632	23	306	0.9	340	340
210	Libraries	10	5	0.12	0	1213	13	211	0.9	235	240
212	Classroom (age 9 plus)	35	10	0.12	0	544	20	266	0.9	296	300
214	Classroom (age 9 plus)	35	10	0.12	0	510	18	242	0.9	269	270
213	Classroom (age 9 plus)	35	10	0.12	0	632	23	306	0.9	340	340

GENERAL NOTES

- REMOVAL & RELOCATION OF CERTAIN EXISTING WORK SHALL BE NECESSARY FOR THE PERFORMANCE OF THE NEW WORK SHOWN HEREIN. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE & MAKE ALL NECESSARY CHANGES BASED ON EXISTING CONDITIONS AS REQUIRED FOR PROPER DEMOLITION OF EXISTING WORK & SHALL INCLUDE ALL MATERIALS & LABOR FOR SAME IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK & CAREFULLY EXAMINE THE ENGINEERING DRAWINGS, EXISTING CONDITIONS & LIMITATIONS THEREOF. VERIFY ACTUAL LOCATIONS WHERE THE NEW PIPING WILL BE ROUTED, COORDINATE WITH NEW & EXISTING WORK & PROVIDE CLEARANCE W/ BUILDING STRUCTURE, OTHER SERVICES, ETC. THE CONTRACTOR SHALL INCLUDE ALL COSTS WHATSOEVER WHICH ARE INCURRED AS A RESULT OF LIMITATIONS OF THE EXISTING & NEW CONDITIONS. LATER CLAIMS FOR EXTRA LABOR, EQUIPMENT, MATERIALS, ETC. REQUIRED DUE TO DIFFICULTIES WHICH COULD HAVE BEEN FORESEEN WILL NOT BE CONSIDERED AS EXTRA WORK.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATING, MAINTENANCE & REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHEN NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AREAS AVAILABLE. ASCERTAIN FROM BUILDING OWNER AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH THE BUILDING.
- COORDINATE THE EXACT SIZE & LOCATION OF NEW OPENINGS WITH EXISTING STRUCTURE. PATCH / INSULATE AS REQUIRED. CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS FROM NEW PIPING, CONDUIT, DUCTWORK, ETC. THROUGH EXISTING OR NEW FIRE / SMOKE BARRIERS. REFER TO SPECIFICATION SECTION 15511 FOR FURTHER DETAILS.
- IT IS THE INTENT OF THIS CONTRACT FOR REMAINING SYSTEMS TO BE LEFT IN GOOD WORKING ORDER, READY FOR OPERATION. COORDINATE ANY REQUIRED SYSTEM SHUTDOWNS WITH OWNER 48 HOURS IN ADVANCE. EXISTING SYSTEM SHUTDOWNS WILL NOT BE PERMITTED IF THEY INTERFERE WITH THE DAILY OPERATIONS OF THE BUILDING. CONTRACTOR WILL BE REQUIRED TO TAKE PROPER PRECAUTIONS AGAINST DAMAGING OR DISRUPTING BUILDING SYSTEMS, WIRING, PIPING OR CONTROL TUBING. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTORS COST AS A PART OF THIS CONTRACT.
- THE CONTRACTOR SHALL REPAIR / RESTORE TO ORIGINAL CONDITION ANY EXISTING EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, OR DEMOLITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL MAKE REPAIRS USING THE SAME OR EQUIVALENT MATERIALS. WORK WILL BE PERFORMED AT THE CONTRACTORS COST.
- CONTRACTOR SHALL INCUR ANY COSTS OR BURDENS ASSOCIATED WITH LOST OR STOLEN EQUIPMENT / MATERIALS.
- DURING THE LIFE OF THE CONTRACT PERIOD, CONTRACTOR SHALL REMOVE ALL RUBBISH / EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS ON A DAILY BASIS. ALL AREAS / EQUIPMENT AFFECTED UNDER THIS CONTRACT SHALL BE KEPT CLEAN OF DUST / DEBRIS. ALL AREAS SHALL RECEIVE A FINAL CLEANING PRIOR TO FINAL ACCEPTANCE BY THE OWNER.
- PROVIDE FOR LEGAL REMOVAL / DISPOSAL OF ALL RUBBISH / DEBRIS FROM THE BUILDING & SITE. PROTECT ALL WORK NOT SLATED FOR DEMOLITION.
- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO SCHEDULING THE WORK. WORK SHALL BE PERFORMED IN PROPER SEQUENCE, AS AGREED TO BY ALL TRADES. ANY COSTS INCURRED BY THE OWNER DUE TO IMPROPER SEQUENCING OF WORK WILL BE PAID FOR BY THIS CONTRACTOR.
- CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES, CONNECTION CHARGES, ETC. ASSOCIATED WITH THE WORK UNDER THEIR CONTRACT.
- PAINT / TOUCH UP ALL SURFACES MARRED AS A RESULT OF THE PERFORMANCE OF THE CONTRACT WORK.
- THE MECHANICAL CONTRACTOR SHALL REFER TO / REVIEW ALL OTHER TRADE DRAWINGS IN THE BID PACKAGE & SHALL BE RESPONSIBLE FOR PERFORM ALL WORK INDICATED AS (M.C.) MECHANICAL WORK AS A PART OF THE BASE BID UNLESS SPECIFICALLY NOTED OTHERWISE.
- SUBSTITUTED EQUIPMENT OF GREATER OR LARGER POWER, DIMENSIONS, CAPACITIES & RATINGS MAY BE FURNISHED PROVIDED THAT SAID EQUIPMENT IS APPROVED IN WRITING PRIOR TO ORDER. ANY CONNECTING MECHANICAL SERVICES, ELECTRICAL SERVICES, BASES, STRUCTURAL APPURTENANCES, ETC. REQUIRED TO BE INCREASED DUE TO THE USE OF SAID EQUIPMENT WILL BE PAID FOR IN FULL BY THE MECHANICAL CONTRACTOR, INCLUDING ANY ADDITIONAL REQUIRED ENGINEERING FEES.
- EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A PERMANENT TYPE LAMINATED, BLACK FINISH, WHITE CORE, PHENOLIC NAMEPLATE. NAMEPLATES SHOULD INDICATE THE NAME & NUMBER OF THE UNIT, UNIT VOLTAGE, & ANY INTERLOCK REFERENCE. STARTERS / DISCONNECT SWITCHES SHOULD ALSO BE EQUIPPED WITH AN IDENTICAL NAMEPLATE WITH THE SAME INFORMATION.
- "ATTIC STOCK" - UPON COMPLETION OF THE PROJECT, MECHANICAL CONTRACTOR SHALL COMPLETELY REMOVE / DISPOSE OF FILTERS USED DURING CONSTRUCTION & START-UP PROCEDURES. INSTALL NEW FILTERS IN ALL EQUIPMENT, MERV-8 OR BETTER UPON TURN OVER OF THE PROJECT TO THE OWNER. IN ADDITION, PROVIDE (2) COMPLETE SETS OF FILTERS FOR EACH PIECE OF EQUIPMENT & TURN OVER TO OWNER.
- MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EACH SIZE MOTOR USED ON THE PROJECT. IN INSTANCES WHERE MORE THAN TEN OF THE SAME MOTOR ARE USED, MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EVERY TEN MOTORS OF A GIVEN SIZE USED ON THE PROJECT.
- MAINTENANCE MANUAL: UPON COMPLETION OF THE PROJECT, THE MECHANICAL CONTRACTOR SHALL PROVIDE A BINDER CONTAINING THE OPERATIONS & MAINTENANCE MANUALS FOR EACH NEW PIECE OF EQUIPMENT INSTALLED UNDER THIS PROJECT. THE FIRST SECTION OF THE MAINTENANCE MANUAL SHALL CONTAIN A LIST OF EACH PIECE OF EQUIPMENT, COMPLETE WITH INFORMATION SHOWING APPROPRIATE REPLACEMENT FILTER SIZES / TYPES, APPROPRIATE REPLACEMENT BELT SPECIFICATIONS, REPLACEMENT MOTOR SPECIFICATIONS, REPLACEMENT BEARING SPECIFICATIONS, VOLTAGES OF UNIT, ETC. THIS SHALL SERVE AS A WRITTEN DATABASE DESCRIBING ALL MAINTENANCE INFORMATION FOR EACH NEW PIECE OF EQUIPMENT USED.

THE MECHANICAL CONTRACTOR (M.C.) SHALL BE ENTIRELY RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING EQUIPMENT LAYOUT, DIMENSIONS, EXISTING PIPING & DUCTWORK SIZES IN THE FIELD PRIOR TO THE START OF ANY WORK. M.C. SHALL SUBMIT DETAILED SCALED SHOP DRAWINGS OF PROPOSED DUCTWORK, EQUIPMENT LAYOUT, PIPING, ETC FOR REVIEW AND APPROVAL PROCESS.

FIRE STOPPING NOTES

- ALL PENETRATIONS RELATED TO MECHANICAL WORK THROUGH FIRE RATED WALLS, FLOORS OR OTHER STRUCTURES SHALL BE FIRE STOPPED AS REQUIRED TO MAINTAIN THE RATING OF THE WALL BY MECHANICAL CONTRACTOR. IT IS ASSUMED THAT ALL WALLS IN THE CONSTRUCTION CARRY A MINIMUM FIRE RATING OF 1 HR. IT SHOULD BE ASSUMED THAT ALL MACHINE ROOM WALLS / BOILER ROOM WALLS / ELECTRIC ROOM WALLS CARRY A RATING OF 2 HR. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE REVIEW OF THE ARCHITECTURAL DRAWINGS IN ORDER TO DETERMINE FIRE RATINGS OF ALL WALLS / PARTITIONS RELATED TO WORK UNDER THIS CONTRACT.
- MECHANICAL CONTRACTOR SHALL REVIEW THE COMPLETE ARCHITECTURAL SET OF DRAWINGS IN ORDER TO DETERMINE WHERE DUCT PENETRATIONS THROUGH RATED BARRIERS OCCUR BETWEEN SEPARATE SMOKE ZONES. DUCTS PENETRATING SAID FIRE / SMOKE BARRIERS SHALL BE EQUIPPED WITH A UL LISTED COMBINATION FIRE / SMOKE DAMPER, RATED FOR SERVICE FOR WHICH IT IS BEING USED. FIRE / SMOKE DAMPERS SHALL BE PROVIDED & INSTALLED BY THE MECHANICAL CONTRACTOR. COMPLETE W/ DUCT ACCESS DOORS DIRECTLY ADJACENT TO THE DAMPER. DAMPER ACTUATOR & RELATED WIRING SHALL BE PROVIDED & INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE DAMPER INSTALLATIONS W/ E.C. TO VERIFY PROPER CLEARANCES TO ASSURE PROPER DAMPER OPERATION.
- MECHANICAL CONTRACTOR SHALL REVIEW THE COMPLETE ARCHITECTURAL SET OF DRAWINGS IN ORDER TO DETERMINE WHERE DUCT PENETRATIONS THROUGH RATED BARRIERS OCCUR BETWEEN SEPARATE SMOKE ZONES. DUCTS PENETRATING SAID FIRE / SMOKE BARRIERS SHALL BE EQUIPPED WITH A UL LISTED COMBINATION FIRE / SMOKE DAMPER, RATED FOR SERVICE FOR WHICH IT IS BEING USED. FIRE / SMOKE DAMPERS SHALL BE PROVIDED & INSTALLED BY THE MECHANICAL CONTRACTOR. COMPLETE W/ DUCT ACCESS DOORS DIRECTLY ADJACENT TO THE DAMPER. DAMPER ACTUATOR & RELATED WIRING SHALL BE PROVIDED & INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE DAMPER INSTALLATIONS W/ E.C. TO VERIFY PROPER CLEARANCES TO ASSURE PROPER DAMPER OPERATION.
- MECHANICAL CONTRACTOR SHALL PROVIDE A FULL SET OF AS-BUILT DRAWINGS, SHOWING EACH DAMPER LOCATION, TYPE OF DAMPER, ACCESS DOOR LOCATIONS, ETC.
- CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 15511 FOR FURTHER DETAILS REGARDING FIRESTOPPING MATERIALS & METHODS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS TO BE USED. FIRESTOP MATERIALS OTHER THAN THE PRODUCTS SPECIFIED SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUILIBRY WITH THE SPECIFIED FIRESTOPPING MATERIALS.

GENERAL INSTRUMENTATION NOTES

- AT A MINIMUM, PROVIDE THERMOMETERS / WELLS AT THE FOLLOWING LOCATIONS:
 - AT INLETS & OUTLET OF EACH THREE WAY VALVE (UNIT VENTILATORS / CABINET UNIT HEATER INSTALLATIONS EXCEPTED).
 - AT INLET & OUTLET OF EACH HYDRONIC BOILER, CHILLER OR COOLING TOWER.
 - AT INLET & OUTLET OF EACH HYDRONIC COIL IN AIR HANDLING UNITS & BUILT-UP CENTRAL SYSTEMS.
- AT A MINIMUM, PROVIDE LIQUID FILLED PRESSURE GAUGES / WELLS AT THE FOLLOWING LOCATIONS:
 - AT SUCTION & DISCHARGE OF EACH PUMP.
 - FOR EACH MAKEUP WATER LINE.
 - BEFORE & AFTER ALL PRESSURE REDUCING VALVES.
 - AT ACCESSIBLE HIGH POINT OF ALL HYDRONIC PIPING SYSTEMS.
 - AT ALL EXPANSION / COMPRESSION TANKS.

PIPING SYSTEMS AND EQUIPMENT VENTING NOTES

- MECHANICAL CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER VENTING OF ALL NEWLY INSTALLED HYDRONIC PIPING SYSTEMS. AUTOMATIC AIR VENTS SHALL BE INSTALLED AT EVERY HIGH POINT IN THE PIPING SYSTEM WHERE AIR CAN COLLECT. PROVIDE COCK IN RISER PRIOR TO AUTOMATIC AIR VENT. NEW AIR VENTS SHALL BE "TACO" #HY-VENT OR EQUIVALENT.
- MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL NEW AUTOMATIC AIR VENT FOR EACH AIR HANDLING UNIT COIL OR DUCT MOUNTED COIL. INSTALL SHUT-OFF COCK PRIOR TO VENT TIE-IN.
- MECHANICAL CONTRACTOR SHALL PROVIDE NEW MANUAL AIR VENTS FOR ALL UNIT VENTILATOR COILS, CONVECTORS, FAN COIL UNITS, FIN TUBE RADIATORS, ETC. MANUAL VENTS SHALL BE "TACO" #417 COIN VENT OR EQUIVALENT. PROVIDE SHUT-OFF COCK PRIOR TO VENT. AIM COIN VENT DISCHARGE IN AN APPROPRIATE MANNER AS TO FACILITATE THE CAPTURE OF BLEED WATER WHILE PERFORMING SYSTEM BLEEDING OPERATIONS.

ELECTRICAL WORK UNDER MECHANICAL CONTRACT

- MECHANICAL CONTRACTOR SHALL PROVIDE ALL STARTERS & DISCONNECT SWITCHES REQUIRED FOR ALL NEW MECHANICAL EQUIPMENT. STARTER / DISCONNECT SWITCH INSTALLATION TO BE PERFORMED UNDER THE ELECTRICAL CONTRACT. COORDINATE WORK W/ ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.
- POWER WIRING REQUIRED FOR CONTROLS SHALL BE PERFORMED UNDER THE MECHANICAL CONTRACT UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL DRAWINGS. MECHANICAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED ELECTRICIAN (PER NEC REQUIREMENTS) TO PERFORM ALL ELECTRICAL WORK.

DUCTWORK NOTES

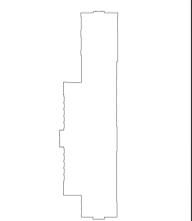
- PROVIDE ALL NEW DUCTWORK AS SHOWN AND SPECIFIED UNDER SPECIFICATION SECTION 015891, AND IN CONFORMANCE WITH "SMACNA" SPECIFICATIONS.
- IF A DUCT ELBOW IS SHOWN TO BE RADIUS, THEN RADIUS ELBOWS SHALL BE INSTALLED. SQUARE ELBOWS MAY NOT BE SUBSTITUTED WHERE RADIUS ELBOWS ARE SHOWN. WHERE SQUARE ELBOWS ARE SHOWN, TURNING VANES SHALL BE INSTALLED UPON APPROVAL BY THE ENGINEER.
- PROVIDE DUCT LINING IN ALL DUCTWORK THAT IS CONVEYING BELOW AMBIENT TEMPERATURE AIR & IS NOT INSULATED. PROVIDE LINING IN SUPPLY & RETURN AIR DUCTWORK FROM AIR HANDLING EQUIPMENT TO 20 FEET AWAY FROM THE UNITS. IN ADDITION, INCLUDE LINING IN ALL OTHER DUCT SPECIFICALLY SHOWN OR SPECIFIED TO BE EQUIPPED WITH LINING. REFER TO SPECIFICATION SECTION 15891 & 15290 FOR FURTHER INFORMATION.
- WHERE FLEXIBLE DUCTWORK IS USED, LENGTHS MAY NOT EXCEED 4 FEET TOTAL IN ANY ONE RUN OF FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE RATED IN ACCORDANCE WITH UL 181, CLASS 1. REFER TO SPECIFICATION SECTION 15891 FOR FURTHER INFORMATION.
- MECHANICAL CONTRACTOR SHALL PROVIDE A BUTTERFLY TYPE VOLUME DAMPER WITH LOCKING QUADRANT HANDLE PRIOR TO EACH AIR OUTLET SHOWING. INSTALL DAMPER AT LEAST 5 FEET AWAY FROM AIR OUTLET WHEREVER POSSIBLE.
- MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCT SYSTEMS CONNECT TO EQUIPMENT. REFER TO SPECIFICATION SECTION 15891 FOR FURTHER INFORMATION.

TESTING and BALANCING NOTES

- MECHANICAL CONTRACTOR WILL BE REQUIRED TO PERFORM ALL EQUIPMENT & SYSTEM TESTING / BALANCING REQUIRED UNDER THIS CONTRACT. PROVIDE A FULL REPORT DETAILING ALL DESIGN & ACTUAL CONDITIONS FOR ALL AIR & HYDRONIC SYSTEMS SHOWN ON THE DRAWINGS. REFER TO SPECIFICATION SECTIONS 15990 & 15997 FOR FURTHER DETAILS.
- UPON NOTICE OF COMPLETION OF WORK BY THE CONTRACTOR, OWNER WILL OBTAIN THE SERVICES OF AN INDEPENDENT TESTING & BALANCING CONTRACTOR TO VERIFY THE RESULTS OF THE TESTING & BALANCING REPORT SUBMISSION. INDEPENDENT TESTING AGENCY SHALL SELECT A RANDOM NUMBER OF MEASUREMENTS TO BE CHECKED. MEASUREMENTS WILL BE CHECKED IN THE SAME MANNER AS ORIGINALLY MEASURED. NUMBER OF VERIFICATION MEASUREMENTS SHALL BE APPROXIMATELY 25% OF THE TOTAL MEASUREMENTS FOR THE PROJECT.
- IF MORE THAN 10% OF THE VERIFICATION TESTING SHOWS DEVIATIONS OF 10% OR MORE / SOUND LEVEL OF 2dB DIFFERENT THAN THAT ORIGINALLY MEASURED, THE ORIGINAL REPORT WILL BE REJECTED. ALL SYSTEMS WILL THEN BE REQUIRED TO BE COMPLETELY RE-TESTED, WITH A SECOND REPORT SUBMITTED. IN THE EVENT THAT THE ORIGINAL REPORT IS REJECTED, ALL SYSTEMS SHALL BE READJUSTED & TESTED, NEW CERTIFIED REPORTS SUBMITTED, AND NEW VERIFICATION TESTS MADE, AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INVOLVED WITH THE VERIFICATION TESTS.

REV.	DATE	ITEM

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GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

MECHANICAL GENERAL NOTES

PROJECT: GREENBURGH CENTRAL SCHOOL DISTRICT PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS RICHARD J. BAILEY ELEMENTARY SCHOOL WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE: MECHANICAL GENERAL NOTES

DRAWING BY: D.S.

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SED No: 66-04-07-06-005-012

DISTRICT: GREENBURGH CSD

PROJECT: PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.

DWG TITLE: MECHANICAL GENERAL NOTES

SCALE: AS NOTED

DATE: MAY 2022

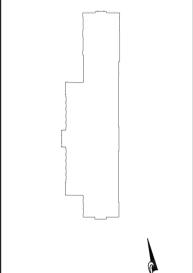
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KEY PLAN
 NOT TO SCALE

PROJECT
 GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
 MECHANICAL BASEMENT DEMOLITION PLAN

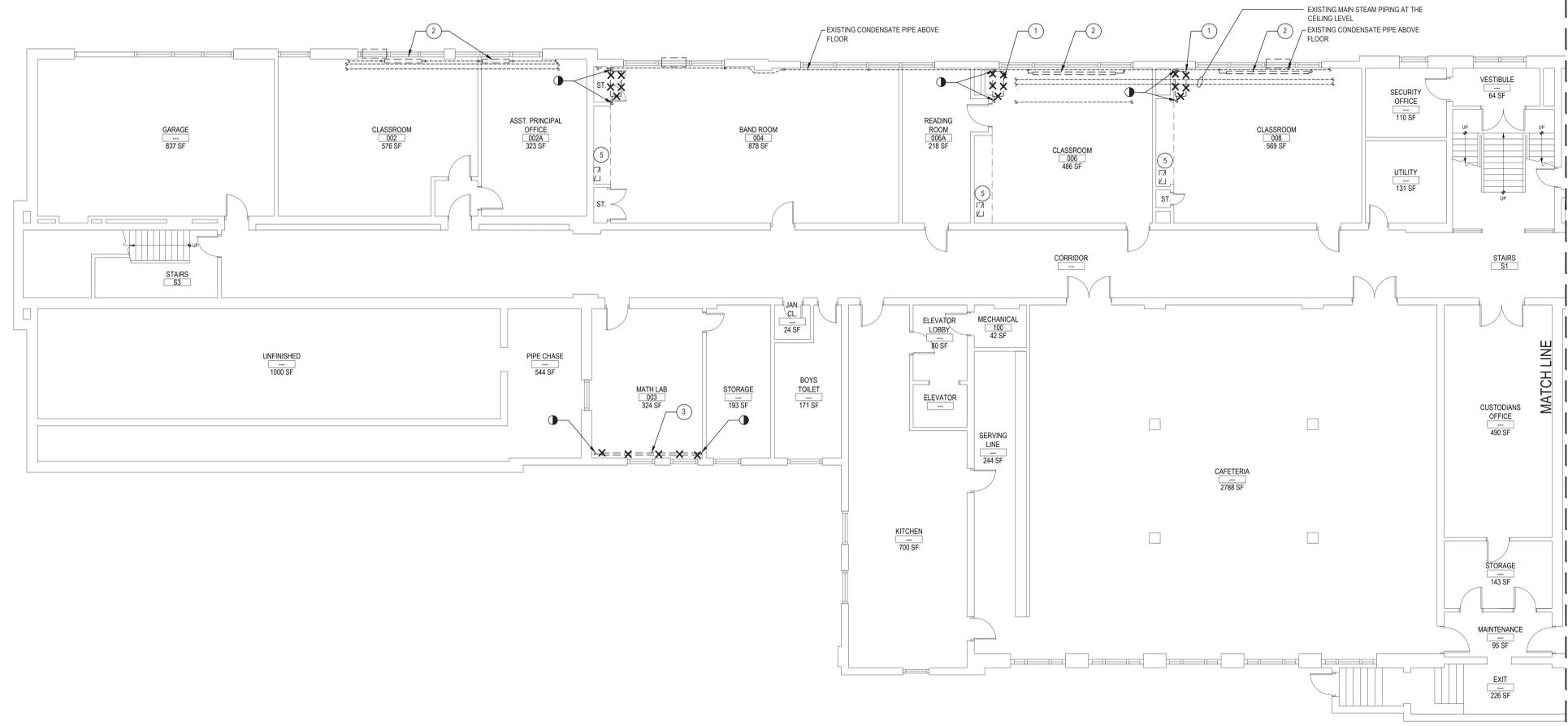
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SED No. 66-04-07-06-0-005-012
DISTRICT GREENBURGH CSD
PROJECT PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.
DWG TITLE MECHANICAL BASEMENT DEMOLITION PLAN
SCALE AS NOTED
DATE MAY 2022
BID PICK-UP MAY 27, 2022
FILE No. 21-290

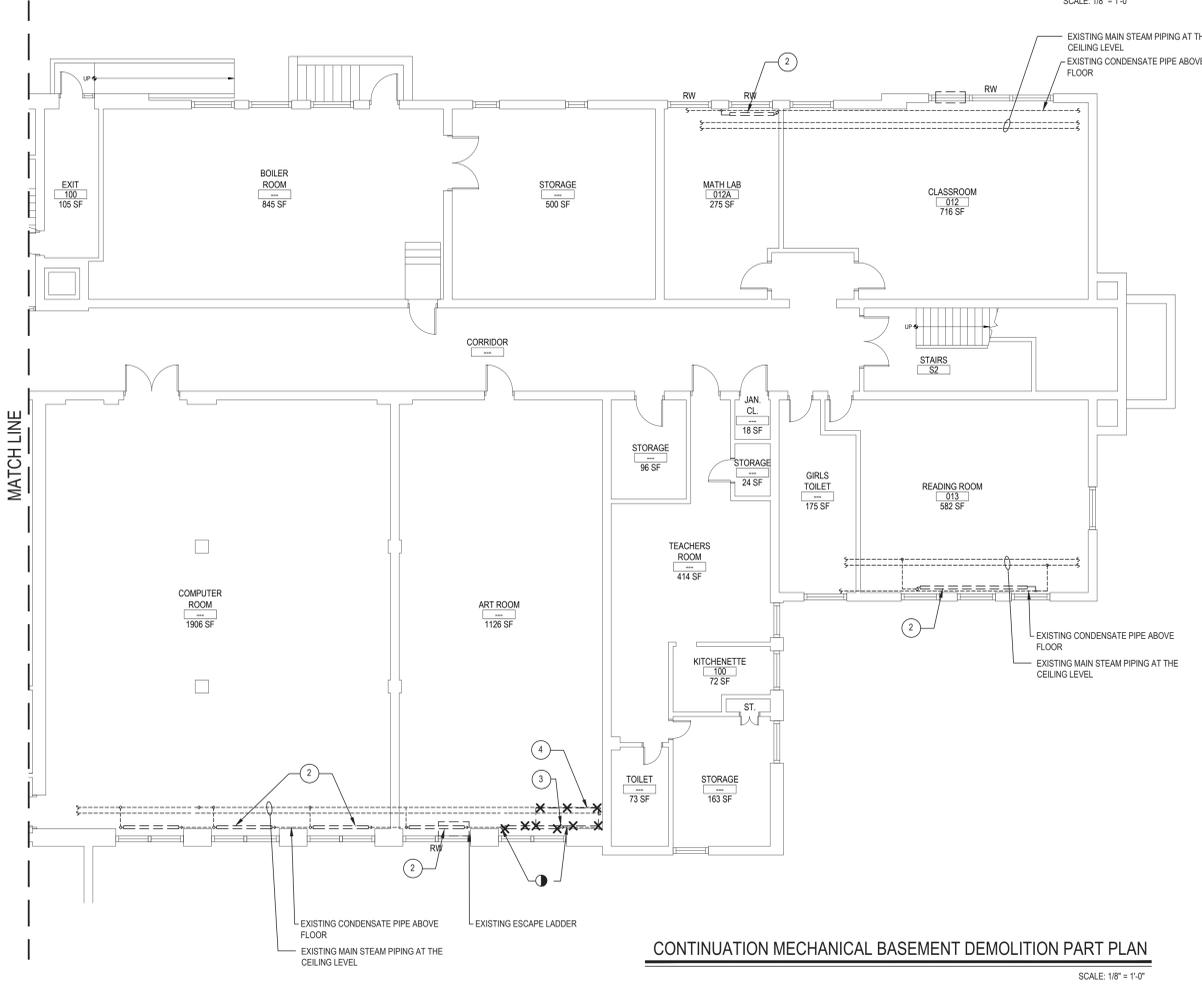
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- NOTES:**
- MC TO SHUT-OFF STEAM PIPING, DISCONNECT EXISTING UV AND CAP PIPING FOR FUTURE CONNECTION. MC TO REMOVE THE UV, GC TO PATCH WALL OPENING.
 - EXISTING STEAM CAST IRON RADIATOR TO REMAIN
 - MC TO SHUT-OFF STEAM PIPING, DISCONNECT EXISTING STEAM RADIATOR AND CAP PIPING CLOSE TO MAIN. MC TO REMOVE THE RADIATOR AND GC TO PATCH WALL/SLAB OPENINGS
 - MC TO SHUT-OFF AND CAP DOMESTIC HOT AND COLD PIPING, DRAINAGE, DISCONNECT AND REMOVE SINK FOR FUTURE RELOCATION. GC SHALL SAW CUT EXISTING FLOOR SLAB TO ACCOMMODATE NEW PLUMBING WORK IF NECESSARY. G.C. TO PATCH FLOOR (WALL), MATCH EXISTING AND COORDINATE WITH M.C. PRIOR TO DEMOLITION
 - EXISTING 24X10 EXHAUST GRILLE IN CLOSET TO REMAIN. (TYP.)
 - REMOVE SMALL WINDOW FAN IN EACH CLASSROOM WHERE NEW UV IS INSTALLED

- MC CONTRACTOR NOTES:**
- MC TO FIELD VERIFY EXACT LOCATION OF EXISTING MAIN STEAM AND CONDENSATE PIPING.
 - MC TO SHUT-OFF & DISCONNECT STEAM AND CONDENSATE PIPING SERVING EXISTING UV/STEAM RADIATOR THAT WILL BE REMOVED
 - ALL STEAM CONDENSATE PIPING BRANCHES (THAT SERVED A REMOVED EQUIPMENT) ARE TO BE CAPPED BACK TO THE MAINS.
 - MECHANICAL CONTRACTOR TO REMOVE ALL EXISTING UNIT VENTILATORS/STEAM RADIATOR AS INDICATE ON DWG. G.C. TO PATCH WALL WHERE EXISTING UV WAS INSTALLED CLOSE TO OAI SHAFT
 - MC SHALL SAW CUT EXISTING FLOOR SLAB TO ACCOMMODATE NEW PIPING WORK. M.C. TO PATCH FLOOR AND MATCH WITH EXISTING
 - M.C. TO DRILL WALL IF NEW PENETRATION REQUIRED FOR NEW PIPING AND PATCH WALL AS REQUIRED

MECHANICAL BASEMENT DEMOLITION PART PLAN
 SCALE: 1/8" = 1'-0"

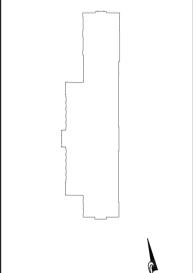


CONTINUATION MECHANICAL BASEMENT DEMOLITION PART PLAN
 SCALE: 1/8" = 1'-0"

REV.	DATE	ITEM

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KEY PLAN
NOT TO SCALE

PROJECT
GREENBURGH CENTRAL SCHOOL DISTRICT
PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
RICHARD J. BAILEY ELEMENTARY SCHOOL
WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
MECHANICAL BASEMENT NEW PLAN

DRAWING BY: D.S.
CHECK BY: D.S.

NOTICE

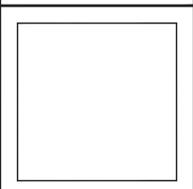
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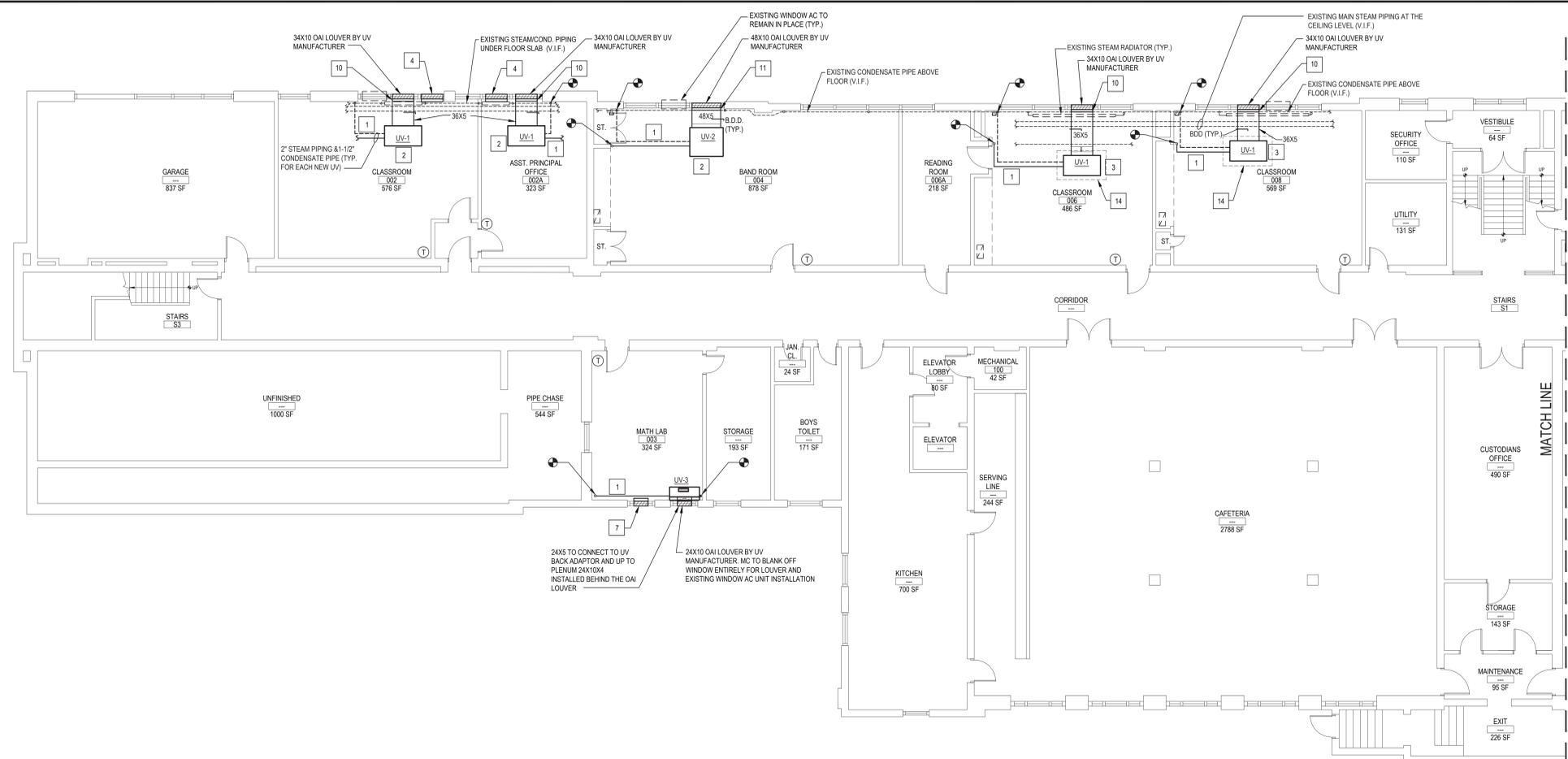
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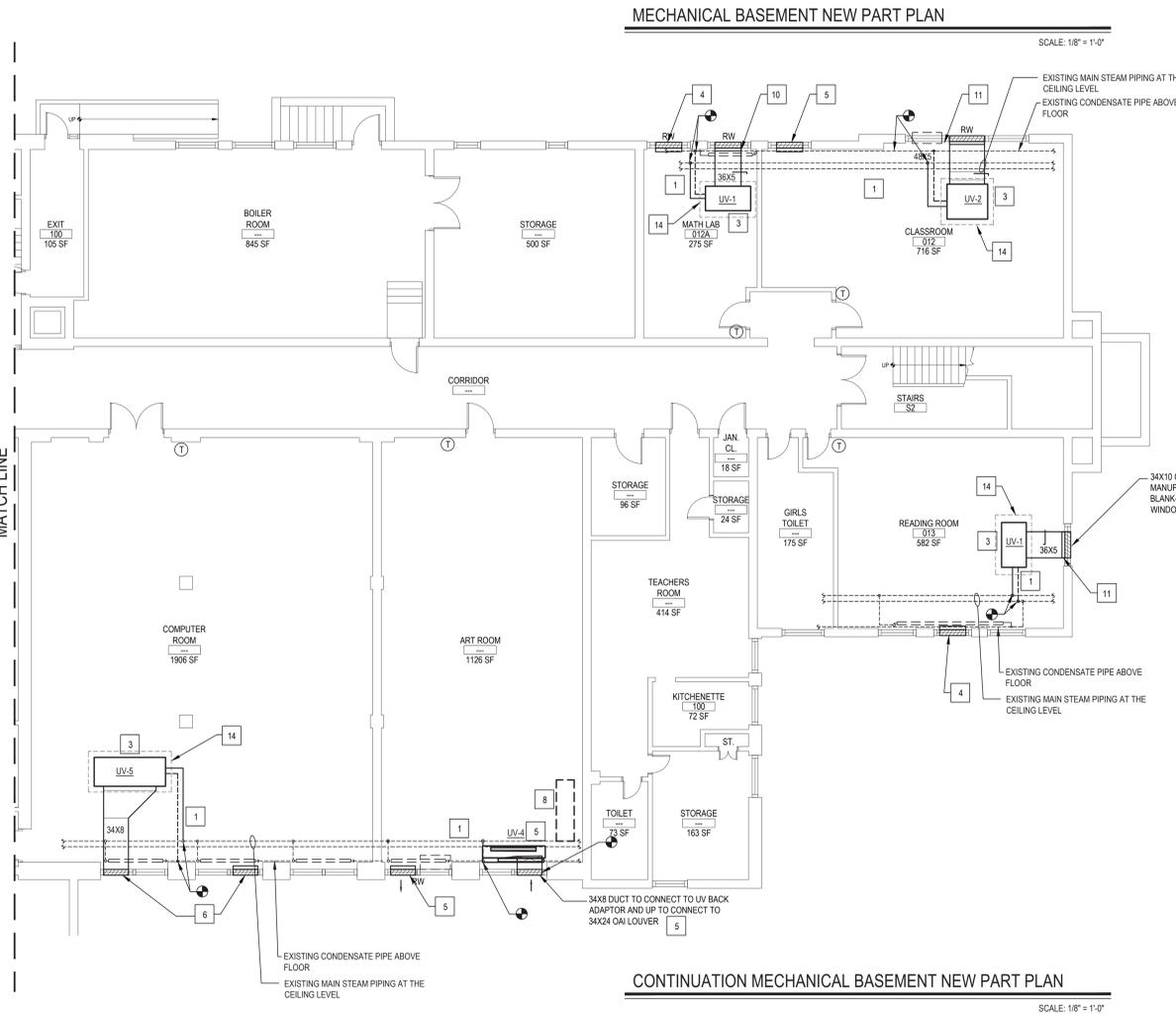


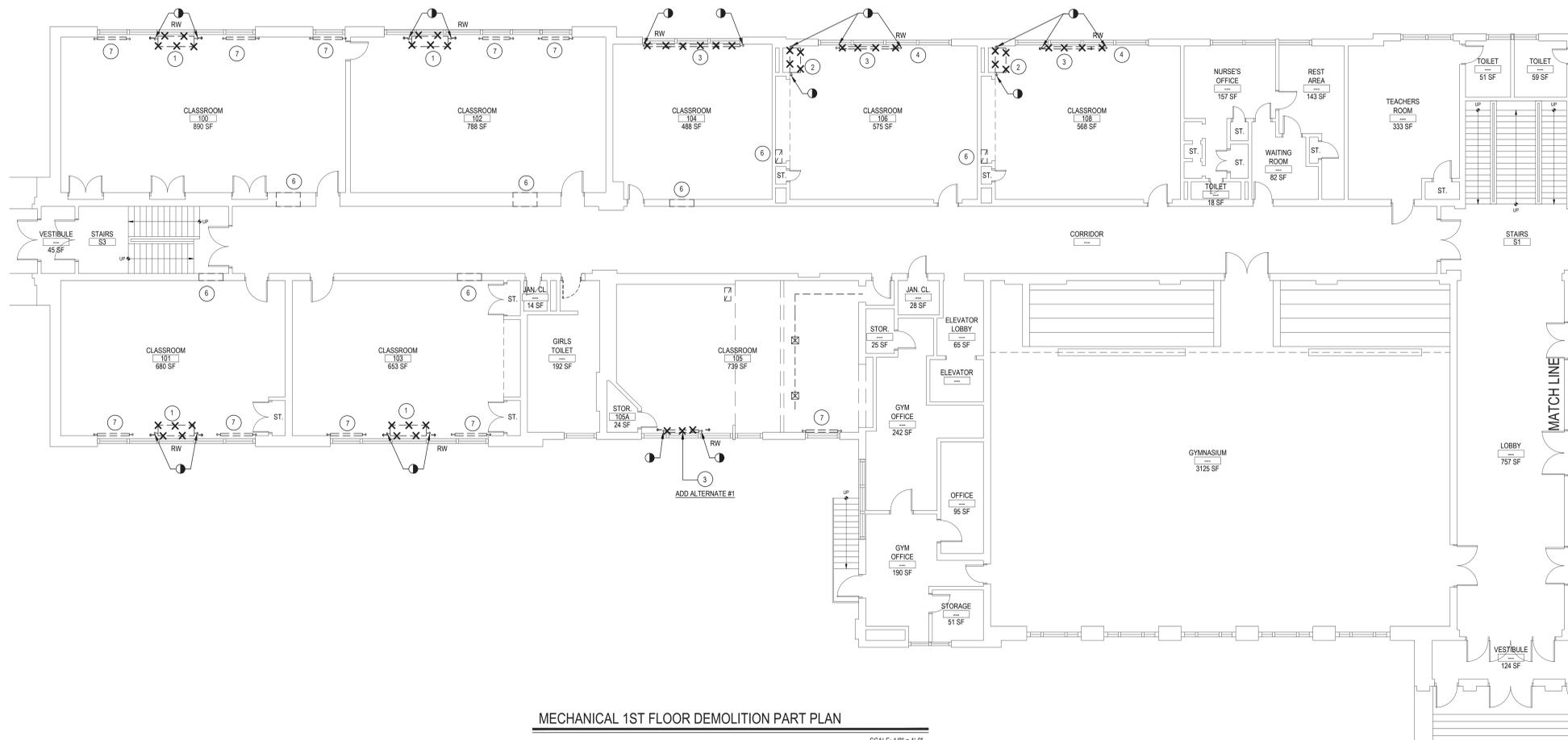
SED No: 66-04-07-06-0-005-012
DISTRICT: GREENBURGH CSD
PROJECT: PH I - DW CAP IMPROVEMENTS
R.J. BAILEY E.S.
DWG TITLE: MECHANICAL BASEMENT
NEW PLAN
SCALE: AS NOTED
DATE: MAY 2022
BID PICKUP: MAY 27, 2022
FILE No: 21-290

M1.02C OF ---

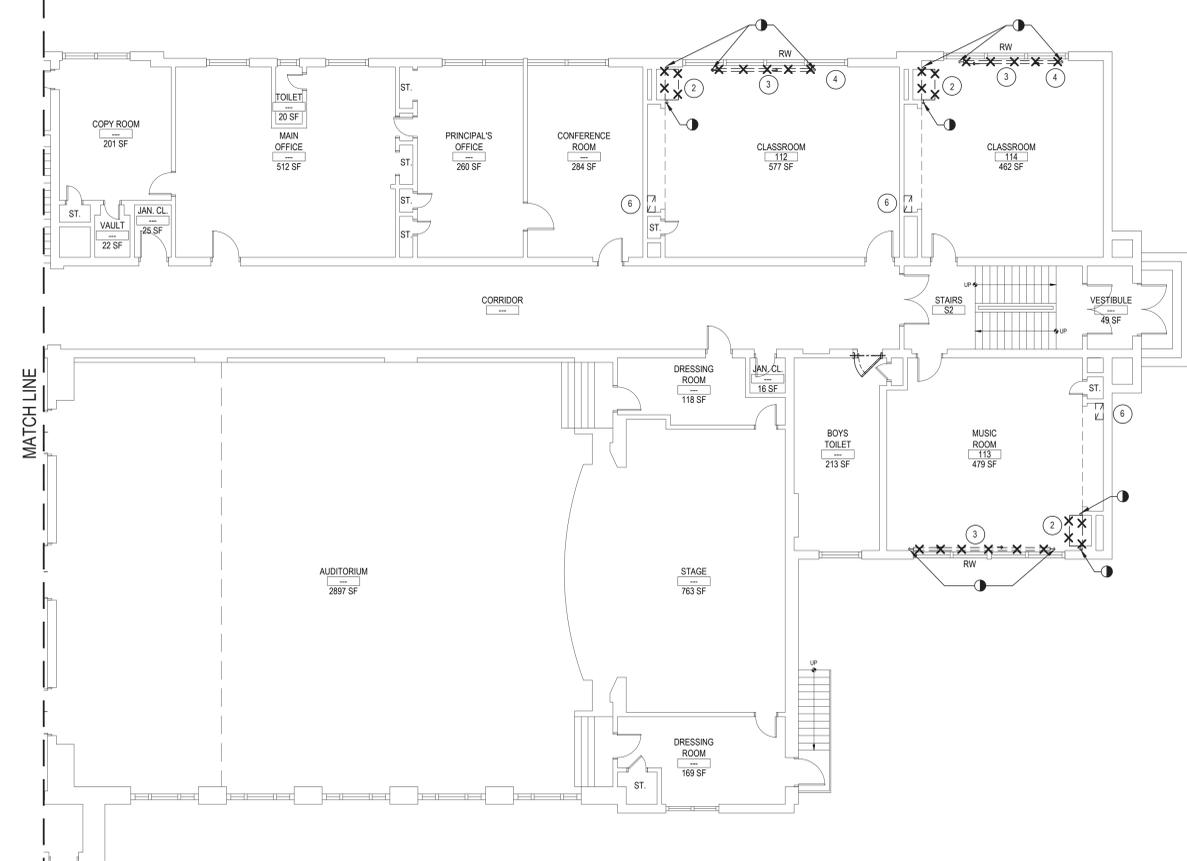


- NOTES:**
- CONNECT NEW 2" STEAM PIPING & 1-1/2" CONDENSATE PIPE TO EXISTING MAIN PIPING. VERIFY IN FIELD EXACT STEAM MAIN PIPING LOCATION. WHERE PIPING RUNS UNDER THE FLOOR SLAB GC TO SAW CUT THE SLAB TO ACCOMMODATE NEW WORK. GC TO PATCH FLOOR. MATCH EXISTING AND COORDINATE WORK WITH MC WHERE STEAM PIPING RUNS ABOVE HUNG CEILING. GC TO REPAIR THE CEILING AFTER WORK IS DONE.
 - NEW HORIZONTAL UNIT VENTILATOR SURFACE MOUNTED RIGHT UNDER EXISTING CEILING GRID AND HUNG FROM THE STRUCTURE ABOVE. MC TO PROVIDE ALL SUPPLEMENTAL STRUCTURAL SUPPORT FRAMING. FOR MORE INFORMATION SEE DETAIL ON DWG M6.02C
 - NEW HORIZONTAL UNIT VENTILATOR MOUNTED CLOSE TO THE PLASTER CEILING AND HUNG FROM THE STRUCTURE ABOVE. MC TO PROVIDE ALL SUPPLEMENTAL STRUCTURAL SUPPORT FRAMING. FOR MORE INFORMATION SEE DETAIL ON DWG M6.02C
 - NEW RELIEF LOUVER, 34X16 GREENHECK, MODEL EHH-401, WITH RELIEF DAMPER MODEL BR-30. MC TO PROVIDE A DUCT SLEEVE TO MATE THE LOUVER AND THE DAMPER. MC TO INSTALL LOUVER IN THE NEW METAL PANEL INSTALLED BY GC. SEE ARCH. DWGS. FOR MORE INFORMATION REGARDING EXACT LOCATION.
 - NEW RELIEF AND OAI LOUVER, 34X24 GREENHECK, MODEL EHH-401, RELIEF LOUVER TO BE PROVIDED WITH RELIEF DAMPER MODEL BR-30. MC TO PROVIDE A DUCT SLEEVE TO MATE THE LOUVER AND THE DAMPER. MC TO INSTALL LOUVER IN THE NEW METAL PANEL INSTALLED BY GC. SEE ARCH. DWGS. FOR MORE INFORMATION REGARDING EXACT LOCATION.
 - NEW RELIEF AND OAI LOUVER, 34X28 GREENHECK, MODEL EHH-401, RELIEF LOUVER TO BE PROVIDED WITH RELIEF DAMPER MODEL BR-30. MC TO PROVIDE A DUCT SLEEVE TO MATE THE LOUVER AND THE DAMPER. MC TO INSTALL LOUVER IN THE NEW METAL PANEL INSTALLED BY GC. SEE ARCH. DWGS. FOR MORE INFORMATION REGARDING EXACT LOCATION.
 - NEW RELIEF LOUVER, 24X16 GREENHECK, MODEL EHH-401, WITH RELIEF DAMPER MODEL BR-30. MC TO PROVIDE A DUCT SLEEVE TO MATE THE LOUVER AND THE DAMPER. MC TO INSTALL LOUVER IN THE NEW METAL PANEL INSTALLED BY GC. SEE ARCH. DWGS. FOR MORE INFORMATION REGARDING EXACT LOCATION.
 - M.C. TO RECONNECT HOT AND COLD WATER PIPING AND DRAINAGE TO THE RELOCATED SINK, EXTEND PIPE BRANCHES IF NECESSARY AND COORDINATE WORK WITH GC
 - CONNECT 36X5 DUCT TO 36X10X4 PLENUM INSTALLED BEHIND THE NEW OAI LOUVER
 - CONNECT 48X5 DUCT TO 48X10X4 PLENUM INSTALLED BEHIND THE NEW OAI LOUVER
 - CONTROLS BY CONTROLS SUBCONTRACTOR UNDER CONTRACT TO MECHANICAL CONTRACTOR. SEE ATC SPECIFICATION FOR MORE INFORMATION
 - MC TO COORDINATE WORK WITH EC. EC TO RELOCATE AND REWIRE ALL ELECTRICAL OUTLETS THAT INTERFERE WITH NEW UV LOCATION.
 - MC TO CUT OPENING IN CEILING TO ALLOW INSTALLATION OF THE UV FROM STRUCTURE ABOVE. GC TO PATCH CEILING AFTER WORK IS DONE. MC TO COORDINATE WORK WITH GC





MECHANICAL 1ST FLOOR DEMOLITION PART PLAN
SCALE: 1/8" = 1'-0"



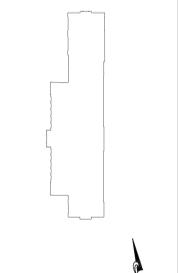
CONTINUATION MECHANICAL 1ST FLOOR DEMOLITION PART PLAN
SCALE: 1/8" = 1'-0"

- NOTES:
1. MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING UV AND CAP PIPING BACK TO MAINS. MC TO REMOVE THE UV AND GC PATCH FLOOR WALL (SEE GENERAL NOTES). MC TO REMOVE EXISTING OAI LOUVER AND REUSE EXISTING WALL OPENING FOR NEW LOUVER INSTALLATION. GO TO ENLARGE EXISTING OPENING IF NECESSARY TO ACCOMMODATE NEW LOUVER INSTALLATION. MC TO COORDINATE WORK WITH GC.
 2. MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING UV AND CAP PIPING BACK TO THE MAINS. MC TO REMOVE THE UV AND GC PATCH CHASE WALL.
 3. MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING STEAM RADIATOR AND CAP PIPING CLOSE TO MAINS. MC TO REMOVE THE RADIATOR AND GC TO PATCH FLOOR WALL OPENINGS.
 4. GO TO REMOVE THE SHELF ADJACENT TO THE WINDOW SILL IN ORDER TO ALLOW PROPER FUNCTIONING OF THE NEW UV. GO TO COORDINATE WORK WITH MC.
 5. NA
 6. EXISTING 24X10 EXHAUST GRILLE IN CLOSET OR WALL TO REMAIN. (TYP.)
 7. EXISTING STEAM CAST IRON RADIATOR TO REMAIN.
 8. REMOVE SMALL WINDOW FAN IN EACH CLASSROOM WHERE NEW UV IS INSTALLED.

- MC CONTRACTOR NOTES:
1. MC TO FIELD VERIFY EXACT LOCATION OF EXISTING MAIN STEAM AND CONDENSATE PIPING.
 2. MC TO SHUT-OFF & DISCONNECT STEAM AND CONDENSATE PIPING SERVING EXISTING UV/STEAM RADIATOR THAT WILL BE REMOVED.
 3. ALL STEAM/CONDENSATE PIPING MODIFIED OR REUSED ARE TO BE CAPPED BACK TO THE MAINS.
 4. MC TO REMOVE ALL EXISTING UNIT VENTILATORS/STEAM RADIATOR AS INDICATE ON DWG. G.C. TO PATCH CHASE WALL TO MATCH EXISTING.
 5. MC TO CORE DRILL EXISTING FLOOR SLAB TO ACCOMMODATE NEW PIPING WORK. G.C. TO PATCH FLOOR, MATCH EXISTING AND COORDINATE WITH M.C.
 6. M.C. TO DRILL WALL IF NEW PENETRATION REQUIRED FOR NEW PIPING AND PATCH WALL.

REV.	DATE	ITEM

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PROJECT
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PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
RICHARD J. BAILEY ELEMENTARY SCHOOL
WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

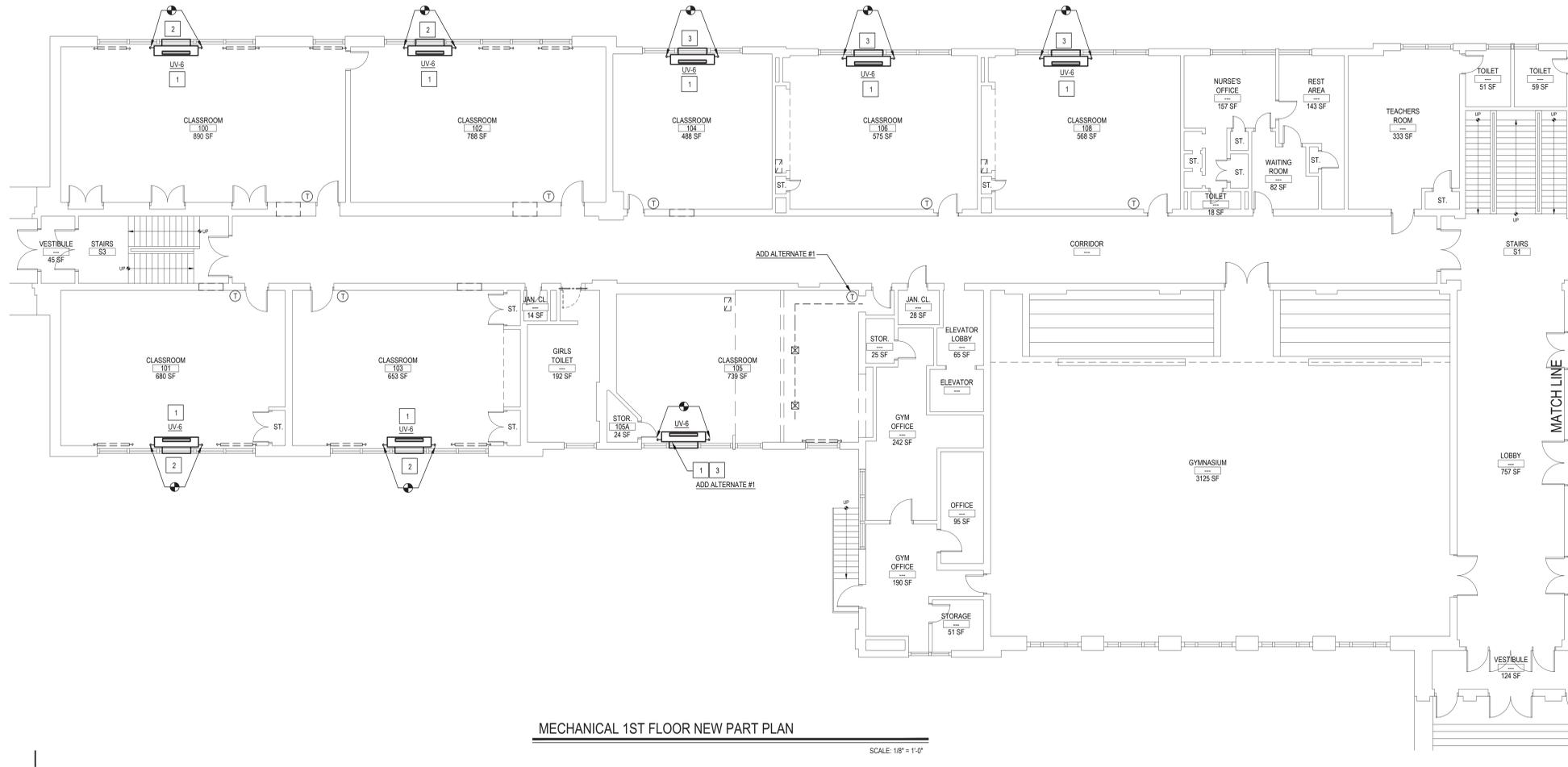
DWG TITLE
MECHANICAL 1ST FLOOR DEMOLITION PLAN

DRAWING BY: D.S.
CHECK BY: D.S.

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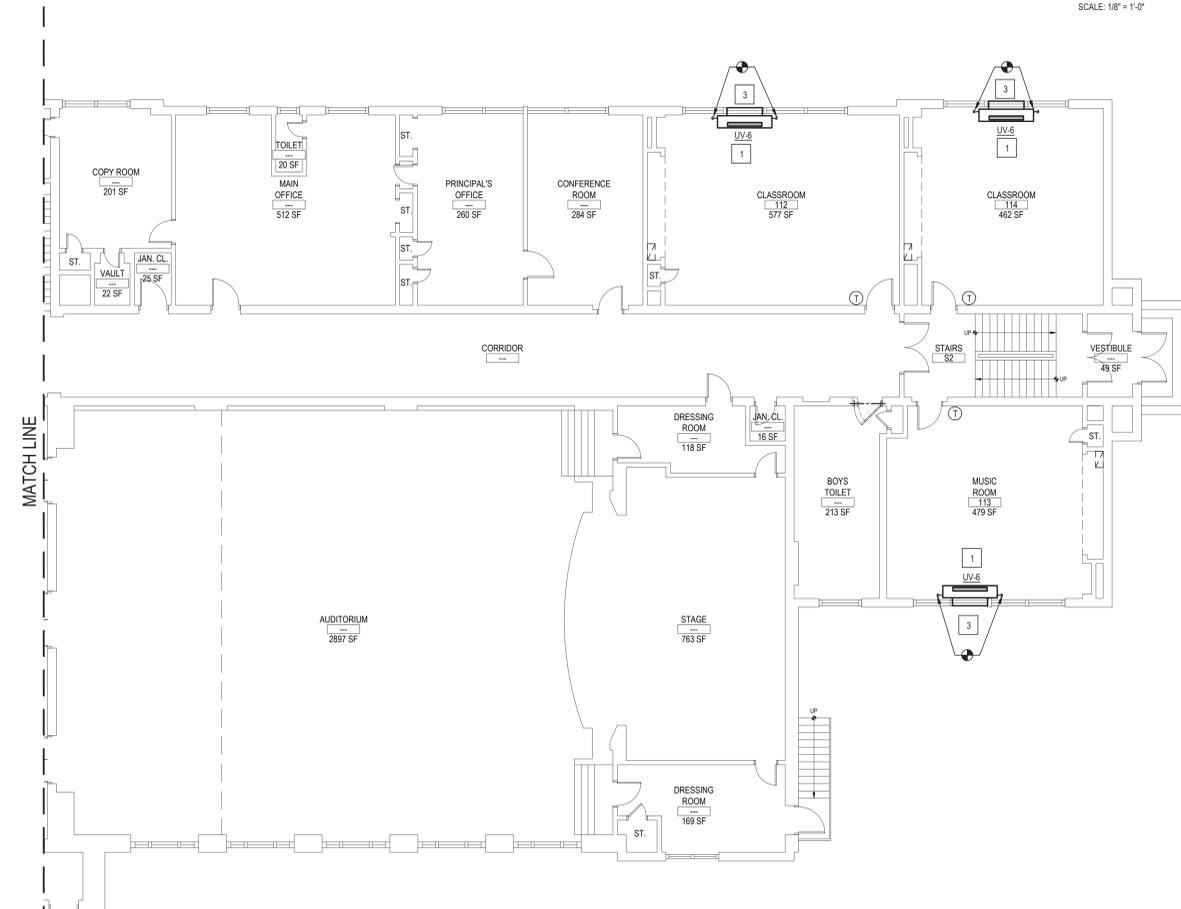
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DISTRICT: GREENBURGH CSD
PROJECT: PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.
DWG TITLE: MECHANICAL 1ST FLOOR DEMOLITION PLAN
SCALE: AS NOTED
DATE: MAY 2022
BID PICK-UP: MAY 27, 2022
FILE No: 21-290



MECHANICAL 1ST FLOOR NEW PART PLAN

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



CONTINUATION MECHANICAL 1ST FLOOR NEW PART PLAN

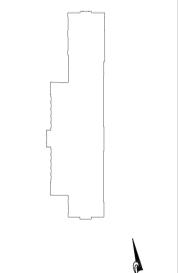
SCALE: 1/8" = 1'-0"

NOTES:

- 1 CONNECT NEW 2" STEAM PIPING & 1-1/2" CONDENSATE PIPE FROM THE NEW UV-6 STEAM COIL TO EXISTING MAIN PIPING. VERIFY IN FIELD EXACT STEAM MAIN PIPING LOCATION WHERE PIPING RUNS UNDER THE FLOOR. GC TO CORE DRILL THE FLOOR TO ACCOMMODATE NEW WORK. GC TO PATCH FLOOR. MATCH EXISTING AND COORDINATE WORK WITH MC. WHERE STEAM PIPING RUNS ABOVE HUNG CEILING, GC TO REPAIR THE CEILING AFTER WORK IS DONE.
- 2 NEW 48X10 EXTERIOR OAI RAIN RESISTANT LOUVER BY UV MANUFACTURER. MC TO REUSE EXISTING WALL OPENING. GC TO ADJUST IT TO FIT NEW LOUVER. MC TO COORDINATE WORK WITH GC.
- 3 NEW 48X10 EXTERIOR OAI RAIN RESISTANT LOUVER BY UV MANUFACTURER. GC TO PENETRATE EXTERIOR WALL FOR NEW OPENING AND MC TO INSTALL LOUVER. MC TO COORDINATE WORK WITH GC.
- 4 CONTROLS BY CONTROLS SUBCONTRACTOR UNDER CONTRACT TO MECHANICAL CONTRACTOR. SEE ATC SPECIFICATION FOR MORE INFORMATION.
- 5 MC TO COORDINATE WORK WITH EC. EC TO RELOCATE AND REWIRE ALL ELECTRICAL OUTLETS THAT INTERFERE WITH NEW UV LOCATION.

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KEY PLAN
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 GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
 MECHANICAL 1ST FLOOR NEW PLAN

DRAWING BY: D.S.
 CHECK BY: D.S.

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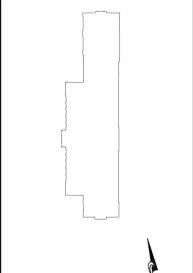
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 PROJECT: PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.
 DWG TITLE: MECHANICAL 1ST FLOOR NEW PLAN
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 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

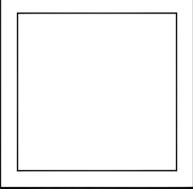
DWG TITLE
 MECHANICAL 2ND FLOOR DEMOLITION PLAN

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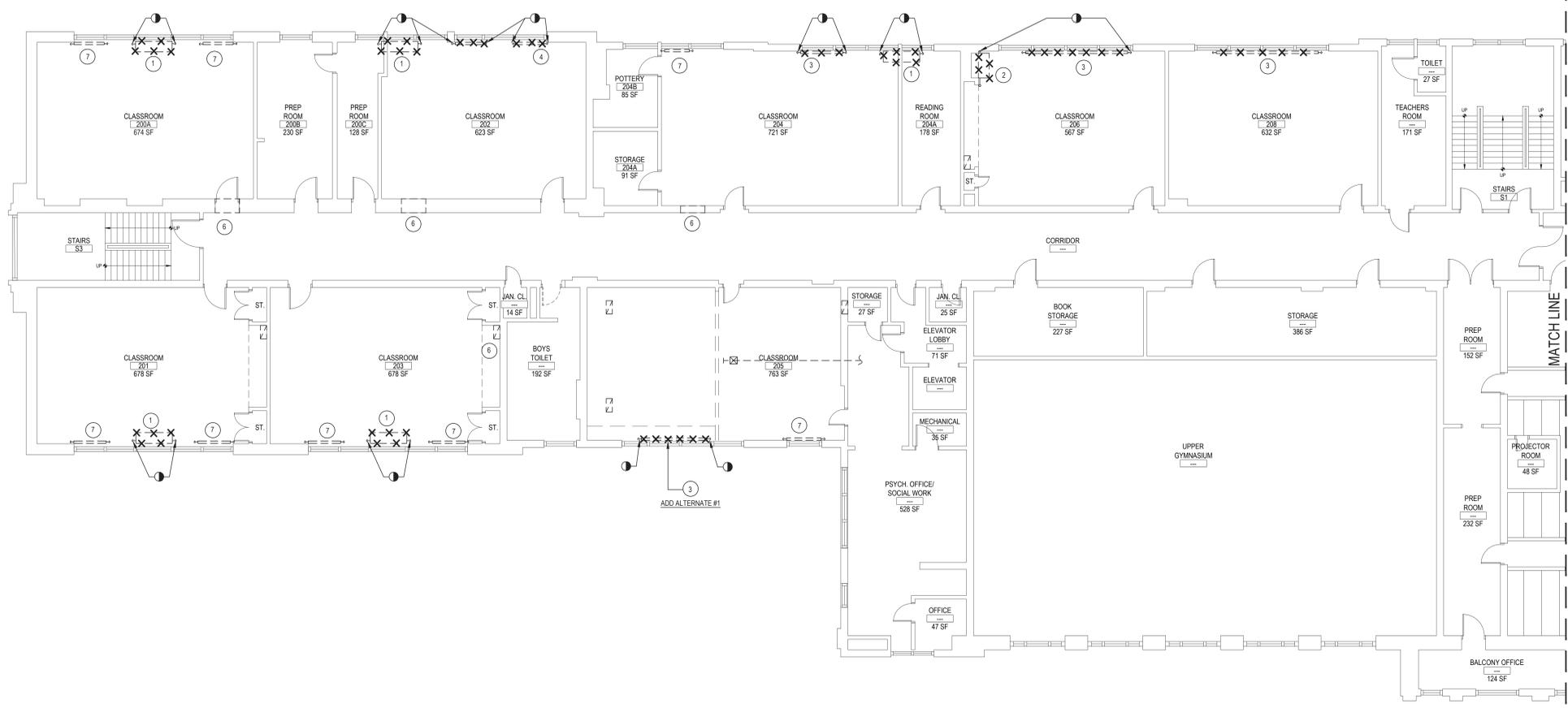
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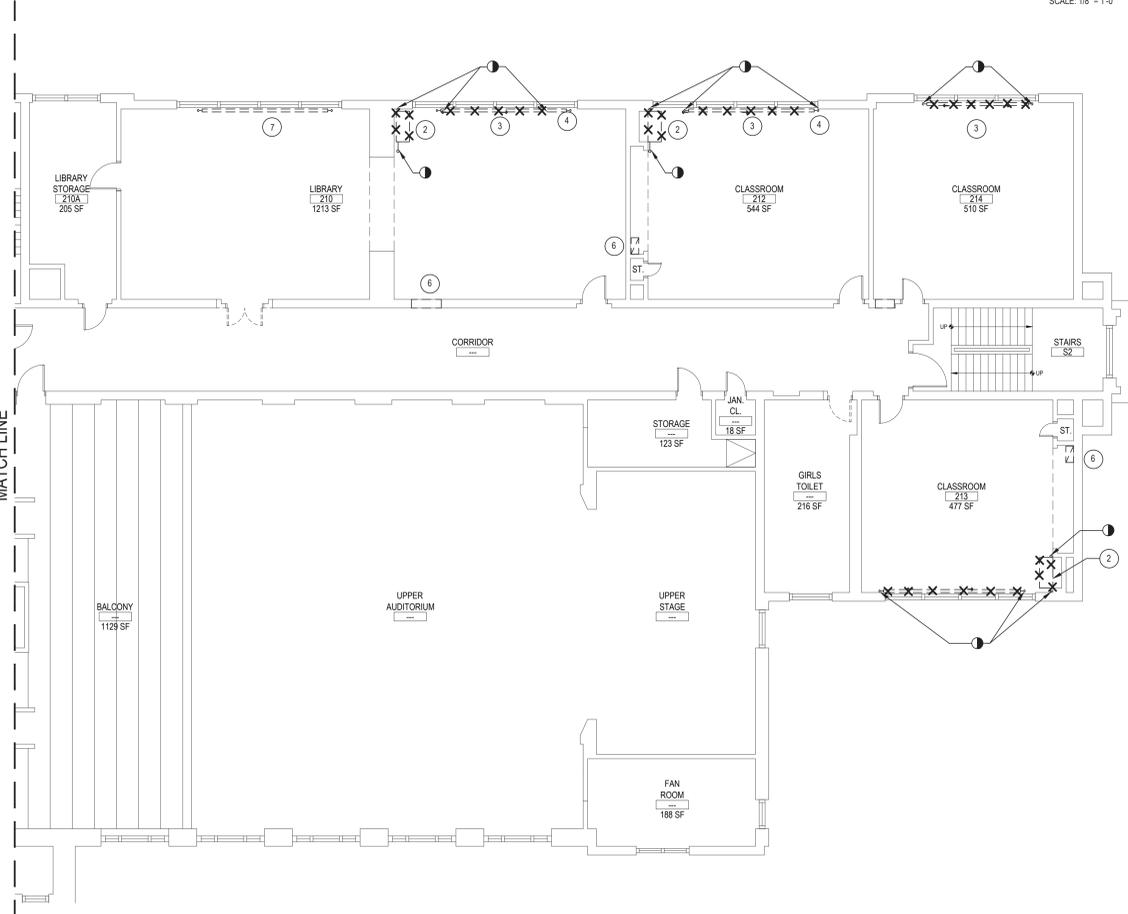


SED No: 66-04-07-06-0-005-012
 DISTRICT: GREENBURGH CSD
 PROJECT: PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.
 DWG TITLE: MECHANICAL 2ND FLOOR DEMOLITION PLAN
 SCALE: AS NOTED
 DATE: MAY 2022
 BID PICK-UP: MAY 27, 2022
 FILE No: 21-290

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MECHANICAL 2ND FLOOR DEMOLITION PART PLAN
 SCALE: 1/8" = 1'-0"



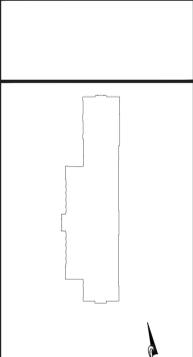
CONTINUATION MECHANICAL 2ND FLOOR DEMOLITION PART PLAN
 SCALE: 1/8" = 1'-0"

- NOTES:**
- MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING UV AND CAP PIPING BACK TO MAINS. MC TO REMOVE THE UV AND GC PATCH FLOOR WALL (SEE GENERAL NOTES). MC TO REMOVE EXISTING OIL LOUVER AND REUSE EXISTING WALL OPENING FOR NEW LOUVER INSTALLATION. GC TO ENLARGE EXISTING OPENING IF NECESSARY TO ACCOMMODATE NEW LOUVER INSTALLATION. MC TO COORDINATE WORK WITH GC.
 - MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING UV AND CAP PIPING BACK TO THE MAINS. MC TO REMOVE THE UV AND GC PATCH CHASE WALL.
 - MC TO SHUT-OFF STEAM PIPING. DISCONNECT EXISTING STEAM RADIATOR AND CAP PIPING CLOSE TO MAINS. MC TO REMOVE THE RADIATOR AND GC TO PATCH FLOOR WALL OPENINGS.
 - GC TO REMOVE THE SHELF ADJACENT TO THE WINDOW SILL IN ORDER TO ALLOW PROPER FUNCTIONING OF THE NEW UV. GC TO COORDINATE WORK WITH MC.
 - NA
 - EXISTING 2X10 EXHAUST GRILLE IN CLOSET OR WALL TO REMAIN. (TYP.)
 - EXISTING STEAM CAST IRON RADIATOR TO REMAIN.
 - REMOVE SMALL WINDOW FAN IN EACH CLASSROOM WHERE NEW UV IS INSTALLED.

- MC CONTRACTOR NOTES:**
- MC TO FIELD VERIFY EXACT LOCATION OF EXISTING MAIN STEAM AND CONDENSATE PIPING.
 - MC TO SHUT-OFF & DISCONNECT STEAM AND CONDENSATE PIPING SERVING EXISTING UV/STEAM RADIATOR THAT WILL BE REMOVED.
 - ALL STEAM /CONDENSATE PIPING MODIFIED OR REUSED ARE TO BE CAPPED BACK TO THE MAINS.
 - MC TO REMOVE ALL EXISTING UNIT VENTILATORS/STEAM RADIATOR AS INDICATE ON DWG. G.C. TO PATCH CHASE WALL TO MATCH EXISTING.
 - MC TO CORE DRILL EXISTING FLOOR SLAB TO ACCOMMODATE NEW PIPING WORK. G.C. TO PATCH FLOOR, MATCH EXISTING AND COORDINATE WITH M.C.
 - M.C. TO DRILL WALL IF NEW PENETRATION REQUIRED FOR NEW PIPING AND PATCH WALL.

REV.	DATE	ITEM

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KEY PLAN
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 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
 MECHANICAL 2ND FLOOR NEW PLAN

DRAWING BY: D.S.
 CHECK BY: D.S.

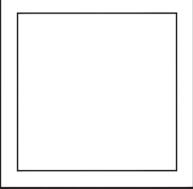
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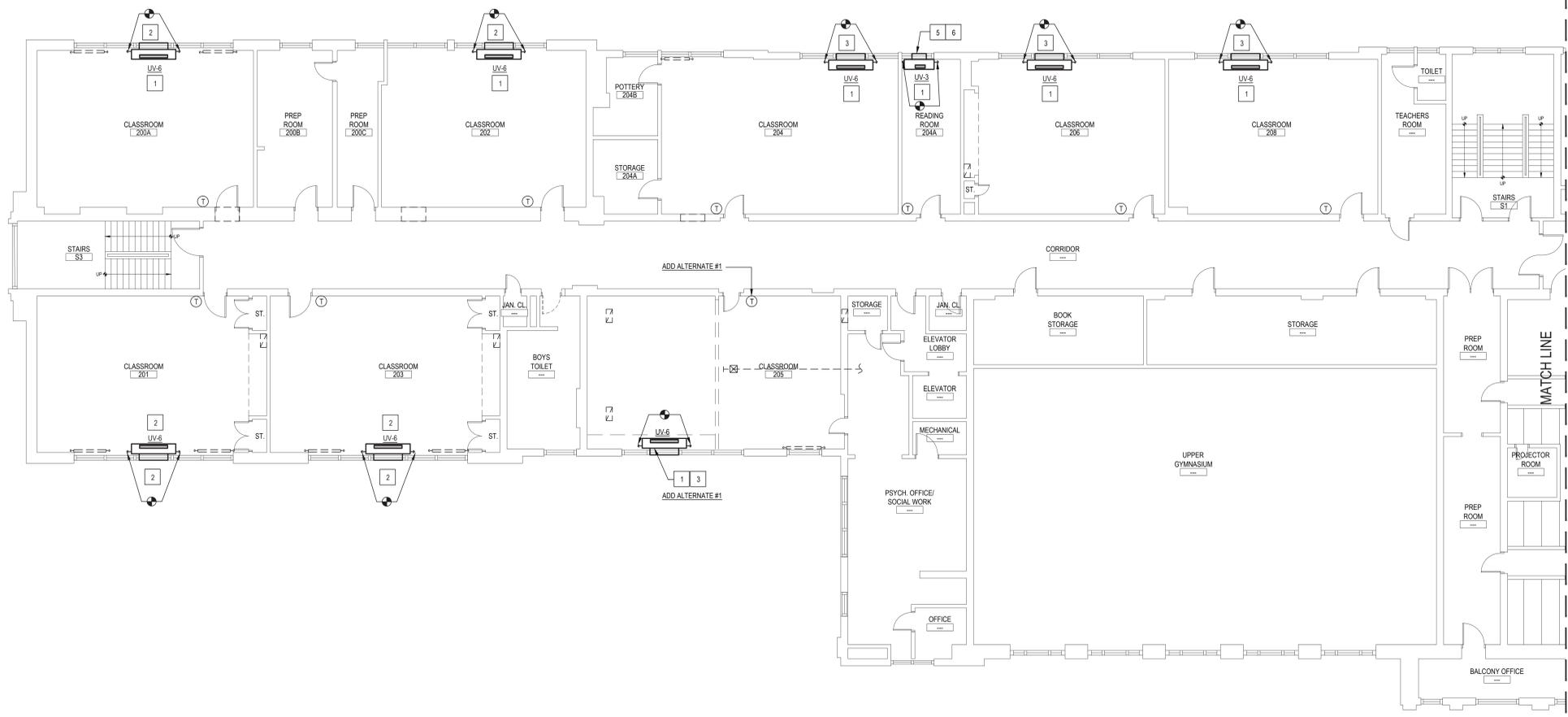
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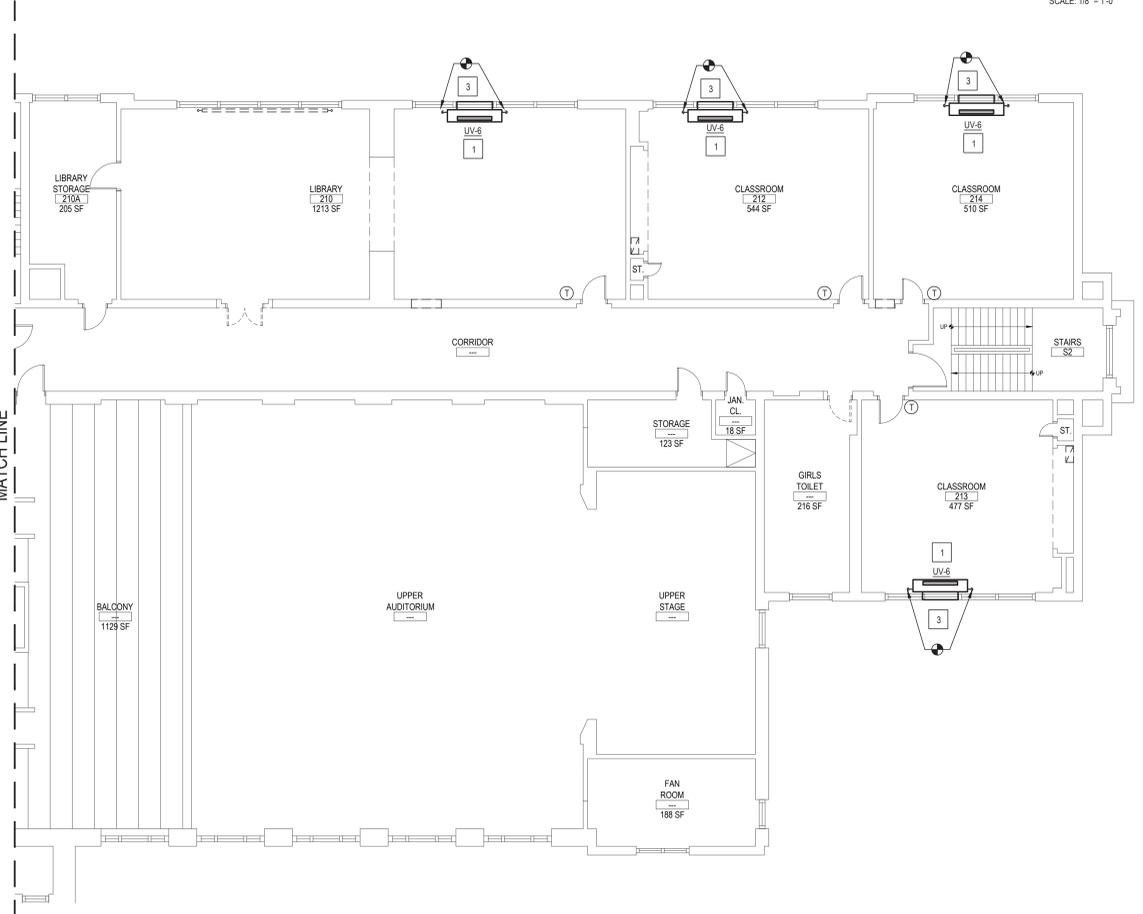
SED No: 66-04-07-06-0-005-012
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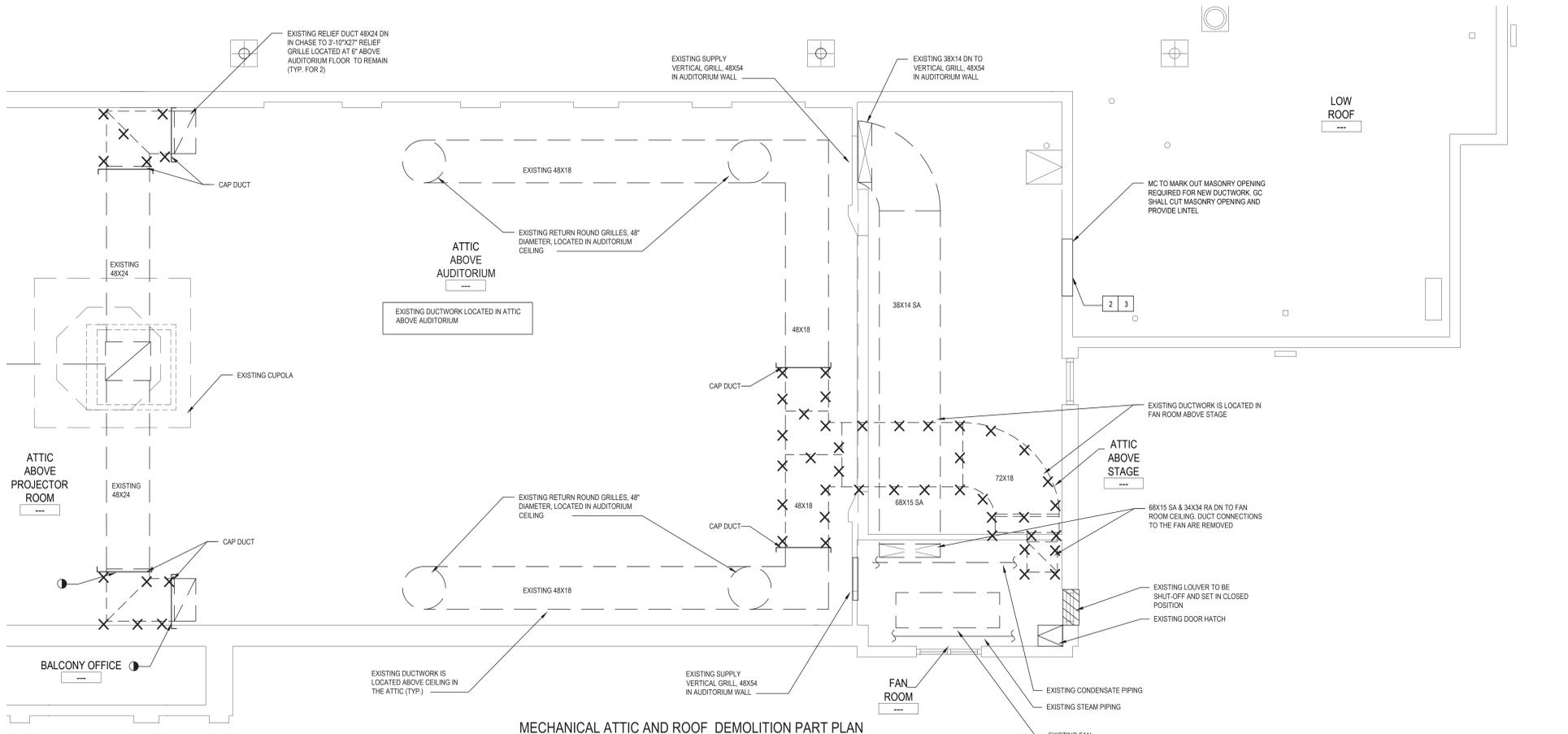
MECHANICAL 2ND FLOOR NEW PART PLAN

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



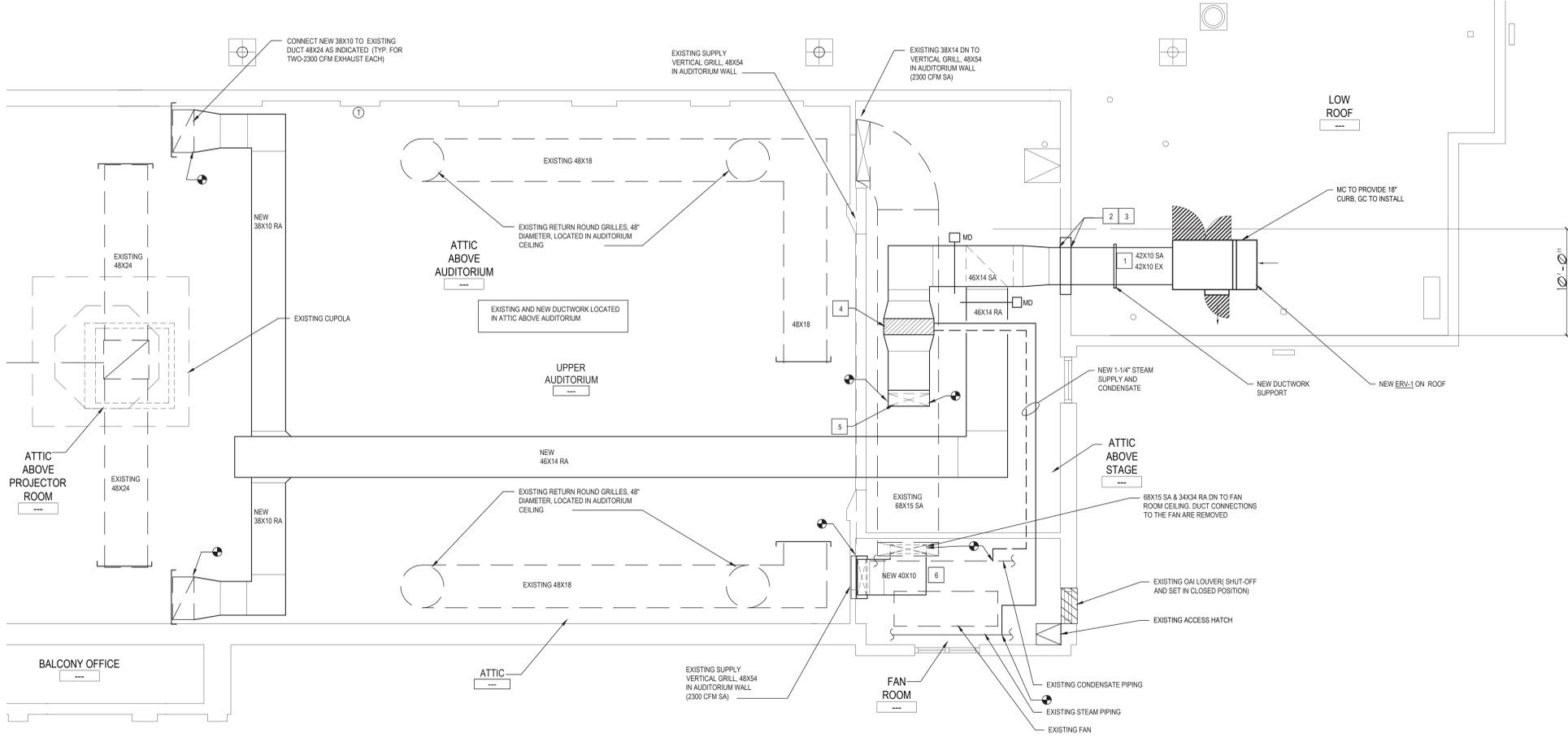
CONTINUATION MECHANICAL 2ND FLOOR NEW PART PLAN

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



MECHANICAL ATTIC AND ROOF DEMOLITION PART PLAN

SCALE: 3/16" = 1'-0"



MECHANICAL ATTIC AND ROOF NEW PART PLAN

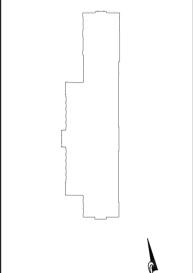
SCALE: 3/16" = 1'-0"

NOTES:

- 1 NEW 48X14 EXHAUST AIR DUCT RUNS UNDERNEATH 48X14 SA DUCT.
- 2 LOCATION OF THE DUCTWORK SIDE WALL PENETRATION NOT TO EXCEED 10'-0" FROM THE ROOF PARAPET. V.I.F. IF THERE IS ENOUGH CLEARANCE TO RUN 42X10/38X14 SA/EX IN THE ATTIC AS INDICATED ON DWG.
- 3 WHERE THE DUCTS 42X10 SA/EX WILL PENETRATE THE WALL, GC TO CUT A 8x54 WALL OPENING TO BE USED AS ACCESS FOR BRINGING NEW STEAM COIL AND DUCTWORK INSIDE ATTIC. MC TO AVOID LIGHTING CONDUIT RUNNING ALONG THE WALL. AFTER COIL IS BROUGHT IN, GC TO REPAIR THE WALL AND SEAL AROUND THE NEW 2 DUCTS.
- 4 NEW STEAM COIL INSTALLED IN THE SUPPLY DUCTWORK. FOR MORE INFORMATION SEE MECH. SCHEDULE IN DWG. M6.01C
- 5 NEW 46X14 SA DUCT DN. TO CONNECT TO EXISTING 68X15 DUCT
- 6 NEW 48X10 SA DUCT UP TO FAN ROOM CEILING TO CONNECT TO EXISTING 68X15 DUCT AND DN. TO CONNECT TO TOP OF NEW PLENUM 48'X54'X12' ATTACHED TO THE EXISTING WALL GRILLE.

REV.	DATE	ITEM

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KEY PLAN
 NOT TO SCALE

PROJECT
 GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
 MECHANICAL DEMOLITION AND NEW ATTIC AND ROOF PART PLAN

DRAWING BY: D.S.
 CHECK BY: D.S.

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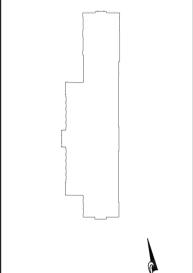
SED No: 66-04-07-06-0-005-012
 DISTRICT: GREENBURGH CSD
 PROJECT: PH I - DW CAP IMPROVEMENTS
 R.J. BAILEY E.S.
 DWG TITLE: MECHANICAL ATTIC AND ROOF
 PART PLAN
 SCALE: AS NOTED
 DATE: MAY 2022
 BID PICK-UP: MAY 27, 2022
 FILE No: 21-290

M4.01C of ---

REV.	DATE	ITEM

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NOTICE
 1. MC TO REPLACE EXISTING GRAVITY ROOF VENTILATORS WITH NEW TO MATCH EXISTING. ROOF OPENINGS ARE APPROX 42" (TYP FOR 3)
 2. MC TO CAP EXISTING OAI CHASE INTAKE WHICH SERVE EXISTING UNIT VENTILATORS INSIDE THE BUILDING. TYP. FOR 7



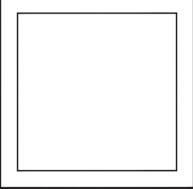
KEY PLAN
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PROJECT: GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY
 DWG TITLE: MECHANICAL ROOF PLAN

DRAWING BY: D.S.
 CHECK BY: D.S.

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 R.J. BAILEY E.S.
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 FILE No: 21-290

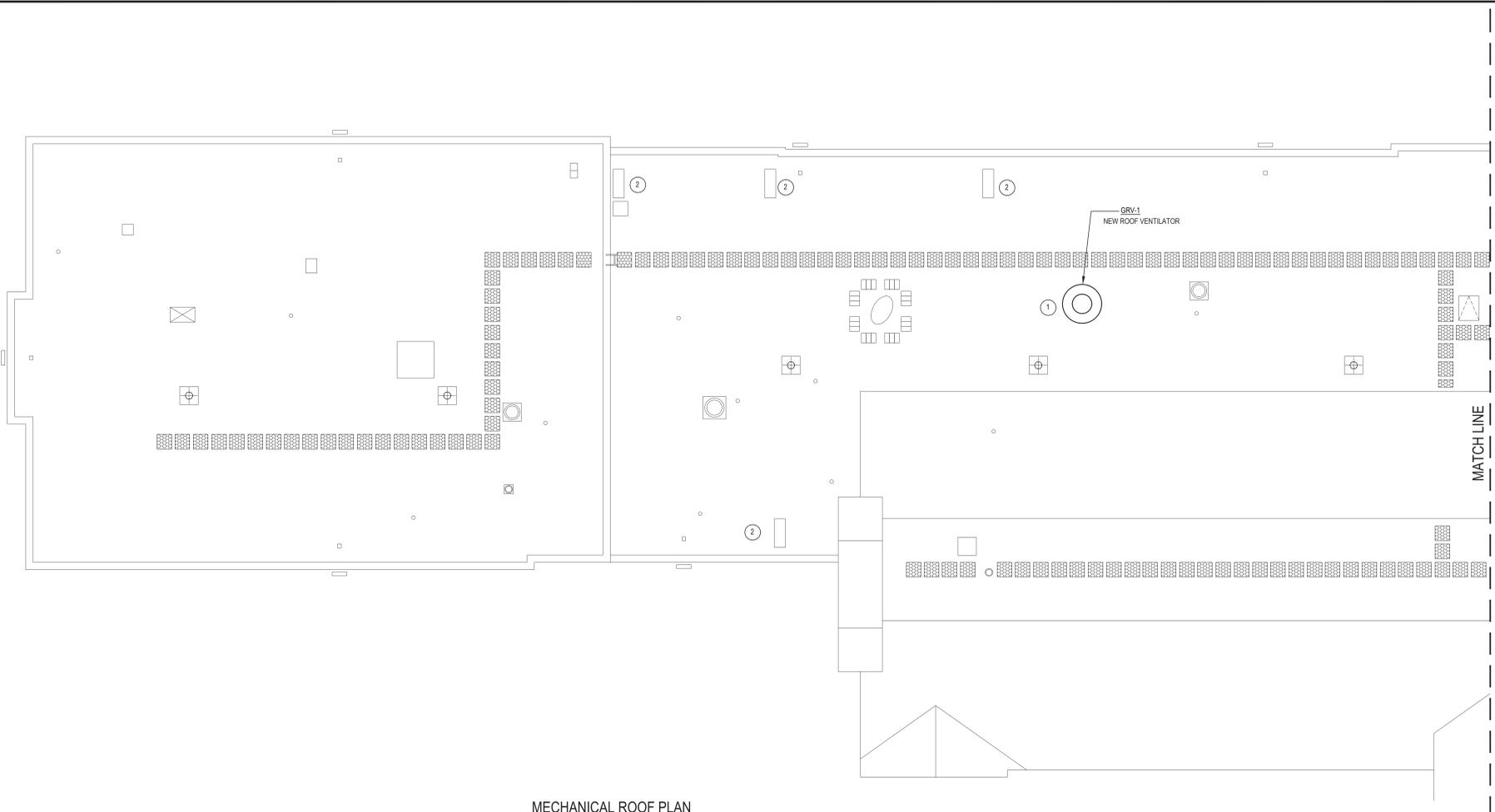
M5.01C OF ---

NOTES:

- MC TO REPLACE EXISTING GRAVITY ROOF VENTILATORS WITH NEW TO MATCH EXISTING. ROOF OPENINGS ARE APPROX 42" (TYP FOR 3)
- MC TO CAP EXISTING OAI CHASE INTAKE WHICH SERVE EXISTING UNIT VENTILATORS INSIDE THE BUILDING. TYP. FOR 7

MC CONTRACTOR NOTES:

- MC TO FIELD VERIFY EXACT LOCATION OF EXISTING ROOF VENTILATORS AND EXISTING OAI CHASES
- MC TO MARK OUT LOCATIONS WHERE ROOF OPENINGS NEED TO BE PROVIDED OR ENLARGED AND GENERAL CONTRACTOR TO CUT AND PATCH ALL ROOF OPENINGS. MC TO COORDINATE WORK WITH GC



MECHANICAL ROOF PLAN
 SCALE: 1/8" = 1'-0"

ROOF VENTILATORS SCHEDULE (GREENHECK AS STANDARD)

GREENHECK GRV-1, 2 & 3
 Building Value in Air

Model: GRSR
Standard Construction Features:
 - Aluminum housing - Aluminum curb cap with prepunched mounting holes.
 - Recommended roof opening dimension is at least 2.0 in. larger than the damper size.

Dimensions		Curb Cap		Curb Cap			
ID#	Tag	Qty	Model	Model Size	Width	Length	Height
4-1	GRV-1,2,3	3	GRSR-42	42	52	63.25	26
				A (in.)	B (in.)	C (in.)	D (in.)
				52	63.25	26	11.25
				E (in.)	F (in.)		
				N/A	42.5		

Construction		Flashing		Installation		Insect		Birdscreen		Unit	
ID#	Flange	Type	Screen	Material	Material	Material	Material	Material	Material	Material	
4-1	No	Non-Ducted	No	Galvanized	Aluminum						

Accessories		Hinged		Hood		Insulation		Tie Down	
ID#	Curb Cap	Curb Seal	None	(in.)	Points	None	None	None	None
4-1	No	No	None						

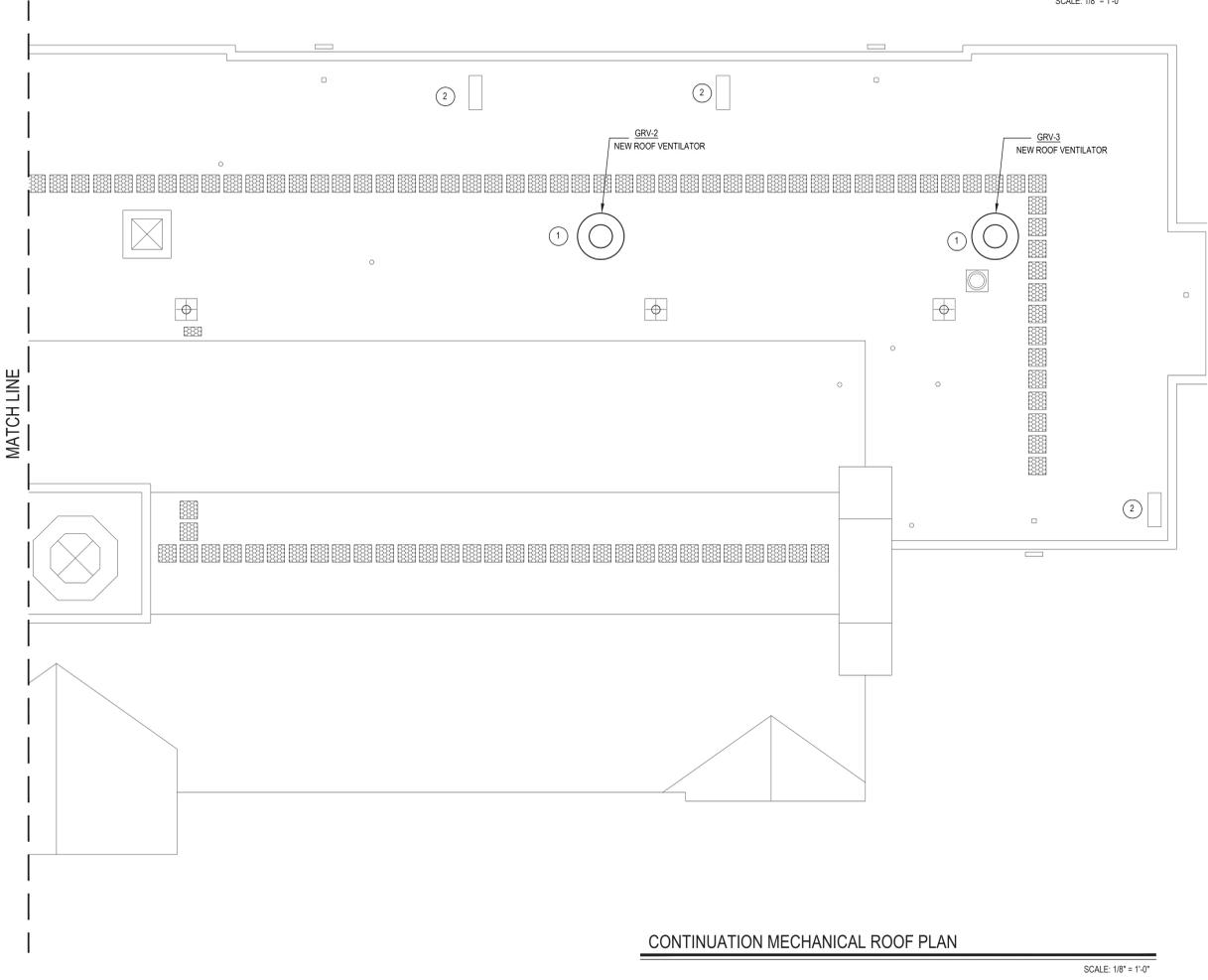
Roof Curbs		Height		Width		Length	
ID#	Model	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)
4-1	GPI	12	52	52	52		

Model: GPI
Roof Curb
Standard Construction Features:
 - Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.564 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in. - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

General		Sizing		Underizing		Weight		Shipped	
ID#	Tag	Qty	Model	Method	(in.)	(lb)	Assembled	Method	(in.)
4-1		3	GPI-S2-G12	Normal	1.5	57	Yes		

Dimensions		Nominal		Nominal		Actual		Actual	
ID#	Curb	Outside	Outside	Outside	Outside	Flange	Flange	Height	Length
4-1		(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)
		12	52	52	50.5	50.5	54.5	54.5	

Accessories		Security		Insulation	
ID#	Material	Bars	Liner	(in.)	
4-1	Galvanized	No	No	1	

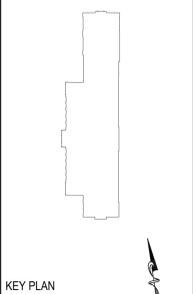


CONTINUATION MECHANICAL ROOF PLAN
 SCALE: 1/8" = 1'-0"

REV.	DATE	ITEM

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KEY PLAN
 NOT TO SCALE



MECHANICAL SCHEDULES

PROJECT
 GREENBURGH CENTRAL SCHOOL DISTRICT
 PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
 RICHARD J. BAILEY ELEMENTARY SCHOOL
 WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
 MECHANICAL SCHEDULES

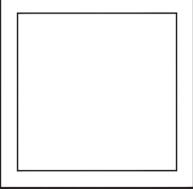
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SED No: 66-04-07-06-0-005-012
 DISTRICT: GREENBURGH CSD
 PROJECT: PH I - DW CAP IMPROVEMENTS R.J. BAILEY E.S.
 DWG TITLE: MECHANICAL SCHEDULES
 SCALE: AS NOTED
 DATE: MAY 27, 2022
 BID PICK-UP: MAY 27, 2022
 FILE No: 21-290

M6.01C OF ---

ERV SCHEDULE (SYSTEM AIR AS STANDARD)

Air data	Supply air	Return air	Units
Airflow (1.205 kg/m³)	4,600	4,600	cfm
External pressure	1.00	1.00	in. w.g.
Filter	MERV13	MERV7	
Energy			
Sensible Effectiveness	69.2		%
Latent Effectiveness	62.2		%
Total Effectiveness	67.1		%

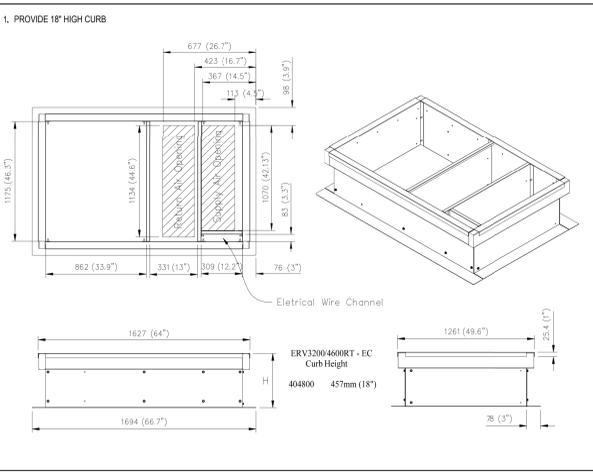
Supply air side

Winter Conditions	Summer Conditions	
Supply airflow	4,462	4,777
Extract airflow	4,246	4,777
Transferred power	270.82	-96.12
Supply temperature before/after	11.0 / 51.6	92.0 / 81.0
Supply RH before/after	90 / 54	44 / 54
Extract temperature before/after	70.0 / 29.5	75.0 / 86.1
Extract RH before/after	40 / 69	52 / 43
Sensible Effectiveness	69.2	64.9
Latent Effectiveness	62.2	42.8
Total Effectiveness	67.1	53.1
Rotor active	Yes	Yes

Rotary heat recovery

Winter Conditions	Summer Conditions	
Supply airflow	4,462	4,777
Extract airflow	4,246	4,777
Transferred power	270.82	-96.12
Supply temperature before/after	11.0 / 51.6	92.0 / 81.0
Supply RH before/after	90 / 54	44 / 54
Extract temperature before/after	70.0 / 29.5	75.0 / 86.1
Extract RH before/after	40 / 69	52 / 43
Sensible Effectiveness	69.2	64.9
Latent Effectiveness	62.2	42.8
Total Effectiveness	67.1	53.1
Rotor active	Yes	Yes

Ecodesign	Enthalpy
MCA	18.9
MOP	25



TERMINAL UNIT SCHEDULE (MAGIC AIRE AS STANDARD)

Tag No.	MGF / MODEL #	CFM / E.S.P. OA DAMPER POS.	MOTOR (ECM) HP FLA MCA	ELECT. Req. VOLT / PHASE	HEATING COIL TYPE	HEAT OUTPUT / STEAM F.D.	CABINET TYPE	EXTERIOR LOUVER SIZE	COMMENTS/CONTROLS
UV-1	MAGIC AIRE UNIT VENTILATOR #MAUH2	750 @ .01 45%	1/3 2.3 2.9			46.8 MBH @ 2PSIG	HORIZONTAL LH	34"x10"	REFER TO ATC SPECIFICATION SECTION 15903 FOR FURTHER DETAILS REGARDING UNIT TEMPERATURE CONTROLS. REFER TO DWGS. 846.03 FOR PIPING / INSTALLATION DETAILS. PROVIDE NEW CLEAR ANODIZED LOUVER. CONTROLS SUBCONTRACTOR, UNDER CONTRACT TO MECHANICAL CONTRACTOR
UV-2	MAGIC AIRE UNIT VENTILATOR #MAUH3	1000 @ .01 45%	1/3 2.6 3.2			62 MBH @ 2PSIG	HORIZONTAL LH	48"x10"	
UV-3	MAGIC AIRE UNIT VENTILATOR #MAUV1	500 @ .01 45%	1/3 1.3 1.6	208V, 1 PH.	STEAM 1 COIL ROW	37 MBH @ 2PSIG	VERTICAL LV	24"x10"	
UV-4	MAGIC AIRE UNIT VENTILATOR #MAUV4	1250 @ .01 45%	1/2 3.3 4.1			78 MBH @ 2PSIG	VERTICAL LV	NA	
UV-5	MAGIC AIRE UNIT VENTILATOR #MAUH5	1500 @ .01 45%	1/2 3.3 4.1			93.6 MBH @ 2PSIG	HORIZONTAL LH	NA	
UV-6	MAGIC AIRE UNIT VENTILATOR #MAUV3	1000 @ .01 45%	1/3 2.6 3.2			62 MBH @ 2PSIG	VERTICAL LV	48"x10"	

- 1. UNITS SHALL BE 21-7/8" DEEP UNITS.
- UNITS ARE TO BE EQUIPPED WITH VALVE CONTROL FOR STEAM
- PROVIDE MERV 13 FILTERS

STEAM COIL SCHEDULE (NATIONWIDE AS STANDARD)

KLIMA NEW YORK, LLC
NATIONWIDE COILS
 Greenborough
 Nationwide Coils Coil SC-1-Alt

Tag Qty Model Footnotes Comment

SC-1-Alt 1 SD58S02D09-18x56-RH a,b,c

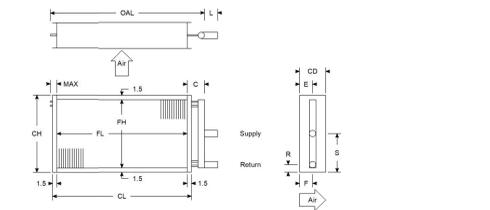
Construction and Performance Details

Tag	SC-1-Alt
Air flow (SCFM)	4600
Altitude (ft)	0
Total capacity (MBH)	403.0
Entering dry bulb (°F)	11.0
Leaving dry bulb (°F)	91.9
Face velocity (ft/min)	657
Air pressure drop (in. of water)	0.31
Air fouling factor (h-R²-F/Btu)	0.00000
Steam pressure (psi)	2.00
Steam temp. (°F)	218.3
Steam loading (lb/h)	416.1
Coils per bank	1
Coil type	58
Fin height (in)	18.0
Fin length (in)	56.0
Face area (ft²)	7.00
Rows	2
Fin spacing (fins/in)	9
Fin material	Al
Fin type	Sine
Fin thickness (in)	0.006
Tube wall thickness (in)	0.025
Supply conn. size (in)	1.250
Return conn. size (in)	1.250
Weight (lb)	86
Est. internal volume (ft³)	0.27

- Footnotes**
- (a) Not recommended for vertical tube applications.
 - (b) Certified in accordance with the AHRI Forward-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard-410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahrirdirectory.com.
 - (c) Tube OD 0.625, Tube spacing 1.500 x 1.250

R2.8 (Build 157360) - 177 Page 1 of 2 Wednesday, October 20, 2021

KLIMA NEW YORK, LLC
NATIONWIDE COILS
 Greenborough
 Nationwide Coils Coil SC-1-Alt



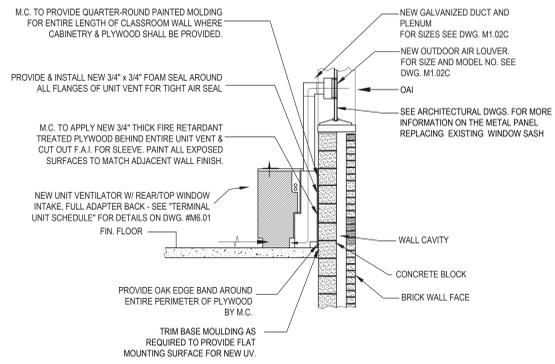
Dimensions*

Tag	SC-1-Alt
Model	SD58S02D09-18x56-RH
Weight	86
Fin material & type	0.006 Aluminum Sine-wave
Tube wall	0.025 / Smooth
Casing material / flange	16 ga. galv. steel (std) / Slacking
Coating	None
Header diameter	3.125
Supply / return conn. size	1.25 / 1.25
Connection type	MPT Copper
PH / FL	18 / 56
CH / CL	21 / 59
OAL / CD	63.75 / 6.5
C	6.25
S / R	10.5 / 1.25
E / F	3.25 / 3.25
L / MAX	3 / 1.5

* All distances are measured as inches.

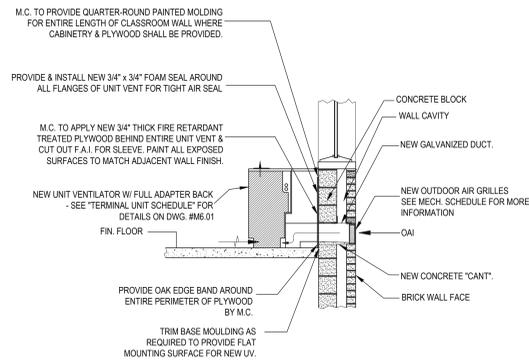
R2.8 (Build 157360) - 177 Page 2 of 2 Wednesday, October 20, 2021

R2.8 (Build 157360) - 177 Page 1 of 2 Wednesday, October 20, 2021



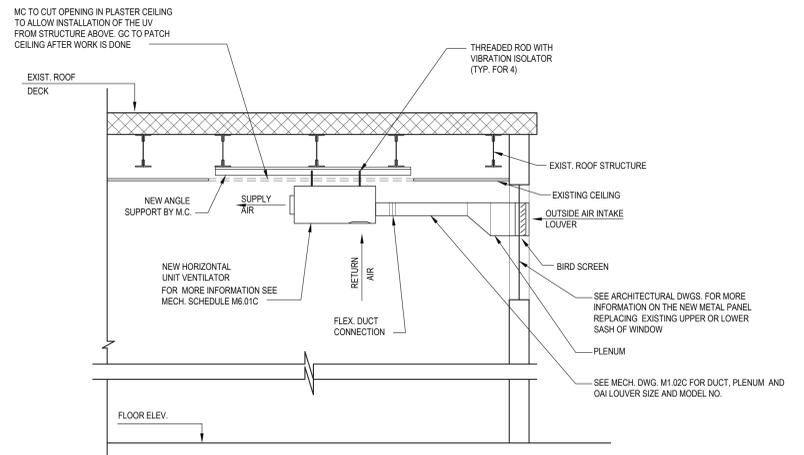
**VERTICAL UNIT VENTILATOR FRESH AIR INTAKE- MASONRY WALL INSTALLATION
DETAIL- (FOR MATH LAB 003 AND ART ROOM LOCATED IN THE BASEMENT)**

SCALE: NOT TO SCALE



**VERTICAL UNIT VENTILATOR FRESH AIR INTAKE- MASONRY WALL
INSTALLATION DETAIL- (TYP.)**

SCALE: NOT TO SCALE

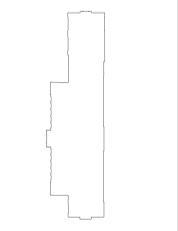


HORIZONTAL UNIT VENTILATOR INSTALLATION DETAIL- (TYP.)

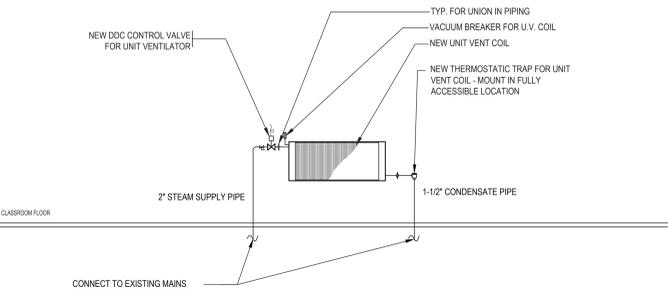
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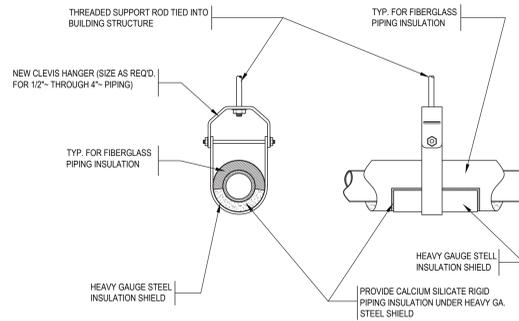


KEY PLAN
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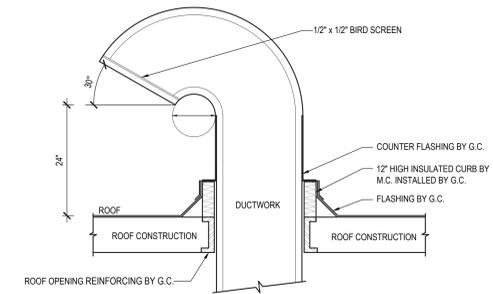
UNIT VENTILATOR /RADIATOR STEAM PIPING DETAIL

SCALE: NOT TO SCALE



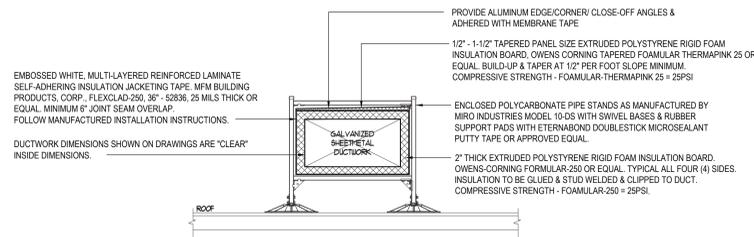
CLEVIS HANGER PIPING SUPPORTS DETAIL

SCALE: NOT TO SCALE



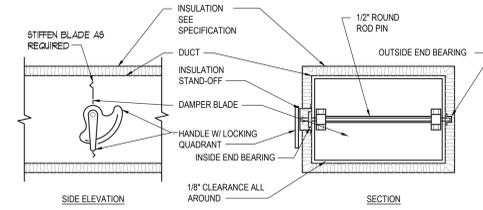
FRESH AIR INTAKE GOOSENECK DETAIL

SCALE: NOT TO SCALE



EXTERIOR RECTANGULAR DUCTWORK INSULATION WITH SUPPORTS DETAIL

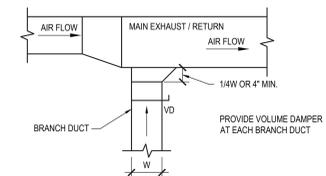
SCALE: NOT TO SCALE



- NOTE:**
- DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
 - DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

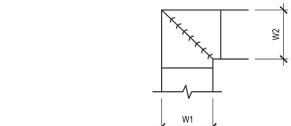
VOLUM DAMPER DETAIL

SCALE: NOT TO SCALE



EXHAUST OR RETURN BRANCH DUCTWORK DETAIL

SCALE: NOT TO SCALE



- NOTE:**
- ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED.
 - WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
 - ALL SINGLE THICKNESS VANES SHALL HAVE A 2\"/>

DUCTWORK SQUARE VANE ELBOWS DETAIL

SCALE: NOT TO SCALE

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GREENBURGH CENTRAL SCHOOL DISTRICT
PHASE I - DISTRICT WIDE CAPITAL IMPROVEMENTS
RICHARD J. BAILEY ELEMENTARY SCHOOL
WHITE PLAINS, NEW YORK - WESTCHESTER COUNTY

DWG TITLE
MECHANICAL DETAILS

DRAWING BY: D.S.
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SED No: 66-04-07-06-0-005-012

DISTRICT: GREENBURGH CSD

PROJECT: PH I - DW CAP IMPROVEMENTS
R.J. BAILEY, E.S.

DWG TITLE: MECHANICAL DETAILS

SCALE: AS NOTED

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