DUCTWORK APPLICATION SCHEDULE											
		DUCTWORK LOCATION	SYSTEM TYPE	MAX PRESSURE			DUCT SHAPE	INSU	_ATION APPLICA	ATION	
		(ALL DUCT CONCEALED UNLESS	(CONSTANT VOLUME	CLASS		SINGLE OR	RECT /	THICKNESS		LINER OR	
AIR HANDLING SYSTEM	AIRSTREAM	NOTED OTHERWISE)	OR VAV OR BOTH)	(IN. W.C.)	DUCTWORK MATERIAL	DOUBLE WALL	ROUND	(IN.)	TYPE	WRAP	NOTES
	SUPPLY AIR	OUTDOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	DOUBLE WITH PERFORATED INNER LINER	RECT / ROUND	2"	С	LINER	A,B,C,F
	SUPPLY AIR	FAN TO TERMINAL AIR BOX	VARIABLE AIR VOLUME	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT /	1"	C OR D	LINER	A,B,C
	SUPPLIAIR	FAIN TO TERMINAL AIR BOX	VARIABLE AIR VOLUIVIE	CLASS B	GALVANIZED SHEET METAL	SINGLE	ROUND	1-1/2"	А	WRAP	A,B,C
AIR HANDLING UNITS ROOFTOP UNITS	SUPPLY AIR	INDOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND	1"	C OR D	LINER	A,B,C,D
	SUPPLY AIR	FAN TO AIR OUTLET	CONSTANT VOLUME	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT /	1"	C OR D	LINER	A,B,C
	SUFFLIAIN	TAN TO AIR GOTLET	CONSTAINT VOLUME	CLASS B	GALVANIZED STILLT WILTAL	SINGLE	ROUND	1-1/2"	А	WRAP	A,B,C
	SUPPLY AIR	TERMINAL AIR BOX TO OUTLET	VARIABLE AIR VOLUME	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT /	1"	C OR D	LINER	A,B,C
	SUFFLIAIN	TERMINAL AIR BOX TO GOTLET	VARIABLE AIR VOLUME	CLASS B		SINGEL	ROUND	1-1/2"	CORD A CORD A CORD A CORD CORD C C	WRAP	A,B,C
	RETURN AIR	R AIR INLET TO RTU	вотн	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT /	1"	C OR D	LINER	A,B,C
	INL FORM AIR	AIR INLET TO RE	DOTT	CLASS B	GALVANIZED SHEET WETAL	SINGLE	ROUND	1-1/2"	Α	WRAP	A,B,C
AIR HANDLING UNITS ROOFTOP UNITS	RETURN AIR	INDOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND	1"	C OR D	LINER	A,B,C,D
	RETURN AIR	OUTDOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	DOUBLE WITH PERFORATED INNER LINER	RECT / ROUND	2"	С	LINER	A,B,C,F
	SUPPLY AIR	OUTDOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	DOUBLE WITH PERFORATED INNER LINER	RECT / ROUND	2"	С	LINER	A,B,C,F
MAKE-UP AIR UNITS	SUPPLY AIR	FAN TO AIR OUTLET	CONSTANT VOLUME	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND	1-1/2"	А	WRAP	A,B,C
MAKE-UP AIR UNITS	RETURN AIR	INDOOOR EXPOSED	вотн	CLASS B	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND	1"	C OR D	LINER	A,B,C,D
OFNEDAL EXCLANOT	EXHAUST AIR	INLET TO EXHAUST FAN	CONSTANT VOLUME	CLASS C	GALVANIZED SHEET METAL	SINGLE	RECT / ROUND	-	-	-	A,B,C
GENERAL EXHAUST	EXHAUST AIR	FIRST 10'-0" UPSTREAM OF EXHAUST FAN	CONSTANT VOLUME	CLASS C	GALVANIZED SHEET METAL	SINGLE	RECT	1"	С	LINER	A,B,C
KITCHEN GREASE TYPE I HOODS	EXHAUST AIR	LIOT AID EVALATION AID	KITCHEN EXHAUST - HOODS			SINGLE	RECT / ROUND	2"	F	WRAP	A,B,C,E,G
		EXHAUST AIR		STAINLESS STEEL / BLACK IRON	DOUBLE	ROUND	2"	F	LINER	A,B,C,E,G	
TYPE II HOODS (DISHWASHER)	EXHAUST AIR	DISHWASHER / CONDENSATE HOOD / INLET TO EXHAUST FAN	CONSTANT VOLUME	CLASS B	ALUMINUM / STAINLESS STEEL	SINGLE	RECT / ROUND	NONE	-	-	A,B,C
TYPE II HOODS (EXCEPT DISHWASHER)	EXHAUST AIR	TYPE II HOODS / INLET TO EXHAUST FAN	CONSTANT VOLUME	CLASS C	STAINLESS STEEL / BLACK IRON / ALUMINUM	SINGLE	RECT / ROUND	NONE	-	-	A,B,C

INSULATION TYPES:

TYPE A: FLEXIBLE FIBERGLASS - OUTSIDE WRAP

TYPE B: SEMI-RIGID FIBERGLASS BOARD WRAP

TYPE D: PREFORATED RIGID FIBERGLASS ACCOUSTICAL LINER (ROUND DUCT)

TYPE C: FLEXIBLE FIBERGLASS LINER

TYPE E: FIBERGLASS WITH TEDLAR LINER

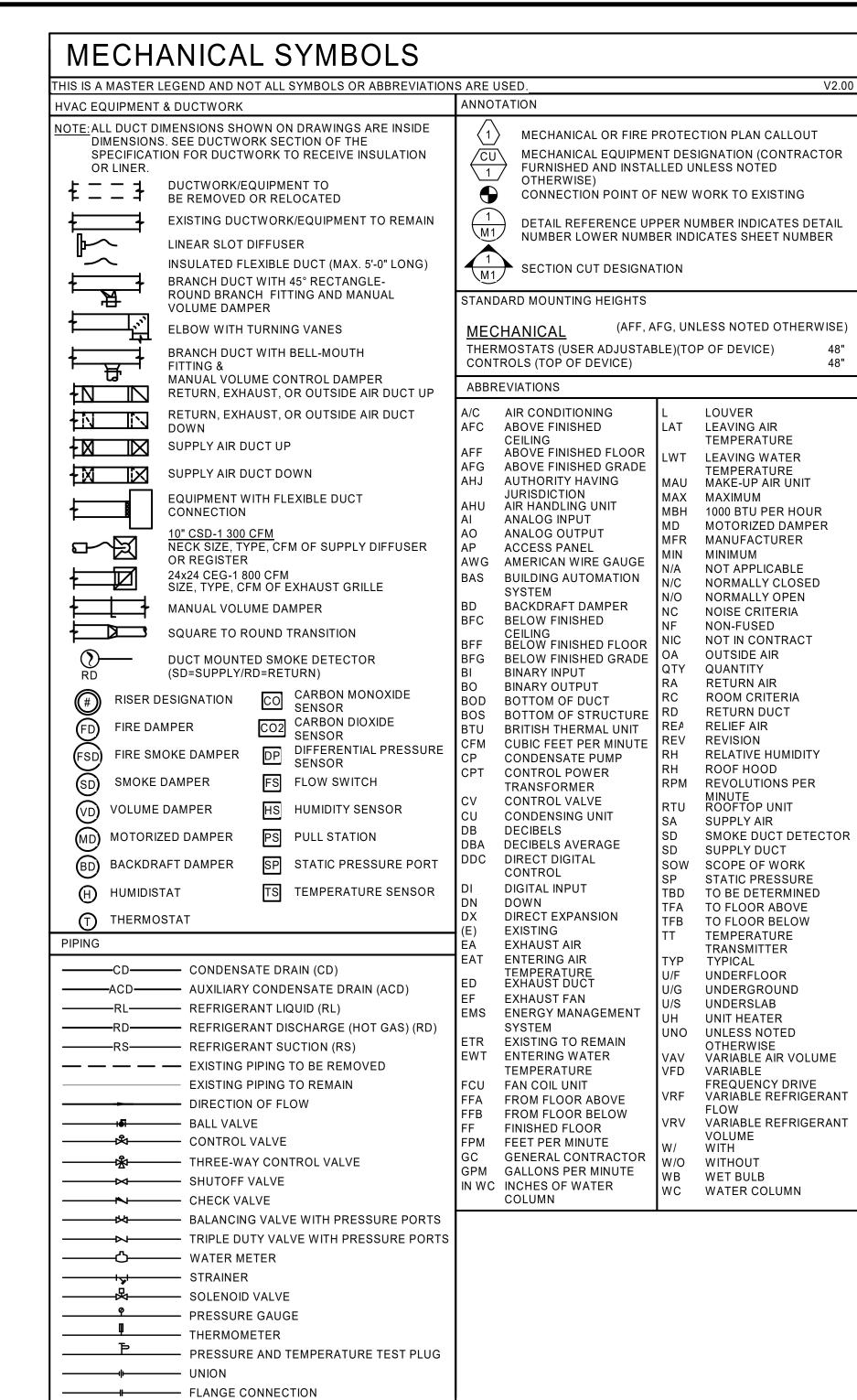
TYPE F: FLEXIBLE MINERAL FIBER DUCT WRAP

- A. DUCT DIMENSIONS SHOWN ON PLAN ARE CLEAR INSIDE DIMENSIONS AND DO NOT INCLUDE INSULATION. B. ALL EXPOSED DUCTWORK SHALL BE PAINT GRIP, COLOR SHALL BE SELECTED BY ARCHITECT.
- C. DUCT SEAL CLASS SHALL BE BASED ON PRESSURE CLASS AS NOTED BELOW:
- CLASS A: +10" W.C. THRU -4" W.C. CLASS B: -3" W.C.
- CLASS C: -2" W.C. THRU +2" W.C
- CLASS B: +3" W.C. CLASS A: +4" W.C. THRU -10" W.C.
- D. LINER ONLY REQUIRED IN EXPOSED DUCT INSTALLED IN BACK OF HOUSE, CASUAL DINING, AND MARKET
- GRILLE UNLESS OTHERWISE NOTED ON PLAN. E. GREASE DUCT INSULATION SHALL MEET ASTM E2336.
- F. OUTDOOR DUCTWORK INSULATION SHALL HAVE A MINIMUM R-VALUE OF R-8. G. GREASE EXHAUST DUCT SHALL BE FULLY WELDED.

MECHANICAL GENERAL NOTES:

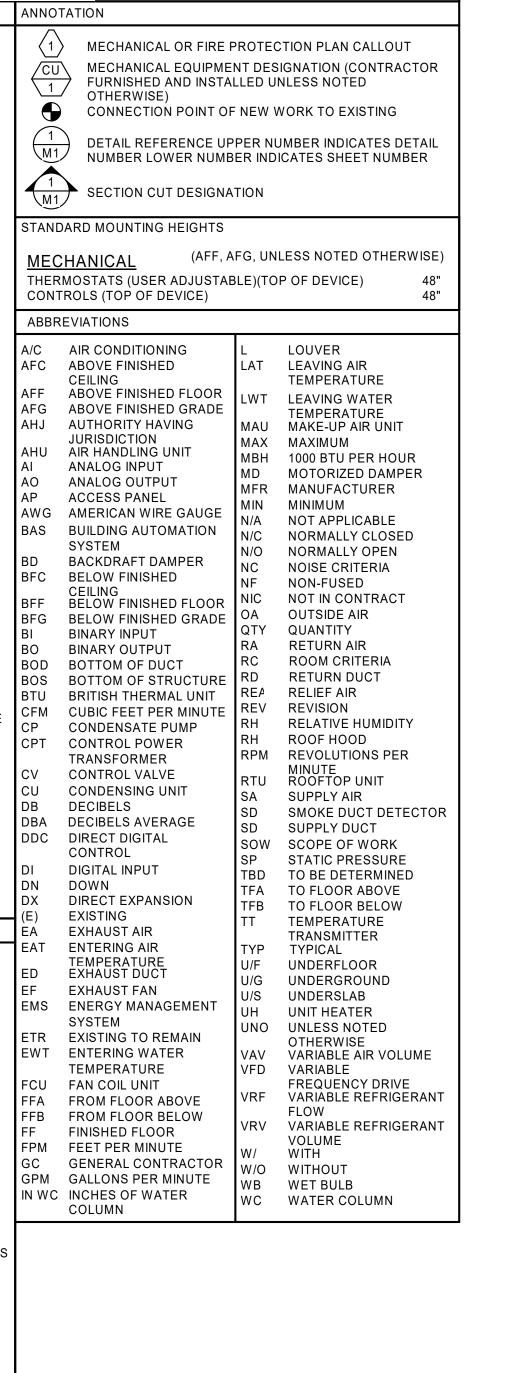
- 1 PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- 3. DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- 4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- 5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- 7. COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 8. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS GOTTEN WET AT ANY TIME DURING CONSTRUCTION. DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
- 9. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN
- 10. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- 11. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- 12. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- 13. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- 14. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- 15. LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION, PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE
- 16. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- 17. PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
- 18. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.
- 19. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- 20. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- 21. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 22. PROVIDE EQUIPMENT VENTS AND FLUES PER EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND EQUIPMENT SPECIFICATIONS. KEEP PENETRATIONS THROUGH ROOF A MINIMUM OF 10'-0" FROM
- 23. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING. ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.
- 24. TEST & BALANCE SCOPE IS UNDER A SEPARATE CONTRACT.

HVAC EQUIPMENT FRESH AIR INLETS AND 2'-0" FROM ROOF PARAPETS.



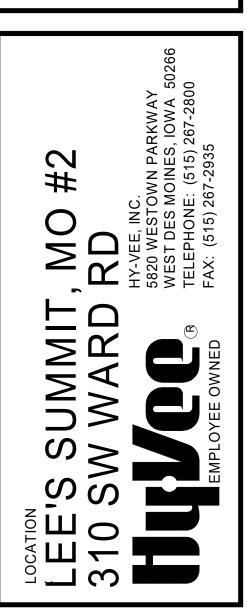
ELBOW UP ELBOW DOWN

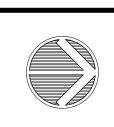
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HVAC NOTES AND SYMBOLS

- 1 TRANSITION VERTICAL DUCTWORK AS REQUIRED TO MATCH RTU CONNECTION SIZES
- CONNECTION SIZES.

 2. TRANSITION VERTICAL DUCTWORK AS REQUIRED TO MATCH EXHAUST
- FAN CONNECTION SIZES.

 3. ROUTE EXPOSED DUCTWORK TIGHT TO STRUCTURE EXCEPT WHERE
- NOTED ON PLAN. COORDINATE INSTALLATION HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION OF ANY WORK.
- 5. INSTALLED LINED RETURN AIR BOOT ON TRANSFER AIR GRILLES LOCATED IN PUBLIC VIEW. BOOT SHALL BE FULL SIZE OF GRILLE
- 6. NO DUCTWORK MAY BE SUPPORTED FROM THE ROOF DECK. REFER TO
- 7. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND ELEVATIONS.

SPECIFICATIONS FOR HANGER REQUIREMENTS.

8. REFER TO H4.0 FOR ALL DETAILS.

MECHANICAL PLAN NOTES

- 1 PROVIDE NEW DIFFUSER COORDINATED IN NEW CEILING GRID. CONNECT DIFFUSER TO EXISTING DUCTWORK
- 2 PROVIDE FULL SIZE RETURN DUCT DOWN AND ELBOW 36"
 HORIZONTAL FROM UNIT TIGHT TO STRUCTURE WITH DUCT
 LINER FOR SOUND ATTENUATION AND 3/4" WIRE MESH SCREEN
 ON INLET.
- ROUTE DUCT LEVEL AND TIGHT TO STRUCTURE.
- BALANCE EXISTING REGISTER TO NEW CFM SHOWN.
 ROUTE DUCT DOWN TIGHT TO CEILING BELOW.
- 6 PROVIDE 3" STAINLESS STEEL STEAM VENT, DISCHARGE UNDER HOOD.
- 7 PROVIDE COMBINATION CONCENTRIC INTAKE VENT AND EXHAUST FLUE FROM UNIT UP THROUGH ROOF AND TERMINATE WITH SAME MANUFACTURER'S TERMINATION KIT IN COMPLIANCE WITH LOCAL CODE AND MINIMUM 10'-0" SEPARATION FROM ALL AIR INTAKES. REFER TO SPECIFICATIONS AND MFR. REQUIREMENTS FOR APPROVED FLUE AND INTAKE MATERIALS FOR UNIT OPERATING TEMPERATURE.

ALL DUCTWORK/DAMPERS/TAPS SHOWN ON SALES FLOOR ARE EXISTING TO REMAIN. REPLACE EXISTING DIFFUSERS IN NEW CEILING GRID. DUCT SIZES SHOWN ARE MINIMUM, CONTRACTOR SHALL FIELD VERIFY SIZES AND NOTIFY ENGINEER IF INSUFFICIENT.

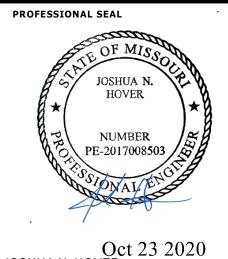
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PLAN NORTH

HVAC FLOOR PLAN - PART A

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 DRAWN BY:
 DATE:

 MLJ
 10/19/2020

 SCALE:
 JOB NUMBER:

 AS NOTED
 62930547

 SHEET:

H1.0A

1 TRANSITION VERTICAL DUCTWORK AS REQUIRED TO MATCH RTU CONNECTION SIZES.

- 2. TRANSITION VERTICAL DUCTWORK AS REQUIRED TO MATCH EXHAUST FAN CONNECTION SIZES.
- 3. ROUTE EXPOSED DUCTWORK TIGHT TO STRUCTURE EXCEPT WHERE NOTED ON PLAN. COORDINATE INSTALLATION HEIGHT WITH ARCHITECT
- 4. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION OF ANY WORK.
- INSTALLED LINED RETURN AIR BOOT ON TRANSFER AIR GRILLES LOCATED IN PUBLIC VIEW. BOOT SHALL BE FULL SIZE OF GRILLE OPENING.
- 6. NO DUCTWORK MAY BE SUPPORTED FROM THE ROOF DECK. REFER TO SPECIFICATIONS FOR HANGER REQUIREMENTS.
- REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND ELEVATIONS.
- 8. REFER TO H4.0 FOR ALL DETAILS.

PRIOR TO INSTALLATION.

MECHANICAL PLAN NOTES

- 1 PROVIDE NEW DIFFUSER COORDINATED IN NEW CEILING GRID. CONNECT DIFFUSER TO EXISTING DUCTWORK
- 2 PROVIDE INSULATION BACKING ON THERMOSTAT MOUNTED ON EXTERIOR WALL.
- EXTERIOR WALL.

 3 CAP/INFILL EXISTING LOUVERS WEATHER TIGHT.

NOTE:
ALL DUCTWORK/DAMPERS/TAPS SHOWN ON SALES FLOOR ARE EXISTING TO REMAIN. REPLACE EXISTING DIFFUSERS IN NEW CEILING GRID. DUCT SIZES SHOWN ARE MINIMUM, CONTRACTOR SHALL FIELD VERIFY SIZES AND NOTIFY ENGINEER IF INSUFFICIENT.

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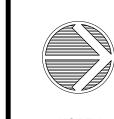
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LEE'S SUMMIT, MO #2
310 SW WARD RD

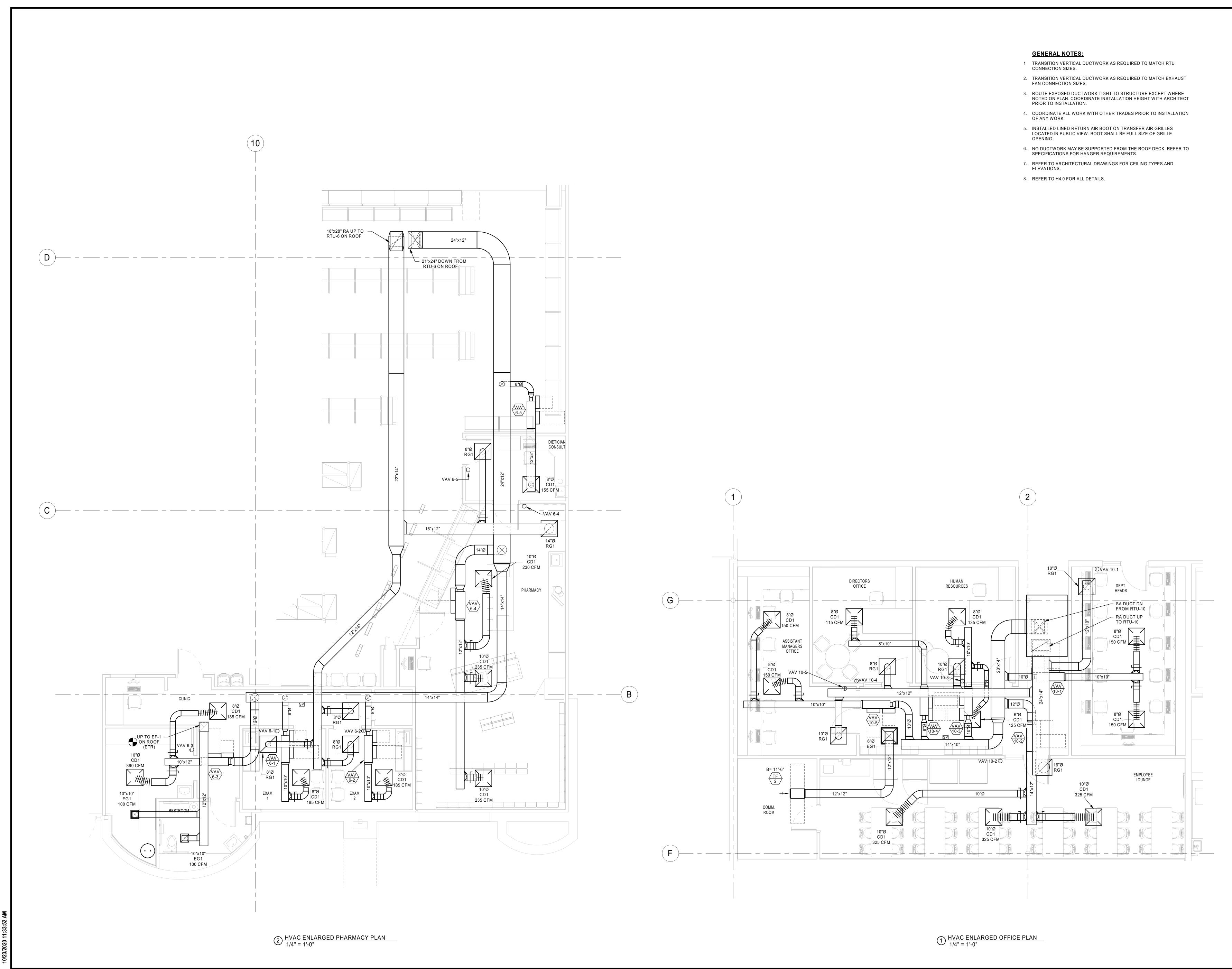
HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935



PLAN NORTH

HVAC FLOOR PLAN - PART B

H1.0B



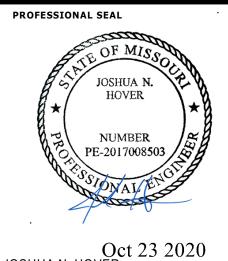
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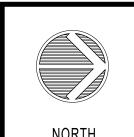


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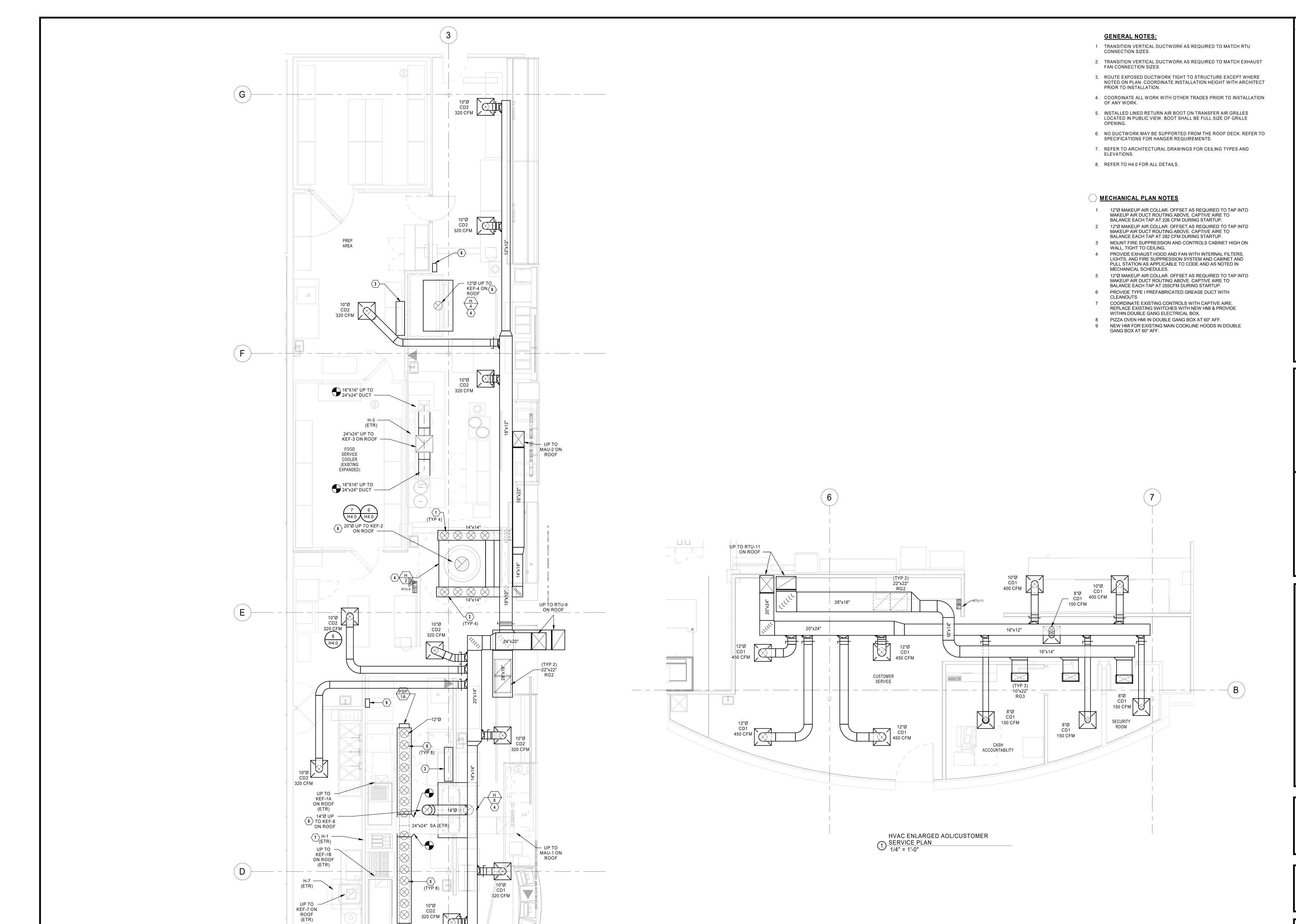
PLAN NORTH

HVAC ENLARGED PLANS

PROJECT MANAGER
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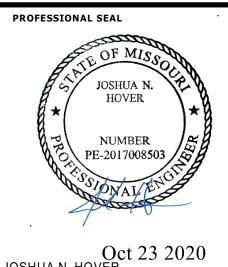


2 HVAC ENLARGED KITCHEN PLAN 1/4" = 1'-0" REVISION

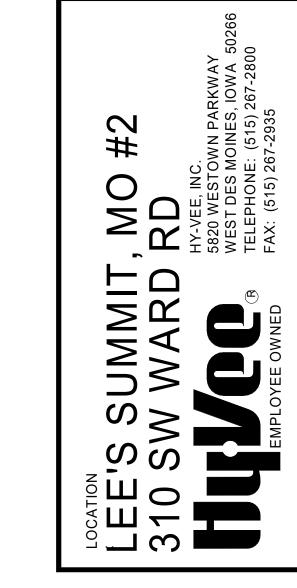
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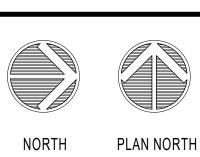
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HVAC ENLARGED PLANS

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DRAWN BY: DATE:
Author 10/19/2020

SCALE: JOB NUMBER:
AS NOTED 62930547

SHEET:

H1.2

- 1 ALL SERVICEABLE EQUIPMENT SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM THE ROOF EDGE IN LOCATIONS WHERE THE PARAPET WALL IS LESS THAN 42" TALL.
- 2. COORDINATE EQUIPMENT CURB PLACEMENT WITH EXISTING STRUCTURE.

MECHANICAL PLAN NOTES

- 1 ALL EXHAUST TERMINATIONS SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES.
- PENETRATE NEW DUCTWORK THRU ROOF AND CONNECT NEW SUPPLY DUCT TO EXISTING DUCTWORK ON ROOF.
- 3 PROVIDE NEW EQUIPMENT ON EXISTING CURB, COORDINATE ADAPTOR AS REQUIRED. CONNECT TO EXISTING DUCTWORK.
- 4 PROVIDE COMBINATION CONCENTRIC INTAKE VENT AND EXHAUST FLUE FROM UNIT UP THROUGH ROOF AND TERMINATE WITH SAME MANUFACTURER'S TERMINATION KIT IN COMPLIANCE WITH LOCAL CODE AND MINIMUM 10'-0" SEPARATION FROM ALL AIR INTAKES. REFER TO SPECIFICATIONS AND MFR. REQUIREMENTS FOR APPROVED FLUE AND INTAKE MATERIALS FOR UNIT OPERATING TEMPERATURE.

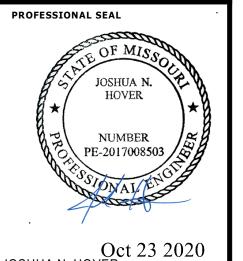
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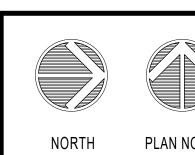
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HVAC ROOF PLAN - PART A

 PROJECT MANAGER
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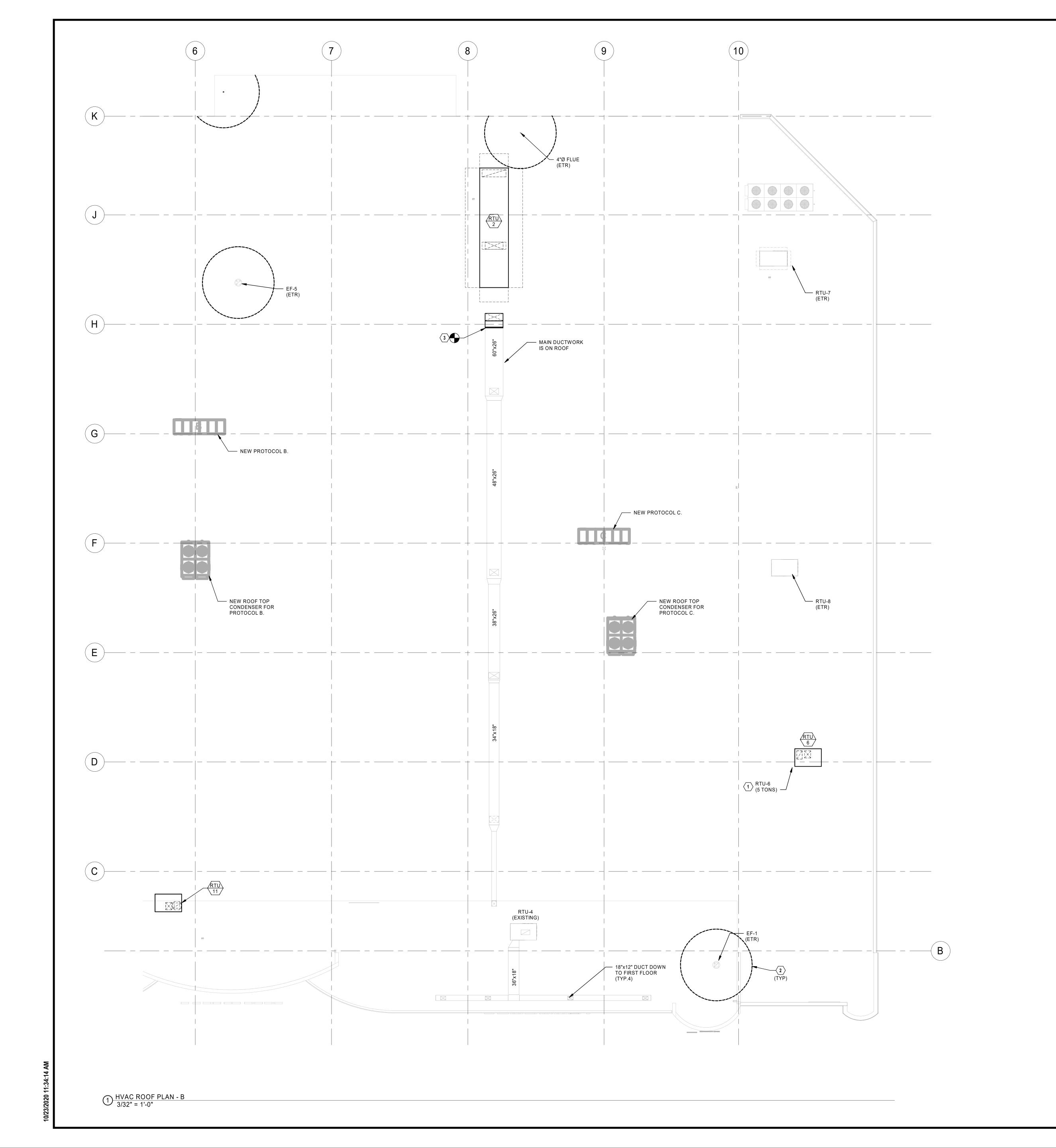
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 MLJ
 10/19/2020

 SCALE:
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- 1 ALL SERVICEABLE EQUIPMENT SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM THE ROOF EDGE IN LOCATIONS WHERE THE PARAPET WALL IS LESS THAN 42" TALL.
- COORDINATE EQUIPMENT CURB PLACEMENT WITH EXISTING STRUCTURE.

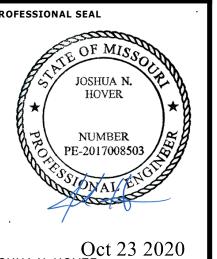
MECHANICAL PLAN NOTES

- 1 PROVIDE NEW EQUIPMENT ON EXISTING CURB, COORDINATE ADAPTOR AS REQUIRED. CONNECT TO EXISTING DUCTWORK.
- AS REQUIRED. CONNECT TO EXISTING DUCTWORK.

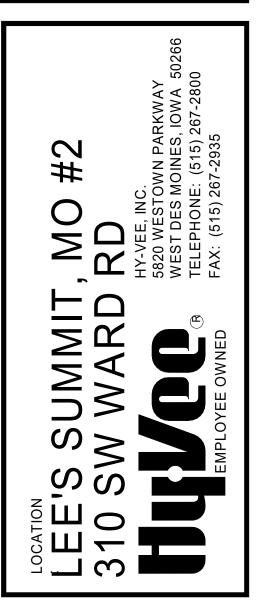
 2 ALL EXHAUST TERMINATIONS SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES.
- 3 PENETRATE NEW DUCTWORK THRU ROOF AND CONNECT NEW SUPPLY DUCT TO EXISTING DUCTWORK ON ROOF.

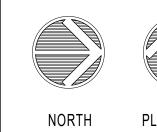
HENDERSON ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM 1950003081 MO. CORPORATE NO: E-556D EXPIRES 12/31/2020

REVISION



Oct 23 2020 JOSHUA N. HOVER LICENSE # PE-2017008503





PLAN NORTH

HVAC ROOF PLAN
- PART B

PROJECT MANAGER CHECKED BY:
SL Checker

DRAWN BY:

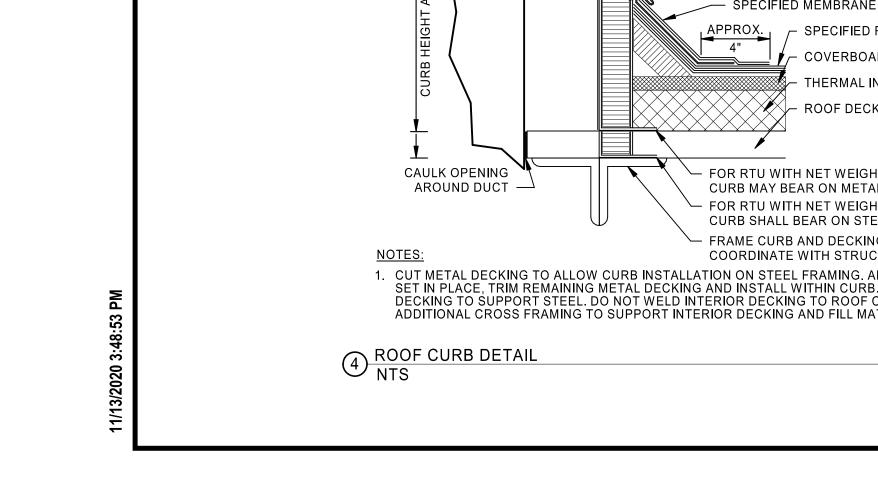
SCALE:
AS NOTED

SHEET:

H3 08

H37

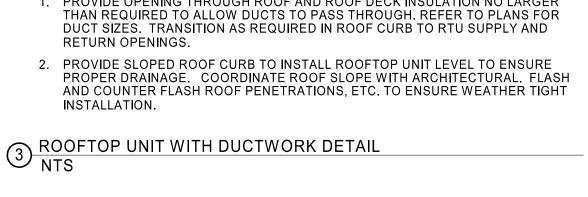
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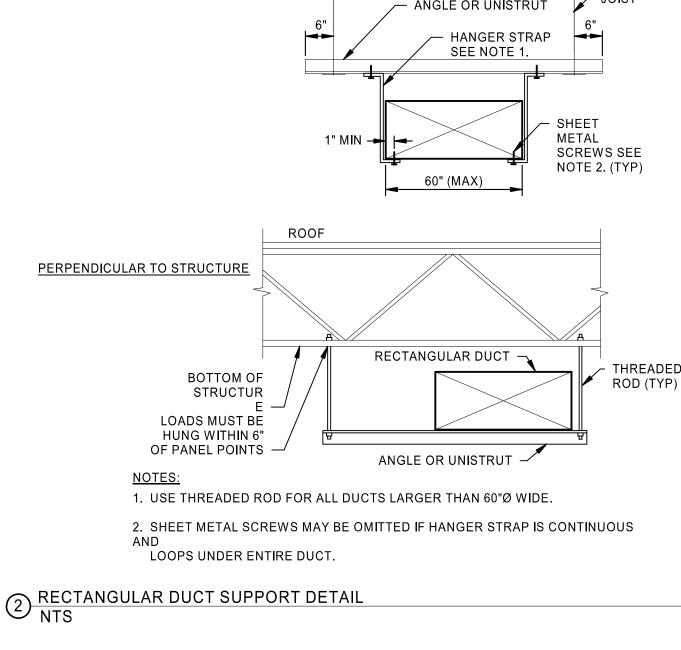


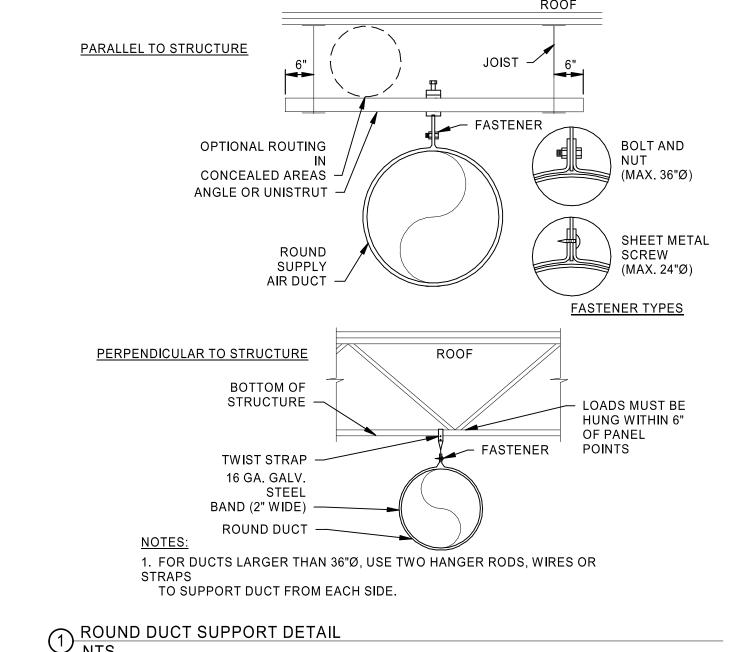
- FOR RTU WITH NET WEIGHT UNDER 1,000 LBS CURB MAY BEAR ON METAL DECK - FOR RTU WITH NET WEIGHT OVER 1,000 LBS CURB SHALL BEAR ON STEEL FRAMING FRAME CURB AND DECKING WITH STEEL ANGLE. COORDINATE WITH STRUCTURAL ENGINEER.

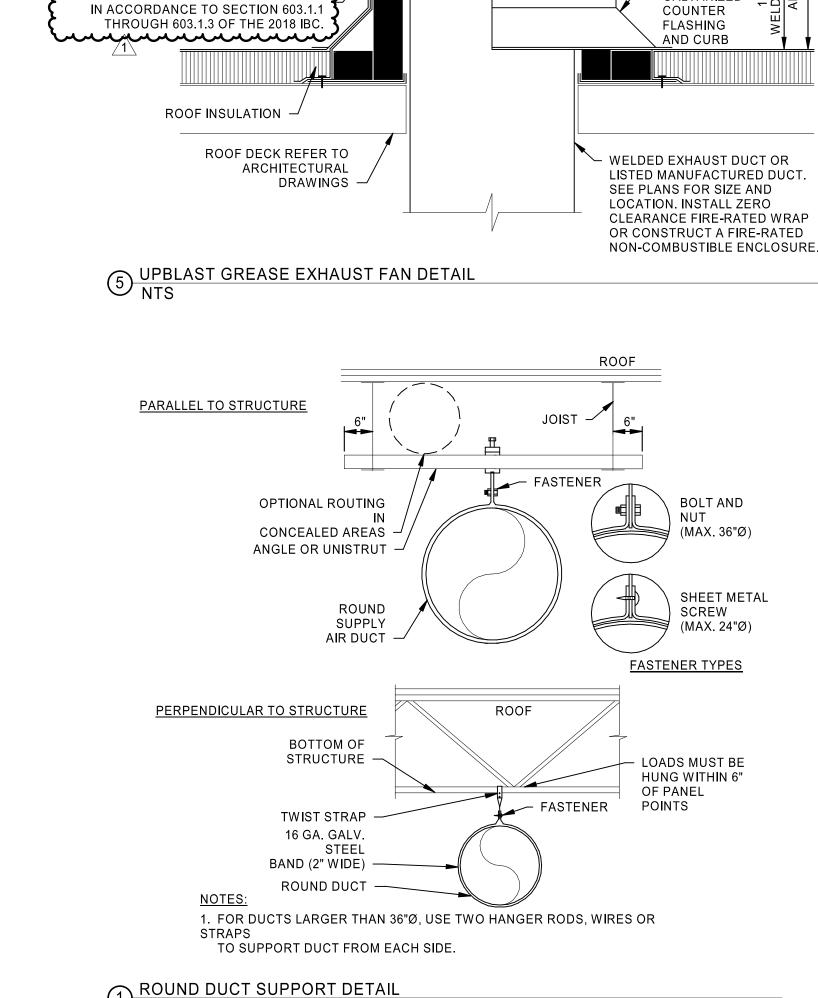
INSTALLATION.











ELECTRICAL

ELECTRICAL

FAN HOUSING -

ADJUSTABLE

ISOLATOR BUSHING

WITH FLANGED NUT →

MOUNTING BRACKETS -

EXHAUST FAN

WITH BIRDSCREEN -

INSTALL NON-VENTED CURB

WRAP IS UTILIZED, VENTED

GREASE TRAP

INSTALL NEOPRENE

GASKET BETWEEN

CURB EXTENSION IF A

NON-COMBUSTIBLE

FIRE-RATED

ENCLOSRE IS

CONSTRUCTED

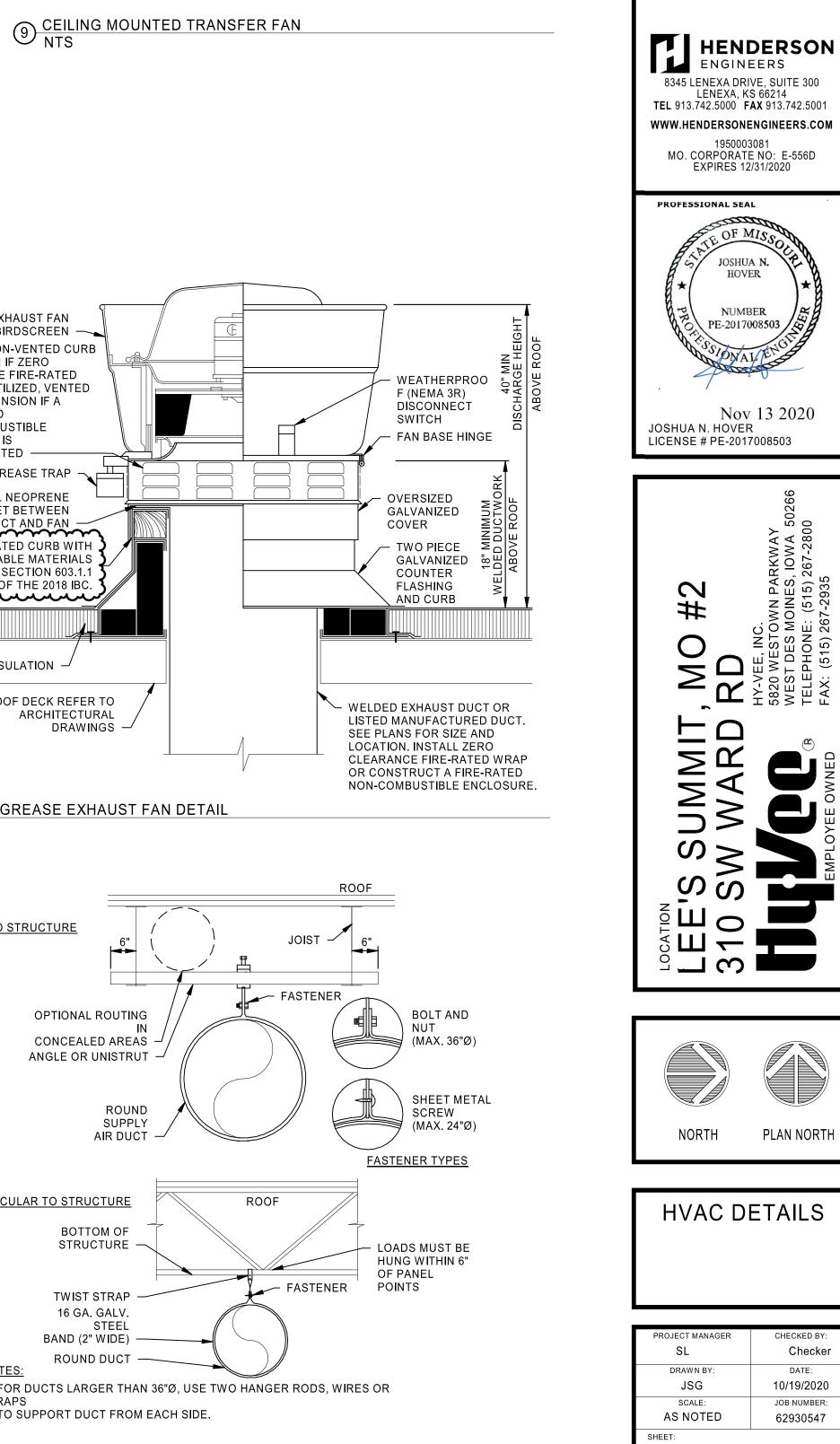
DUCT AND FAN

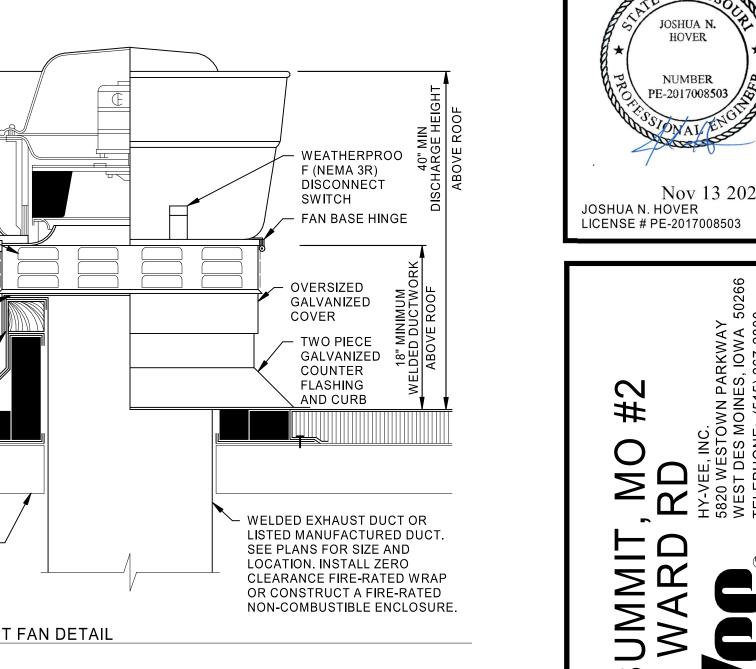
PREFABRICATED INSULATED CURB WITH

NAILER TO MEET ALLOWABLE MATERIALS

EXTENSION IF ZERO CLEARANCE FIRE-RATED CONTRACTOR

WIRING BY





- ALL-THREAD ROD

TO STRUCTURE

L EXHAUST GRILLE

PROVIDED WITH

EXHAUST FAN

EXHAUST DUCT

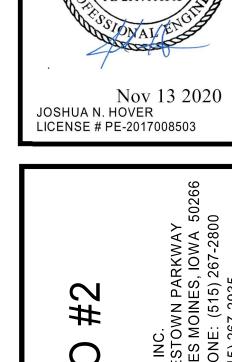
RE: MECHANICAL

BACKDRAFT

└ FLEX CONNECTOR

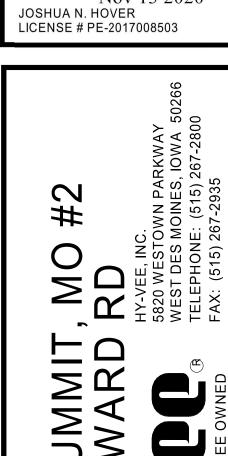
CEILING

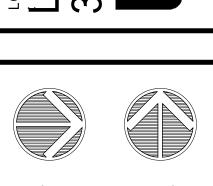
DAMPER

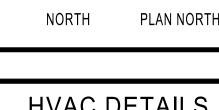


LENEXA, KS 66214

REVISION

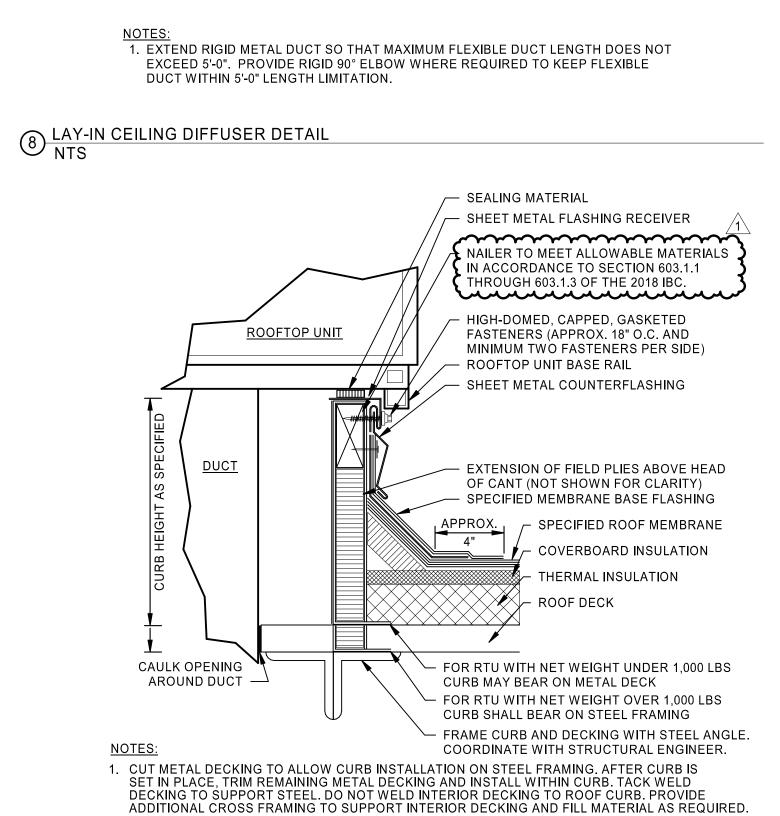


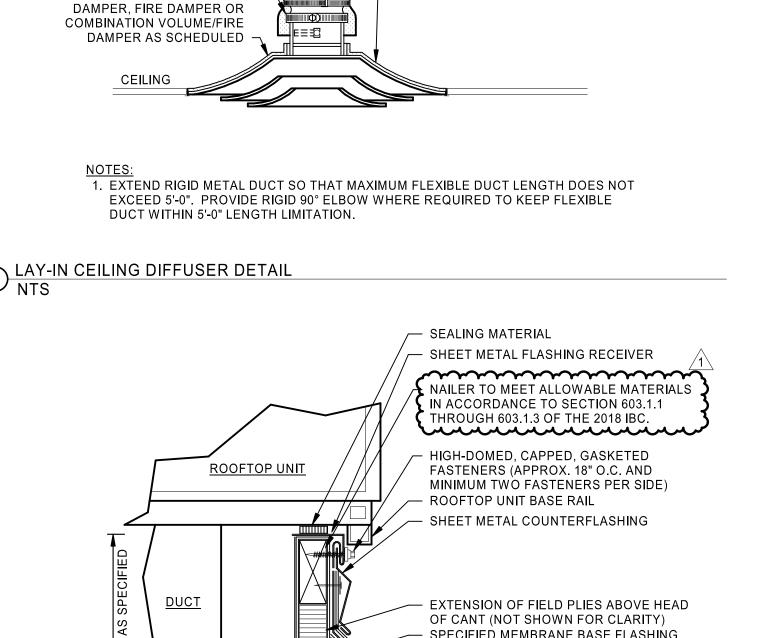




HVAC DETAILS

DRAWN BY: DATE: JSG 10/19/2020 SCALE: JOB NUMBER: AS NOTED 62930547





GAS FIRE EQUIPMENT VENT AND FLUES ABOVE ROOF

BACKFLOW PREVENTER

12 TYPICAL MOUNTING HEIGHTS
scale: N.T.S.

1 REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS, IE NOT SHOWN REFER TO THESE DEFAULT ELEVATIONS. IN ALL INSTANCES, HEIGHTS MUST MEET MINIMUM AND MAXIMUM HEIGHTS AS DETERMINED BY CODE AND AHJ.

ALL EQUIPMENT SHALL BE MOUNTED AT ADA REQUIRED HEIGHTS WHEN DIRECTED BY AHJ.

CO2 SENSOR

SECONDARY STORM SCUPPER DISCHARGE AT GRADE

GENERAL NOTES:

WALL MOUNT THERMOSTAT

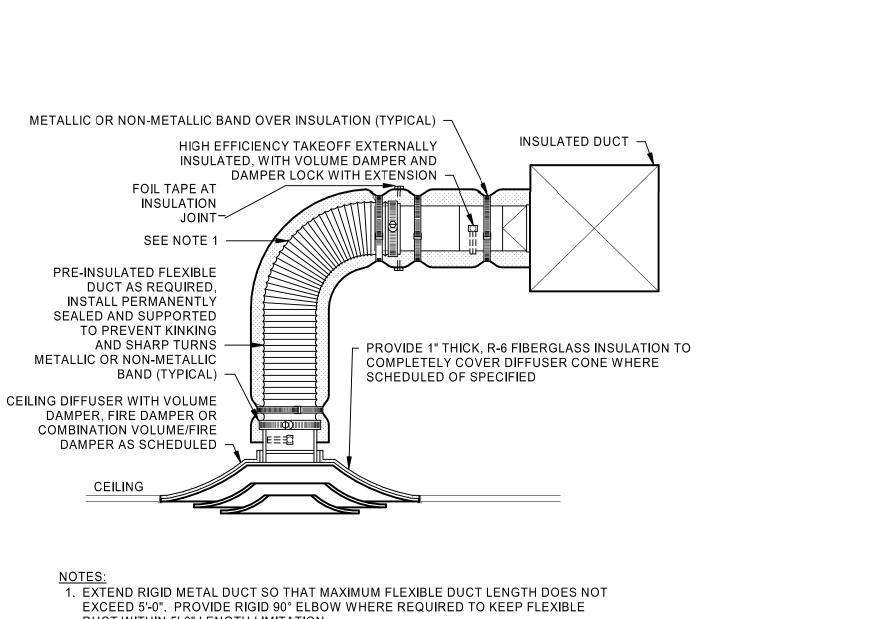
OUTDOOR HOSE BIBB

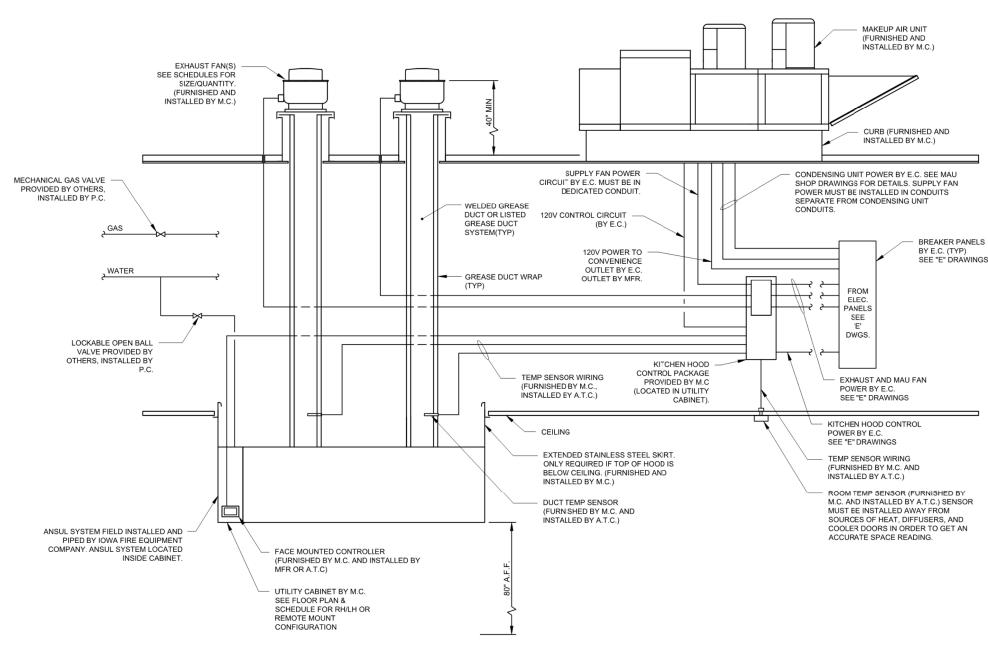
ROOF HYDRANT

OUTSIDE AIR/RELIEF AIR HOOD

NOTE: THERMOSTATS, HUMIDISTATS, AND ADJUSTMENT SHALL BE MOUNTED AT 48" AFF OR AS REQUIRED BY AHJ FOR ADA

GAS METER

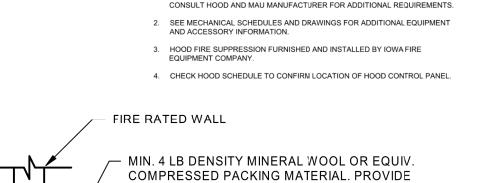


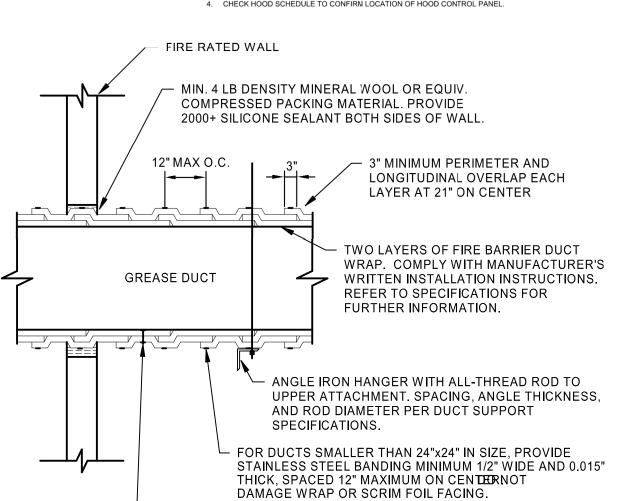


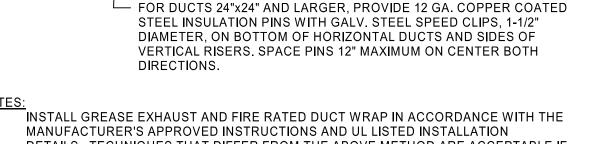


THIS DETAIL IS SCHEMATIC IN NATURE AND INTENDED TO DEFINE SCOPE. CONSULT HOOD AND MAU MANUFACTURER FOR ADDITIONAL REQUIREMENTS.

2. SEE MECHANICAL SCHEDULES AND DRAWINGS FOR ADDITIONAL EQUIPMENT AND ACCESSORY INFORMATION.

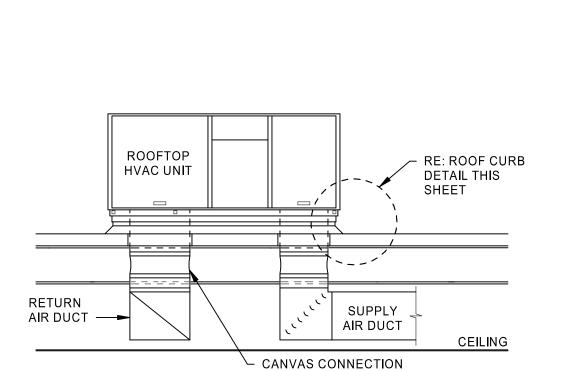






DETAILS. TECHNIQUES THAT DIFFER FROM THE ABOVE METHOD ARE ACCEPTABLE IF THEY ARE UL TESTED AND APPROVED.

GREASE DUCT FIRE WRAP INSULATION INSTALLATION DETAIL
NTS



1. PROVIDE OPENING THROUGH ROOF AND ROOF DECK INSULATION NO LARGER THAN REQUIRED TO ALLOW DUCTS TO PASS THROUGH. REFER TO PLANS FOR

(TYPICAL)

2 RECTANGULAR DUCT SUPPORT DETAIL NTS

1 ACCESS HOLE

8 | SPEED CLIPS

3 ACCESS COVER - 16 GAUGE

4 INSULATED PINS - WELDED

OVERLAP ON ALL SIDES

2 1/4 IN. (6mm) DIAMETER ALL THREADED RODS

OVERLAP ON ALL SIDES OF PREVIOUS LAYER

9 ALUMINUM TAPE COVERING ALL EXPOSED EDGES

10 | SPOOL PIECES FOR THREADED RODS

6 GREASE DUCT CLEANOUT ACCESS DOOR NTS

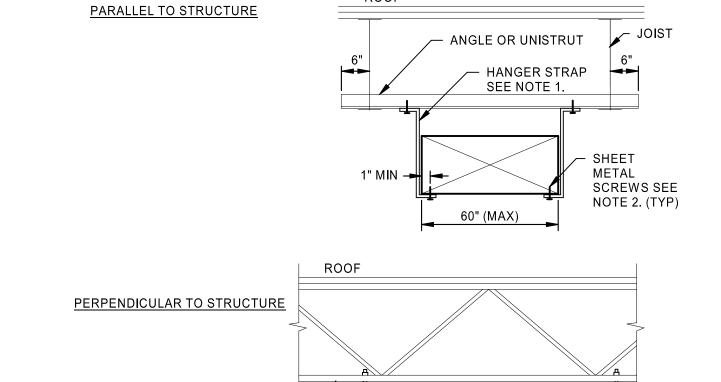
11 | 1/4 IN. (6mm) DIAMETER WING NUTS

5 | FIRST LAYER FIRE BARRIER DUCT WRAP CUT SAME SIZE AS COVER

FOR REFERENCE ONLY. INSTALL PER MANUFACTURERS RECOMMENDATION\$

6 SECOND LAYER FIRE BARRIER DUCT WRAP WITH 1 IN. (25mm)

THIRD LAYER FIRE BARRIER DUCT WRAP WITH 1 IN. (25mm)



EXTEND DUCTWORK

OVER TOP OF CURB,

SECURE DUCTWORK

TO CURB NAILER -

PINS, OR BOLTS -

FASTEN ANGLE IRON

SECURELY TO DUCT

AND ROOF

10 DOWNBLAST EXHAUST FAN DETAIL NTS

STRUCTURE -

SECURE CURB TO

ROOF WITH SCREWS,

EXHAUST FAN WITH BIRDSCREEN

SECURE EXHAUST FAN

ROOF CURB
PREFABRICATED

INSULATED CURB WITH

NAILER.

- ROOF INSULATION

ROOF DECK REFER TO

ARCHITECTURAL DRAWINGS

COUNTER BALANCED BACKDRAFT

ABOVE TO ALLOW SERVICE OR REMOVAL OF DAMPER FROM ROOF

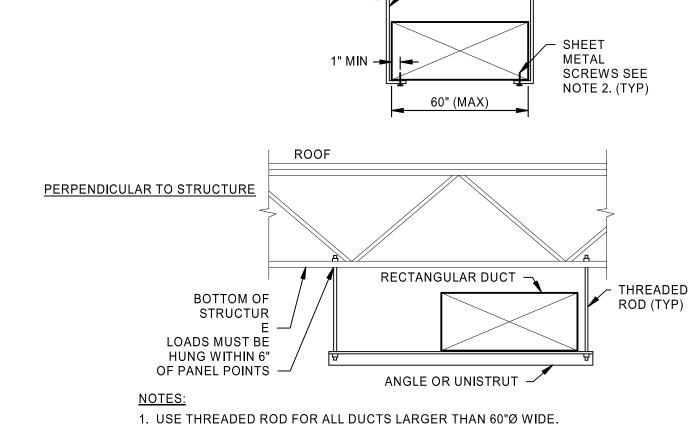
EXHAUST DUCT UP THROUGH

ROOF. SEE PLANS FOR SIZE

AND LOCATION.

DAMPER, SECURE TO DUCT FROM

(UNLESS NOTED OTHERWISE)



1 ROUND DUCT SUPPORT DETAIL NTS

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND

CONTRACTOR TO DETERMINE PROPER BORDER STYLE TO MATCH CEILING/WALL TYPE. COORDINATE WITH ARCHITECTURAL RELECTED CEILING/WALL PLAN.

BRANCH DUCT TO DIFFUSERS SHALL BE AT THE SAME SIZE AS THE DIFFUSER NECK, UNLESS SHOWN OTHERWISE. DIFFUSERS IN THE MARKET GRILLE AND CASUAL DINING ARE TO BE COLOR MATCHED TO THE CEILING ELEMENT.

. PROVIDE DIFFUSERS, REGISTERS, AND GRILLES WITH NO EXPOSED MOUNTING SCREWS.

CONTRACTOR SHALL PROVIDE REMOTE CABLE OPERATING VOLUME DAMPER WHERE HARD CEILING RESTRICTS ACCESS TO DAMPER

PROVIDE LINEAR DIFFUSER WITH (2) 1" SLOTS, 5" TOTAL WIDTH, AND 4'-0" TOTAL LENGTH. PROVIDE WITH INSULATED PLENUM TO MATCH.

ROOFTOP UNIT SCHEDULE (DX COOLING, NATURAL GAS HEAT) SERVICE MODEL

WEIGHT RTU-1 SALES SOUTH SEASONS 4 VA065 / 1HJI33-0676-TN10.-17HG RTU-2 SEASONS 4 VA065 / 1HJI33-0676-TN10.-17HG SALES NORTH RTU-6 YORK ZJ078S12E2B6HCD2E2 PHARMACY A-M, Q, R, S RTU-9 YORK KITCHEN ZJ120S18P2A6HCA2E1 A-J. L-M. Q. S RTU-10 ZJ078S12E2B6HCD2E2 RTU-11 YORK ZR120S18P2A6HCA2E1 AOL/CUSTOMER SERVICE 52.3 410A A-M, O-Q, S RTU-12 YORK 3,200 0.6 2 114.3 80.2 80.0 67.0 56.8 55.6 410A 12.7 WINE & SPIRIT ZR120S18P2A6HCA2E1

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

PROVIDE WITH UNIT MOUNTED CONTROLLER WITH BACNET INTERFACE. SUPPLY AIR EXTERNAL PRESSURE INCLUDES AN ALLOWANCE FOR DIRTY FILTERS.

EQUIPMENT SIZED AT 100F AMBIENT TEMPERATURE.

MANUFACTURER

PROVIDE DOWNFLOW DISCHARGE UNIT PROVIDE GUARDS TO PROTECT CONDENSER COIL FROM HAIL OR OTHER DAMAGE.

PROVIDE UNIT WITH FACTORY MOUNTED RETURN AIR SMOKE DETECTOR.

PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.

PROVIDE UNIT WITH POWERED CONVENIENCE OUTLET PROVIED MOTOR OPERATED OUTSIDE AIR DAMPER.

PROVIDE STAINLESS STEEL DRAIN PAN WITH UNIT.

PROVIDE STAINLESS STEEL HEAT EXCHANGER WITH UNIT. PROVIDE UNIT WITH MODULATING NATURAL GAS FURNACE.

PROVIDE HOT GAS REHEAT WITH UNIT. PROVIDE UNIT WITH SINGLE ENTHALPY ECONOMIZER AND BARAMETRIC RELIEF WITH UNIT.

UNIT SHALL HAVE VAV CONTROLLER WITH VFD. PROVIDE UNIT WITH S CLIPS FOR TIE-DOWN.

ELECTRIC CEILING HEATER SCHEDULE SERVICE MANUFACTURER MODEL (CFM) (L" x W") VOLTS BY WINE & SPIRIT GRAINGER 300 23.75" x 23.75" 4000 208

A. PROVIDE WITH WALL MOUNTED LINE VOLTAGE THERMOSTAT AND LOCKABLE COVER. PROVIDE NECESSARY MOUNTING BRACKET AND ACCESSORIES AND INSTALL PER MANUFACTURER REQUIREMENTS

COLOR SHALL BE WHITE.

UNIT HEATER SCHEDULE (EXISTING TO REMAIN) ELECTRICAL INPUT **MANUFACTURER** SERVICE MODEL PV250A-63 DOCK AREA MODINE MODINE PV125A-30 **BACKROOM** 115 1 UH 3 PV125A-30 **BACKROOM** 115

. SCHEDULED EQUIPMENT IS EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY

KITCHEN EXHAUST HOOD SCHEDULE EXHAUST RISER **FILTERS** HOOD DIMENSIONS (IN)

BACKSPLASH SERVICE MODEL CLASSIFICATION SUPPRESSION MANUFACTURER $(L \times W \times H)$ KITCHEN CAPTIVE AIRE 146 MISC-PSP SUPPLY PLENUM 12" DIA CAPTIVE AIRE 146 MISC-PSP SUPPLY PLENUM KITCHEN 12" DIA 256 A-H CAPTIVE AIRE 6630 NDI-PSP-FB TYPE I - GREASE BBQ 66" x 66" x 30" 12" DIA 226 / 282 | 0.066 / 0.1 | 8 CAPTRATE SOLO PIZZA RECESSED A-H YES CAPTIVE AIRE TYPE I - GREASE 60" x 42" x 18" 4218 SND-2 **CAPTIVE AIRE** RECESSED CAPTIVE AIRE 5430 ND-2WI TYPE I - GREASE ROTISSERIE

UTILITY CABINET SHALL BE BY HOOD MANUFACTURER. SUPPRESSION SYSTEM SHALL BE FURNISHED AND INSTALLED BY IOWA FIRE EQUIPMENT COMPANY.

HOOD SUPPLIER SHALL FURNISH HOOD WITH UL LISTED BAFFLE-TYPE GREASE FILTERS, GREASE DRAIN WITH REMOVABLE CUP, AND UL LISTED LED LIGHT FIXTURES. HOOD SUPPLIER SHALL FURNISH STAINLESS STEEL ENCLOSURE PANELS FROM TOP OF HOOD TO FINISH CEILING AND 3 INCH STANDOFF FROM WALL AS REQUIRED

HOOD SUPPLIER SHALL FACTORY INSTALL THE HOOD CONTROL PACKAGE IN THE HOOD UTILITY CABINET.

PROVIDE INTERLOCK KIT WITH ONE TEMPERATURE SENSOR PER GREASE EXHAUST COLLAR TO MEET IMC REQUIREMENTS MOUNT BOTTOM OF HOOD AT 6'-8" ABOVE FINISHED FLOOR.

IOWA FIRE EQUIPMENT COMPANY SHALL FURNISH AUTOMATIC SOLENOID GAS SHUT-OFF VALVE TO BE INSTALLED BY PLUMBING CONTRACTOR

PROVIDE COMPLETE CAPTIVE AIRE THERMOSTATIC ELECTRICAL PACKAGE TO CONTROL FAN WITH DUCT TEMPERATURE SENSOR. RECESSED HMI, AND ENCLOSURE. HOOD IS EXISTING TO REMAIN. HOOD SUPPLIER IS TO PROVIDE NEW MAKEUP AIR PLENUM FOR FRONT OF EXISTING HOOD.

MANUFACTURER

CAPTIVE AIRE

CAPTIVE AIRE

MAKEUP AIR UNIT SCHEDULE (DX COOLING, NATURAL GAS HEAT) WEIGHT NOTES ELECTRICAL 0.5 5 120 71.2 95 78 77.8 70.4 R-410A 327.4 208/3 MAIN COOKLINE 355.9 MFR MFR A2-D.500-20D-MPU

UNIT SHALL INCLUDE PACKAGED CONTROLS.

PROVIDE UNIT WITH VERTICAL SUPPLY AIR DUCT DISCHARGE THRU UNIT CURB.

A2-D.250-20D-MPU

PROVIDE UNIT WITH GFCI CONVENIENCE OUTLET FOR FIELD WIRING. PROVIDE INLET HOOD WITH CLEANABLE ALUMINUM MESH FILTERS.

F,G,H

PROVIDE UNIT WTH MOTORIZED INTAKE DAMPERS

PROVIDE FREEZESTAT IN THE SUPPLY AIR DUCT TO SHUT DOWN THE SUPPLY FAN AND CLOSE THE OUTDOOR AIR DAMPER IF TEMPERATURE IN THE SUPPLY DUCT DROPS BELOW 40 DEGREES FAHRENHEIT. PROVIDE WITH DISCHARGE DUCT SENSOR WITH MODULATING OR STAGED COOLING AND HEATING CAPABILITIES AS REQUIRED FOR OPERATION OF CONTROLS

PROVIDE WITH FULL PERIMETER CURB & TIE DOWN CLIPS.

ELECTRICAL SERVICE MANUFACTURER CONTROLS WEIGHT MARK DESCRIPTION VOLTS PH (LBS) (BELT/DIRECT) DAMPER DISC BY KEF-1A MAIN COOKLINE CAPTIVE AIRE MFR 24" BY HOOD MFR KEF-1B MFR MAIN COOKLINE **CAPTIVE AIRE** DU180HFA MFR 24" BY HOOD MFR KEF-2 DU180HFA 1198 MFR 24" BY HOOD MFR MFR MFR CAPTIVE AIRE KEF-3 MFR 24" WOK CAPTIVE AIRE DU240HFA BY HOOD MFR MFR 24" BY HOOD MFR KEF-5 BAKERY DECK OVEN 1220 MFR 24" BY HOOD MFR CAPTIVE AIRE DU33HFA KEF-8 MFR 24" ROTISSERIE CAPTIVE AIRE DU180HFA BY HOOD MFR 1492 EF-12 REAR RESTROOMS MFR 24" **BREAKER BY EC** F,G,H GREENHECK G-123-VG MOTHERS 700 MFR 12" **BREAKER BY EC** MFR MFR F,G,H **GREENHECK** 120 1

TF 2

PROVIDE MOTORIZED BACKDRAFT DAMPER WIRED TO OPEN WHEN FAN OPERATES. FAN SHALL HAVE A SINGLE POWER CONNECTION FOR FAN AND DAMPER.

ROOFTOP UNIT SCHEDULE (EXISTING TO REMAIN)

PROVIDE NEW FILTERS FOR EXISTING AIR HANDLING EQUIPMENT PRIOR TO STARTUP OF EQUIPMENT. NEW FILTERS SHALL BE COMPATIBLE WITH THE EXISTING EQUIPMENT AND EQUAL IN PERFORMANCE TO

CONTRACTOR SHALL FIELD VERIFY THAT THE EXISTING UNIT INCLUDING ITS ACCESSORIES BEING RESUSED IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE OWNER

CONTRACTOR SHALL VERIFY EXISTENCE OF SMOKE DETECTORS IN RETURN AIR DUCT. REPAIR OR REPLACE SMOKE DETECTORS IF NOT FUNCTIONAL SUCH THAT UNIT SHUTS DOWN UPON DETECTION OF

OR ARCHITECT. CONTRACTOR SHALL SUBMIT TO THE OWNER AND ARCHITECT A WRITTEN REPORT DESCRIBING TESTS PERFORMED TO VERIFY OPERATION AND RESULTS OF THE TESTS.

ENTRY VESTIBULE

FROZEN

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE

REFER TO ROOFTOP UNIT CONTROL MATRIX FOR CONTROL FEATURES, MODULES, AND ACCESSORIES THAT SHALL BE PROVIDED WITH THE EQUIPMENT.

DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE...

ETR R-410

ETR R-410 ETR

ETR R-410 ETR

HEAT EXCHANGER

TC REFR MIN OUT NOM INPUT O/A V/PH MCA MOCP

235

180

0 208/3 ETR ETR

0 208/3 ETR ETR A-D

0 208/3 ETR ETR A-D

PROVIDE HINGED ROOF CURB

PROVIDE GREASE COLLECTION SYSTEM. PROVIDE GRAVITY BACKDRAFT DAMPER.

MANUFACTURER

LENNOX

LENNOX

LENNOX

RTU-3

RTU-4

RTU-8

NOTES:

PROVIDE BIRDSCREEN. FAN SHALL BE CONTROLLED VIA THERMOSTAT LOCATED IN SPACE SERVED.

LGA090

THE EXISTING FILTERS AT NEW CONDITION UNLESS OTHERWISE NOTED.

INSTALL FAN AT SERVICEABLE HEIGHT. SUSPEND FAN USING SPRIGN VIBRATION ISOLATION SUPPORT

COMM RM

VARIABLE AIR VOLUME TERMINAL SCHEDULE (ELECTRIC HEAT) FROM SERVED VAV 10-1 Dept Heads TITUS VAV 10-2 Employee Lounge TITUS VAV 10-3 VAV 10-4 Directors Office VAV 10-5 Asst Mgrs Office TITUS VAV 6-1 RTU-6 VAV 6-2 VAV 6-3 Clinic reception / Lab and Hall / RF RTU-6 VAV 6-4 VAV 6-5

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NOTES

0.5 1.5 90 40.7 95 78 77.3 67.5 R-410A

A. CONTROLS SHALL BE FIELD MOUNTED BY ATC.

RADIATED AND DISCHARGE NOISE LEVELS SHALL NOT EXCEED AN NC OF 35 AT A PRESSURE DROP OF 1.0" W.C. PER ARI STANDARD 880 TOTAL TERMINAL UNIT AIR PRESSURE DROP SHALL NOT EXCEED 0.5" W.C. AT PEAK COOLING AIRFLOW.

INSTALL FLEXIBLE DUCT CONNECTOR AT INLET CONNECTION.

PROVIDED FACTORY INSTALLED CONTROL POWER (CP) TRANSFORMER.COORDINATE PRIMARY POWER WITH ELECTRICAL DRAWINGS. INLET SIZE SHOWN IS THE MINIMUM ALLOWABLE INLET SIZE. NO SMALLER SIZES SHALL BE ACCEPTED.

DISCONNECT BY

CELLAR SYSTEM SCHEDULE SERVICE

HORIZONTAL

DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

UNIT WILL BE FURNISHED BY OWNER AND INSTALLED BY REFRIGERATION CONTRACTOR. SHEET METAL PROVIDED BY M.C. AND CONTROLS BY T.C.

UNIT WILL BE FURNISHED WITH 10" ROUND DUCT COLLARS ON THE INLET AND OUTLET OF UNIT. UNIT WILL BE FURNISHED WITH AUTOMATIC EXPANSION VALVE.

US CELLAR SYSTEMS

THERMOSTAT BY MC

REFRIGERATION CONTRACTOR TO PROVIDE R-448A REFRIGERANT FOR CS-1 CAPACITY.

DESCRIPTION

WINE CELLAR

FAN SCHEDULE (EXISTING TO REMAIN)

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO

//ARK	SERVICE	MANUFACTURER	MOUNTING	MODEL	TYPE	CFM	ESP	NOM	FAN	DRIVE	ELECTRICAL	NOTES
	DESCRIPTION						(IN)	HP	RPM	(BELT/DIRECT)	V/PH	I
EF-1	CLINIC RESTROOMS	COOK	ROOF	100ACEH	DOWNBLAST	200	-	0.125	1550	ETR	115/1	A, B
EF-5	SEAFOOD	COOK	ROOF	135VCR	UPBLAST	450	0.6	0.333	1725	ETR	115/1	A
EF-21	DINING RESTROOMS	COOK	ROOF	70ACE70C2B	DOWNBLAST	200	0.4	0.167	1725	ETR	115/1	Α
								•				

MANUFACTURER

SCHEDULED EQUIPMENT IS EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY. SET FAN TO CFM AT LOWEST STABLE CONDITION.

SERVICE

ELECTRICAL ROOM

MODEL

PDP-175

UNIT HEATER SCHEDULE (NATURAL GAS) OUTPUT | MIN EFF | GAS PRESSURE DISCONNECT STARTER (IN W.C.) VOLTS PHASE CFM (MBH) (%) BY

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UH-4

DDC THERMOSTAT PROVIDED BY ATC.

B. INSTALL THERMOSTAT IN AN ACCESSIBLE LOCATION. . PROVIDE NECESSARY MOUNTING AND ACCESSORIES AND INSTALL PER MANUFACTURER REQUIREMENTS. **BUILDING AIR BALANCE SCHEDULE**

KFF-1A MAIN COOKLINE KEF-1B MAIN COOKLINE KEF-3 2850 KEF-4 1050 **BAKERY DECK OVEN*** KEF-6 (ETR) DONUT FRYER* 675 KEF-7 (ETR) DISHWASHER 1050 ROTISSERIE 1788 BAKERY RACK OVEN KEF-9 (ETR) 900 EF-1 (ETR) CLINIC RESTROOMS EF-5 (ETR) SEAFOOD DEPARTMENT 450 EF-12 REAR RESTROOMS 1125 EF-21 (ETR) **DINING RESTROOMS**

AL EXHAUST					17,098
MAKEUP AIR:	SUPPLY AIR	SERVES	DESIGN	PERCENT	
	(CFM)		OA (CFM)	OA/SA	
MAU-1	4080	MAIN COOKLINE	4080	100%	
MAU-2	2269	WOK/BBQ	2269	100%	
RTU-1	17000	SALES SOUTH	6000	35%	
RTU-2	17000	SALES NORTH	6000	35%	
RTU-3 (ETR)	4000	DINING	0	0%	
RTU-4 (ETR)	3,500	EXIT VESTIBULE	0	0%	
RTU-5 (ETR)	3,500	ENTRY VESTIBULE	0	0%	
RTU-6	1,800	PHARMACY	250	14%	
RTU-7 (ETR)	2,640	DAIRY	0	0%	
RTU-8 (ETR)	2,400	FROZEN	0	0%	
RTU-9	3,200	KITCHEN	0	0%	
RTU-10	1,950	OFFICES	200	10%	
RTU-11	3,000	AOL / CS	125	4%	
RTU-12	3,200	WINE & SPIRIT	0	0%	
AL OUTSIDE AIR			18 924		18 924

TOTAL OUTSIDE AIR = DIVERSITY OF EQUIPMENT DURING OCCUPIED HOURS. EQUIPMENT WILL NOT BE TOTAL POSITIVE AIR FLOW ON AT THE SAME TIME AS KITCHEN.

PERCENT POSITIVE AIR FLOW

EXHAUST (CFM)

(CFM)

10%

REVISION

HENDERSON

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JOSHUA N.

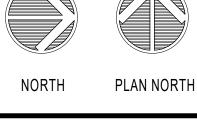
NUMBER PE-2017008503

Oct 23 2020
JOSHUA N. HOVER
'CENSF # PF CC

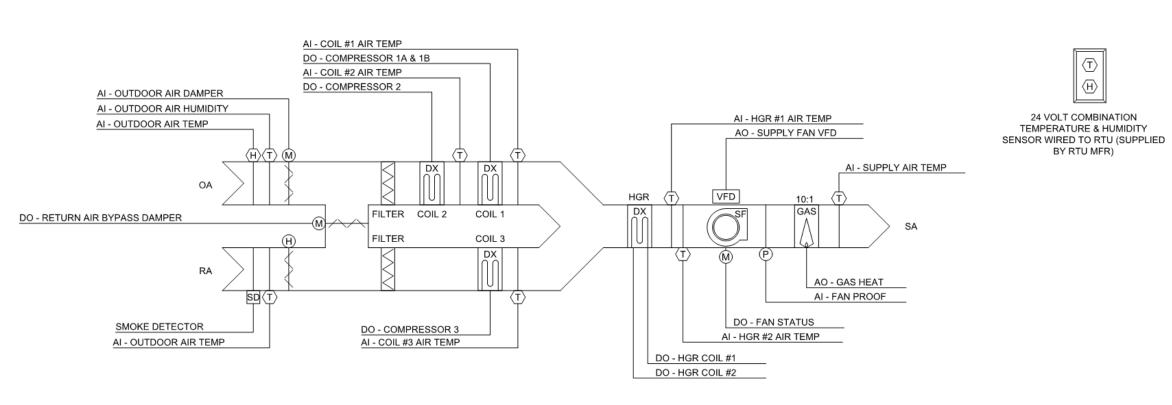
LICENSE # PE-2017008503

PROFESSIONAL SEAL

STAINLESS STEEL



DRAWN BY: 10/19/2020 SCALE: JOB NUMBER: AS NOTED 62930547



DUAL PATH ROOFTOP UNIT CONTROLS (RTU-1 & 2)

RUN CONDITIONS - SCHEDULED

THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME

THE UNIT'S CONTROLLER SHALL PROVIDE THE BAS WITH THE FOLLOWING ALARMS AS DIGITAL OUTPUTS: SUPPLY FAN FAULT ALARM: IF THE SUPPLY FAN COMMAND DOES NOT MATCH STATUS OF AIR FLOW PROOF SWITCH INPUT. COMPRESSOR FAULT ALARM: IF ANY COMPRESSOR COMMAND DOES NOT MATCH ITS CURRENT STATUS SWITCH. SMOKE DETECTOR ALARM DRAIN PAN OVERFLOW ALARM.

SUPPLY FAN: THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AT 100% OF DESIGN AIRFLOW DURING SCHEDULED OCCUPIED PERIODS. THE SUPPLY FAN SHALL OPERATE AT 50% (ADJ.) DURING UNOCCUPIED TIMES WHILE THERE IS NO CALL FOR COOLING, HEATING, OR DEHUMIDIFICATION.

ONE COOLING SETPOINT: THE OCCUPANT SHALL ADJUST THE ZONE TEMPERATURE COOLING SETPOINT IN THE SPACE ±2 DEGREES (ADJ.) ON A THERMOSTAT PROVIDED BY THE RTU MANUFACTURER. THE ZONE COOLING SETPOINT SHALL BE DISCOVERABLE AND ADJUSTABLE FROM THE BAS. UPON LOSS OF COMMUNICATION, THE UNIT SHALL REVERT TO THE LAST ZONE COOLING SETPOINT BEFORE COMMUNICATION WAS LOST. ZONE HEATING SETPOINT: THE UNIT'S CONTROLLER SHALL USE A 2 DEGREE

(ADJ.) OFFSET TO DETERMINE THE ZONE HEATING SETPOINT. THE OFFSET SHALL BE DISCOVERABLE AND ADJUSTABLE BY THE BAS. $\underline{\sf ZONE}$ DEWPOINT SETPOINT: THE DEW POINT SETPOINT SHALL BE 50 DEGREES (ADJ.) AND DISCOVERABLE AND ADJUSTABLE BY THE BAS.

TEMPERATURE CONTROL (DRY BULB CONTROL):

UPON A CALL FOR HEATING, THE UNIT'S CONTROLLER SHALL MODULATE THE FURNACE TO HOLD A 95 DEGREE (ADJ.) SUPPLY AIR TEMPERATURE WHILE ENERGIZED ON. THE HEATING SHALL BE ENABLED WHENEVER: THE ZONE TEMPERATURE IS BELOW THE ZONE TEMPERATURE

HEATING SET POINT THE SUPPLY FAN STATUS IS ON THE UNIT IS NOT IN DEHUMIDIFICATION MODE

UPON A CALL FOR COOLING, THE UNIT'S CONTROLLER SHALL STAGE COOLING CIRCUITS 1 & 2 IN FIVE MINUTE INTERVALS TO MAINTAIN A COIL LEAVING TEMPERATURE OF 48 DEGREES. IF THE SPACE COOLING DEMAND CAN NOT BE MET AFTER A TIME DELAY OF 5 MINUTES (ADJ.), THE CONTROLLER SHALL STAGE ON COOLING CIRCUIT 3 TO MEET ZONE SET POINT. THE COOLING SHALL BE ENABLED WHENEVER:

THE ZONE TEMPERATURE IS ABOVE THE ZONE TEMPERATURE COOLING SETPOINT THE SUPPLY FAN STATUS IS ON THE UNIT IS NOT IN DEHUMIDIFICATION MODE THE OUTDOOR AIR DAMPER STATUS IS GREATER THAN 20% OR THE NIGHT SET BACK DAMPER (RETURN AIR BYPASS DAMPER STATUS) IS

HUMIDITY CONTROL:
THE BAS SHALL MAKE THE ZONE DEW POINT SETPOINT AVAILABLE TO THE UNIT'S CONTROLLER. THE UNIT'S CONTROLLER SHALL ENABLE DEHUMIDIFICATION MODE

GREATER THAN 90%

WHEN EITHER OF THE FOLLOWING IS TRUE: 1. ZONE DEWPOINT EXCEEDS ZONE DEWPOINT SETPOINT AND THE OUTDOOR AIR DAMPER POSITION EXCEEDS 20% OR THE NIGHT SET BACK DAMPER 2. OUTDOOR AIR DEWPOINT EXCEEDS 51 DEGREES (ADJ.) DEWPOINT AND THE UNIT'S OUTDOOR AIR DAMPER POSITION EXCEEDS 20%.

DEHUMIDIFICATION MODE #1: IF ZONE DEWPOINT EXCEEDS ZONE DEWPOINT SETPOINT, ALL THREE

COOLING STAGES SHALL BE AVAILABLE TO OPERATE. COOLING CIRCUITS 1 & 2 SHALL STAGE ON TO MAINTAIN A LEAVING COIL TEMPERATURE OF 48 DEGREES. IF THE ZONE HUMIDITY SET POINT IS NOT MET AFTER 5 MINUTES (ADJ.), COOLING CIRCUIT 3 SHALL STAGE ON. DEHUMIDIFICATION MODE #2: IF ZONE DEWPOINT IS LESS THAN ZONE DEWPOINT SETPOINT AND THE

OUTDOOR AIR DEWPOINT EXCEEDS 51 DEGREES (ADJ.) DEWPOINT, THEN ONLY COOLING CIRCUITS 1 AND 2 WILL BE AVAILABLE TO OPERATE. COOLING CIRCUITS 1 & 2 SHALL STAGE ON TO MAINTAIN A LEAVING COIL TEMPERATURE OF 48 DEGREES. COOLING CIRCUIT 3 SHALL REMAIN DISABLED.

REHEAT MODE: THE HOT GAS REHEAT COILS SHALL BE AVAILABLE TO OPERATE DURING BOTH DEHUMIDIFICATION MODES TO PREVENT OVER-COOLING OF THE SPACE. IF THE ZONE TEMPERATURE IS 2 DEGREES (ADJ.) BELOW THE ZONE TEMPERATURE COOLING SETPOINT, THE HOT GAS REHEAT COILS SHALL BE ACTIVATED. IF THE ZONE TEMPERATURE IS 3 DEGREES (ADJ.) BELOW THE ZONE TEMPERATURE COOLING SETPOINT, THE AUXILIARY HEATER SHALL ENERGIZE ON AND MODULATE TO ACHIEVE A SUPPLY AIR TEMPERATURE SET POINT OF 75 DEGREES (ADJ.) REHEAT SHALL BE DISABLED ONCE ZONE TEMPERATURE IS 1 DEGREE (ADJ.) BELOW ZONE COOLING SETPOINT.

DUCT MOUNTED RETURN AIR SMOKE DETECTORS: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN DUCT SMOKE DETECTOR ALARM STATUS.

DRAIN PAN OVERFLOW SENSOR: THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A DRAIN PAN OVERFLOW STATUS. WHEN ALARM CLEARS AND 10 MINUTES LAPSE, THE UNIT SHALL RESUME OPERATION.

OUTDOOR AIR DAMPER CONTROLS: OCCUPIED MODE:
THE BAS SHALL PROVIDE THE UNIT'S CONTROLLER WITH A DAMPER POSITION AND THE UNIT'S CONTROLLER SHALL CLOSE THE RETURN AIR BYPASS DAMPER. THE UNIT'S CONTROLLER SHALL HAVE A MINIMUM DAMPER POSITION

UNOCCUPIED MODE:
THE UNIT SHALL CLOSE THE OUTDOOR AIR DAMPER AND OPEN THE RETURN AIR BYPASS DAMPER.

HOFFMAN CONTROLS CONDENSER FAN CONTROL STRATEGY: CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER

CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID

TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER CONDENSER FAN #1 WILL COME ON IF REFRIGERANT LIQUID TEMPERATURE OF COMPRESSOR #1A/B, #2A/2B, OR #3 IS GREATER THE FOLLOWING POINTS SHALL BE PROVIDED TO THE UNIT'S CONTROLLER BY THE

ZONE TEMPERATURE COOLING SETPOINT OUTDOOR AIR DAMPER POSITION OCCUPANCY STATUS

ZONE DEWPOINT SETPOINT

THE FOLLOWING POINTS SHALL BE MADE AVAILABLE TO THE BAS BY THE UNIT'S CONTROLLER:

INPUTS TO UNIT'S CONTROLLER: STORE SPACE TEMPERATURE STORE TEMPERATURE OFFSET VALUE FROM STORE SENSOR

STORE HEATING SETPOINT

OUTDOOR AIR HUMIDITY OUTDOOR AIR TEMPERATURE RETURN AIR TEMPERATURE COIL 1 LEAVING AIR TEMPERATURE COIL 2 LEAVING AIR TEMPERATURE COIL 3 LEAVING AIR TEMPERATURE HGR 1 LEAVING AIR TEMPERATURE HGR 2 LEAVING AIR TEMPERATURE SUPPLY LEAVING AIR TEMPERATURE

SUPPLY FAN STATUS SUPPLY AIR PROOF STATUS GAS FURNACE STATUS COMPRESSOR 1A RUN PROOF COMPRESSOR 18 RUN PROOF COMPRESSOR 2A RUN PROOF COMPRESSOR 2B RUN PROOF COMPRESSOR 3 RUN PROOF RETURN AIR SMOKE DETECTOR INPUT

OUTDOOR AIR DAMPER POSITION FEEDBACK (0-100%) NIGHT SET BACK DAMPER (RETURN AIR BYPASS DAMPER) POSITION FEEDBACK (0-100%) DRAIN PAN FLOAT SWITCH STATUS DIGITAL OUTPUTS FROM UNIT'S CONTROLLER

COMPRESSOR 1A ON/OFF COMPRESSOR 1B ON/OFF COMPRESSOR 2A ON/OFF COMPRESSOR 2B ON/OFF COMPRESSOR 3 ON/OFF HOT GAS REHEAT COIL/VALVE #1 ON/OFF HOT GAS REHEAT COIL/VALVE #2 ON/OFF AUXILIARY FURNACE ENABLE ON/OFF

SUPPLY FAN ON/OFF

PREVIOUS SECTION.

ANALOG OUTPUTS FROM UNIT'S CONTROLLER: DIGITAL COMPRESSOR 1A PERCENTAGE MODULATING FURNACE PERCENTAGE OUTDOOR AIR DAMPER POSITION PERCENTAGE

SUPPLY FAN VFD PERCENTAGE THE BAS GRAPHICS SHALL DISPLAY VALUES OR STATUS OF POINTS LISTED IN THE

NIGHT SET BACK (RETURN AIR BYPASS) DAMPER ON/OFF

FREEZESTAT (BY JOHNSON CONTROLS A421) COOLING IS DISABLED IF THE COIL LAT DROPS BELOW 36 DEGREES (ADJ.). COOLING WILL REACTIVATE ONCE THE FREEZESTAT DOWNSTREAM OF THE EVAPORATOR COIL IS SATISFIED BY A 10 DEGREE TEMPERATURE RISE COIL LEAVING CONDITION. THERE SHALL BE A FIVE MINUTE ANTI SHORT CYCLE TIME DELAY INITIATED UPON COMPRESSOR SHUT DOWN. FREEZESTAT SHALL ONLY BE INITIATED DURING A CALL FOR COOLING.

SHUT DOWN COMPRESSOR #1A/1B IF COOLING COIL #1 LAT DROPS BELOW 36 DEGREES. SHUT DOWN COMPRESSOR #2A/2B IF COOLING COIL #2 LAT DROPS BELOW 36 DEGREES. SHUT DOWN COMPRESSOR #3 IF COOLING COIL #3 LAT DROPS BELOW 36 DEGREES.

MECHANICAL SEQUENCES HARDWIRED AT FACTORY: EACH COMPRESSOR SHALL BE WIRED TO OPERATE WITH A PUMPDOWN CYCLE. EACH COOLING CIRCUIT SHALL HAVE A LIQUID LINE SOLENOID VALVE THAT IS ENERGIZED TO OPEN ON A CALL FOR COMPRESSOR EACH HGR CIRCUIT SHALL HAVE 3 VALVES. ONE VALVE OPENS TO DIVERT HOT DISCHARGE REFRIGERANT INTO THE HOT GAS REHEAT

COIL, THE SECOND VALVE CLOSES TO DIVERT REFRIGERANT FROM HALF OF THE CONDENSER COIL, AND THE THIRD VALVE OPENS TO ALLOW REFRIGERANT TO BLEED FROM THE DEAD CONDENSER COIL DURING HOT GAS REHEAT MODE. MECHANICAL / HARDWIRED SAFETIES:

> PHASE MONITOR - AUTO RESET COMPRESSOR HIGH PRESSURE SWITCHES - MANUAL RESET COMPRESSOR LOW PRESSURE SWITCHES - AUTO RESET COPELAND MOTOR PROTECTOR - AUTO RESET BLOWER MOTOR OVERLOAD - MANUAL RESET RETURN AIR SMOKE DETECTOR - MANUAL RESET ANTI SHORT CYCLE COMPRESSOR TIME DELAYS (5 MINUTES) - AUTO FURNACE HIGH LIMIT - "SOFT RESET" AUTOSET - "HARD RESET REQUIRES POWER ON/OFF CYCLE TANDEM COMPRESSORS HARD WIRED SUCH THAT LAG (E.G. 1B) COMPRESSOR WILL NOT ENERGIZE ON IF THE LEAD (E.G. 1A) COMPRESSOR IS ENERGIZED OFF

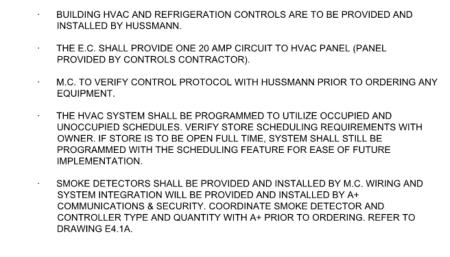
SPECIAL INFORMATION: COMPRESSORS LOCKOUT AT 45 DEGREE AMBIENT CONDITIONS TANDEM COMPRESSOR SETS WITH DIGITAL SCROLLS ARE SUBJECT TO A CONTROL STRATEGY THAT LIMITS THE DIGITAL COMPRESSOR'S MINIMUM CAPACITY TO 30% IF BOTH COMPRESSORS ARE OPERATING AND 67% IF ONLY ONE DIGITAL COMPRESSOR IS OPERATION. ALL SETPOINTS, DEAD BANDS, AND TIME DELAYS ARE ADJUSTABLE FOR OPTIMIZING UNIT PERFORMANCE ONCE EQUIPMENT IS INSTALLED. VALUES LISTED HEREIN ARE FACTORY SETTINGS.

> nper and valve actuators igerant leak detection system emperature control wiring and conduit BACNET Interface from packaged uipment controllers to DDC ariable Speed Drives stats for standalone equipment

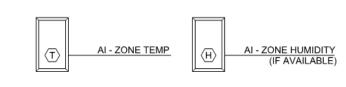
						ling	Heating	
				Location	Low Temp	High Temp	Low Temp	High
		HVAC Alarms		Sales Floor	70	75	67	
	I			Wine and Spirits	70	75	67	
1	Alarm	Alarm Recipients	[Market Grille	70	75	67	
s Floor	High Humidity	Store Director, HyVee Maintenance, 3rd party service provider	l	Offices	70	76	66	
et Grille	High Humidity	Store Director, HyVee Maintenance, 3rd party service provider	l	Backroom	80	85	50	
cet Grille	High Temperature	Store Director, HyVee Maintenance, 3rd party service provider	l	Kitchen / Prep Areas	72	78	65	
Comm. Room	High Temperature	Store Director, HyVee Maintenance, 3rd party service provider	l	Vestibules	75	85	55	
/ Vestibule	Low Temperature	Store Director, HyVee Maintenance, 3rd party service provider	I	Pharmacy	70	78	66	
sons 4	Equipment Failure	Store Director, HyVee Maintenance, 3rd party service provider	I	Clinic	70	78	66	

Notes: Confirm alarm recipients with owner prior to programming. Parties listed are recommendations

Allowable Temperature Ranges							
	Cod	oling	Hea	iting	Unoccupied		
n	Low Temp	High Temp	Low Temp	High Temp	Cooling	Heating	
	70	75	67	72	-	-	
ts	70	75	67	72	-	-	
	70	75	67	72	75	60	
	70	76	66	74	75	60	
	80	85	50	60	-	-	
Areas	72	78	65	72	80	60	
	75	85	55	65	-	-	
	70	78	66	74	75	60	
	70	78	66	74	75	60	



GENERAL CONTROLS REQUIREMENTS

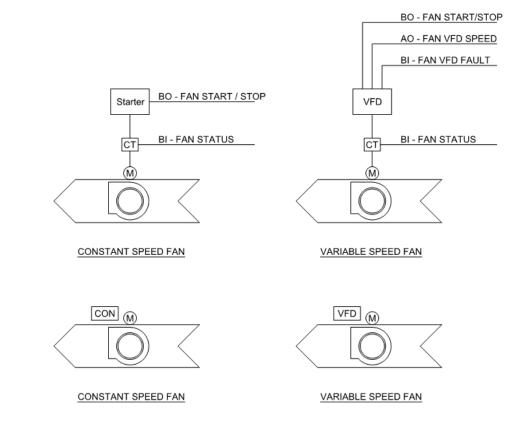


ZONE TEMP CONDITIONS

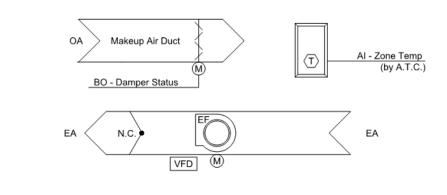
BUILDING AUTOMATION SYSTEM (BAS):

CONTROL SEQUENCE: ROOM AIR CONDITIONS:

THE CONTROLLER SHALL MONITOR THE ROOM AIR TEMPERATURE. THE CONTROLLER SHALL MONITOR ROOM AIR HUMIDITY IF THE UNIT HAS DEHUMIDIFICATION CAPABILITIES. THESE VALUES SHALL BE MADE AVAILABLE TO THE SYSTEM AT ALL TIMES.



TYPICAL FAN CONTROL REQUIREMENTS





UNIT HEATER CONTROL DIAGRAM (UH-1)

CONTROL SEQUENCE: RUN CONDITIONS:

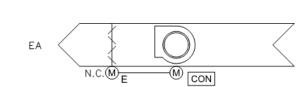
UNIT HEATER SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE IS BELOW 60°F (ADJ), UNIT SHALL RUN TO MAINTAIN SPACE SET POINT, SPACE TEMPERATURE SHALL BE MADE AVAILABLE TO THE SYSTEM AT ALL TIMES. REFER TO TABLE FOR ALLOWABLE USER SET POINT RANGE.



DRAWING

SYMBOL

DAMPER W/ ENDSWITCH



CONTROL DIAGRAM (EF-5, 12, 21, TF-1)

CONTROL SEQUENCE: RUN CONDITIONS - SCHEDULED: THE FAN SHALL RUN ACCORDING TO A USER DEFINABLE SCHEDULE. THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. EXHAUST AIR DAMPER: THE EXHAUST AIR DAMPER SHALL BE PROVIDED WITH THE EXHAUST FAN AND OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS.

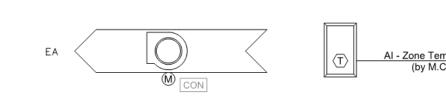
THE EXHAUST AIR DAMPER END SWITCH S HALL SIGNAL EXHAUST FAN TO



CONTROL SEQUENCE: RUN CONDITIONS - SCHEDULED:

THE FAN SHALL RUN BASED ON A WALL SWITCH. COORDINATE LOCATION OF SWITCH WITH ARCHITECT. EXHAUST AIR DAMPER: THE EXHAUST AIR DAMPER SHALL BE PROVIDED WITH THE EXHAUST

FAN AND OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE EXHAUST AIR DAMPER END SWITCH S HALL SIGNAL EXHAUST FAN TO ENABLE/DISABLE.



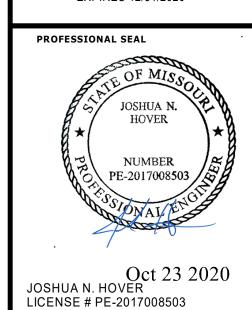
CONTROL SEQUENCE:

RUN CONDITIONS - SCHEDULED:

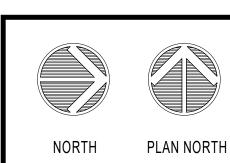
THE FAN SHALL RUN BASED ON A SPACE TEMPERATURE COOLING SETPOINT OF 80° F (ADJ.).



REVISION



LICENSE # PE-2017008503



HVAC CONTROL DIAGRAMS

DRAWN BY: SCALE: JOB NUMBER: AS NOTED

3 KITCHEN MAKEUP AIR UNIT CONTROLS

CONTROL SEQUENCE: VARIABLE VOLUME UNITS

M.C. TO PROVIDE UNIT WITH PACKAGED CONTROLS TO INTERFACE WITH A CENTRAL BUILDING AUTOMATION SYSTEM (BAS), COORDINATE PROTOCOL WITH ATC PRIOR TO ORDERING MAKEUP AIR UNIT. PACKAGED CONTROLS SHALL CONTROL MAKEUP AIR UNIT AND KITCHEN HOOD EXHAUST FANS ASSOCIATED WITH THE SYSTEM. POINTS LISTED ARE TO BE USED FOR MONITORING AND TROUBLESHOOTING.

RUN CONDITIONS: THE UNIT SHALL RUN BASED UPON A TEMPERATURE DIFFERENTIAL CALCULATED BETWEEN THE SENSOR LOCATED AT THE KITCHEN CEILING AND THE SENSOR

LOCATED IN THE NECK OF THE EXHAUST HOOD DUCTWORK. THE SYSTEM SHALL TURN ON IN PREP MODE AT A DIFFERENTIAL TEMPERATURE OF 7.5°F (ADJ.). THE SYSTEM SHALL TURN ON LOW SPEED AT A DIFFERENTIAL TEMPERATURE OF OF 15°F (ADJ.) AND MODULATE TO MAINTAIN SETTING. UPON FALLING BELOW THE DIFFERENTIAL, THE SYSTEM SHALL SHUT DOWN AUTOMATICALLY. THE UNIT SHALL

STAGE COOLING BASED ON OA TEMPERATURE MAINTAIN DISCHARGE AIR TEMPERATURE IN HEATING MODE. OVERRIDE CONTROL:

A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE AUTOMATIC CONTROLS AND PLACE THE UNIT INTO OPERATION FOR 1 HOUR (ADJ.). AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL REVERT BACK TO THE AUTOMATIC MODE. THE SYSTEM SHALL AUTOMATICALLY SHUT DOWN IF THE SPACE DIFFERENTIAL TEMPERATURE FALLS BELOW THE SETPOINT.

THE SUPPLY FAN SHALL MODULATE BASED ON THE CALCULATED DIFFERENTIAL TEMPERATURE. AS DIFFERENTIAL TEMPERATURE INCREASES, THE SUPPLY FAN SHALL MODULATE OR STAGE OFF BASED ON THE MANUFACTURER'S CONTROL

(Installed & Wired by ATC)

EXHAUST FAN(S):

TO EXHAUST FAN S PANEL

AI - ZONE HUMIDITY

BI - Zone Override AI - Zone Temp

AI - Zone Setpoint Adjust

AI - Discharge Air Temp Smoke Detector

CONTROLLER (TYP)

THE EXHAUST FAN(S) SHALL MODULATE IN UNISON WITH THE MAKEUP AIR UNIT. IF HOOD IS ENABLED VIA SWITCH, EXHAUST FAN SHALL GO INTO PREP-MODE AND EXHAUST ONLY TRANSFER AIR UNTIL HEAT IS GENERATED AT THE COOKING APPLIANCES. SUPPLY AIR TEMPERATURE:

THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE VIA A SENSOR

COOLING STAGES:

LOCATED IN THE PSP PLENUM.

THE CONTROLLER SHALL MEASURE THE OUTSIDE AIR TEMPERATURE AND STAGE COOLING TO MAINTAIN ITS COOLING SETPOINT. THE COOLING SHALL BE ENABLED WHENEVER:

STAGE 1 COOLING SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE IS 85°F (ADJ.). STAGE 2 COOLING (IF AVAILABLE) SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE IS 90°F (ADJ.).

AND THE SUPPLY FAN STATUS IS ON. AND THE HEATING IS NOT ACTIVE.

GAS HEATING:

THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING TO MAINTAIN ITS HEATING SETPOINT OF 55°F (ADJ.). THE HEATING SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

AND THE SUPPLY FAN STATUS IS ON.

THE FOLLOWING POINTS SHALL APPEAR IN THE CONTROL SYSTEM GRAPHICS FOR SYSTEMS EQUIPPED WITH DEMAND CONTROL VENTILATION:

ROOM TEMPERATURE EXHAUST TEMPERATURE (EACH FAN, QUANTITY VARIES) MAU DISCHARGE AIR TEMPERATURE

FAN SPEED FAN AMPERAGE

FAN POWER FAN FAULTS

FAN STATUS VFD FAULTS

CONTROLLER FAULTS FILTER CLOG PERCENTAGES

Al- Discharge Air Temperature (Installed by A.T.C a minimum of 5 duct AO - Zone Damper diameters downstream from heating coil AI - Airflow BI - Zone Override AI - Zone Temp AI - Zone Setpoint Adjust BO - Reheating Stage 1 BO - Reheating Stage 2 BO - Reheating Stage 3

6 TERMINAL AIR BOX CONTROL DIAGRAM

CONTROL SEQUENCE:

RUN CONDITIONS - SCHEDULED:

THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE.

ZONE SETPOINT ADJUST: THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE

SCHEDULE.

ZONE UNOCCUPIED OVERRIDE: A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE

HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR.

REVERSING VARIABLE VOLUME TERMINAL UNIT - FLOW CONTROL:

THE UNIT SHALL MAINTAIN ZONE SETPOINTS BY CONTROLLING THE AIRFLOW THROUGH ONE OF THE FOLLOWING: OCCUPIED:

WHEN ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM OCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW

(ADJ.) UNTIL THE ZONE IS SATISFIED. WHEN THE ZONE TEMPERATURE IS BETWEEN THE COOLING SETPOINT AND THE HEATING SETPOINT, THE ZONE DAMPER SHALL MAINTAIN THE

MINIMUM REQUIRED ZONE VENTILATION (ADJ.).

WHEN ZONE TEMPERATURE IS LESS THAN ITS HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING TO MAINTAIN THE ZONE TEMPERATURE AT ITS HEATING SETPOINT.

UNOCCUPIED:

WHEN THE ZONE IS UNOCCUPIED THE ZONE DAMPER SHALL CONTROL TO ITS MINIMUM UNOCCUPIED AIRFLOW (ADJ.) WHEN THE ZONE TEMPERATURE IS GREATER THAN ITS UNOCCUPIED COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.

WHEN ZONE TEMPERATURE IS LESS THAN ITS UNOCCUPIED HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING TO MAINTAIN THE ZONE TEMPERATURE AT THE SETPOINT. ADDITIONALLY, IF WARM AIR IS AVAILABLE FROM THE AHU, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ.) AND THE AUXILIARY HEATING AIRFLOW (ADJ.) UNTIL THE ZONE IS

REHEATING COIL:

THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE THE REHEATING COIL STAGES IF THE FAN IS RUNNING TO MAINTAIN ITS HEATING SETPOINT. VERIFY NUMBER OF REHEATING STAGES AVAILABLE WITH TERMINAL AIR BOX SCHEDULE.

DISCHARGE AIR TEMPERATURE:

REHEATING - HIGH DISCHARGE AIR TEMPERATURE LIMIT:

THE CONTROLLER SHALL MEASURE THE DISCHARGE AIR TEMPERATURE

THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

AND LIMIT REHEATING IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 15°F (ADJ.) ABOVE THE ZONE TEMPERATURE.

ROOFTOP UNIT CONTROLS (SINGLE ZONE)

AO - Hot Gas Re-Heat

Smoke Detector

AO - DX Capacity Control

CONTROL SEQUENCE: CONSTANT VOLUME UNITS

M.C. TO PROVIDE UNIT WITH PACKAGED CONTROLS TO INTERFACE WITH A CENTRAL BUILDING AUTOMATION SYSTEM (BAS), COORDINATE PROTOCOL WITH ATC PRIOR TO ORDERING ROOFTOP UNITS. ATC SHALL CONNECT TO INTERFACE PROVIDED WITH ROOFTOP UNIT. POINTS SHOWN ABOVE ARE RECOMMENDED POINTS AVAILABLE THROUGH PACKAGED CONTROLLER. IF POINTS ARE UNAVAILABLE THROUGH THE PACKAGED CONTROLLER, POINTS SHALL BE ADDED BY

TO DDC SYSTEM

CONTROL

PANEL

THE CONTROLS CONTRACTOR. RUN CONDITIONS - SCHEDULED: THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

OCCUPIED MODE: OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM POSITION UNIT SHALL MAINTAIN SET POINT BASED UPON TEMPERATURE MATRIX

UNOCCUPIED MODE (WHEN APPLICABLE): OUTSIDE AIR DAMPER SHALL SHUT UNIT SHALL MAINTAIN SET POINT BASED UPON TEMPERATURE MATRIX

THE UNIT SHALL SHUT DOWN UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS.

RETURN AIR SMOKE DETECTION (BY M.C.):

ZONE UNOCCUPIED OVERRIDE: A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE AMOUNT OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE. OVERRIDE CONTROL NOT REQUIRED ON SALES FLOOR UNITS.

THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS IN OCCUPIED MODE, UNLESS SHUTDOWN ON SAFETIES.

SUPPLY AIR TEMPERATURE:

SUPPLY FAN:

Barometric Damper

AO - Mixed Air Dampers

AI - Outside Air Temp

THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE. COOLING STAGES:

THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM

THE COOLING SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.). AND THE ECONOMIZER IS DISABLED.

AND THE SUPPLY FAN STATUS IS ON. AND THE HEATING IS NOT ACTIVE. AND THE ZONE TEMPERATURE IS ABOVE COOLING SETPOINT.

AO - Gas Valve

THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE/MODULATE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

THE HEATING SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.). AND THE SPACE TEMPERATURE IS BELOW HEATING SETPOINT. AND THE SUPPLY FAN STATUS IS ON.

ECONOMIZER:

THE CONTROLS CONTRACTOR SHALL CONTACT THE ENGINEER TO CLARIFY WHICH UNITS WILL HAVE THE ECONOMIZER FUNCTION ENABLED. ALL UNITS ARE PROVIDED WITH ECONOMIZING FUNCTIONS, BUT SOME MUST BE DISABLED. THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2°F (ADJ.) LESS THAN THE ZONE TEMPERATURE SETPOINT.

THE ECONOMIZER SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.). AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.

AND THE SUPPLY FAN STATUS IS ON.

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN WHEN THE UNIT IS OFF.

Smoke Detector Barometric Damper AO - DX Capacity Control AO - Mixed Air Dampers AI - Discharge Air Temp (55 Deg. Adj.) Smoke Detector AI - Outside Air Temp LOCATE 3/4 DISTANCE DOWN LONGEST DUCT AI - SUPPLY AIR STATIC PRESSURE AO - Gas Valve CONTROL PANEL GAS ► TO DDC SYSTEM 2

ROOFTOP UNIT CONTROLS (VAV BY VFD)

CONTROL SEQUENCE: VARIABLE VOLUME UNITS

M.C. TO PROVIDE UNIT WITH PACKAGED CONTROLS TO INTERFACE WITH A CENTRAL BUILDING AUTOMATION SYSTEM (BAS), COORDINATE PROTOCOL WITH ATC PRIOR TO ORDERING ROOFTOP UNITS. ATC SHALL CONNECT TO INTERFACE PROVIDED WITH ROOFTOP UNIT. POINTS SHOWN ABOVE ARE RECOMMENDED POINTS AVAILABLE THROUGH PACKAGED CONTROLLER. IF POINTS ARE UNAVAILABLE THROUGH THE PACKAGED

CONTROLLER, POINTS SHALL BE ADDED BY THE CONTROLS CONTRACTOR. RUN CONDITIONS - SCHEDULED: THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

OCCUPIED MODE: OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM POSITION UNIT SHALL MAINTAIN SET POINT BASED UPON TEMPERATURE MATRIX ON

OUTSIDE AIR DAMPER SHALL SHUT UNIT SHALL MAINTAIN SET POINT BASED UPON TEMPERATURE MATRIX ON

UNOCCUPIED MODE (WHEN APPLICABLE):

RETURN AIR SMOKE DETECTION (BY M.C.): THE UNIT SHALL SHUT DOWN UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS. ZONE UNOCCUPIED OVERRIDE:

A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR AN ADJUSTABLE AMOUNT OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS IN OCCUPIED MODE, UNLESS SHUTDOWN ON SAFETIES.

SUPPLY AIR DUCT STATIC PRESSURE CONTROL: THE CONTROLLER SHALL MEASURE DUCT STATIC PRESSURE AND MODULATE THE SUPPLY FAN VFD TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT. THE INITIAL DUCT STATIC PRESSURE SETPOINT SHALL BE 1 IN H2O (ADJ.). AS COOLING DEMAND INCREASES. THE SETPOINT SHALL INCREMENTALLY RESET UP TO A MAXIMUM OF 1.75 IN H2O (ADJ.). THE CONTROL SYSTEM

SHALL DETERMINE THE ZONE REQUIRING THE MOST STATIC PRESSURE AND OPEN THAT ZONE DAMPER TO APPROXIMATELY 90%. THE FAN SPEED SHALL ADJUST UNTIL THIS ZONE IS SATISFIED. AS COOLING DEMAND DECREASES, THE SETPOINT SHALL INCREMENTALLY RESET DOWN TO A MINIMUM OF .5 IN H2O (ADJ.).

SUPPLY AIR TEMPERATURE: THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE.

COOLING STAGES: THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND STAGE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH

STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. THE COOLING SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).

AND THE ECONOMIZER IS DISABLED. AND THE SUPPLY FAN STATUS IS ON. AND THE HEATING IS NOT ACTIVE. AND THE ZONE TEMPERATURE IS ABOVE COOLING SETPOINT.

GAS HEATING:

THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND STAGE/MODULATE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE (ADJ.) DELAY BETWEEN STAGES, AND EACH STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

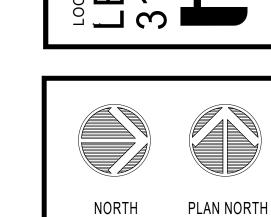
THE HEATING SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.). AND THE SUPPLY AIR TEMPERATURE IS BELOW HEATING SETPOINT. AND THE SUPPLY FAN STATUS IS ON.

ECONOMIZER:

THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2°F (ADJ.) LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT.

THE ECONOMIZER SHALL BE ENABLED WHENEVER: OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.). AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY. AND THE SUPPLY FAN STATUS IS ON.

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN WHEN THE UNIT IS OFF.



REVISION

8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM

MO. CORPORATE NO: E-556D EXPIRES 12/31/2020

NUMBER

PE-2017008503

Oct 23 2020
JOSHUA N. HOVER
CENSE # PF 00

LICENSE # PE-2017008503

PROFESSIONAL SEAL

DIAGRAMS

HVAC CONTROL

DRAWN BY: 10/19/2020 SCALE: JOB NUMBER: AS NOTED 62930547

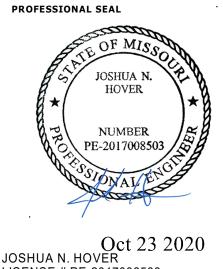


1 EXISTING HOOD TO REMAIN. COORDINATE EXISTING CONTROLS

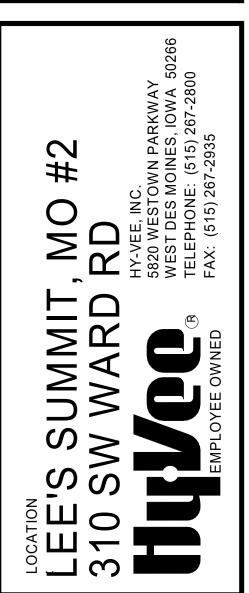
2 REMOVE EXISTING DUCTWORK AS SHOWN. PROVIDE WEATHER TIGHT INSULATED CAP OVER DUCT OPENINGS AS REQUIRED. 3 REMOVE EXISTING AIR DEVICE AS SHOWN. PROVIDE PERMANENT CAP OVER DUCT OPENINGS WHEN NOT BEING USED UNDER NEW WORK. PROVIDE TEMPORARY CAP WHEN DUCT OPENING IS BEING

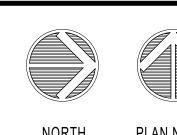
HENDERSON ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM 1950003081 MO. CORPORATE NO: E-556D EXPIRES 12/31/2020

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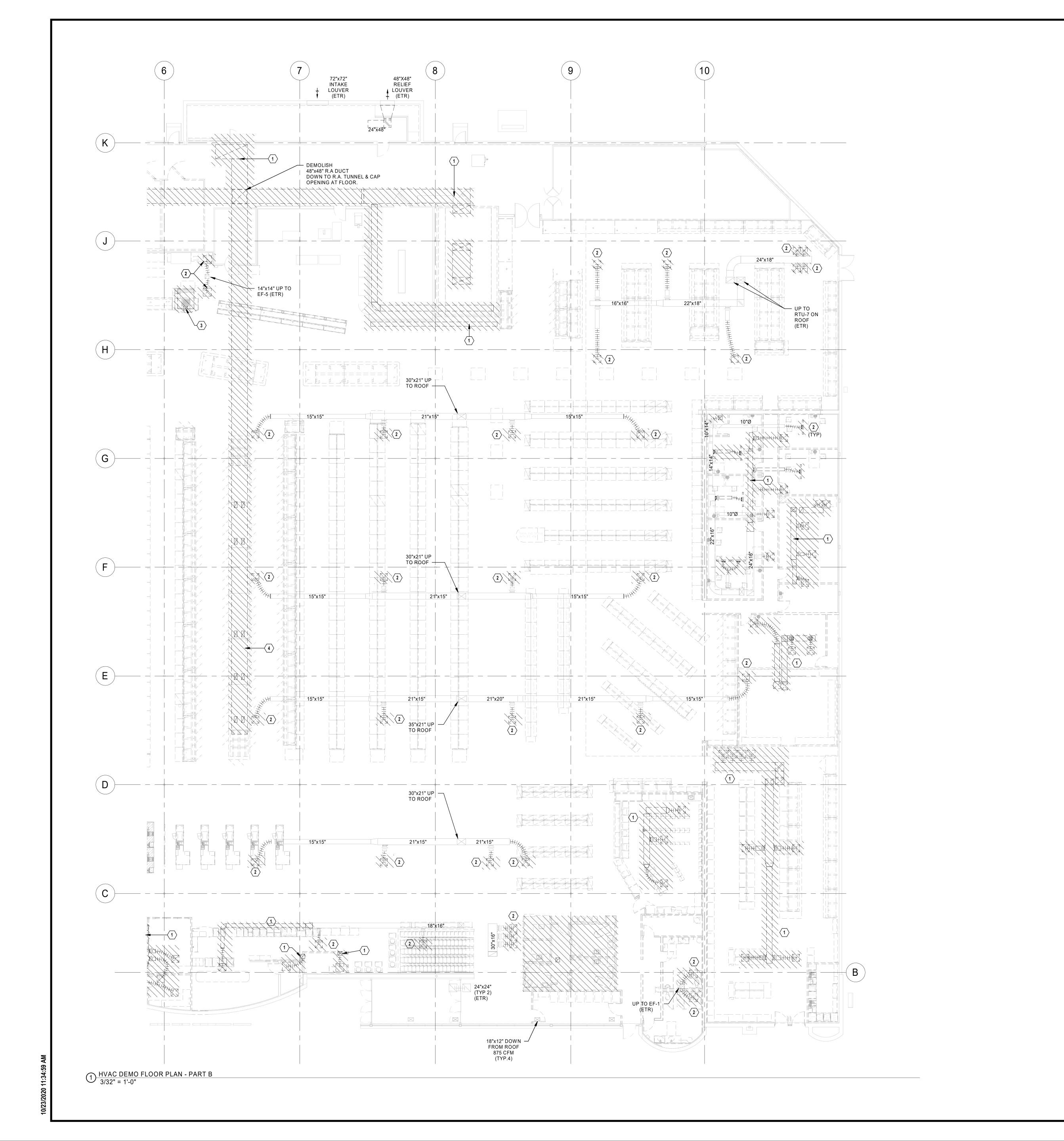
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HVAC DEMOLITION FLOOR PLAN -PART A

DRAWN BY: SCALE: JOB NUMBER: AS NOTED

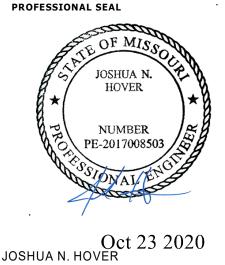


MECHANICAL PLAN NOTES

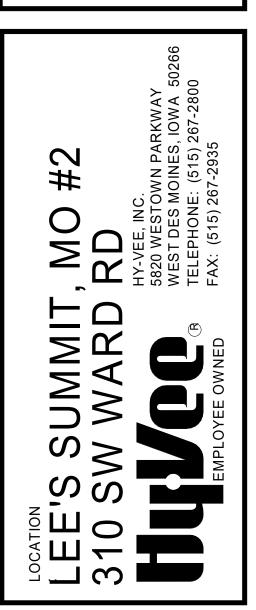
- 1 REMOVE EXISTING DUCTWORK AS SHOWN. PROVIDE WEATHER TIGHT
- INSULATED CAP OVER DUCT OPENINGS AS REQUIRED. 2 REMOVE EXISTING AIR DEVICE AS SHOWN. PROVIDE PERMANENT CAP OVER DUCT OPENINGS WHEN NOT BEING USED UNDER NEW WORK. PROVIDE TEMPORARY CAP WHEN DUCT OPENING IS BEING USED UNDER
- 3 REMOVE EXISTING HOOD AND ALL ASSOCIATED DUCTWORK, ANSUL PULL STATIONS, AND ALL ASSOCIATED COMPONENTS.
- 4 CAP AND ABANDON UNDERFLOOR DUCTWORK. CAP RETURN OPENINGS IN FLOOR AND SEAL WATER TIGHT.

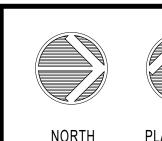
HENDERSON ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM 1950003081 MO. CORPORATE NO: E-556D EXPIRES 12/31/2020

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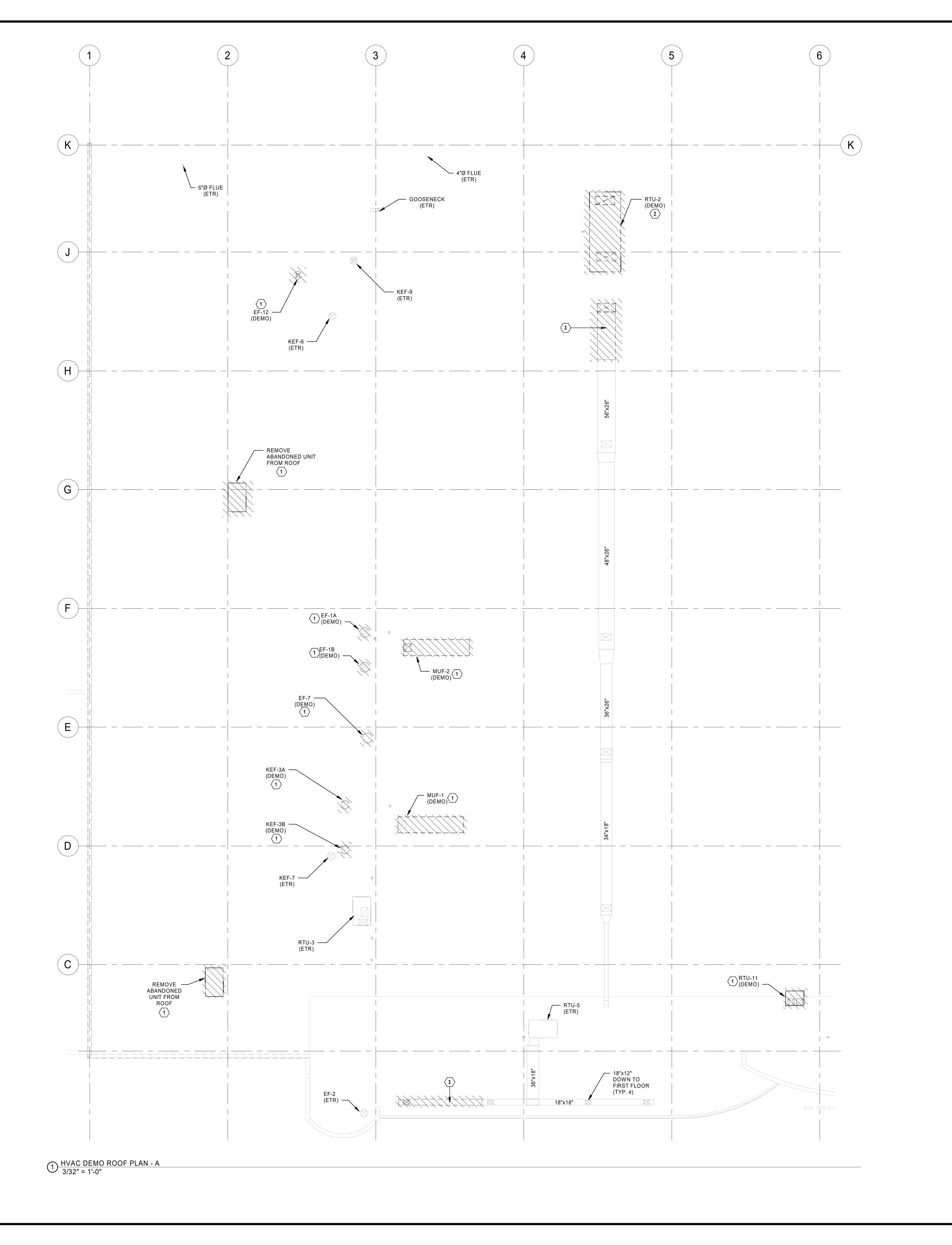
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HVAC DEMOLITION FLOOR PLAN -PART B

DRAWN BY: SCALE: JOB NUMBER: AS NOTED



MECHANICAL PLAN NOTES

- REMOVE EXISTING MECHANICAL EQUIPMENT SHOWN
 CROSSHATCHED AND PROVIDE WEATHER TIGHT
- INSULATED CAP OVER ROOF OPENINGS.
- 2 REMOVE EXISTING ROOFTOP UNIT SHOWN CROSSHATCHED. CAP CURB WATER TIGHT FOR REUSE IN NEW WORK.
- 3 REMOVE EXISTING DUCTWORK AS SHOWN. PROVIDE WEATHER TIGHT INSULATED CAP OVER DUCT OPENINGS AS REQUIRED.

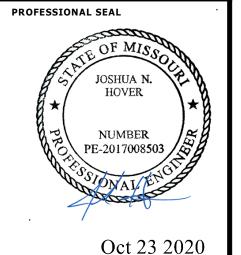
HENDERSON
ENGINEERS

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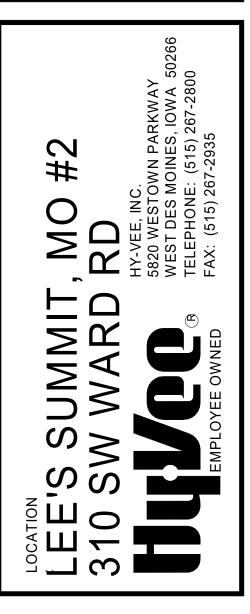
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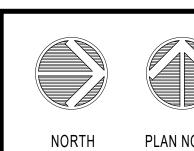
1950003081
MO. CORPORATE NO: E-556D
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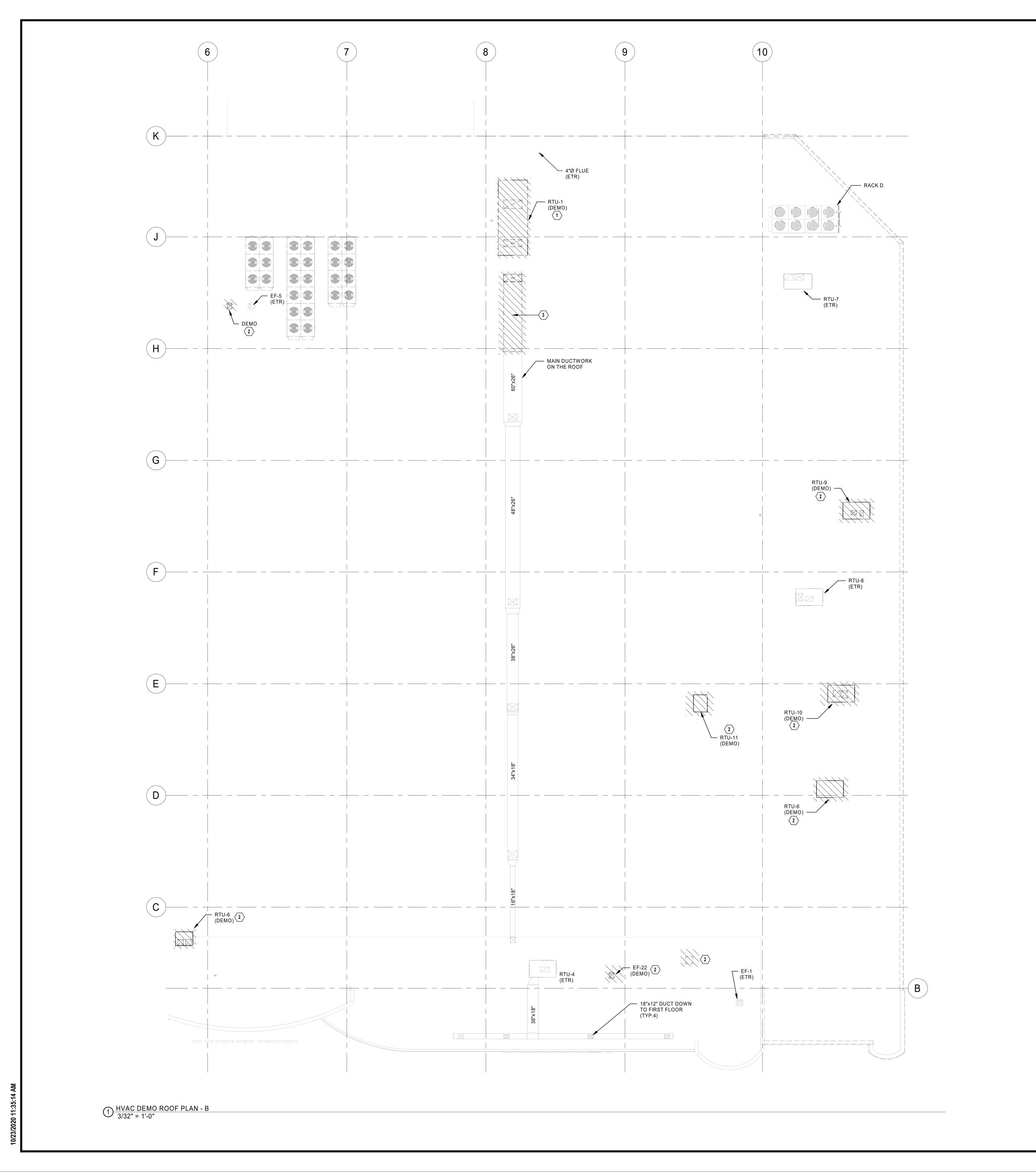




HVAC DEMOLITION ROOF PLAN -PART A

PROJECT MANAGER	CHECKED BY:
SL	Checker
DRAWN BY:	DATE:
Author	10/19/2020
SCALE:	JOB NUMBER:
AS NOTED	62930547
SHEET:	

HD3.0A

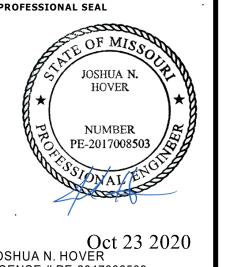


MECHANICAL PLAN NOTES

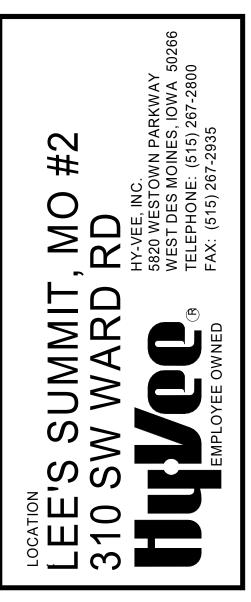
- 1 REMOVE EXISTING ROOFTOP UNIT SHOWN CROSSHATCHED. CAP CURB WATER TIGHT FOR REUSE IN NEW WORK.
- 2 REMOVE EXISTING MECHANICAL EQUIPMENT SHOWN CROSSHATCHED AND PROVIDE WEATHER TIGHT INSULATED CAP OVER ROOF OPENINGS.
- 3 REMOVE EXISTING DUCTWORK AS SHOWN. PROVIDE WEATHER TIGHT INSULATED CAP OVER DUCT OPENINGS AS REQUIRED.

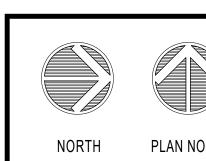
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HVAC DEMOLITION ROOF PLAN -PART B

PROJECT MANAGER	CHECKED BY:
SL	Checker
DRAWN BY:	DATE:
Author	10/19/2020
SCALE:	JOB NUMBER:
AS NOTED	62930547
SHEET:	