

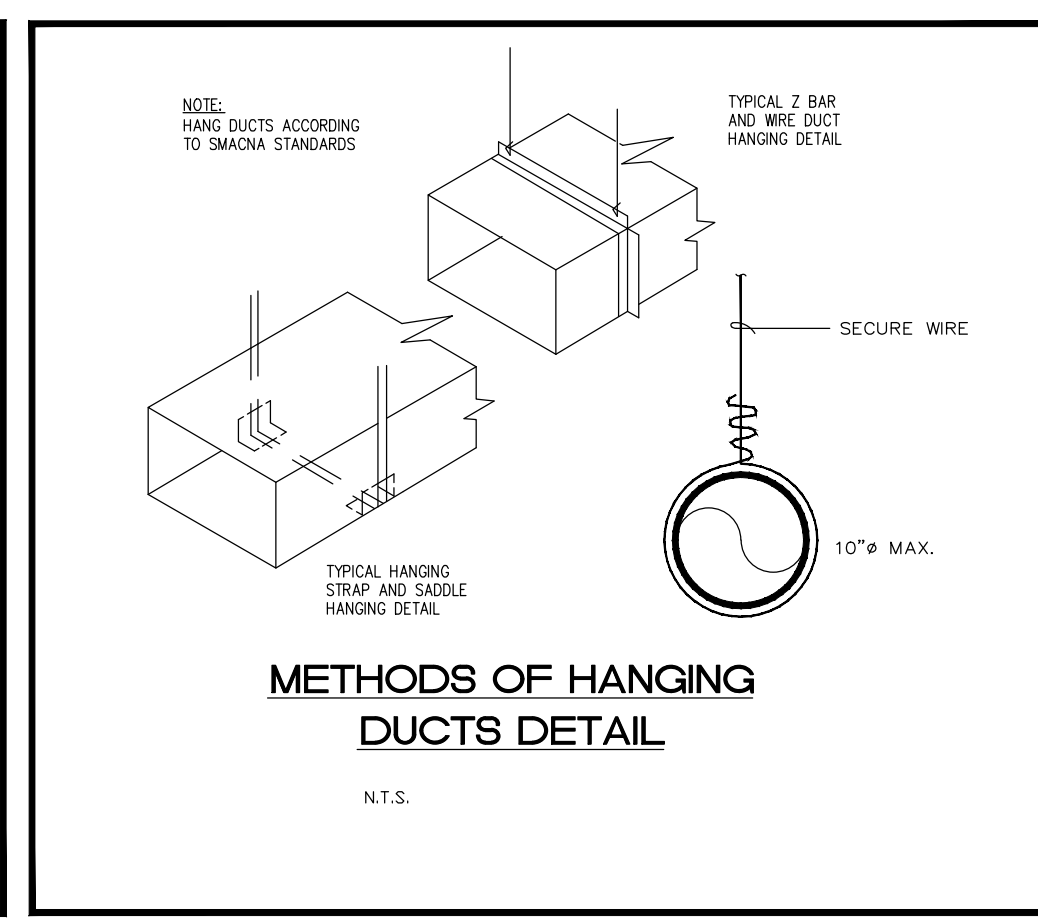
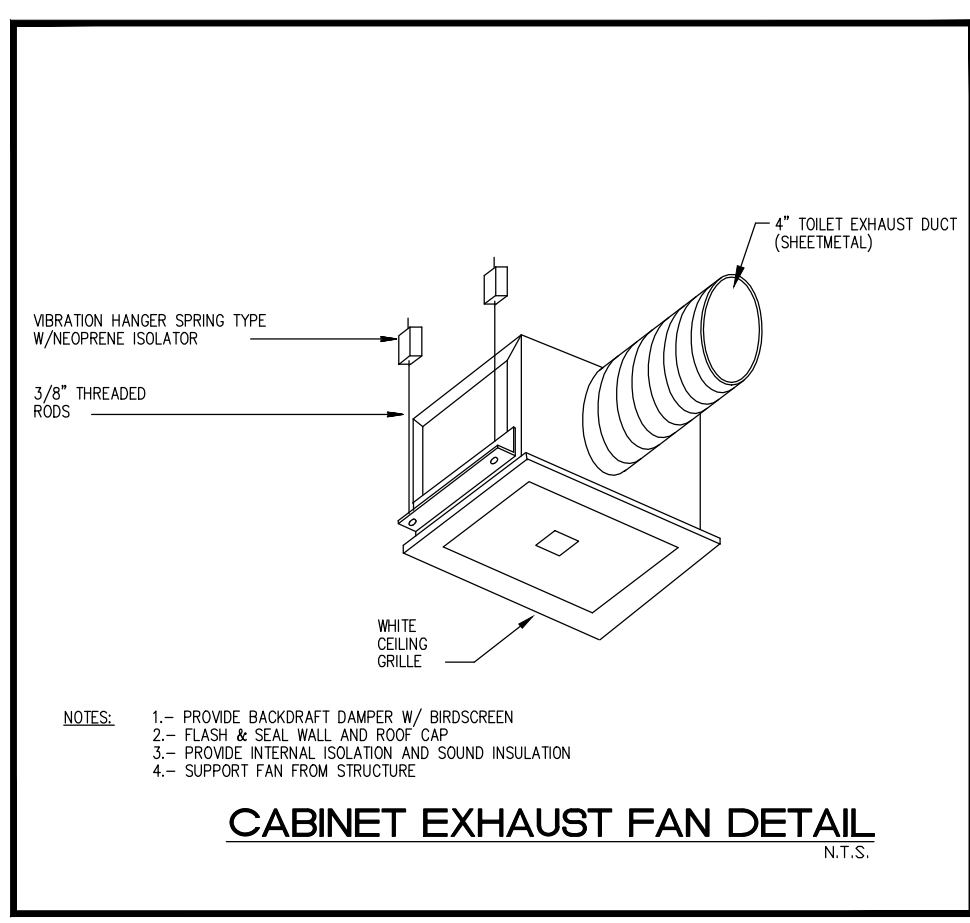
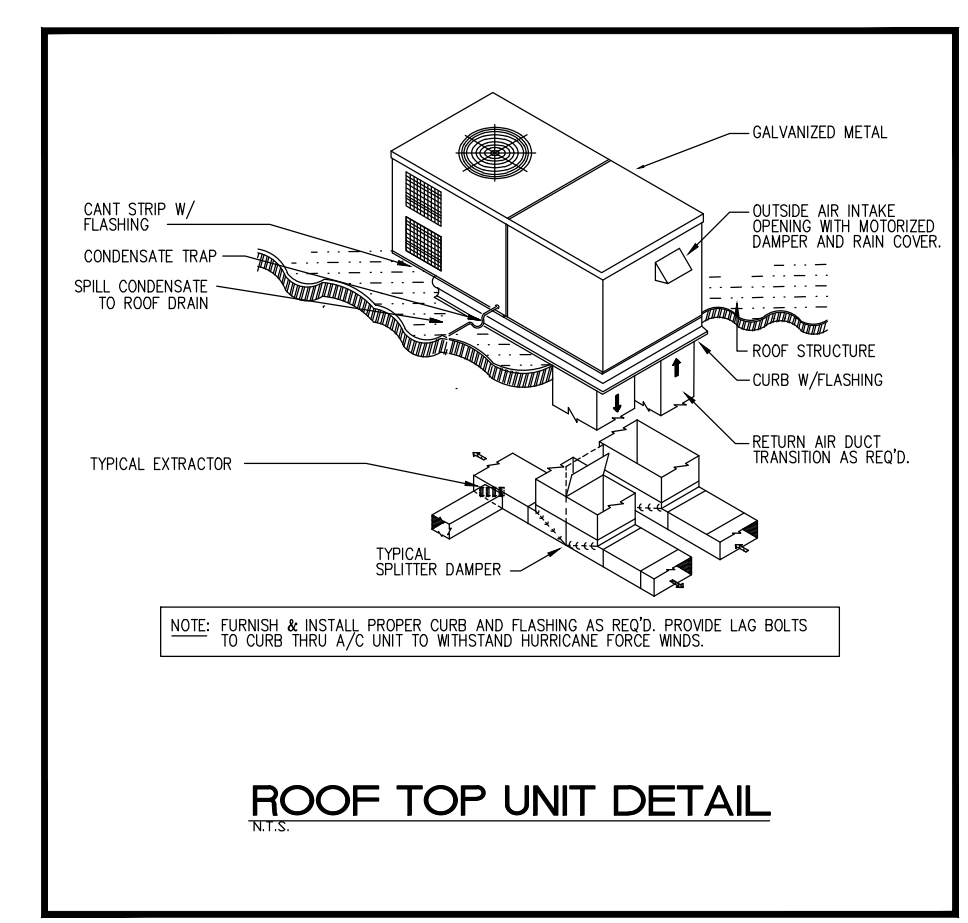
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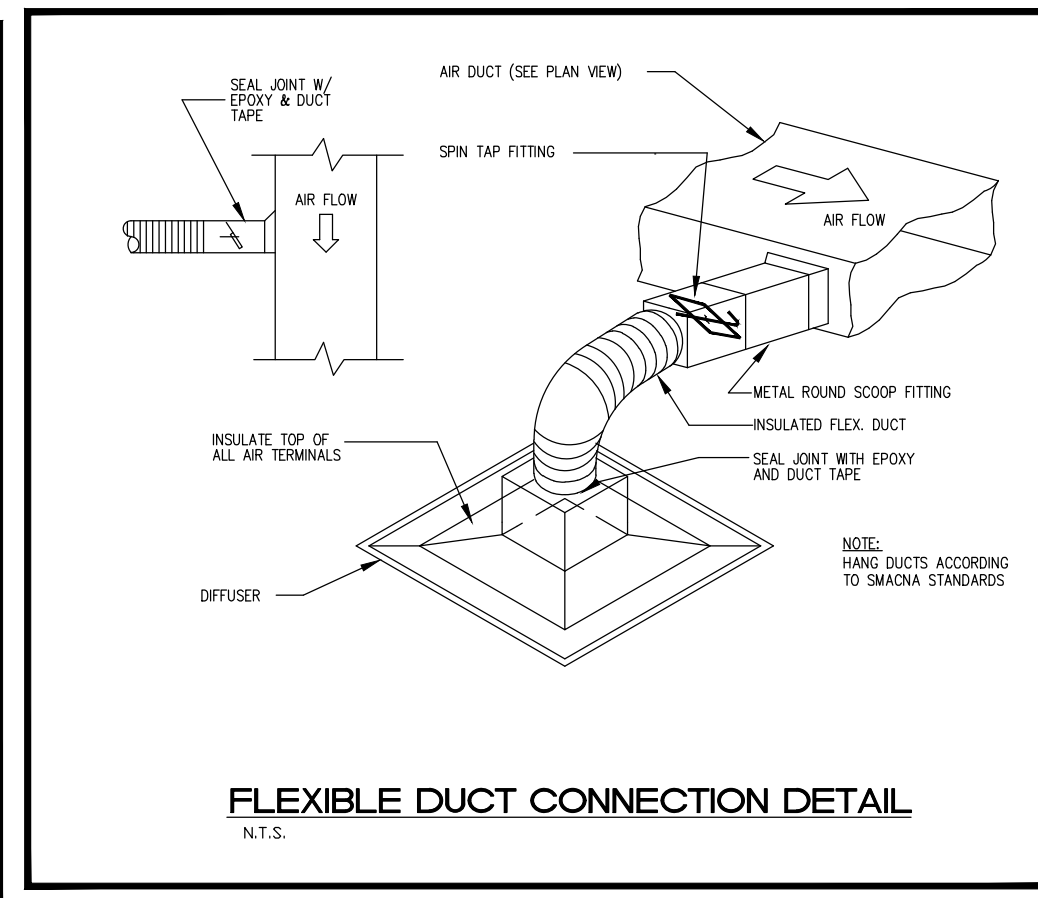
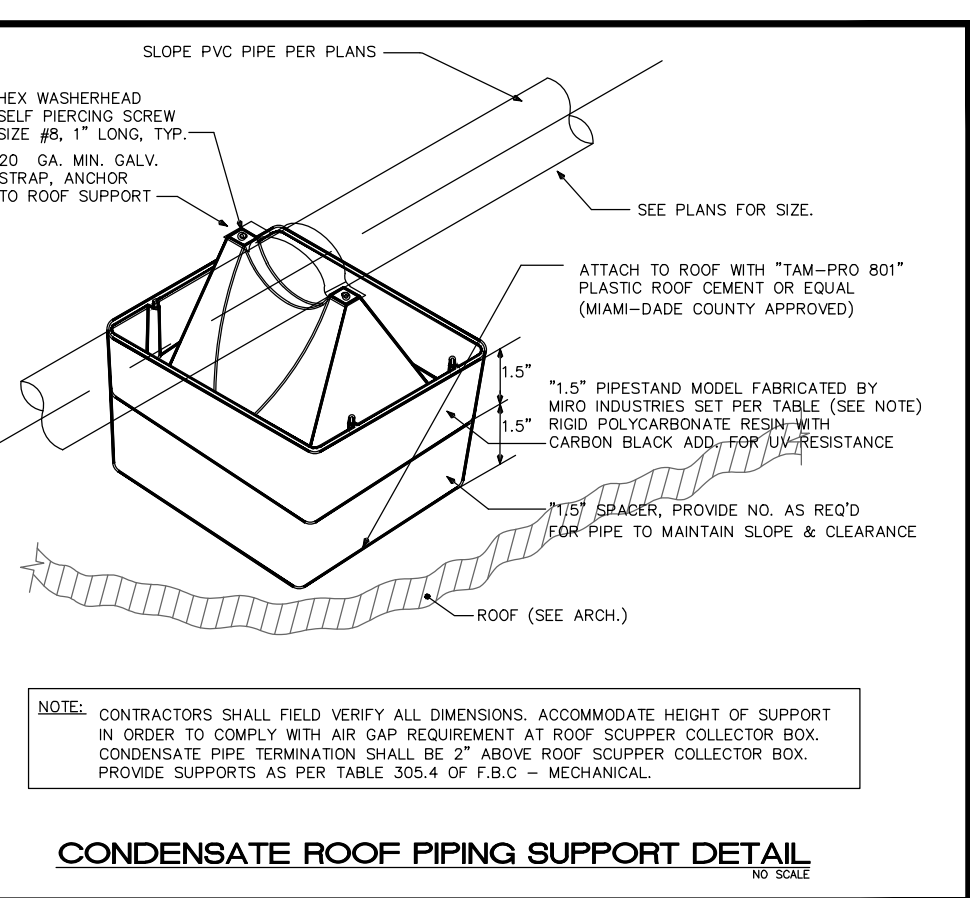
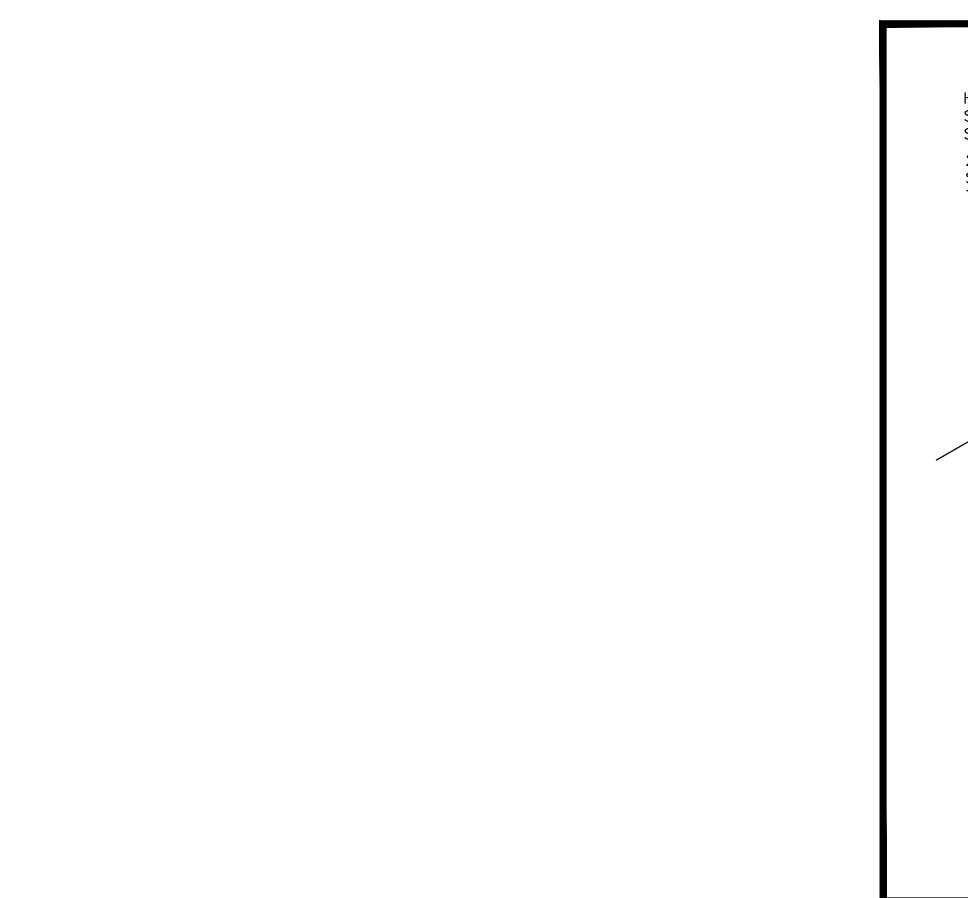
KLA CHILDCARE
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JOB NUMBER	15118
SCALE	AS NOTED
PROJECT DATE	16.03.22
ISSUE DATE	
BID DATE	
DRAWN BY	VBN
CHECKED BY	VBN
DISCIPLINE	MECHANICAL
PLAN TYPE	
SHEET NUMBER:	M-2



GENERAL NOTES:

- ALL MECHANICAL SYSTEMS ARE TO BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE NFPA STANDARDS, ANSI STANDARDS, THE LOCAL BUILDING CODE, NOISE & HEIGHT ORDINANCES, PLANS AND SPECIFICATIONS.
- ALL MATERIALS SHALL BE NEW AND ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL LOCAL CODES, PRODUCT APPROVAL RULES AND ORDINANCES. ANY DAMAGED EQUIPMENT SHALL BE REPLACED OR RESTORED TO ORIGINAL CONDITION.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, ACCESS PANELS, CONTROL SYSTEMS, DEVICES, PERMITS AND SERVICES NECESSARY FOR FURNISHING AND INSTALLING A COMPLETE OPERABLE MECHANICAL SYSTEM.
- ALL CUTTING, PATCHING, STRUCTURAL STEEL, WEATHER PROOFING, PAINTING, AND WALL OPENINGS SHALL BE BY THE GENERAL CONTRACTOR.
- ALL OPENINGS IN BUILDING STRUCTURE, FOR DUCTWORK, PIPING, ETC. TO BE 1/2" LARGER (ON ALL SIDES) THEN THE OUTSIDE DIMENSIONS. FILL VOIDS WITH FIRE RESISTANT SILICONE FOAM (I.E. CHASE-FOAM CTC PR-855 BY CHASE TECHNOLOGY CORP.).
- BUILDING HVAC CALCULATIONS ARE BASED ON THE FOLLOWING:
 A. INDOOR DESIGN: SUMMER 75 DOB/50% RH, WINTER 72 DOB.
 B. OUTDOOR DESIGN: SUMMER 91 DOB/78 DBW, WINTER 42 DOB.
- PROVIDE FLEXIBLE DUCT CONNECTORS, RATED AS REQUIRED, TO ALL FANS, A/C UNITS, OR MECHANICAL EQUIPMENT.
- PROVIDE MAINTENANCE AND OPERATION MANUAL ON ALL MECHANICAL EQUIPMENT OR SYSTEMS. PROVIDE 5 SETS OF SUBMITTALS ON ALL HVAC EQUIPMENT. SUBMITTALS SHALL HAVE A SUMMARY SHEET SHOWING ALL SCHEDULED INFORMATION.
- HVAC CONTRACTOR WILL WARRANTY ALL MECHANICAL SYSTEMS, DUCTWORK, THERMOSTATS, AND ALL OTHER EQUIPMENT PARTS AND LABOR UNDER THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER COMPLETION OF BUILDING. ANY REPAIRS REQUIRING SYSTEM SHUT DOWN WILL BE DONE DURING NON OPERATIONAL PERIODS. HVAC CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO BIDDING AND PURCHASING ANY EQUIPMENT.
- AIR QUALITY SHOULD BE TESTED BEFORE OCCUPANCY AND SHOULD BE INSTRUMENTED AND MONITORED THEREAFTER, OR AT LEAST AT REGULAR INTERVALS.



AIR DISTRIBUTION / DUCTWORK NOTES:

- REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE.
- PROVIDE OFF WHITE FINISH (SUBJECT TO ARCHITECT'S APPROVAL).
- ALL DUCTWORK WHERE ALLOWED BY LOCAL CODES AND LOCAL CEILING RATING SHALL BE 1" LOW PRESSURE DUCT, SEAL CLASS "C" AND AS FOLLOWS:
 A. ALL SUPPLY AIR DUCTWORK SHALL BE 1-1/2" THICK FIBERGLASS DUCTWORK, FABRICATED AND INSTALLED AS PER LATEST EDITION OF SMACNA "FIBROUS GLASS DUCT MANUAL", F-6.0 MIN.
 B. ALL OUTDOOR AND EXHAUST AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL OR ALUMINUM DUCT NOT LIGHTER THAN 24 GAUGE.
 C. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
 D. FLEXIBLE INSULATED DUCTWORK WITH 1-1/2" THICK FIBERGLASS INSULATION WITH FIB FIBER VAPOR BARRIER, F-6.0 MIN.
- ALL DUCTWORK AND DIFFUSERS SHALL BE RATED FOR THE USE, PRESSURE AND TEMPERATURE SPECIFIED AND AS REQUIRED BY THE CEILING SYSTEM RATING.
- ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH "SMACNA" STANDARDS AND LOCAL BUILDING CODES.
- ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
- SEAL ALL DUCTS, JOINTS AND SEAMS IN AN APPROVED MANNER AND INSURE AGAINST LEAKAGE.
- PROVIDE ACCESS DOORS AS REQUIRED FOR ALL MECHANICAL EQUIPMENT TO SERVICE AND VISUALLY CHECK ROTATION OF FANS AND MOTORS, POSITION OF DAMPERS, REPLACE FIRE DAMPER LINKS, ADJUST OR REPLACE CONTROLS, ETC.
- PROVIDE VANED ELBOWS IN ALL CASES, SPLITTER DAMPERS WHERE INDICATED.

MECHANICAL EQUIPMENT NOTES:

- ALL MECHANICAL EQUIPMENT SHALL BE ARI & IUL LISTED WHERE APPLICABLE AND RATED FOR THE REQUIRED SERVICE, PRESSURES, TEMPERATURES, AND SHALL BE PROVIDED WITH ALL NECESSARY TRANSFORMERS, SEALS, VALVES, CONNECTIONS, ETC. TO FUNCTION PROPERLY.
- PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHUs OF 2000 CFM OR ABOVE. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE, WITH LOCAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHALL SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT.
- PROVIDE TYPE "B" FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED WALLS, PARTITIONS, FLOORS OR ROOF SLABS AND ALL FRESH AIR INTAKES IF REQUIRED (SEE ARCHITECT'S PLANS FOR RATINGS). PROVIDE RADIATION DAMPERS IN RATED CEILING FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY AS SPECIFIED BY ARCHITECT.
- PROVIDE BACKDRAFT DAMPERS ON ALL EXHAUST FANS AND/OR INTAKE FANS.
- PROVIDE VIBRATION ISOLATORS ON ALL MECHANICAL EQUIPMENT AS CALLED FOR IN THE SPECIFICATIONS; IF NOT SPECIFIED, AS RECOMMENDED BY MANUFACTURER FOR QUIET OPERATION WITH 92% ISOLATION EFFICIENCY.
- PROVIDE A MIN. OF 10" CLEARANCE BETWEEN O/A INTAKES AND VTR OR EXHAUST OPENINGS.
- HVAC SUBCONTRACTOR SHALL COMFORT BALANCE TENANT AREA TO THE SATISFACTION OF THE LANDLORD AND/OR TENANT AFTER OCCUPANCY.
- THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION.
- RUN INSULATED CONDENSATE DRAINS AS PER PLUMBING DRAWINGS.
- MOUNT ALL ROOFTOP EQUIPMENT FOR WIND LOADS AND MOUNTING HEIGHTS AS REQUIRED BY LOCAL CODES, ALL CURBS SHALL EXTEND 8" MIN. ABOVE FINISHED ROOF.
- ALL PIPING AND DUCTWORK SHALL BE SLEEVED THRU WALLS, BEAMS, SLABS, ETC. AS REQUIRED AND COORDINATED WITH THE STRUCTURAL ENGINEER. REWORK BAR JOIST CROSS BRACING AND PROVIDE NECESSARY TRANSITIONS AS REQUIRED FOR DUCTWORK INSTALLATION.
- ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- PROVIDE MOTOR STARTERS AS FOLLOWS (UNLESS OTHERWISE RECOMMENDED BY MOTOR MANUFACTURER):
 A. PROVIDE OVERLOAD PROTECTION - 1/3 HP AND ABOVE (ALL PHASES).
 B. PROVIDE ACROSS THE LINE VOLTAGE STARTING BELOW 25 HP.
- ALL OUTDOOR EQUIPMENT SHALL COMPLY WITH LOCAL ZONING NOISE ORDINANCES. NOISE REQUIREMENT SHALL NOT EXCEED A NOISE LEVEL OF 65 DB AS MEASURED NORMALLY 30 FT FROM THE EQUIPMENT IN ALL DIRECTIONS.
- FILTERS SHALL BE IN PLACE DURING CONSTRUCTION, PROVIDE A NEW SET PRIOR TO TEST AND BALANCE AND A FINAL SET AT THE END OF ONE YEAR SERVICE PERIOD.

ROOFTOP UNIT SCHEDULE					
RTU UNIT TAG #	RTU-1,2	RTU-3,6	RTU-4	RTU-5	
MANUFACTURER	TRANE		TRANE	TRANE	
MODEL #	THC060F	THC072E	THC092E	THC048F	
TOTAL SENSIBLE MBH	61.0	72.4	92.0	49.9	
TOTAL COOLING MBH	45.8	52.9	68.5	35.1	
ENT AIR TEMP D.B. / W.B. °F	80/67	80/67	80/67	80/67	
SUPPLY AIR CFM @ EXT. S.P.	2400	2400	2400	1600	
OUTSIDE AIR CFM	SEE O/A TABLE	SEE O/A TABLE	SEE O/A TABLE		
POWER - VOLTS/PHASE	460-3-60	460-3-60	460-3-60	460-3-60	
MIN. CIRCUIT AMPS/ MAX. FUSE	14/20	16.6/20	16.6/20	14/15	
OPERATING WEIGHT (lbs)	-----	----	----	----	
MINIMUM EER/SEER	15/12.85	12.6/14.5 IEER	12.6/14.5 IEER	15.0/13.35	
DIMENSIONS (LXWXH)	88.6X53.3X40.9	88.6X53.3X46.9	88.6X53.3X46.9	88.6X53.3X40.9	

CONDENSING SECTION					
NO. OF COMPRESSORS	1	1	1	1	
MODEL #	---	---	---	---	
NO. OF STEPS	1	1	1	1	
NOMINAL TONS	5.0	6.0	7.5	4.0	
T.P.A. EACH	7.1	8.7	7.1	6.2	
T.L.R.A. EACH	52	---	---	41.0	

EVAPORATOR SECTION					
INDOOR FAN:					
FAN CFM	2000	2400	3000	1600	
FAN E.S.P.	0.5	1.0	1.0	0.5	
FAN MOTOR H.P.	1.0	1.0	3.6	1.0	
FAN MOTOR F.L.A.(208/3/60)	4.0	2.5	4.2	1.0	
ELECTRIC HEATER:	YES	YES	YES	YES	
HEATER KW	6.0	9.0	9.0	6.0	
NO. OF STEPS	---	---	---	---	
HEATER F.L.A.	---	---	---	---	

NOTE:

- BASIS OF DESIGN IS TRANE UNITARY PRODUCT
- PROVIDE PROGRAMMABLE THERMOSTAT WITH HUMIDITY CONTROL.
- MAY BE REQUIRED HI-STATIC INDOOR FAN MOTOR AND/OR FILED SUPPLIED DRIVE
- PROVIDE FACTORY INSTALLED HOT GAS HEAT
- PROVIDE ALL UNITS WITH ELECTRICAL CONVENIENCE OUTLET.
- SEE ROOF PLAN FOR UNIT DISCHARGE CONFIGURATION. COORDINATION BETWEEN MECHANICAL CONTRACTOR AND ARCHITECT IS REQUIRED PRIOR TO ANY PURCHASE.
- PROVIDE MANUFACTURE INSTALLED SMOKE DETECTOR IN RETURN DUCT ON UNIT WITH OVER 2000 CFM
- PROVIDE MOTORIZED DAMPER OPTION FOR O/A.

OUTSIDE AIR SUMMARY FBC 2014 (MECHANICAL) TABLE 403.3											
AREA	SYSTEM	GR/NET SQ.FT	PERS/ SQ.FT	TOTAL PERS	CFM/ SQ.FT	CFM/ SQ.FT	CFM/ SQ.FT	CFM/ SQ.FT	CFM/ SQ.FT	CFM PROVIDED	
LOBBY	RTU-1	350/-	---	4	5	.06	41				
ART ROOM	RTU-1	175/-	---	5	10	.18	82				
CLASSROOM 2	RTU-1	456/-	---	13	10	.18	213				
COORDIDOR	RTU-1	260/-	---	---	---	.06	16				
								RTU-1	352	355	
STAFF/LAUNDRY	RTU-2	290/-	---	2	5	.12	45				
CLASSROOM 1	RTU-2	561/-	---	16	10	.18	253				
COORDIDOR	RTU-2	300/-	---	---	---	.06	18				
								RTU-2	316	320	
CLASSROOM 8	RTU-3	630/-	---	18	10	.18	293				
CLASSROOM 9	RTU-3	497/-	---	14	10	.18	229				
								RTU-3	522	525	
CLASSROOM 4	RTU-4	563/-	---	16	10	.18	281				
CLASSROOM 5	RTU-4	704/-	---	20	10	.18	327				
COORDIDOR	RTU-4	336/-	---	---	---	.06	20				
								RTU-4	628	630	
CLASSROOM 10	RTU-5	490/-	---	14	10	.18	228				
COORDIDOR	RTU-5	370/-	---	---	---	.06	22				
								RTU-5	250	250	
CLASSROOM 6	RTU-6	632/-	---	18	10	.18	294				
CLASSROOM 7	RTU-6	491/-	---	14	10	.18	228				
COORDIDOR	RTU-6	250/-	---	---	---	.06	15				
								RTU-6	537	540	

FAN SCHEDULE											
MARK	SELECTION BASED ON:	TYPE/ MODEL NO.	CFM	TSP	MOTOR DATA	SDNES					
	NAME	IN	WG	WATT	VOLTS-PH-HZ	DR NC					
EF-1	BRECKEN	SP-880	BATHROOM	80	.125	29	128-1-60	1.1			

GENERAL FAN NOTES:

- PROVIDE BACKDRAFT FOR ALL EXHAUST FANS
- FIELD ADJUST OPENINGS WITH STRUCTURE.
- COORDINATE WITH ELECTRICAL CONTRACTOR BEFORE BIDDING OR ORDERING ANY EQUIPMENT.
- SEE GENERAL AIR CONDITIONING, DUCTWORK, AND COORDINATION NOTES FOR OTHER FIELD SUPPLIED ITEMS
- PROVIDE BIRDSCREEN ON ALL INTAKES AND OUTLETS.
- SWITCH WITH LIGHTS

AIR DISTRIBUTION SCHEDULE		
DIFFUSER TYPE	DIFFUSER CFM	NOTES:
A	TITUS TDC-AA	6 0-100 8 101-299 10 300-450 12 451-600
B	TITUS 350	24x24 0-800 6 0-100 8 101-299

ABBREVIATIONS

CFM - CUBIC FEET PER MINUTE.
 O/A - OUTSIDE AIR.
 VAV - VARIABLE VOLUME BOX
 S/A - SUPPLY AIR.
 R/A - RETURN AIR.
 MVD - MANUAL VOLUME DAMPER
 F.D. - FIRE DAMPER

LEGEND

☒ NEW SUPPLY DIFFUSER
 ☒ NEW 24x24 RETURN AIR GRILLE.
 L - MANUAL VOLUME DAMPER
 --- NEW FLEXIBLE DUCT, U.L. CLASS 1 (R-6)
 --- FIRE DAMPER
 --- POINT OF CONNECTION EXISTING TO NEW
 --- NEW DUCT WITH R-4.2 INSULATION.
 ⊕ DUCT SMOKE DETECTOR (WITH AUDIBLE AND VISIBLE CAPABILITY)
 ⊖ DUCT DETECTOR REMOTE TEST/RESET STATION
 ⊕ PROGRAMMABLE 1-T-STAT
 ⊖ PROGRAMMABLE TEMP./HUMIDITY STAT

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE, COMPLY WITH ALL APPLICABLE CODES.

project no. 1626.00
 seal
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date

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