Addendum #: 1

KBSO Project #: 24023
Project Name: Noblesville HS AHU Replacements – Bid Pack 2
Issue Date: 10/10/2024

This Addendum number 1 to the drawings and specifications shall supplement, amend, and become a part of the bidding documents, plans, and specifications. All bids and construction contracts shall be based on these modifications to the original contract documents.

Part 1. BIDDING AND CONTRACT DOCUMENTS

1.01 -

Part 2. SPECIFICATIONS

2.01 Section 01 10 00 1.6.E, revise to read:
- a. Work shall be substantially complete by **October 31, 2025**.

2.02 Section 01 10 00 1.6.F, revise to read:
- a. The contractor shall provide an overall construction schedule at the pre-award meeting in order to coordinate with the school and district administration. For the purposes of scheduling the contractor shall assume final contract approval and AHU purchase orders can be released on November 21st, 2024.

2.03 Section 23 73 23 2.1.A. Add 8 and revise to read:
- a. Trane

2.04 Section 23 73 23 2.2.B.1 Revise to read:
- a. Forming: Form walls, roofs, and floors with at least two breaks at each joint. 2" foam injected R-13 with thermal break.

Part 3. DRAWINGS

3.01 M521 - MECHANICAL DETAILS
- a. See revised drawings with revision clouds included

3.02 M621 - MECHANICAL SCHEDULES
- a. See revised drawings with revision clouds included

3.03 M721 - GROUND FLOOR CONTROLS & LOGISTICS PLAN
- a. See revised drawings with revision clouds included

3.04 M722 - SECOND FLOOR CONTROLS & LOGISTICS PLAN
- a. See revised drawings with revision clouds included

3.05 MD321 - MECH RM M11 MECHANICAL DEMOLITION PLAN
- a. See revised drawings with revision clouds included

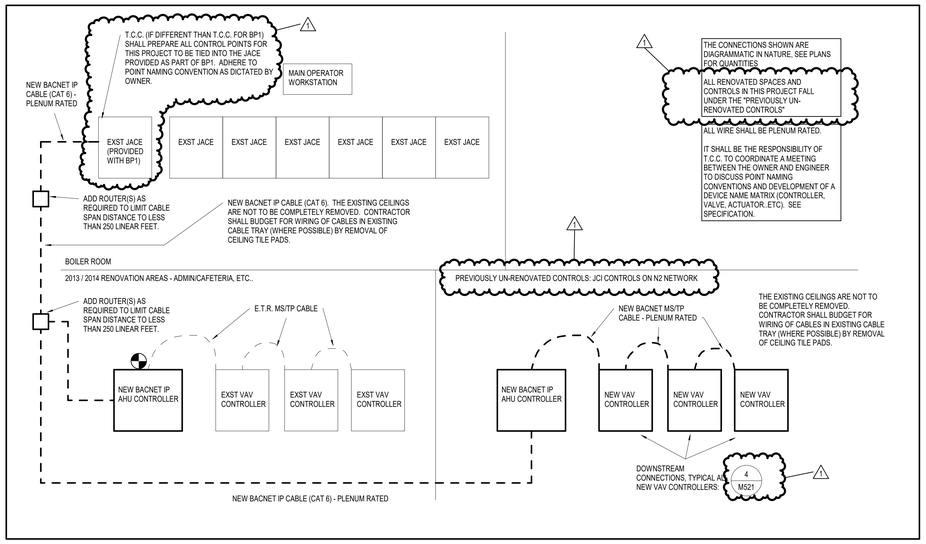
3.06 MD322 - MECH RM M12 MECHANICAL DEMOLITION PLAN
- a. See revised drawings with revision clouds included

ATTACHMENTS:

M521 - MECHANICAL DETAILS
M621 - MECHANICAL SCHEDULES

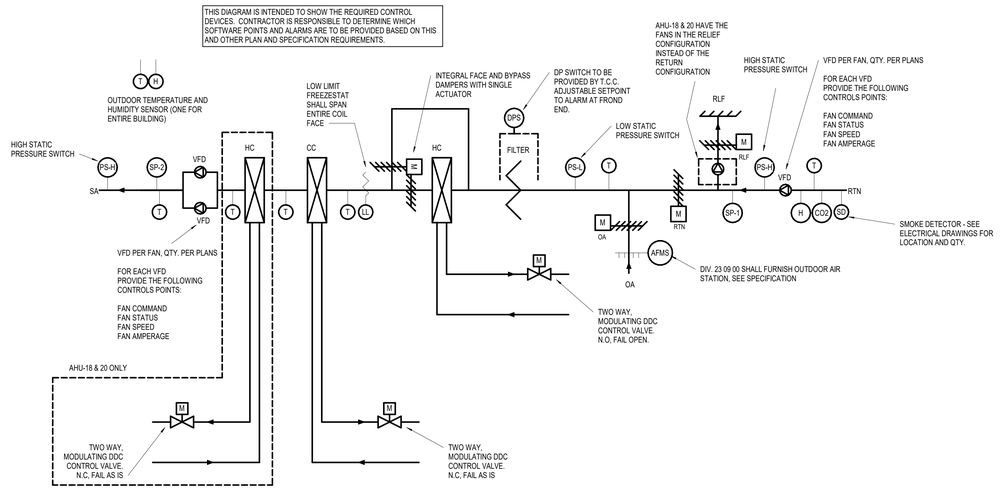
M721 - GROUND FLOOR CONTROLS & LOGISTICS PLAN
M722 - SECOND FLOOR CONTROLS & LOGISTICS PLAN
MD321 - MECH RM M11 MECHANICAL DEMOLITION PLAN
MD322 - MECH RM M12 MECHANICAL DEMOLITION PLAN

END OF ADDENDUM



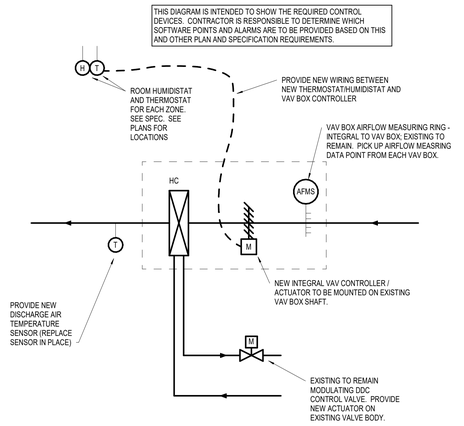
3 CONTROLS NETWORK DIAGRAM BP2

12" = 1'-0"



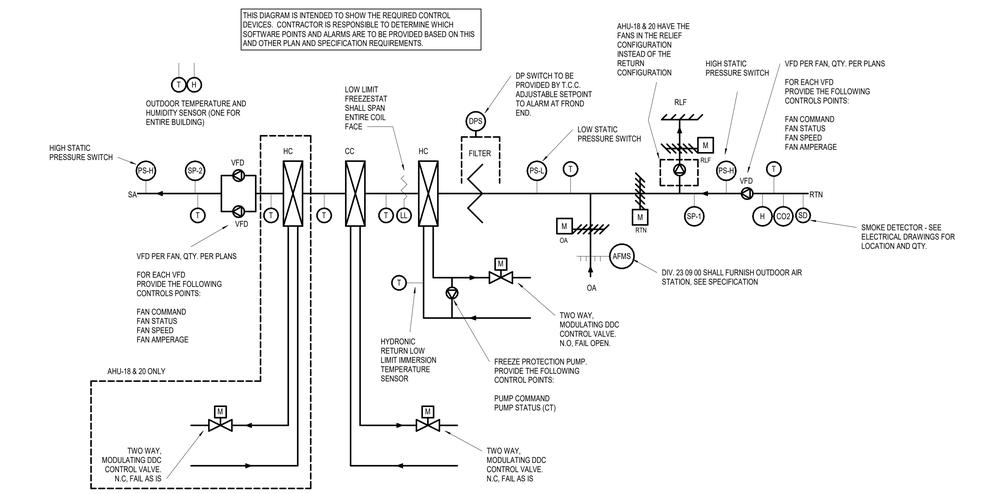
1 AHU DEVICE AND SENSOR DIGRAM (ALTERNATE BID) BP2

NOT TO SCALE



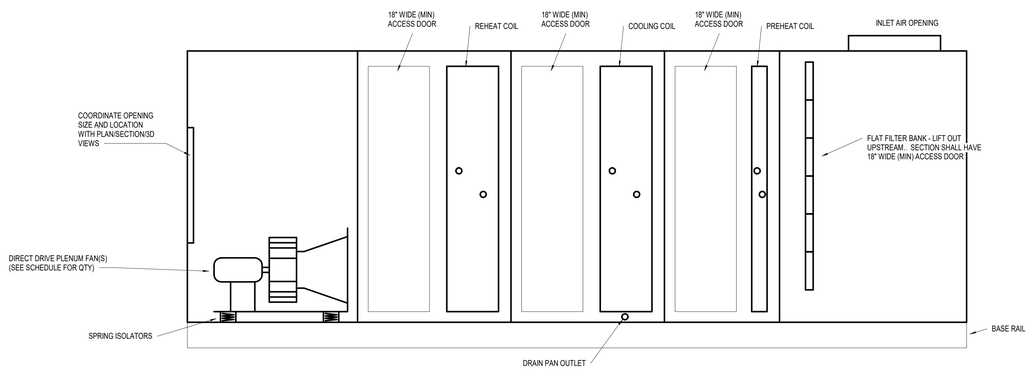
4 VAV DEVICE AND SENSOR DIAGRAM BP2

12" = 1'-0"



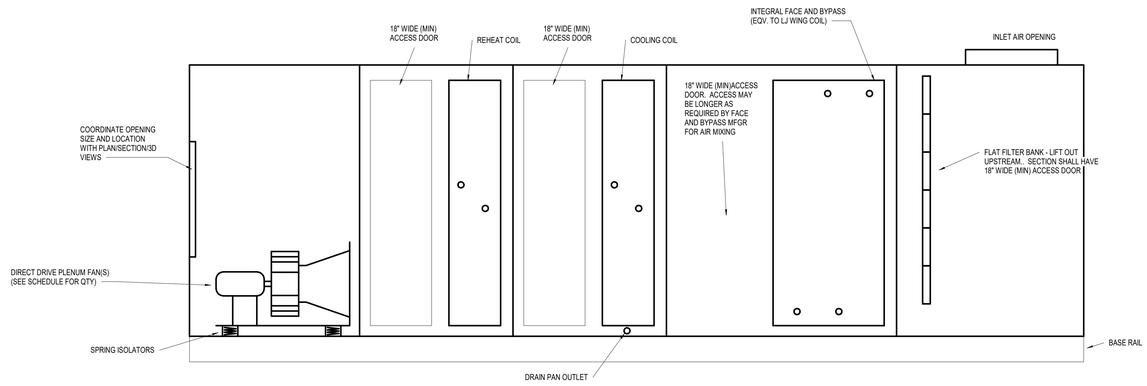
2 AHU DEVICE AND SENSOR DIGRAM (BASE BID) BP2

NOT TO SCALE



6 AHU-18 & 20 SECTION (BASE BID) BP2

NOT TO SCALE



5 AHU-18 & 20 SECTION (ALTERNATE BID) BP2

NOT TO SCALE

kbsd CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2

NOBLESVILLE SCHOOLS

18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEINER REGISTERED PROFESSIONAL ENGINEER PE11400737 STATE OF INDIANA

9-26-2024
Job# 24023

SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

MECHANICAL DETAILS

M521

AIR HANDLING UNIT SCHEDULE (BASE BID)

UNIT ID	AIR CAPACITY		SUPPLY FAN DATA				DIMENSIONAL DATA (SEE NOTES)			FILTER DATA				HYDRONIC COOLING COIL DATA											PREHEAT HYDRONIC HEATING COIL DATA								ELECTRICAL DATA			MAX WEIGHT (LBS / SF FOOTPRINT)	MANUFACTURER WITH MODEL NUMBER	AHU SPEC NUMBER	NOTES
										PRE-FILTER		FINAL FILTER				EAT	LAT																	AMPS (FLA)	VOLTAGE	PHASE				
	CFM	MIN OA CFM	TYPE	ESP	BHP (Ea.)	HP (Ea.)	MAX LENGTH	MAX HEIGHT (SEE NOTES)	MAX WIDTH	TYPE	MERV	TYPE	MERV	TOTAL MBH	SENS MBH	DB	WB	DB	MAX APD (NOTE 1)	MAX VEL	EWT	GPM	MAX WPD	RATED AIRFLOW (CFM)	HEATING MBH	EAT	LAT	MAX APD	MAX VEL	EWT	GPM	MAX WPD							
AHU-18	43,000	21250	4X DD PLENUM	2.50 in-wg	12.00	15	26' - 8"	10' - 3"	13' - 6"	LIFT OUT UPSTREAM	8			2200	1410	84.70 °F	70.80 °F	55.00 °F	0.79 in-wg	450 FPM	44.3 °F	202.0	16.0 Feet	43000	1900	28.4 °F	70.0 °F	0.15 in-wg	450 FPM	120 °F	156.0	5.0 Feet		460	3	80	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,11,12,13
AHU-19	12,000	4470	1X DD PLENUM	3.00 in-wg	19.50	20	15' - 8"	5' - 10"	7' - 0"	ANGLED PLEATED	8			559	360	82.28 °F	69.49 °F	55.00 °F	0.96 in-wg	485 FPM	44.3 °F	50.8	13.0 Feet	12000	425	37.1 °F	70.0 °F	0.17 in-wg	485 FPM	120 °F	34.4	5.0 Feet		460	3	70	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,10,13
AHU-20	43,000	21250	4X DD PLENUM	2.50 in-wg	12.00	15	26' - 8"	10' - 3"	13' - 6"	LIFT OUT UPSTREAM	8			2200	1410	84.70 °F	70.80 °F	55.00 °F	0.79 in-wg	450 FPM	44.3 °F	202.0	16.0 Feet	43000	1900	28.4 °F	70.0 °F	0.15 in-wg	450 FPM	120 °F	156.0	5.0 Feet		460	3	80	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,11,12,13
AHU-21	14,000	3500	1X DD PLENUM	3.00 in-wg	19.50	20	15' - 10"	5' - 10"	8' - 0"	ANGLED PLEATED	8			580	380	79.87 °F	68.14 °F	55.00 °F	0.97 in-wg	495 FPM	44.3 °F	52.9	8.0 Feet	14000	340	47.5 °F	70.0 °F	0.16 in-wg	490 FPM	120 °F	27.4	5.0 Feet		460	3	70	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,10,13

NOTES:
1. MAX AIR PRESSURE DROP SHALL BE AT COIL RATED FLOW. TOTAL ROWS ARE TO BE SELECTED BY MFGR; PROVIDED THAT THE FOLLOWING CONDITIONS ARE MET:
   A). THE DRY COIL PRESSURE DROP, WHEN EVALUATED AT 500 FPM FACE VELOCITY, DOES NOT EXCEED 0.72" WC
   B). THE TOTAL FAN BRAKE HORSEPOWER LIMIT IS NOT EXCEEDED
2. PROVIDE VFD READY MOTORS. SECTION 23 TO COORDINATE WITH OTHER TRADES AS APPROPRIATE TO ENSURE VFD IS PROVIDED. VFDS SHALL INCLUDE INTEGRAL DISCONNECT.
3. PROVIDE UNITS WITH ECONOMIZER CAPABILITY
4. FILTER PRESSURE DROP SHALL BE EVALUATED AT TWO TIMES INITIAL SP DROP.
5. PROVIDE ELECTRICAL CIRCUIT (ONE FOR EACH FAN). COORDINATE LOCATION TO AVOID DOOR SWINGS. PROVIDE SEPARATE CIRCUIT FOR LIGHTS AND RECEPTACLES.
6. ALL AHU SHIPPING SPLITS INCLUDING RIGGING MUST BE CAPABLE OF FITTING THROUGH THE HORIZONTAL OPENINGS IN THE MECHANICAL ROOM. MANUFACTURER MUST SECURE UNIT COMPONENTS SUCH THAT THE SHIPPING SPLIT CAN BE THROUGH THE LOUVER OPENINGS.
7. THE DIMENSIONS, COIL PULL CLEARANCE, AND CONNECTION LOCATIONS ARE SPECIFIC DUE TO SPACE CONSTRAINTS. REFER TO SECTIONS, 3D VIEWS, AND DETAILS TO ENSURE THAT THE SUBMITTED UNIT CAN MEET ALL REQUIREMENTS.
8. SEE PLAN VIEWS & ASSOCIATED 3D VIEWS FOR SUPPLY AIR OPENING SIZES AND LOCATIONS.
9. FOR MULTIPLE SUPPLY FAN ARRANGEMENTS: PROVIDE MANUAL BLANK OFF PLATES TO BE INSTALLED IN FRONT OF FANS TO BE INSTALLED UPON FAN FAILURE.
10. MAX HEIGHT INCLUDES INTEGRAL 8" BASE RAIL. BASE RAIL MAY BE EITHER FACTORY INSTALLED OR SHIPPED LOOSE FOR INSTALL BY M.C. IN FIELD.
11. PROVIDE UNIT WITH REHEAT COIL - SEE REHEAT COIL SCHEDULE
12. MAX HEIGHT INCLUDES INTEGRAL 10" BASE RAIL. BASE RAIL MAY BE EITHER FACTORY INSTALLED OR SHIPPED LOOSE FOR INSTALL BY M.C. IN FIELD.
13. PROVIDE IN-SITU LEAKAGE TESTING PER SPEC.

PUMP SCHEDULE (BASE BID)

UNIT ID	SYSTEM	TYPE	DESIGN CAPACITY (GPM)	DESIGN CAPACITY (FT. HD)	MIN. EFF.	PUMP		MOTOR DATA				MANUFACTURER WITH MODEL NUMBER	NOTES
						SPECIFICATION SECTION 232123							
						SUCT. (IN)	DISCH (IN)	HP	RPM	VOLTS	PH		
FPP-AHU-18	HHW	IN-LINE CIRCULATOR	70.0	13.00		1.5	1.5	0.4	3250	115	1	BELL AND GOSSETT PL-100	
FPP-AHU-19	HHW	IN-LINE CIRCULATOR	15.3	12.00		1.25	1.25	0.1	2650	115	1	BELL AND GOSSETT PL-30	
FPP-AHU-20	HHW	IN-LINE CIRCULATOR	70.0	13.00		1.5	1.5	0.4	3250	115	1	BELL AND GOSSETT PL-100	
FPP-AHU-21	HHW	IN-LINE CIRCULATOR	12.3	16.00		1.25	1.25	0.1	2650	115	1	BELL AND GOSSETT PL-30	

ALTERNATE BID ONLY

AIR HANDLING UNIT SCHEDULE (ALTERNATE BID)

UNIT ID	AIR CAPACITY		SUPPLY FAN DATA				DIMENSIONAL DATA (SEE NOTES)			FILTER DATA				HYDRONIC COOLING COIL DATA											HYDRONIC INTEGRAL FACE AND BYPASS HEATING COIL DATA								ELECTRICAL DATA			MAX WEIGHT (LBS / SF FOOTPRINT)	MANUFACTURER WITH MODEL NUMBER	AHU SPEC NUMBER	NOTES
										PRE-FILTER		FINAL FILTER				EAT	LAT																	AMPS (FLA)	VOLTAGE	PHASE				
	CFM	MIN OA CFM	TYPE	ESP	BHP (Ea.)	HP (Ea.)	MAX LENGTH	MAX HEIGHT (SEE NOTES)	MAX WIDTH	TYPE	MERV	TYPE	MERV	TOTAL MBH	SENS MBH	DB	WB	DB	MAX APD (NOTE 1)	MAX VEL	EWT	GPM	MAX WPD	RATED AIRFLOW (CFM)	HEATING MBH	EAT	LAT	MAX APD (NOTE 14)	MAX VEL	EWT	GPM	MAX WPD							
AHU-18	43,000	21250	4X DD PLENUM	2.50 in-wg	12.00	15	26' - 8"	10' - 3"	13' - 6"	LIFT OUT UPSTREAM	8			2200	1410	84.70 °F	70.80 °F	55.00 °F	0.79 in-wg	450 FPM	44.3 °F	202.0	16.0 Feet	21250	1900	-8.0 °F	73.0 °F	0.20 in-wg	330 FPM	130 °F	28.0	5.0 Feet		460	3	80	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,11,12,13,14
AHU-19	12,000	4470	1X DD PLENUM	3.00 in-wg	16.20	20	15' - 8"	5' - 10"	7' - 0"	ANGLED PLEATED	8			559	360	82.28 °F	69.49 °F	55.00 °F	0.96 in-wg	485 FPM	44.3 °F	50.8	13.0 Feet	6000	294	8.0 °F	53.0 °F	0.23 in-wg	350 FPM	130 °F	28.0	5.0 Feet		460	3	70	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,10,13,14
AHU-20	43,000	21250	4X DD PLENUM	2.50 in-wg	12.00	15	26' - 8"	10' - 3"	13' - 6"	LIFT OUT UPSTREAM	8			2200	1410	84.70 °F	70.80 °F	55.00 °F	0.79 in-wg	450 FPM	44.3 °F	202.0	16.0 Feet	21250	1900	-8.0 °F	73.0 °F	0.20 in-wg	330 FPM	130 °F	233.0	5.0 Feet		460	3	80	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,11,12,13,14
AHU-21	14,000	3500	1X DD PLENUM	3.00 in-wg	18.50	20	15' - 10"	5' - 10"	8' - 0"	ANGLED PLEATED	8			580	380	79.87 °F	68.14 °F	55.00 °F	0.97 in-wg	495 FPM	44.3 °F	52.9	8.0 Feet	7500	203	30.5 °F	55.0 °F	0.18 in-wg	440 FPM	130 °F	14.0	5.0 Feet		460	3	70	MILLER PICKING	23 73 13	1,2,3,4,5,7,8,9,10,13,14

NOTES:
1. MAX AIR PRESSURE DROP SHALL BE AT COIL RATED FLOW. TOTAL ROWS ARE TO BE SELECTED BY MFGR; PROVIDED THAT THE FOLLOWING CONDITIONS ARE MET:
   A). THE DRY COIL PRESSURE DROP, WHEN EVALUATED AT 500 FPM FACE VELOCITY, DOES NOT EXCEED 0.72" WC
   B). THE TOTAL FAN BRAKE HORSEPOWER LIMIT IS NOT EXCEEDED
2. PROVIDE VFD READY MOTORS. SECTION 23 TO COORDINATE WITH OTHER TRADES AS APPROPRIATE TO ENSURE VFD IS PROVIDED. VFDS SHALL INCLUDE INTEGRAL DISCONNECT.
3. PROVIDE UNITS WITH ECONOMIZER CAPABILITY
4. FILTER PRESSURE DROP SHALL BE EVALUATED AT TWO TIMES INITIAL SP DROP.
5. PROVIDE ELECTRICAL CIRCUIT (ONE FOR EACH FAN). COORDINATE LOCATION TO AVOID DOOR SWINGS. PROVIDE SEPARATE CIRCUIT FOR LIGHTS AND RECEPTACLES.
6. ALL AHU SHIPPING SPLITS INCLUDING RIGGING MUST BE CAPABLE OF FITTING THROUGH THE HORIZONTAL OPENINGS IN THE MECHANICAL ROOM. MANUFACTURER MUST SECURE UNIT COMPONENTS SUCH THAT THE SHIPPING SPLIT CAN BE THROUGH THE LOUVER OPENINGS.
7. THE DIMENSIONS, COIL PULL CLEARANCE, AND CONNECTION LOCATIONS ARE SPECIFIC DUE TO SPACE CONSTRAINTS. REFER TO SECTIONS, 3D VIEWS, AND DETAILS TO ENSURE THAT THE SUBMITTED UNIT CAN MEET ALL REQUIREMENTS.
8. SEE PLAN VIEWS & ASSOCIATED 3D VIEWS FOR SUPPLY AIR OPENING SIZES AND LOCATIONS.
9. FOR MULTIPLE SUPPLY FAN ARRANGEMENTS: PROVIDE MANUAL BLANK OFF PLATES TO BE INSTALLED IN FRONT OF FANS TO BE INSTALLED UPON FAN FAILURE.
10. MAX HEIGHT INCLUDES INTEGRAL 8" BASE RAIL. BASE RAIL MAY BE EITHER FACTORY INSTALLED OR SHIPPED LOOSE FOR INSTALL BY M.C. IN FIELD.
11. PROVIDE UNIT WITH REHEAT COIL - SEE REHEAT COIL SCHEDULE
12. MAX HEIGHT INCLUDES INTEGRAL 10" BASE RAIL. BASE RAIL MAY BE EITHER FACTORY INSTALLED OR SHIPPED LOOSE FOR INSTALL BY M.C. IN FIELD.
13. PROVIDE IN-SITU LEAKAGE TESTING PER SPEC.
14. PRESSURE DROP LISTED IS AT THE RATED FLOW DURING HEATING MODE. THE PRESSURE DROP OF THE DEVICE MAY BE HIGHER DURING FULL FLOW COOLING MODE. AHU MFGR SHALL ENSURE THAT THE FULL PRESSURE DROP THROUGH BAP DEVICE IS ACCOUNTED FOR IN THE FAN STATIC PRESSURE / POWER CALCULATIONS

MECHANICAL SCHEDULE

Service:	Material	Insulation	Joining Method	Vapor Barrier?	Jacket
Supply air duct from AHU	Galvanized Sheet Metal	1" MF BLK (NOTE 2)	-	Yes	FSK
Return air duct up to Outdoor Air (OA) mixing poi	Galvanized Sheet Metal	-	-	No	-
Relief air duct	Galvanized Sheet Metal	-	-	No	-
Outdoor air duct upstream of mixing point	Galvanized Sheet Metal	2" MF BRD	-	Yes	FSK
HHW S&R piping (2" and up, NOTE 5)	ASTM A-53 Steel Pipe	1" MFPPI	Welded or grooved	No	ASJ (NOTE 1)
HHW S&R piping (2" and down, NOTE 5)	ASTM B-88 Type L Copper Tube	1" MFPPI	Soldered	No	ASJ (NOTE 1)
CHW S&R piping (2" and up, NOTE 5)	ASTM A-53 Steel Pipe	1" MFPPI	Welded or grooved	Yes	ASJ (NOTE 1)
CHW S&R piping (2" and down, NOTE 5)	ASTM B-88 Type L Copper Tube	1" MFPPI	Soldered	Yes	ASJ (NOTE 1)
Condensate drain piping	Copper Pipe	0.5" FE	Soldered	Yes	-

MF BLK = Mineral Fiber blanket for ductwork
MF BRD = Mineral Fiber board for ductwork
MF TNK = Mineral Fiber for tanks
MFPPI = Mineral Fiber preformed pipe insulation
FE = Flexible Elastomeric pipe insulation
FSK = Foil Scrim with Kraft Paper
ASJ = All Service Jacket
AL = Aluminum Jacket for outdoor service
IL MF = Internally lined mineral fiber – see duct specification
IL FE = Internally lined flexible elastomeric – see duct specification
Note 1: All exposed piping shall closer than 72" from the ground shall receive a field applied PVC jacket.
Note 2: Thickness is uncompressed thickness – where applicable for MF BLK.
Note 3: Provide jacket only for the exterior portion of insulation.
Note 4: Deleted
Note 5: Either option is acceptable for 2" pipe.

REHEAT COIL SCHEDULE (BOTH BASE BID AND ALTERNATE BID)

NOTES:

UNIT ID	DUCT CONN. SIZE	MAX CFM	HYDRONIC HEATING COIL SELECTION DATA								MANUFACTURER WITH MODEL NUMBER	NOTES
			MIN MBH	EAT (°F)	LAT (°F)	MAX FINS PER IN.	MAX APD (IN-WG)	EWT (°F)	GPM	MAX WPD (IN-WG)		
AHU-18-RHC	2 @ 51"T x 141"L	43000	699	55	70	12.00	0.08	130	40	5.00	BY AHU MFGR	
AHU-20-RHC	2 @ 51"T x 141"L	43000	699	55	70	12.00	0.08	130	40	5.00	BY AHU MFGR	

NOTES:
1. REHEAT COIL SPECIFICATION SHALL BE PER AHU SPEC, 23 73 23 COILS SECTION

RAF MOTOR SCHEDULE

UNIT ID	MOTOR HP	NOTES
	SPECIFICATION SECTION 23 05 13	
RAF-18	30	1
RAF-19	15	1
RAF-20	30	1
RAF-21	15	1

NOTES:
1. PROVIDE VFD READY MOTOR PER SPECIFICATION.

KBSO CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2
NOBLESVILLE SCHOOLS
18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEINER REGISTERED PROFESSIONAL ENGINEER PE11400737 STATE OF INDIANA
9-26-2024
Job# 24023

SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

MECHANICAL SCHEDULES

M621

GENERAL NOTES

A ALTERNATE BID ONLY: EXISTING TO REMAIN VAV BOXES SHALL BE BLANKED OFF FOR AEROSEAL PROCESS. TEMPORARILY DISCONNET FLEX DUCT UPSTREAM OF VAV BOX AND RECONNECT UPON COMPLETION.

B ALTERNATE BID ONLY: STRICT DUCT LEAKAGE CRITERIA EXIST FOR BOTH NEW AND EXISTING TO REMAIN SYSTEMS. SEE METAL DUCT SPECIFICATION. COORDINATE SCHEDULING OF WORK SO THAT FIRE ALARM CAN BE TEMPORARILY SHUT OFF DURING AEROSEAL PROCESS.

C REPLACE ALL THERMOSTATS SHOWN.

D ALL EXISTING TO REMAIN CONTROL VALVES WHERE THE ACTUATOR HAS BEEN REPLACED SHALL HAVE A CHECKOUT PROCEDURE COMPLETED: VERIFY THAT THE TSTAT IS COMMUNICATING AND THE VALVE PHYSICALLY RESPONDS TO OPEN AND CLOSE SIGNALS.

E T.C.C. SHALL DOCUMENT CONDITION OF VAV BOX AND ACTUATOR / SHAFT. OBSERVE THE SHAFT ON BOTH SIDES OF THE VAV BOX AND ENSURE DAMPER SHAFT IS ABLE TO ROTATE FREELY. TAKE PICTURES OF EACH BOX AND SUBMIT TO ENGINEER.

F CONTRACTOR SHALL PROVIDE APPROPRIATE FLOOR / WALL PROTECTION MATERIAL TO PREVENT DAMAGE WHILE TRANSPORTING ANY MATERIALS OR EQUIPMENT.

1

SHEET KEYNOTES

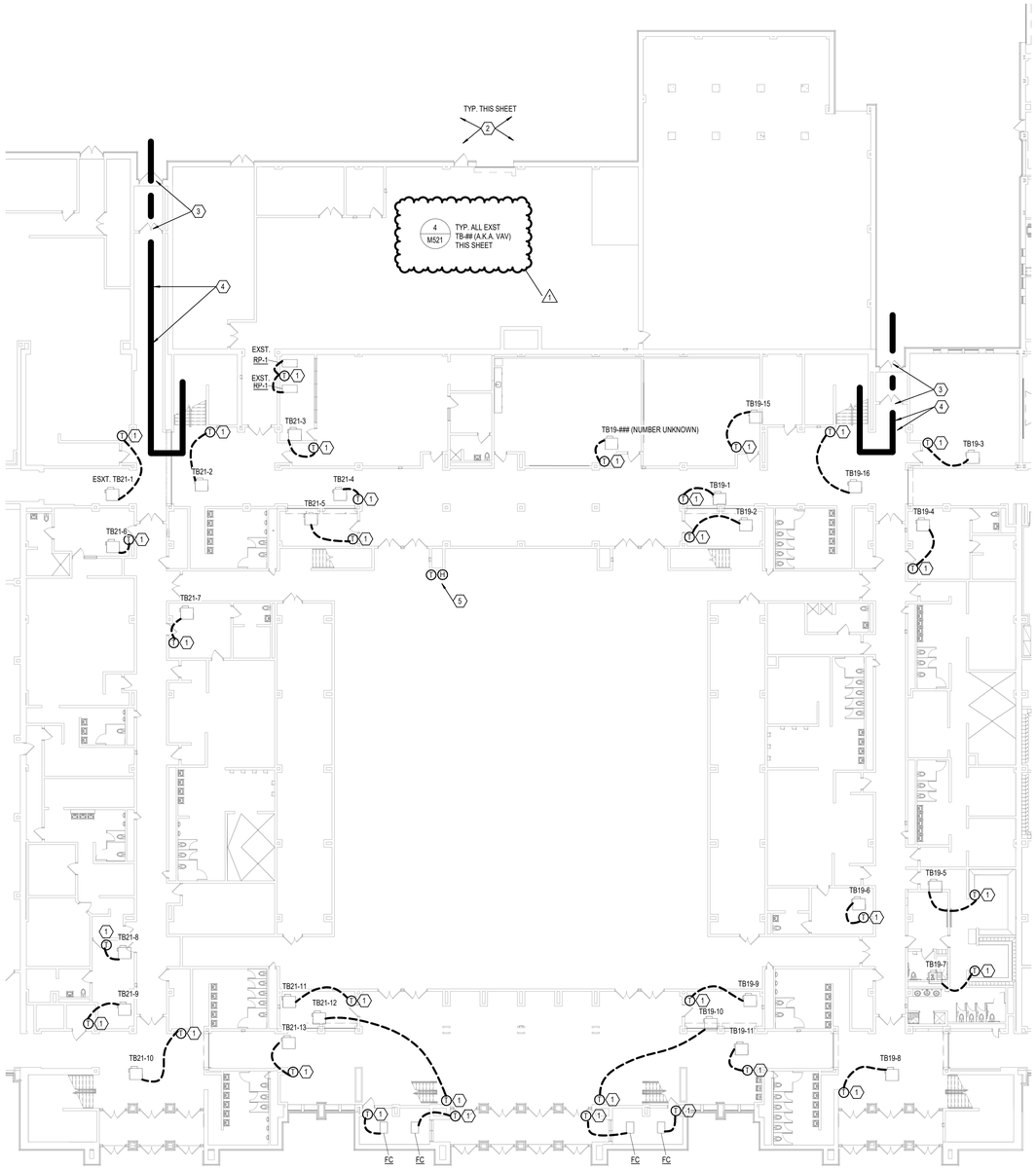
1 REPLACE THERMOSTAT. SEE DETAIL.

2 THE EXISTING CEILINGS ARE NOT TO BE COMPLETELY REMOVED. CONTRACTOR SHALL BUDGET FOR WIRING OF CABLES IN EXISTING CABLE TRAY (WHERE POSSIBLE) BY REMOVAL OF CEILING TILE PADS.

3 REMOVABLE MULLION. IF REMOVED - RESTORE TO ORIGINAL CONDITION

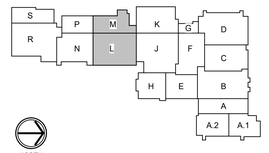
4 POTENTIAL PATH OF SUPPLIES AND MATERIAL TRANSPORT TO MECHANICAL ROOMS. DO NOT COMPLETELY BLOCK ANY EXIT WHEN SCHOOL IS IN SESSION. ANY PATH THAT IS TO REMAIN ACTIVE FOR CONSTRUCTION DURING SCHOOL SHALL BE FENCED OFF WITH SAFETY FENCING; HOWEVER FENCING SHALL NOT IMPEDE EXIT PATHS WHEN SCHOOL IS IN SESSION.

5 PROVIDE NEW COMBINATION TEMPERATURE AND HUMIDITY SENSOR TO BE CONNECTED TO BOTH AHU-18 AND AHU-20. WHERE MULTIPLE HUMIDISTAT SIGNALS ARE TO BE USED - AVERAGE THE SIGNALS BEFORE USING AS INPUT. ANY INOPERATOVE SIGNAL SHALL BE DROPPED FROM THE AVERAGE.



1 GROUND FLOOR MECHANICAL CONTROLS PLAN BP2
1/16" = 1'-0"

KEY PLAN



kbsd CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2
NOBLESVILLE SCHOOLS
18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEINER REGISTERED PROFESSIONAL ENGINEER PE11400737 STATE OF INDIANA
9-26-2024
Job# 24023

SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

GROUND FLOOR CONTROLS & LOGISTICS PLAN

M721

GENERAL NOTES

A ALTERNATE BID ONLY: EXISTING TO REMAIN VAV BOXES SHALL BE BLANKED OFF FOR AEROSEAL PROCESS. TEMPORARILY DISCONNET FLEX DUCT UPSTREAM OF VAV BOX AND RECONNECT UPON COMPLETION.

B ALTERNATE BID ONLY: STRICT DUCT LEAKAGE CRITERIA EXIST FOR BOTH NEW AND EXISTING TO REMAIN SYSTEMS. SEE METAL DUCT SPECIFICATION. COORDINATE SCHEDULING OF WORK SO THAT FIRE ALARM CAN BE TEMPORARILY SHUT OFF DURING AEROSEAL PROCESS.

C REPLACE ALL THERMOSTATS SHOWN.

D ALL EXISTING TO REMAIN CONTROL VALVES WHERE THE ACTUATOR HAS BEEN REPLACED SHALL HAVE A CHECKOUT PROCEDURE COMPLETED: VERIFY THAT THE TSTAT IS COMMUNICATING AND THE VALVE PHYSICALLY RESPONDS TO OPEN AND CLOSE SIGNALS.

E T.C.C. SHALL DOCUMENT CONDITION OF VAV BOX AND ACTUATOR / SHAFT. OBSERVE THE SHAFT ON BOTH SIDES OF THE VAV BOX AND ENSURE DAMPER SHAFT IS ABLE TO ROTATE FREELY. TAKE PICTURES OF EACH BOX AND SUBMIT TO ENGINEER.

F CONTRACTOR SHALL PROVIDE APPROPRIATE FLOOR / WALL PROTECTION MATERIAL TO PREVENT DAMAGE WHILE TRANSPORTING ANY MATERIALS OR EQUIPMENT.

SHEET KEYNOTES

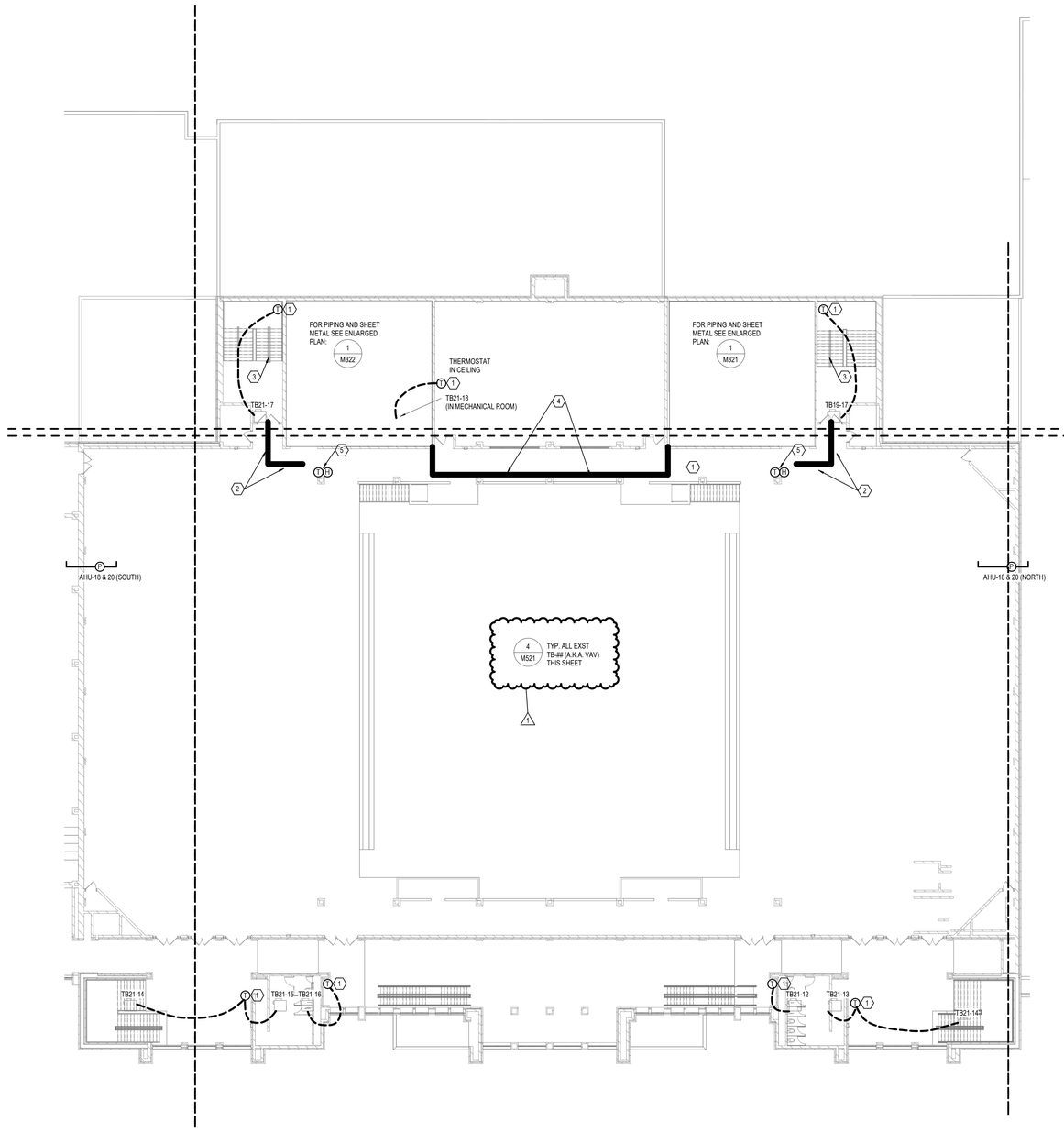
1 REPLACE THERMOSTAT. SEE DETAIL.

2 POTENTIAL PATH OF SUPPLIES AND MATERIAL TRANSPORT TO MECHANICAL ROOMS. DO NOT COMPLETELY BLOCK ANY EXIT WHEN SCHOOL IS IN SESSION. ANY PATH THAT IS TO REMAIN ACTIVE FOR CONSTRUCTION DURING SCHOOL SHALL BE FENCED OFF WITH SAFETY FENCING, HOWEVER FENCING SHALL NOT IMPEDE EXIT PATHS WHEN SCHOOL IS IN SESSION.

3 STAIRS HAVE A NON-REMOVABLE RAILING

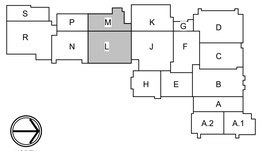
4 CONTRACTOR SHALL PROVIDE FOR STUDENT AND STAFF ACCESS TO THE CARDIO ROOM WHEN SCHOOL IS IN SESSION. PROVIDE SAFETY FENCING TO INDICATE PATH OF TRAVEL TO AND FROM CARDIO ROOM AND TO SEPARATE FROM CONSTRUCTION AREAS.

5 PROVIDE NEW COMBINATION TEMPERATURE AND HUMIDITY SENSOR TO BE CONNECTED TO BOTH AHU-18 AND AHU-20. WHERE MULTIPLE HUMIDISTAT SIGNALS ARE TO BE USED - AVERAGE THE SIGNALS BEFORE USING AS INPUT. ANY INOPERATOVE SIGNAL SHALL BE DROPPED FROM THE AVERAGE.



1 SECOND FLOOR MECHANICAL CONTROLS PLAN BP2
1/16" = 1'-0"

KEY PLAN



kbsd CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2
NOBLESVILLE SCHOOLS
18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEPHAN REGISTERED PE11400737 STATE OF INDIANA PROFESSIONAL ENGINEER
9-26-2024
Job# 24023

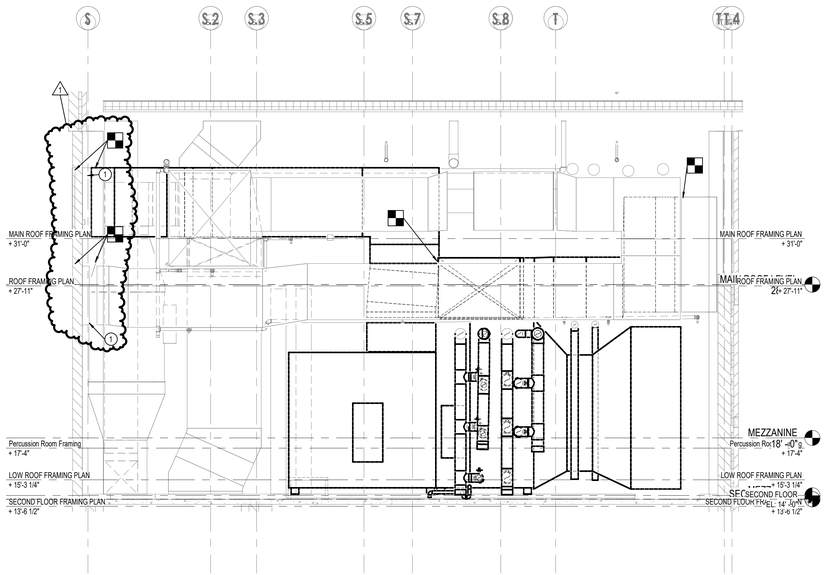
SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

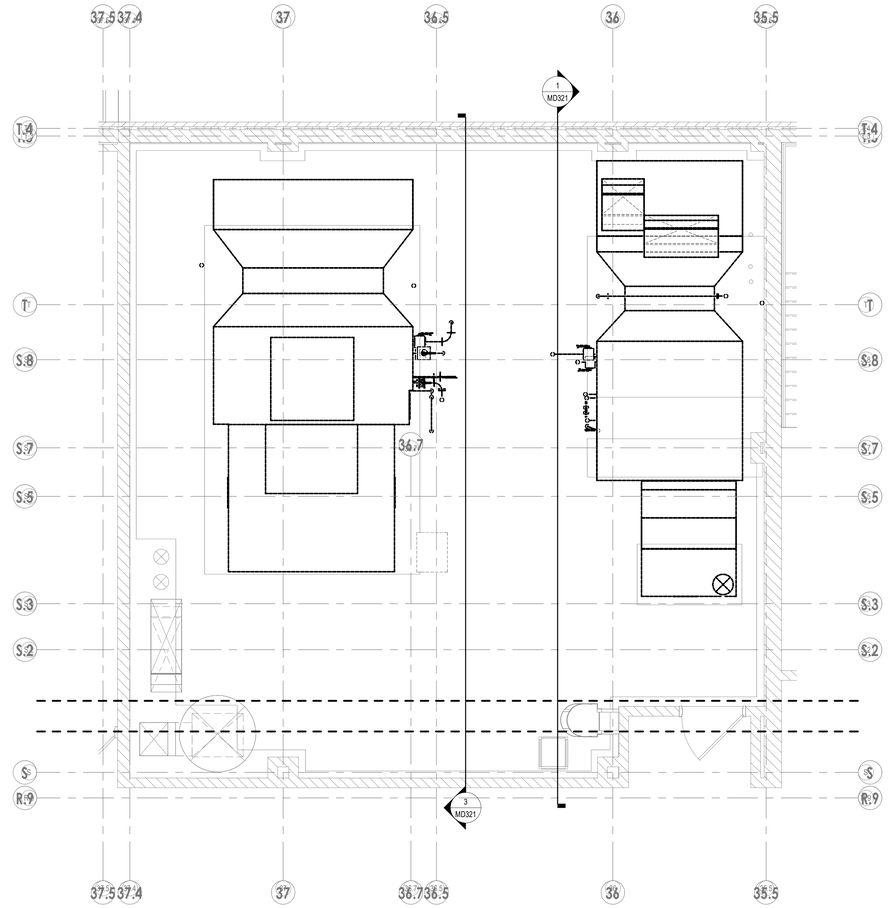
#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

SECOND FLOOR CONTROLS & LOGISTICS PLAN

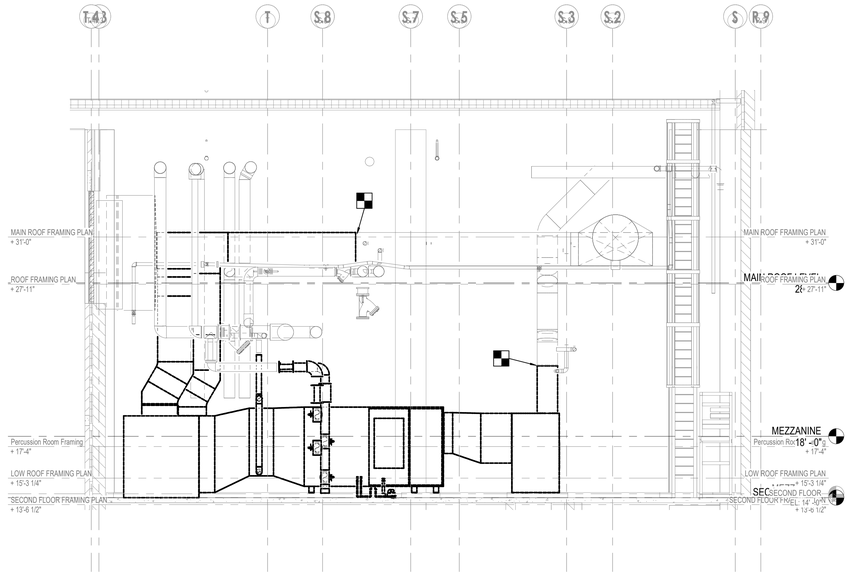
M722



3 AHU-20 DEMO SECTION
1/4" = 1'-0"



2 MECHANICAL ROOM M11 DEMOLITION PLAN
1/4" = 1'-0"



1 AHU-19 DEMO SECTION
1/4" = 1'-0"

GENERAL NOTES

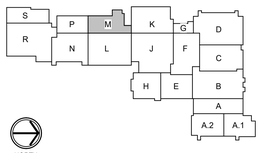
A REMOVE DUCT AND EQUIPMENT SHOWN. CONTRACTOR SHALL COORDINATE THE REMOVAL AND REPLACEMET OF DUCT AND PIPE AS REQUIRED TO INSTALL THE NEW AHUS. ANY ADDITIONAL DEMOLITION AND ASSOCIATED NEW WORK SHALL BE INCLUDED IN THE BID FOR A COMPLETE AND WORKABLE SYSTEM.

B ALL FITTINGS, VALVES, AND ACCESSORIES SHOWN ON BRANCH LINES IN THE COIL PIPING DETAILS SHALL BE REMOVED AND REPLACED, REGARDLESS IF THE PIPE IS SHOWN TO BE DEMOLISHED TO THAT POINT OR NOT.

SHEET KEYNOTES

1 REMOVE FIRE DAMPER

KEY PLAN



kbsd CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2
NOBLESVILLE SCHOOLS
18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEPHENS REGISTERED PROFESSIONAL ENGINEER
PE11400737
STATE OF INDIANA
9-26-2024
Job# 24023

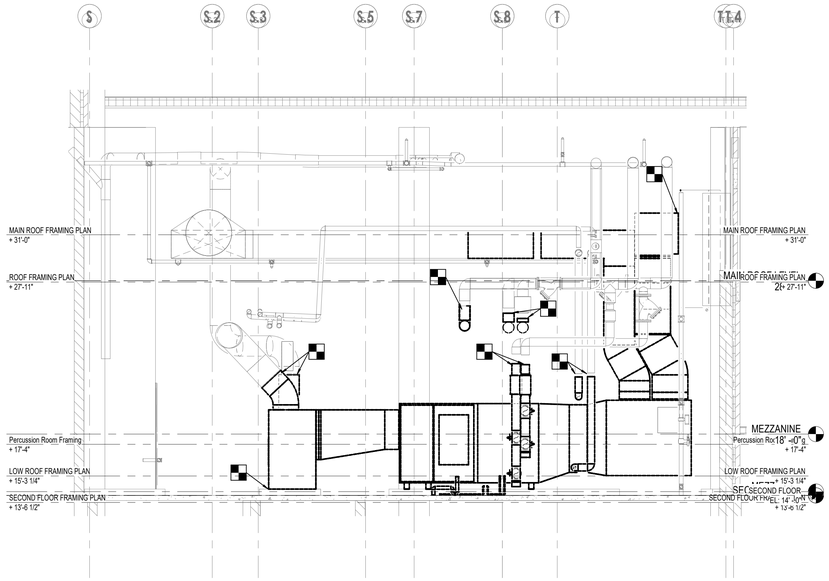
SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

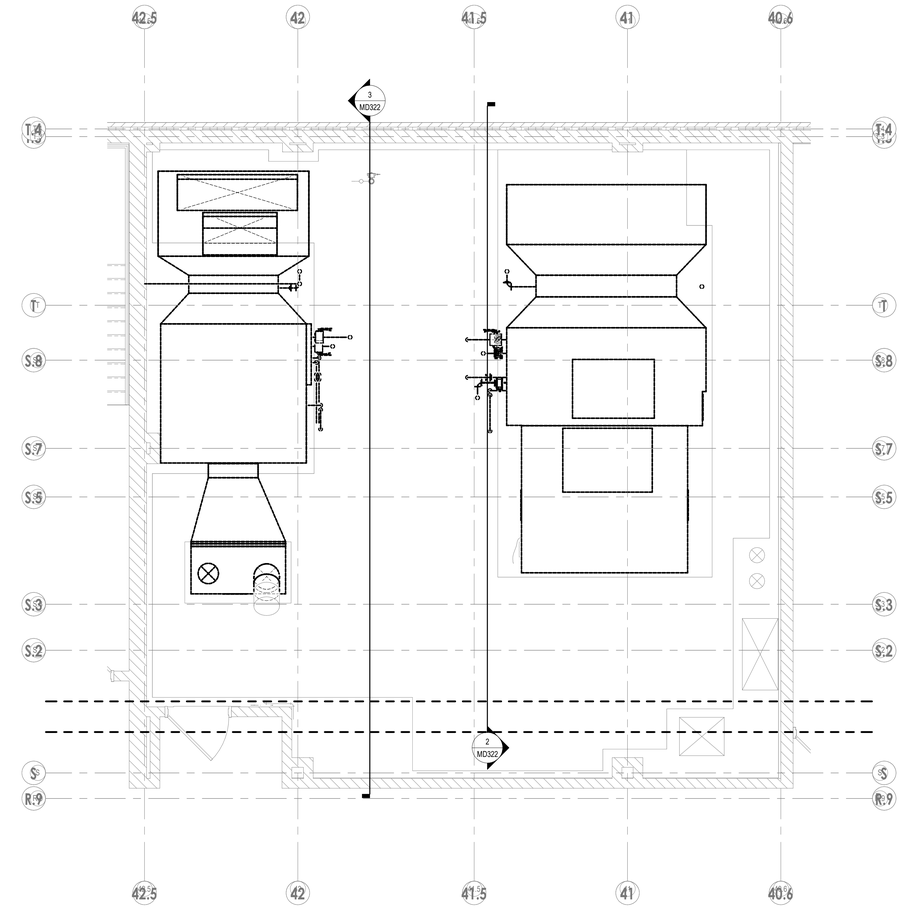
#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

MECH RM M11 MECHANICAL DEMOLITION PLAN

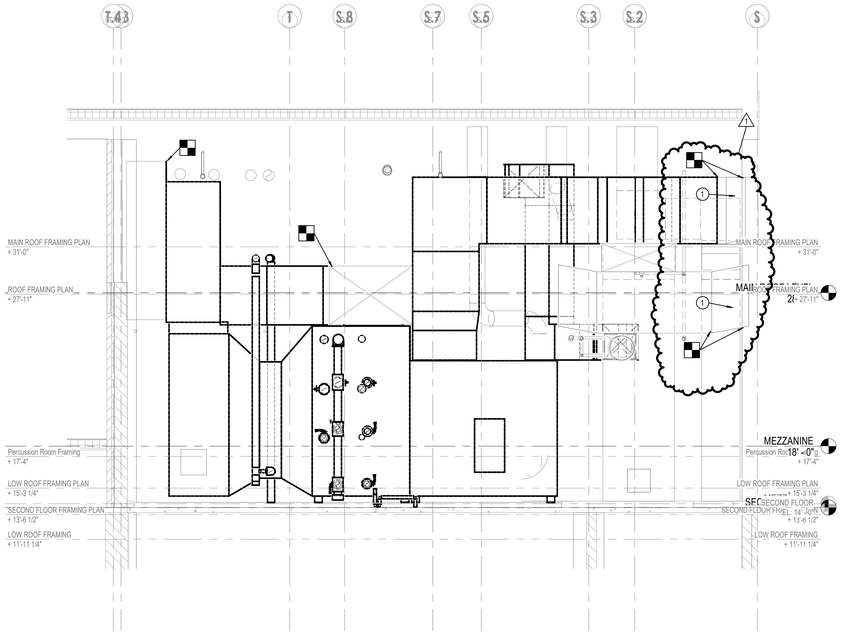
MD321



3 AHU-21 DEMO SECTION
1/4" = 1'-0"



1 MECHANICAL ROOM M12 DEMOLITION PLAN
1/4" = 1'-0"



2 AHU-18 DEMO SECTION
1/4" = 1'-0"

GENERAL NOTES

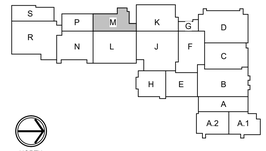
A REMOVE DUCT AND EQUIPMENT SHOWN. CONTRACTOR SHALL COORDINATE THE REMOVAL AND REPLACEMET OF DUCT AND PIPE AS REQUIRED TO INSTALL THE NEW AHUS. ANY ADDITIONAL DEMOLITION AND ASSOCIATED NEW WORK SHALL BE INCLUDED IN THE BID FOR A COMPLETE AND WORKABLE SYSTEM.

B ALL FITTINGS, VALVES, AND ACCESSORIES SHOWN ON BRANCH LINES IN THE COIL PIPING DETAILS SHALL BE REMOVED AND REPLACED, REGARDLESS IF THE PIPE IS SHOWN TO BE DEMOLISHED TO THAT POINT OR NOT.

SHEET KEYNOTES

1 REMOVE FIRE DAMPER

KEY PLAN



KBSO CONSULTING
275 VETERANS WAY
SUITE 300
CARMEL, IN 46032

NOBLESVILLE HS AHU REPLACEMENTS - BID PACK 2
NOBLESVILLE SCHOOLS
18111 CUMBERLAND RD, NOBLESVILLE, IN 46060

ANDREW P. STEINER REGISTERED PROFESSIONAL ENGINEER PE11400737 STATE OF INDIANA
9-26-2024
Job# 24023

SCALE:	AS NOTED
DRAWN BY:	Author
DESIGNED BY:	Designer
CHECKED BY:	Checker
DATE:	09/27/2024
PROJECT #:	24023

REVISIONS:

#	DESCRIPTION	DATE
1	ADD #1 BP2	10.10.24

MECH RM M12 MECHANICAL DEMOLITION PLAN

MD322