GENERAL NOTES:

1. THE DRAWINGS ON THESE PLANS ARE DIAGRAMMATIC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL HVAC WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. NO EXTRA PAYMENTS WILL BE AUTHORIZED FOR REROUTING OR REMOVAL OF INSTALLED WORK DUE TO LACK OF COORDINATION WITH OTHER SYSTEMS.
2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, FLOORS AND CEILINGS AS REQUIRED FOR INSTALLATION OF HIS WORK.
3. ACCESS PANELS SHALL BE PROVIDED IN CEILINGS, WALLS, FLOORS, ETC., AS REQUIRED TO MAINTAIN ACCESSIBILITY TO VALVES, DAMPERS, TRAPS, COILS, ETC.
4. PROVIDE DUCT ACCESS DOORS AT ALL MOTORIZED DAMPERS, FIRE DAMPERS, AND SMOKE DAMPERS.
5. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE U.L. LISTED FIRESTOPPING MATERIAL AND OR SYSTEM.
6. ALL DUCTWORK PASSING THROUGH A FIRE RATED PARTITION SHALL BE PROVIDED WITH A FIRE DAMPER TO MAINTAIN THE FIRE RATING OF THE PARTITION.
7. LOCATIONS OF DIFFUSERS AND GRILLES ARE APPROXIMATE. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS.
8. ALL BRANCHES AND TAKE-OFFS SHALL BE EQUIPPED WITH VOLUME CONTROL DAMPERS. DAMPERS TO BE OPPOSED BLADE TYPE, 4" MAX. BLADE HEIGHT. VOLUME DAMPERS TO BE LOCATED AS NEAR TO THE POINT OF TAKE-OFF AS PRACTICAL.
9. FLEXIBLE DUCT CONNECTIONS SHALL BE LIMITED TO A MAXIMUM LENGTH OF FIVE (5) FEET AND SUPPORTED AT MID-POINT.
10. ALL SUPPLY & OUTSIDE AIR DUCTWORK SHALL BE INSULATED.
11. PROVIDE REFRIGERANT PIPING AND LAYOUT/ROUTING PER MANUFACTURER'S RECOMMENDATION AND ALL CONNECTIONS TO EQUIPMENT.
12. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR.
13. ALL MOTOR STARTERS SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
14. ALL REQUIRED CONTROL EQUIPMENT AND WIRING SHALL BE FURNISHED & INSTALLED BY THE HVAC CONTRACTOR.
15. CONTRACT CLOSE OUT: IN THE PRESENCE OF THE OWNER, ENGINEER OR ARCHITECT; DEMONSTRATING OPERATION OF SYSTEMS AND THAT ALL SPECIFICATIONS HAVE BEEN MET TO THE SATISFACTION OF ALL PARTIES.

DUCTWORK SYMBOLS

Symbol	Description
AxB	DUCTWORK DOUBLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH.
AxB	DUCTWORK SINGLE LINE REPRESENTATION: "A" INDICATES DUCT WIDTH; "B" INDICATES DUCT DEPTH.
	SUPPLY AIR DUCT UP
	SUPPLY AIR DUCT DOWN
	RETURN AIR DUCT UP
	RETURN AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN
	FLEXIBLE DUCTWORK
	SUPPLY AIR FLOW
	RETURN/EXHAUST AIR FLOW
	VOLUME DAMPER
	MOTORIZED DAMPER w/ ACCESS DOOR
	FIRE DAMPER W/ ACCESS DOOR
	SUPPLY AIR TERMINAL
	RETURN/EXHAUST AIR TERMINAL
	EXHAUST AIR TERMINAL
D	DROP DUCT
R	RISE DUCT

ABBREVIATIONS

AC	AIR CONDITIONING UNIT	G.C.	GENERAL CONTRACTOR
ACT	ACOUSTIC CEILING TILE	GH	GRAVITY HOOD
ACCU	AIR COOLED CONDENSING UNIT	H.C.	HVAC CONTRACTOR
AD	ACCESS DOOR	HF	HEPA FILTER
AF	AFTER FILTER	HP	HORSEPOWER
AFF	ABOVE FINISHED FLOOR	HV	HEATING AND VENTILATING UNIT
AFM	AIR FLOW MEASURING DEVICE	LCD	LINEAR CEILING DIFFUSER
AHU	AIR HANDLING UNIT	LF	LINEAR FEET
A.L.D.	AUTOMATIC LOUVER DAMPER (PNEUMATIC)	MA	MIXED AIR
AP	ACCESS PANEL	MB	MIXING BOX
BDD	BACK DRAFT DAMPER	MD	MOTORIZED DAMPER
BG	BOTTOM GRILLE (WALL TYPE)	MER	MECHANICAL EQUIPMENT ROOM
BR	BOTTOM REGISTER (WALL TYPE)	MAX.	MAXIMUM
BTUH	BRITISH THERMAL UNITS/HOUR	MBH	ONE THOUSAND BTUH
CC	COOLING COIL	MIN.	MINIMUM
CD	CEILING DIFFUSER	NOM.	NOMINAL
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CG	CEILING GRILLE	P.C.	PLUMBING CONTRACTOR
CLG	CEILING	PF	PRE-FILTER
CO	CLEAN OUT	PH	PREHEAT
CP	CONDENSATE PUMP	PRV	PRESSURE REDUCING VALVE
CR	CEILING REGISTER	PSI	POUNDS PER SQUARE IN.
CUH	CABINET UNIT HEATER	RA	RETURN AIR
CW	COLD WATER	RF	RETURN FAN
D	DRAIN	RHC	REHEAT COIL
Db	DRY BULB TEMPERATURE, °F	Rh	RELATIVE HUMIDITY
dB	DECIBELS	RPZ	REDUCED PRESSURE ZONE
DN	DOWN	SA	SUPPLY AIR
DP	DIFFERENTIAL PRESSURE	SD	SMOKE DAMPER
Dp	DEW POINT TEMPERATURE, °F	Sp. Gr.	SPECIFIC GRAVITY
DS	DUCT SMOKE DETECTOR	SP	STATIC PRESSURE
DX	DIRECT EXPANSION	SPD	SPLITTER DAMPER
EA	EXHAUST AIR	SPS	STATIC PRESSURE SENSOR
EAT	ENTERING AIR TEMP	S.S.	STAINLESS STEEL
E.C.	ELECTRICAL CONTRACTOR	TG	TOP GRILLE (WALL TYPE)
EER	ENERGY EFFICIENCY RATIO	TR	TOP REGISTER (WALL TYPE)
EF	EXHAUST FAN	UH	UNIT HEATER
ERC	ENERGY RECOVERY COIL	U.N.O.	UNLESS NOTED OTHERWISE
EUH	ELECTRIC UNIT HEATER	VD	VOLUME DAMPER
F.A.I.	FRESH AIR INTAKE	VE	VOLUME EXTRACTOR
FC	FLEXIBLE CONNECTION	VI	VIBRATION ISOLATOR
FCU	FAN COIL UNIT	VIF	VERIFY IN FIELD
FD	FIRE DAMPER	Wb	WET BULB TEMPERATURE, °F
FLR	FLOOR	WFM	WATER FLOW MEASURING DEVICE
FPC	FIRE PROTECTION CONTRACTOR	WMS	WIRE MESH SCREEN
F/SD	COMBINATION FIRE/SMOKE DAMPER		

GENERAL SYMBOLS

Symbol	Description
X / XX	INDICATES SECTION LETTER
	INDICATES DRAWING NUMBER WHERE LOCATED
XXX / XXX	INDICATES TYPE OF AIR OUTLET
	INDICATES AIR FLOW REQUIREMENTS
	ADJUSTABLE ANGLE THERMOMETER
T	DIAL THERMOMETER
P	PRESSURE GAUGE WITH NEEDLE VALVE
T A	WALL MOUNT THERMOSTAT 'A' DESIGNATES COMPONENT SERVED
TS	TEMPERATURE SENSOR
	PUMP
DS	DUCT SMOKE DETECTOR
SP	FAN SWITCH WITH PILOT LIGHT
U	DOOR UNDERCUT (BY G.C.)
L	LOUVERED DOOR (BY G.C.)

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

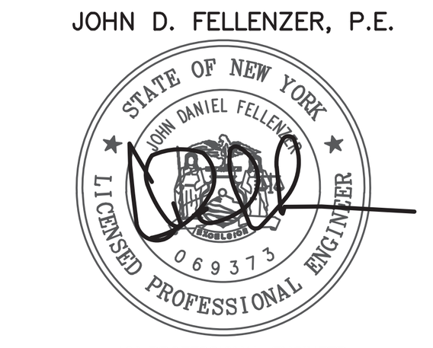
Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.



NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME:
MECHANICAL COVER SHEET

SHEET NUMBER:
H-001

PROJECT NUMBER: ###

GENERAL NOTES

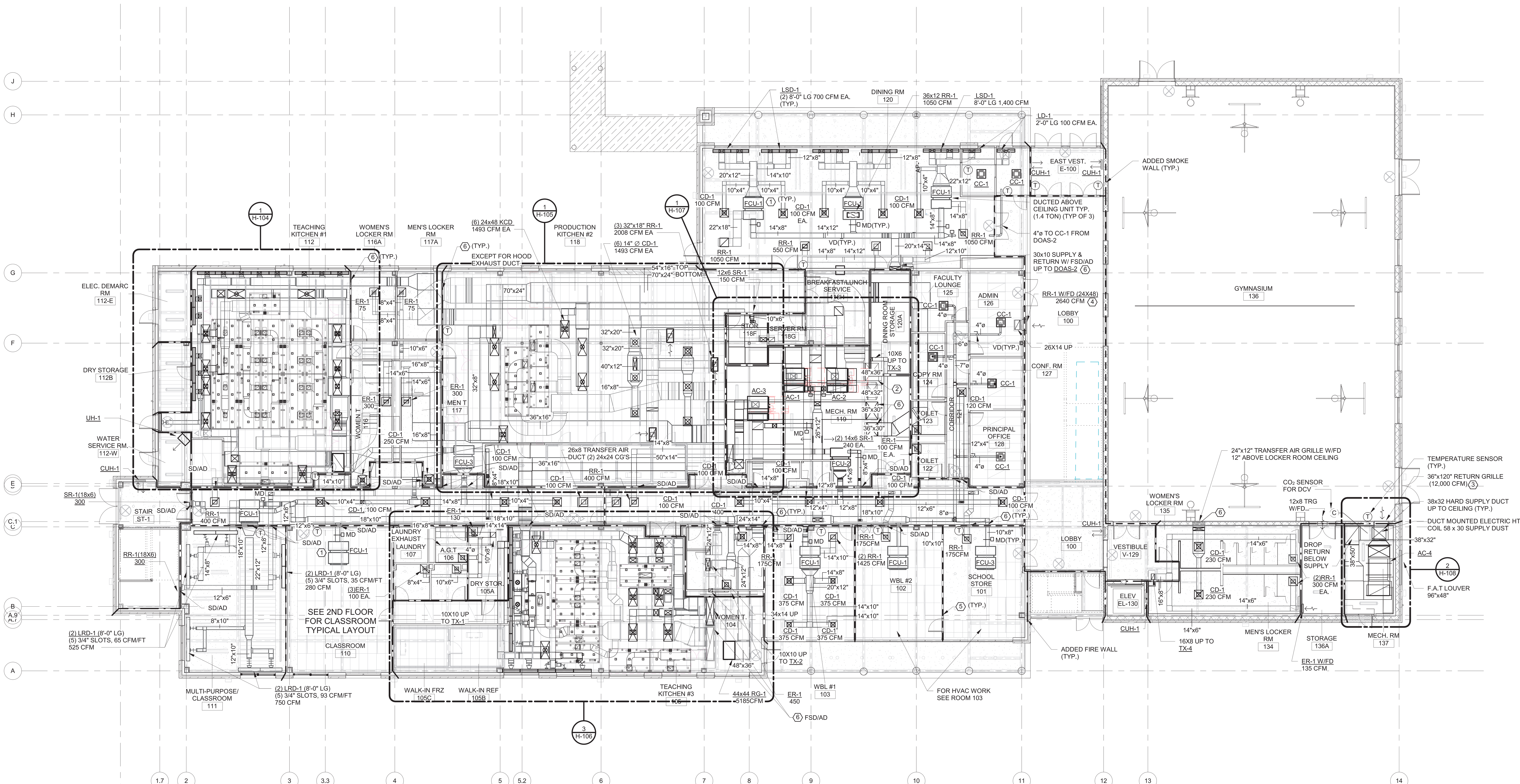
1. ROOM SENSORS ARE SHOWN AS (T) WITH THE BMS
2. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK TO BE EXTERNALLY INSULATED, U.N.O
3. REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMANDATIONS BASED ON LENGTH OF RUN. REFER TO H-704, 705, 706, 707 FOR PIPING AND WIRING DIAGRAMS.
4. SD'S & AD'S SHALL BE INSTALLED TO ALL DUCTWORK PENETRATING ALL RATED WALLS. REFER TO LIFE SAFETY DRAWINGS G-101 & G-102.
5. ALL FLOOR MOUNTED HVAC EQUIPMENT TO BE ON 6" HIGH CONDRETE PAD, PADS TO BE 6" BEYOND REQUIREMENT FOOT PRINT WITH 1" CHAMFER ALL AROUND.
6. REFER TO DETAIL 4/H-701 FOR MOTORIZED DAMPER AT THE OUTSIDE AIR AND RETURN AIR AND OTHER REQUIREMENTS FOR A COMPLETE SYSTEM.
7. KITCHEN EXHAUST DUCTS SHALL SLOPE NOT LESS THAN 2% SLOPE TOWARD THE HOOD OR TOWARD A GREASE RESERVOIR IN ACCORDANCE WITH N.Y.S.M.C SECTION 506.3.7.1.

GENERAL NOTES

8. KITCHEN EXHAUST DUCTS SHALL BE CONSTRUCTED OF AND SUPPORTED BY CARBON STEEL NOT LESS THAN 0.060 IN. (1.52 MM) (NO.16 MSG) IN THICKNESS OR STAINLESS STEEL NOT LESS THAN 0.048 IN. (1.21 MM) (NO. 18 MSG) IN THICKNESS.
9. PROVIDE EXTERNAL FIREPROOF INSULATION TO ALL HOOD EXHAUST DUCTWORK SYSTEM AT ALL (3) KITCHEN 1, 2, & 3.
10. ALL KITCHEN EXHAUST DUCTWORK SHALL HAVE ROUND TURN ELBOWS W/ CLEANOUTS. CLEANOUTS SHALL ALSO BE PROVIDED W/ CLEANOUTS AT STRAIGHT DUCT RUNS EVERY 20'-0".

KEYED NOTES

1. FIELD FABRICATED MIXED AIR PLENUM APPROX. DIMENSIONS 55"Lx12'0x30" OR SAME DIMENSIONS AS THE UNIT INLET
2. ALL KITCHEN EXHAUST DUCTWORK TO HAVE ROUND ELBOWS SQUARE ELBOWS WITH TURNING VALVE ARE NOT ALLOWED FOR HOOD EXHAUST DUCTWORK.
3. INSTALL RETURN GRILL @ 12" AFF.
4. INSTALL RR-1 @ 11'-0" AFF.
5. ALL REFRIGERANT PIPING PASSING TURN SMOKE PARTITION AND RATED WALLS SHALL HAVE FIRE-STOP SEALANT. SEE DETAIL SHEETS FOR REQUIREMENTS.
6. PROVIDE SMOKE DAMPER FOR A/C SUPPLY/RETURN AND MAKE-UP AIR DUCTS ONLY PENETRATING TO ALL SMOKE RATED WALLS. REFER TO LIFE SAFETY DRAWINGS G-101 & G-102. REFER TO DETAIL 9/H-706 DAMPERS (SD/AD).



1 MECHANICAL FIRST FLOOR DUCTWORK PLAN

3/32" = 1'-0"

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

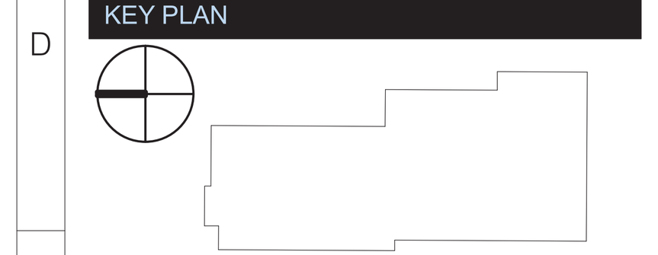
JOHN D. FELLENZER, P.E.

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

KEY PLAN



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/2025

SCALE: 3/32" = 1'-0"

SHEET NAME: MECHANICAL FIRST FLOOR DUCTWORK PLAN

SHEET NUMBER: H-101

BID SET

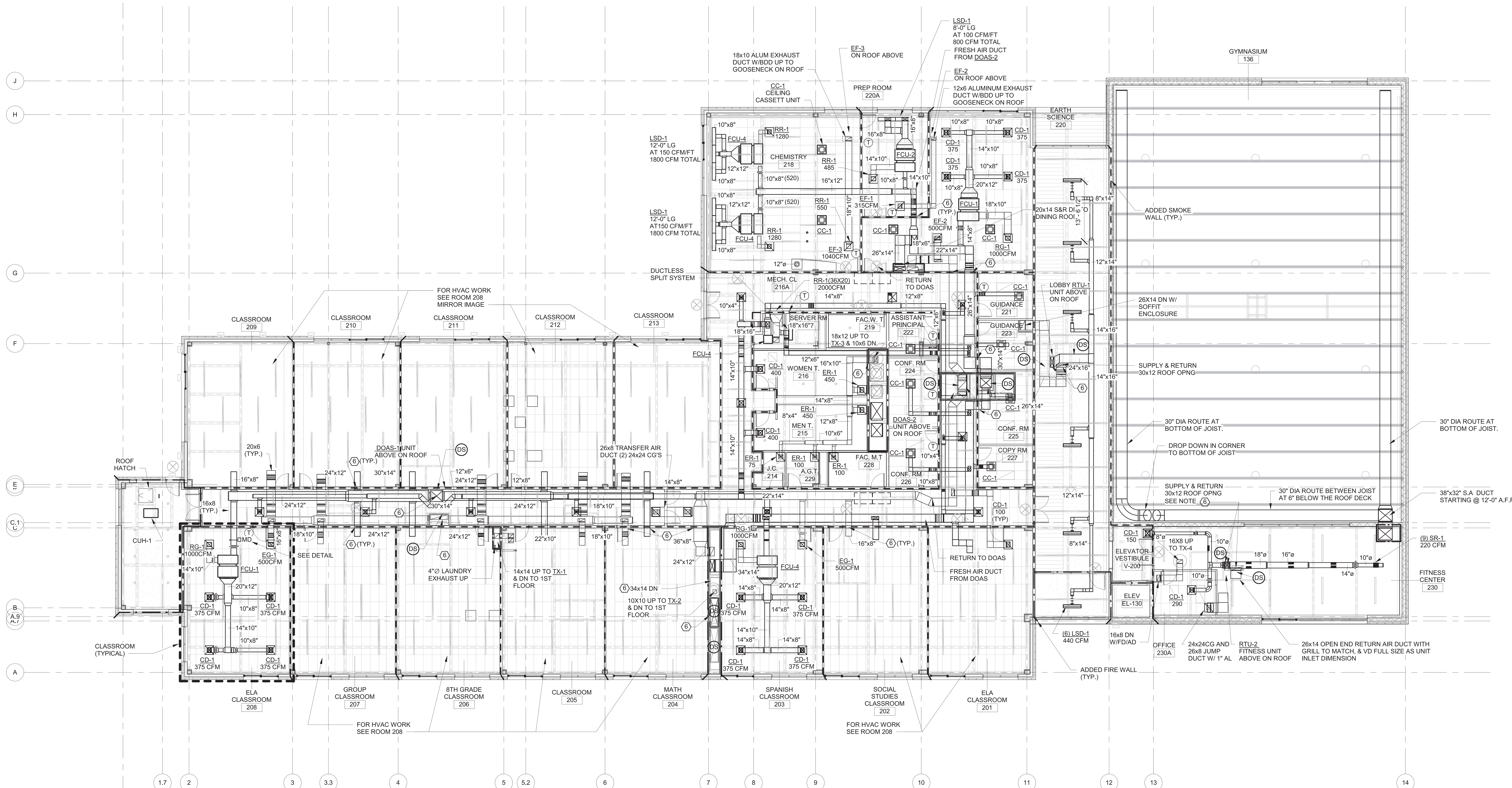
PROJECT NUMBER: 845-627-4700

GENERAL NOTES

1. ROOM SENSORS ARE SHOWN AS (T) WITH THE BMS
2. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK TO BE EXTERNALLY INSULATED, U.N.O
3. REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMANDATIONS BASED ON LENGTH OF RUN. REFER TO H-704, 705, 706, 707 FOR PIPING AND WIRING DIAGRAMS.
4. FD'S & AD'S SHALL BE INSTALLED TO ALL DUCTWORK PENETRATING ALL RATED WALLS. REFER TO LIFE SAFETY DRAWINGS G-101 & G-102.

KEYED NOTES

1. FIELD FABRICATED MIXED AIR PLENUM APPROX. DIMENSIONS 55"Lx12'0x30" OR SAME DIMENSIONS AS THE UNIT INLET
2. ALL KITCHEN EXHAUST DUCTWORK TO HAVE ROUND ELBOWS SQUARE ELBOWS WITH TURNING VALVE ARE NOT ALLOWED
3. INSTALL RETURN GRILL @ 12" AFF.
4. INSTALL RR-1 @ 11'-0" AFF.
5. ALL REFRIGERANT PIPING PASSING TURN SMOKE PARTITION AND RATED WALLS SHALL HAVE FIRE-STOP SEALANT. SEE DETAIL SHEETS FOR REQUIREMENTS.
6. PROVIDE SMOKE DAMPERS (SD/AD) TO ALL RATED SMOKE WALLS. REFER TO LIFE SAFETY DRAWINGS G-101 & G-102 - FD/AD ALL OTHER RATED PARTITION



2 MECHANICAL SECOND FLOOR DUCTWORK PLAN

3/32" = 1'-0"

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

It is a violation of Title VIII, Article 147 of NYS Education Law for any person, unless acting under the direction of a licensed architect, to alter any item on this document in any way. Any licensee who alters this document is required by law to affix his or her seal and the notation "altered by" followed by his or her signature and a specific description of the alteration.

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

KEY PLAN

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/2025

SCALE: 3/32" = 1'-0"

SHEET NAME: MECHANICAL SECOND FLOOR DUCTWORK PLAN

SHEET NUMBER: H-102

BID SET

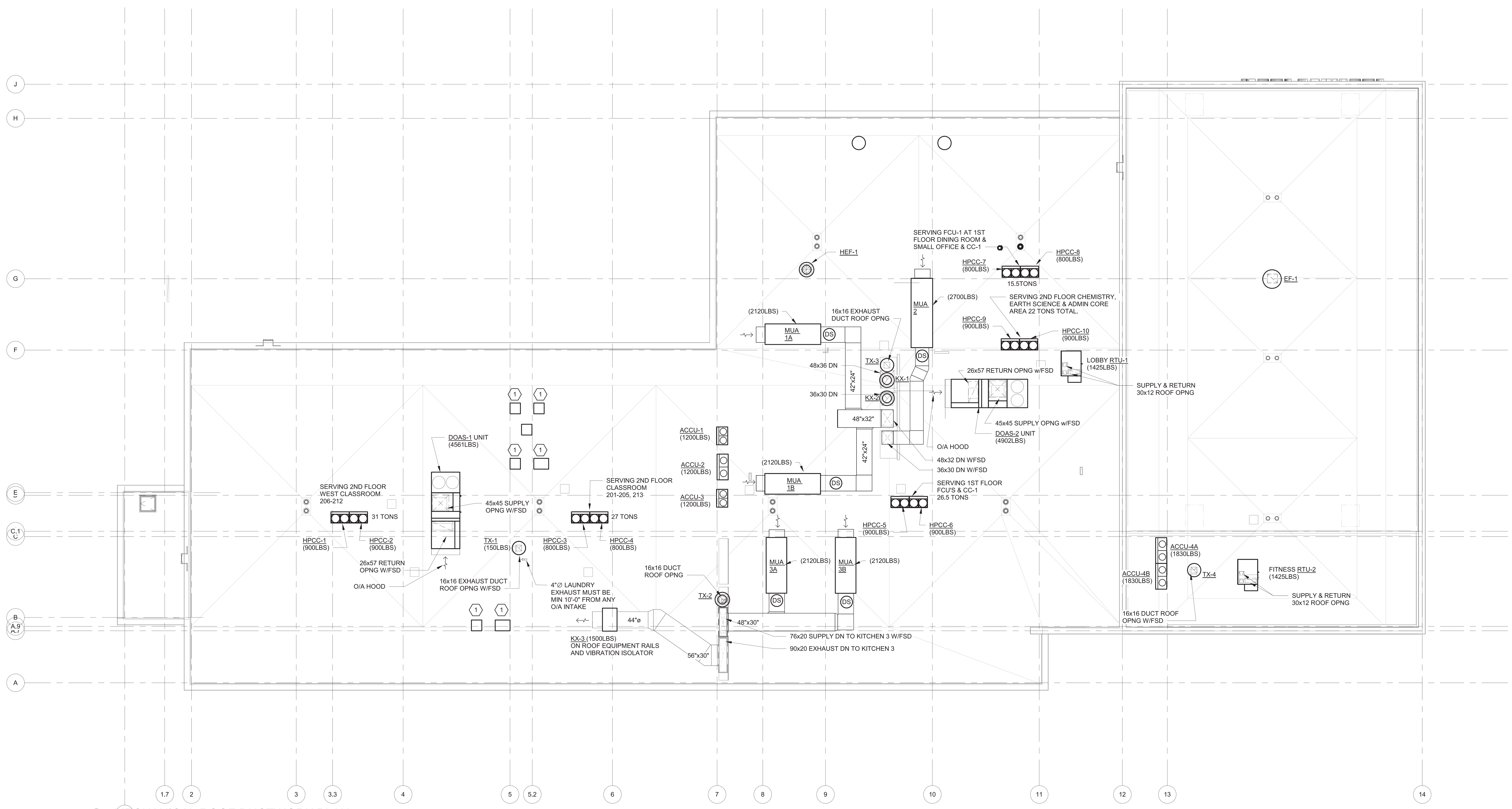
PROJECT NUMBER: 845-627-4700

GENERAL NOTES

1. ALL F.A.I MUST BE MIN. 10'-0" FROM ANY EXHAUST OR PLUMBING VENTS.
2. HVAC CONTRACTOR SHALL CONSOLIDATE REFRIGERANT PIPING PENETRATIONS TO BE NO LESS THAN 6, PER PIPE PORTAL TO MINIMIZE ROOFING PENETRATIONS AND INDIVIDUAL PITCH POCKETS. HVAC CONTRACTOR TO COORDINATE THESE LOCATIONS IN THE FIELD AND PROVIDE A PIPE PENETRATION SHOP DRAWING FOR REVIEW.

SCOPE NOTES:

1. REFRIGERANT COMPRESSORS TO BE SUPPLIED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR. MECHANICAL CONTRACTOR TO HOIST COMPRESSORS TO ROOF AND MOUNT TO WOOD CURB. FLASHING PROVIDED BY G.C. PER DETAIL ON DRAWING A-521. GENERAL CONTRACTOR TO CORE DRILL AND WATERPROOF ROOF PENETRATIONS. FOOD SERVICE EQUIPMENT CONTRACTOR TO SUPPLY AND INSTALL REFRIGERANT LINES, CHARGE AND TEST THE SYSTEM. GENERAL CONTRACTOR TO COORDINATE ALL LOCATIONS WITH ALL TRADES.



1 MECHANICAL ROOF DUCTWORK PLAN
3/32" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER NO. 089371-1 ISSUED 1992, EXP. 9/25

It is a violation of Title VIII, Article 147 of NYS Education Law for any person, unless acting under the direction of a licensed architect, to alter any item on this document in any way. Any licensee who alters this document is required by law to affix his or her seal and the notation "altered by" followed by his or her signature and a specific description of the alterations made.

ROCKLAND BOCES — ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

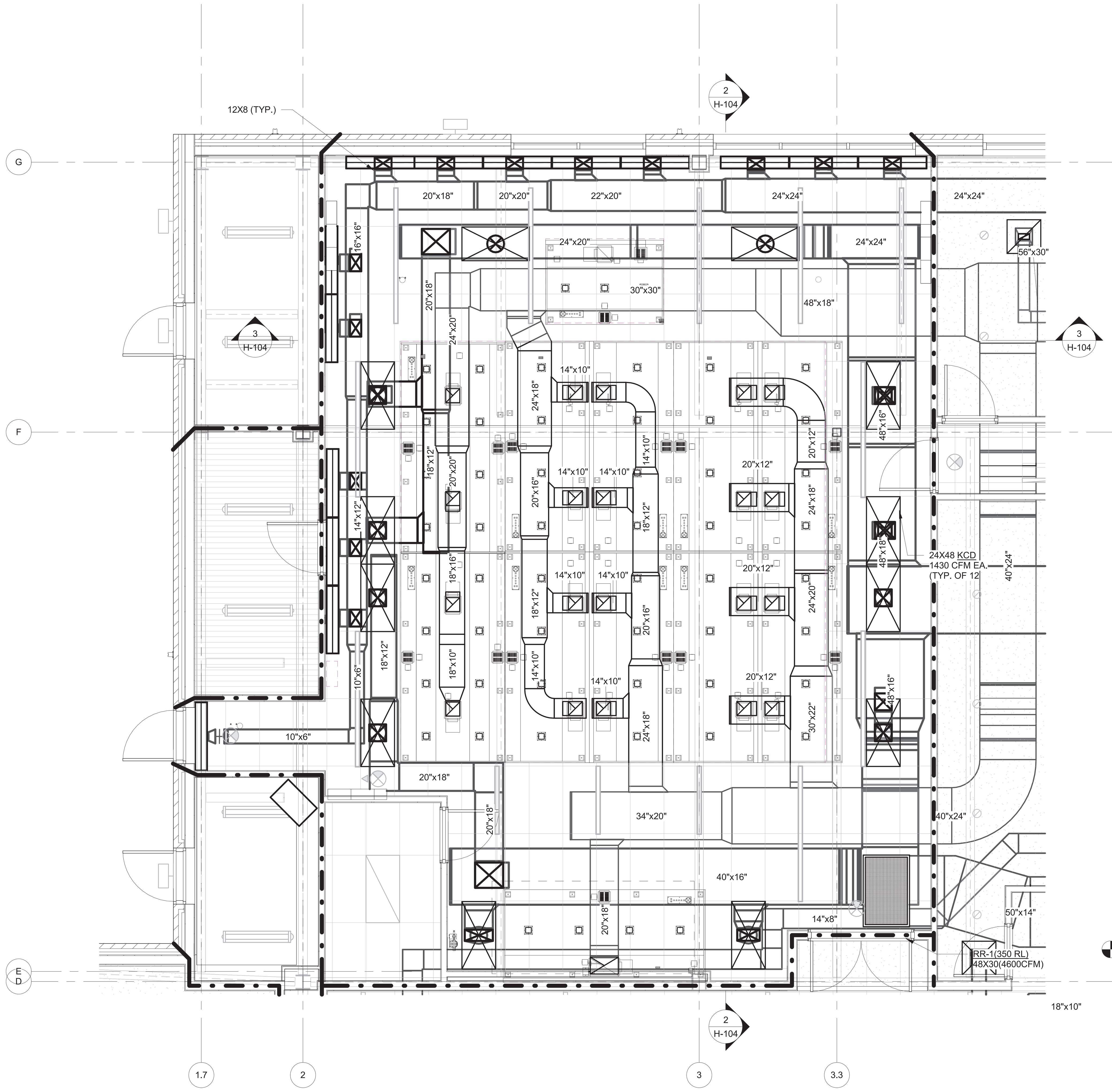
KEY PLAN

REVISIONS

No.	Description	Date

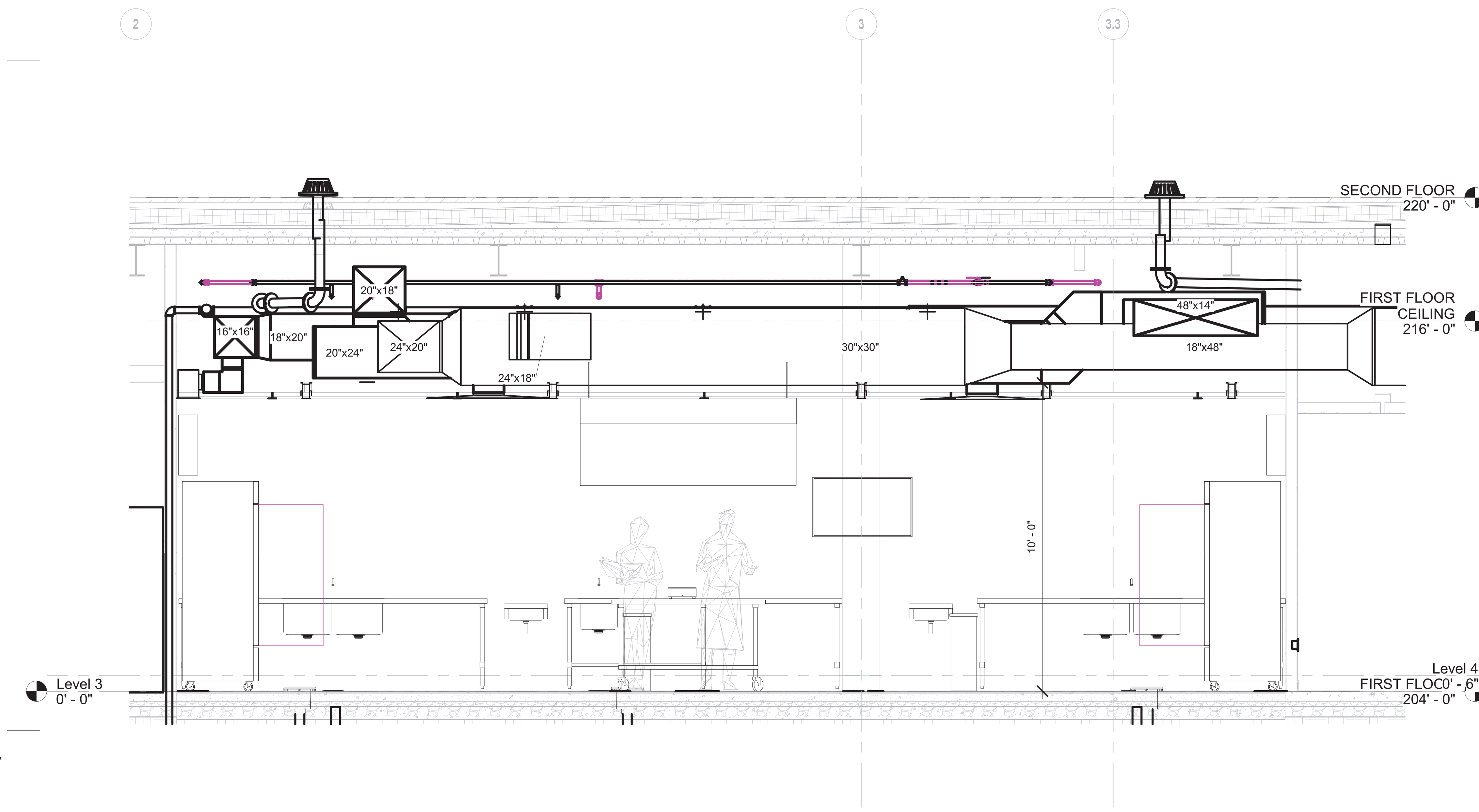
ISSUED: BID SET ISSUANCE
DATE: 6/30/2025
SCALE: 3/32" = 1'-0"
SHEET NAME: MECHANICAL ROOF PLAN
SHEET NUMBER: H-103

BID SET



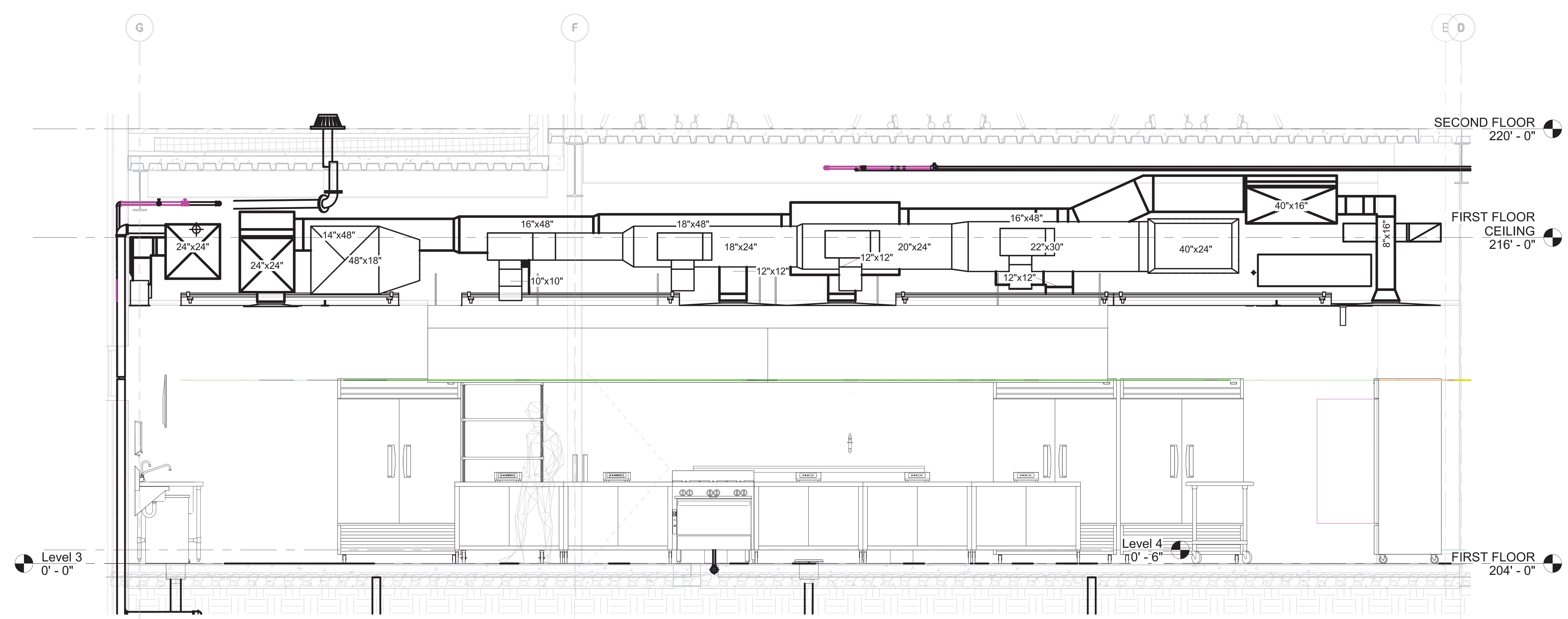
1 MECHANICAL FIRST FLOOR DUCTWORK PLAN - KITCHEN 1

1/4" = 1'-0"



3 KITCHEN 1 SECTION 1

3/8" = 1'-0"



2 KITCHEN 1 SECTION 2

3/8" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

It is a violation of Title VIII, Article 147 of NYS Education Law for any person, unless acting under the direction of a licensed architect, to alter any item on this document in any way. Any licensee who alters this document is required by law to affix his or her seal and the notation "altered by" followed by his or her signature and a specific description of the alterations made.

ROCKLAND BOCES
ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

KEY PLAN

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/2025

SCALE: As indicated

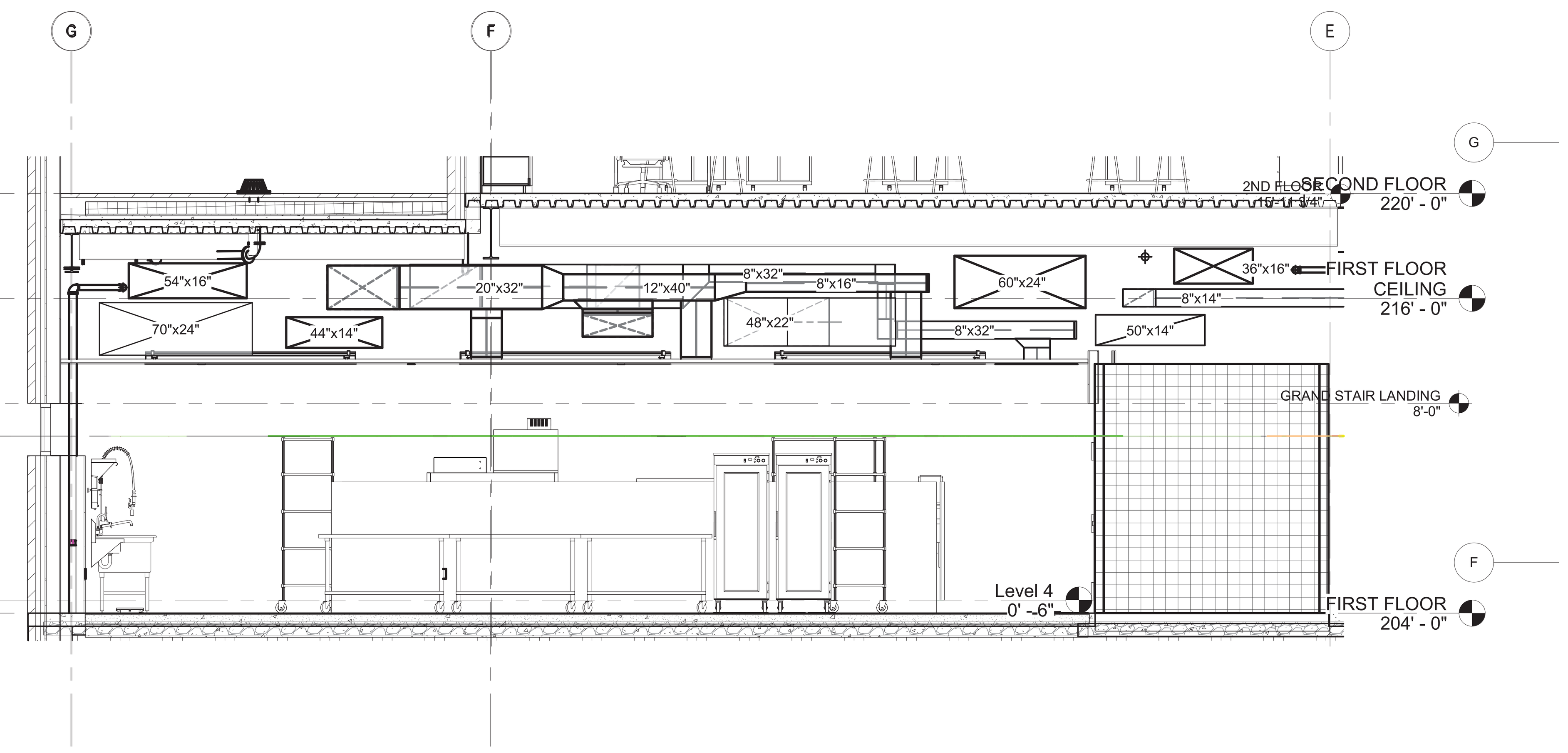
SHEET NAME:
MECHANICAL KITCHEN 1

SHEET NUMBER:
H-104

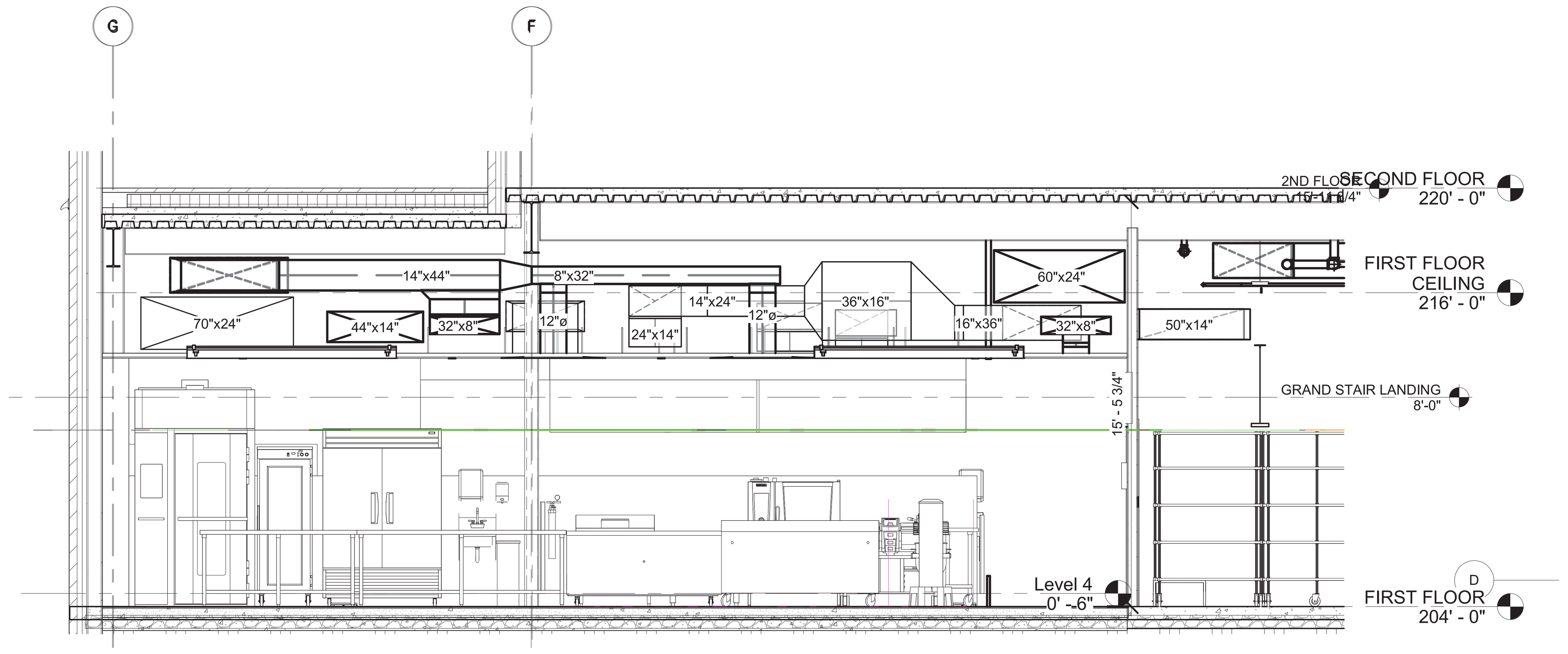
BID SET

PROJECT NUMBER: 845-627-4700

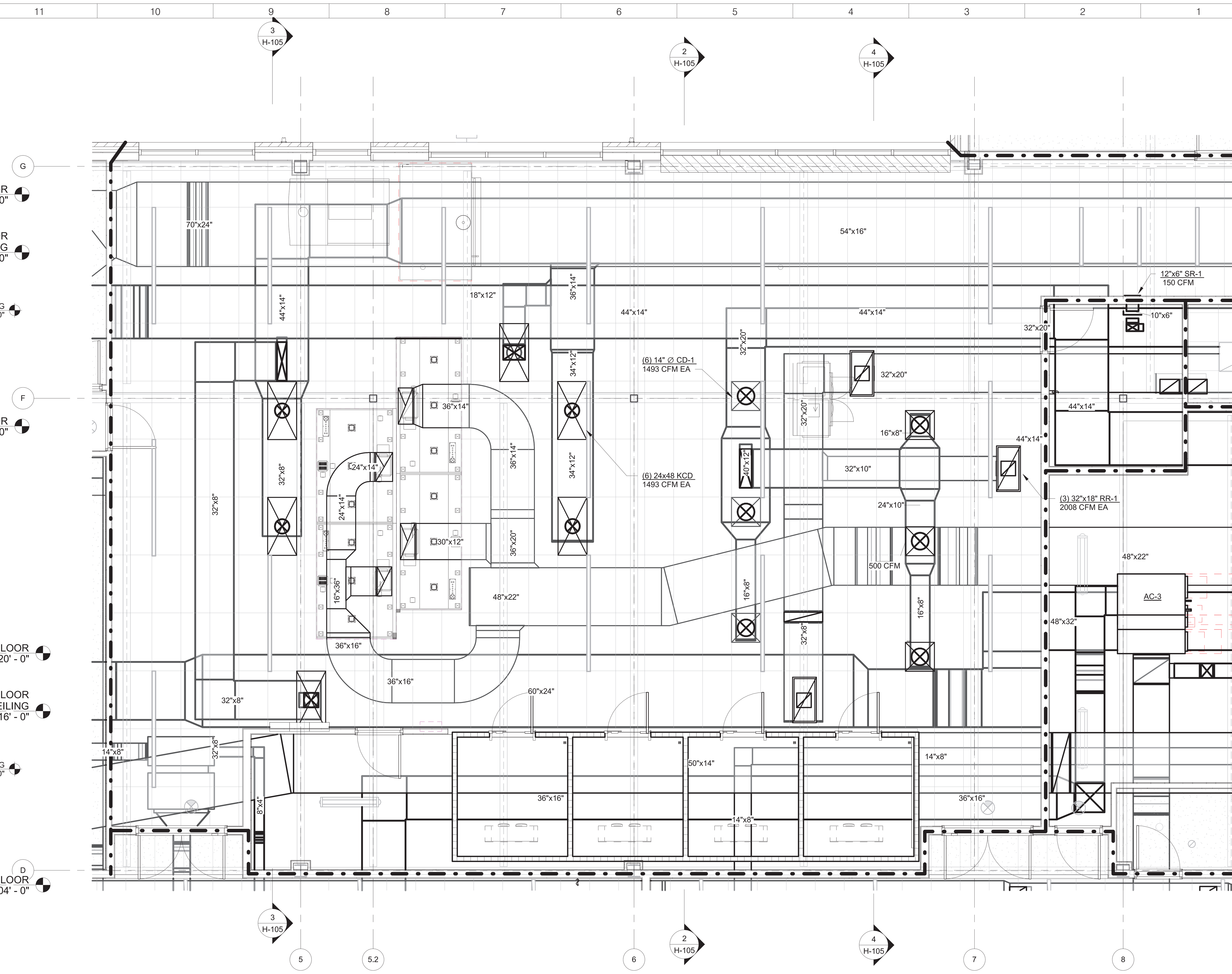
6/20/2025 9:00:31 AM



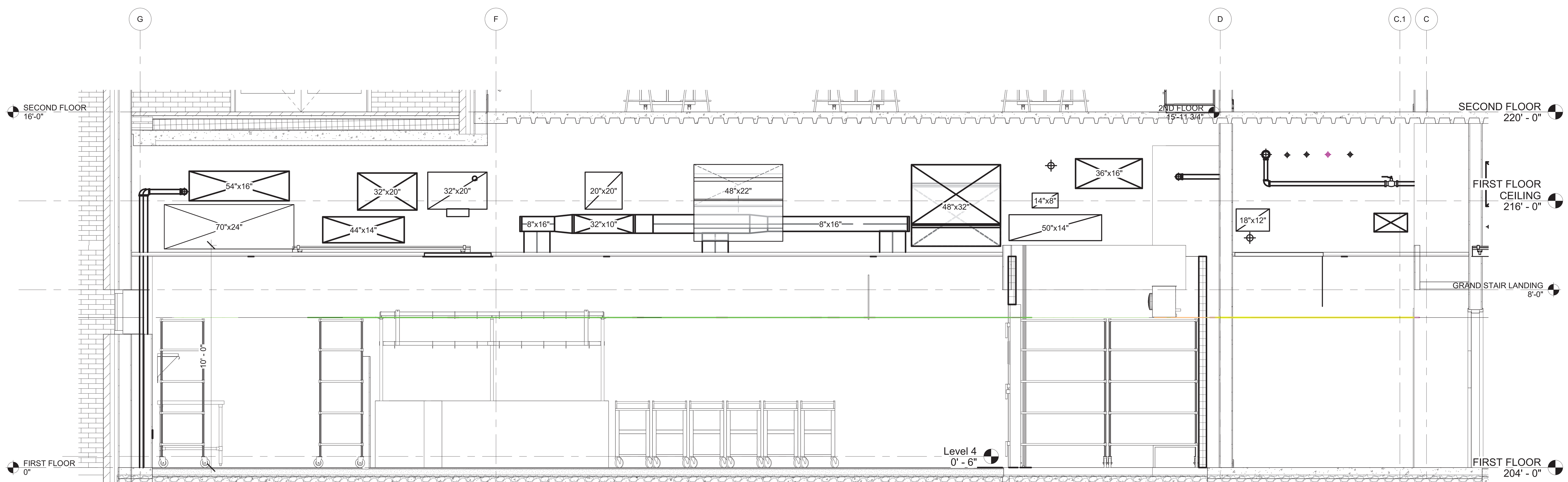
2 KITCHEN 2 SECTION 1
1/4" = 1'-0"



3 KITCHEN 2 SECTION 2
1/4" = 1'-0"



1 MECHANICAL FIRST FLOOR DUCTWORK PLAN - KITCHEN 2
1/4" = 1'-0"



4 KITCHEN 2 SECTION 3
3/8" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

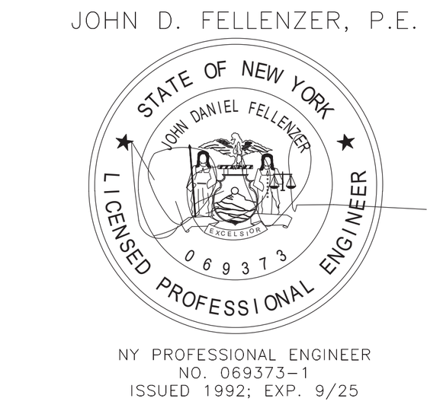
Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.



It is a violation of Title VIII, Article 147 of NYS Education Law for any person, unless acting under the direction of a licensed architect, to alter any item on this document in any way. Any licensee who alters this document is required by law to affix his or her seal and the notation "altered by" followed by his or her signature and a specific description of the alterations made.

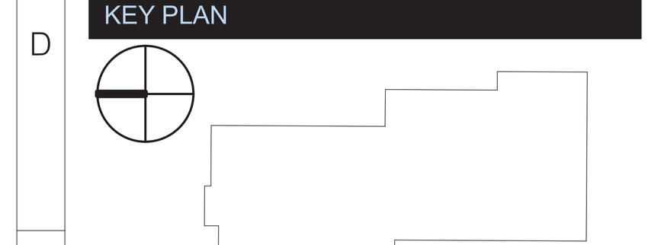
ROCKLAND BOCES
ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

KEY PLAN

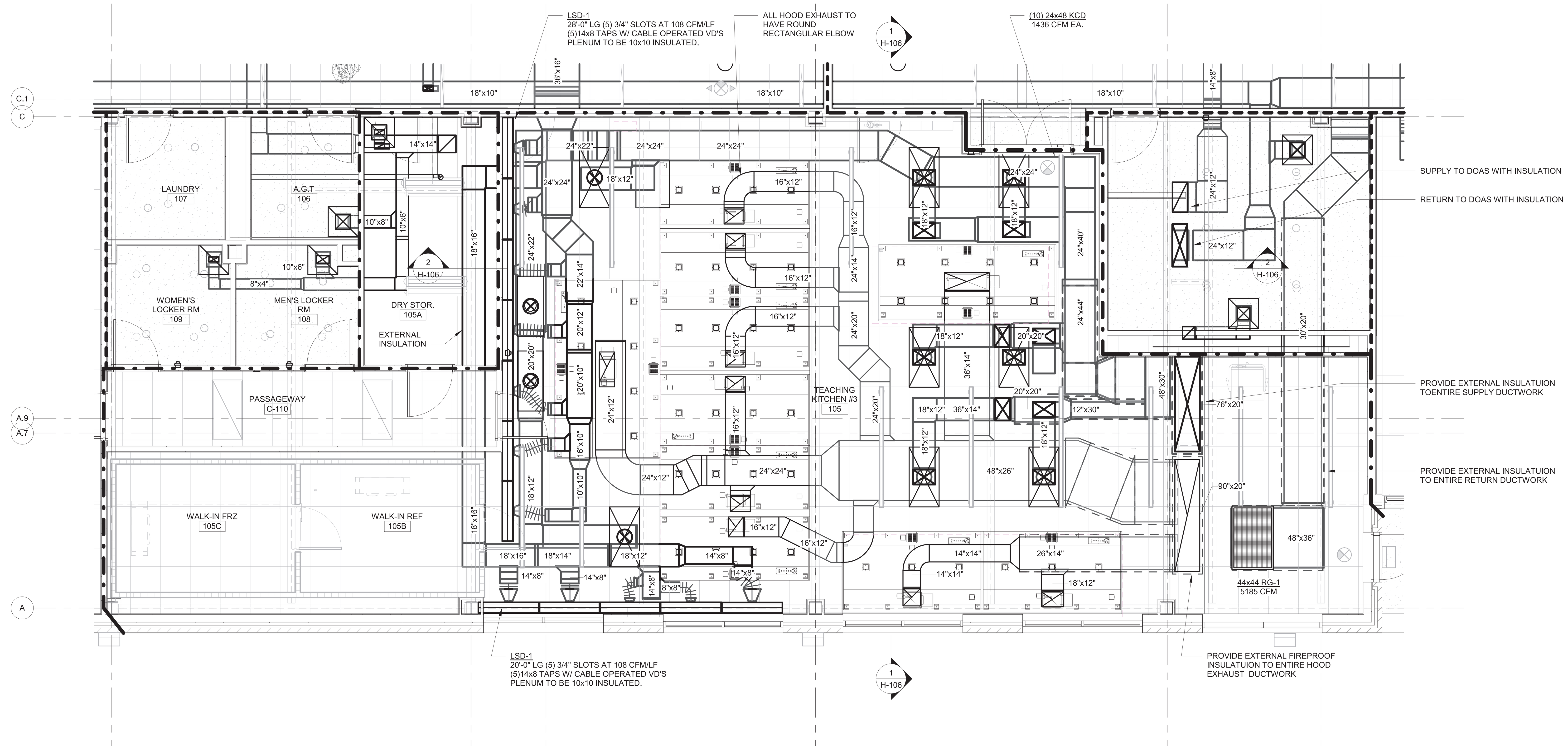


REVISIONS

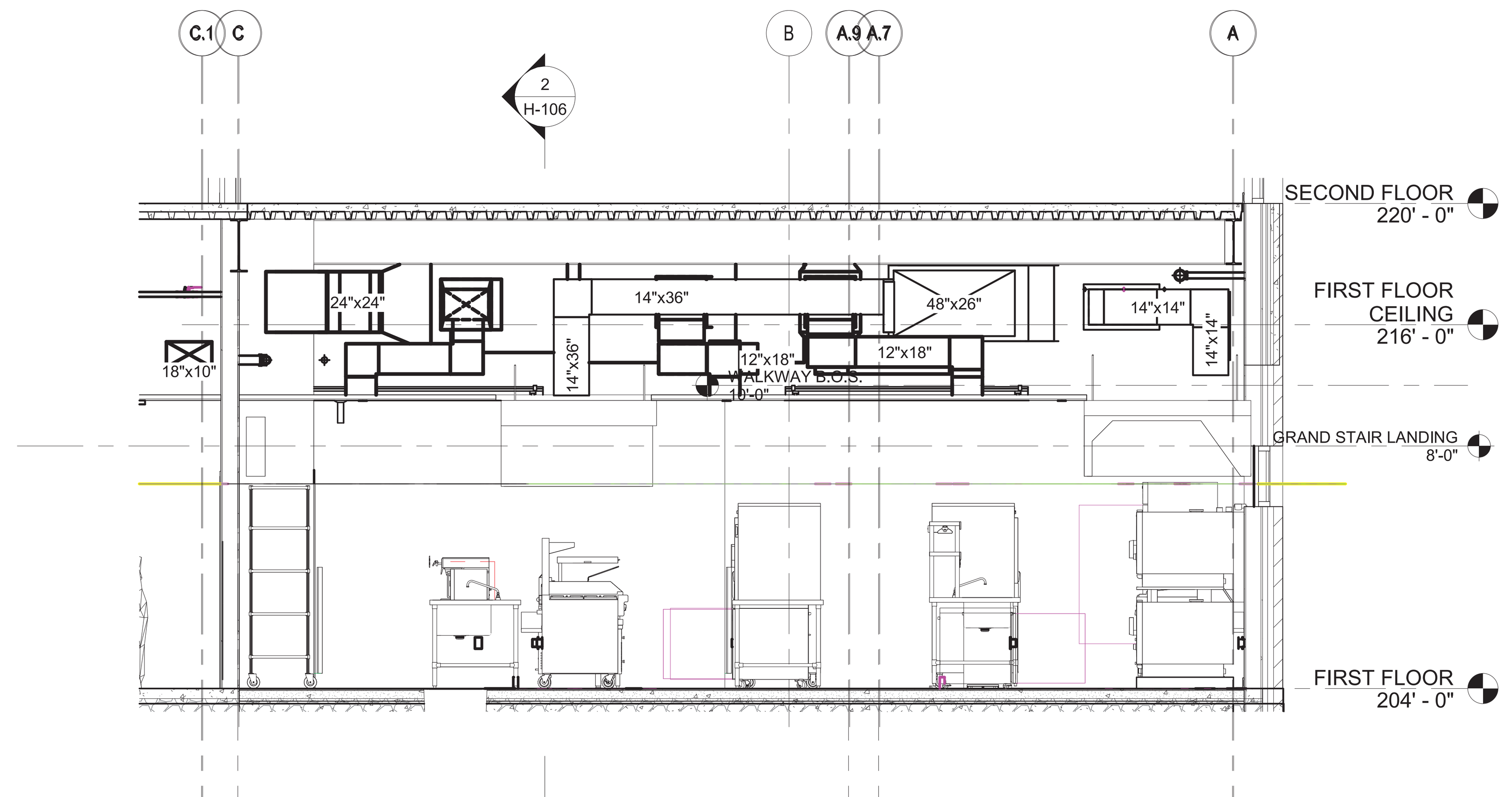
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/2025
SCALE: As indicated
SHEET NAME:
MECHANICAL KITCHEN 2
SHEET NUMBER:
H-105

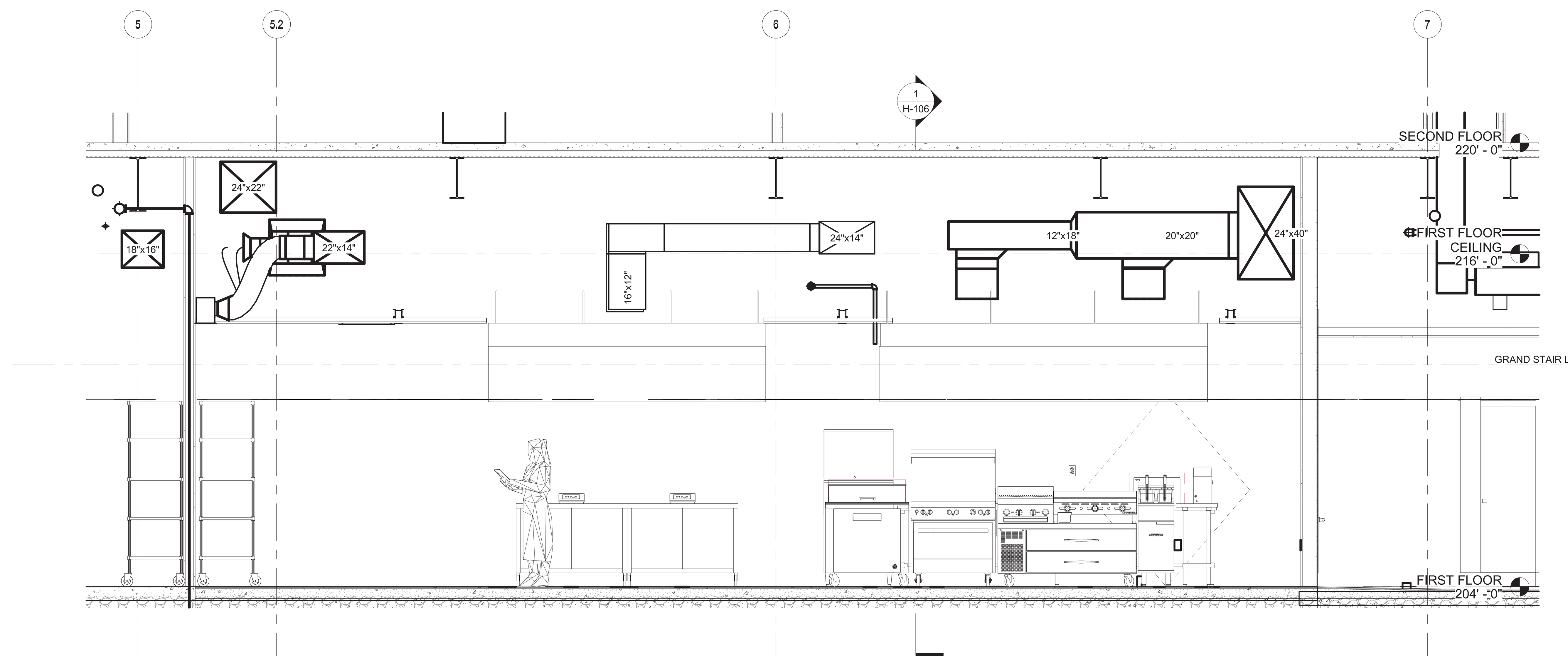
BID SET



3 MECHANICAL FIRST FLOOR DUCTWORK PLAN - KITCHEN 3
1/4" = 1'-0"



1 KITCHEN 3 SECTION 2
1/4" = 1'-0"



2 KITCHEN 3 SECTION 1
3/8" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner
ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer
Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

ROCKLAND BOCES
ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

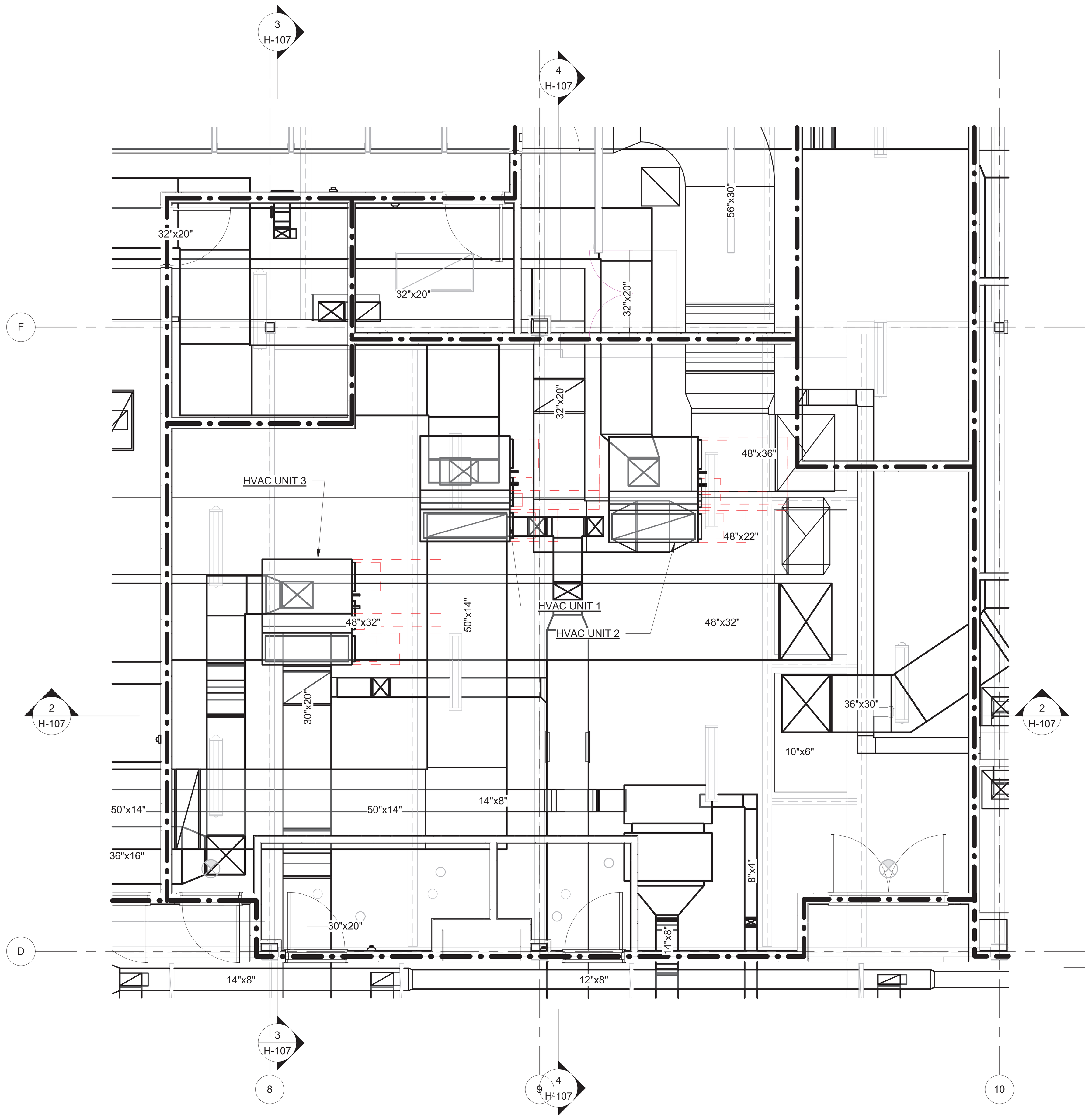
KEY PLAN

REVISIONS

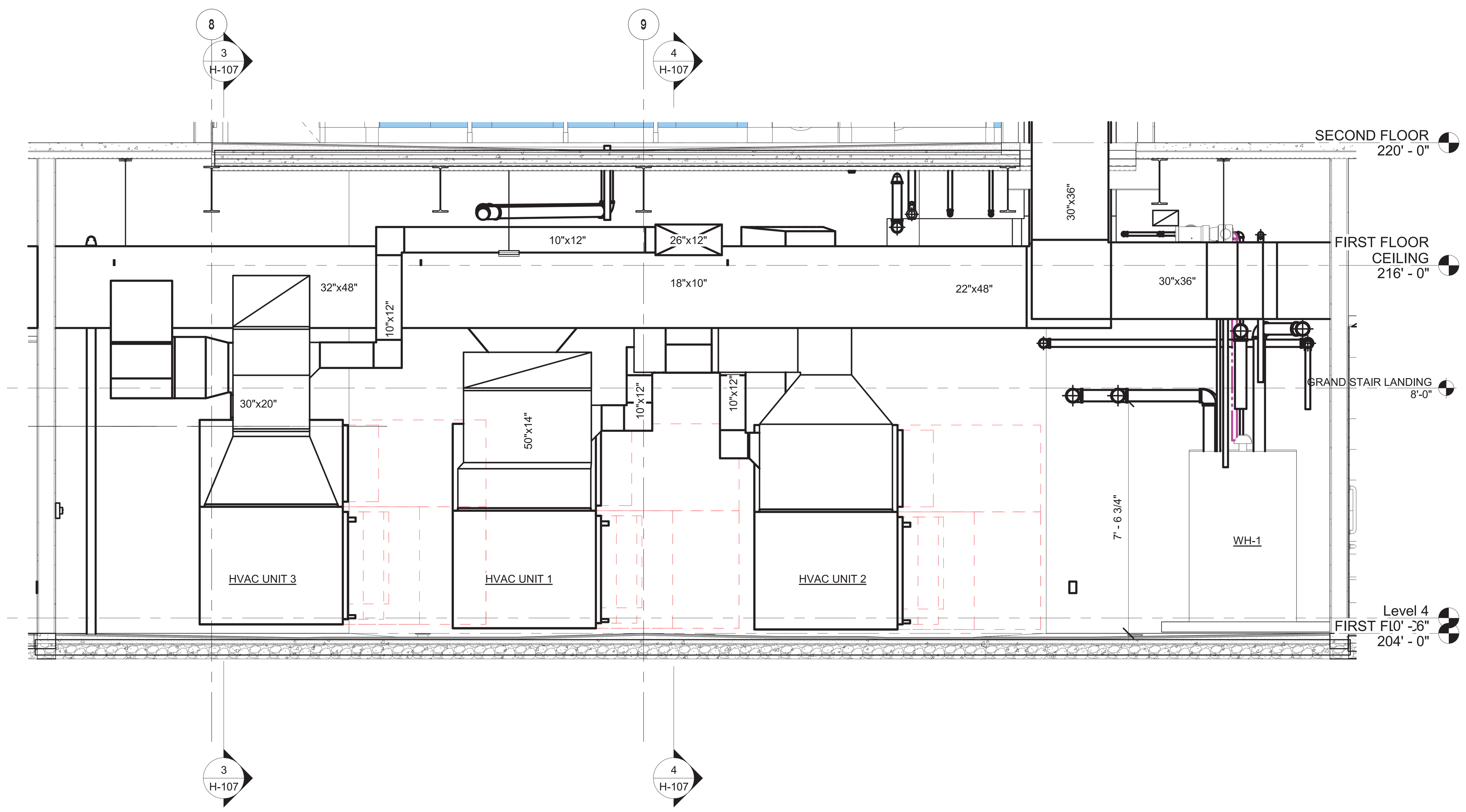
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/2025
SCALE: As indicated
SHEET NAME: MECHANICAL KITCHEN 3
SHEET NUMBER: H-106

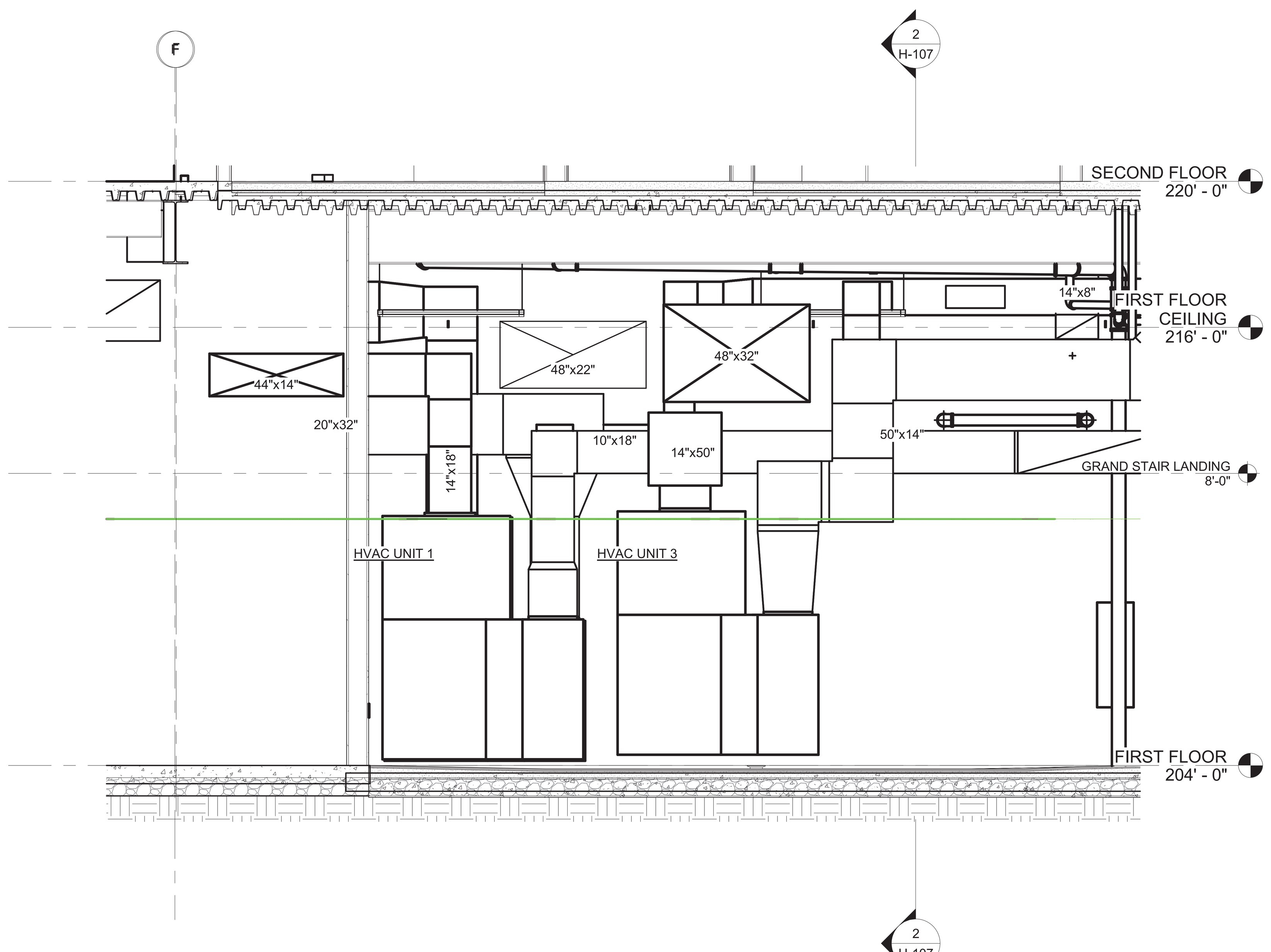
BID SET



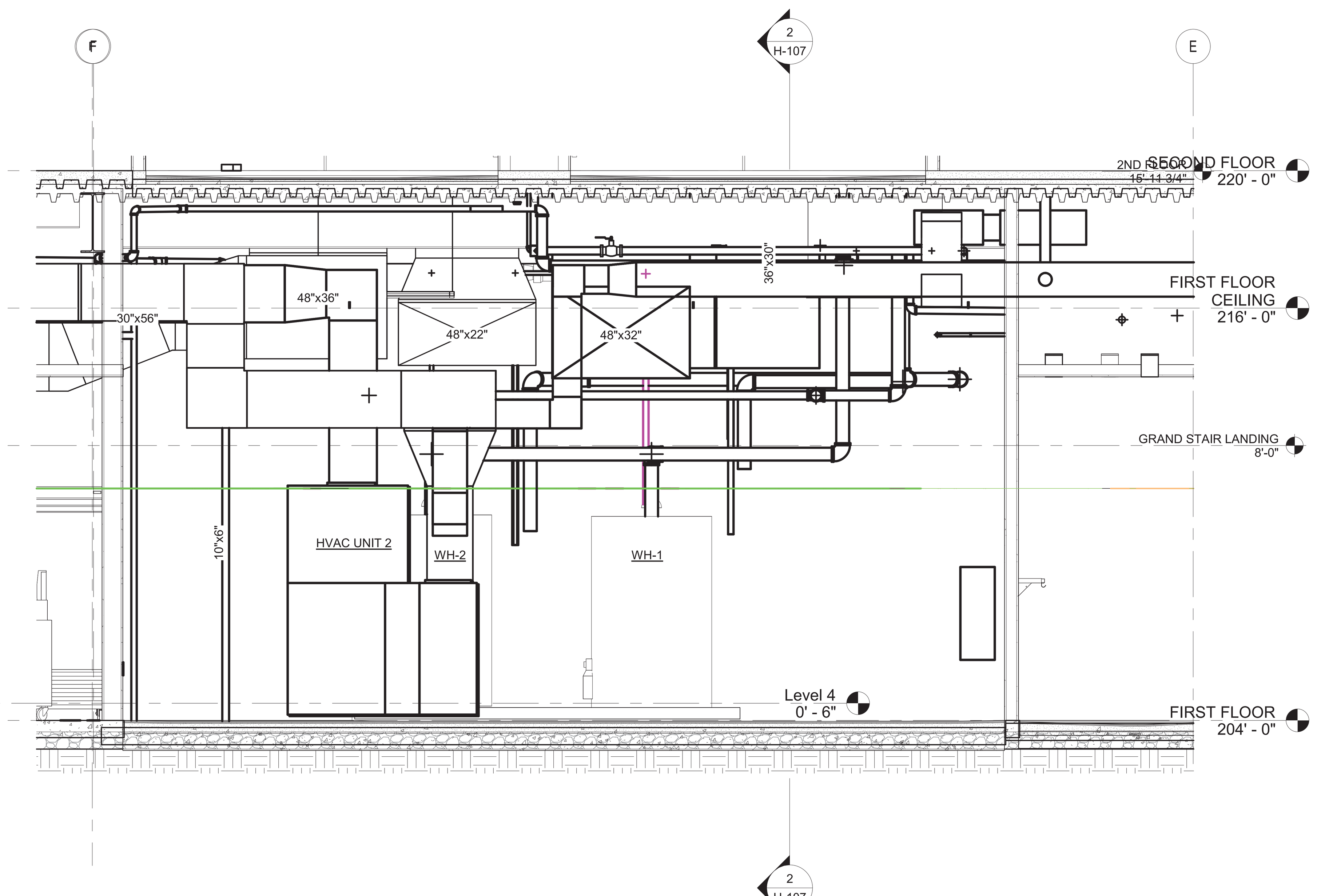
1 MECHANICAL ROOM DUCTWORK PLAN
1/4" = 1'-0"



2 MECHANICAL ROOM SECTION 1
3/8" = 1'-0"



3 MECHANICAL ROOM SECTION 2
3/8" = 1'-0"



4 MECHANICAL ROOM SECTION 3
3/8" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

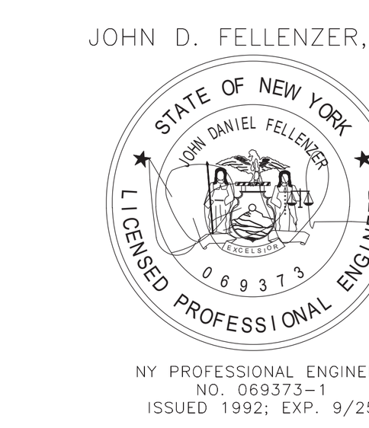
GACE CONSULTING ENGINERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com



ROCKLAND BOCES
ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

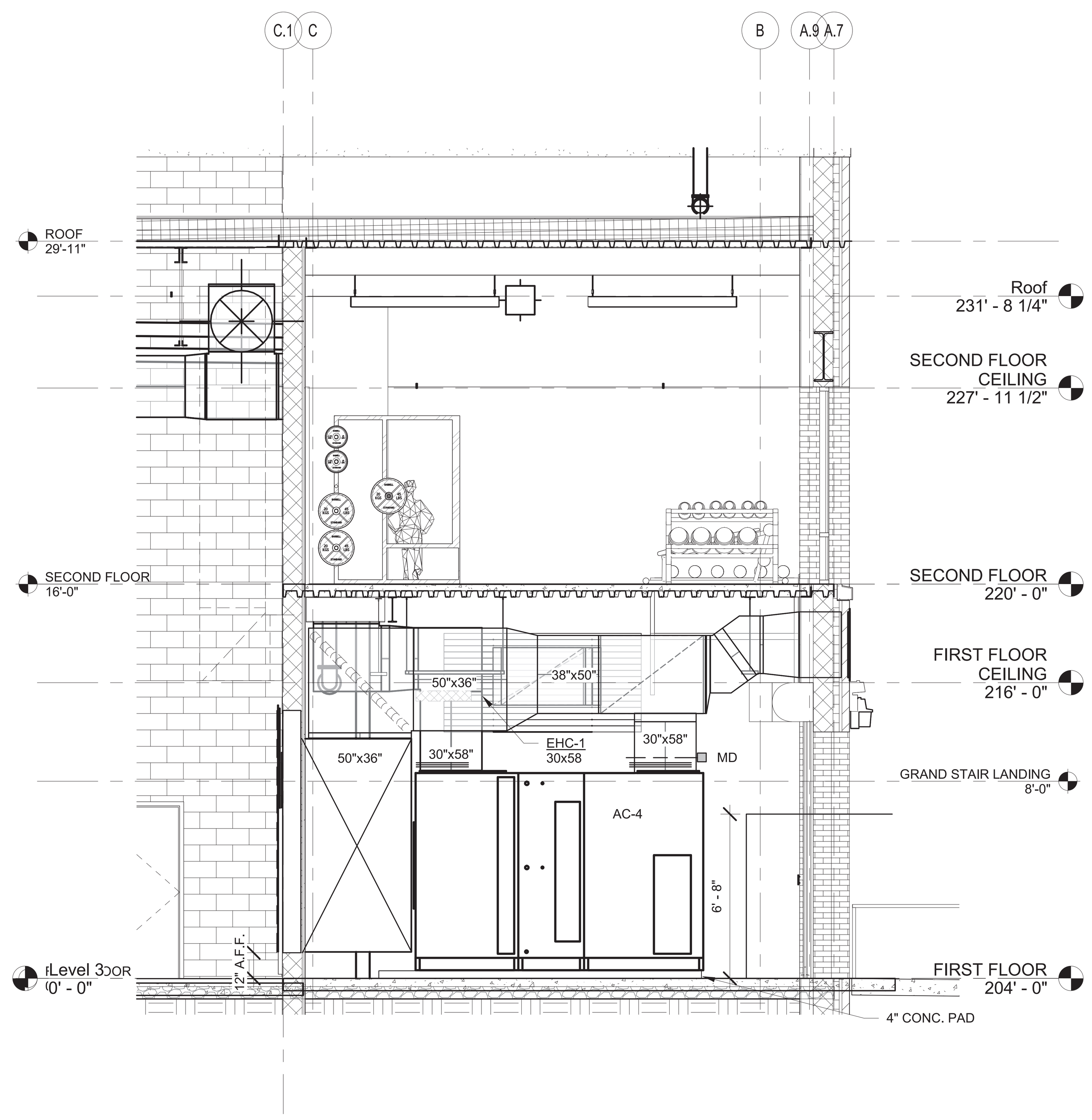
KEY PLAN

REVISIONS

No.	Description	Date

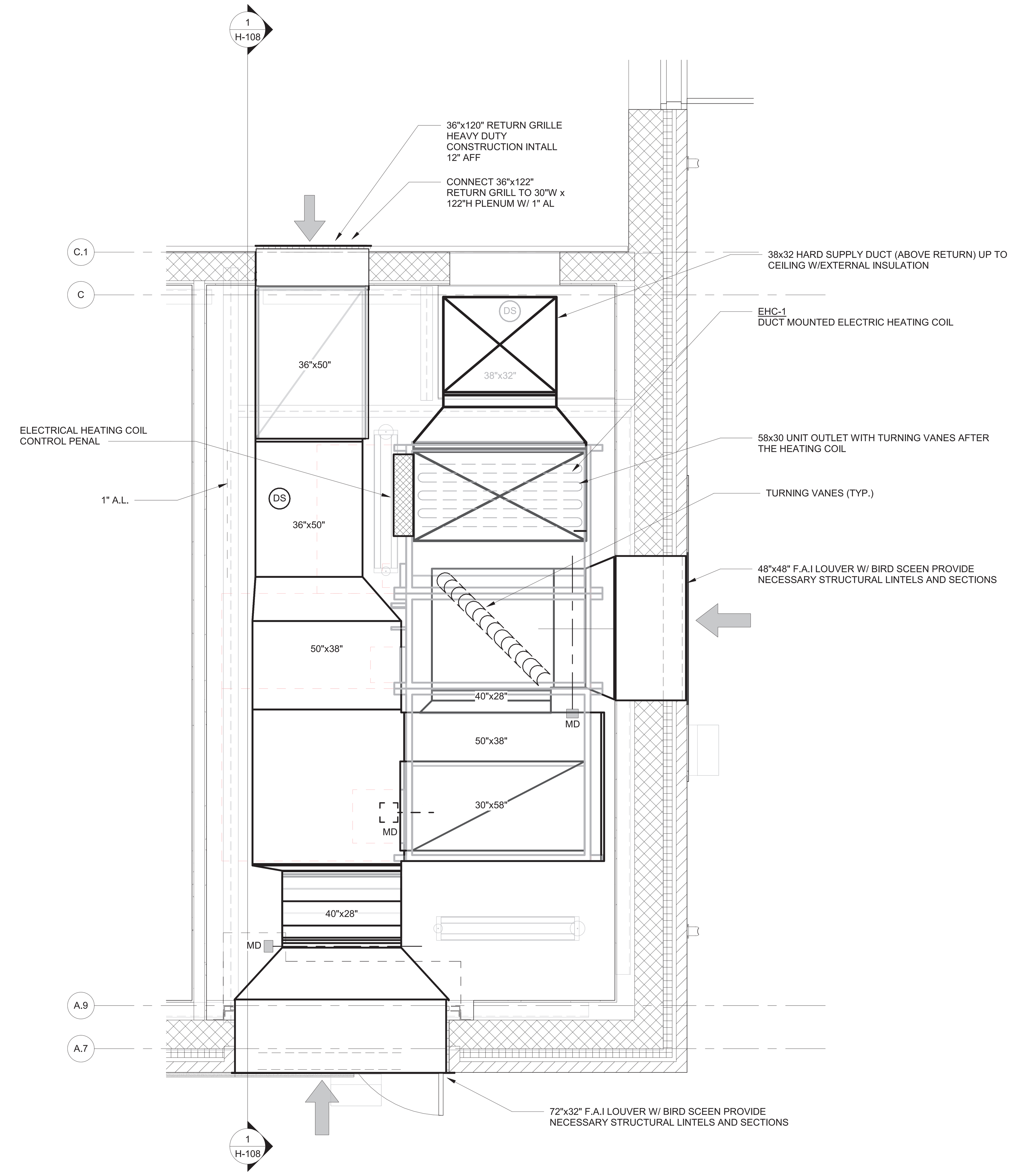
ISSUED: BID SET ISSUANCE
DATE: 6/30/2025
SCALE: As indicated
SHEET NAME: MECHANICAL ROOM
SHEET NUMBER: H-107

BID SET



1 FIRST FLOOR GYM MECHANICAL ROOM DUCTWORK DUCTWORK SECTION

1/4" = 1'-0"



2 FIRST FLOOR GYM MECHANICAL ROOM DUCTWORK DUCTWORK DETAIL

1/2" = 1'-0"

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY 10940
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINERS
148 Madison Avenue, Fourth Floor
New York, NY, 11735
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER

ROCKLAND BOCES
ROOTED IN THE COMMUNITY

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

KEY PLAN

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

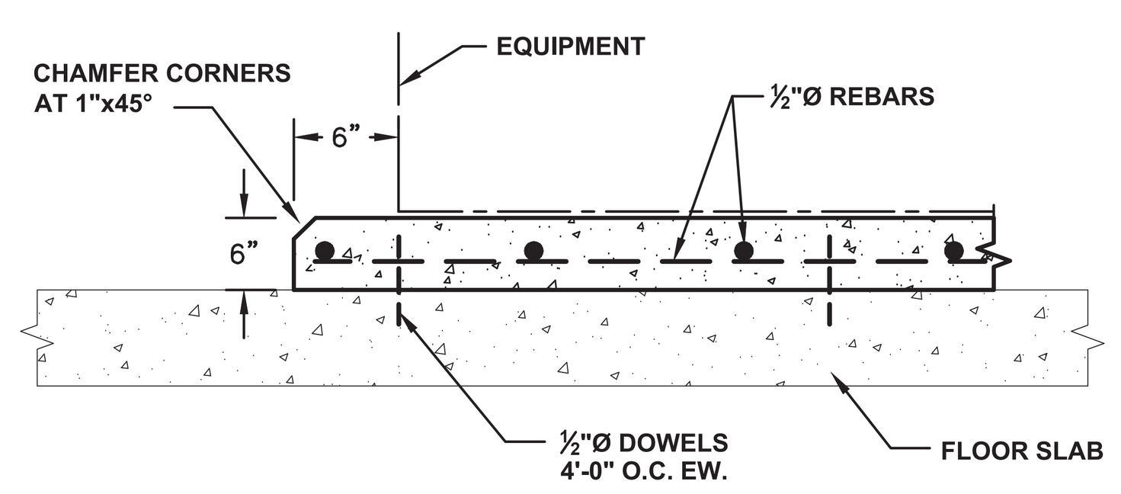
DATE: 6/30/2025

SCALE: As indicated

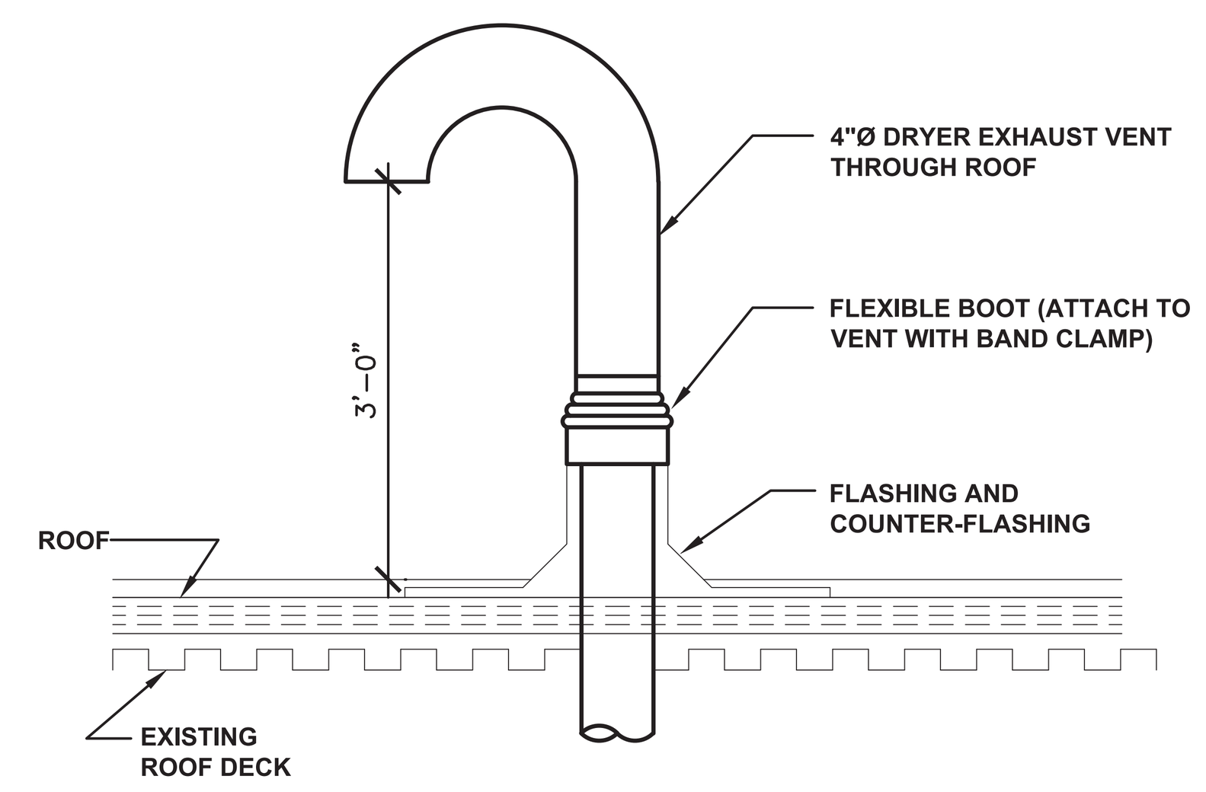
SHEET NAME: GYM MECHANICAL ROOM

SHEET NUMBER: H-108

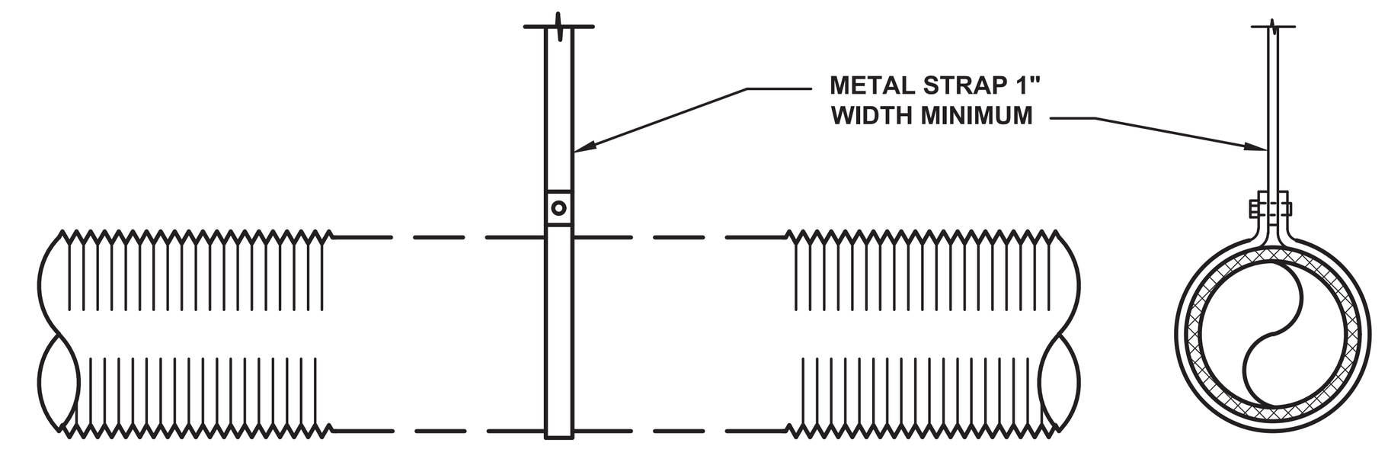
BID SET



1 CONCRETE PAD DETAIL
N.T.S.



2 DRYER EXHAUST VENT ROOF TERMINATION DETAIL
N.T.S.



NOTES:

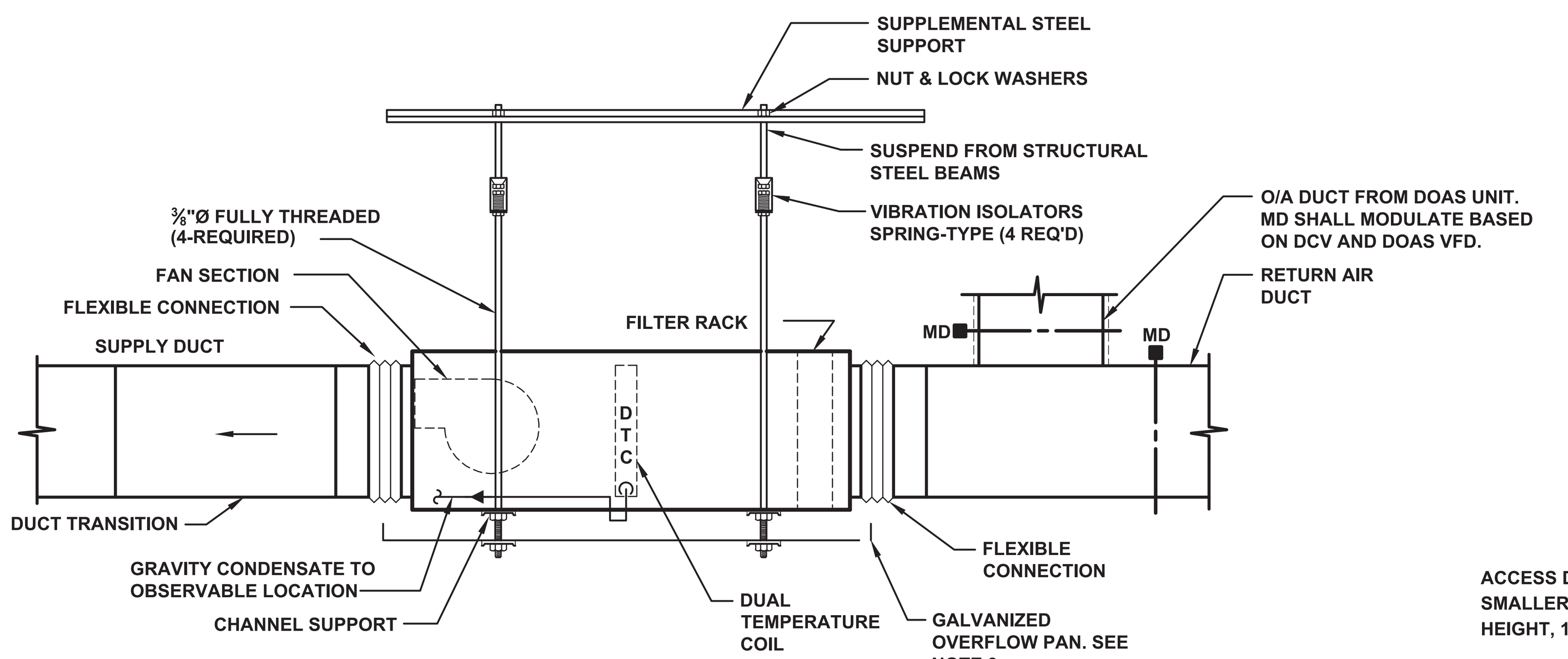
1. DUCT SHOULD EXTEND STRAIGHT FOR A MINIMUM OF 3 DUCT DIAMETERS BEFORE BENDING.
2. SUPPORT SYSTEM MUST NOT BEND DUCT OR CAUSE OUT OF ROUND SHAPE.
3. MAXIMUM SAG 1/2" PER FOOT OR SUPPORT SPACING.
4. 5'-0" MAXIMUM FLEX DUCT LENGTH.

3 FLEX DUCT SUPPORT
N.T.S.

COMMERCIAL DUCT INSULATION SCHEDULE

	FACING	R VALUE INSIDE BUILDING ENVELOPE	R VALUE OUTSIDE BUILDING ENVELOPE
SUPPLY AIR	FSK*	R-6	R-12
RETURN AIR	FSK*	R-6	R-12

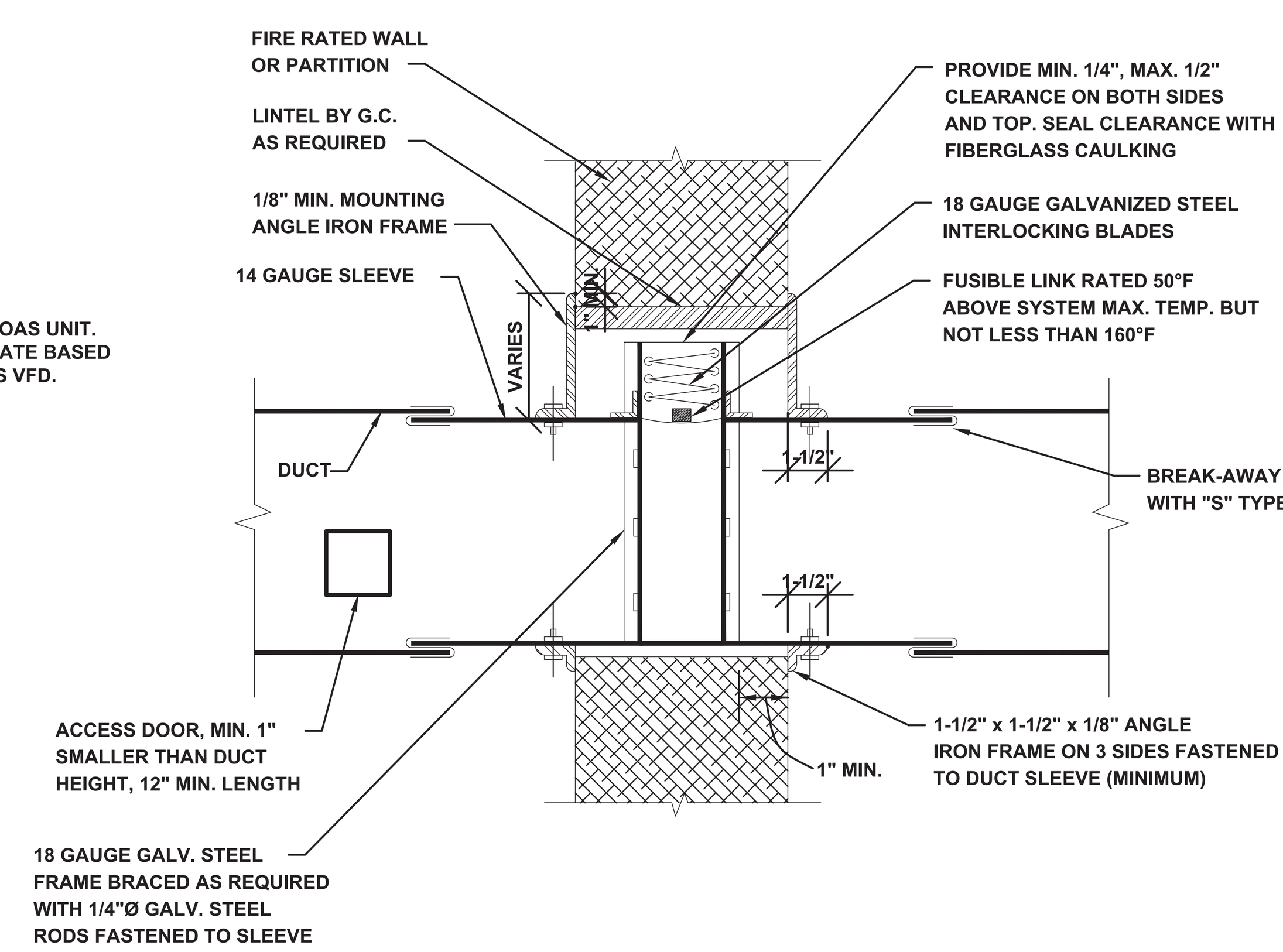
* - FOIL-SCRIM KRAFT



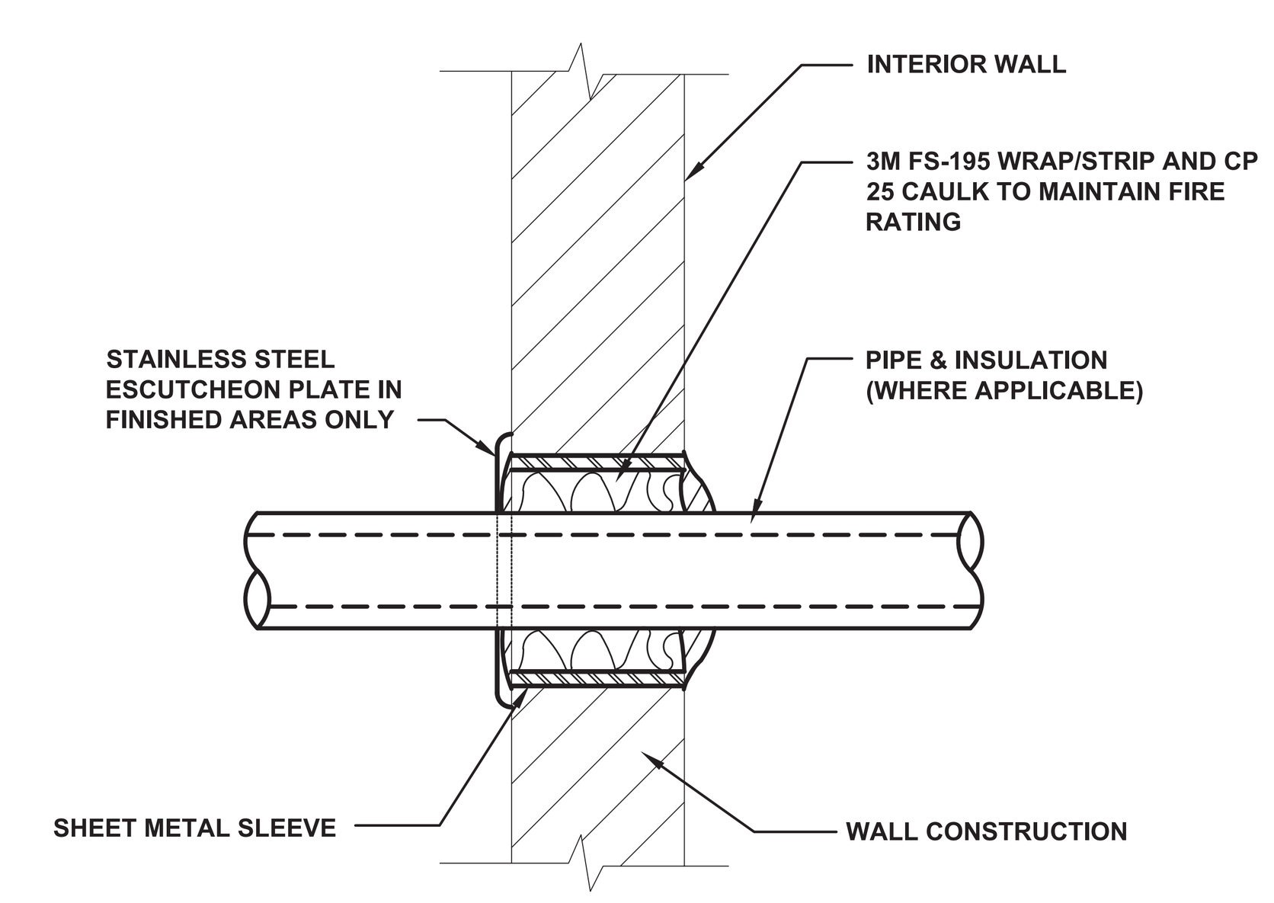
NOTES:

1. TYPICAL FOR INDOOR HORIZONTAL AIR HANDLER.
2. ALL ANCHORS, CLAMPS, BOLTS, CHANNELS, ETC., SHALL BE RATED TO SUPPORT THE OPERATING WEIGHT OF THE SUSPENDED EQUIPMENT.
3. PROVIDE WITH CONDENSATE PUMP THAT SHALL BE EQUIPPED WITH A FLOAT SWITCH TO AUTOMATICALLY STOP UNIT OPERATION. REFER TO SPECIFICATION SECTION 232 81 29/G/3

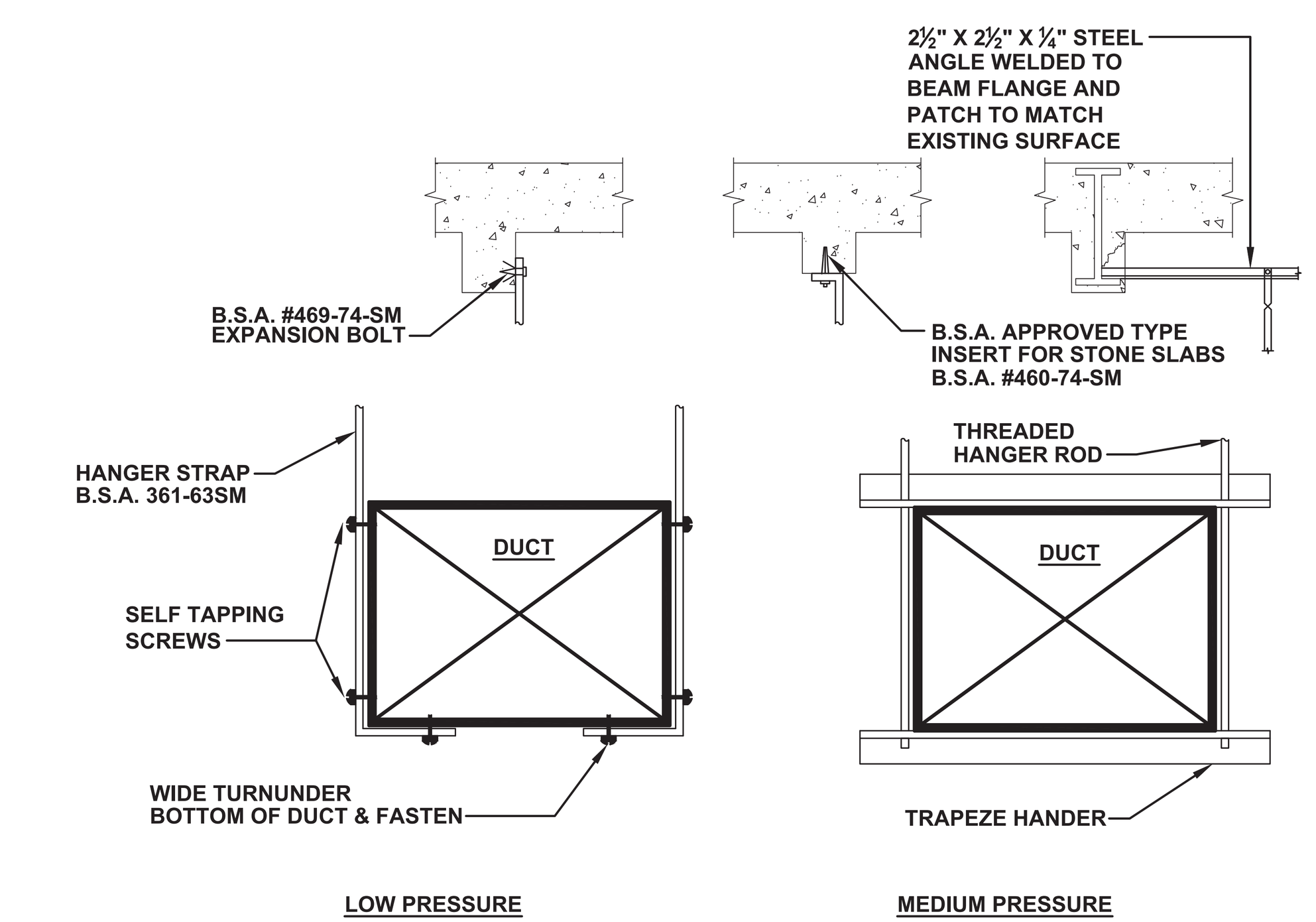
4 HORIZONTAL AIR HANDLING UNIT (FCU) HANGING DETAIL
N.T.S.



5 SHUTTER TYPE FIRE DAMPER FOR FOR LOW PRESSURE SYSTEMS DETAIL
N.T.S.

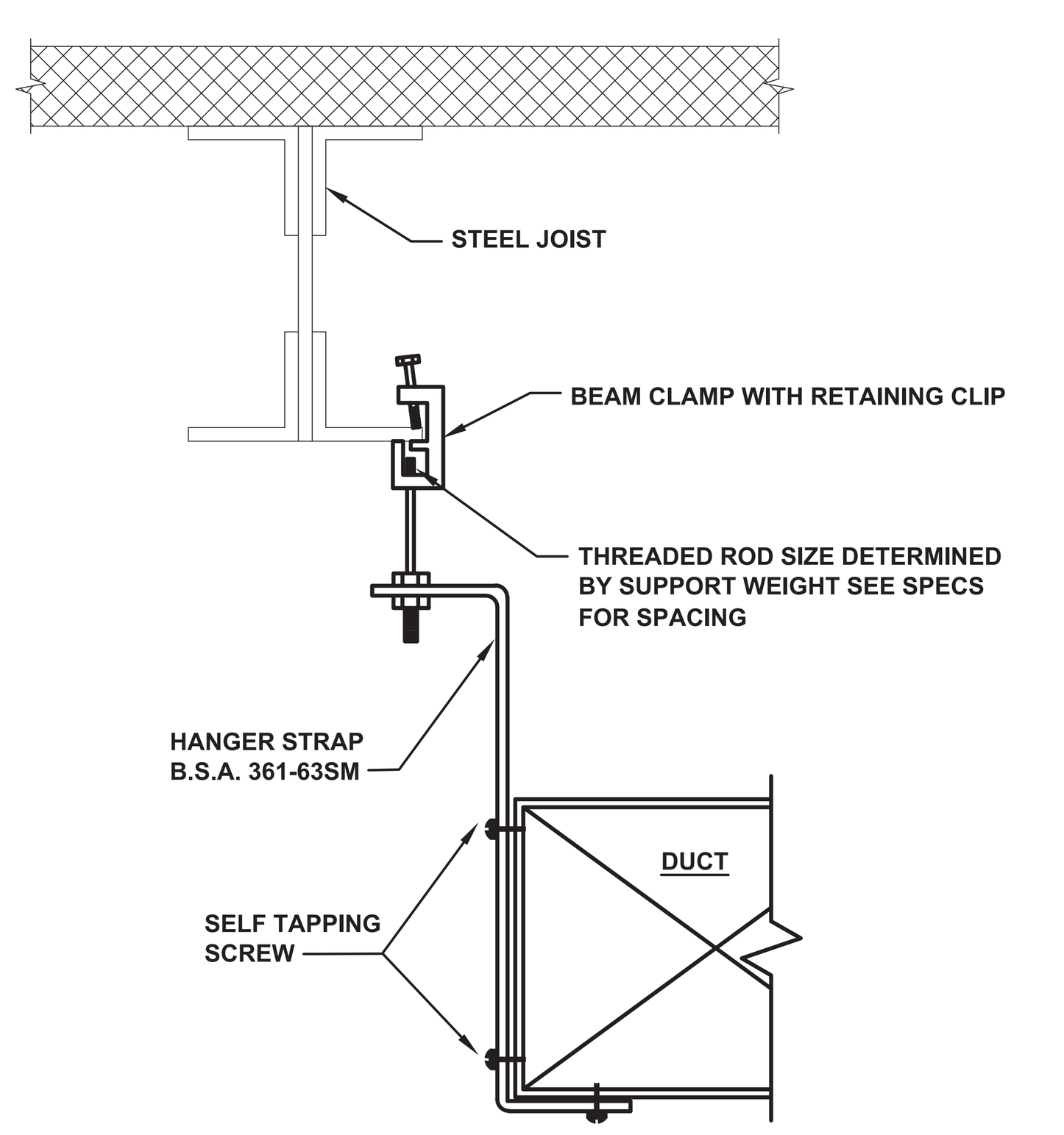


6 RATED WALL PENETRATION DETAIL
N.T.S.



NOTE:
DISTANCE BETWEEN DUCTS HANGERS SHALL BE IN ACCORDANCE WITH M-307.4 BOCA. CODE.

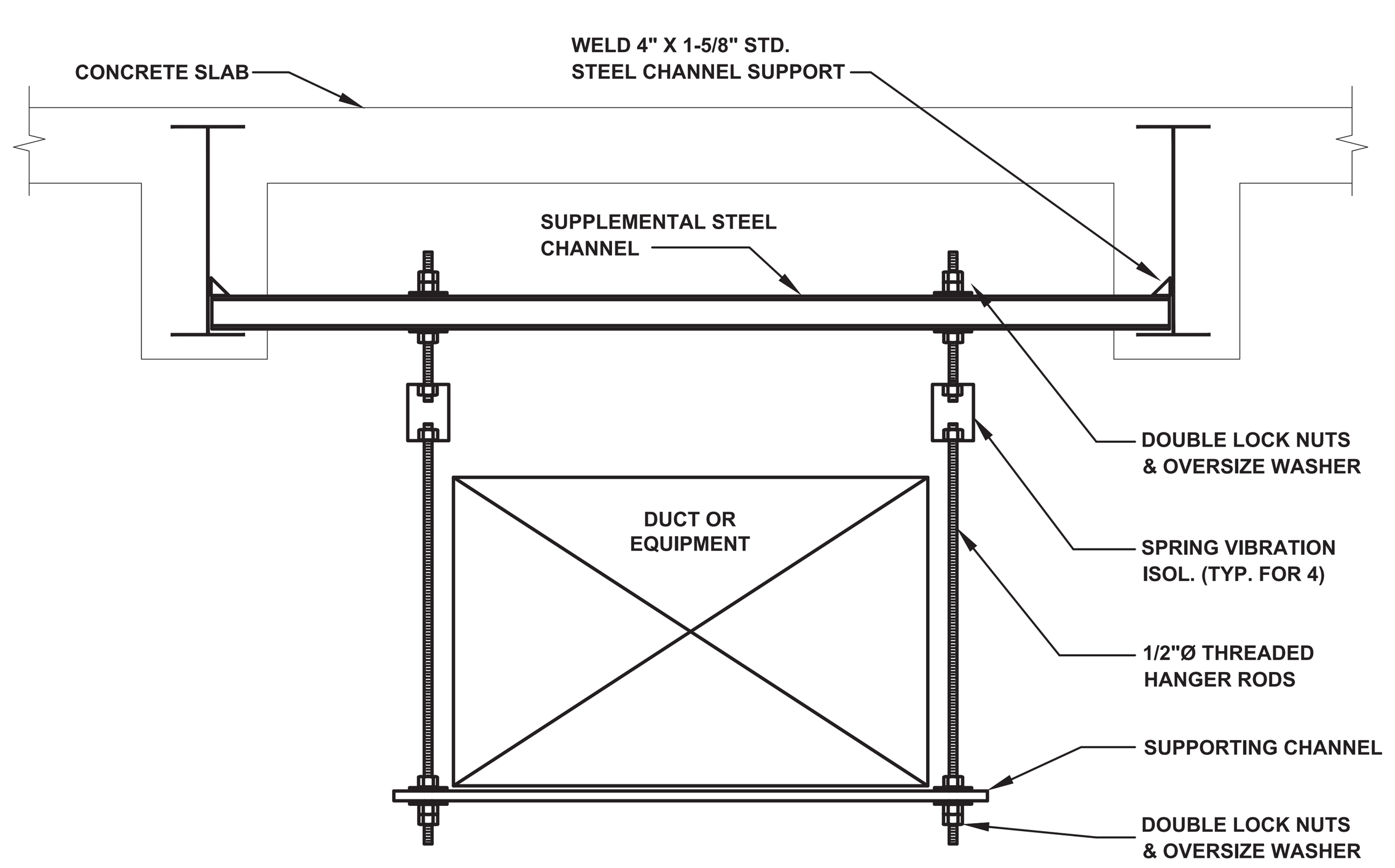
7 METHOD OF HANGING DUCTWORK CONCRETE/WOOD DETAIL
N.T.S.



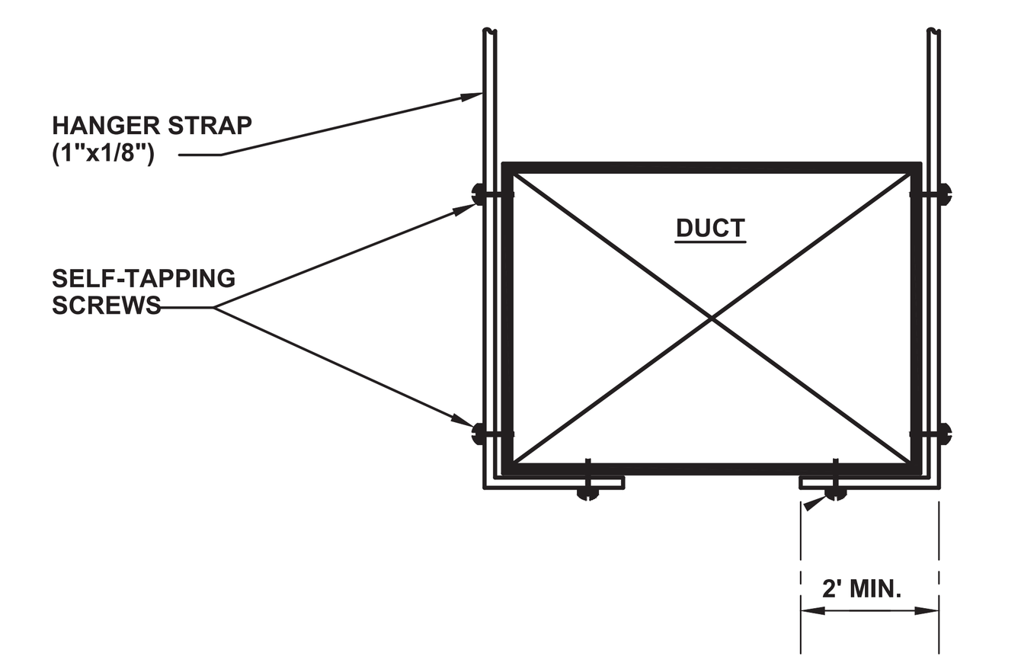
NOTES:

1. DUCTS SHALL NOT BE HUNG FROM OR SUPPORTED BY HUNG CEILING.
2. FOR DUCTS NOT EXCEEDING 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS SHALL BE OF METAL NOT LESS THAN 1/16".
3. FOR DUCTS LARGER THAN 2 SQ. FT. IN CROSS-SECTIONAL AREA, HANGERS SHALL BE OF METAL NOT LESS THAN 1" BY 1/8".
4. FOR ALL DUCTS, HANGERS SHALL BE TURNED UNDER AND FASTENED TO THE BOTTOM OF DUCT AS SHOWN ABOVE.
5. WHERE CROSS-SECTIONAL AREA OF DUCT EXCEEDS 8 SQ. FT., HANGERS SHALL BE NOT MORE THAN 4 FT. ON CENTER.

8 METHOD OF HANGING DUCTWORK
N.T.S.



9 EQUIPMENT HANGING DETAIL
N.T.S.



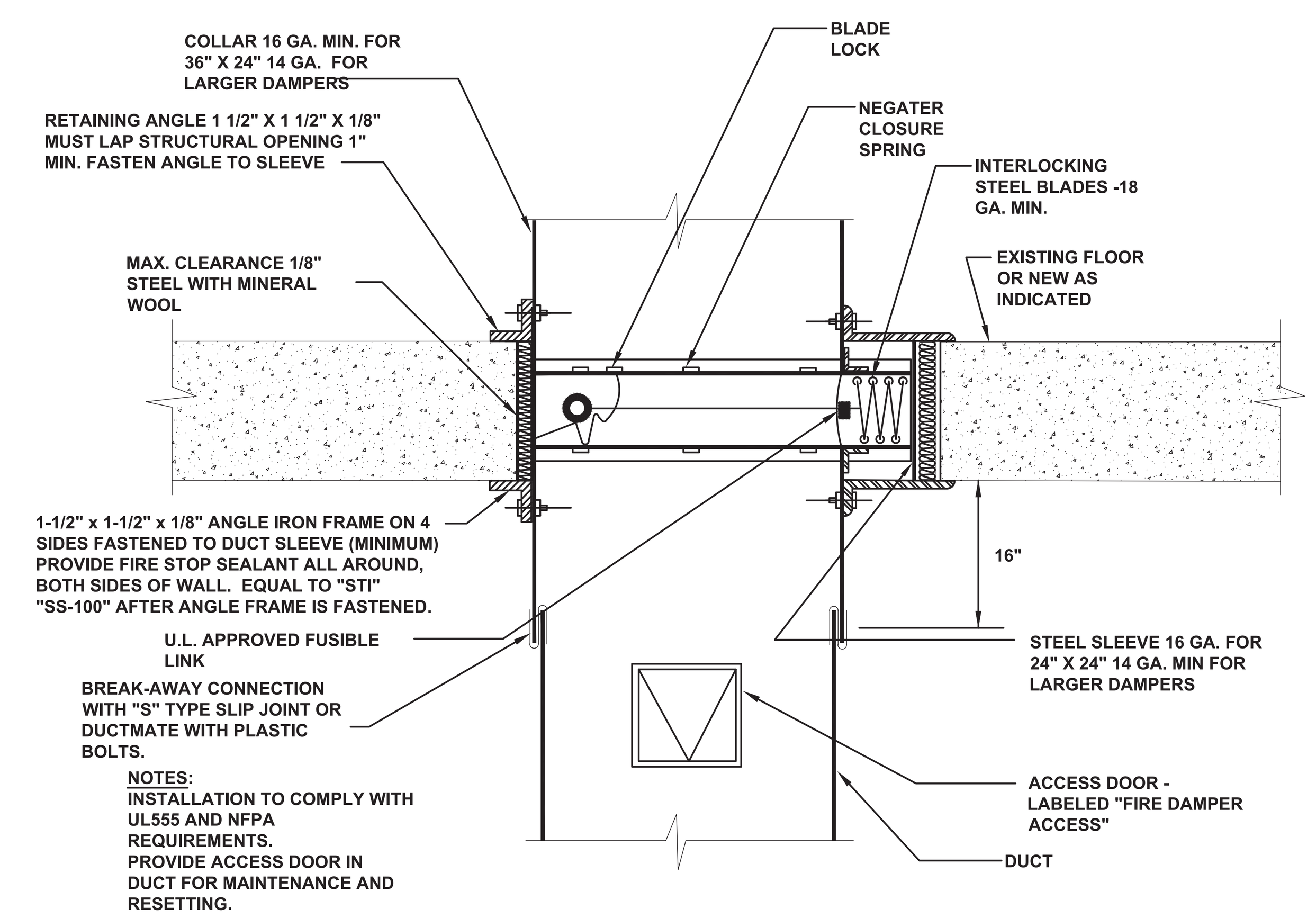
NOTES:

1. PROVIDE BRACING TO LIMIT THE AMPLITUDE OF WALL VIBRATION AND WALL DEFLECTION TO SPECIFIED MAXIMUMS.
2. MINIMUM DUCT SUPPORT REQUIREMENTS:

DUCT SIZE (SQ. FT.)	HANGER SIZE (IN.xGA.)	MAX. SPACING (FT.)
<2	1"x20 GA.	8
2<x £4	1"x20 GA.	8
4<x £10	1"x20 GA.	6
10<x	1"x18 GA.	4

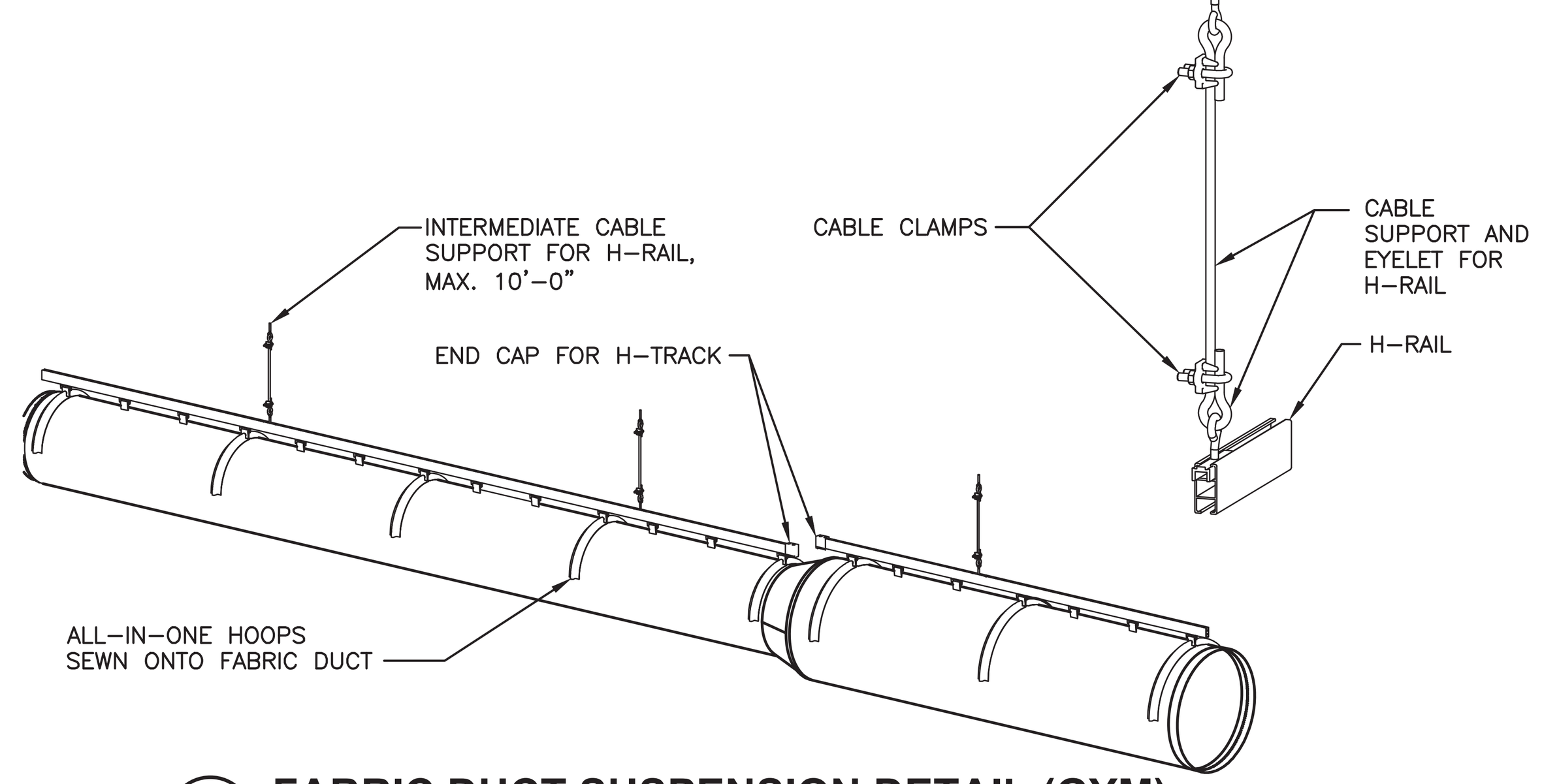
3. INSULATION: ALL SUPPLY AIR DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATION OF 1 LB./C.F. DENSITY AND INTEGRAL VAPOR BARRIER JACKET. ALL EDGES, SEAMS, ETC. SHALL BE TAPED TO MAINTAIN VAPOR BARRIER.
4. ALL EXTERIOR STAINLESS STEEL DUCT SHALL BE SUPPORTED FROM THE BLDG. WALL PER SMACNA STANDARDS.

10 DUCT HANGERS/REINFORCEMENT
N.T.S.

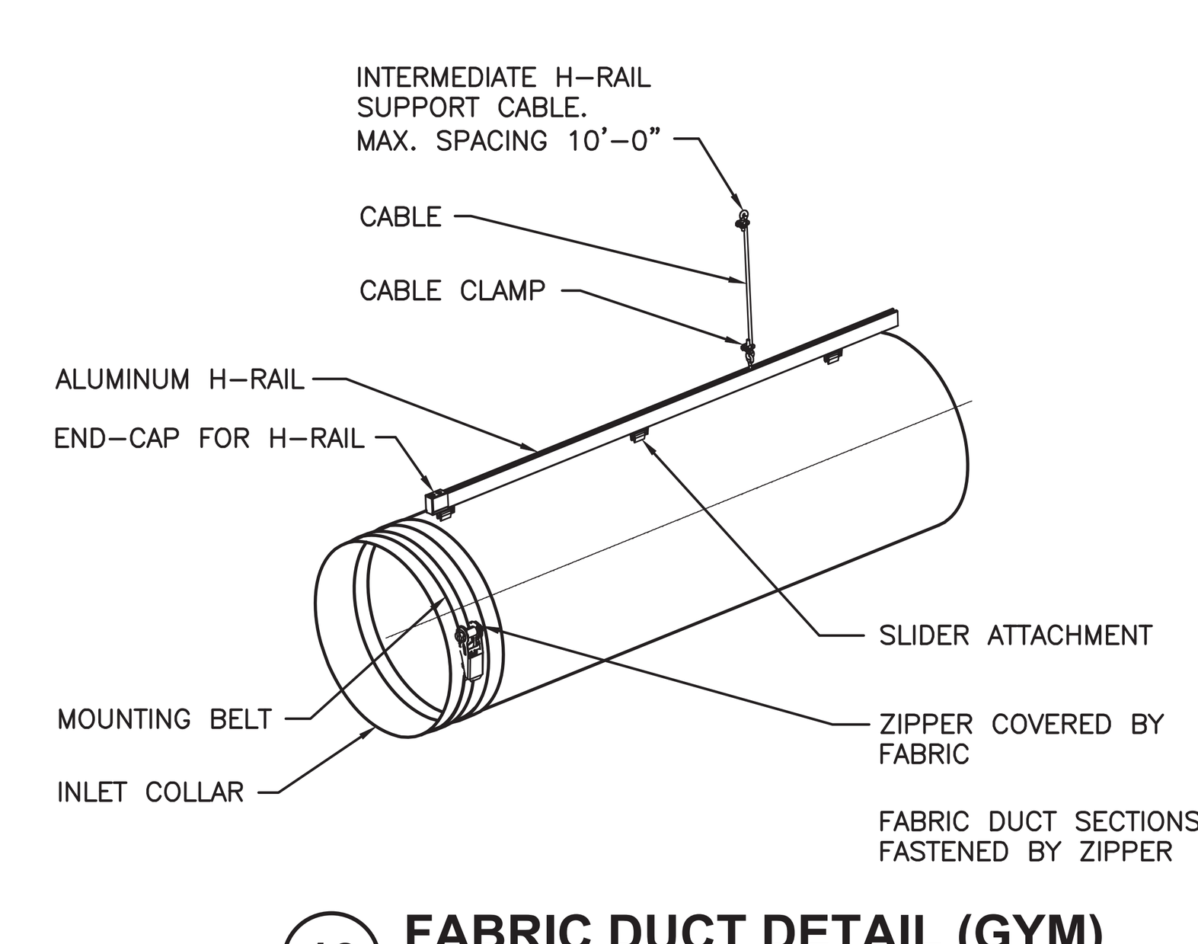


NOTES:
INSTALLATION TO COMPLY WITH UL555 AND NFPA REQUIREMENTS.
PROVIDE ACCESS DOOR IN DUCT FOR MAINTENANCE AND RESETTING.

11 TYPE-B HORIZONTAL FIRE DAMPER FOR LOW PRESSURE SYSTEMS DETAIL
N.T.S.



12 FABRIC DUCT SUSPENSION DETAIL (GYM)
N.T.S.



13 FABRIC DUCT DETAIL (GYM)
N.T.S.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner
ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer
Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER NO. 069373-1 ISSUED 1992, EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

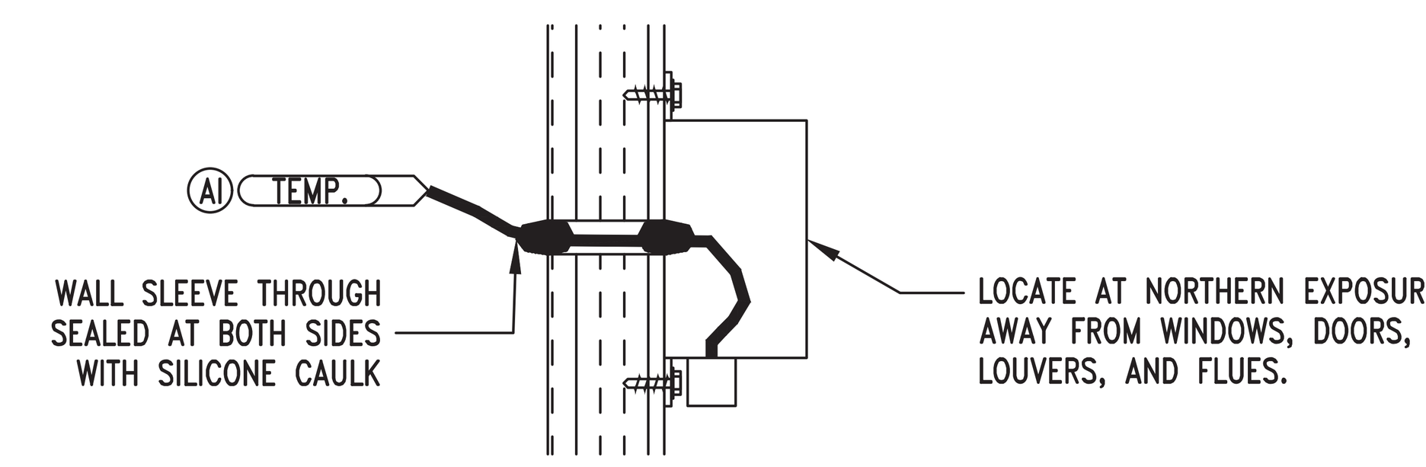
ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME:
MECHANICAL DETAILS

SHEET NUMBER:
H-701

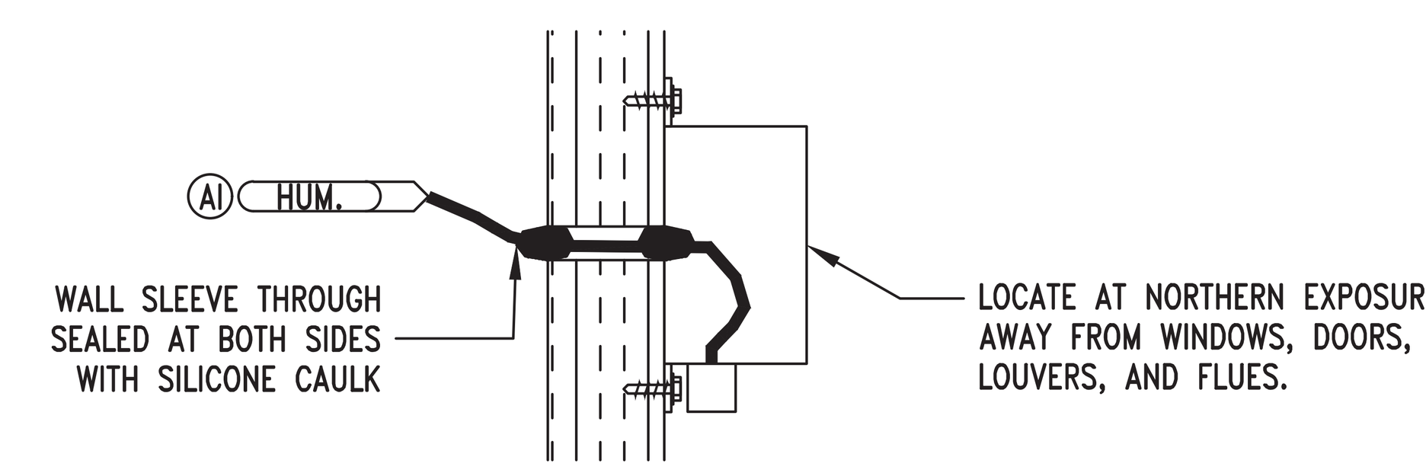
BUILDING AUTOMATION SYSTEM – I/O KEY

(AI)	ANALOG INPUT TO BUILDING AUTOMATION SYSTEM
(AO)	ANALOG OUTPUT FROM BUILDING AUTOMATION SYSTEM
(DI)	DIGITAL INPUT TO BUILDING AUTOMATION SYSTEM
(DO)	DIGITAL OUTPUT FROM BUILDING AUTOMATION SYSTEM
(B)	CONTROL OR MONITORING POINT VIA BACNET COMMUNICATION
AFMS	AIR FLOW MONITORING STATION
TEMP.	TEMPERATURE SENSOR
HUM.	RELATIVE HUMIDITY SENSOR
CO2S	CARBON DIOXIDE SENSOR
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
SMOKE	SMOKE DETECTOR
ACT.	MOTORIZED DAMPER ACTUATOR
EN/DIS	MOTOR START/STOP (ENABLE/DISABLE)
RUN IND	MOTOR STATUS (RUN INDICATION)
SPEED	MOTOR SPEED COMMAND
FEED	MOTOR DRIVE SPEED FEEDBACK
U.M.	UNIT MANUFACTURER EQUIPMENT
N.C.	NORMALLY CLOSED DAMPER
N.O.	NORMALLY OPEN DAMPER
B.D.D.	BACKDRAFT (BAROMETRIC) DAMPER
SF	SUPPLY FAN
EF	EXHAUST FAN
ECM	ELECTRONICALLY COMMUTATED MOTOR INTERFACE
VFD	VARIABLE FREQUENCY DRIVE INTERFACE
DX	DIRECT EXPANSION (MECHANICAL) COOLING COIL
HGRH	HOT GAS (BYPASS) REHEAT COIL
HTG	HEATING COIL
VRF	VARIABLE REFRIGERANT FLOW

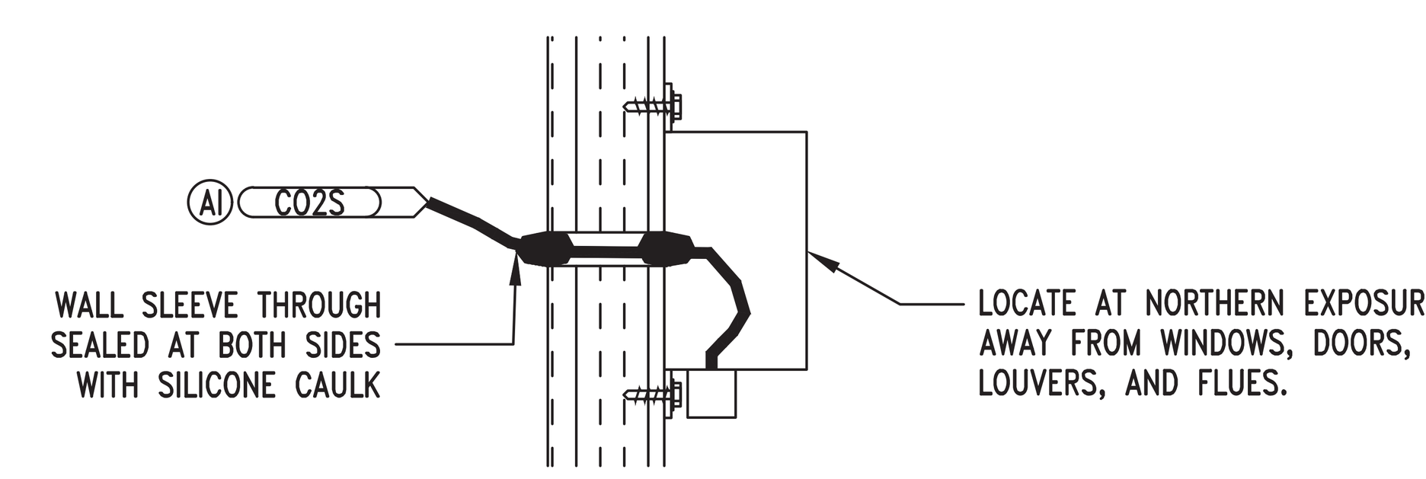
GLOBAL MONITORING POINT: OUTSIDE AIR TEMPERATURE
TYPICAL OF (2) OUTDOOR AIR SENSORS



GLOBAL MONITORING POINT: OUTSIDE AIR RELATIVE HUMIDITY
TYPICAL OF (1) OUTDOOR AIR SENSORS



GLOBAL MONITORING POINT: OUTSIDE AIR CARBON DIOXIDE
TYPICAL OF (1) OUTDOOR AIR SENSORS



GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

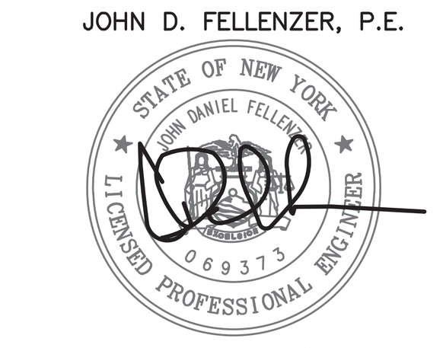
Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.



NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

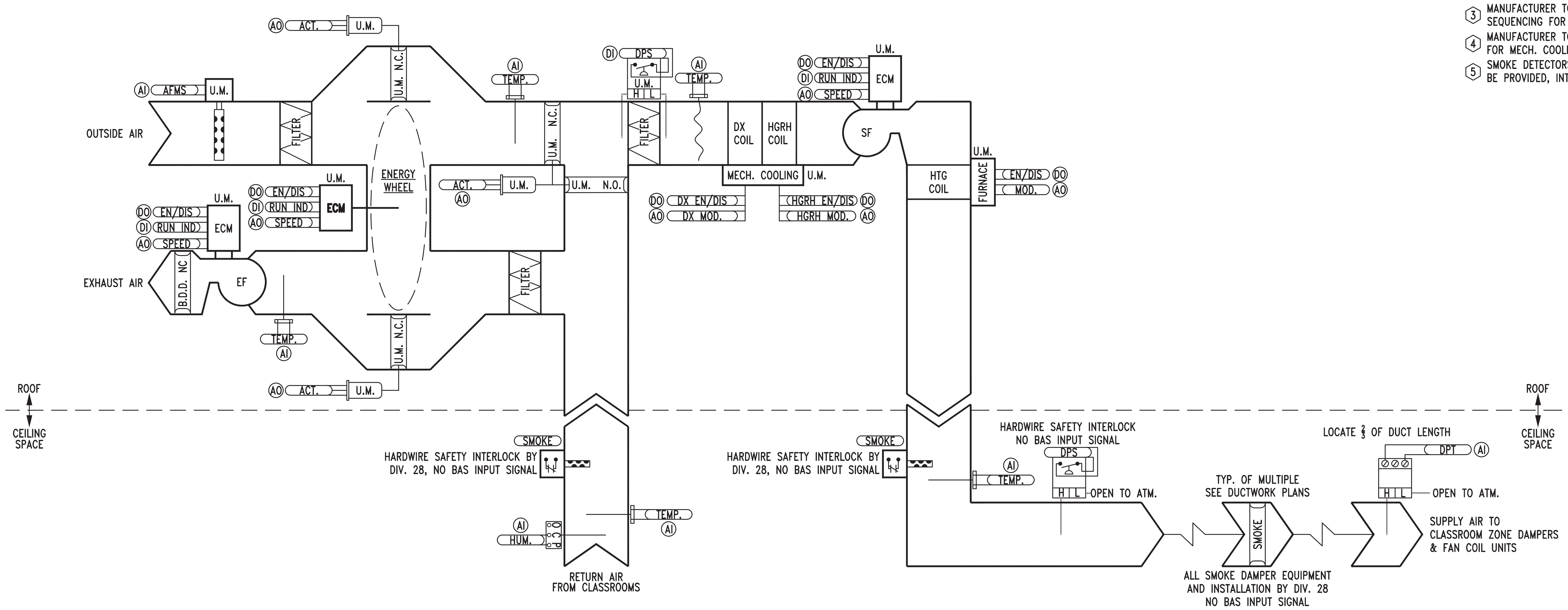
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME:
MECHANICAL DETAILS

SHEET NUMBER:
H-702

PROJECT NUMBER: ###

DEDICATED OUTSIDE AIR SUPPLY UNIT FIELD CONTROL DETAILS
SERVING CLASSROOM FAN COIL UNITS



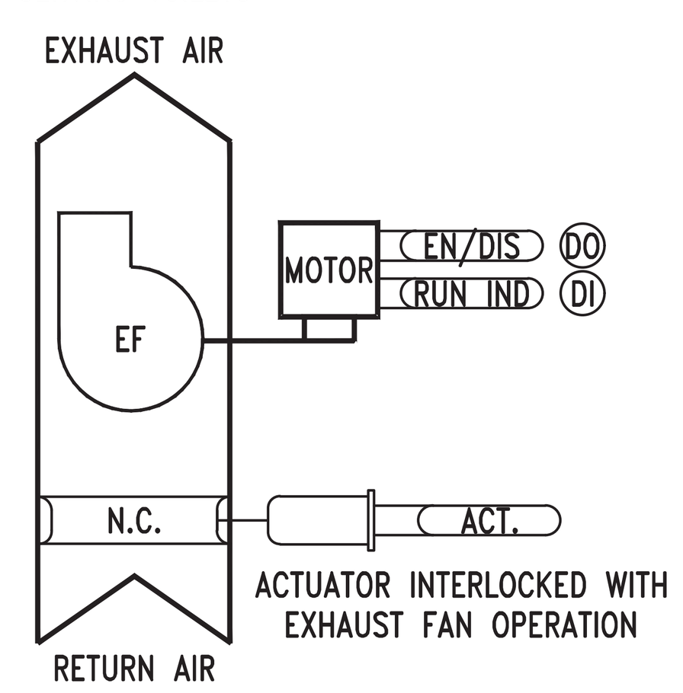
BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR MECHANICAL COOLING EQUIPMENT
3. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR GAS-FIRED HEATING EQUIPMENT
4. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR MECH. COOLING & GAS-FIRED HEATING EQUIPMENT
5. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.

BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. EXHAUST FAN CONTROL DAMPER MAY BE INTERLOCKED WITH FAN MOTOR OPERATION

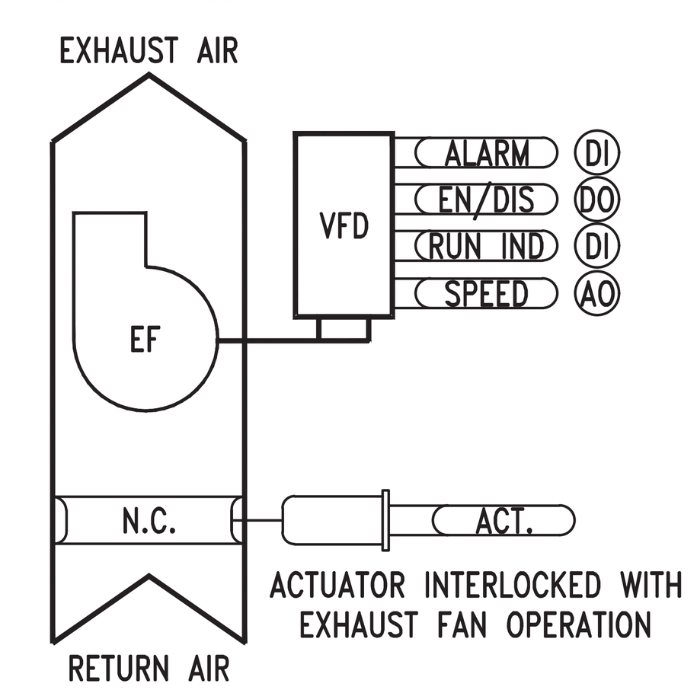
TOILET EXHAUST CONTROL DETAILS
SERVING TOILETS



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. EXHAUST FAN CONTROL DAMPER MAY BE INTERLOCKED WITH FAN DRIVE OPERATION

TOILET EXHAUST CONTROL DETAILS
SERVING TOILETS



GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

ksq design

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992, EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

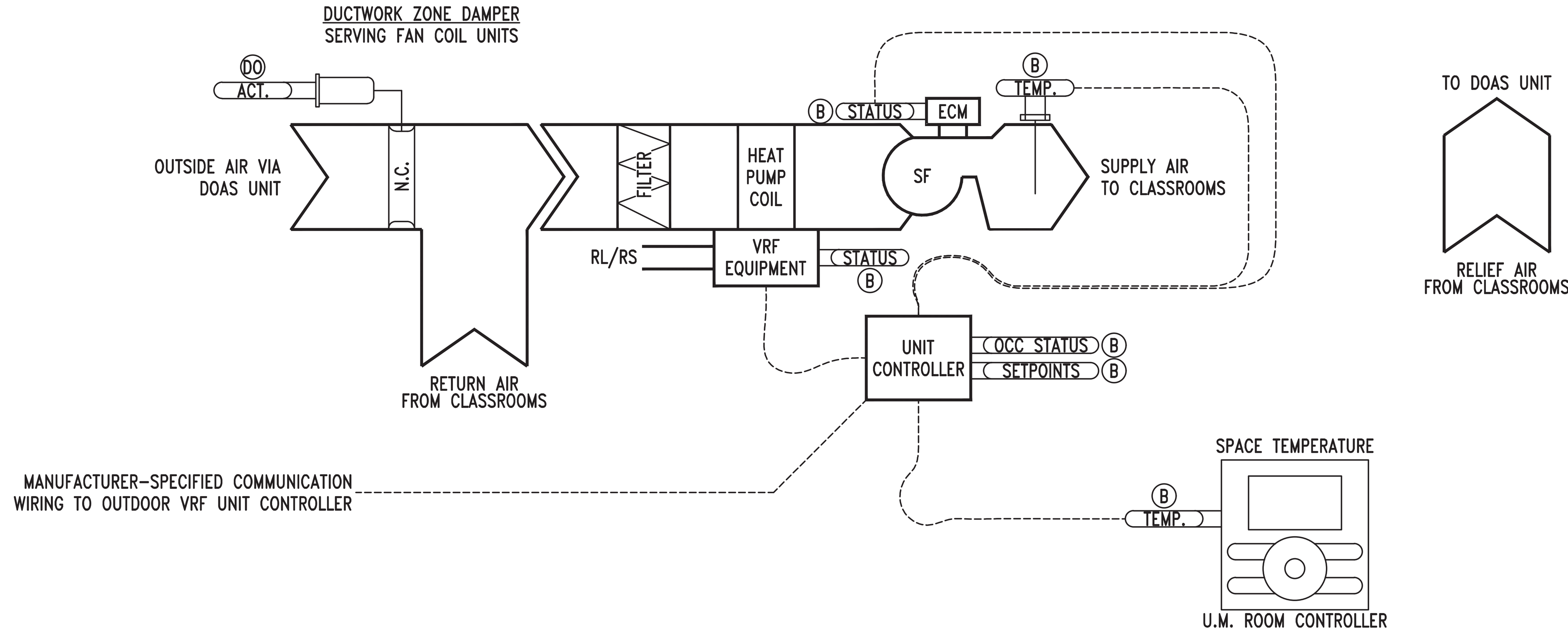
65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-703

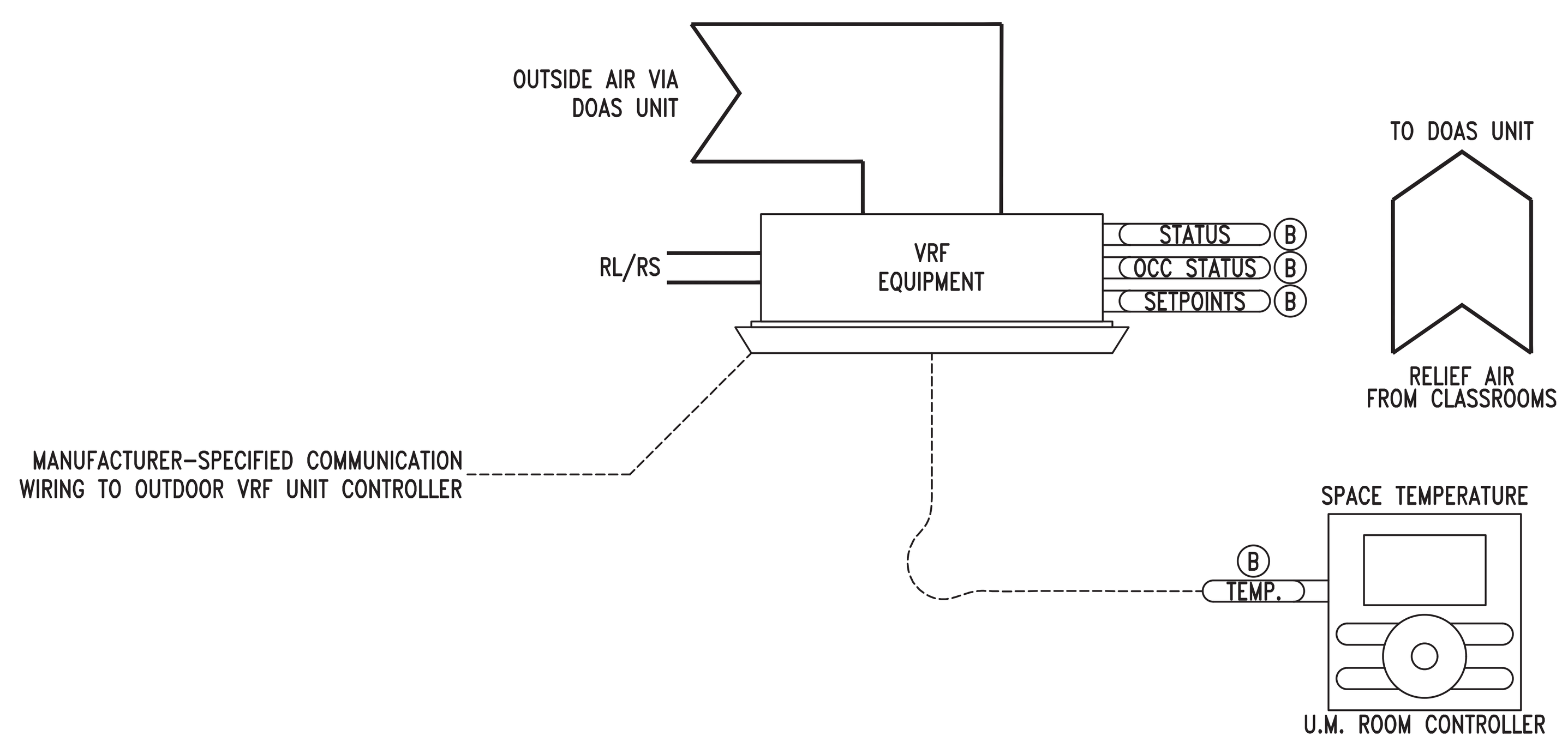
FAN COIL UNIT FIELD CONTROL DETAILS
SERVING CLASSROOMS



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. FAN COIL UNIT MANUFACTURER TO PROVIDE AN INTEGRATED UNIT CONTROLLER FOR ALL LOCAL UNIT CONTROL.
2. UNIT CONTROLLER TO BE TIED INTO MANUFACTURER COMMUNICATION NETWORK. MANUFACTURER TO PROVIDE GATEWAY FOR BAS INTEGRATION
3. ZONE VENTILATION DAMPER TO BE CONTROLLED DIRECTLY BY THE BUILDING AUTOMATION SYSTEM.
4. FAN COIL UNIT WITH MANUFACTURER CONTROLS TO BE PROVIDED WITH A LOCAL WALL CONTROLLER.

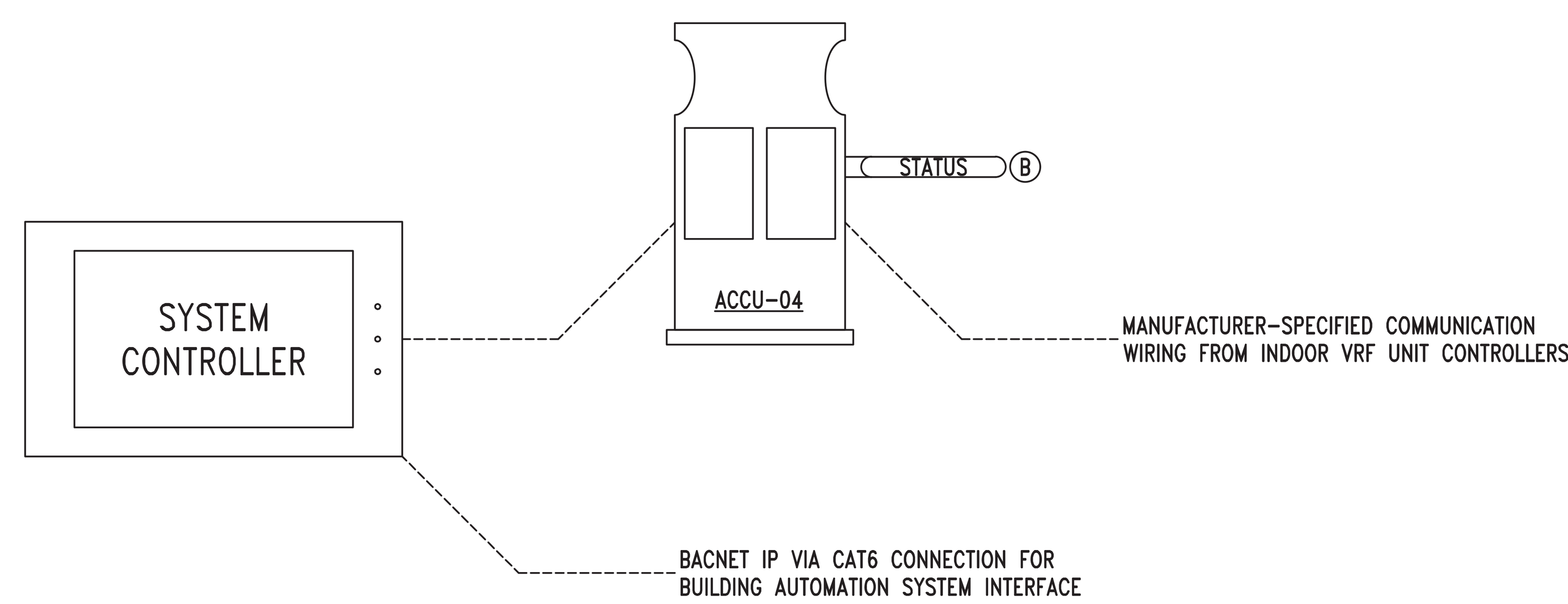
CEILING CASSETTE UNIT FIELD CONTROL DETAILS
SERVING OFFICES



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. CEILING CASSETTE UNIT MANUFACTURER TO PROVIDE AN INTEGRATED UNIT CONTROLLER FOR ALL LOCAL UNIT CONTROL.
2. CEILING CASSETTE CONTROLLER TO BE TIED INTO MANUFACTURER COMMUNICATION NETWORK. MANUFACTURER TO PROVIDE GATEWAY FOR BAS INTEGRATION.
3. ZONE VENTILATION DAMPER TO BE MANUAL VOLUME DAMPER SET BY SYSTEM BALANCER AT UNIT STARTUP. NO BUILDING AUTOMATION SYSTEM INTEGRATION.
4. CEILING CASSETTE UNIT WITH MANUFACTURER CONTROLS TO BE PROVIDED WITH A LOCAL WALL CONTROLLER.

OUTDOOR VRF UNIT FIELD CONTROL DETAILS
SERVING VRF SYSTEM



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. OUTDOOR VRF UNIT MANUFACTURER TO PROVIDE AN INTEGRATED UNIT CONTROLLER FOR ALL LOCAL UNIT CONTROL.
2. OUTDOOR VRF CONTROLLER TO BE TIED INTO MANUFACTURER COMMUNICATION NETWORK. MANUFACTURER TO PROVIDE GATEWAY FOR BAS INTEGRATION.

GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT
ksqdesign
KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner
ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer
Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

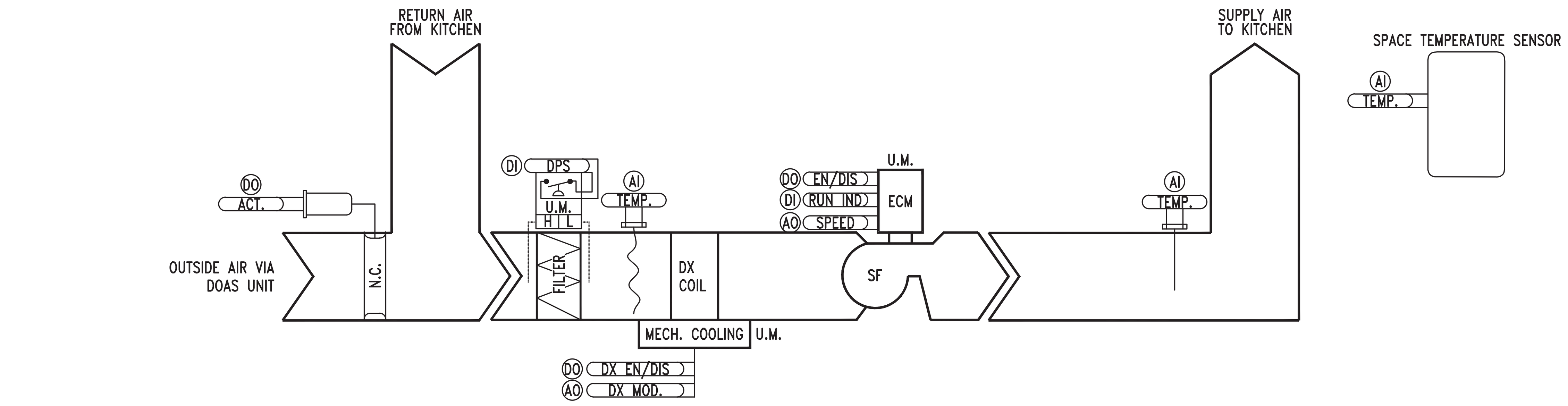
65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-704

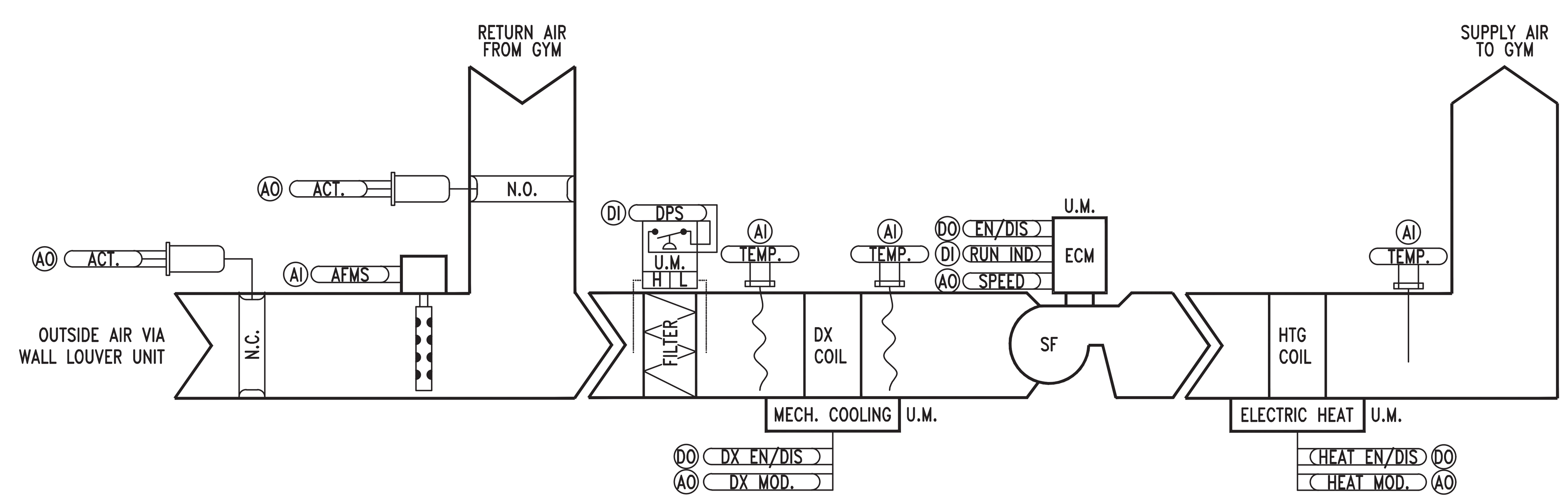
AIR CONDITIONING UNIT FIELD CONTROL DETAILS
SERVING KITCHEN SPACES



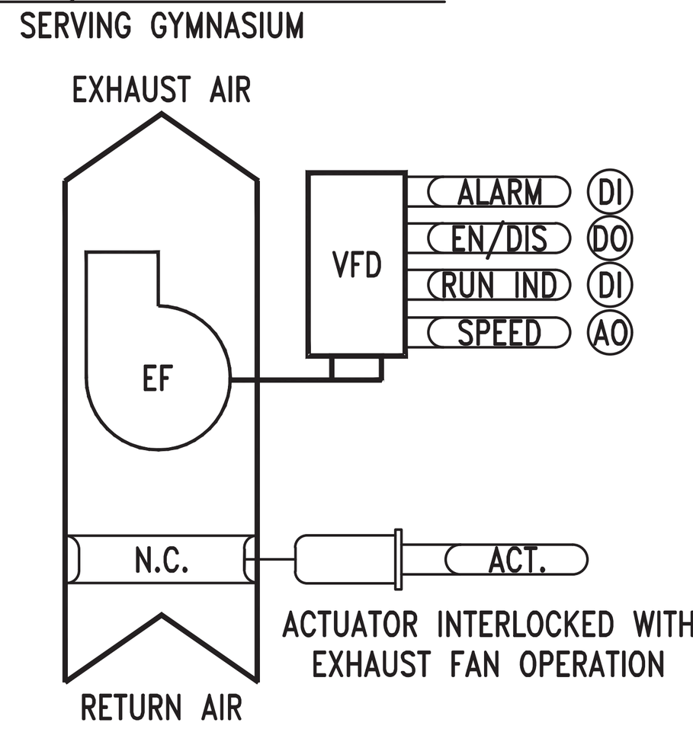
BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

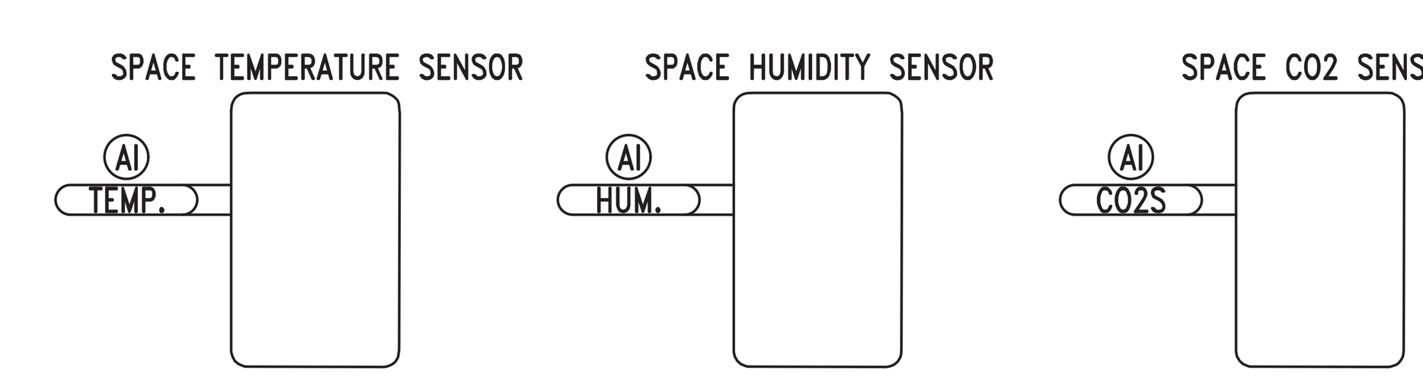
1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR MECHANICAL COOLING EQUIPMENT
3. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR MECH. COOLING EQUIPMENT
4. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.
5. ZONE VENTILATION DAMPER TO BE CONTROLLED DIRECTLY BY THE BUILDING AUTOMATION SYSTEM

AIR CONDITIONING UNIT FIELD CONTROL DETAILS
SERVING GYMNASIUM



EXHAUST FAN, EF-01 CONTROL DETAILS
SERVING GYMNASIUM





BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR MECHANICAL COOLING EQUIPMENT
3. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR ELECTRIC HEATING EQUIPMENT
4. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR MECH. COOLING & ELECTRIC HEATING EQUIPMENT
5. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.
6. ZONE VENTILATION DAMPER TO BE CONTROLLED DIRECTLY BY THE BUILDING AUTOMATION SYSTEM

GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

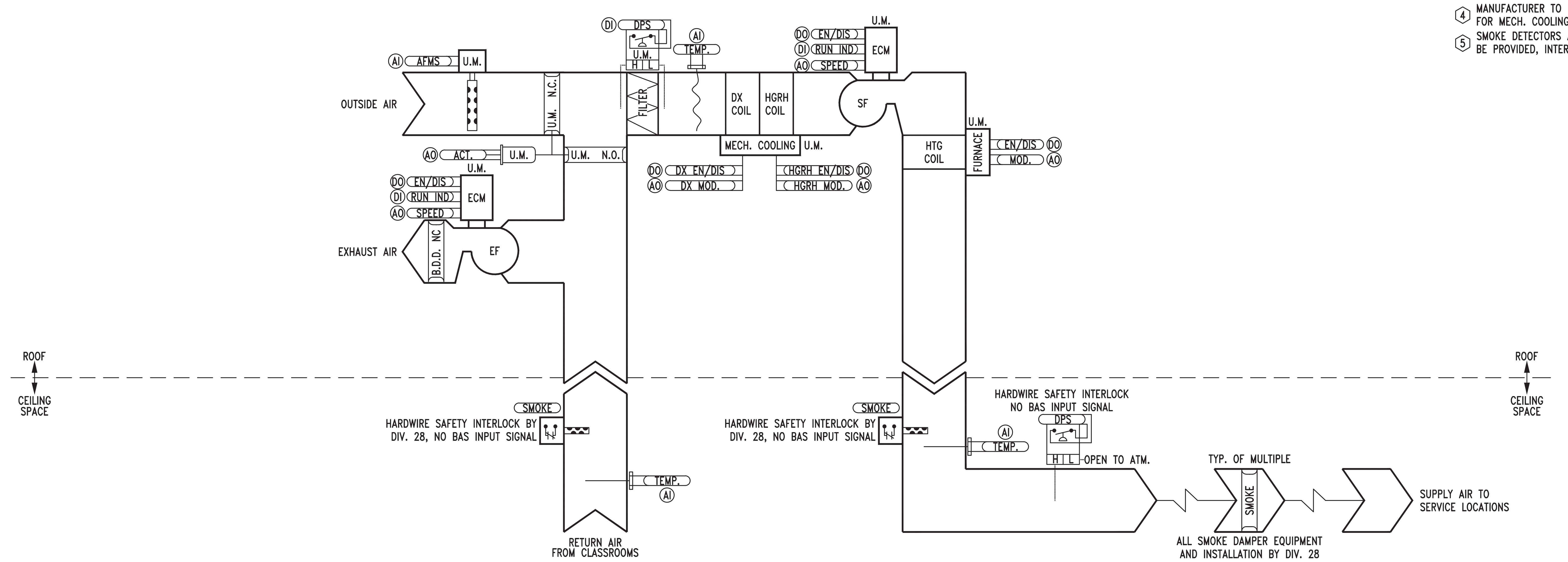
DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME:
MECHANICAL DETAILS

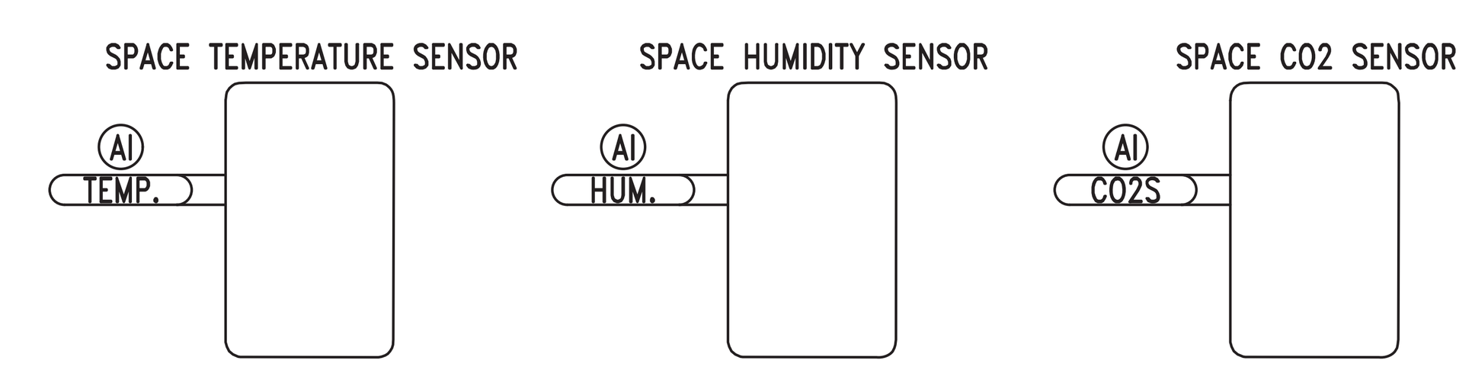
SHEET NUMBER:
H-705

ROOFTOP UNIT FIELD CONTROL DETAILS
SERVING LARGE SPACES



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR MECHANICAL COOLING EQUIPMENT
3. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR GAS-FIRED HEATING EQUIPMENT
4. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR MECH. COOLING & GAS-FIRED HEATING EQUIPMENT
5. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.



GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT
ksqdesign
KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner
ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer
Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER NO. 069373-1 ISSUED 1992; EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

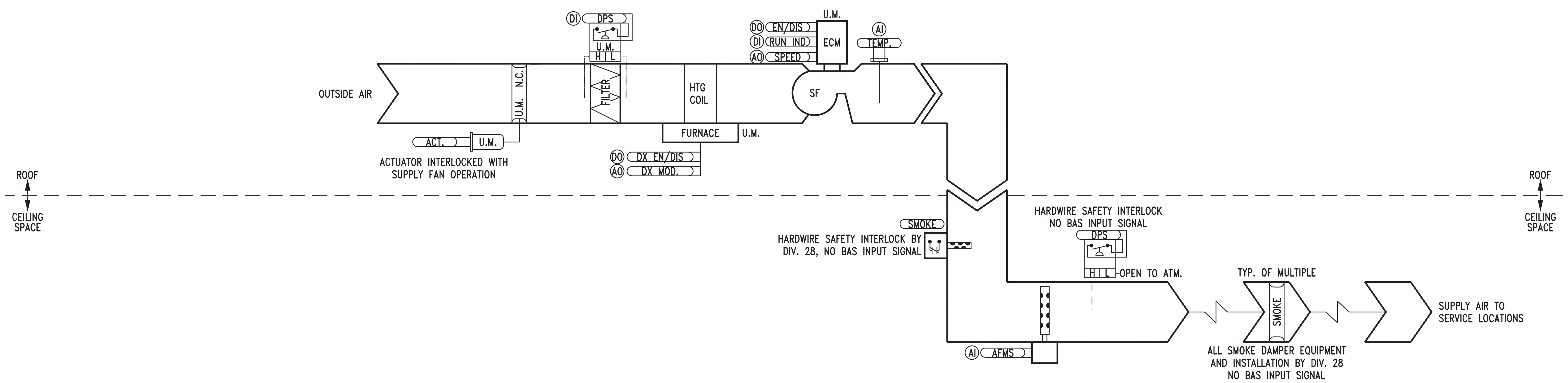
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-706

SINGLE MAKEUP AIR UNIT, FIELD CONTROL DETAILS
SERVING KITCHEN SPACES

BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR GAS-FIRED HEATING EQUIPMENT
3. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR GAS-FIRED HEATING EQUIPMENT
4. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.



GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992, EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

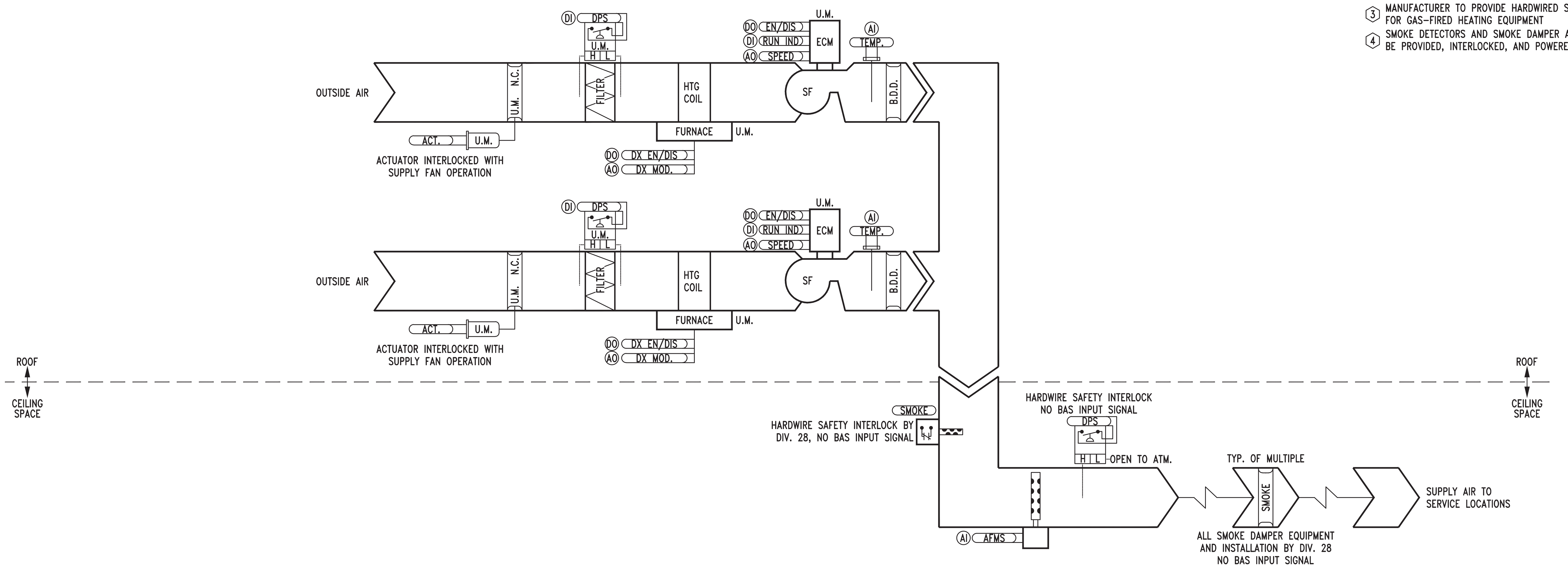
65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-707

DUAL MAKEUP AIR UNIT, FIELD CONTROL DETAILS
SERVING KITCHEN SPACES



BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. MANUFACTURER TO PROVIDE TERMINAL STRIP FOR INTERFACE WITH MANUFACTURER CONTROL POINTS
2. MANUFACTURER TO PROVIDE DIRECT CONTROL AND SEQUENCING FOR GAS-FIRED HEATING EQUIPMENT
3. MANUFACTURER TO PROVIDE HARDWIRED SAFETIES FOR GAS-FIRED HEATING EQUIPMENT
4. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.

GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

STATE OF NEW YORK
JOHN DANIEL FELLENZER
069373
LICENSED PROFESSIONAL ENGINEER

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

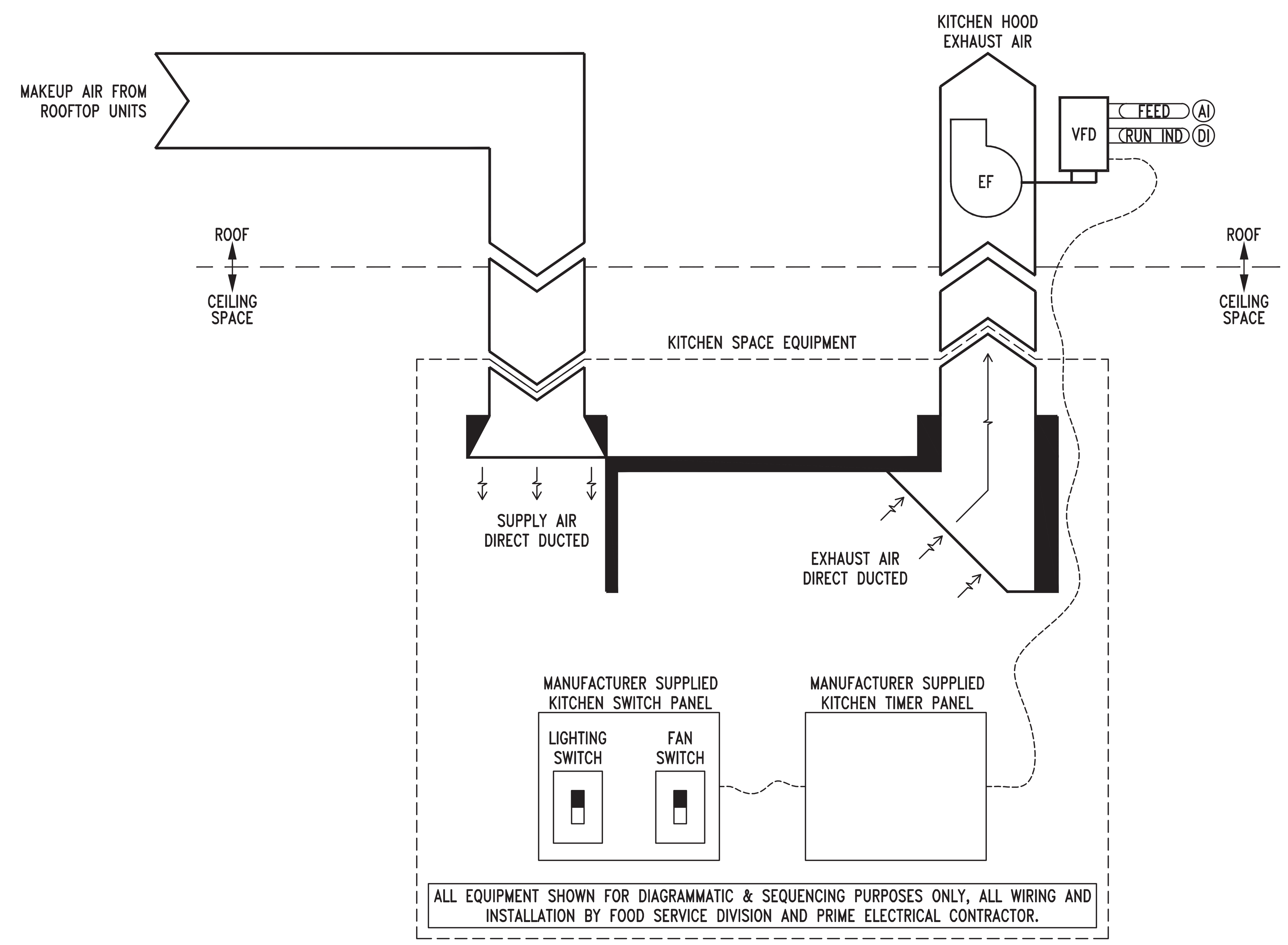
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-708

KITCHEN EXHAUST FAN FIELD CONTROL DETAILS
SERVING KITCHEN EQUIPMENT AND SPACES

BUILDING AUTOMATION SYSTEM – I/O GENERAL NOTES

1. KITCHEN HOOD EQUIPMENT MANUFACTURER TO PROVIDE USER INTERFACES FOR EXHAUST FAN CONTROL.
2. KITCHEN HOOD EQUIPMENT MANUFACTURER TO PROVIDE TERMINAL STRIP FOR EXHAUST FAN CONTROL.
3. SMOKE DETECTORS AND SMOKE DAMPER ACTUATORS TO BE PROVIDED, INTERLOCKED, AND POWERED BY DIV. 28.
4. KITCHEN EXHAUST FAN DIRECTLY CONTROLLED BY UNIT CONTROL PANEL PROVIDED BY FOOD SERVICE DIVISION.
5. EXHAUST FAN MONITORING POINTS FOR BUILDING AUTOMATION SYSTEM BY CONTROLS CONTRACTOR. ALL OTHER INSTALLATION AND WIRING BY DIV. 26.



GENERAL NOTE:

1. HVAC CONTROLS BY DAY AUTOMATION.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992, EXP. 8/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

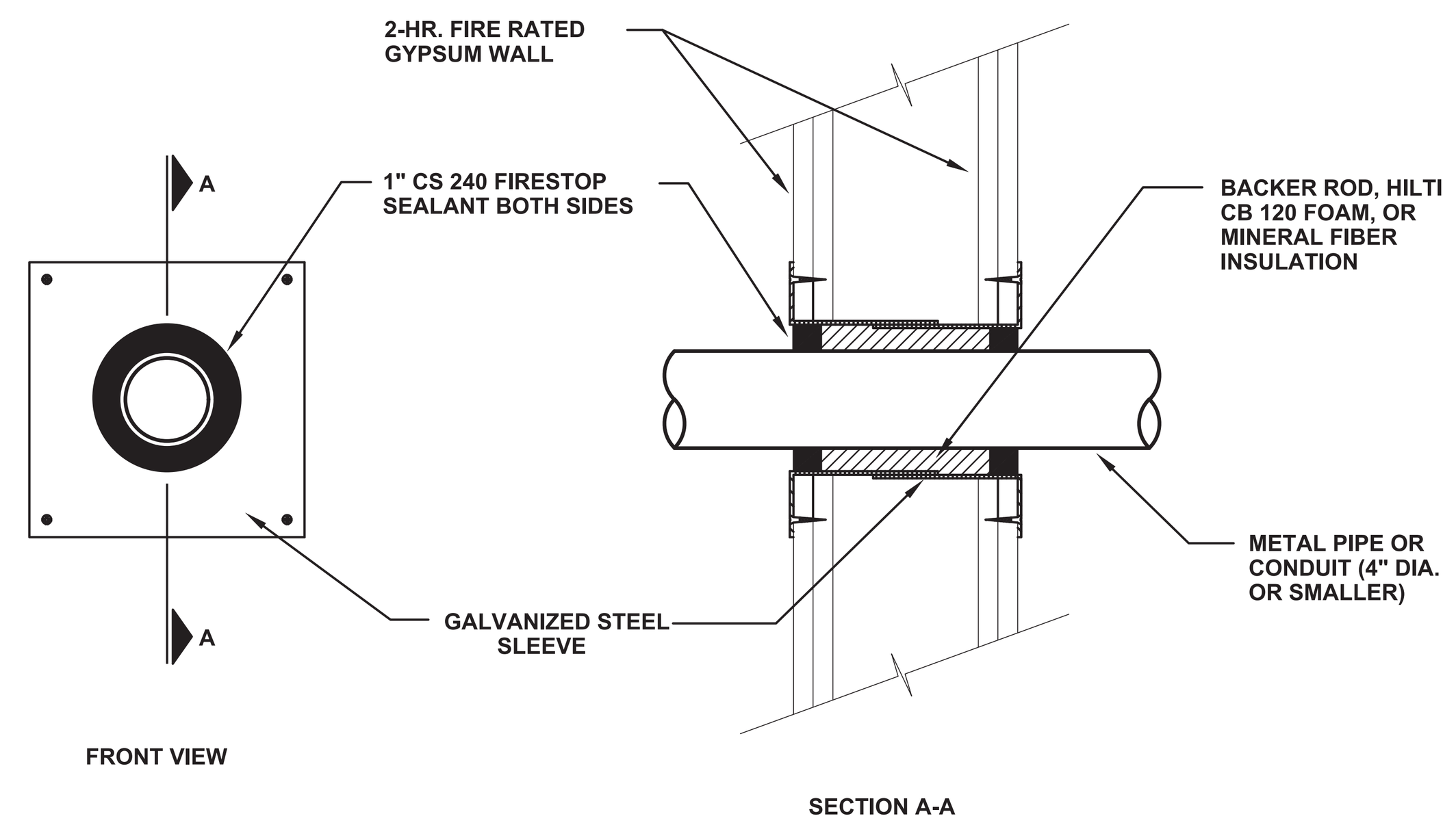
ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME: MECHANICAL DETAILS

SHEET NUMBER: H-709



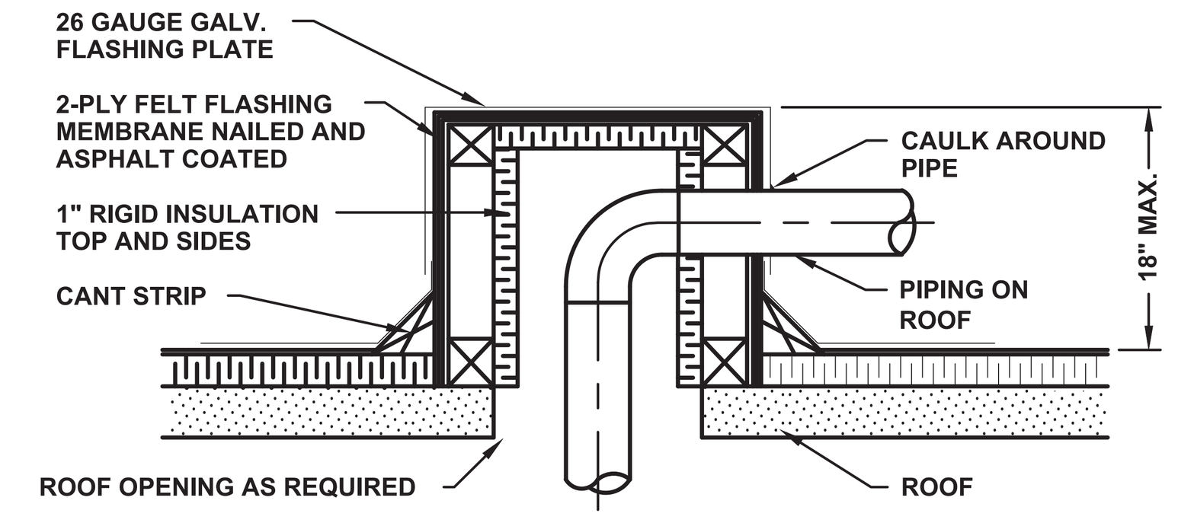
NOTE: IF MINERAL FIBER INSULATION IS USED AS THE BACKING MATERIAL, SEALANT DEPTH MAY BE REDUCED TO 1/2".

ALL SURFACES SHOULD BE CLEANED, SOUND AND DRY PRIOR TO APPLICATION OF FIRESTOPPING MATERIALS. IF THE OPENING IS NOT SLEEVED, INSTALL A GALVANIZED STEEL SLEEVE AROUND THE PIPE AND ANCHOR IT IN PLACE.

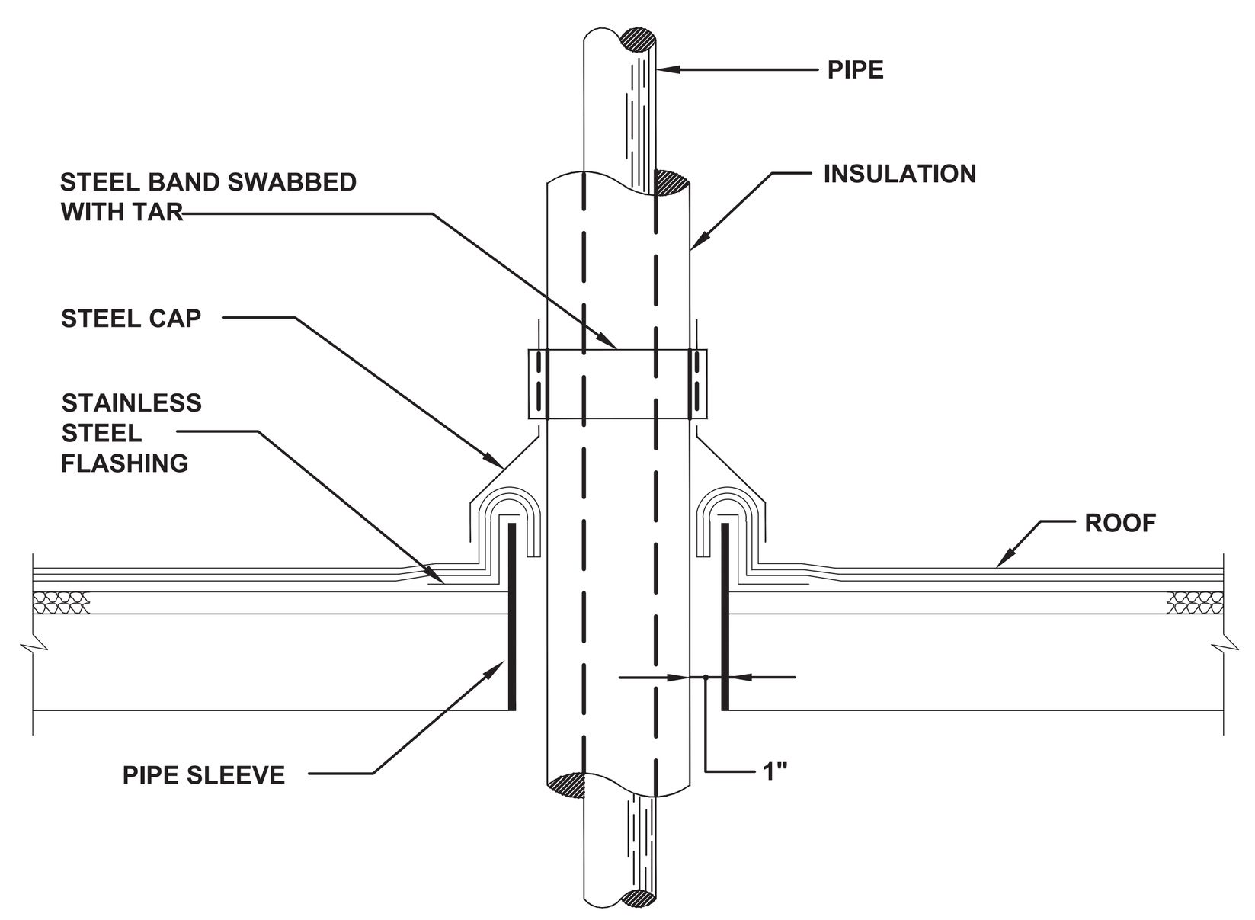
INSTALL BACKER ROD, CB 120 FOAM, OR PACK MINERAL WOOL BETWEEN THE PIPE SLEEVE, LEAVING APPROPRIATE SPACE ON EACH SIDE OF THE WALL FOR THE FIRESTOP SEALANT.

APPLY THE REQUIRED DEPTH OF CS 240 FIRESTOP SEALANT TO BOTH SIDES OF THE WALL AND TOOL IT WITH A PUTTY KNIFE UNTIL FLUSH WITH THE SURFACE. LEAVE COMPLETE SEAL UNDISTURBED FOR 48 HOURS.

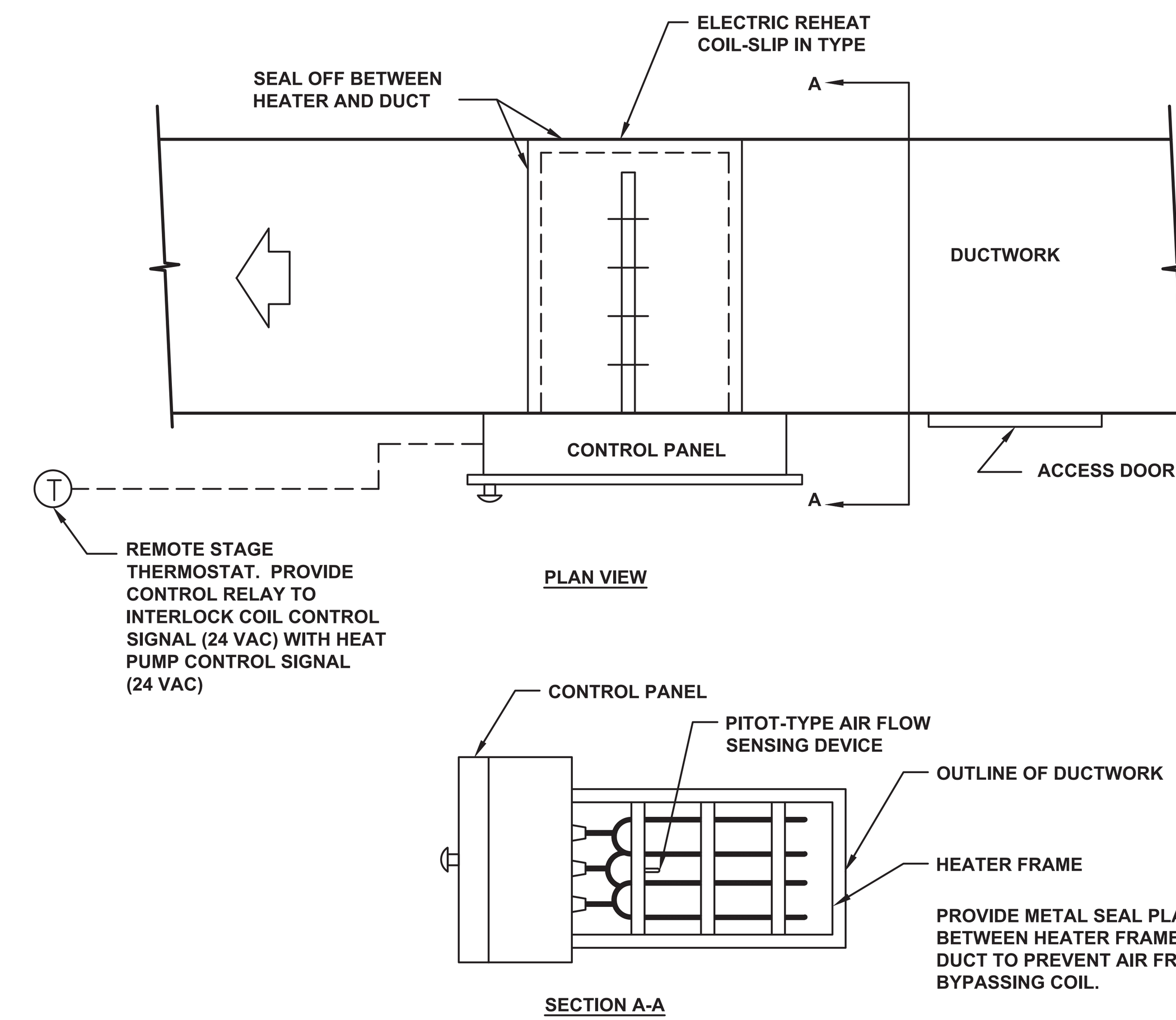
1 FIREWALL PENETRATION DETAIL
N.T.S.



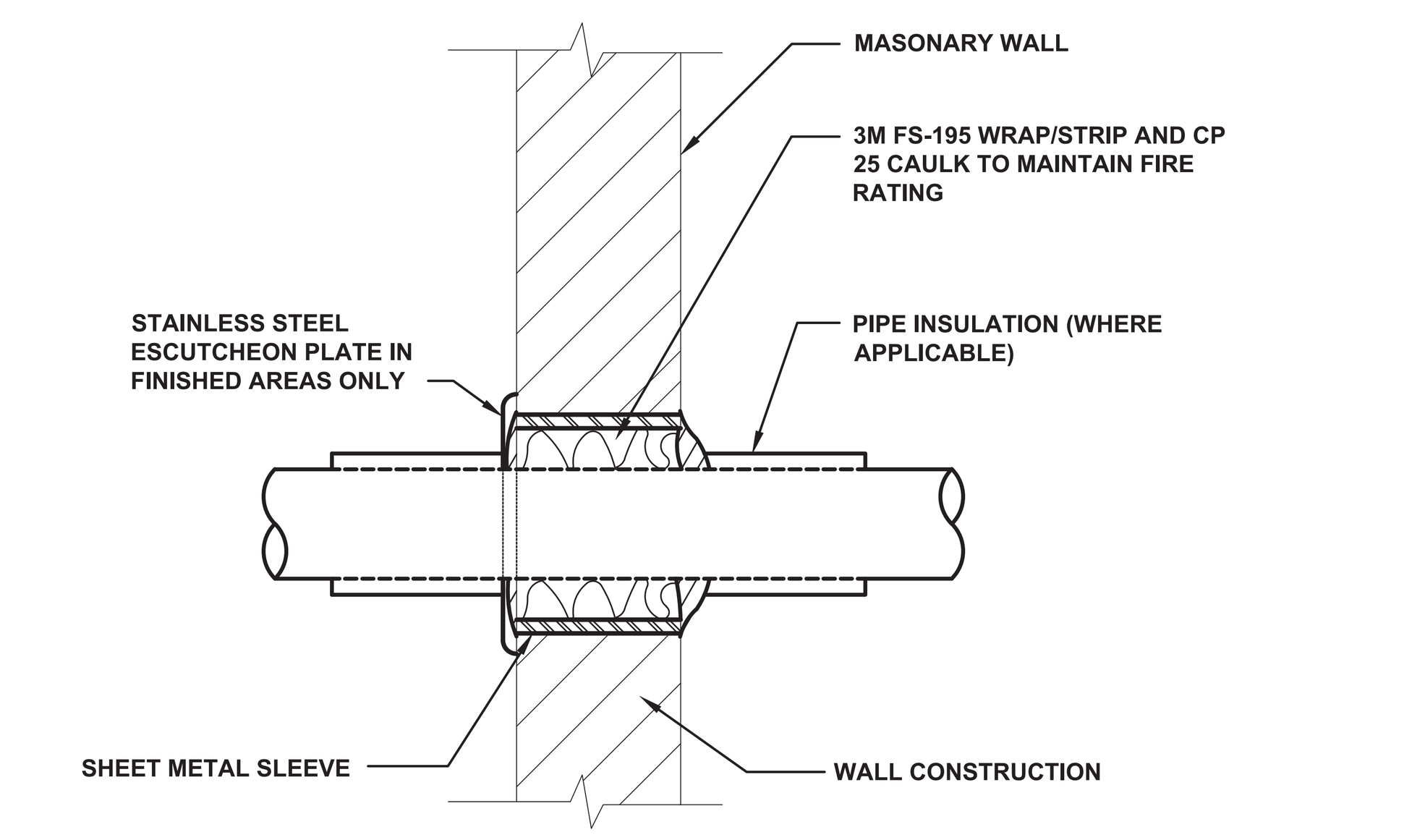
2 PIPING THROUGH ROOF
N.T.S.



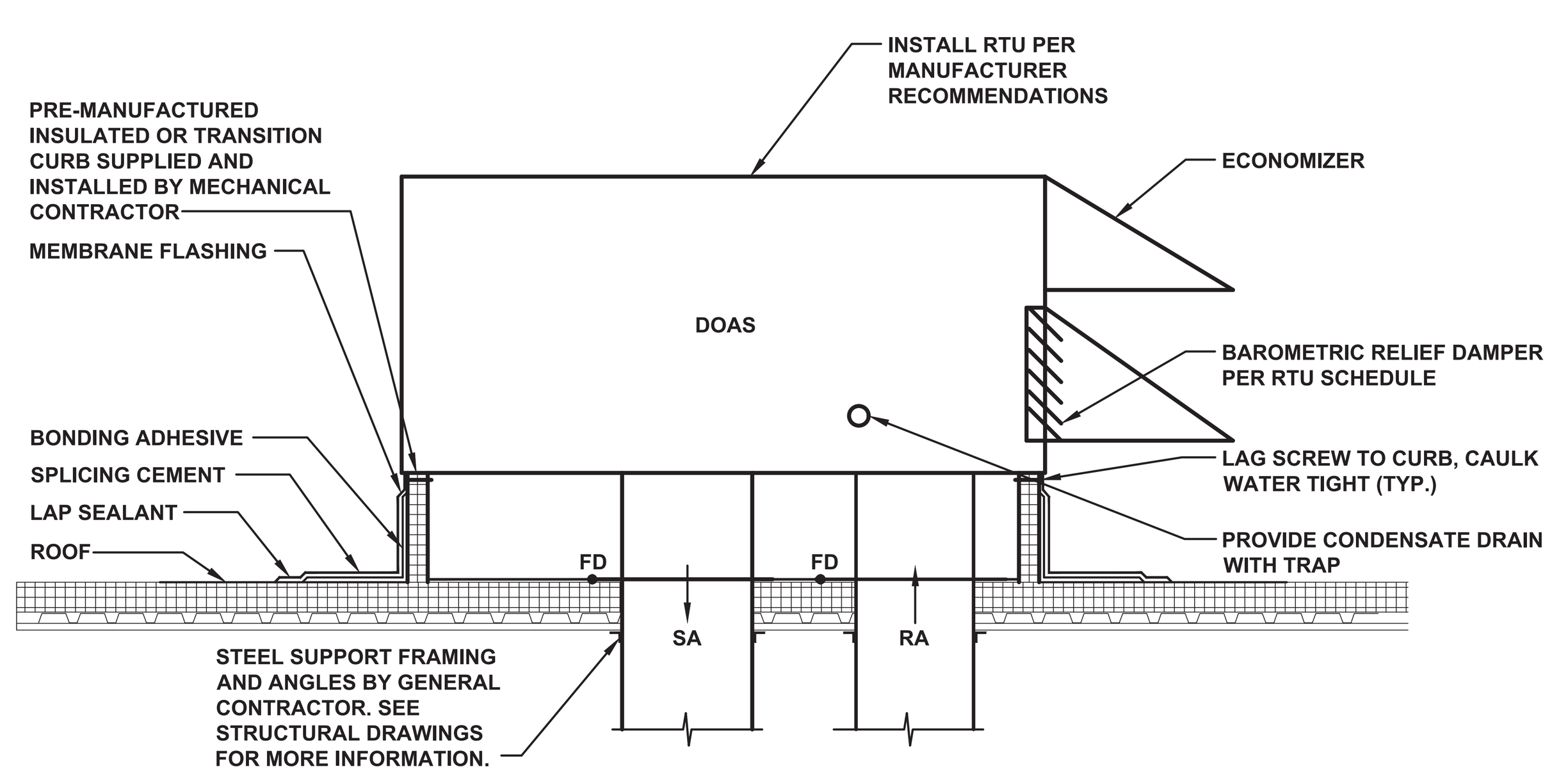
3 DETAIL OF INSULATED PIPE THRU ROOF
N.T.S.



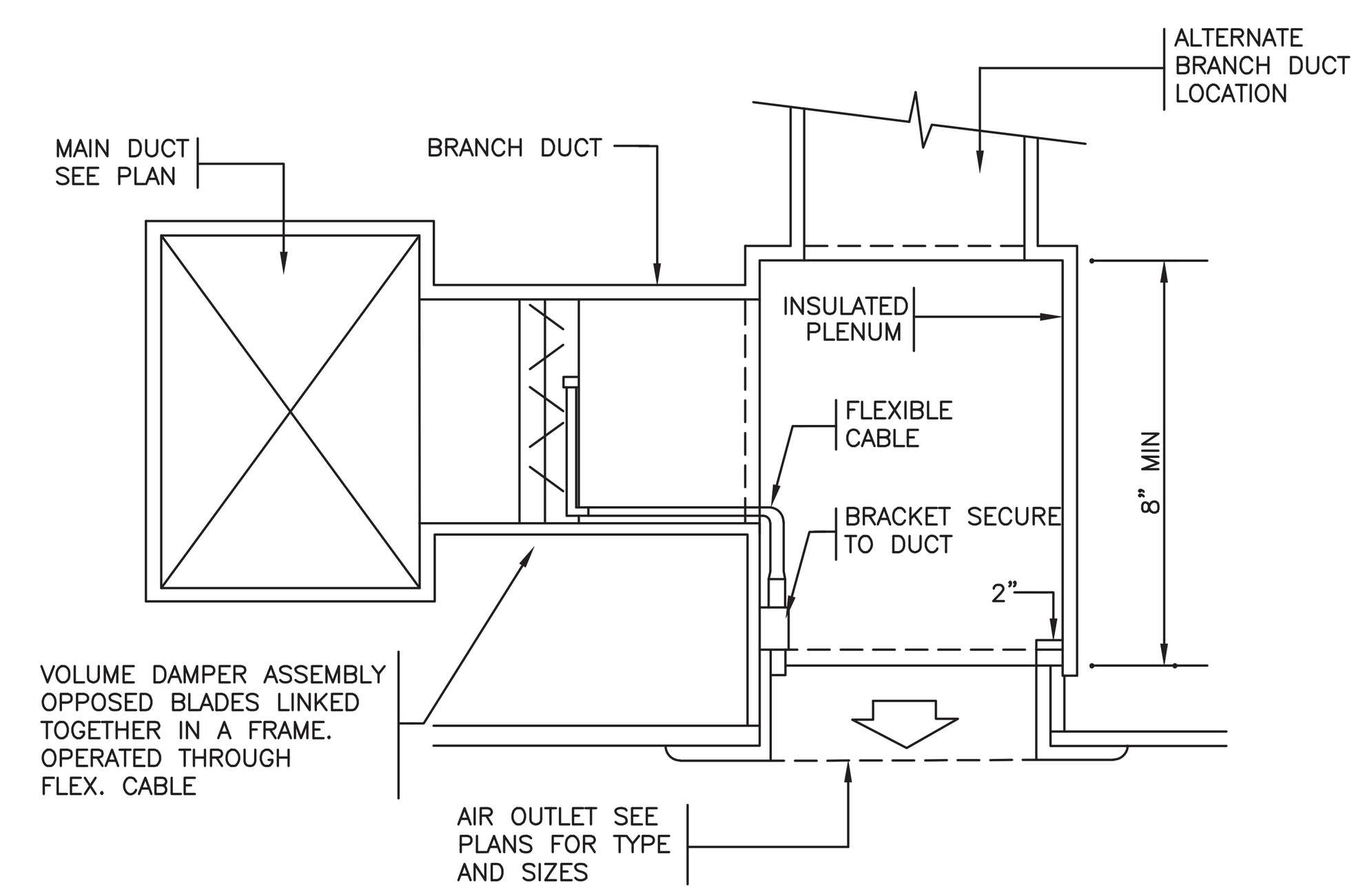
4 ELECTRIC DUCT REHEAT COIL
N.T.S.



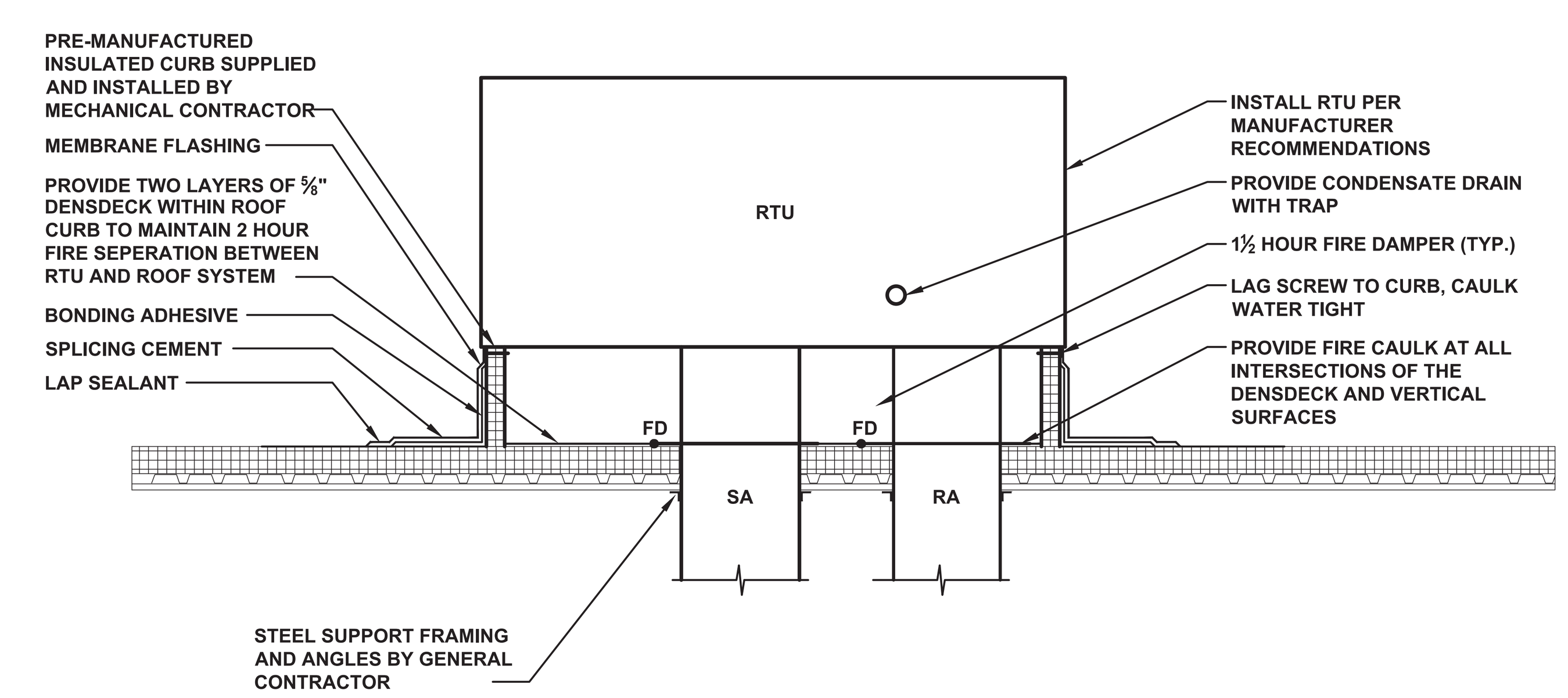
5 RATED WALL PENETRATION DETAIL FOR MASONARY WALL
N.T.S.



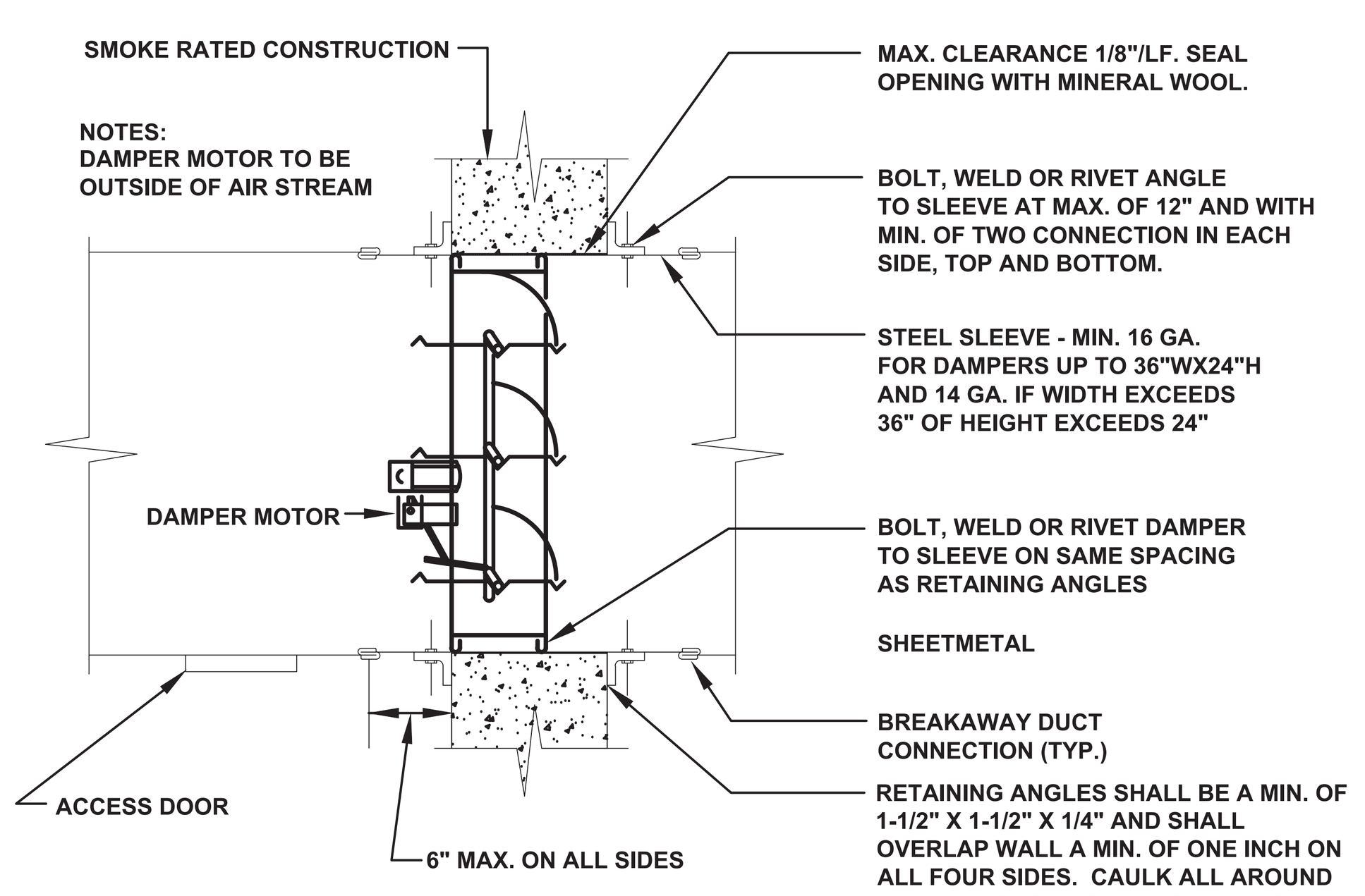
6 TYPICAL ROOFTOP UNIT DETAIL
N.T.S.



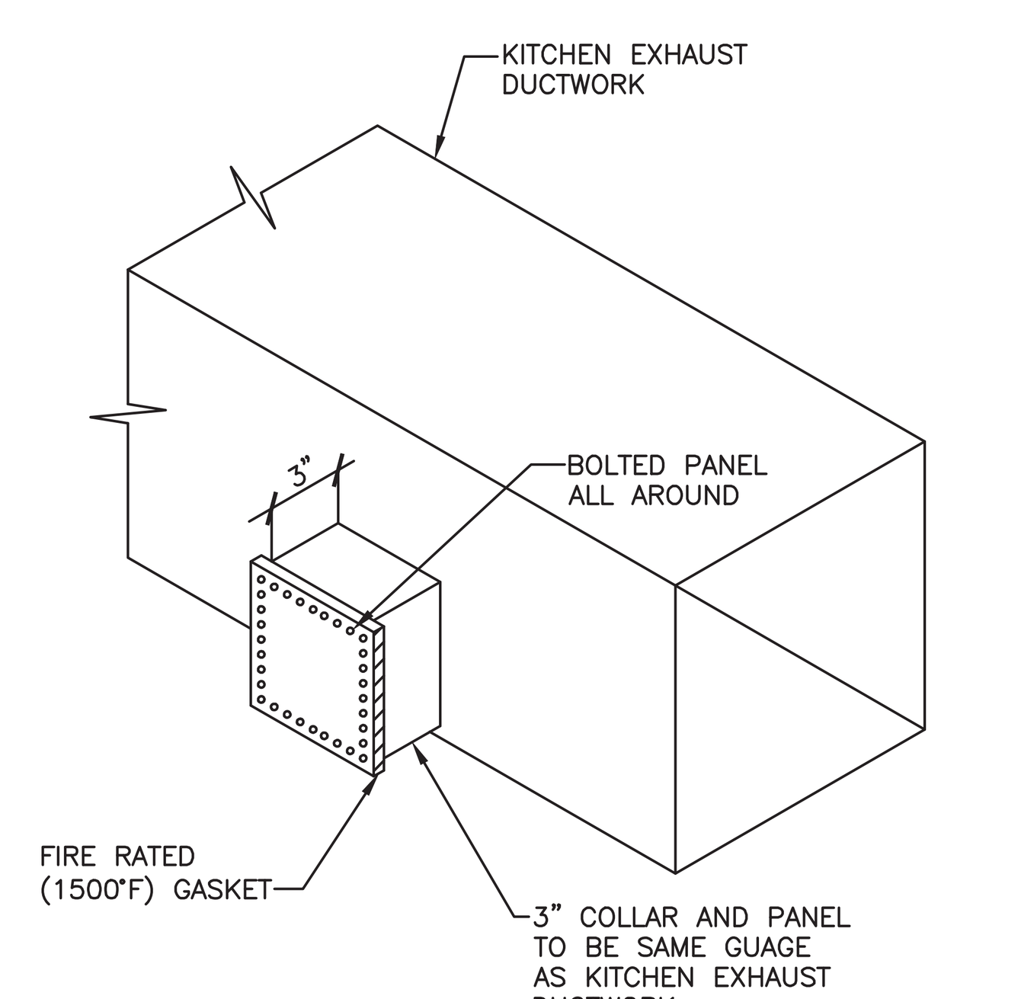
7 LINEAR DIFFUSER DETAIL
N.T.S.



8 GAS FIRED ROOFTOP UNIT DETAIL FOR SCHOOLS
N.T.S.



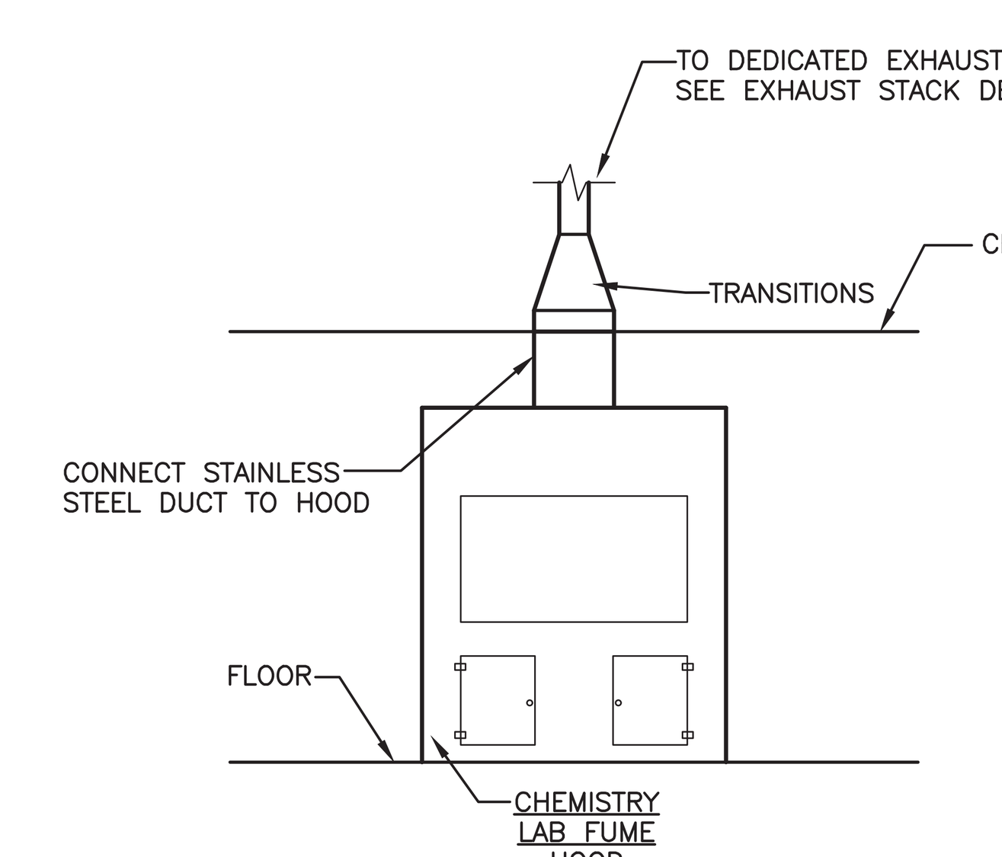
9 SMOKE DAMPER DETAIL
N.T.S.



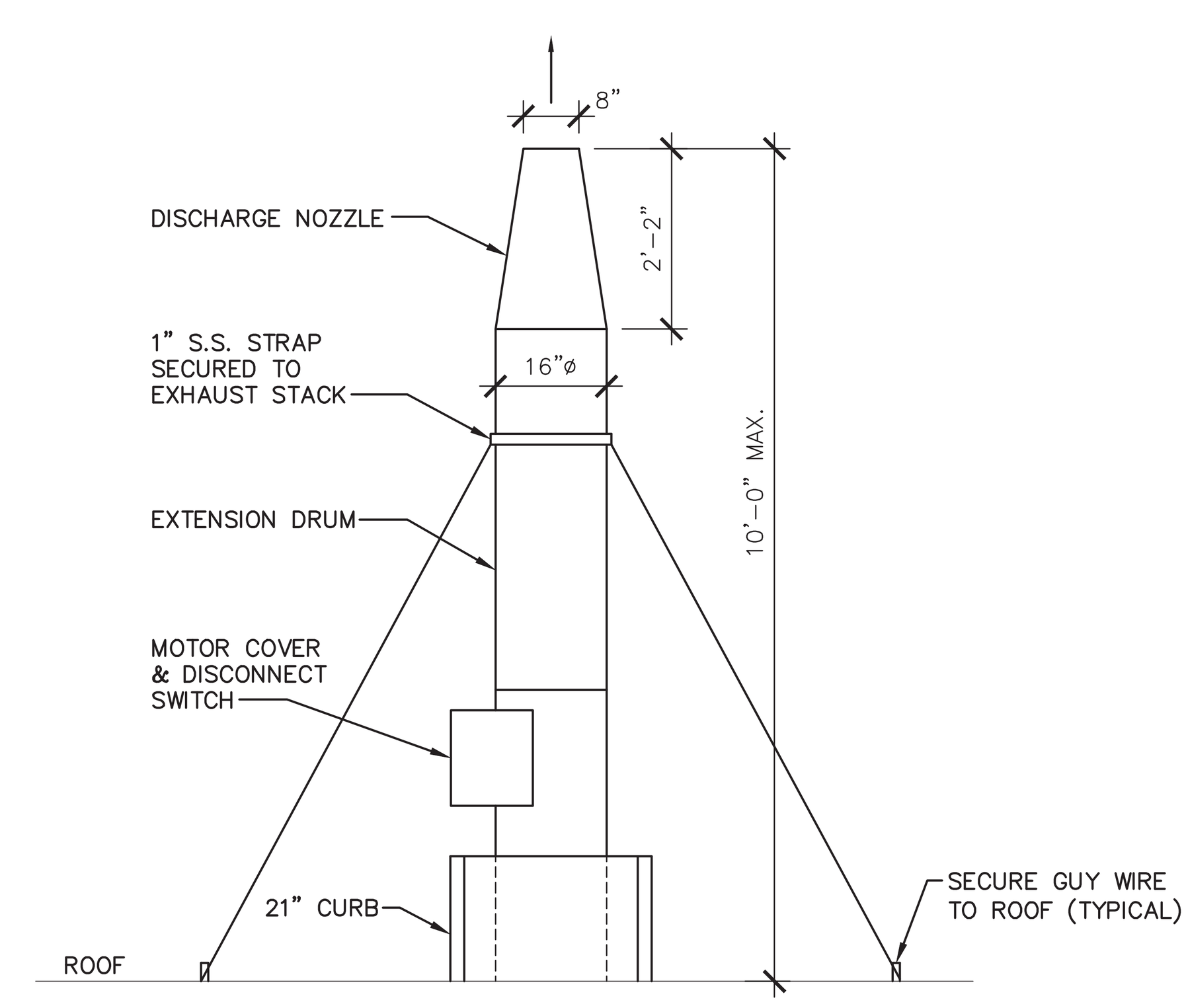
NOTES:

1. CLEAN-OUT DOORS SHALL BE MINIMUM 12" AND PRESSURE RATED, WITH RATED GASKET AND INSTALLED AT EVERY DUCT TURN AND EVERY 20'-0" OF HORIZONTAL RUN.
2. KITCHEN EXHAUST DUCTWORK CONSTRUCTION TO BE 16 GA BLACK IRON STEEL, OR 18 GA STAINLESS STEEL.

10 CLEANOUT ACCESS PANEL FOR KITCHEN EXHAUST DUCTWORK SYSTEMS
N.T.S.



11 CHEMISTRY LAB FUME HOOD
N.T.S.



12 EXHAUST FAN STACK DETAIL
N.T.S.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner
ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer
Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER NO. 069373-1 ISSUED 1992, EXP. 8/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

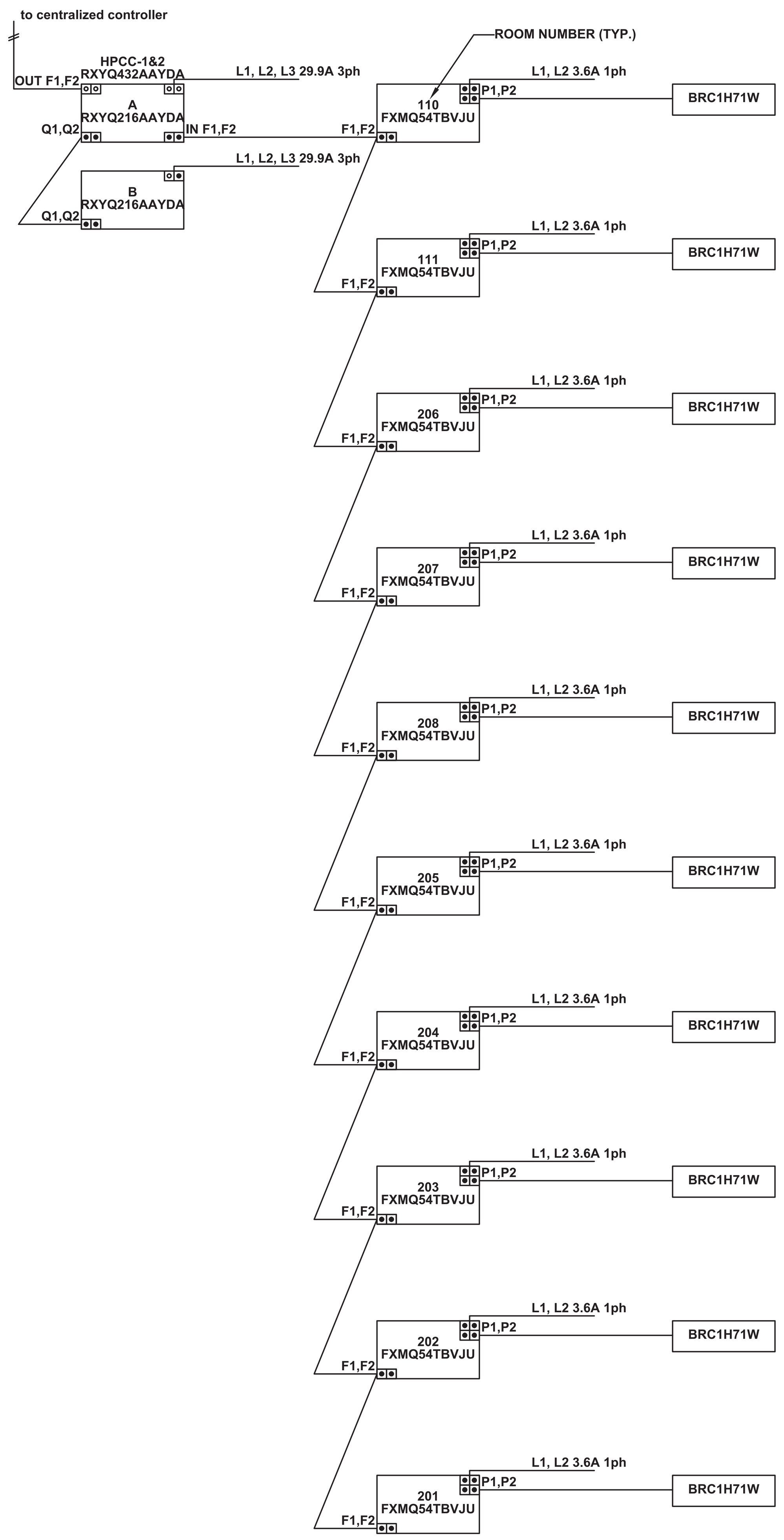
REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-710

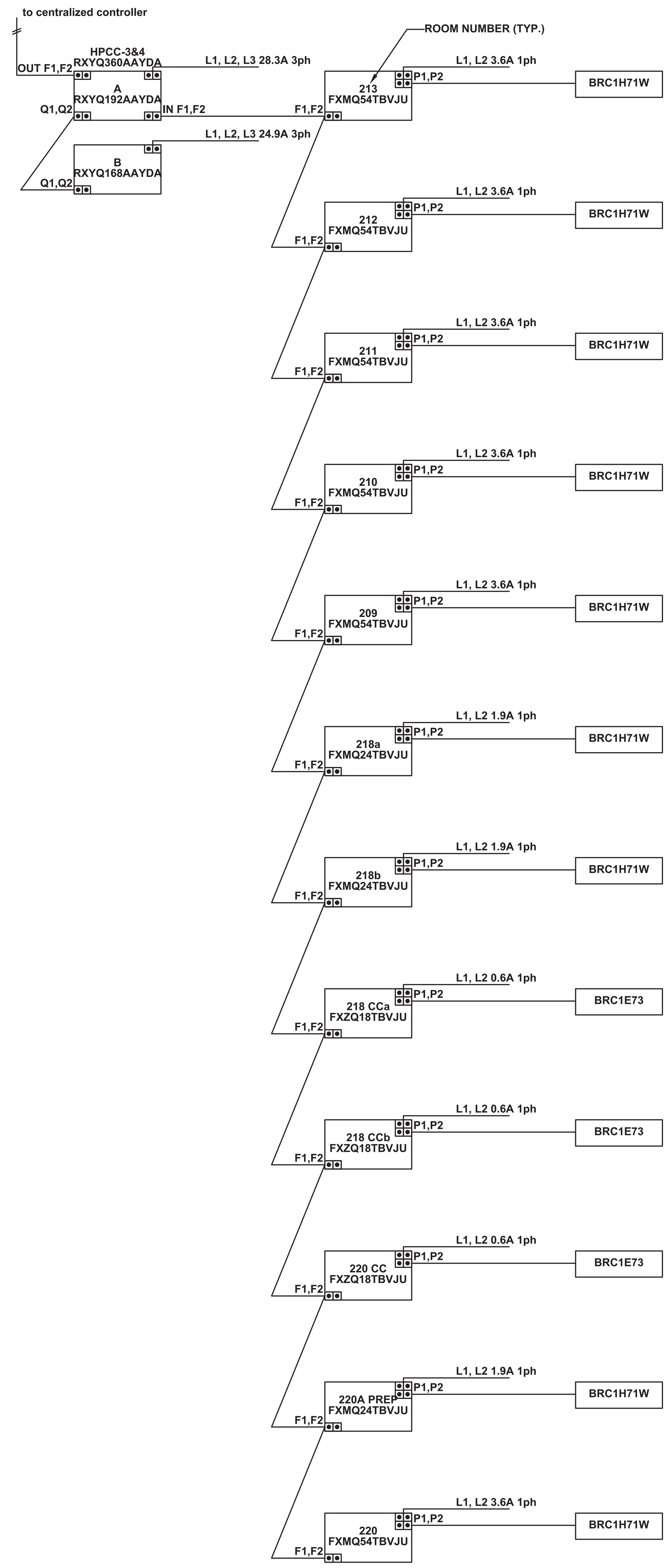
1 CONTROLLER WIRING SCHEMATICS CONTROL GROUP

N.T.S.



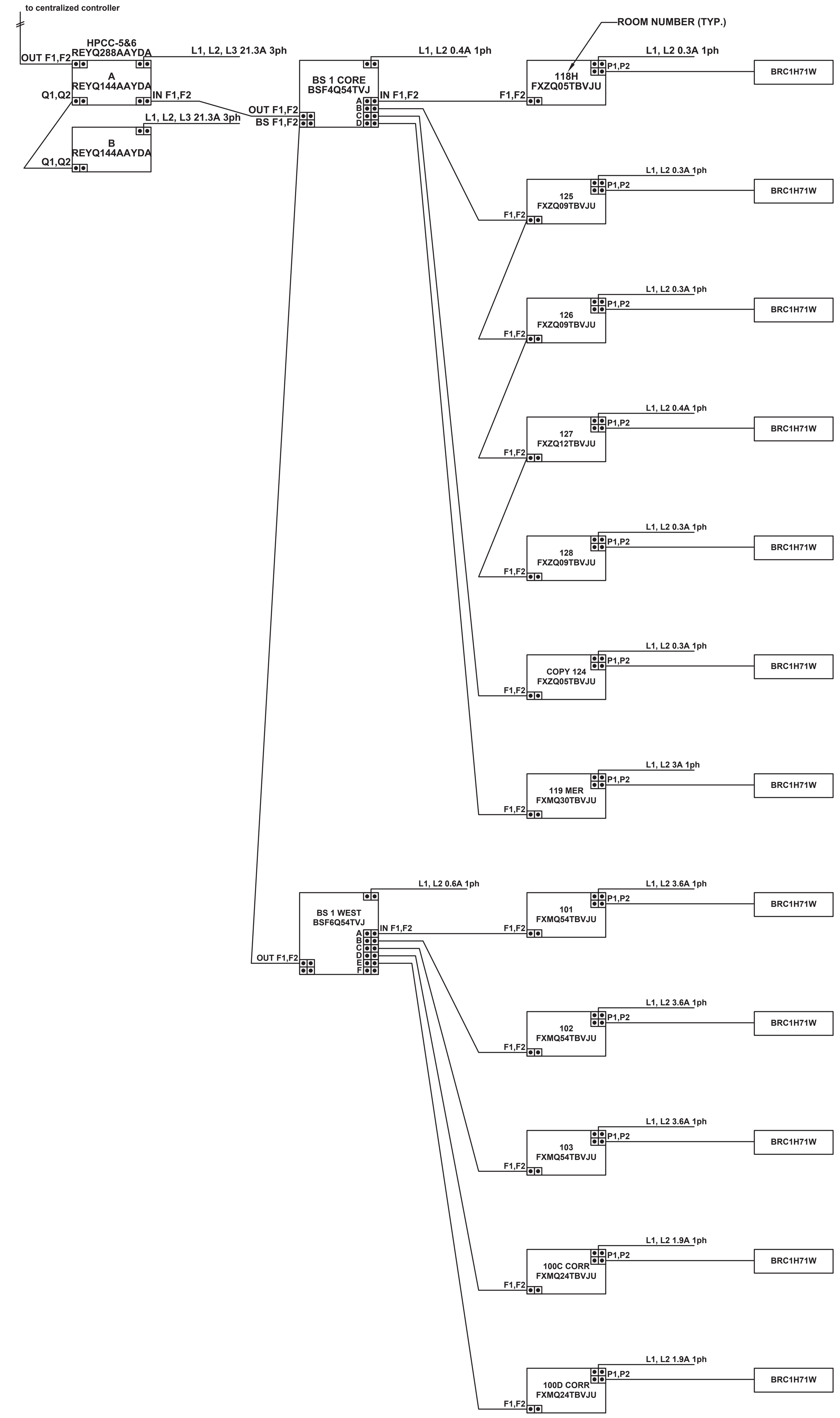
2 WIRING SCHEMATICS HPCC-1&2

N.T.S.



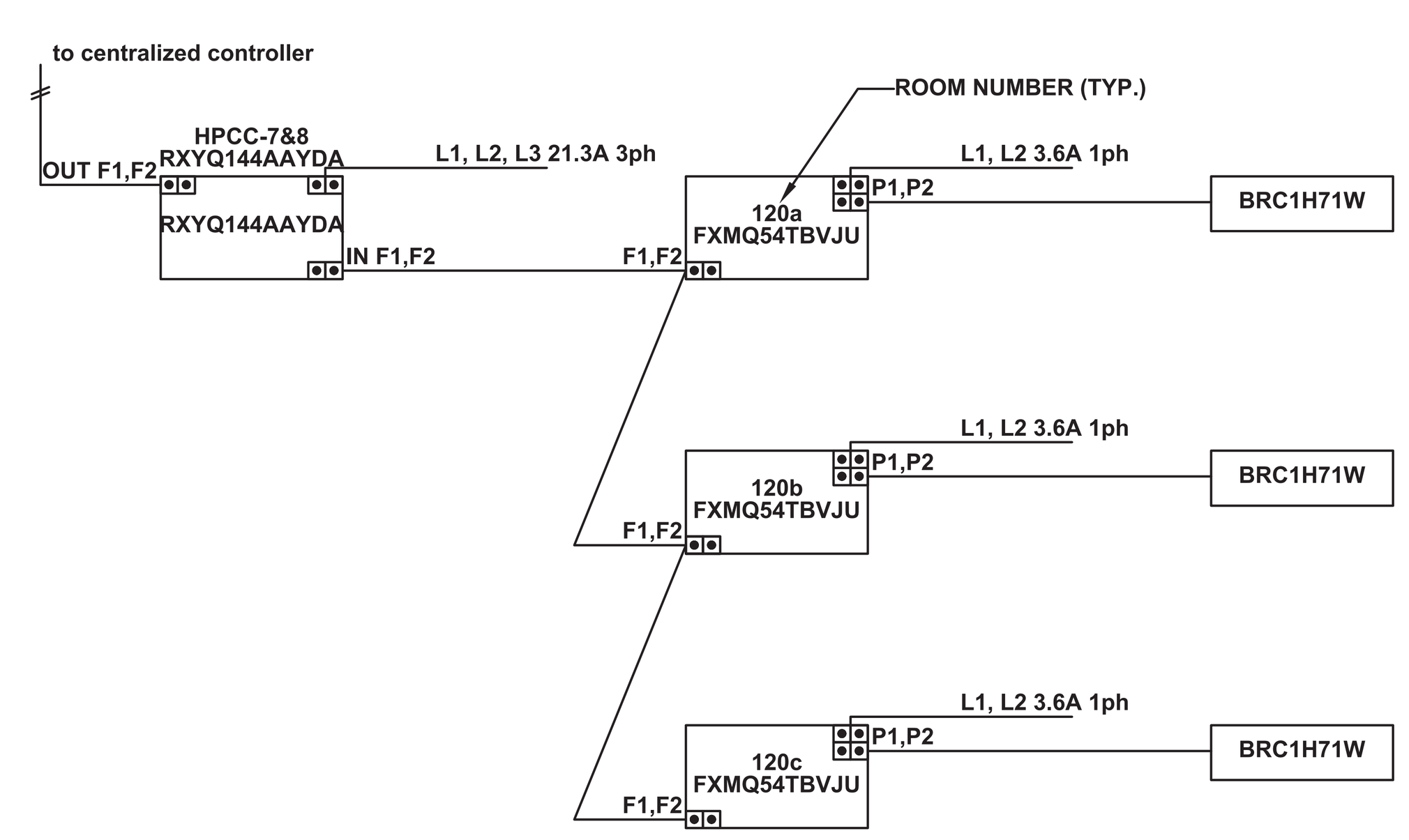
3 WIRING SCHEMATICS HPCC-3&4

N.T.S.



4 WIRING SCHEMATICS HPCC-5&6

N.T.S.



5 WIRING SCHEMATICS HPCC-7&8

N.T.S.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992, EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

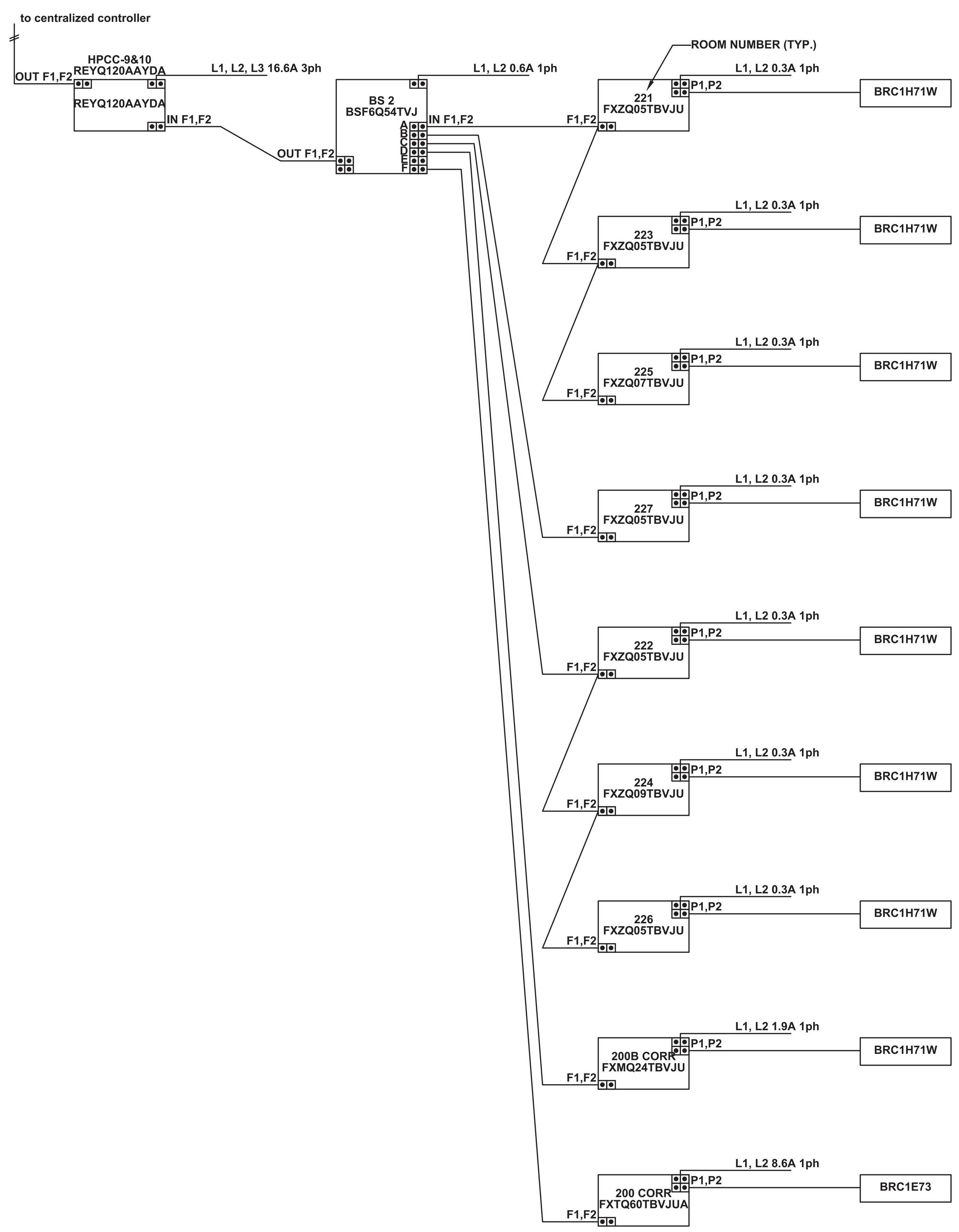
SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

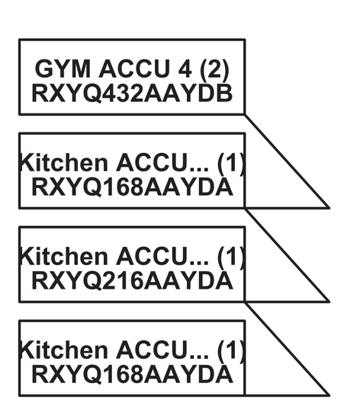
No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-711



1 WIRING SCHEMATICS HPCC-9&10

N.T.S.



2 CONTROLLER WIRING SCHEMATICS CONTROL GROUP

N.T.S.

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

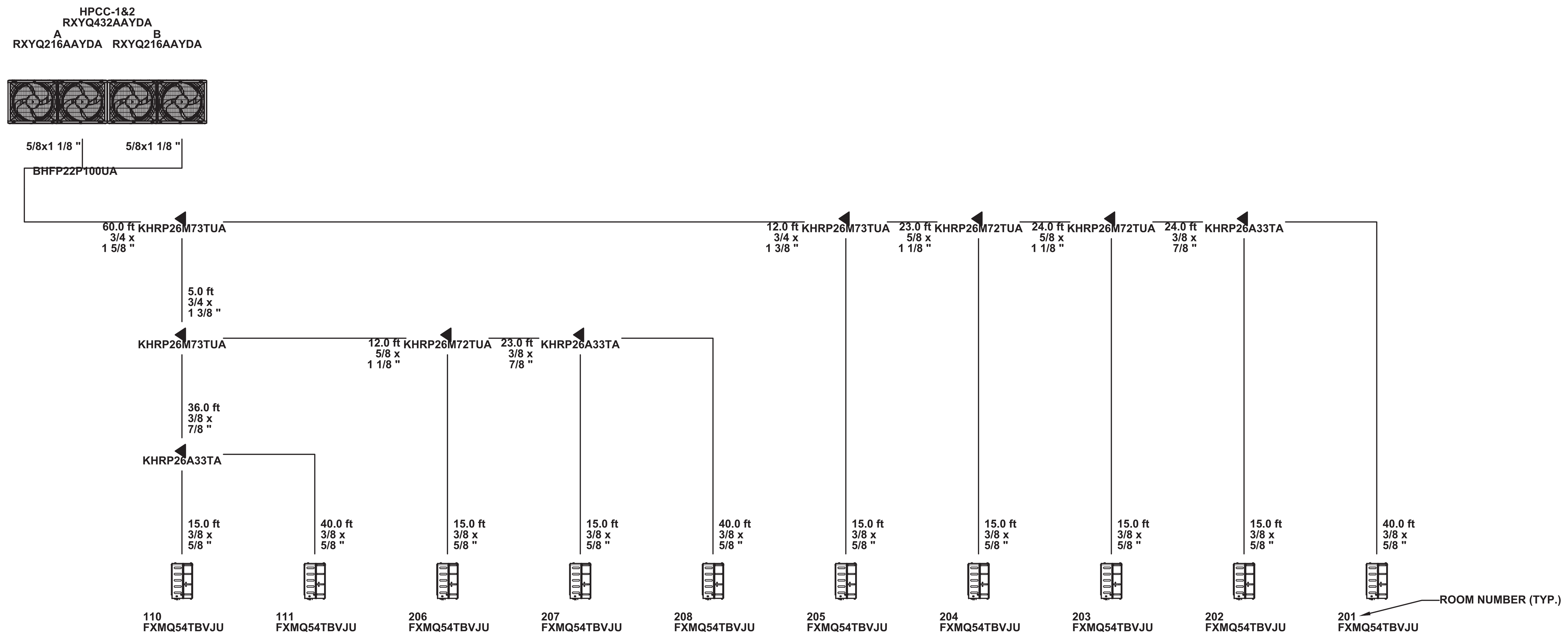
ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

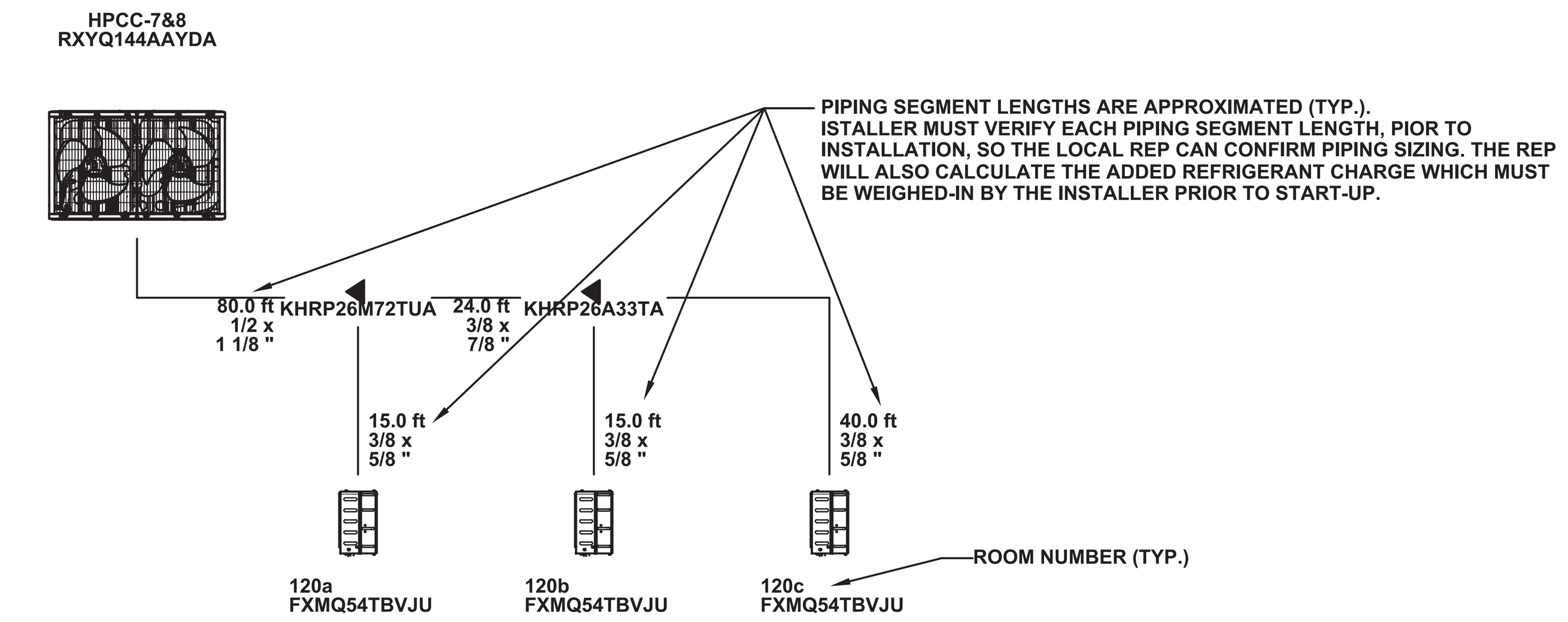
SHEET NAME:
MECHANICAL DETAILS

SHEET NUMBER:
H-712



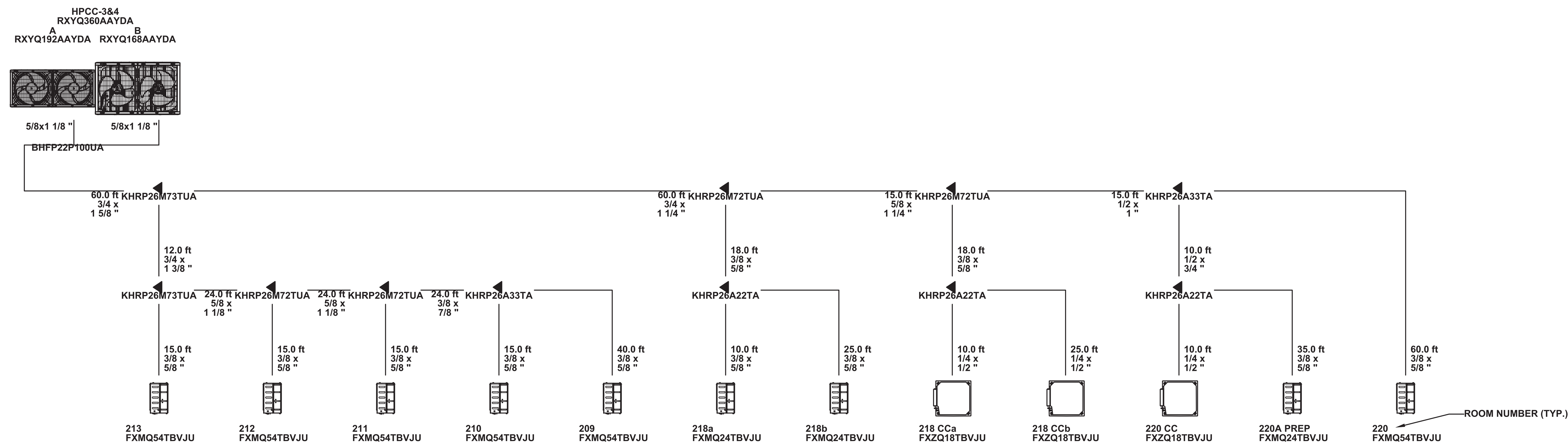
1 PIPING SCHEMATICS HPCC-1&2

N.T.S.



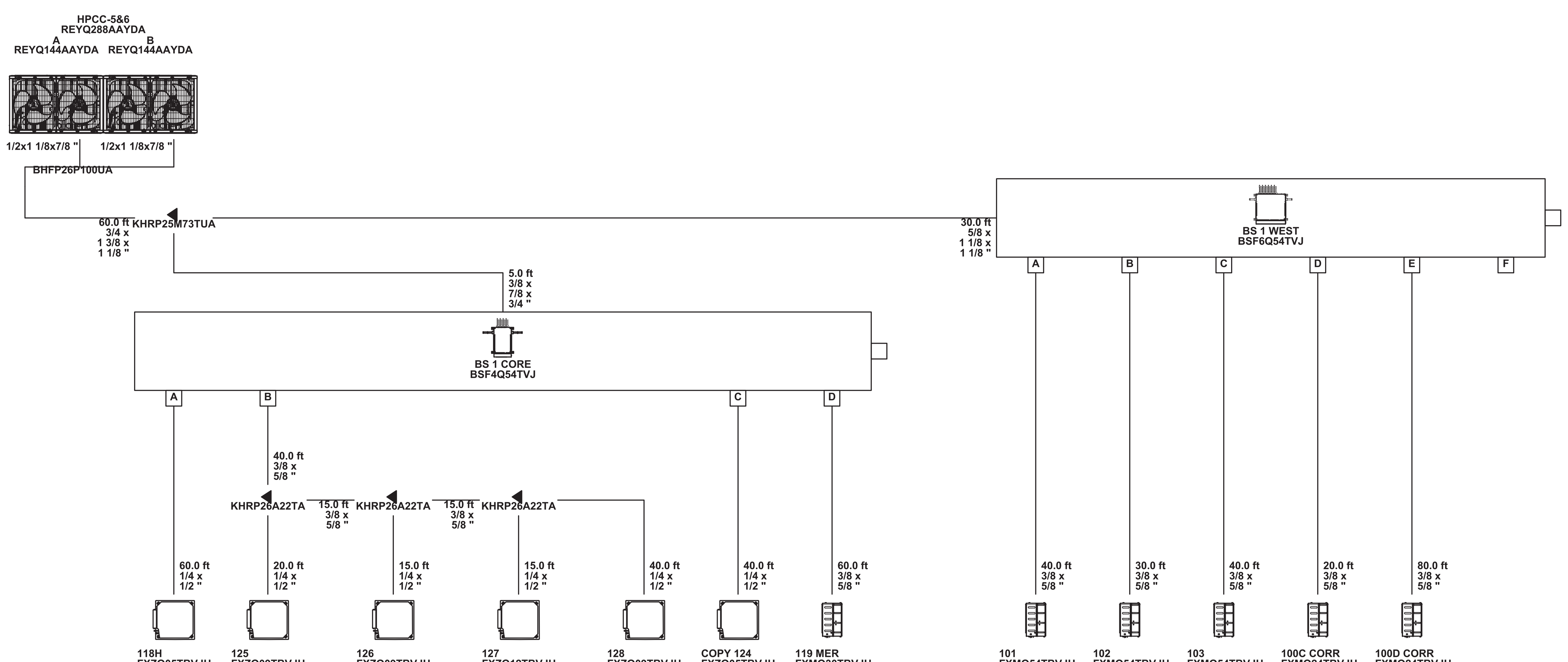
4 PIPING SCHEMATICS HPCC-7&8

N.T.S.



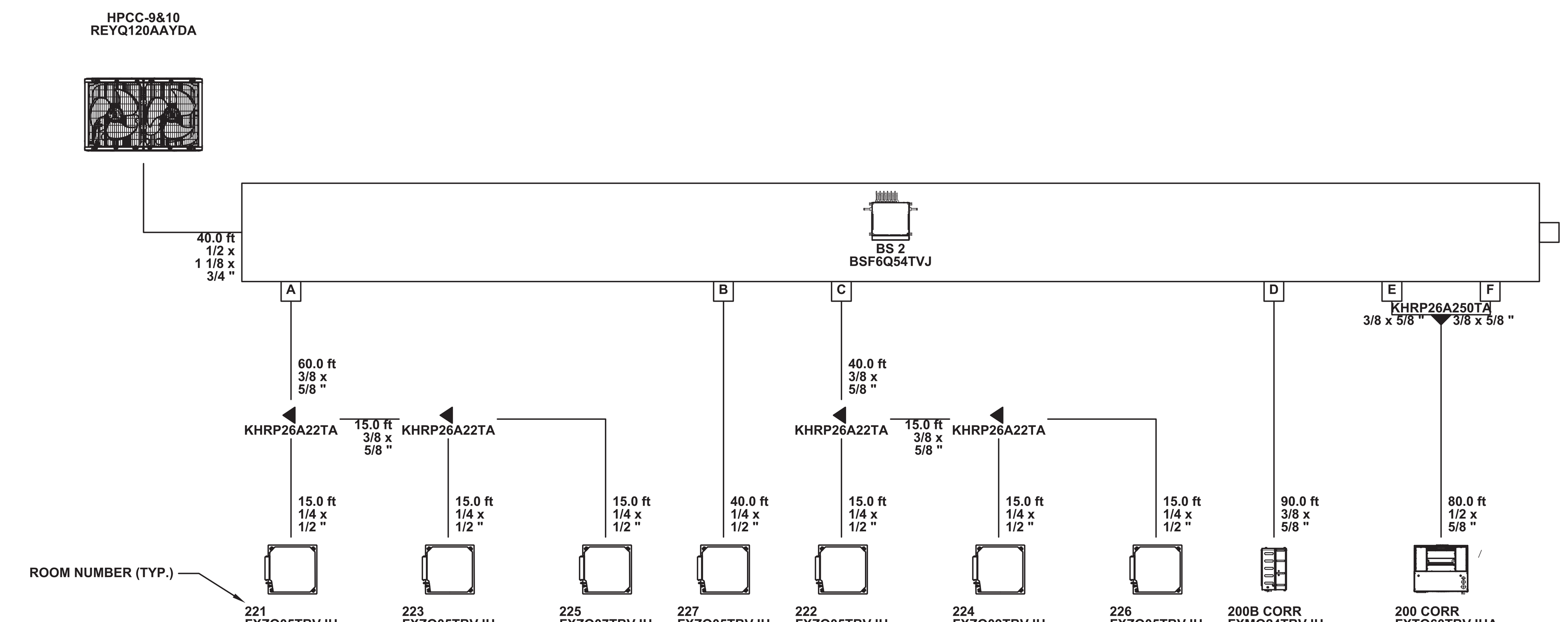
2 PIPING SCHEMATICS HPCC-3&4

N.T.S.



3 PIPING SCHEMATICS HPCC-5&6

N.T.S.



5 PIPING SCHEMATICS HPCC-9&10

N.T.S.

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME:
MECHANICAL DETAILS

SHEET NUMBER:
H-713

ARCHITECT

ksqdesign

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

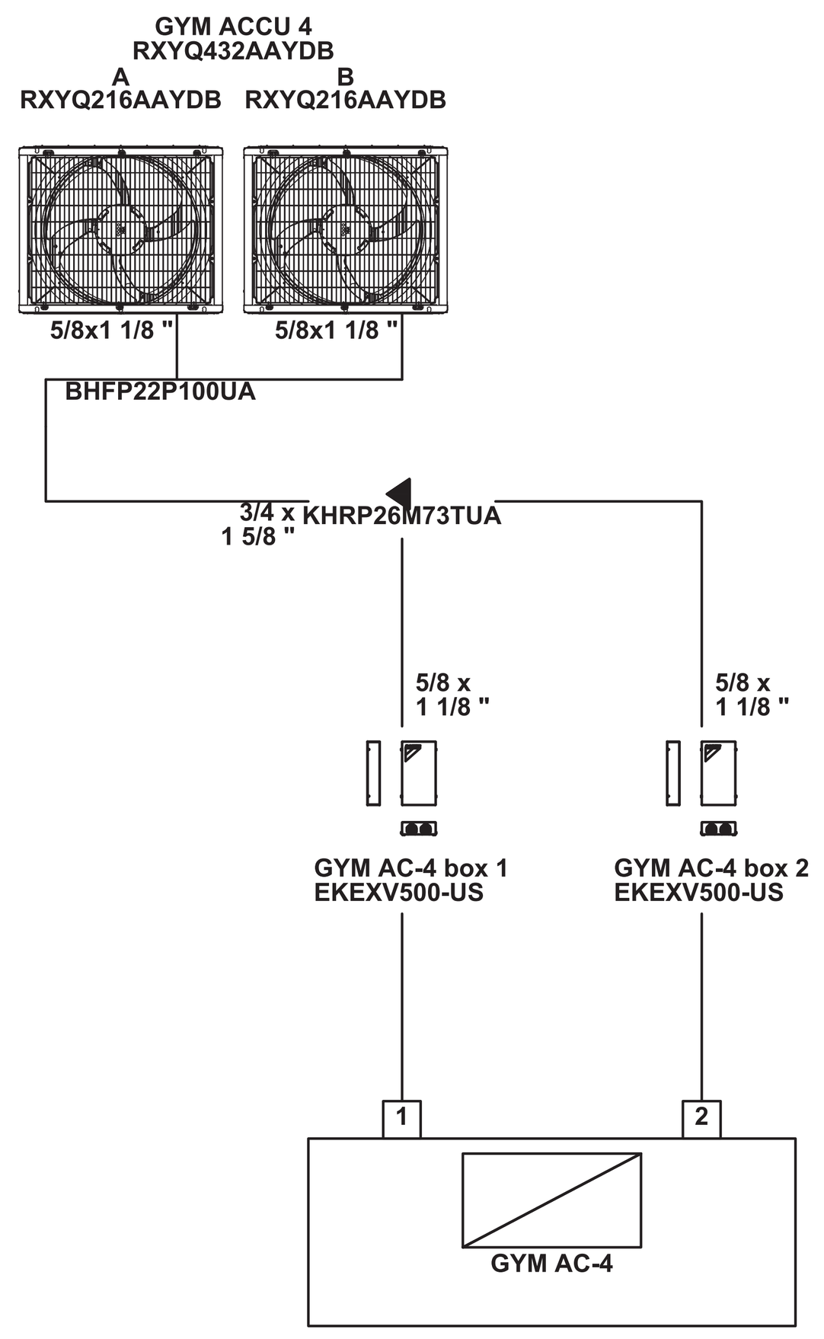
GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

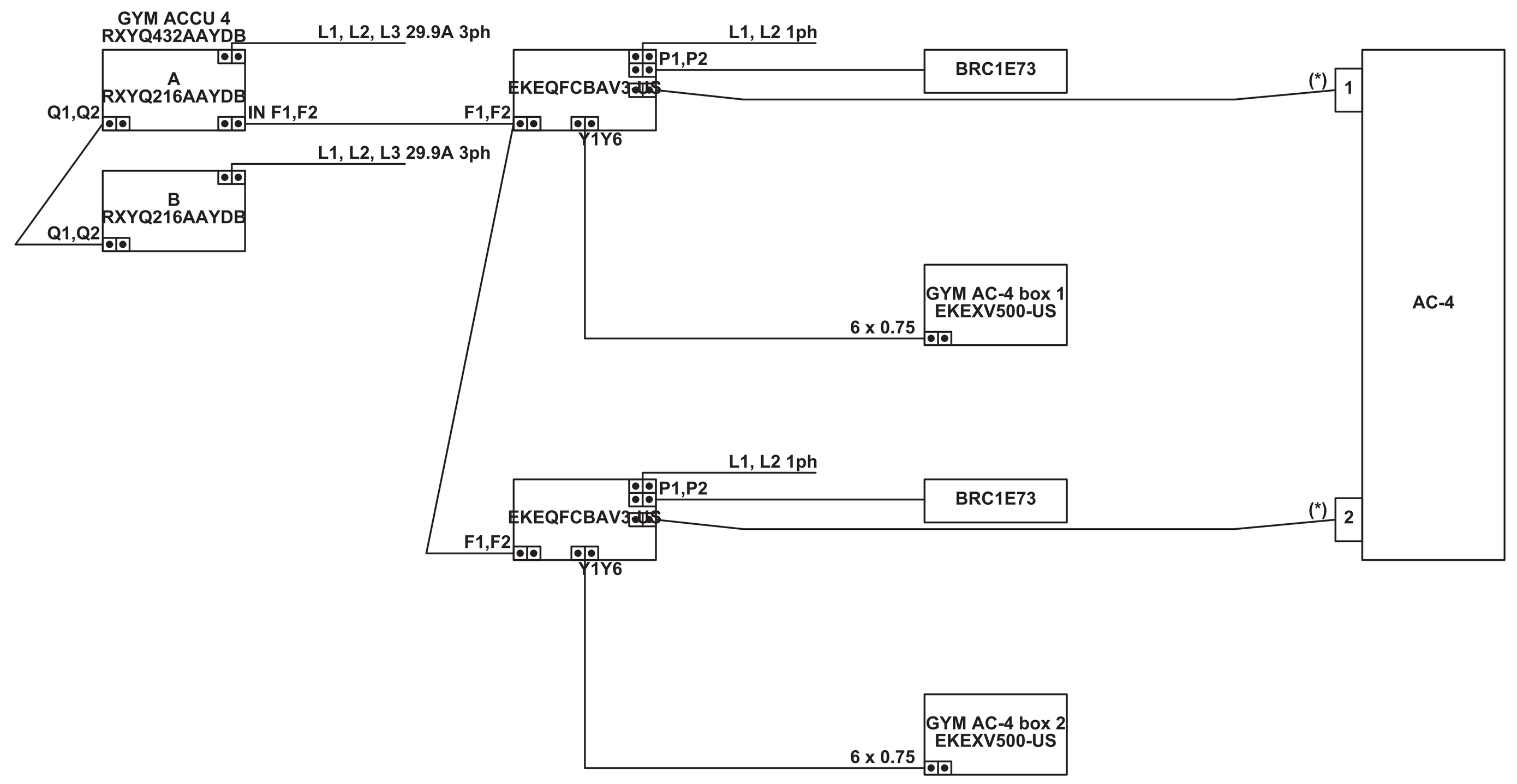
ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

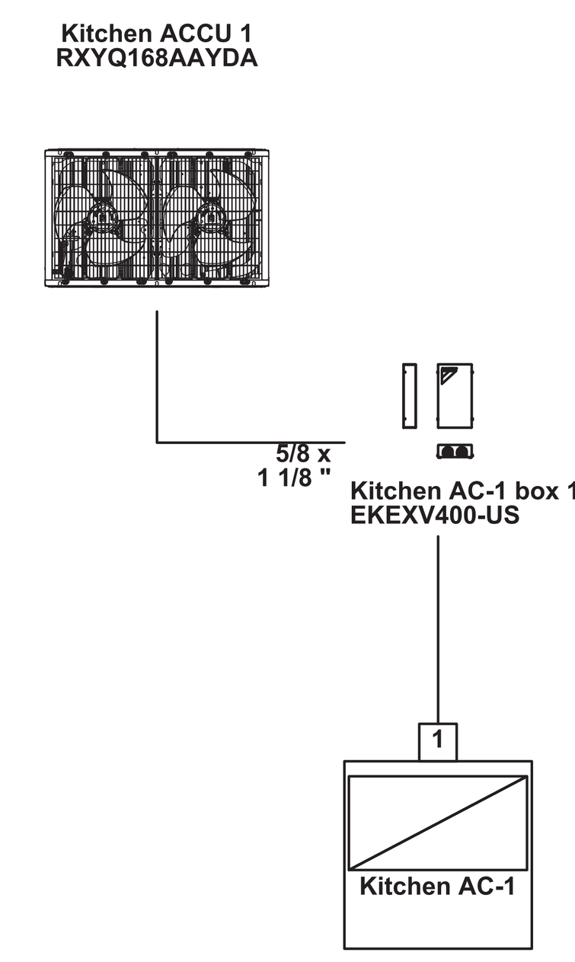
ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com



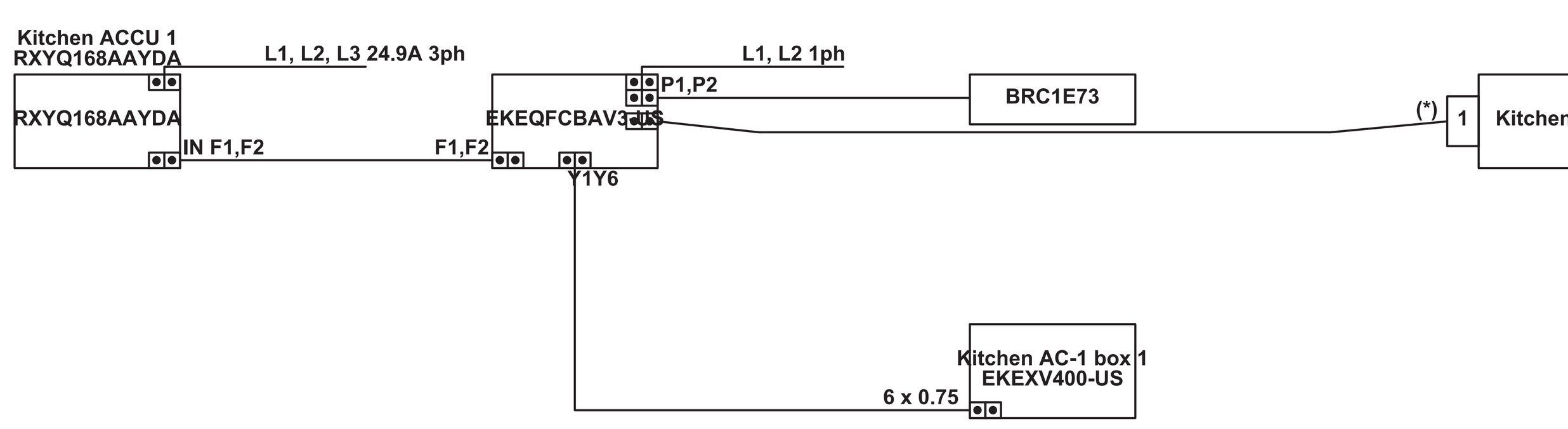
1 **PIPING SCHEMATICS GYM ACCU-4**
N.T.S.



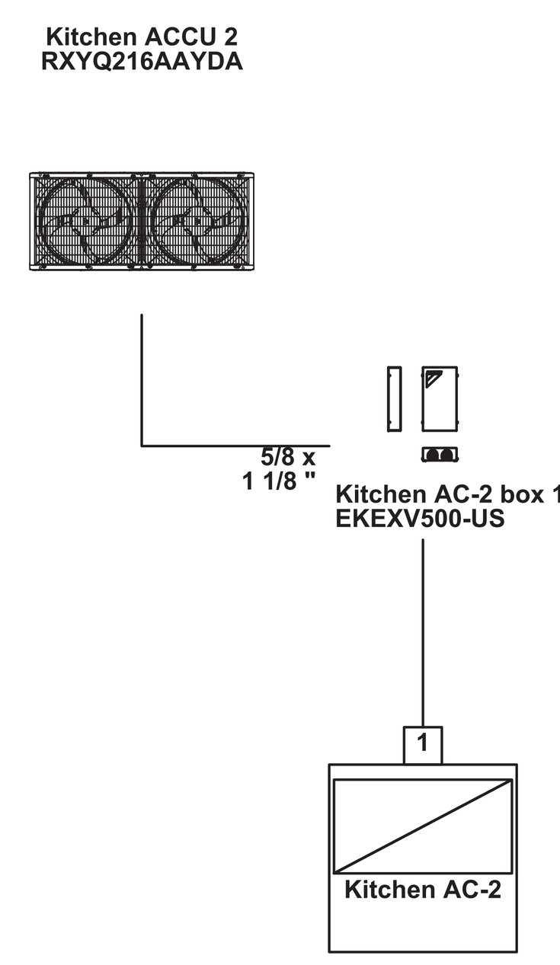
2 **WIRING SCHEMATICS GYM ACCU-4**
N.T.S.



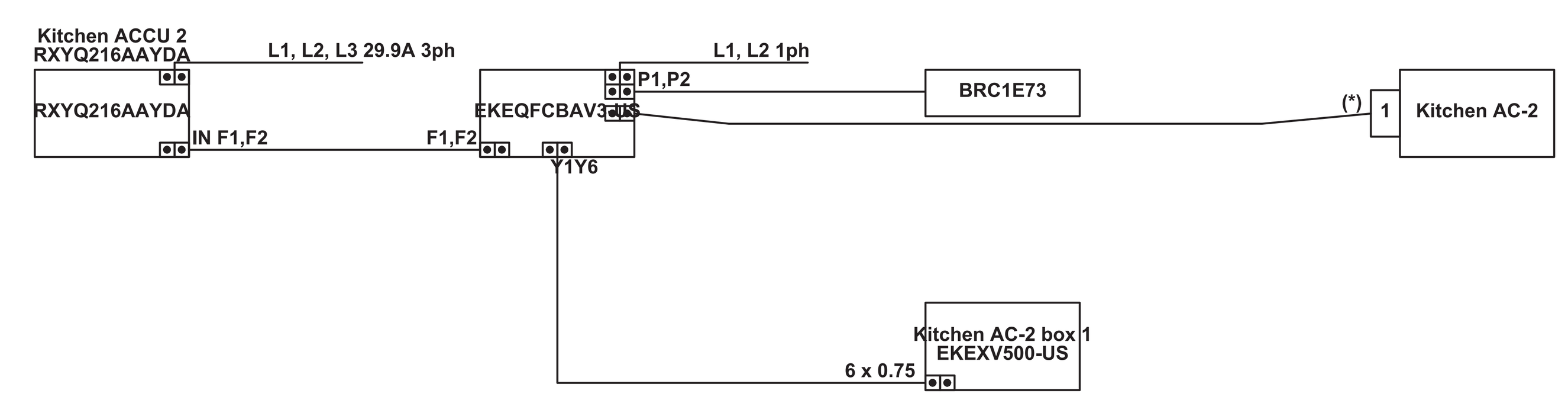
3 **PIPING SCHEMATICS KITCHEN ACCU-1**
N.T.S.



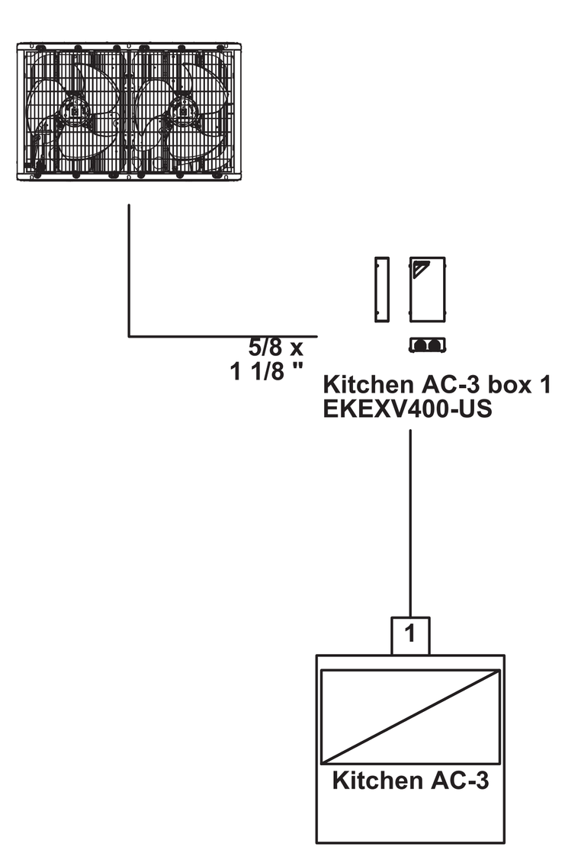
4 **WIRING SCHEMATICS KITCHEN ACCU-1**
N.T.S.



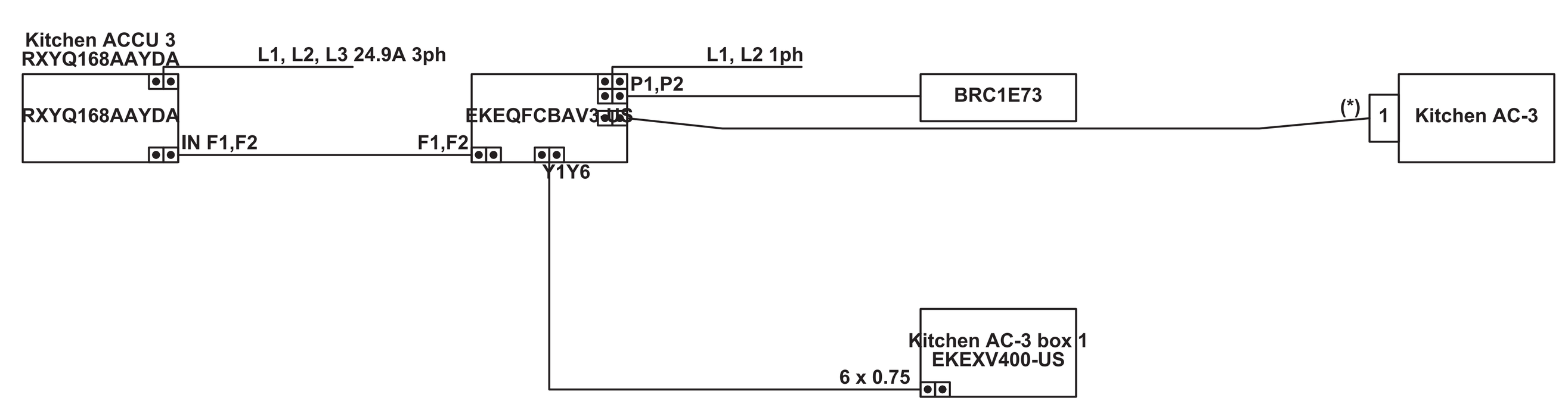
5 **PIPING SCHEMATICS KITCHEN ACCU-2**
N.T.S.



6 **WIRING SCHEMATICS KITCHEN ACCU-2**
N.T.S.

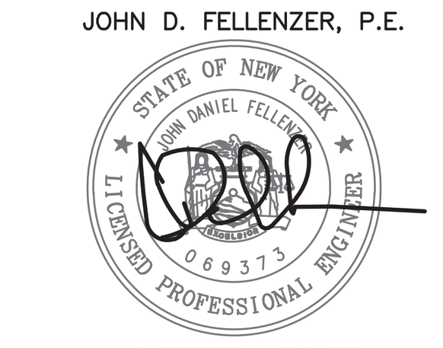


7 **PIPING SCHEMATICS KITCHEN ACCU-3**
N.T.S.



8 **WIRING SCHEMATICS KITCHEN ACCU-3**
N.T.S.

JOHN D. FELLENZER, P.E.



NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992, EXP. 6/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE
DATE: 6/30/25
SCALE: AS SHOWN
SHEET NAME: MECHANICAL DETAILS
SHEET NUMBER: H-714

AIR HANDLING UNIT SCHEDULE

Tag	Basis of Design	ASSOCATED OUTDOOR UNIT	Supply Air CFM	Outdoor Air CFM	Length (in)	External Dimensions Height (in)	External Dimensions Width (in)	Weight (lb)	Panel Filter Type	Filter Qty - Sizes	Depth (in)	Mean APD (inH2O)	EHC-1 Electric Heat Voltage (V)	Control Type	Disconnect	Control Signal	kW	Air Temperature Rise °F
Kitchen AC-1	CAH012GDAM	ACCU-1	5060	574	66	46	56	1564	Pre Pleat (MERV 13)	4 - 20.00 x 24.00	2	0.63	-	-	-	-	-	-
Kitchen AC-2	CAH014GDAM	ACCU-2	6020	600	74	54	56	1828	Pre Pleat (MERV 13)	4 - 24.00 x 24.00	2	0.63	-	-	-	-	-	-
Kitchen AC-3	CAH012GDAM	ACCU-3	5220	520	66	46	56	1564	Pre Pleat (MERV 13)	4 - 20.00 x 24.00	2	0.64	-	-	-	-	-	-
Gym AC-4	CAH028GDGM	ACCU-4	12620	2236	196	90" plus 6" baserail	70" With baserail feet	5593	Pre Pleat (MERV 13)	9 - 20.00 x 20.00 3 - 24.00 x 20.00	2	0.62	480	Vernier SCR	Y	0 - 10V	80	20.2

Tag	DX Coil Total Capacity (Btu/hr)	Sensible Capacity (Btu/hr)	EAT-DB °F	EAT-WB °F	LAT-DB °F	LAT-WB °F	Face Velocity (ft/min)	A.P.D. (inH2O)	Sat. Suct. Temp. °F	Rows	FPI	HP Heating Capacity (Btu/hr)	Heating EAT °F	Heating LAT °F	AIR FLOW (CFM) FOR 90°F LAT	Daikin ACCU	Supply Fan – Fan Type	Class	Airflow (CFM)	RPM	BHP	E.S.P. (inH2O)	T.S.P. (inH2O)	Motor Voltage	Power (HP)	RPM	FLA	Control
Kitchen AC-1	168231	122347	77	64	54.9	52.7	471	0.61	43	6	7	110,221	63	83.1	3793	RXYQ168AAYDA	FC15	2	5060	1125	3.69	1.5	2.68	460/60/3	5	1750	6.6	Danfoss Soft Start VFD with Disconnect Factory Installed
Kitchen AC-2	221109	156966	77	64	53.2	51.3	480	0.76	43	8	6	138,325	63	84.2	4798	RXYQ216AAYDA	FC15	2	6020	1171	4.85	1.25	2.83	460/60/3	7.5	1750	9.8	Danfoss Soft Start VFD with Disconnect Factory Installed
Kitchen AC-3	171664	125203	77	64	55.1	52.8	486	0.64	43	6	7	110,211	63	82.5	3798	RXYQ168AAYDA	FC15	2	5220	1135	3.89	1.25	2.71	460/60/3	5	1750	6.6	Danfoss Soft Start VFD with Disconnect Factory Installed
Gym AC-4	465408	328250	76.7	63.8	53.8	51.9	475	0.67	43	6	8	282,700	60.0	80.6	-	RXYQ432AAYDB	DDPL 30-12BL	2	12620	1259	10.7	2	3.47	460/60/3	15	1160	20.5	Danfoss Soft Start VFD with Disconnect Factory Installed

NOTE:
1. GYM AC-4 ELECTRIC HEATING COIL TO BE DUCT MOUNTED - DUCT SIZE IS 58x30 - MANUFACTURE BY INDEECO

VARIABLE REFRIGERANT VOLUME - INDOOR UNIT SCHEDULE

TAG	QTY	BASIS OF DESIGN MODEL (DAIKIN)	NOMINAL TONNAGE	TYPE	SUPPLY FAN High Speed AIR FLOW RATE cfm	MIN. OUTSDIE AIR FLOW CFM	COOLING CAPACITY TOTAL BTU/h	SENSIBLE BTU/h	ENTERING AIR °F DB	ENTERING AIR °F WB	HEATING CAPACITY TOTAL BTU/h	ENTERING AIR °Fdb	ELECTRICAL POWER SUPPLY Voltage - Phase	Min Circuit Amps MCA	Max Overcurrent Protection MOP	DIMENSIONS WxHxD inch	WEIGHT Net lbs
(FCU-2) 218a, 218b, 220a Prep, 100c Corr, 100d Corr, 200b Corr	6	FXMQ24TBVJU	2.0	HSP Concealed Ducted Unit (High Static)	742	130	22,211	15,242	76.5	64.4	29,173	64.0	208-230V 1ph	1.9	15.0	39.4 x 9.6 x 31.5	81.6
(FCU-2) 119 MER	1	FXMQ30TBVJU	2.5	HSP Concealed Ducted Unit (High Static)	1,095	130	27,918	20,179	76.5	64.4	36,759	64.0	208-230V 1ph	3.0	15.0	55.1 x 9.6 x 31.5	101.4
FCU-1	22	FXMQ54TBVJU	4.5	HSP Concealed Ducted Unit (High Static)	1,519	336	53,116	37,441	76.5	64.4	68,498	64.0	208-230V 1ph	3.6	15.0	61.0 x 9.6 x 31.5	114.6
FCU-3	1	FXMQ48	3	HSP Concealed Ducted Unit (High Static)	1377	216	44,609	31,104	76.5	64.4	58,571	64	208-230V 1ph	3.6	15	55.1 x 9.6 x 31.5	103.6
CC-1	7	FXZQ05TBVJU	0.5	4-Way Discharge Ceiling Cassette Vista (2' x 2') white	300	40	5,209	4,275	76.5	64.4	7,165	64.0	208-230V 1ph	0.3	15.0	22.6 x 10.2 x 22.6	35.3
CC-2 (FC-225)	1	FXZQ07TBVJU	0.6	4-Way Discharge Ceiling Cassette Vista (2' x 2') white	307	40	6,915	5,200	76.5	64.4	9,213	64.0	208-230V 1ph	0.3	15.0	22.6 x 10.2 x 22.6	35.3
CC-3	4	FXZQ09TBVJU	0.8	4-Way Discharge Ceiling Cassette Vista (2' x 2') white	317	40	8,666	5,937	76.5	64.4	11,601	64.0	208-230V 1ph	0.3	15.0	22.6 x 10.2 x 22.6	35.3
CC-4 (FC-127)	1	FXZQ12TBVJU	1.0	4-Way Discharge Ceiling Cassette Vista (2' x 2') white	353	40	11,055	7,247	76.5	64.4	14,672	64.0	208-230V 1ph	0.4	15.0	22.6 x 10.2 x 22.6	36.4
CC-5	3	FXZQ18TBVJU	1.5	4-Way Discharge Ceiling Cassette Vista (2' x 2') white	511	40	16,308	11,560	76.5	64.4	21,608	64.0	208-230V 1ph	0.6	15.0	22.6 x 10.2 x 22.6	41.9
FCU-4 FC-200 CORR	1	FXTQ60TBVJUA	5.0	Multi Position Air Handler	1,800	452	54,448	36,692	76.5	64.4	75,919	64.0	208-230V 1ph	8.6	15.0	24.5 x 58.0 x 21.0	166.9

NOTES:
1. PROVIDE UNIT WITH DISCONNECT SWITCH.
2. PROVIDE UNIT WITH THROWAWAY FILTER.
3. BACNET PANEL TO BE WIRED TO THE HPCC UNITS AND PROVIDES BMS WITH FULL INTERFACE TO ALL FANCOILS.
4. TEMPERATURE AND OCCUPANCY SENSORS TIED TO BMS.
5. PROVIDE UNIT WITH FACTORY INSTALLED 3-SPEED FAN SWITCH. (TAMPER PROOF INSTALLATION).
6. PROVIDE UNIT WITH COMPLETE HANGING ISOLATOR KIT. (SPRING TYPE).
7. UNIT AND ALL ACCESS PANELS SHALL BE TAMPER PROOF.
8. PROVIDE CONDENSATE 4FT PUMPS FOR ALL INDOOR EQUIPMENT BY HVAC CONTRACTOR. PIPE CONDENSATE TO NEAREST MOP OR UTILITY SINK. PROVIDE FUNNEL DRAIN BY PLUMBING CONTRACTOR.
9. CONNECT FAN COIL UNITS WITH SUFFIXES TO OUTDOOR EQUIPMENT SHARING SAME SUFFIX.
10. PROVIDE WITH DKN PLUS INTERFACE.

VARIABLE REFRIGERANT VOLUME - AIR-COOLED HEAT PUMP CONDENSING UNIT SCHEDULE

TAG	BASIS OF DESIGN (DAIKIN)	NOMINAL TONNAGE	DESCRIPTION	COOLING CAPACITY BTU/h	AMBIENT DESIGN (°F DB)	HEATING CAPACITY BTU/h	AMBIENT DESIGN (°F DB / WB)	REFRIGERANT CHARGE (* Based on approximate piping lengths) Factory Charge	Add'l Refrigerant (lbs)*	CONNECTION RATIO (%)	ELECTRICAL VOLTAGE-PHASE	MCA	MOP	DIMENSIONS (WxHxD) (inch)	WEIGHT (lbs)	EFFICIENCY (Ducted) EER	IEER	COP47	COP17	SCHE
HPCC-1&2	RXYQ432AAYDA	36	Air cooled heat pump	429,110	95.0	253,463	-3.5 / -4.0	51.6	70.3	125.0	460V 3ph	59.8	60.0	68.9 x 65.4 x 30.1 + 68.9 x 65.4 x 30.1	914.9 + 914.9	9.5	17.2	3.2	2.1	n/a
HPCC-3&4	RXYQ360AAYDA	30	Air cooled heat pump	355,601	95.0	220,629	-3.5 / -4.0	51.6	67.3	125.0	460V 3ph	53.2	60.0	68.9 x 65.4 x 30.1 + 48.8 x 65.4 x 30.1	914.9 + 760.6	10.1	18.5	3.2	2.1	n/a
HPCC-5&6	REYQ288AAYDA	24	Air cooled heat recovery	255,661	95.0	203,100	-3.5 / -4.0	51.6	60.8	101.4	460V 3ph	42.6	45.0	48.8 x 65.4 x 30.1 + 48.8 x 65.4 x 30.1	800.3 + 800.3	11	19.3	3.27	2.13	20
HPCC-7&8	RXYQ144AAYDA	12	Air cooled heat pump	138,564	95.0	99,952	-3.5 / -4.0	25.8	13.5	112.5	460V 3ph	21.3	25.0	48.8 x 65.4 x 30.1	760.6	11.7	22.9	3.4	2.1	n/a
CC-9&1+A+A5	REYQ120AAYDA	10	Air cooled heat recovery	111,945	95.0	78,866	-3.5 / -4.0	25.8	28.5	108.3	460V 3ph	16.6	20.0	48.8 x 65.4 x 30.1	727.5	12.4	23.5	3.48	2.25	22.2

NOTES:
1. PROVIDE UNIT WITH SINGLE POINT POWER PANEL WITH DISCONNECT SWITCH AND VERITEC SPPP FOR EACH HPCC.
2. PROVIDE UNIT WITH LOW AMBIENT OPERATION KIT (-4°F) SHOW HOODS
3. PROVIDE UNIT WITH 24" SINGLE FAN STAND.
4. ALL CONTROLS OR APPROVED CONTROLS VENDOR.
5. INDOOR FAN COIL UNITS SHALL BE POWERED SEPRATELY FORM THE HPCC AT 208-230V/IPN OUTDOOR UNIT.
6. PROVIDE UNIT WITH BACNET INTERFACE ADAPTER. INDOOR AND OUTDOOR UNITS TO BE CONTROLLED AND MONITORED THROUGH THE BMS.
7. INSTALL UNIT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION.

MAKE UP AIR UNIT SCHEDULE

Tag	Quantity	Airedale Model	Outdoor Air CFM	Length (in)	External Dimensions Height	External Dimensions Width	Weight (lb)	Panel Filter Type	Depth (in)	Natural Gas Heat - Stainless Steel Heat Exchanger and Burner Input Capacity (Btu/hr)	Output Capacity (Btu/hr)	EAT-DB °F	LAT-DB °F	Supply Fan Type	Airflow (CFM)	RPM	BHP	E.S.P. (inH2O)	T.S.P. (inH2O)	Motor Power (HP)	Motor RPM	Electrical Voltage	MCA	MOP	Field Installed VFD	CONTROL VOLTAGE
MUA-1 a and b	2	OBP960TMRLN 93F4LK2NDA00	9185	186	43.23	56	2612	Pre Pleat (MERV 13)	2	1,200,000	972,000	0	102.5	FC20	9,185	948	8.48	1.5	1.94	10	1800	460/60/3	19.1	30	ATV212	24V-250A
MUA-2	1	OBP960TMRLN 93F4LJ2MDA00	10560	186	43.23	56	2700	Pre Pleat (MERV 13)	2	1,200,000	972,000	0	100.4	FC20	10,560	1,035	11.87	1.5	2.09	15	1800	460/60/3	27.9	45	ATV212	24V-250A
MUA-3 a and b	2	OBP960TMRLN 93F4LJ2MDA00	8680	186	43.23	56	2612	Pre Pleat (MERV 13)	2	1,200,000	972,000	0	109.7	FC20	8,680	918	7.44	1.5	1.89	10	1800	460/60/3	19.1	30	ATV212	24V-250A

NOTES:
1. ALL UNITS COMPLETE WITH VFD'D WITH BMS CONTROL INTERFACE.
2. ALL UNITS WITH 16" ROOF CURB.
3. REMOTE USER INTERFACE – BACNET MS/TP NETWORK INTERFACE CARD.
4. DIRTY FILTER PRESSURE SWITCH.

AIR COOLED CONDENSER HEAT PUMP UNIT SCHEDULE

Tag	Daikn Model	Unit Weight (lbs)	Associated Indoor Unit	Total Cooling Capacity (Btu/hr)	Suct. Temp. °F	Cooling Ambient °F	Heating Capacity (Btu/hr)	Heating Ambient °F	MCA	Varitec Single-Point Power Kit	MOP	Electrical Data Voltage	EER	IEER	COP17
ACCU-1	RXYQ168AAYDB	761	AC-1	168,024	43	95	111,127	2	24.9	EA168YD4S1	30	460/60/3	10.3	21.2	2.1
ACCU-2	RXYQ216AAYDB	915	AC-2	217,230	43	95	140,558	2	29.9	EA216YD4S1	35	460/60/3	10.3	21	2.1
ACCU-3	RXYQ168AAYDB	761	AC-3	168,024	43	95	111,127	2	24.9	EA168YD4S1	30	460/60/3	10.3	21.2	2.1
ACCU-4a	RXYQ240AAYDB	915	AC-4 Coil 1	240,082	43	95	143,801	2	33.4	EA240YD4S1	40	460/60/3	10.6	20	2.1
ACCU-4b	RXYQ240AAYDB	915	AC-4 Coil 2	240,082	43	95	143,801	2	33.4	EA240YD4S1	40	460/60/3	10.6	20	2.1

NOTES:
1. AC-4 WITH ACCU-4a & b WILL NEED 4 CIRCUITS. AC-4 MUST BE PIPED AS 2 SEPARATE ACCU's, ONE PER COIL IN AC-4.
2. EACH ACCU MODULE REQUIRES POWER DISCONNECTS - PROVIDED BY DAIKIN FOR FIELD INSTALLATION BY EC
3. ALL ACCU'S SHALL BE PROVIDED WITH 24" TALL ROOF SUPPORTS FROM THE MANUFACTURE

VARIABLE REFRIGERANT VOLUME - ZONE HEAT RECOVERY DEVICE SCHEDULE

TAG:	BASIS OF DESIGN (DAIKIN)	CONDENSING UNIT SERVED	VOLTAGE-PHASE	MIN CIRCUIT AMPS (MCA)	MAX OVERCURRENT PROTECTION (MOP)	MAX CAPACITY (per Port)	DIMENSIONS (WxHxD inch)	WEIGHT (lbs)
BS 1 CORE	BSF4Q54TVJ	HPCC-5&6	208-230V 1ph	0.4	15.0	54,000	13.7 x 9.5 x 23.7	48.5
BS 1 WEST	BSF6Q54TVJ	HPCC-5&6	208-230V 1ph	0.6	15.0	54,000	23.3 x 9.5 x 23.7	72.8
BS 2	BSF6Q54TVJ	HPCC-9&10	208-230V 1ph	0.6	15.0	54,000	23.3 x 9.5 x 23.7	72.8
BS-CORR	BSQ60TAVJ	HPCC-5&6	208-230V 1ph	0.1	15	60,000	8.2 X 15.25 X 12.9	27

EXHAUST FAN SCHEDULE

MANUFACTURER LISTED AS STANDARD OR APPROVED EQUAL

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL NO.	CFM	E.S.P. (IN.)	DRIVE	FAN RPM	FAN HP	PHYSICAL DATA SIZE (IN)	WEIGHT (LBS)	ELECTRICAL DATA VOLTAGE	PHASE	HZ	MCA	MOCP	REMARKS
TX-1	WOMEN & MEN'S LOCKERS	ROOF	GREENHECK	CUE-130-VG	1200	0.75	DIRECT	1309	1/2	19x19	60	120	1	60	8	15	SEE NOTE
TX-2	WOMEN'S TOILET	ROOF	GREENHECK	CUE-095-VG	450	0.75	DIRECT	1684	1/6	19x19	60	120	1	60	3	15	SEE NOTE
TX-3	TOILETS 122, 123, 214, 215, 228, 229	ROOF	GREENHECK	CUE-095-VG	1375	0.75	DIRECT	1507	1/2	19x19	75	120	1	60	3	15	SEE NOTE
TX-4	GYM LOCKERS	ROOF	GREENHECK	CUE-099-VG	600	0.75	DIRECT	1459	1/4	19x20	60	120	1	60	4	15	SEE NOTE
KX-1	KITCHEN-1	ROOF	GREENHECK	VEKTOR-H-36	19200	2.0	BELT	1051	20	58x58	2041	460	3	60			SEE NOTE
KX-2	KITCHEN-2	ROOF	GREENHECK	CUBE360HP-75	11200	2.0	BELT	794	7 1/2	46x46	500	460	3	60			SEE NOTE
KX-3	KITCHEN-3	ROOF	GREENHECK	USF-36	18000	2.0	BELT	790	15	62x67	1500	460	3	60			SEE NOTE
EF-1	GYM	ROOF	GREENHECK	CUE-300-VG	12000	0.5	DIRECT	806	5	37x37	321	460	3	60	9.00	20	SEE NOTE
EF-2	PREP RM 220A	ROOF	GREENHECK	CUBE-099-4	315	0.3	BELT	866	1/4	19x19	100	120	1	60	3.00	15	SEE NOTE
EF-3	CHEMISTRY LAB	ROOF	GREENHECK	CUBE-120-4	1040	0.3	BELT	1065	1/4	19x19	100	120	1	60	3.00	15	SEE NOTE
HEF-1	CHEMISTRY LAB FUME HOOD	ROOF	GREENHECK	VEKTOR-H-12	1100	3.0	BELT	1725	3	21x21	441	460	3	60			-

NOTES:
1. PROVIDE WITH THERMAL OVERLOAD PROTECTION.
2. PROVIDE WITH BACKDRAFT DAMPER.
3 KX-3 SHALL BE CCW-TAU AND PROVIDE WITH EQUIPMENT SUPPORT RAILS.
4 UNIT SHALL RUN AT OCCUPIED TIME.
5 PROVIDE UNIT WITH VARIABLE SPEED CONTROLLER FOR FINAL BALANCING.
6 PROVIDE EXHAUST FAN WITH TIGHT SEAL MOTORIZED DAMPER.
7 FAN SWITCHES SHALL BE CONTROLLED THROUGH THE BUILDING MANAGEMENT SYSTEM (BMS).
8 KX-1, 2, & EF-1 3 WITH SLOW START VFD'S PROVIDED BY EC

ELECTRIC UNIT HEATER SCHEDULE

"QMARK" AS STANDARD

UNIT NO.	UNIT TYPE	CFM	KW	ELECTRICAL DATA VOLTS	PHASE	MODEL	REMARKS
CUH–1	CABINET FULL RECESSED	350	8	208	1ø	CU945	SEE NOTE 1

NOTE:
1. CONTROLS SHALL BE THROUGH THE BMS.

Tagging Summary

Model	Qty	Tag	Description
RXYQ432AAYDA	1	HPCC-1&2	VRV EMERION (460V)
RXYQ360AAYDA	1	HPCC-3&4	VRV EMERION (460V)
REYQ288AAYDA	1	HPCC-5&6	VRV EMERION (460V)
RXYQ144AAYDA	1	HPCC-7&8	VRV EMERION (460V)
REYQ120AAYDA	1	HPCC-9&10	VRV EMERION (460V)
BSF4Q54TVJ	1	BS-1 CORE	Branch selector unit
BSF6Q54TVJ	2	BS-1 WEST, BS-2	Branch selector unit
FXMQ24TBVJU	6	FCU-2	FXMQ_TB - HSP Concealed Ducted Unit (High Static)
FXMQ30TBVJU	1	FCU-3	FXMQ_TB - HSP Concealed Ducted Unit (High Static)
FXMQ54TBVJU	22	FCU-1	FXMQ_TB - HSP Concealed Ducted Unit (High Static)
FXTQ60TBVJUA	1	FCU-4	FXTQ_TB(A) - Multi Position Air Handler
FXZQ05TBVJU	7	"CC-1"	FXZQ_TBVJU - 4-Way Discharge Ceiling Cassette Vista (2' x 2') white
FXZQ07TBVJU	1	"CC-2" 225	FXZQ_TBVJU - 4-Way Discharge Ceiling Cassette Vista (2' x 2') white
FXZQ09TBVJU	4	"CC-3"	FXZQ_TBVJU - 4-Way Discharge Ceiling Cassette Vista (2' x 2') white
FXZQ12TBVJU	1	"CC-4" 127	FXZQ_TBVJU - 4-Way Discharge Ceiling Cassette Vista (2' x 2') white
FXZQ18TBVJU	3	"CC-5" 218CCa, 218CCb, 220CC	FXZQ_TBVJU - 4-Way Discharge Ceiling Cassette Vista (2' x 2') white

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.
NY PROFESSIONAL ENGINEER
NO. 069373-1
ISSUED 1992; EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994

REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME: MECHANICAL SCHEDULES

SHEET NUMBER: H-801

18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

VENTILATION SCHEDULE

Room Name	Floor Area	Ceiling Height	Wall Location	Wall Area	Space Classification	Occupant Density per 1000FT^2	Occupants	OA CFM per Person	OA CFM per FT^2	OA CFM (Voz)	Air Distribution Effectiveness (Ez)	Design OA CFM (Vot)	Exhaust CFM
Vestibule (E-100)	180	10*	E	160	Corridor	--	--	--	0.06	11	0.8	14	--
Lobby (100)	1610	10*	--	--	Corridor	--	--	--	0.06	97	0.8	121	--
Stair (ST-1)	180	10*	W/S	168/110	Corridor	--	--	--	0.06	11	0.8	14	--
Cafeteria (120)	2020	14*	E	994	Cafeteria	100	202	7.5	0.18	1879	0.8	2348	--
Mechanical Room (119)	1140	14*	--	--	Equipment Room	--	--	--	--	--			--
Gymnasium - play area (136)	6320	28*	N/E/S	692/1998/2996	Gym	7	44	20	0.18	2022	1	2022	--
Gymnasium - spectator area (136)	180	28*	N/E/S	692/1998/2996	Gym	150	27	7.5	0.06	213	1	213	-
Gymnasium - Total (136)	6500	28*	N/E/S	692/1998/2996	Gym	-	71	-	-	2236	1	2236	-
Gyminasium Storage (136A)	425	10*	W/S	180/230	Storage Rooms	--	--	--	0.12	51	0.8	64	--
Mechanical Room (137)	385	14*	W	230	Equipment Room	--	--	--	--	--			--
Toilet (116)	185	10*	--	--	Bathroom	--	--	--	--	--			100
Toilet (117)	185	10*	W	165	Bathroom	--	--	--	--	--			100
Janitor Closet (119A)	45	10*	W	75	Storage Room	--	--	--	0.12	5	0.8	7	--
Principal (128)	260	10*	--	--	Office Space	5	1	5	0.06	22	0.8	28	--
Conference (127)	200	10*	--	--	Conference Room	50	10	5	0.06	62	0.8	78	--
Admin (126)	200	10*	--	--	Recepetion Area	30	6	5	0.06	42	0.8	53	--
Admin Corridor (121)	115	10*	--	--	Corridor	--	--	--	0.06	7	0.8	9	--
Breakroom (125)	117	10*	--	--	Breakroom	5	1	5	0.12	17	0.8	21	--
Copy (124)	78	10*	--	--	Office Space	5	0	5	0.06	7	0.8	8	--
Toilet (123)	45	10*	--	--	Bathroom	--	--	--	--	--			50
Toilet (122)	45	10*	--	--	Bathroom	--	--	--	--	--			50
School Store (101)	500	10*	W	200	Sales	15	7.5	7.5	0.12	116	0.8	145	--
WBL#1 (102)	509	10*	W	195	Office Space	5	3	5	0.06	43	0.8	54	--
WBL#2 (103)	435	10*	W	175	Office Space	5	2	5	0.06	37	0.8	46	--
Corridor (C-113)	380	10*	--		Corridor	--	--	--	0.06	23	0.8	29	--
Office (112A)	99	10*	--	--	Office Space	5	0	5	0.06	8	0.8	11	--
Kitchen #1 (112)	1700	11*	E	363	Kitchen	20	34	7.5	0.12	459	0.8	574	1190
Kitchen #1 Storage (112B)	280	11*	N	385	Storage Room	--	--	--	0.12	34	0.8	42	--
Water Service Room (112-W)	155	11*	N/E	143/127	Storage Room	--	--	--	0.12	19	0.8	23	--
Laundry (107)	150	10*	--	--	Commerical Laundry*	10	2	25	--	50	0.8	63	105
Toilet (106)	75	10*	--	--	Bathroom	--	--	--	--	--			50
Lockers (134 & 135)	270	10*	--	--	Locker/Dressing Room	--	--	--	--	--			67.5
Toilet (116 & 117)	235	10*	E	70	Bathroom	--	--	--	--	--			50
Toilet (250)	250	10*	E	50	Bathroom	--	--	--	--	--			50
Office (105D)	97	10*	--	--	Office Space	5	0	5	0.06	8	0.8	10	--
Kitchen #2 (118)	2980	11*	E	484	Kitchen	20	60	7.5	0.12	805	0.8	1006	2086
Kitchen #2 Storage (118F)	439	11*	E	215	Storage Room	--	--	--	0.12	53	0.8	66	--
Kitchen #3 (105)	1820	11*	W	638	Kitchen	20	36	7.5	0.12	491	0.8	614	1274
Kitchen #3 Storage (105A)	136	11*	W	132	Storage Room	--	--	--	0.12	16	0.8	20	--
Lockers (116A & 117A)	150	10*	--	--	Locker/Dressing Room	--	--	--	--	--			37.5
Corridor (C-140)	1130	10*	--	--	Corridor	--	--	--	0.06	68	0.8	85	--
Classroom (110)	825	10*	W	250	Classroom (age 9 plus)	30	25	10	0.12	347	0.8	433	--
Classroom 2 (111)	770	10*	W/N	230/150	Classroom (age 9 plus)	30	23	10	0.12	323	0.8	404	--
Fitness Center (230)	1400	10*	--	--	Health club/Weight room	10	15	20	0.06	384	0.8	480	--
Office (230A)	150	10*	W	130	Office Space	5	1	5	0.06	13	0.8	16	--
Corridor	3600	10*	--	--	Corridor	--	--	--	0.06	216	0.8	270	--
Classrooms Leftside (201 - 208)	800	10*	W	240	Classroom (age 9 plus)	30	24	10	0.12	336	0.8	420	--
Classrooms Rightside (209-213)	800	10*	E	250	Classroom (age 9 plus)	30	24	10	0.12	336	0.8	420	--
Science Classroom (218)	1145	10*	N/E	370/385	Science Laboratories	25	29	10	0.18	492	0.8	615	1145
Science Prep (220A)	345	10*	E	115	Storage Rooms	4	10	--	0.18	102	0.8	128	--
Science Classroom (220)	1050	10*	E	240	Science Laboratories	25	26	10	0.18	452	0.8	564	1050
Guidance (221)	600	10*	--	--	Office Space	5	3	5	0.06	51	0.8	64	--
Guidance #2 (223)	600	10*	--	--	Office Space	5	3	5	0.06	51	0.8	64	--
Assisant Principal (222)	280	10*	--	--	Office Space	5	1	5	0.06	24	0.8	30	--
Conference (224)	170	10*	--	--	Conference Room	50	9	5	0.06	53	0.8	66	--
Conference (225)	200	10*	--	--	Conference Room	50	10	5	0.06	62	0.8	78	--
Conference (226)	150	10*	--	--	Conference Room	50	8	5	0.06	47	0.8	58	--
Toilet (215)	250	10*	--	--	Bathroom	--	--	--	--	--			100
Toilet (216)	250	10*	--	--	Bathroom	--	--	--	--	--			100
Toilet (219)	100	10*	--	--	Bathroom	--	--	--	--	--			50
Toilet (228)	100	10*	--	--	Bathroom	--	--	--	--	--			50
Toilet (229)	50	10*	--	--	Bathroom	--	--	--	--	--			50
Janitor Closet (214)	50	10*	--	--	Storage Room	--	--	--	0.12	6	0.8	8	--
Copy (227)	50	10*	--	--	Office Space	5	0	5	0.06	4	0.8	5	--
Server Room (217)	50	10*	--	--	Office Space	5	0	5	0.06	4	0.8	5	--

AIR OUTLET SCHEDULE

DESIGNATION AND SYMBOL	CFM RANGE	NECK SIZE ROUND	FACE SIZE	APPLICATION	MANUF. & MODEL NO.	ACCESSORIES	FRAME TYPE	MAX S.P.	FINISH	REMARKS
CD–1	50–98 100–200 201–385 390–600 601–750	6" 8" 10" 12" 14"	24x24 24x24 24x24 24x24 24x24	SUPPLY AIR CEILING DIFFUSER	TITUS TMS	OPPOSED BLADE DAMPER	BORDER TYPE–3	0.040	#25 OFF–WHITE	SEE NOTES
RR–1 ER–1	100–170 175–275 280–420 450–800 850–1800 ABOVE	8x8 10x10 12x12 24x12 24x24 SEE PLANS	---	RETURN/ EXHAUST AIR CEILING REGISTER	TITUS 4 FL	AG–35AA OPPOSED BLADE DAMPER	TYPE–3A	0.100	CLEAR ALUMINUM	SEE NOTES
SR–1	AS INDICATED	AS INDICATED	---	SUPPLY AIR TOP REGISTER	TITUS 300 FL	AG–15 OPPOSED BLADE DAMPER	TYPE–3A	0.100	CLEAR ALUMINUM	INSTALL 6" B.F.C. U.N.O.
ER–2	AS INDICATED	AS INDICATED	---	RETURN/ EXHAUST AIR SIDEWALL TOP REGISTER	TITUS 4 FL	AG–35AA OPPOSED BLADE DAMPER	TYPE–3A	0.100	CLEAR ALUMINUM	INSTALL 6" B.F.C. U.N.O.
CG	100–170 175–275 280–420 450–800 850–1800 ABOVE	8x8 10x10 12x12 24x12 24x24 SEE PLANS	---	RETURN AIR CEILING GRILLE	TITUS 4 FL	NO DAMPERS	TYPE–3A	0.050	CLEAR ALUMINUM	
LSD–1		10" OVAL	48" PLENUM	LINEAR SUPPLY AIR DIFFUSER	TITUS MLT–38	ADJUSTABLE CABLE	FLANGED BORDER	0.022	CLEAR ALUMINUM	FLANGE TO FLANGE WIDTH TO BE 4"
LRD–1		10" OVAL	48" PLENUM	LINEAR SUPPLY AIR DIFFUSER	TITUS MLT–38	ADJUSTABLE CABLE	FLANGED BORDER	0.022	CLEAR ALUMINUM	FLANGE TO FLANGE WIDTH TO BE 4"
KSD–1	AS INDICATED	AS INDICATED	48x24	SUPPLY AIR	–	–	–	–	–	SPECIFIED AND PROVIDED BY KITCHEN CONSULTANT
TRG	AS INDICATED	AS INDICATED	–	TRANSFER AIR GRILLE	TITUS 4 FL	NO DAMPERS	TYPE–3A	0.050	CLEAR ALUMINUM	INSTALL 6" B.F.C. U.N.O.

NOTES:

1. ALL AIR OUTLETS SHALL BE HEAVY DUTY CONSTRUCTION AND SIZED PER SCHEDULE ABOVE UNLESS OTHERWISE INDICATED ON DRAWINGS.
2. REGISTERS & CEILING DIFFUSERS SIZES THAT ARE NOT INDICATED ON THIS SCHEDULE ARE SHOWN ON THE FLOOR PLANS.
3. ALL CEILING DIFFUSERS ARE 4 WAY DIRECTIONAL THROW UNLESS OTHERWISE INDICATED.
4. AIR OUTLETS ON THIS SCHEDULE WITH TYPE, SIZE AND CFM'S INDICATED SHALL BE PROVIDED, UNLESS OTHERWISE INDICATED ON FLOOR PLANS.
5. CEILING DIFFUSERS ARE ROUND NECK.

DEDICATED OUTSIDE AIR UNIT SCHEDULE

TAG	Unit: Airflow (CFM)	Unit: Minimum OA (CFM)	Unit: Model	Unit: Weight(lbs)	Electrical: Voltage	Electrical: MCA (A)	Electrical: MROPD (A)	Efficiency: ISMRE2	Supply Fan: Airflow (CFM)	Supply Fan: ESP (inH_2O)	Supply Fan: TSP (inH_2O)	Supply Fan: Motor Size (HP)	Exhaust Fan: Airflow (CFM)	Exhaust Fan: ESP (inH_2O)	Exhaust Fan: Motor HP	Filters: Face Area (ft²)	Filters: Efficiency	Energy Recovery: Recovered Capacity Cooling (Btu/hr)	Recovered Capacity Heating (Btu/hr)	Return Air - Summer EDB (°F)	Return Air - Summer EWB (°F)	Return Air - Winter EDB (°F)	Return Air - Winter EWB (°F)	Outdoor Air - Summer EDB (°F)	Outdoor Air - Summer EWB (°F)	Outdoor Air - Winter EDB (°F)	Outdoor Air - Winter EWB (°F)	Supply Air - Summer LDB (°F)	Supply Air - Summer LWB (°F)	Supply Air - Winter LDB (°F)	Supply Air - Winter LWB (°F)	APD (inH_2O)	Effectiveness: Total Cooling	Effectiveness: Sensible Cooling	Effectiveness: Total Heating	Effectiveness: Sensible Heating	Cooling: EAT EDB (°F)	Cooling: EAT EWB (°F)	Cooling: LAT LDB (°F)	Cooling: LAT LWB (°F)	Cooling: Total Capacity	Cooling: Sensible Capacity	Cooling: Ambient DB (°F)	Compressor: Stages	Compressor: Qty	Compressor Power (kW)	Refrigerant	Heat Pump: EAT EDB (°F)	Heat Pump: LAT LDB (°F)	Heat Pump: Total Capacity (Btu/hr)	Heat Pump: Ambient DB (°F)	Hot Gas Reheat: EDB (°F)	Hot Gas Reheat: LDB (°F)	Hot Gas Reheat: Reheat Capacity (Btu/hr)	Natural Gas Heating: Input Size	Natural Gas Heating: Stages	Natural Gas Heating: Total Capacity (Btu/hr)	Natural Gas Heating: EDB (°F)	Natural Gas Heating: LDB (°F)
DOAS-1 GAS	5000	5000	DPSH20B	4858	460/60/3	63.8	80	9.7	5000	2	3.99	7.5	5000	0.75	4.3	27	COMBO RACK-2" MERV8 & 4" MERV14	102218	272335	75	62.5	70	50	91.2	73.6	2.4	2	81.2	68.3	46.5	36.2	0.56	51.61	61.68	63.08	65.31	81.2	68.3	54.4	52.5	232898	138808	95	Modulating Control with Inverter Compressors	2	18.6	R32	24	50.4	155467	5	54.4	70	84527	450 MBH	Modulating 12:1 Turndown	364500	24	91.2
DOAS-2 GAS	7550	7550	DPSH31B	5199	460/60/3	82.7	100	9	7550	2	5.18	10	7550	0.75	6.1	27	COMBO RACK-2" MERV8 & 4" MERV14	126683	354629	75	62.5	70	50	91.2	73.6	2.4	2	83.2	69.3	40.3	32.2	0.88	42.64	49.16	54.49	56.11	83.2	69.3	54.4	53.8	351543	224937	95	Modulating Control with Inverter Compressors	2	28.1	R32	24	47.6	210185	5	54.4	70	128067	600 MBH	Modulating 12:1 Turndown	486000	24	83.3

NOTE:
1. UNITS SHALL HAVE SINGLE POINT POWER WITH INVERTER COMPRESSORS AND VFD/ECM FANS BY THE MANUFACTURE WITH BACNET INTERFACE.

ROOFTOP UNIT SCHEDULE

TAG	Unit: Airflow (CFM)	Unit: Minimum OA (CFM)	Unit: Model	Unit: Weight(lbs)	Electrical: Voltage	Electrical: MCA (A)	Electrical: MROPD (A)	Efficiency: EER	Efficiency: SEER2 / IEER	Supply Fan: Airflow (CFM)	Supply Fan: ESP (inH_2O)	Supply Fan: TSP (inH_2O)	Supply Fan: Motor Size (HP)	Exhaust Fan: Airflow (CFM)	Exhaust Fan: ESP (inH_2O)	Exhaust Fan: Motor HP	Filters: Face Area (ft²)	Filters: Efficiency	Cooling: EAT EDB (°F)	Cooling: EAT EWB (°F)	Cooling: LAT LDB (°F)	Cooling: LAT LWB (°F)	Cooling: Total Capacity	Cooling: Sensible Capacity	Cooling: Ambient DB (°F)	Compressor: Stages	Compressor: Qty	Compressor Power (kW)	Refrigerant	Heat Pump: EAT EDB (°F)	Heat Pump: LAT LDB (°F)	Heat Pump: Total Capacity (Btu/hr)	Heat Pump: Ambient DB (°F)	Natural Gas Heating: Input Size	Natural Gas Heating: Stages	Natural Gas Heating: Total Capacity (Btu/hr)	Natural Gas Heating: EDB (°F)	Natural Gas Heating: LDB (°F)
Lobby RTU-1 GAS	2645	265	DPSH06B	1287	460/60/3	21.4	30	11.1	21.4	2645	2	3.73	3.0	2645	0.75	1.7	7.1	COMBO RACK-2" MERV8 & 4" MERV14	76.6	63.7	53.9	53.9	71587	62937	95	Modulating Control with Inverter Compressors	1	4.7	R32	60	72.3	35835	5	120 MBH	Modulating 5:1 Turndown	97200	60	93.9
Fitness RTU-2 GAS	2420	484	DPSH06B	1249	460/60/3	21.8	30	11.1	21.4	2420	2	3.56	3.0	2420	0.75	2.1	7.1	COMBO RACK-2" MERV8 & 4" MERV14	78.2	64.9	54.7	54.7	71004	59455	95	Modulating Control with Inverter Compressors	1	4.7	R32	56	69.4	36005	5	160 MBH	Modulating 5:1 Turndown	129600	56	105.4

NOTE:
1. UNITS SHALL HAVE SINGLE POINT POWER WITH INVERTER COMPRESSORS AND VFD/ECM FANS BY THE MANUFACTURE WITH BACNET INTERFACE.

ARCHITECT

KSQ Architects PC dba KSQ Design
215 W 40th St - 15th flr
New York, NY 10018
646.435.0660 office
www.ksq.design

Owner

ROCKLAND BOCES
65 Parrott Rd,
West Nyack, NY, 10994
845-627-4700 office
www.rocklandboces.org

Civil & MEP Engineer

Fellenzer Engineering LLP
22 Mulberry Street, Suite 2A
Middletown, NY 10940
845.343.1481 office
www.fellp.com
FE #: 23-284

Structural Engineer

GACE CONSULTING ENGINEERS
148 Madison Avenue, Fourth Floor
New York, NY 10016
212-545-7878 office
www.structuralengineerwebsite.com

Food Service Consultant:

ELITE | STUDIO E
1865 New Hwy #1
Farmingdale, NY, 11735
631-420-9400 office
www.elitestudioe.com

Construction Manager:

ARRIS CONTRACTING COMPANY, Inc.
189 Smith Street
Poughkeepsie, NY 12601
845-473-3600 office
www.arriscontracting.com

JOHN D. FELLENZER, P.E.

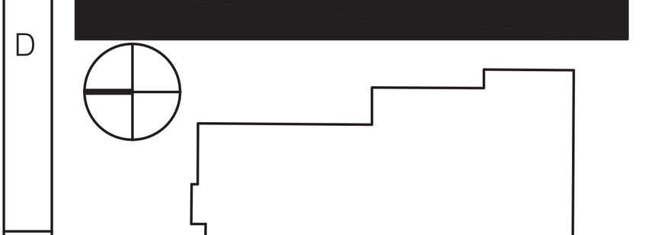
STATE OF NEW YORK
JOHN DANIEL FELLENZER
069373
LICENSED PROFESSIONAL ENGINEER

NY PROFESSIONAL ENGINEER
NO. 069373–1
ISSUED 1992; EXP. 9/25

ROCKLAND BOCES P-TECH C-TEC BUILDING

SED #: 50-90-00-00-0-044-001

65 PARROT RD,
WEST NYACK, NY 10994



REVISIONS

No.	Description	Date

ISSUED: BID SET ISSUANCE

DATE: 6/30/25

SCALE: AS SHOWN

SHEET NAME: MECHANICAL SCHEDULES

SHEET NUMBER: H-802

BID SET