



boomerang DESIGN
rethink, repurpose, results

SHELBY
201 S. Wilmington St., Suite 200
Shelby, NC 27850
704/956-6000

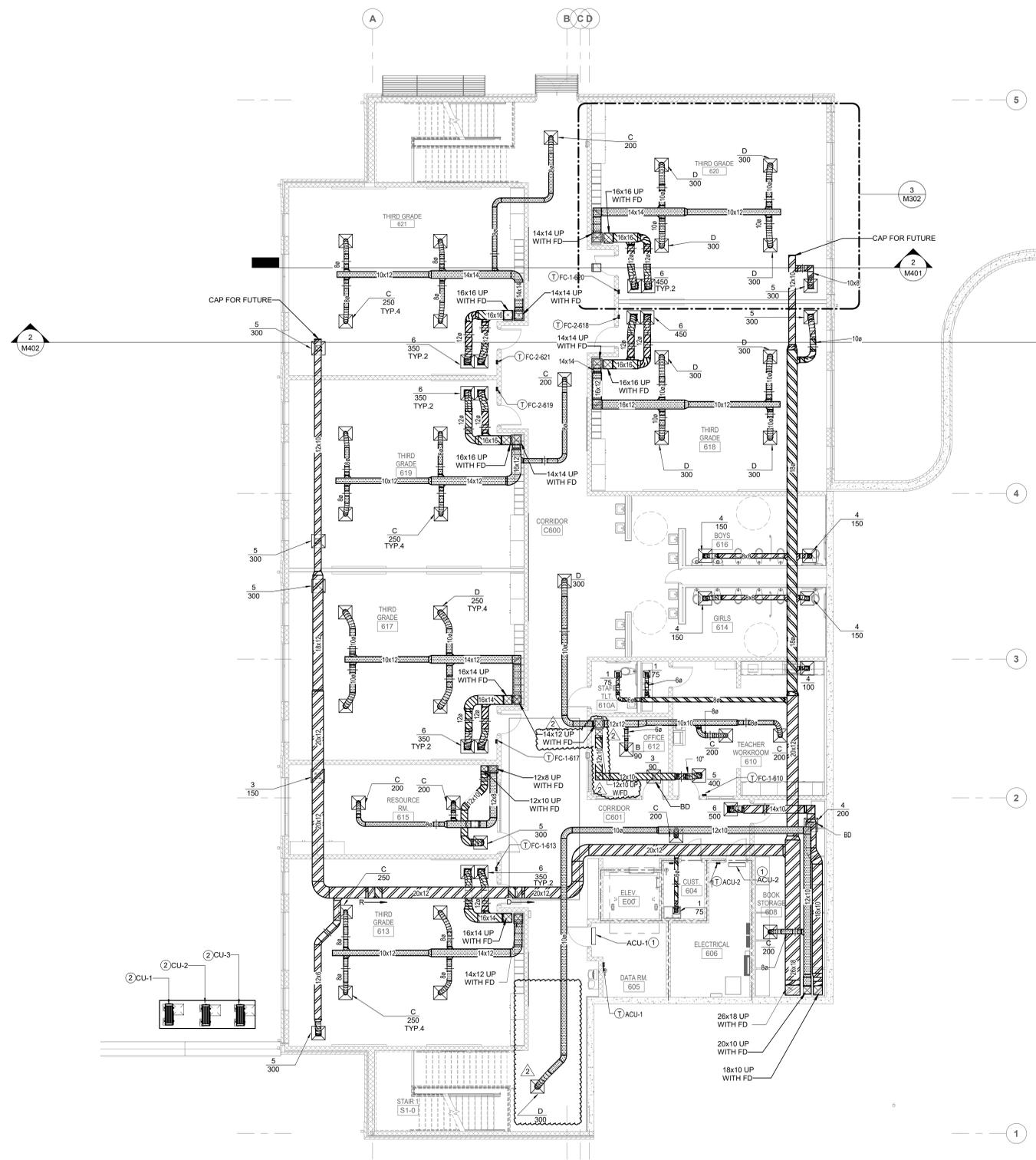
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1230 W. Morehead St., Suite 214
Charlotte, NC 28208
704/731-7000

RALEIGH
6131 Falls of Neuse Rd., Suite 204
Raleigh, NC 27609
919/374-6600

LEWISTON
1070 S. Lake Dr., Suite J
Lewiston, NC 28119
803/554-0027

- GENERAL NOTES:**
- PROVIDE BALANCING DAMPERS ON ALL LOW PRESSURE SUPPLY, RETURN AND EXHAUST BRANCH DUCTS AND RUNOUTS. ALL BALANCING DAMPERS SHALL BE EASILY ACCESSIBLE AND IDENTIFIED WITH FLAG OR ORANGE PAINT.
 - ALL DUCT DIMENSIONS ARE INSIDE CLEAR.
 - IN HARD CEILING PROVIDE BALANCING DAMPER WITH 30 INCHES OF DIFFUSER GRILLE. PROVIDE ACCESSORY ALUMINUM MOUNT FRAME / PLASTER FRAME FOR HARD CEILING THAT ALLOWS DIFFUSER WITH FLEX CONNECTION TO BE LIFTED OUT OF FRAME TO ACCESS CEILING SPACE.
 - BRANCH RUNOUTS TO DIFFUSERS SHALL BE THE SIZE LISTED ON THE GRILLE/DIFFUSER SCHEDULE, UNLESS OTHERWISE NOTED.

- KEYED NOTES:**
- INSTALL UNIT ABOVE DOOR. PROVIDE CONDENSATE TRAP AND 3/4" CONDENSATE PIPE. ROUTE TO MOP SINK IN CUSTODIAN ROOM 604. TERMINATE WITH AIR GAP.
 - INSTALL REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS. ROUTE LINES FROM OUTDOOR CONDENSING UNIT TO ASSOCIATED INDOOR DUCTLESS UNIT.



1 GROUND FLOOR DUCTWORK PLAN
1/8" = 1'-0"

pdc
Progressive Design Collaborative, Ltd.
3101 Poplarwood Court, Suite 320
Raleigh, North Carolina 27604
919-790-9989
License# C-0183
PROJECT #23015

COOPER ACADEMY A & R
PROJECT TITLE

"CLIENT'S PROJECT" # - XXX

02/28/2024
SCAMPBELL@PDCENGINEERS.COM

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- DO NOT SCALE OFF DIMENSIONS.

REVISIONS

NO.	DATE	DESCRIPTION
2	02/28/2024	ADDENDUM 02

BID SET
PROJECT PHASE
2307
BOOMERANG DESIGN PROJECT NUMBER
02.07.2024
DRAWING RELEASE DATE

GROUND FLOOR DUCTWORK PLAN
SHEET TITLE
M101
SHEET

2/26/2024 4:03:21 PM

FIRE RATED WALLS
1 HR RATED

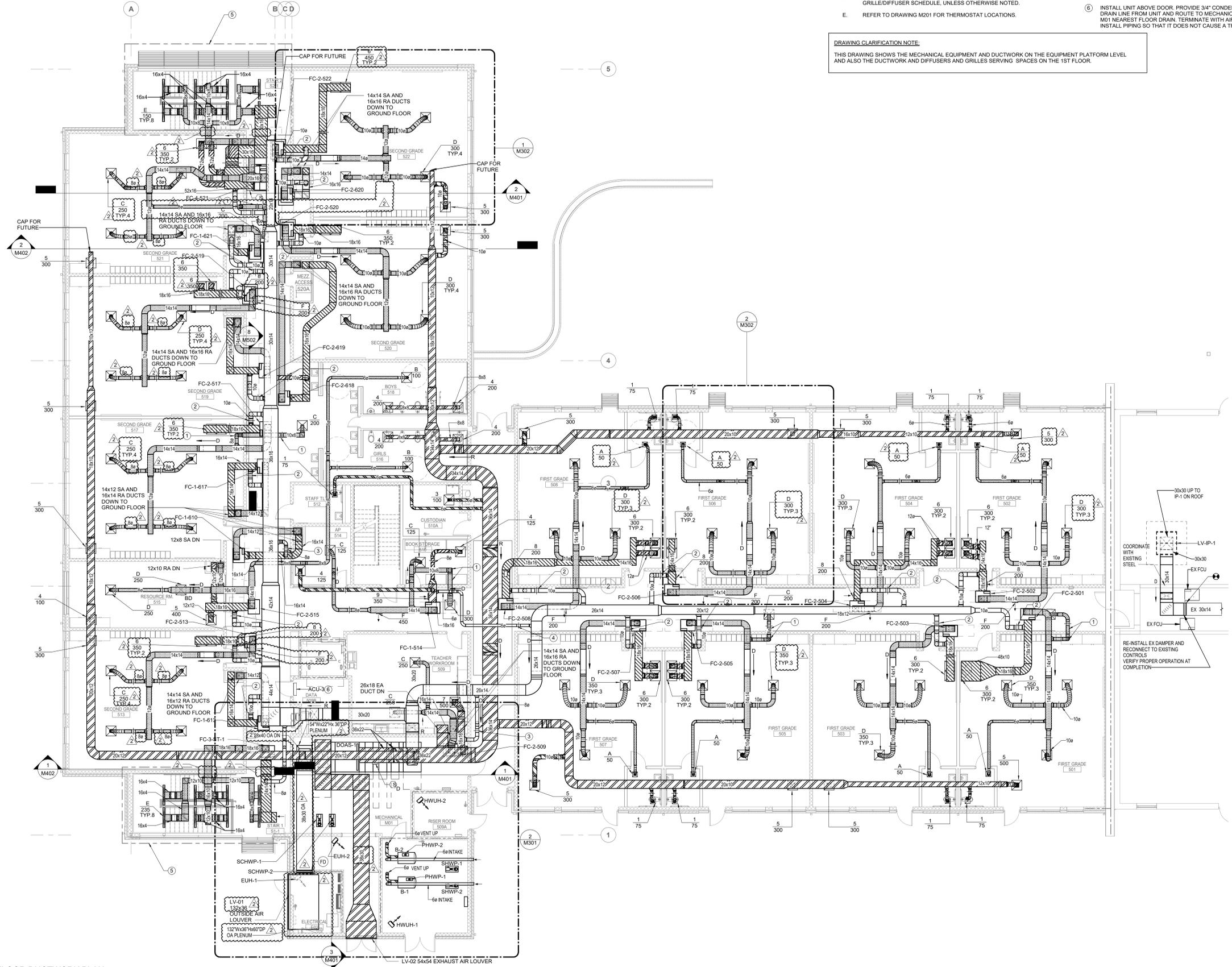
GENERAL NOTES:

- PROVIDE BALANCING DAMPERS ON ALL LOW PRESSURE SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS AND RUNOUTS. ALL BALANCING DAMPERS SHALL BE EASILY ACCESSIBLE AND IDENTIFIED WITH FLAG OR ORANGE PAINT.
- ALL DUCT DIMENSIONS ARE INSIDE CLEAR.
- IN HARD CEILING PROVIDE BALANCING DAMPER WITH 30 INCHES OF DIFFUSER GRILLE. PROVIDE ACCESSORY ALUMINUM MOUNT FRAME / PLASTER FRAME FOR HARD CEILING THAT ALLOWS DIFFUSER WITH FLEX CONNECTION TO BE LIFTED OUT OF FRAME TO ACCESS CEILING SPACE.
- BRANCH RUNOUTS TO DIFFUSERS SHALL BE THE SIZE LISTED ON THE GRILLE/DIFFUSER SCHEDULE, UNLESS OTHERWISE NOTED.
- REFER TO DRAWING M201 FOR THERMOSTAT LOCATIONS.

KEYNOTES:

- DROP DOWN AND RUN DUCTWORK SERVING SUPPLY DIFFUSER IN THE CEILING, BELOW EQUIPMENT PLATFORM FLOOR.
- BALANCE OA TO 300 CFM.
- BALANCE OA TO 100 CFM.
- BALANCE TO 75 CFM.
- DUCTWORK WITHIN THE STAIRWELL AREA SHALL HAVE PAINT GRIP FINISH TO BE PAINTED FLAT BLACK.
- INSTALL UNIT ABOVE DOOR. PROVIDE 3/4" CONDENSATE DRAIN LINE FROM UNIT AND ROUTE TO MECHANICAL ROOM M01 NEAREST FLOOR DRAIN. TERMINATE WITH AIR GAP. INSTALL PIPING SO THAT IT DOES NOT CAUSE A TRIP HAZARD.

DRAWING CLARIFICATION NOTE:
THIS DRAWING SHOWS THE MECHANICAL EQUIPMENT AND DUCTWORK ON THE EQUIPMENT PLATFORM LEVEL AND ALSO THE DUCTWORK AND DIFFUSERS AND GRILLES SERVING SPACES ON THE 1ST FLOOR.



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COOPER ACADEMY A & R
PROJECT TITLE

"CLIENT'S PROJECT" # - XXX

PROFESSIONAL SEAL
STATE OF NORTH CAROLINA
SCAMPBELL, W. CAMPBELL
02/28/2024
SCAMPBELL@PDCENGINEERS.COM

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3. DO NOT SCALE OFF DIMENSIONS.

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BID SET
PROJECT PHASE
2307
BOOMERANG DESIGN PROJECT NUMBER
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FIRST FLOOR AND EQUIPMENT PLATFORM DUCTWORK PLAN
SHEET TITLE

M102
SHEET

2/26/2024 4:03:28 PM

1 FIRST FLOOR DUCTWORK PLAN
1" = 1'-0"

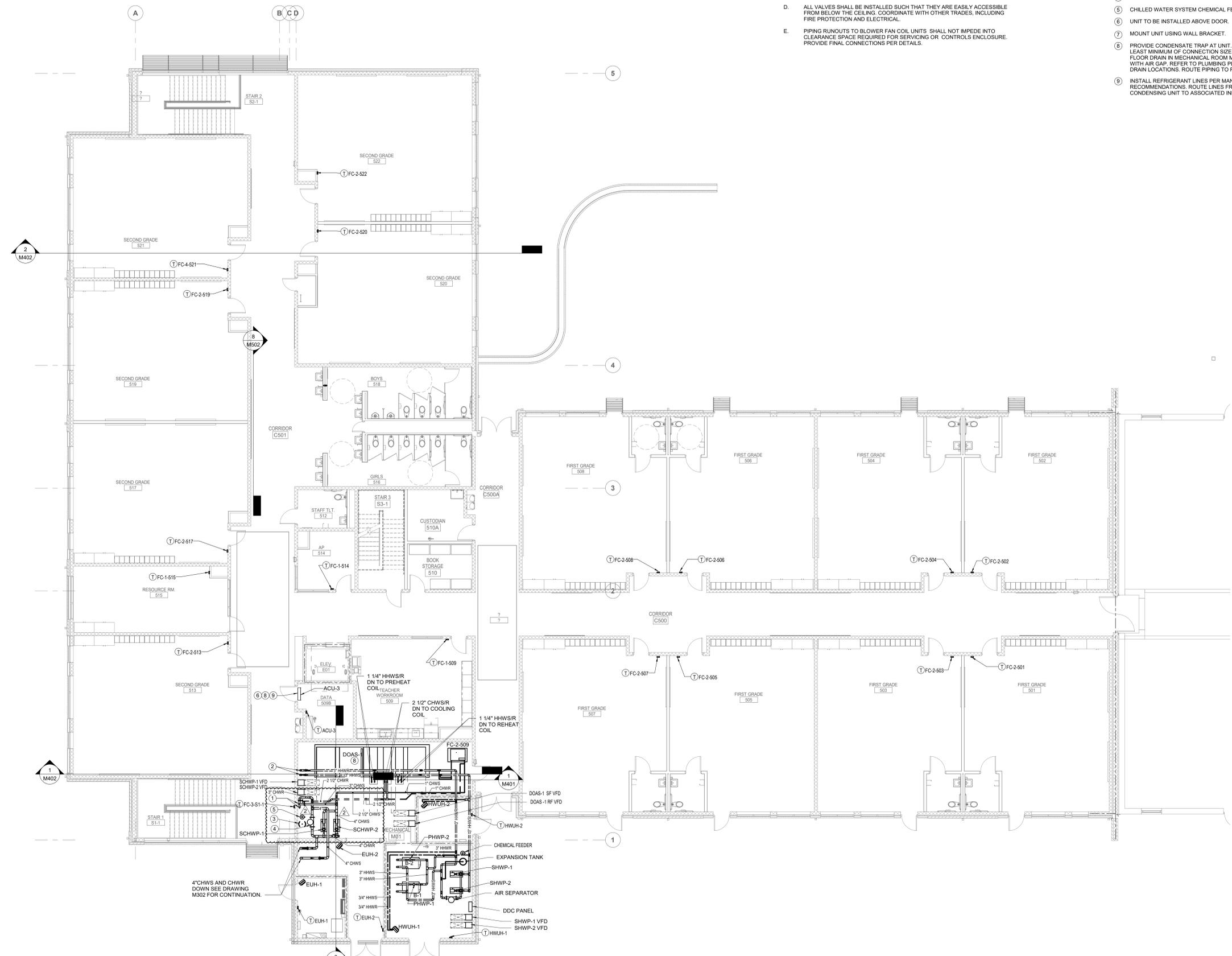


GENERAL NOTES:

- A. THERMOSTATS IN PUBLIC AND COMMON AREAS OTHER THAN CORRIDORS SHALL BE NOT HAVE LCD SCREEN BUT SHALL HAVE OVERRIDE BUTTON.
- B. MECHANICAL AND BAS CONTRACTORS SHALL REVIEW THE FINAL CASEWORK AND FFE DRAWINGS AND IDENTIFY POTENTIAL CONFLICTS WITH THERMOSTAT AND SENSOR LOCATIONS PRIOR TO ROUGH-IN. NOTIFY ARCHITECT AND ENGINEER OF CONFLICTS AND DISCREPANCIES.
- C. ALL THERMOSTATS, SENSORS, AND USER CONTROLS SHALL BE MOUNTED AT 48". DEVICES SHALL BE ALIGNED EXACTLY WITH ADJACENT DEVICES OF OTHER TRADES (LIGHT SWITCHES, OCC SENSORS, ETC.)
- D. ALL VALVES SHALL BE INSTALLED SUCH THAT THEY ARE EASILY ACCESSIBLE FROM BELOW THE CEILING. COORDINATE WITH OTHER TRADES, INCLUDING FIRE PROTECTION AND ELECTRICAL.
- E. PIPING RUNOUTS TO BLOWER FAN COIL UNITS SHALL NOT IMPEDE INTO CLEARANCE SPACE REQUIRED FOR SERVICING OR CONTROLS ENCLOSURE. PROVIDE FINAL CONNECTIONS PER DETAILS.

KEYNOTES:

- 1 3" CHWS AND CHWR UP. SEE DRAWING M202 FOR CONTINUATION.
- 2 3" CHWS AND HHWR UP. SEE DRAWING M202 FOR CONTINUATION.
- 3 CHILLED WATER SYSTEM EXPANSION TANK
- 4 CHILLED WATER SYSTEM AIR SEPARATOR
- 5 CHILLED WATER SYSTEM CHEMICAL FEEDER
- 6 UNIT TO BE INSTALLED ABOVE DOOR.
- 7 MOUNT UNIT USING WALL BRACKET.
- 8 PROVIDE CONDENSATE TRAP AT UNIT. SIZE SHALL BE AT LEAST MINIMUM OF CONNECTION SIZE. EXTEND TO NEAREST FLOOR DRAIN IN MECHANICAL ROOM M01, AND TERMINATE WITH AIR GAP. REFER TO PLUMBING PLANS FOR FLOOR DRAIN LOCATIONS. ROUTE PIPING TO PREVENT TRIP HAZARD
- 9 INSTALL REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS. ROUTE LINES FROM OUTDOOR CONDENSING UNIT TO ASSOCIATED INDOOR DUCTLESS UNIT.



1 FIRST FLOOR PIPING PLAN



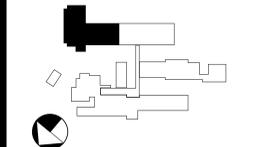
COOPER ACADEMY A & R

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FIRST FLOOR PIPING PLAN
SHEET TITLE

M201
SHEET

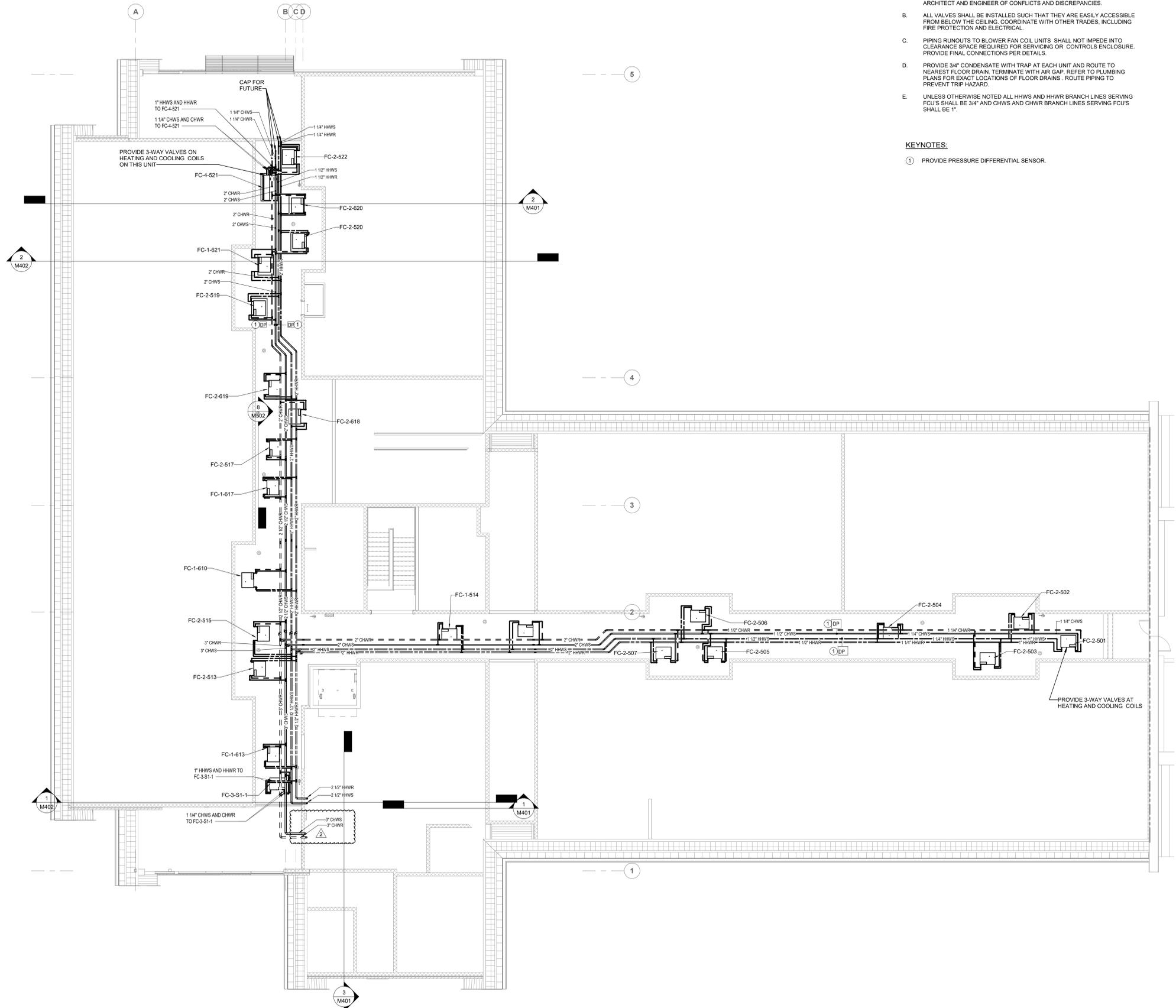
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GENERAL NOTES:

- MECHANICAL AND BAS CONTRACTORS SHALL REVIEW THE FINAL CASEWORK AND FFE DRAWINGS AND IDENTIFY POTENTIAL CONFLICTS WITH THERMOSTAT AND SENSOR LOCATIONS PRIOR TO ROUGH-IN. NOTIFY ARCHITECT AND ENGINEER OF CONFLICTS AND DISCREPANCIES.
- ALL VALVES SHALL BE INSTALLED SUCH THAT THEY ARE EASILY ACCESSIBLE FROM BELOW THE CEILING. COORDINATE WITH OTHER TRADES, INCLUDING FIRE PROTECTION AND ELECTRICAL.
- PIPING RUNOUTS TO BLOWER FAN COIL UNITS SHALL NOT IMPEDE INTO CLEARANCE SPACE REQUIRED FOR SERVICING OR CONTROLS ENCLOSURE. PROVIDE FINAL CONNECTIONS PER DETAILS.
- PROVIDE 3/4" CONDENSATE WITH TRAP AT EACH UNIT AND ROUTE TO NEAREST FLOOR DRAIN. TERMINATE WITH AIR GAP. REFER TO PLUMBING PLANS FOR EXACT LOCATIONS OF FLOOR DRAINS. ROUTE PIPING TO PREVENT TRIP HAZARD.
- UNLESS OTHERWISE NOTED ALL HHWS AND HHWR BRANCH LINES SERVING FCU'S SHALL BE 3/4" AND CHWS AND CHWR BRANCH LINES SERVING FCU'S SHALL BE 1".

KEYNOTES:

- PROVIDE PRESSURE DIFFERENTIAL SENSOR.



1 MEZZANING PIPING PLAN
1/8" = 1'-0"

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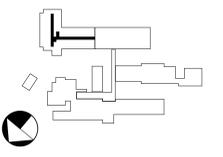
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A & R**

PROJECT TITLE

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2	02/26/2024	ADDENDUM 02

BID SET

PROJECT PHASE

2307

BOOMERANG DESIGN PROJECT NUMBER

02.07.2024

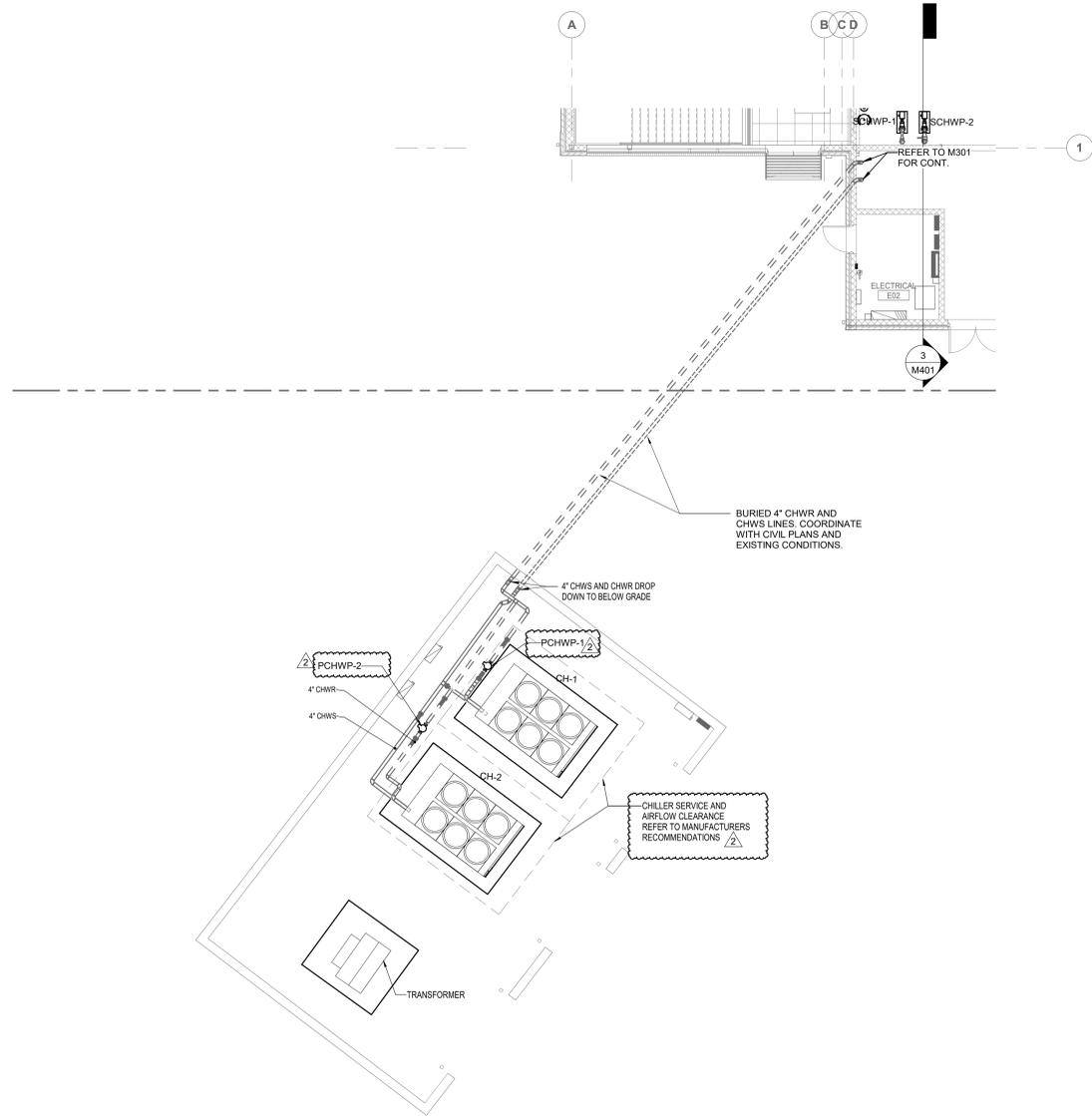
DRAWING RELEASE DATE

**EQUIPMENT
PLATFORM PIPING
PLAN**

SHEET TITLE

M202

SHEET



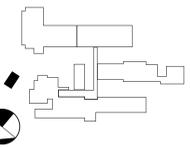
1 MECHANICAL YARD PLAN
1/8" = 1'-0"

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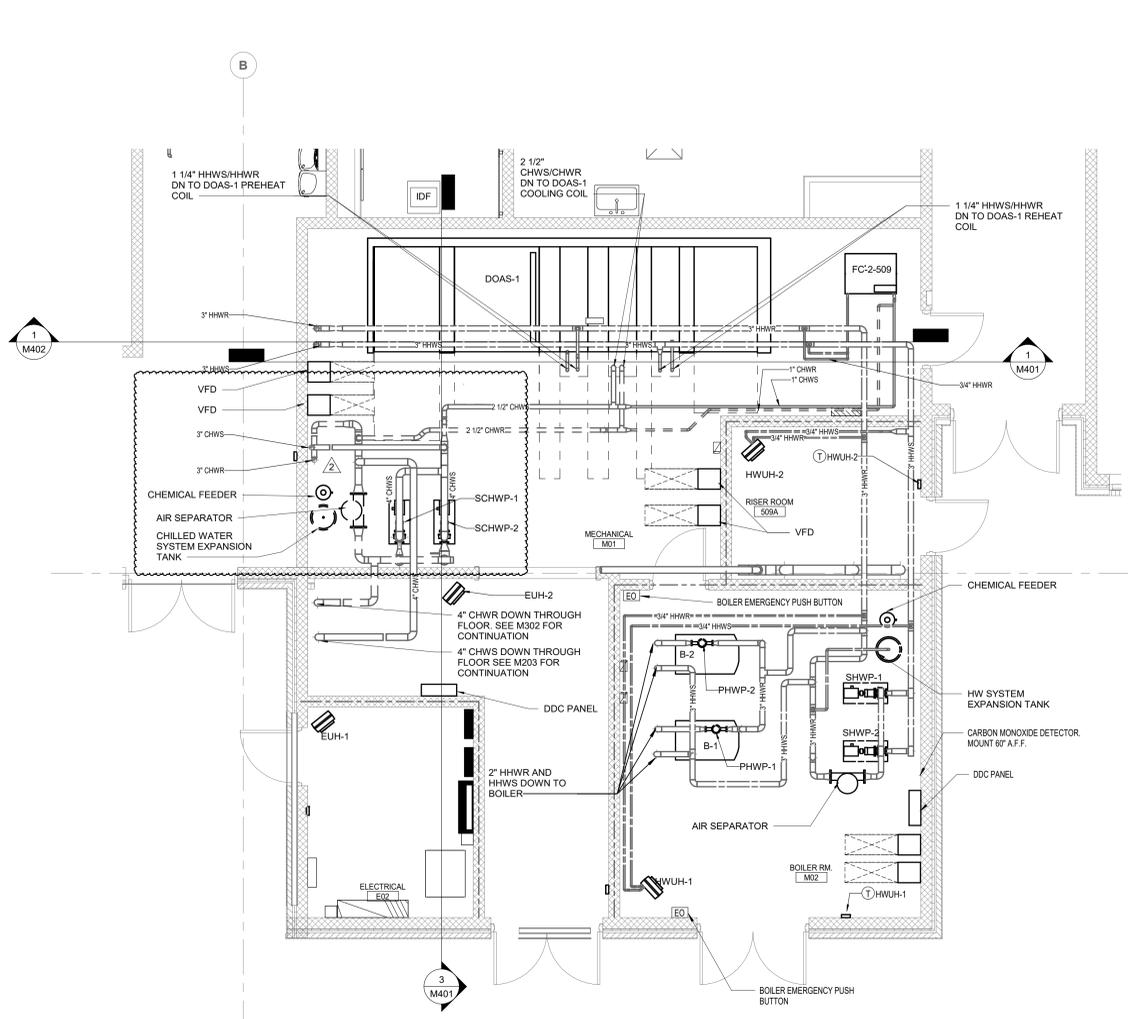
NO.	DATE	DESCRIPTION
2	02/26/2024	ADDENDUM 02

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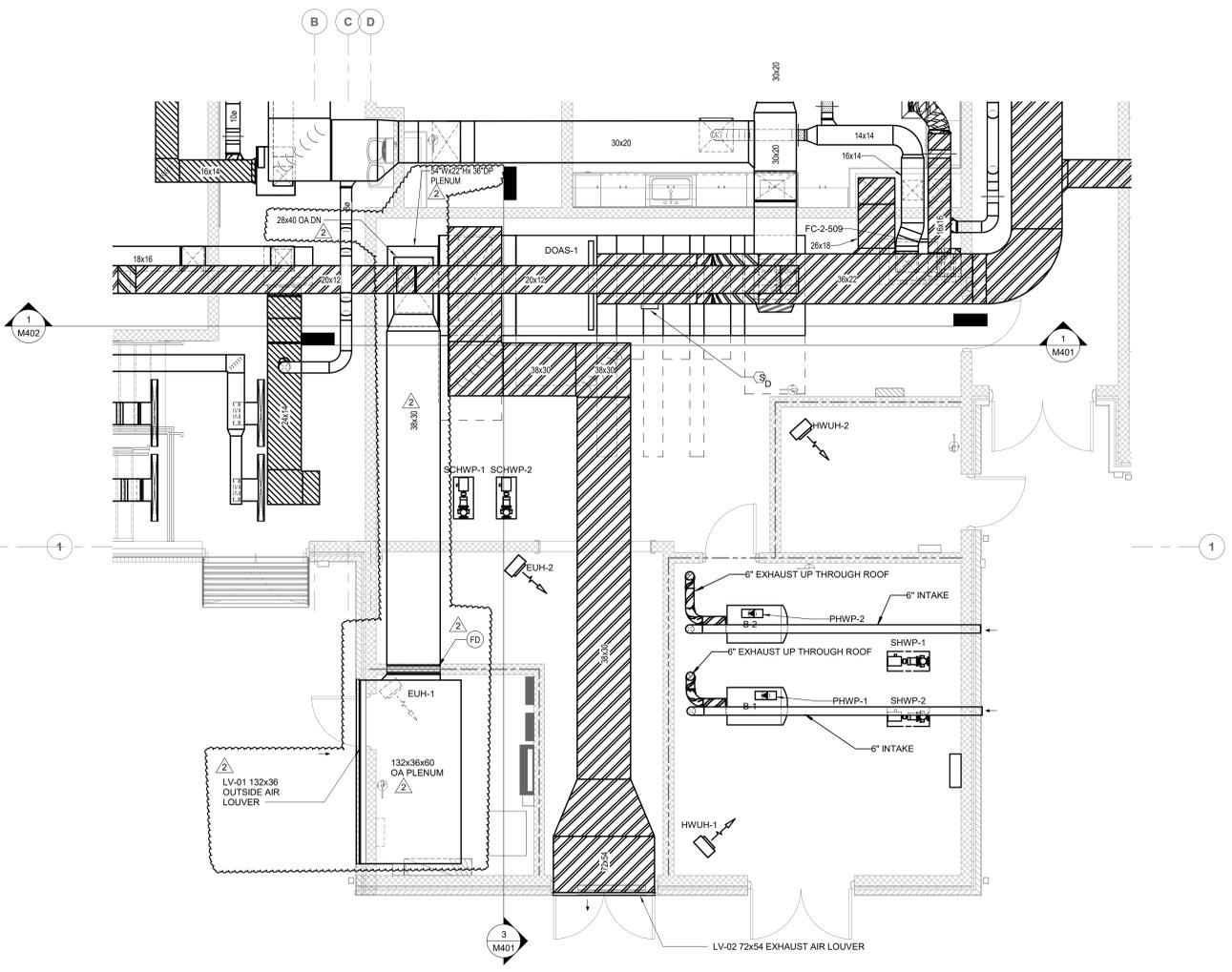
**MECHANICAL YARD
PLAN**
SHEET TITLE
M203
SHEET

GENERAL NOTES:

- A. ALL PIPING AND DUCTWORK SHALL BE INSTALLED TO ALLOW FOR MAXIMUM HEAD HEIGHT.
- B. CONDENSATE AND RELIEF VALVE PIPING SHALL BE INSTALLED TO ALLOW FOR MAXIMUM HEAD HEIGHT.
- C. REFER TO ARCHITECTURAL ELEVATIONS FOR LOUVER HEIGHT, LOCATION, AND FRAMING DETAILS.
- D. INSTALL AIRFLOW MONITORING STATION IN OUTSIDE AIR DUCT. MAINTAIN STRAIGHT RUN OF DUCT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- E. REFER TO PLANS FOR DIFFERENTIAL PRESSURE SENSOR LOCATIONS.
- F. TERMINATE CONDENSATE AT FLOOR DRAIN.



1 FIRST FLOOR MECHANICAL ROOM PIPING PLAN



2 FIRST FLOOR MECHANICAL ROOM - DUCTWORK



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2307
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02.07.2024
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ENLARGED PLANS
SHEET TITLE
M301
SHEET

2/26/2024 4:03:36 PM

FIRE RATED WALLS
 1 HR RATED

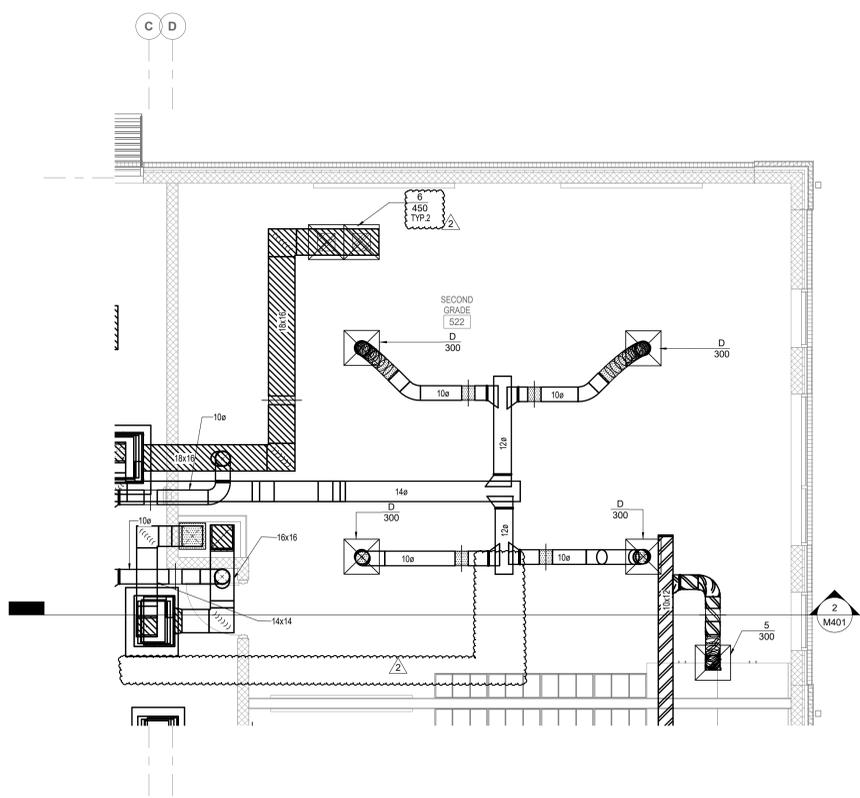


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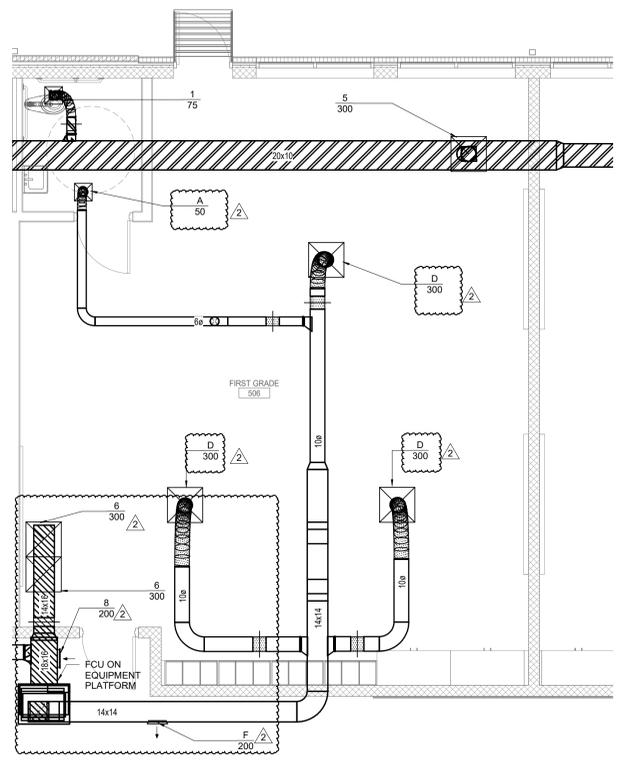
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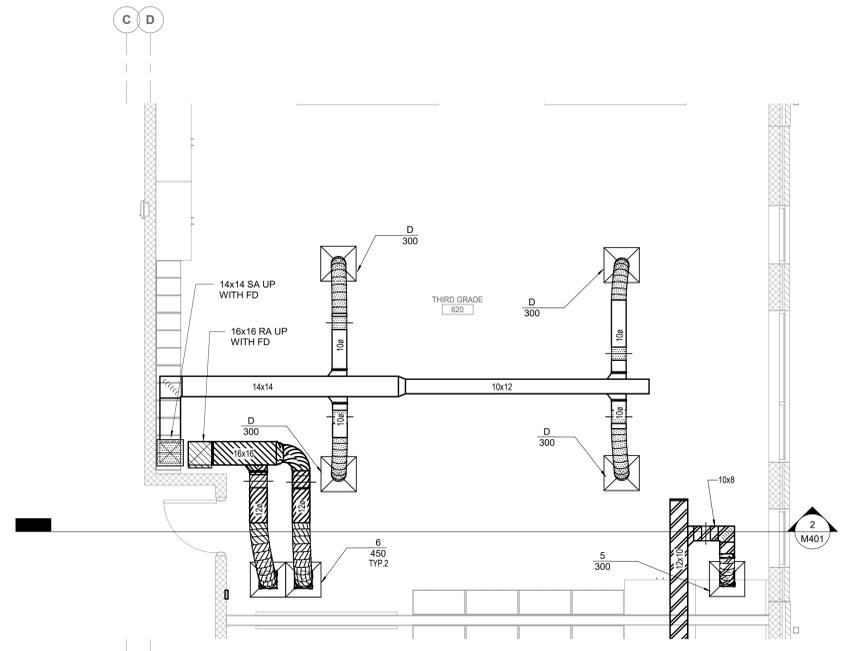
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 803/554-0027



1 FIRST FLOOR PLAN - DUCTWORK - TYPICAL SECOND GRADE CLASSROOM
 1/4" = 1'-0"



2 FIRST FLOOR PLAN - DUCTWORK - TYPICAL FIRST GRADE CLASSROOM
 1/4" = 1'-0"



3 GROUND FLOOR PLAN - DUCTWORK - TYPICAL THIRD GRADE CLASSROOM
 1/4" = 1'-0"

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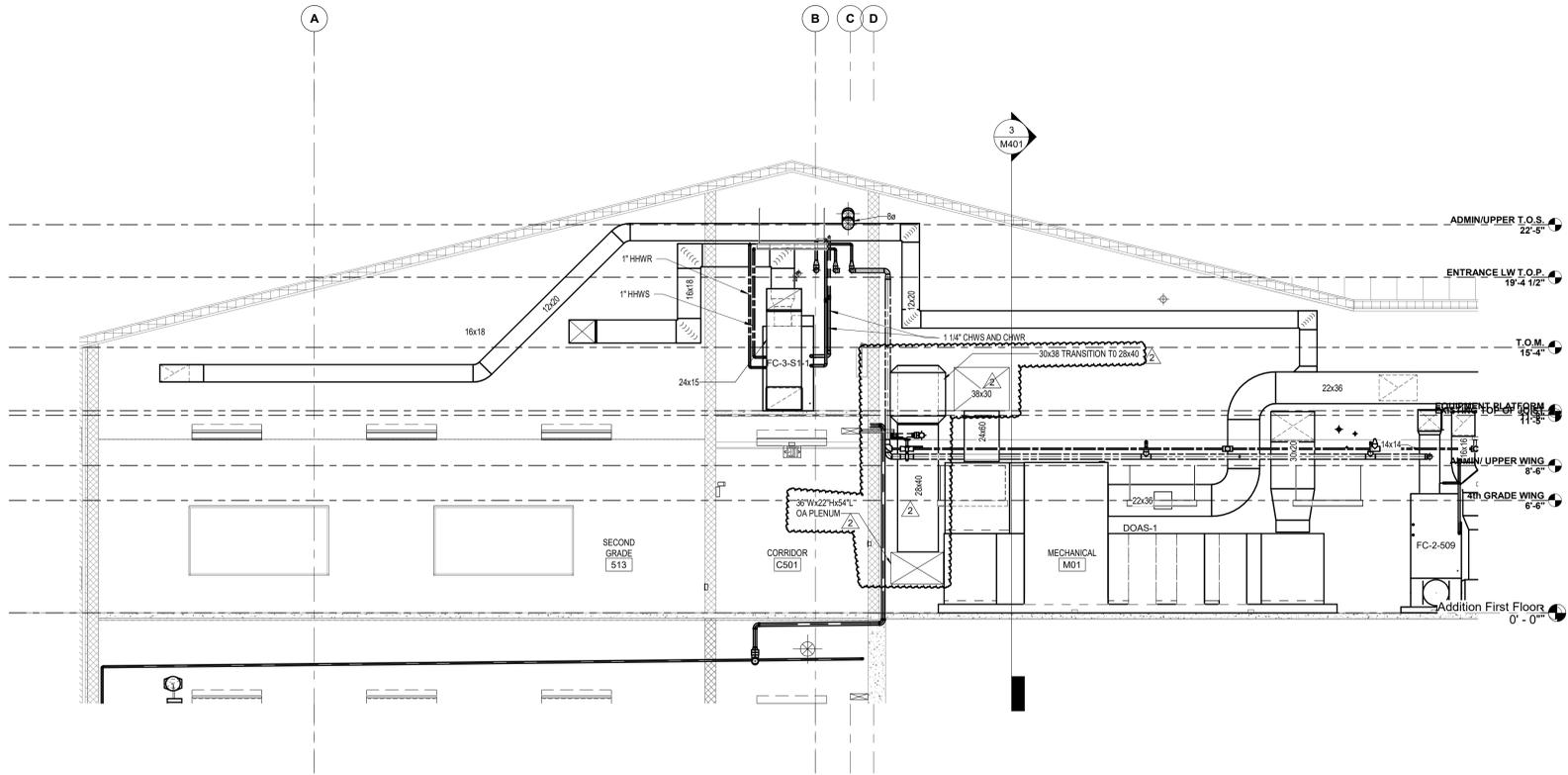
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2	02/26/2024	ADDENDUM 02

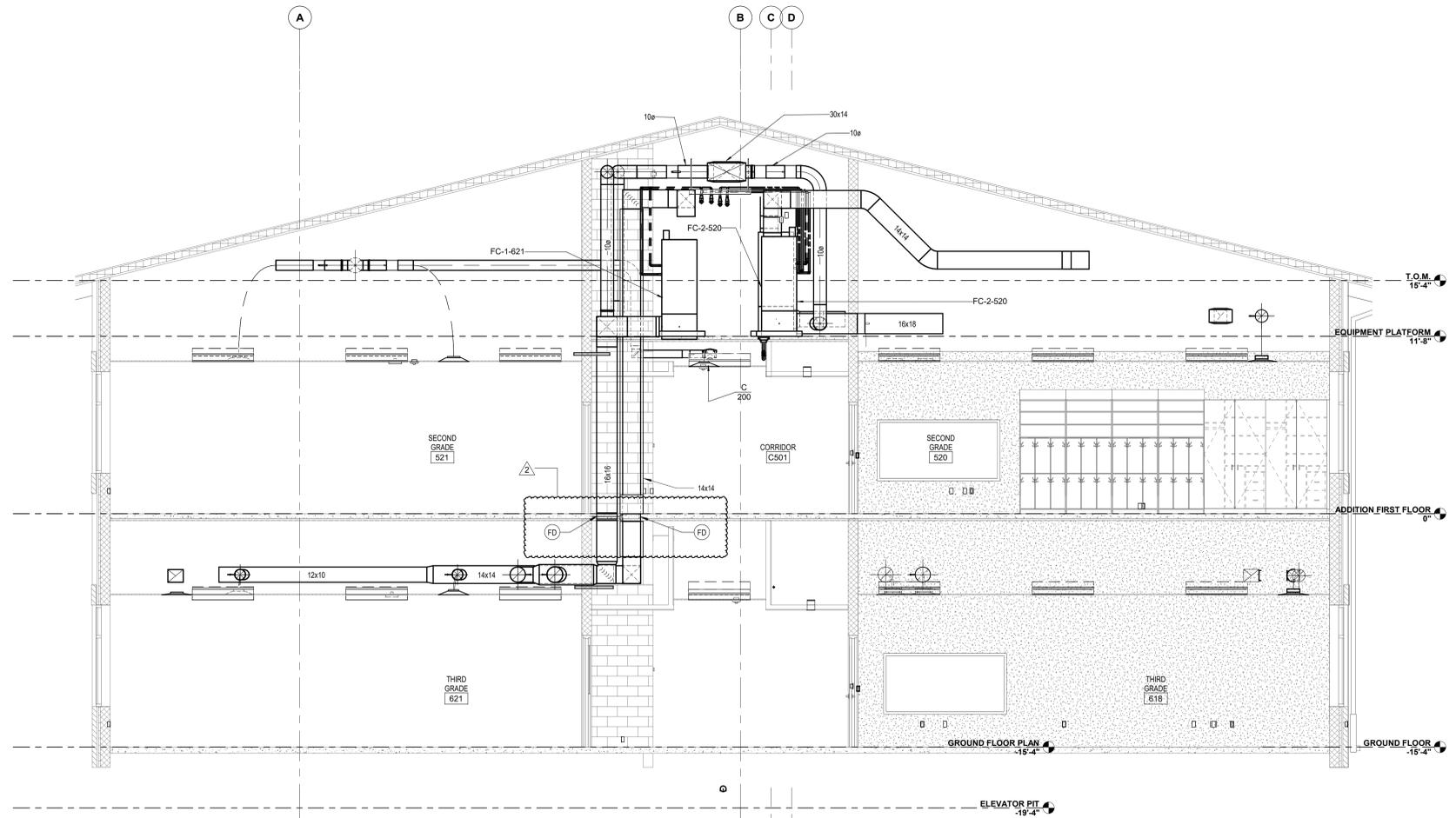
BID SET
 PROJECT PHASE
2307
 BOOMERANG DESIGN PROJECT NUMBER
02.07.2024
 DRAWING RELEASE DATE

ENLARGED PLANS
 SHEET TITLE
M302
 SHEET

2/26/2024 4:03:38 PM



1 SECTION 1 THROUGH BUILDING
1/4" = 1'-0"



2 SECTION 2 THROUGH BUILDING
1/4" = 1'-0"

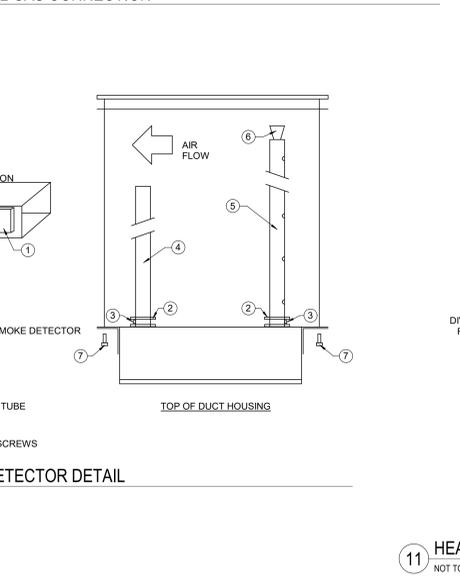
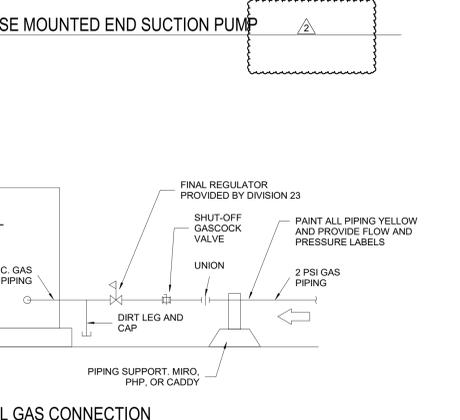
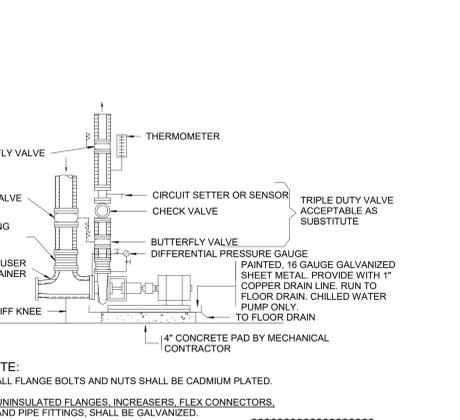
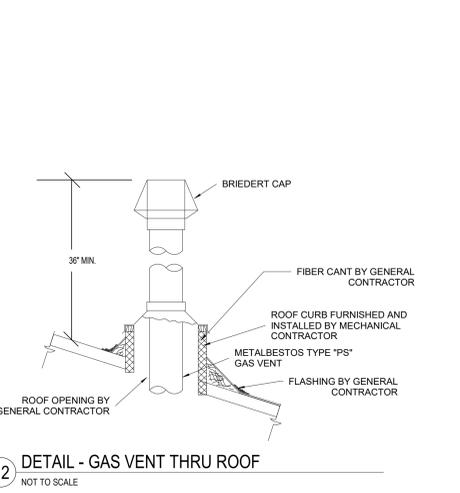
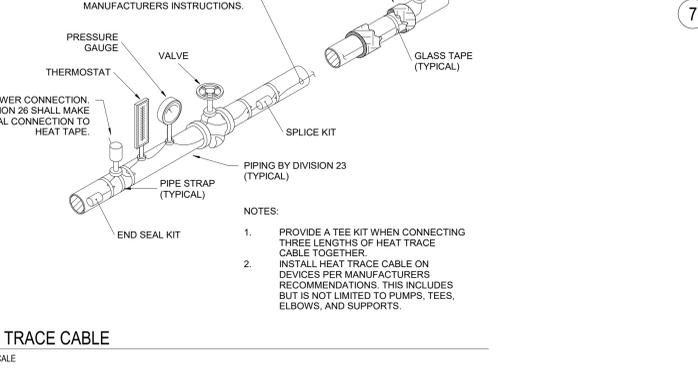
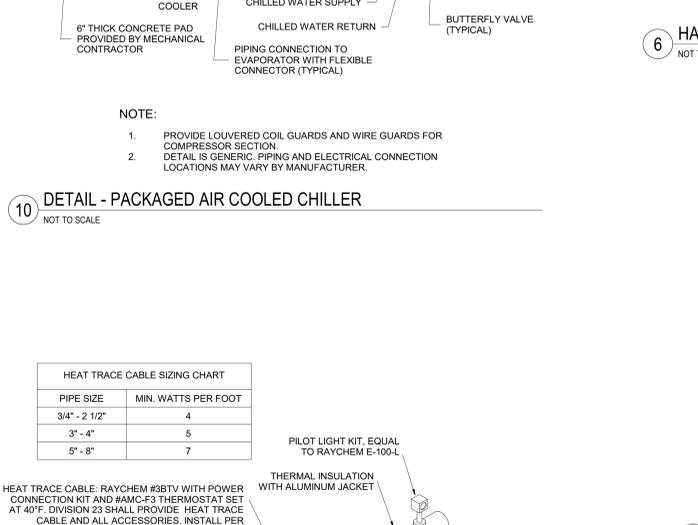
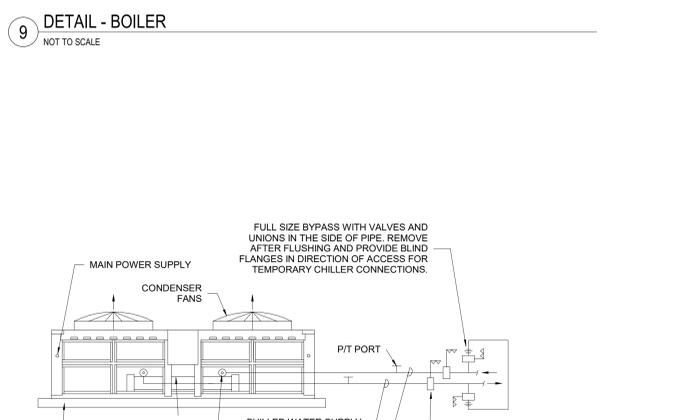
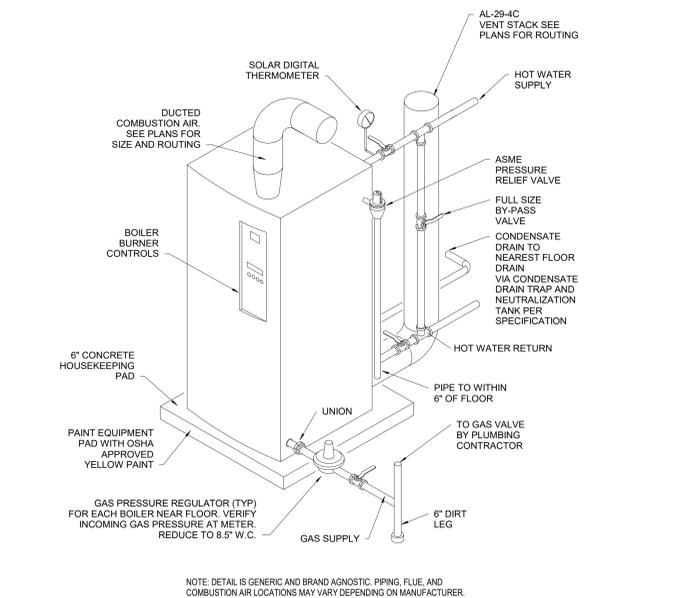
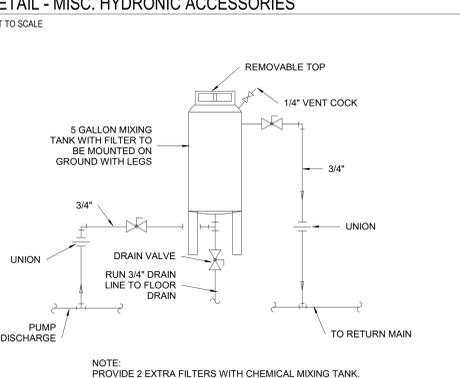
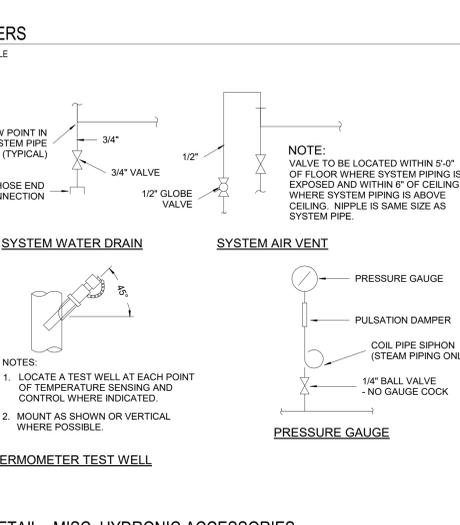
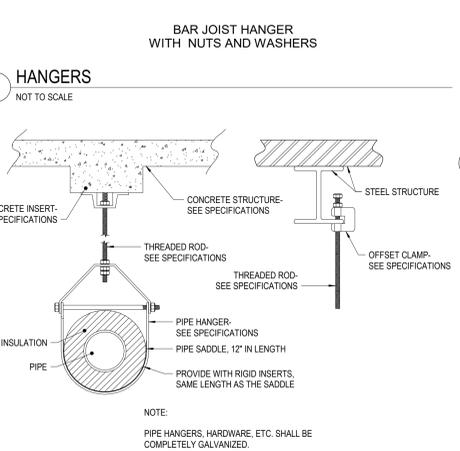
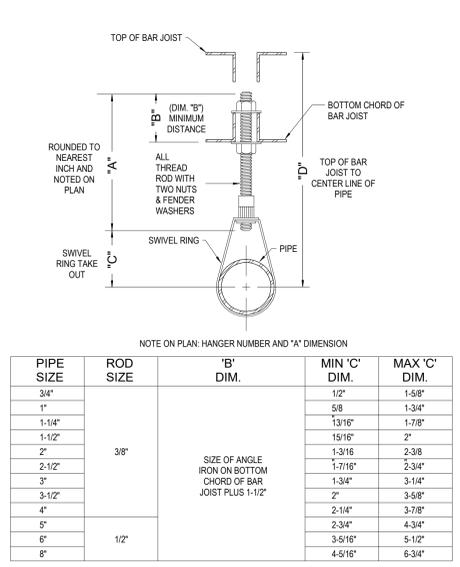
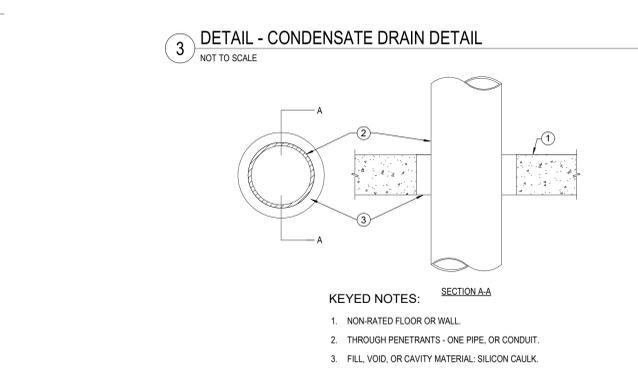
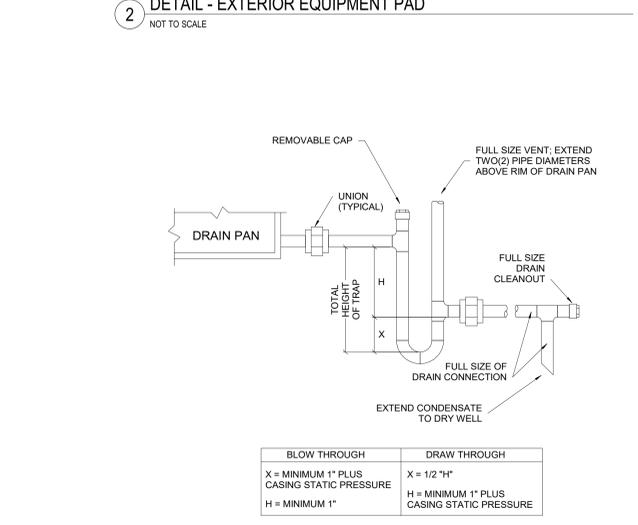
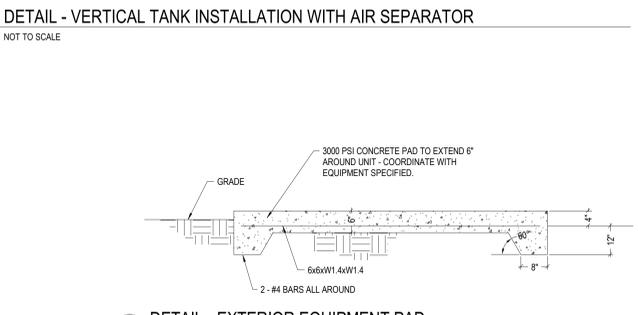
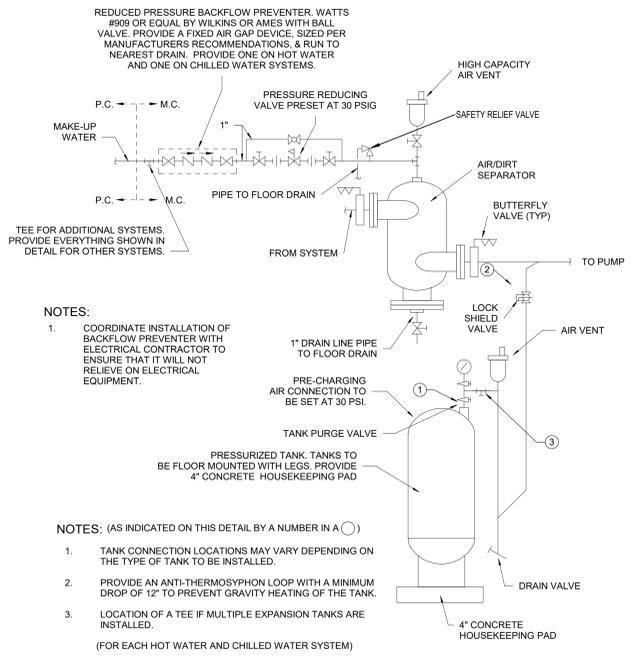


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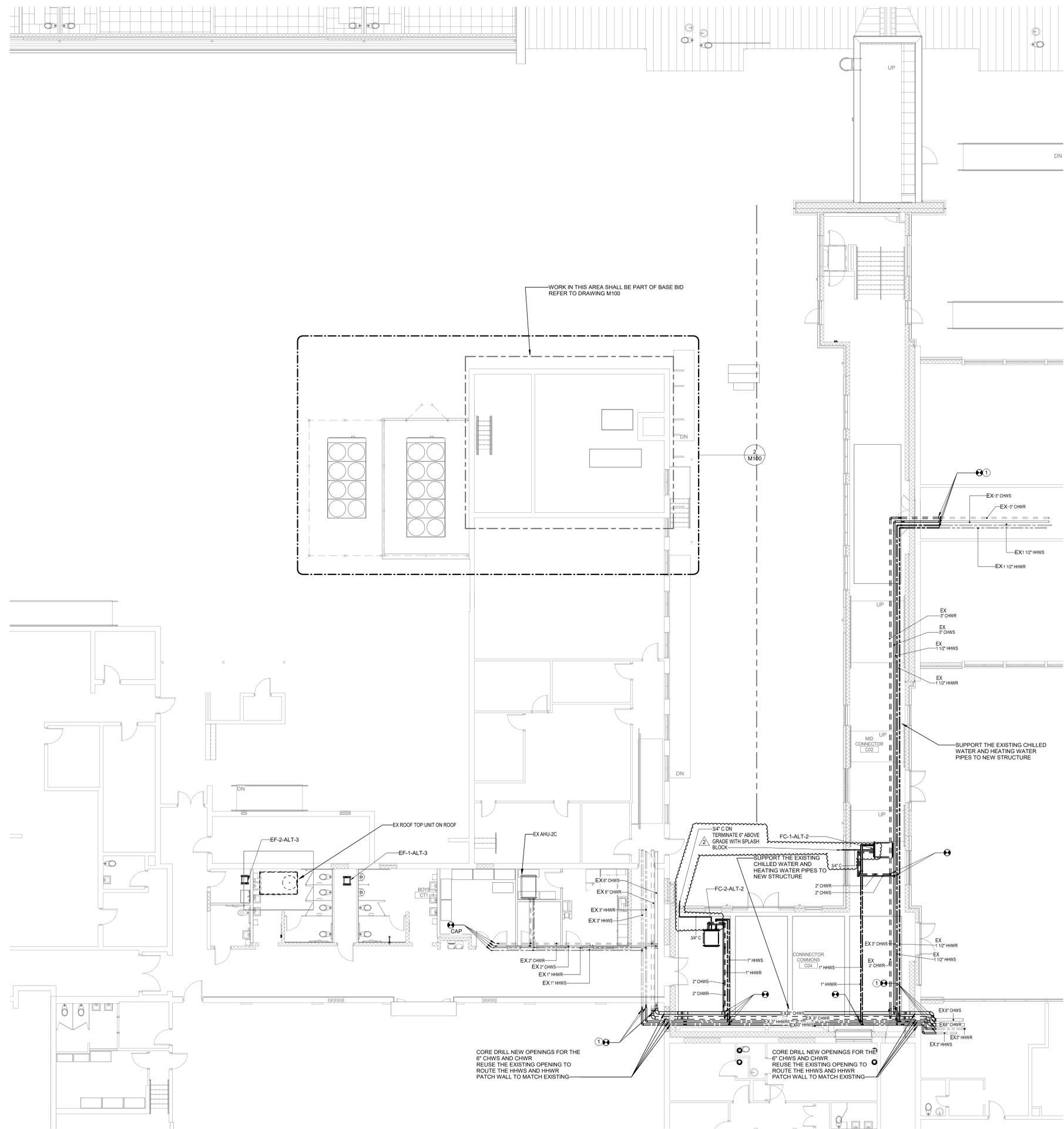
SECTIONS
SHEET TITLE
M402
SHEET



2/26/2024 4:03:48 PM

KEYNOTES:

① EXISTING CHWS, CHWR, HHWS AND HHWR TO BE RECONNECTED AND POINTS OF CONNECTION INDICATED. PROVIDE PERMANENT SUPPORT OF THE EXISTING PIPES IN THE CONNECTOR COMMONS AND MID CONNECTOR AREAS.



① ALT. 2 CONNECTOR ADDITION & ALT. 3 CORRIDOR RENOVATION - PIPING

1/8" = 1'-0"

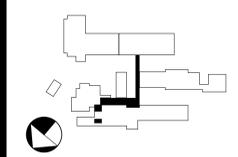
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PROJECT #23015

**COOPER ACADEMY
A & R**
PROJECT TITLE

"CLIENT'S PROJECT" # - XXX

PROFESSIONAL SEAL
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02/28/2024
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1. THESE DRAWINGS ARE THE SOLE PROPERTY OF THE STATE OF NORTH CAROLINA. THE USE OF THESE DRAWINGS MUST COMPLY WITH GOOD STATE OF NORTH CAROLINA STANDARD FORM OF AGREEMENT BETWEEN OWNER AND DESIGNER.
2. MATERIALS, DIMENSIONS AND ALL OTHER CONDITIONS WHICH ARE NOT OTHERWISE SPECIFIED ON THIS DRAWING SHALL BE CONTROLLED BY HAVING THE SAME MEANINGS AS SIMILARLY INDICATED CONDITIONS WHICH ARE MORE FULLY DEFINED ELSEWHERE ON THIS PROJECT OR OTHER DRAWINGS OF THIS PROJECT.
3. DO NOT SCALE OFF DIMENSIONS.

NO.	DATE	DESCRIPTION
2	02/28/2024	ADDENDUM 02

BID SET
PROJECT PHASE
2307
BOOMERANG DESIGN PROJECT NUMBER
02.07.2024
DRAWING RELEASE DATE

**ALT. 2 CONNECTOR &
ALT. 3 CORRIDOR
RENOVATION - PIPING
PLAN**
SHEET TITLE

M702
SHEET

HOT WATER BOILER SCHEDULE

MARK	LOCATION		TYPE	CAPACITY (MBH)	EFF (%)	FUEL TYPE	COIL DATA			ELECTRICAL			WEIGHT (LBS)
	ROOM NUMBER	ROOM NAME					GPM	EWT (°F)	LWT (°F)	V	PH	V	
B-1	M02	BOILER RM.	CONDENSING	1500	95	NAT GAS	96	110	140	120	1		1410
B-2	M02	BOILER RM.	CONDENSING	1500	95	NAT GAS	96	110	140	120	1		1410

BOILER SCHEDULE (B-1, B-2)

AERCO BENCHMARK 1500 MODULATING CONDENSING BOILER 96 GPM, AT 30 DEG DELTA T, 1500.0 MBH INPUT AND 1440.0 MBH OUTPUT, MINIMUM 20:1 MODULATING FIRING INPUT, 20:1 TURNDOWN, MINIMUM OUTPUT 71.2 MBH. PROVIDE BOILER MANAGEMENT CONTROLLER FOR MULTIPLE BOILER OPERATION. PROVIDE 75 PSI RELIEF VALVE, 270V X 450V TYP, 1500 LBS. PROVIDE BOILER MANAGEMENT PANEL FOR MULTIPLE BOILER INSTALLATION. SUPPLY WATER TEMPERATURE 140°F, RETURN TEMPERATURE 110°F. COORDINATE FINAL SIZE, VOLTAGE AND PHASE OF THE ELECTRICAL REQUIREMENTS OF THE BOILER WITH THE ELECTRICIAN. PROVIDE BOILER WITH CONTROL PANEL TO INTERFACE WITH THE BMS SYSTEM. 6" FLUE AND COMBUSTION AIR CONNECTIONS. PROVIDE BACKET GATEWAY, COLOR TOUCH SCREEN, MANUAL RESET HIGH LIMIT SWITCHES, ASME CDS-1, AND CONDENSATE NEUTRALIZATION KIT.

BOILER CONTROLLER SHALL CONTROL ITS PRIMARY PUMP OPERATION AND MODULATE THE PRIMARY PUMP SPEED TO MAINTAIN THE DELTA T ACROSS THE BOILER. PROVIDE FACTORY WATER FLOW SWITCH AND LOW WATER CUTOFF.

EQUIVALENTS BY LOCHNAR, BRYAN, LAARS AND AS LISTED IN THE SPECIFICATIONS.

BOILER STACKS

6" DOUBLE WALL STACK ALL STAINLESS STEEL (AL29-4C) CONSTRUCTION, U.L. LISTED, CATEGORY IV BY HEATFAB. SUITABLE FOR USE WITH CONDENSING FORCED DRAFT BOILER SPECIFIED. PROVIDE COMPLETE EXHAUST AND INTAKE DUCTING, INCLUDING ALL DUCTS, ELBOWS, FLANGES, TRIM RING FOR WALL PENETRATION AND WALL CAPS.

AIR CONTROL

HOT WATER
AIR SEPARATOR-TACO 4800AT-125 AIR SEPARATOR WITH STRAINER
EXPANSION TANK-TACO-CASB-125-200 GALLON ASME BLADDER EXPANSION TANK WITH ACCEPTANCE VOLUME = 23 GALLONS. PRECHARGE TO 26.0 PSI. EQUIVALENTS IN THE SPECIFICATIONS.

AIR-COOLED CHILLER SCHEDULE

MARK	MANUFACTURER	MODEL	COMPRESSOR TYPE	NOMINAL TONS	EER (ARHI CONDITIONS)		EVAPORATOR		ELECTRICAL			PH		
					FULL LOAD	IPLV	LWT (°F)	GPM	ΔP	MCA	MCOOP		V	
CH-1	TRANE	CGAM 100	SCROLL	100	10.15	15.93	59	44	157	6.8	207	250	480	3
CH-2	TRANE	CGAM 100	SCROLL	100	10.15	15.93	59	44	157	6.8	207	250	480	3

TRANE AIR COOLED SCROLL CHILLER, MODEL CGAM 100 REFRIGERANT R-513-A, 100 FULL LOAD TONS, AND EER OF 10.15, AT 98°F AMBIENT PER AHR1 550/550. PROVIDE NEOPRENE VIBRATION ISOLATORS. PROVIDE ENCLOSURE PANELS AROUND COMPLETE UNIT WITH LOW SOUND FANS. PROVIDE SUPERIOR SOUND LEVEL PACKAGE, THE OVERALL A-WEIGHTED SOUND POWER LEVEL SHALL NOT EXCEED 68 DB AFTER ATTENUATION, AS MEASURED PER ASHRAE STANDARD 370. PROVIDE WIDE AMBIENT OPTION REQUIRED FOR 25 - 125°F OPERATION. PROVIDE SUCTION AND DISCHARGE SERVICE VALVE FOR EACH COMPRESSOR. PROVIDE SINGLE POINT 480 VOLT POWER CONNECTION THAT FEEDS CHILLER AND PROVIDE AN ADDITIONAL 20 VOLT POWER CONNECTION FOR THE EVAPORATOR HEAT TAP. TEAO CONDENSER FAN MOTORS. PROVIDE FACTORY MOUNTED AND WIRED CONTROL TRANSFORMER, FACTORY MOUNTED AND WIRED EVAPORATOR HEATER FOR FREEZE PROTECTION TO -20°F. PROVIDE CONTROL PANEL THAT PROVIDES CHILLED WATER SETPOINT ADJUSTMENT AND DEMAND LIMITING VIA 4-20 MA INPUT. PROVIDE HIGH SHUNT CIRCUIT CURRENT RATED CONTROL PANEL. CONTROL PANEL SCOR RATING SHALL BE MINIMUM 65 KA. PROVIDE BACKET CONTROL INTERFACE, 480/60, MCA 207, MOP = 250 PM, 0.33 FT. HD, PRESSURE DROP AT 98°F EWT AND 44°F LWT, WEIGHT = 8,800 LBS. MINIMUM EVAPORATOR FLOW = 130 GPM. EQUIVALENTS BY U.L. CARRIER AND DANAH, OR AS LISTED IN SPECIFICATIONS. TWO REFRIGERATION CIRCUITS. ALL COLD PARTS SHALL BE INSULATED WITH 1-1/2" CLOSED CELL FOAM INSULATION. IF 1-1/2" THICK INSULATION IS NOT AVAILABLE FROM FACTORY, CONTRACTOR SHALL PROVIDE ADDITIONAL INSULATION LAYERS IN THE FIELD. PROVIDE FACTORY FLOW SWITCH AND STRAINER.

THE CHILLER MANUFACTURER SHALL PROVIDE A NOISE REDUCTION SYSTEM TO LIMIT THE CHILLER NOISE AND MEET OR BE LESS THAN AN A-WEIGHTED SOUND PRESSURE LEVEL OF 45 dBA AT ALL PROPERTY LINES ADJACENT TO THE CHILLER YARD. THE NOISE REDUCTION SYSTEM SHALL BE SPECIFICALLY ENGINEERED AND INCLUDE, BUT NOT LIMITED TO, HUSH COVER™ REMOVABLE INSULATION COVERS FOR THE CHILLER COMPRESSORS, DISCHARGE/SUCTION LINES AND OIL SEPARATORS, OUTDOOR GRADE HUSH QUILT™ ACOUSTICAL INSULATION BLANKETS MANUFACTURED WITH TAMERA SORE™ THREAD AND VINYL COATED POLYESTER MATERIALS RATED FOR 20+ YEAR OUTDOOR LIFE WHEN PROPERLY ANCHORED TO A SOLID CMU/CONCRETE ARCHITECTURAL BARRIER WALL (ARCH BARRIER WALL BY OTHERS), HUSH DUCT™ ACOUSTICAL COVERS ATTACHED TO THE COMPRESSOR AND/OR CONDENSER SECTION, HUSH GUARD™ ACOUSTICAL METAL PANELS SURROUNDING THE CHILLER CONDENSER FANS AND/OR THE ENTIRE CHILLER.

THE NOISE REDUCTION SYSTEM SHALL BE MANUFACTURED BY A COMPANY SPECIALIZING IN THE MANUFACTURE OF ACOUSTICAL SYSTEMS AND RELATED ACCESSORIES WITH NOT LESS THAN 20 YEARS DOCUMENTED SUCCESSFUL EXPERIENCE WITH WORK COMPARABLE TO WORK OF THIS PROJECT. ALL NOISE CONTROL MATERIALS MANUFACTURERS SHALL DELIVER A COMPLETE SUBMITTAL INCLUDING A COPY OF AN ACOUSTICAL REPORT IN COMPLIANCE WITH THE ACOUSTICAL PERFORMANCE AS PER THIS SPECIFICATION AND THE COMPLETED SYSTEM SHALL RESULT IN A CHILLER DEGRADATION OF NO MORE THAN 2.5%. THE COMPLETE NOISE REDUCTION SYSTEM SHALL BE INSTALLED BY THE NOISE MATERIALS MANUFACTURER TO ENSURE GUARANTEED FIT AND MEET THE ACOUSTICAL PERFORMANCE AS PER THIS SPECIFICATION. CHILLER MANUFACTURER'S FACTORY ATTENUATION PACKAGES ARE NOT ACCEPTABLE. CHILLER MANUFACTURER'S LOW NOISE FANS ARE ACCEPTABLE. BRD NOISE AND VIBRATION CONTROL, INC., LOTEAC AND KINETICS ARE CONSIDERED AN ACCEPTABLE SUPPLIER OF THESE PRODUCTS AND SERVICES.

THE OWNER WILL RETAIN THE SERVICES OF A THIRD PARTY TO PERFORM SOUND MEASUREMENTS ON THE COMPLETE SYSTEM AT ALL ADJACENT PROPERTY LINES TO VERIFY COMPLIANCE WITH REQUIREMENTS OF THIS SPECIFICATION. IF OVERALL SOUND PRESSURE LEVEL (OASPL) TEST RESULTS DO NOT MEET THE REQUIREMENTS OF THIS SPECIFICATION, THEN THE CHILLER MANUFACTURER/VENDOR SHALL SUPPLY ADDITIONAL SOUND ATTENUATION AND/OR FACILITY MODIFICATIONS TO MEET THIS REQUIREMENT AT NO ADDITIONAL COST TO THE OWNER.

AIR CONTROL

CHILLED WATER
AIR SEPARATOR-01-TACO 4800AT-125 AIR SEPARATOR WITH STRAINER
EXPANSION TANK-01-TACO-CASB-125-200 GALLON ASME BLADDER EXPANSION TANK WITH ACCEPTANCE VOLUME = 23.0 GALLONS PRECHARGE TO 26.0 PSI. EQUIVALENTS IN THE SPECIFICATIONS.

BLOWER FAN COIL UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	SUPPLY FAN			COOLING COIL - 15 DEG. F. WATER TEMP RISE										REHEAT COIL			ELECTRICAL			WEIGHT (LBS)	REMARKS				
			CFM	HP	ESP IN WG	TSP IN WG	MOTOR RPM	FAN RPM	EDB (°F)	EWB (°F)	LWB (°F)	LWB (°F)	GPM	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	APD (in w.g.)	WPD (ft)	EDB (°F)	LDB (°F)	HEATING (MBH)	GPM			APD (in w.g.)	WPD (ft)	V	PH
FC-1-514	TRANE	BCVE-36	1000	1.5	1.0	1.9	1616	1616	76	65	58	57	3.65	25.47	19.85	560	1.25	57	56	39.19	2.5	141	30	277	1	250	1.2
FC-1-610	TRANE	BCVE-36	1000	1.5	1.0	1.9	1616	1616	76	65	58	57	3.65	25.47	19.85	560	1.25	57	56	39.19	2.5	141	30	277	1	250	1.2
FC-1-613	TRANE	BCVE-36	1000	1.5	1.0	1.9	1616	1616	76	65	58	57	3.65	25.47	19.85	560	1.25	57	56	39.19	2.5	141	30	277	1	250	1.2
FC-1-617	TRANE	BCVE-36	1000	1.5	1.0	1.9	1616	1616	76	65	58	57	3.65	25.47	19.85	560	1.25	57	56	39.19	2.5	141	30	277	1	250	1.2
FC-1-621	TRANE	BCVE-36	1000	1.5	1.0	1.9	1616	1616	76	65	58	57	3.65	25.47	19.85	560	1.25	57	56	39.19	2.5	141	30	277	1	250	1.2
FC-2-501	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-502	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-503	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-504	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-505	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-506	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-507	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-508	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-509	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-513	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-515	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-517	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-519	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-520	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-522	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-618	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-619	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-2-620	TRANE	BCVE-36	1200	1.5	1.0	2.26	1775	1775	76	65	58	57	4.3	29.7	23.14	79	1.69	58	93	44.87	2.8	190	38	277	1	250	1.2
FC-3-51-1	TRANE	BCVE-60	1900	1.5	.5	1.70	1183	1185	76	65	56	55	8	56.20	41	.76	3.23	60	96	74.9	4.75	176	70	277	1	375	1.2
FC-4-521	TRANE	BCVE-36	2400	3	.75	2.02	1950	1950	76	65	57	56	9.6	65.2	48.13	78	12.06	60	100	106.25	6.65	189	174	480	3	470	1.2

1. CHILLED WATER COILS ARE BASED ON 45 DEG F ENTERING WATER TEMPERATURE AT 15 DEG F. WATER TEMPERATURE RISE
2. REHEAT COIL IS BASED ON 140 DEG F ENTERING WATER TEMPERATURE AND 110 DEG F. LEAVING WATER TEMPERATURE

BLOWER FAN COIL UNIT SCHEDULE - ALTERNATE 2

MARK	MANUFACTURER	MODEL	SUPPLY FAN			COOLING COIL - 10 DEG. F. WATER TEMP RISE										REHEAT COIL			ELECTRICAL			WEIGHT (LBS)	REMARKS				
			CFM	HP	ESP IN WG	TSP IN WG	MOTOR RPM	FAN RPM	EDB (°F)	EWB (°F)	LWB (°F)	LWB (°F)	GPM	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	APD (in w.g.)	WPD (ft)	EDB (°F)	LDB (°F)	HEATING (MBH)	GPM			APD (in w.g.)	WPD (ft)	V	PH
FC-1-ALT-2	TRANE	BCH-36	1200	1.5	1.0	2.2	1805	1805	80	67	58	57	7.7	39.1	27.1	79	1.69	58	93	44.87	2.8	190	38	208	3	250	1.2
FC-2-ALT-2	TRANE	BCH-36	1000	1.0	.5	1.9	1638	1630	80	67	56	55	8.3	33.6	23.2	65	2.1	58	93	38.9	2.5	141	3	208	3	250	1.2

1. CHILLED WATER COILS ARE BASED ON 45 DEG F ENTERING WATER TEMPERATURE AT 10 DEG F. WATER TEMPERATURE RISE
2. REHEAT COIL IS BASED ON 180 DEG F ENTERING WATER TEMPERATURE AND 160 DEG F. LEAVING WATER TEMPERATURE

DEDICATED OUTSIDE AIR HANDLING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	OA (CFM)	EXH (CFM)	SUPPLY FAN			EXHAUST FAN			PREHEAT COIL			COOLING COIL										ELECTRICAL			WEIGHT (LBS)																		
					CFM	HP	ESP IN WG	TSP IN WG	MOTOR RPM	FAN RPM	CFM	HP	ESP IN WG	TSP IN WG	MOTOR RPM	FAN RPM	CFM	EDB (°F)	HEATING (°F)	GPM	APD (in w.g.)	WPD (ft)	CFM	EDB (°F)	EWB (°F)	LDB (°F)		LWB (°F)	GPM	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	APD (in w.g.)	WPD (ft)	REHEAT COIL AIR FLOW CFM	REHEAT COIL MBH	REHEAT COIL EAT DB DEG. F.	REHEAT COIL LAT DB DEG. F.	REHEAT COIL GPM	FACE VELOCITY FPM	WPD FT. HD	REHEAT COIL EWT (°F)	REHEAT COIL LWT (°F)	V	PH	MCA
DOAS-1	TRANE	CSAA017	8000	8555	8241	10	2.0	5.12	3600	3237	8555	10	1.5	3.47	3600	3182	8241	49	68	168.4	11.25	115	36	7790	82	67	53	52	43	340.81	262.48	879	5.11	8000	130.14	53°F	68°F	8.7	530	0.22	140	110	480	3	5100

DEDICATED OUTSIDE AIR UNIT DOAS -1 ENERGY RECOVERY WHEEL SCHEDULE

MARK	MANUFACTURER	SUPPLY AIR FLOW	SUMMER LEAVING EXH AIR DB	SUMMER LEAVING EXHAUST AIR WB	SUMMER OA ENTERING AIR DB	SUMMER OA ENTERING AIR WB	SUMMER RA ENTERING AIR DB	SUMMER RA ENTERING AIR WB	SUMMER TOTAL EFFICIENCY	SUMMER SUPPLY AIR DB	SUMMER SUPPLY AIR WB	SUPPLY AIR PD	WINTER EXHAUST LAT DB	WINTER EXHAUST LAT WB	WINTER ENTERING OAT DB	WINTER ENTERING OAT WB	WINTER ENTERING RETURN AIR DB	WINTER ENTERING RETURN AIR WB
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UNIT HEATER SCHEDULE

MARK	TYPE	CAPACITY (MBH)	EAT (°F)	LAT (°F)	FAN DATA			COIL DATA			MOUNTING HEIGHT FT.	ELECTRICAL		REMARKS
					CFM	THROW FT.	WATTS	GPM	EWT (°F)	LWT (°F)		V	PH	
HWHU-1	HORZ.	24.8	60	90	580	29	25	2	140	110	10	120	1	1
HWHU-2	HORZ.	24.8	60	90	580	29	25	2	140	110	10	120	1	1

REMARKS:
1. PROVIDE WITH WALL MOUNTED THERMOSTAT

GENERAL NOTES:
A. DESIGN BASED ON TRANE MODEL UHS-A25.
B. ACCEPTABLE MAKES: REFER TO SPECIFICATIONS

ELECTRIC UNIT HEATER SCHEDULE

MARK	MAKE - MODEL	MBH	KW	EAT (°F)	LAT (°F)	FAN DATA			ELECTRICAL		MT. HEIGHT	REMARKS
						TYPE	CFM	THROW	V	PH		
EUH-1	TRANE UHEC-07	25	7.5	60	85	HORZ	700	10FT	480	3	9 FT	1,2,3
EUH-2	TRANE UHEC-07	25	7.5	60	85	HORZ	700	10FT	480	3	9 FT	1,2,3

REMARKS:
1. PROVIDE WITH THERMAL OVERLOAD PROTECTION
2. PROVIDE WITH WALL MOUNTED THERMOSTAT
3. MOUNT ON WALL USING WALL BRACKETS.

GENERAL NOTES:
A. ACCEPTABLE MANUFACTURERS: REZNOR, MARKEL, BERKO OR AS SPECIFIED.
B. FOR UNITS WITH NON-INTEGRAL THERMOSTATS, PROVIDE 24V TRANSFORMER AND LOW-VOLTAGE THERMOSTAT.

FAN SCHEDULE - ALTERNATE 3

MARK	MANUFACTURER	MODEL	CFM	ESP	WATTS	BHP	RPM	SONES	ELECTRICAL		WEIGHT	REMARKS
									V	PH		
EF-1-ALT-3	GREENHECK	CSP-A900	675	.5	318	.09	746	.3	120	1	60	1,2,3,4,5,6,7
EF-2-ALT-3	GREENHECK	CSP-A200	150	.3	78	.04	697	.3	120	1	40	1,2,3,4,5,6,8

GENERAL NOTES:
A. PROVIDE ALL DUCT TRANSITIONS FOR FANS.
B. ALL FANS TO BE U.L. LISTED.
C. PROVIDE WITH UNIT MOUNTED DISCONNECT.
D. PROVIDE OVERLOAD PROTECTION FOR ALL FANS, COORDINATE WITH DIVISION 26.
E. PROVIDE SPEED CONTROLLERS FOR ALL DIRECT DRIVE FANS.

REMARKS:
1. CONTROL FAN WITH DDC SYSTEM.
2. PROVIDE SWITCH, NEMA-1 INDOORS, NEMA 3R OUTDOORS, TOGGLE, MOUNTED AND WIRED.
3. PROVIDE GRAVITY OPERATED DAMPER.
4. PROVIDE VIBRATION ISOLATION KIT.
5. PROVIDE PREMIUM EFFICIENCY MOTOR AND SHAFT GROUNDING RING.
6. FAN SHALL RUN CONTINUOUSLY.
7. PROVIDE WITH 24x8 BRICK VENT
8. PROVIDE WITH 12x8 BRICK VENT

AIR DISTRIBUTION SCHEDULE

MARK	MANUFACTURER	MODEL	PURPOSE	MIN CFM	MAX CFM	FACE SIZE in.	INLET SIZE in.	REMARKS
1	PRICE	530	EXH/RETURN	30	100	12x12	6	1,2,3,4
3	PRICE	530	EXH/RETURN	30	100	24x24	6	1,2,3,4
4	PRICE	530	EXH/RETURN	105	195	24x24	8	1,2,3,4
5	PRICE	530	EXH/RETURN	200	380	24x24	10	1,2,3,4
6	PRICE	530	EXH/RETURN	300	420	24x24	12	1,2,3,4
7	PRICE	530	EXH/RETURN	425	500	24x24	14	1,2,3,4
8	PRICE	530	EXH/RETURN	150	200	14x8	12x6	1,2,3,4,6
9	PRICE	530	EXH/RETURN	150	240	16x8	14x6	1,2,3,4
10	PRICE	530	EXHAUST	200	380	16x10	14x8	1 - ALTERNATE 3
A	PRICE	SCD	SUPPLY	30	100	12x12	6	1,2,3
B	PRICE	SCD	SUPPLY	30	100	24x24	6	1,2,3
C	PRICE	SCD	SUPPLY	105	250	24x24	8	1,2,3
D	PRICE	SCD	SUPPLY	200	400	24x24	10	1,2,3
E	PRICE	SCD	SUPPLY	150	260	41x8	8	5
F	PRICE	SCD	SUPPLY	200	450	22x8	20x6	1,8

GENERAL NOTES:
A. NOTE: AIR TERMINAL MARK "2" IS NOT USED.
B. EQUIVALENTS BY TITUS, KRUEGER, CARNES, TUTTLE AND BAILEY, NAILOR, OR AS LISTED IN SPECIFICATIONS.
C. PROVIDE VOLUME DAMPERS AT TAKE-OFF FOR EACH GRILLE.
D. THE PRICE MODELS SCHEDULED HERE ARE BASIS OF DESIGN, INCLUDING GENERATED NOISE. PROPOSED SUBSTITUTIONS WILL BE JUDGED BY THOSE CRITERIA ALSO WHERE LOCATED IN HARD CEILINGS, PROVIDE ALUMINUM MOUNT FRAME/PLASTER FRAME FOR HARD CEILING THAT ALLOWS DIFFUSER/GRILLE WITH FLEX CONNECTION TO BE LIFTED OUT OF FRAME TO ACCESS CEILING SPACE. TYPICAL OF ALL HARD CEILING LOCATIONS. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR SIDE WALL GRILLES. PROVIDE REMOTE CABLE OPERATED, GEAR DRIVEN BALANCING DAMPER OPERABLE FROM FACE OF DIFFUSER

REMARKS:
1. PROVIDE WITH OFF-WHITE ENAMEL FINISH
2. PROVIDE WITH TRIM TO MATCH CEILING TYPE. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILINGS. PROVIDE PLASTER FRAME IN HARD CEILINGS.
3. PROVIDE DIFFUSER/GRILLE WITH ROUND NECK OR PROVIDE SQUARE TO ROUND TRANSITION
4. ALL CEILING MOUNTED RETURN GRILLES SHALL BE FULL FACED. NO LAY-IN PANELS ALLOWED
5. DIFFUSER TO BE PROVIDED WITH BLACK FINISH AND PROVIDE WITH INSULATED PLENUM
6. PROVIDE WITH 1/2" SPACING DOUBLE DEFLECTION AND STEEL DAMPER

DUCTLESS SPLIT UNIT (INDOOR) SCHEDULE

MARK	MAKE	MODEL	SUPPLY CFM	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	ELECTRICAL			REMARKS	
						V	PH	SEER		
ACU-1	DAIKIN	MSY-GL12NA	320	12000	9240	208	1	13	23.1	1,2,3
ACU-2	DAIKIN	MSY-GL12NA	320	12000	9240	208	1	13	23.1	1,2,3
ACU-3	DAIKIN	MSY-GL12NA	320	12000	9240	208	1	13	23.1	1,2,3

REMARKS:
1. PROVIDE WITH HARDWIRED LOW VOLTAGE THERMOSTAT
2. PROVIDE INTERCONNECTION REFRIGERANT PIPING AND ELECTRICAL POWER KIT
3. PROVIDE WITH CONDENSATE PUMP

GENERAL NOTES:
A. MODEL NUMBERS ARE BASED ON MITSUBISHI EQUIPMENT. EQUIVALENTS BY SAMSUNG, DAIKIN, LG, OR AS LISTED IN THE SPECIFICATIONS
B. PROVIDE CONDENSATE PUMP, POWERED DIRECTLY FROM INDOOR UNIT TERMINALS, WITH EACH UNIT. 1 GPH AT 33 FT OF HEAD
C. PROVIDE WIRED SPACE TEMP SENSOR WITH SET POINT ADJUSTMENT FOR ALL UNITS UNLESS OTHERWISE SPECIFIED
D. UNITS SHALL BE TESTED PER AHRI 1230

DUCTLESS SPLIT UNIT (OUTDOOR) SCHEDULE

MARK	MAKE	MODEL	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	EER	FAN QTY/FLA	ELECTRICAL			
							V	PH	MCA	MOCP
CU-1	MITSUBISHI	MUY-GL12NA	12000	9240	13	1	208	1	7	15
CU-2	MITSUBISHI	MUY-GL12NA	12000	9240	13	1	208	1	7	15
CU-3	MITSUBISHI	MUY-GL12NA	12000	9240	13	1	208	1	7	15

GENERAL NOTES:
A. MODEL NUMBERS ARE BASED ON MITSUBISHI EQUIPMENT. EQUIVALENTS BY SAMSUNG, DAIKIN, LG, OR AS LISTED IN THE SPECIFICATIONS
B. UNITS SHALL BE TESTED PER AHRI 1230
C. PROVIDE OPTIONAL WIND Baffle FOR ALL UNITS FOR LOW AMBIENT COOLING DOWN TO 0 DEG. F
D. POWER AND LOW VOLTAGE WIRING AND CONDUIT INTERCONNECTING INDOOR AND OUTDOOR UNITS SHALL BE BY DIVISION 23

PUMP SCHEDULE

MARK	LOCATION	MANUFACTURER	SERIES	MODEL	GPM	HEAD (FT)	EFF. %	HP	IMP (IN)	RPM	V	PH
CHWPP-1A	EXISTING BLDG	TACO	BASE	F14007D	360	35	79	7.5	6.4	1760	208	3
CHWPP-1B	EXISTING BLDG	TACO	BASE	F13007D	253	35	79	5	6.15	1760	208	3
CHWPS-2	EXISTING BLDG	TACO	BASE	F12009D	150	55	73	5	7.75	1760	208	3
CHWPS-3	EXISTING BLDG	TACO	BASE	F12009D	150	55	73	5	7.75	1760	208	3
CHWPS-4	EXISTING BLDG	TACO	BASE	F12009D	150	55	73	5	7.75	1760	208	3
PCHWP-1	ADDITION	TACO	INLINE	SKS-3007D	157	45	77	5	7.25	1760	208	3
PCHWP-2	ADDITION	TACO	INLINE	SKS-3007D	157	45	77	5	7.25	1760	208	3
PHWP-1	ADDITION	TACO	INLINE	SKS-3007D	96	30	79	3	6.1	1760	208	3
PHWP-2	ADDITION	TACO	INLINE	SKS-3007D	96	30	79	3	6.1	1760	208	3
SCHWP-1	ADDITION	TACO	BASE	F12009D	155	80	72	5	4.33	1760	480	3
SCHWP-2	ADDITION	TACO	BASE	F12009D	155	80	72	5	4.33	1760	480	3
SHWP-1	ADDITION	TACO	BASE	F12009D	110	65	66	3	8.6	1760	480	3
SHWP-2	ADDITION	TACO	BASE	F12009D	110	65	66	3	8.6	1760	480	3

GENERAL NOTES:
A. ALL PUMPS SHALL HAVE NON-OVERLOADING INVERTER DUTY MOTORS WITH AEGIS SHAFT GROUNDING RING
B. PROVIDE PRIMARY PUMPS WITH SUCTION DIFFUSER AND TRIPLE DUTY VALVE
C. PROVIDE SECONDARY PUMPS WITH SUCTION DIFFUSER, CHECK VALVE, AND SHUT OFF VALVES.
D. EQUIVALENTS: BELL AND GOSSET, ARMSTRONG, OR AS LISTED IN SPECIFICATIONS
E. CONTROLS CONTRACTOR SHALL PROVIDE VFDs FOR ALL SECONDARY PUMPS AND ALL PRIMARY PUMPS.
F. BASE MOUNTED PUMPS SHALL BE END SUCTION TYPE.
G. SCHWP-1 AND SCHWP-2 ARE DESIGNED FOR LEAD/STANDBY OPERATION FOR BUILDING CHILLED WATER SYSTEM.
H. SHWP-1 AND SHWP-2 ARE DESIGNED FOR LEAD/STANDBY OPERATION FOR BUILDING HOT WATER SYSTEM.
I. PROVIDE PUMP STAND FOR ALL FLOOR MOUNTED INLINE PUMPS. VIBROACOUSTICS OR EQUIVALENT.

LOUVER AND PENTHOUSE SCHEDULE

MARK	MANUFACTURER	MODEL	PURPOSE	DESCRIPTION	CFM	LENGTH	WIDTH	HEIGHT	MIN. FREE	MAX. FPM	REMARKS
LV-01	GREENHECK	EDD-401	INTAKE	DOAS-1 OUTSIDE AIR	8000	132	36	16.22	500	2	1,2,3,4,5,6,7
LV-02	GREENHECK	EDD-401	EXHAUST	DOAS-1 EXHAUST AIR	8555	132	36	12.98	700	2	1,2,3,4,5,6,7
LV-03	GREENHECK	EDD-401	INTAKE	FC-1-ALT-2	100	12	---	12	21	500	
LV-04	GREENHECK	EDD-401	INTAKE	FC-2-ALT-2	100	12	---	12	21	500	
LV-IP-1	GREENHECK	FGI	INTAKE	SERVES EXISTING ELEMENTARY WING	2775	30	30	19	6.25	425	1

GENERAL NOTES:
A. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS, AND FRAMING DETAILS. FREE AREA AND PRESSURE DROP REQUIREMENTS ARE LISTED ABOVE.
B. LOUVERS SHALL BE AMCA 550 CERTIFIED

REMARKS:
1. PROVIDE WITH 14" HIGH ON THE SHORT SIDE, SLOPED ROOF CURB TO MATCH 3/12 ROOF PITCH
2. PROVIDE TWO (2) 66"x36" LOUVERS TO MAKE UP THE FULL SIZE AS SCHEDULED. PROVIDE WITH SUPPORTED MULLION.



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PROJECT TITLE

"CLIENT'S PROJECT" # - XXX

02/26/2024
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NO.	DATE	DESCRIPTION
2	02/26/2024	ADDENDUM 02

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02.07.2024
DRAWING RELEASE DATE

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