

MECHANICAL NOTES & SPECIFICATIONS

- GENERAL
 - THE MECHANICAL PLAN SHALL COMPLY WITH INDICATED BUILDING CODES, ENERGY CODES, AND OTHER LOCALLY ADOPTED STANDARDS.
 - THESE DRAWINGS WILL NOT BE UPDATED FOR FIELD CHANGES NOT PREVIOUSLY DISCUSSED WITH ENGINEER AND LETTERS TO PASS INSPECTION AS A RESULT OF SUCH DEVIATIONS WILL NOT BE PROVIDED. THESE DRAWINGS REPRESENT THE ENGINEERS INTERPRETATION OF THE APPLICABLE CODES, HAVE BEEN REVIEWED BY THE LOCAL AHJ FOR CODE CONFORMANCE, AND ARE CONSIDERED CONTRACT DOCUMENTS.
 - THESE DRAWINGS ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, DIRECTION AND GENERAL ARRANGEMENT, BUT NOT EXACT DETAILS OF CONSTRUCTION. THE FACT THAT ONLY CERTAIN FEATURES OF THE INSTALLATION ARE INDICATED MUST NOT BE TAKEN TO MEAN THAT OTHER SIMILAR OR DIFFERENT FEATURES WILL NOT BE REQUIRED.
 - THIS CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS TO INSURE THAT EACH TRADE SHALL HAVE SUFFICIENT SPACE TO INSTALL THEIR EQUIPMENT (DUCTWORK, PIPING, ELECTRICAL WORK, ETC.).
 - WORK SHALL INCLUDE ALL LABOR, MATERIALS, PERMITS AND OTHER COSTS AS ARE NECESSARY FOR THE INSTALLATION OF A COMPLETE AND SATISFACTORY OPERATIONAL PLUMBING SYSTEM.
 - ALL EQUIPMENT FIXTURES, ETC. SHALL BE TESTED, ADJUSTED AND OPERATED AS INDICATED ON THE PLANS AND PLACED IN SATISFACTORY OPERATIONAL CONDITION BY THE CONTRACTOR. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. THIS IS IN ADDITION TO ANY WARRANTY OR GUARANTEE FROM THE EQUIPMENT MANUFACTURER. FURNISH THE OWNER WITH THE MANUFACTURERS WRITTEN CERTIFICATES.
 - HVAC SYSTEMS OR OTHER RELATED SYSTEMS INDICATED AS BEING UNDER "SEPARATE PERMIT" SHALL BE INTERPRETED AS A SEPARATE PERMIT FILLED BY THE HVAC CONTRACTOR WHICH INCLUDES DESIGN / PERMIT FEES, ENGINEERING FEES, UNLESS OTHERWISE DISCUSSED WITH THE GENERAL CONTRACTOR OR ENGINEER.
 - UNLESS NOTED OTHERWISE, ALL MATERIALS SHALL BE NEW, COMPLETE, INCLUDE MANUFACTURERS WARRANTY AND SHALL BE U.L. APPROVED IF APPLICABLE. ALL WORK SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.
 - IN GENERAL, ALL DUCTWORK AND CONTROL WIRING SHALL BE RUN CONCEALED IN CEILING AND PIPE SPACES PROVIDED UNLESS NOTED OTHERWISE.
 - VERIFY ALL DIMENSIONS FORM ARCHITECTURAL PLANS FOR FIELD DIMENSIONS. DO NOT SCALE CONSTRUCTION DOCUMENTS.
 - BURIED PIPING NEAR FOUNDATIONS OR BEARING WALLS SHALL BE INSTALLED AND SHALL BE SLEEVED.
 - HVAC SYSTEM INSTALLER SHALL PROVIDE ALL STRUCTURAL MEMBERS, SUPPORT BRACKETS, FLASHING, HARDWARE, ETC., REQUIRED TO INSTALL AND SUPPORT A COMPLETE OPERATIONAL SYSTEM.
 - THESE DRAWINGS ARE DIAGRAMMATICAL. ALL RISES, DROPS, OR OFFSETS IN DUCTS AND PIPING NOT NECESSARILY SHOWN.
 - DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRIC PANELS, SWITCHGEAR, OR EQUIPMENT - OR WITHIN THE MINIMUM CLEAR SPACE FOR SWITCH GEAR REQUIRED BY ARTICLE 110 OF THE NEC. THIS INCLUDES INSTALLATIONS WITH A DROPPED (LAY-IN) OR DRYWALL CEILING. COORDINATION WITH ELECTRICAL CONTRACTOR REQUIRED.
 - ALL DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, EXCLUDING INSULATION. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA MANUAL, AND ENERGY CODE REQUIREMENTS.
 - PROVIDE FLEXIBLE CANVAS DUCT CONNECTIONS FOR SHEET METAL DUCTS CONNECTING TO AIR HANDLING UNITS, ROOFTOP UNITS, AND, AND ALL OTHER EQUIPMENT CONTAINING MOTORS GREATER THAN 3/4 HP, OR AS OTHERWISE REQUIRED BY MANUFACTURERS INSTALLATION MANUAL.
 - ALL CONTROL WIRING SHALL BE INSTALLED BY MECHANICAL CONTRACTOR AND BE AT MINIMUM IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. CONTROL WIRING SERVING UNITARY SPACE COOLING EQUIPMENT SHALL BE PROVIDED WITH PLENUM RATED, 8-WIRE COLOR CODED THERMOSTAT WIRE. INSTALL PER MANUFACTURERS INSTRUCTIONS AND TAPE UN-USED WIRING. ALL CONTROL WIRING SERVING COMMUNICATING SYSTEMS SHALL BE SHIELDED AND BE LOCATED AT MINIMUM FROM INTERIOR LIGHTING OR OTHER ENERGIZED EQUIPMENT.
 - ALL WALL MOUNTED THERMOSTATS SHALL BE LOCATED AND INSTALLED AWAY FROM DIRECT AIRSTREAM AND LOCATED 4'-0" AFF WHEN MEASURED FROM FINISHED FLOOR TO THE CENTER OF THE HIGHEST OPERABLE CONTROL BUTTON OR SWITCH.
 - ALL CONDENSING UNITS INSTALLED ON-GRADE SHALL BE INSTALLED ON CONCRETE HOUSEKEEPING PAD.
- SUBMITTALS AND SHOP DRAWINGS
 - SUBMITTALS OR SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR AND ENGINEER FOR REVIEW. THESE SUBMITTALS OR SHOP DRAWINGS SHALL INCLUDE ALL EQUIPMENT, MATERIALS, FIXTURES, APPLIANCES, PIPING MATERIALS, ETC. THE SHOP DRAWINGS WILL BE REVIEWED BY THE ENGINEER ON BEHALF OF THE OWNER AND/OR CLIENT, AND APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF COMPLIANCE WITH THESE DRAWINGS.
 - THE SHOP DRAWINGS SHALL BE HIGHLIGHTED OR MARKED WITH CONSPICUOUS AND OBVIOUS NOTATIONS IDENTIFYING THE SPECIFIC EQUIPMENT, MATERIALS, FIXTURES, APPLIANCES, ETC. PROPOSED TO BE USED. SHOP DRAWINGS SUBMITTED TO THE ENGINEER THAT INCLUDE NON-APPLICABLE INFORMATION, OR WHICH DO NOT INCLUDE SPECIFIC NOTATIONS AND/OR HIGHLIGHTING WILL NOT BE REVIEWED.
- TEST & BALANCE
 - THIS DRAWING AND SYSTEM(S) PERFORMANCE IS COMPLETELY CONTINGENT UPON A CERTIFIED TEST AND BALANCE PERFORMED BY A NEBB CERTIFIED TEST & BALANCE CONTRACTOR, INDEPENDENT OF THE INSTALLING MECHANICAL CONTRACTOR. ALL EQUIPMENT SHALL BE TESTED & BALANCED BY A NEBB CERTIFIED TEST AND BALANCE CONTRACTOR AND A COMPLETE REPORT SHALL BE PROVIDED TO THE ARCHITECT, ENGINEER, AND GENERAL CONTRACTOR. THE TEST SHALL BE DATED, INCLUDE INDOOR/OUTDOOR AMBIENT TEMPERATURES, AND SIGNED BY THE PERSON RESPONSIBLE FOR THE REPORT.
 - THE TEST & BALANCE CONTRACTOR SHALL BE INDEPENDENT OF, AND HIRED BY THE MECHANICAL CONTRACTOR. THE TEST AND BALANCE CAN NOT BE OMITTED OR VALUE ENGINEERED FOR COST SAVINGS.
 - THE TEST & BALANCE SHALL INCLUDE (AT MINIMUM) ENTERING/LEAVING AIR TEMPERATURES (DBWB), EXTERNAL / TOTAL STATIC PRESSURE, TOTAL AIR FLOW RATES ENTERING AND LEAVING EQUIPMENT, AIRFLOW RATIOS FOR ALL SUPPLY, RETURN, EXHAUST, INTAKE OR SIMILAR AIR MOVEMENT DEVICES. THE TEST & BALANCE SHALL LIST INITIAL & FINAL AIR-FLOWS FOR ALL TESTED DEVICES.
- EQUIPMENT & DEVICES
 - ALL EQUIPMENT AND APPLIANCES SHALL BE STARTED, TESTED, ADJUSTED AND BALANCED FOR AIR DELIVERY AS INDICATED ON THE PLANS, AND PLACED IN SATISFACTORY OPERATIONAL CONDITION BY THE MECHANICAL CONTRACTOR. THIS CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS AND EQUIPMENT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. THIS IS IN ADDITION TO ANY WARRANTY OR GUARANTEE FROM THE EQUIPMENT MANUFACTURER. FURNISH THE OWNER WITH THE MANUFACTURERS WRITTEN WARRANTEE CERTIFICATES.
 - ALL EQUIPMENT SHALL BE PROPERLY SUPPORTED AND ISOLATED TO PREVENT NOISE AND VIBRATION TRANSMISSION UNO, OR UNLESS EQUIPMENT IS PRE-ISOLATED BY MANUFACTURER. ALL EXTERIOR EQUIPMENT SHALL BE MOUNTED, SUPPORTED, AND/OR BRACED TO WITHSTAND HURRICANE FORCE WINDS.
 - ALL INTERIOR AIR HANDLING UNITS AND OTHER EQUIPMENT SERVING CONDITIONED AIR STREAMS SHALL BE INSTALLED LEVEL, AND WITH A GALVANIZED SHEET METAL DRAIN PAN UNDER EQUIPMENT. REGARDLESS OF SYSTEM LOCATION THE DRAIN PAN BE EQUIPPED WITH A UL LISTED FLOAT SWITCH TO DISCONNECT COOLING UPON DETECTION OF WATER.
 - THE PRIMARY DRAIN SHALL BE INSTALLED DIRECTLY TO OUTDOORS, OR AS OTHERWISE INDICATED, AND SHALL DISCHARGE AT A POINT WHICH WILL NOT CAUSE A NUISANCE. DO NOT DISCHARGE CONDENSATE DIRECTLY ON TO WALKWAY OR CONCRETE. THE PRIMARY CONDENSATE DRAIN LINE SHALL BE INSULATED WITH 3/4" ARMAFLEX INSULATION. PROVIDE SPLASH FOR ALL CONDENSATE PIPING DISCHARGING INTO LANDSCAPING.
 - AIR HANDLING SYSTEMS AND EQUIPMENT CAPABLE OF EXCEEDING 2,000 CFM SHALL BE INSTALLED WITH A DUCT SMOKE DETECTOR ON THE SUPPLY OR OUTLET SIDE OF EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE PROVIDED WITH AN INSPECTORS KEYS TEST STATION, AND/OR CONNECTED TO THE BUILDING'S FACP SYSTEM WHEN PRESENT.
 - ALL PACKAGED DOWNFLOW UNITS SHALL BE PROVIDED WITH A WATER LEVEL MONITORING DEVICE.
 - EQUIPMENT SHALL BE AS SCHEDULED AND MATCH BASIS OF DESIGN UNLESS OTHERWISE NOTED. ALTERNATE MANUFACTURERS SHALL INCLUDE, AND BE LIMITED TO:
 - 4.7.1 AC EQUIPMENT: UPON PRIOR APPROVAL ONLY
 - 4.7.2 AC GRILLS: PRICE, KRUEGER, TITUS, METAL-AIRE
 - 4.7.3 FANS: GREENHOCK, LOREN COOK, PENN-BERRY
 - 4.7.4 WALL LOUVERS: POTTORFF, PRICE, RUSKIN
- DUCTWORK
 - REFER TO DUCTWORK SPECIFICATIONS ON THESE DRAWINGS FOR RESPECTIVE MATERIAL AND INSULATION BASED ON SYSTEM TYPE FOR THIS SPECIFIC PROJECT.
- AIR DISTRIBUTION DEVICES
 - ALL AIR DISTRIBUTION GRILLS SHALL BE WHITE ALUMINUM UNLESS NOTED OR SCHEDULED OTHERWISE.
 - ALL DUCTWORK SERVING AIR DISTRIBUTION OUTLETS SHALL BE PROVIDED WITH A MANUAL AIR VOLUME DAMPER. THE MANUAL DAMPER SHALL BE TAGGED WITH AN ORANGE RIBBON IN ACCORDANCE WITH THE ENERGY CODE.
 - ANY NON-ACCESSIBLE MANUAL DAMPERS SERVING AIR OUTLETS OR DISTRIBUTION DEVICES SHALL BE PROVIDED WITH A MANUAL OPPOSED BLADE DAMPER, OR CABLE OPERATED DAMPER ALL GRILLS SHALL BE CAPABLE OF AIR VOLUME ADJUSTMENT.
 - ALL LINEAR GRILLS AND AIR DISTRIBUTION DEVICES WITH NON-ACCESSIBLE MANUAL DAMPERS SHALL BE PROVIDED WITH A MANUAL CABLE OPERATED DAMPER. THE ADJUSTMENT MECHANISM SHALL BE READILY ACCESSIBLE.
- REFRIGERANT LINES
 - ALL BELOW GRADE REFRIGERANT LINES SHALL BE ROUTED AND INSTALLED WITHIN PVC SLEEVE, INSTALLED WITH LONG SWEEPS TO ALLOW FOR FUTURE REPLACEMENT IF NECESSARY.
 - REFRIGERANT SUCTION LINES TO BE INSULATED WITH 3/4" ARMAFLEX INSULATION.
 - IN GENERAL, ALL REFRIGERANT LINES SHALL BE ROUTED IN CONCEALED SPACES AND PROTECTED FROM WEATHER AND ELEMENTS. PARTIALLY EXPOSED REFRIGERANT LINES INSTALLED OUTDOORS SHALL BE PROTECTED WITH UV RESISTANT COATING SIMILAR AND EQUAL TO ARMAFLEX V8 FINISH. UV RESISTANT COATING FOR FOAM INSULATION.
 - REFRIGERANT ROUTED INTO BUILDING THROUGH PIPE CHASE OR SLEEVE SHALL BE SEALED AIR TIGHT WITH EXPANDING FOAM TO PREVENT AIR INFILTRATION OR EXFILTRATION THROUGH BUILDING ENVELOPE.
- PLENUM SPACES
 - THE NOTES BELOW SHALL APPLY TO ALL PLENUM SPACES AND MATERIALS WHETHER THEY ARE NEW OR EXISTING. THESE NOTES SHALL SUPERCEDE ALL OTHER NOTES LOCATED ON THESE DRAWINGS OR OTHER DRAWINGS INCLUDED FOR THIS PERMIT.
 - ALL MATERIALS EQUIPMENT, OR PIPING SHALL BE APPROVED FOR PLENUM USE IF INSTALLED WITHIN RETURN AIR PLENUMS OR PLENUM CLOSETS. PLENUM WRAPS MAY BE USED IF APPROVED BY AHJ PRIOR TO INSTALL.
 - MATERIALS AND WRAPS SHALL MEET THE FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723.
 - ALL PLENUM SPACES SHALL COMPLY WITH THE BUILDING CODE, THE MECHANICAL CODE (SECTION 602 IN ITS ENTIRETY), THE PLUMBING CODE, AND THE NATIONAL ELECTRIC CODE IN ADDITION TO ANY APPLICABLE NFPA STANDARDS OR LOCALLY ADOPTED CODES, AMENDMENTS OR ORDINANCES.

MECHANICAL SYMBOL LEGEND

DUCTWORK	
	SQ. DUCT SIZE (WIDTH X HEIGHT)
	ROUND DUCT SIZE (DIAMETER)
	EXISTING DUCT TO REMAIN
	DUCT TO BE DEMOLISHED
	SUPPLY AIR
	OUTDOOR AIR
	RETURN AIR
	TRANSFER AIR
	GENERAL EXHAUST AIR
	REC. SUPPLY DUCT RISE/DROP
	ROUND SUPPLY DUCT RISE/DROP
	RECT. RETURN DUCT RISE/DROP
	ROUND RETURN DUCT RISE/DROP
	RECT. EXHAUST DUCT RISE/DROP
	ROUND EXHAUST DUCT RISE/DROP

SENSORS & DAMPERS

SYSTEM IDENTITY (TYP)		DUCT SMOKE DETECTOR	
	THERMOSTAT		DUCT SMOKE DETECTOR
	HUMIDISTAT		DUCT TEMPERATURE SENSOR
	TEMP SENSOR		PRESSURE SENSOR
	HUMIDITY SENSOR		DIFFERENTIAL PRESSURE SENSOR
	CARBON MONOXIDE DETECTOR		FIRE DAMPER
	CARBON DIOXIDE DETECTOR		SMOKE DAMPER
	CARBON MONOXIDE / NITROGEN DIOX. SENSOR		FIRE / SMOKE COMBO DAMPER
	REFRIGERANT GAS MONITOR		RADIATION DAMPER
	HAZARDOUS GAS MONITOR		MOTORIZED DAMPER
			ZONE DAMPER

NOTE: ALL SENSORS, DAMPERS, AND DETECTORS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS, BE MOUNTED AT THE APPROVED HEIGHT, AND REMAIN ACCESSIBLE FOR INSPECTION, RESETTING, REPAIR, AND REPLACEMENT, AS APPLICABLE. ALL SENSORS, DAMPERS, DEVICES, AND DETECTORS SHALL BE LISTED AND APPROVED AND INSTALLED IN A MANNER THAT MAINTAINS THE RESPECTIVE LISTING.

ABBREVIATIONS

Ø	ROUND	LVR	LOUVER
AB	ABOVE	LWT	LEAVING WATER TEMPERATURE
AC	AIR CONDITIONING	M/A	MIXED AIR
AD	AREA DRAIN	MAX	MAXIMUM
ADD	ADDENDUM	MBH	ONE THOUSAND BTU PER HOUR
AFF	ABOVE FINISHED FLOOR	MCF	ONE THOUSAND CUBIC FEET
ALT	ALTERNATE	MD	MOTORIZED DAMPER
AP	ACCESS PANEL	MECH	MECHANICAL
ARCH	ARCHITECT/ARCHITECTURAL	MFR	MANUFACTURER
BFF	BELOW FINISHED FLOOR	MV	MISC.
BLW	BELOW	MISC	MISCELLANEOUS
BTU	BRITISH THERMAL UNITS	MTR	MOTOR
BTUH	BRITISH THERMAL UNITS PER HOUR	MUA	MAKE-UP/AIR
CAP	CAPACITY	NC	NOISE CRITERIA
CB	CATCH BASIN	NC	NORMALLY CLOSED
CFM	CUBIC FEET PER MINUTE	NOI	NOT IN CONTRACT
CLG	CEILING	NO	NUMBER
CO	CLEAN OUT	NO	NORMALLY OPEN
CW	COLD WATER	NTS	NOT TO SCALE
D	DEGREE	O	OXYGEN
DB	DEGREE FAHRENHEIT	O/A	OUTSIDE AIR
DIA	DIAMETER	ORD	OVERFLOW ROOF DRAIN
DN	DOWN	PD	PRESSURE DROP
DW	DISTILLED WATER	PV	POST INDICATOR VALVE
EAT	EACH	PLBG	PLUMBING
EAT	ENTERING AIR TEMPERATURE	PRESS	PRESSURE
ELEC	ELECTRIC	PRV	PRESSURE REDUCING VALVE
EQUIP	EQUIPMENT	PSI	POUNDS PER SQUARE INCH
EWC	ELECTRIC WATER COOLER	PSIG	POUNDS PER SQUARE INCH GAUGE
EWT	ENTERING WATER TEMPERATURE	PWR	POWER
EIA	EXHAUST AIR	R	DUCT RISER
EXIST	EXISTING	R/A	RETURN AIR
F	FEET	RCP	RADIANT CEILING PANEL
FCO	FLOOR CLEAN OUT	RD	ROOF DRAIN
FD	FLOOR DRAIN	REC	RECESSED
FDC	FIRE DEPARTMENT CONNECTION	RED	REDUCER
FL	FLOOR	RH	RELATIVE HUMIDITY
FO	FUEL OIL	RLA	RELIEF AIR
FOV	FUEL OIL VENT	RM	ROOM
FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE
FOS	FUEL OIL SUPPLY	RW	RAIN WATER
FFM	FEET PER MINUTE	SF	SQUARE FOOT
FS	FLOOR SINK	FS	FLOOR SINK
FT	FOOT/FEET	SAN	SANITARY
FTR	FIN TUBE RADIATION	SF	SQUARE FOOT
GAL	GALLON	SD	SMOKE DAMPER
GF	GAS-FIRED	SM	SURFACE MOUNT
GC	GENERAL CONTRACTOR	SP	STANDPIPE
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
GW	GREASE WASTE	STM	STEAM
HB	HOSE BIB	T	THERMOSTAT
HP	HORSE POWER	TD	TEMPERATURE DROP
HTG	HEATING	TD	TRENCH DRAIN
HTR	HEATER	TEMP	TEMPERATURE
HW	HOT WATER	TYP	TYPICAL
HYD	HYDRANT	UG	UNDERGROUND
ID	INDIRECT	VAC	VACUUM
IN	INCH	V	VENT
INV	INVERT	VAV	VARIABLE AIR VOLUME
LB	POUND	VENT	VENTILATION
LB/HR	POUNDS PER HOUR	VTR	VENT THROUGH ROOF
LAT	LEAVING AIR TEMPERATURE	W	WASTE
LPG	LIQUEFIED PETROLEUM GAS	WB	WET BULB

EQUIPMENT ABBREVIATIONS

AC	AIR CONDITIONING UNIT	ET	EXPANSION TANK
ACCU	AIR COOLING CONDENSING UNIT	EWH	ELECTRIC WATER HEATER
AHU	AIR HANDLING UNIT	FCU	FAN COOL UNIT
AS	AIR SEPARATOR	FP	FIRE PUMP
B	BOLTER	GI	GREASE INTERCEPTOR
CH	CHILLER	GRV	GRAVITY ROOF VENTILATOR
CT	COOLING TOWER	HWP	HEATING WATER PUMP
CUH	CABINET UNIT HEATER	HRU	HEAT RECOVERY UNIT
D/WP	CHILLED WATER PUMP	PRV	POWER ROOF VENTILATOR
DBP	DOMESTIC WATER BOOSTER PUMP	RV	RETURN/EXHAUST FAN
DC	DUCT MOUNTED COIL	RTU	ROOFTOP UNIT
ED	EXHAUST FAN	S/P	SUMP PUMP
EFC	ELECTRIC DUCT COIL	UH	UNIT HEATER
		WH	WATER HEATER

SPLIT SYSTEM DX EQUIPMENT SCHEDULE

INDOOR UNIT					ELECTRICAL					OUTDOOR UNIT					ELECTRICAL			SYSTEM DATA			NOTES		
MARK	CFM	O.A. CFM	EXT. S.P.	MANUFACTURER / MODEL	FAN HP / FLA	HEAT TYPE	INPUT MBTU	VOLTS / PHASE	MCA / MOCP	UNIT WEIGHT	MARK	MANUFACTURER / MODEL	COMPRESSOR QUANTITY	CONDENSER LRA / RLA	CONDENSER FLA	TONS (EACH)	UNIT WEIGHT	VOLTS / PHASE	MCA / MOCP	HSPF2 / SEER2		TOTAL MBH	SENS. MBH
AHU-1	1807	270	0.50"	CARRIER 45MUAAG8DX3	0.75 / 5.7	HEAT PUMP	54.0	208/230 / 1	11.0 / 15	191.0 LBS	CU-1	CARRIER 37MURAG8DAA3	1	— / 21.0	2.4	5.0	225 LBS	208/230 / 1	39.0 / 40	8.4 / 15.2	54.0	40.5	1-11

NOTES:
 1. PROVIDE AHU WITH SINGLE POINT POWER CONNECTION. COORDINATE WITH ELECTRICAL CONTRACTOR.
 2. PROVIDE WITH DISCONNECT SWITCH.
 3. PROVIDE UNIT WITH CORRECT PIPING CONNECTION ARRANGEMENT & SIDE ACCESS FOR CONSTRUCTION LIMITATIONS.
 4. PROVIDE WITH CIRCUIT BREAKER COVER KIT.
 5. PROVIDE WITH TXV FOR COMPONENT COMPATIBILITY.
 6. PROVIDE WITH TIME DELAY RELAY KIT.
 7. PROVIDE WITH HIGH CAPACITY LIQUID LINE DRIER.
 8. PROVIDE WITH COMPRESSOR HARD START KIT.
 9. PROVIDE WITH 24/7 WALL MOUNT HEATING/COOLING PROGRAMMABLE TSTAT PER UNIT REQUIREMENTS LISTED ABOVE
 10. REFRIGERANT LINE SETS: THE MECHANICAL CONTRACTOR SHALL HAVE THE UNIT MANUFACTURER SIZE THE R454B PIPING BASED ON THE LENGTH OF RUNS.
 11. INSTALL PRIMARY DRAIN LINE TO A CODE APPROVED DRAIN LOCATION. SEE THE MECHANICAL NOTES FOR SECONDARY DRAIN INSTALLATION.
 12. PROVIDE SOFT START KIT FOR CONDENSING UNIT.

NOTE: THIS SYSTEM HAS BEEN SCHEDULED PRIOR TO INITIAL MANUFACTURE START DATE. UNIT PRODUCT DATA REQUIRES APPROVAL PRIOR TO ORDERING EQUIPMENT.

FAN SCHEDULE

MARK	MANUFACTURER / MODEL NUMBER	CFM	STATIC PRESS.	AREA SERVED	FAN TYPE	DRIVE TYPE	VOLTAGE/ PHASE	WATTS/ AMPS	SONES	WEIGHT (LBS)	NOTES
EF-1	PANASONIC / FV-05-11VKS1	80	0.250	TOILET	CEILING EXHAUST	DIRECT	120 / 1	5.1 / 0.06	<0.3	13.4	1 THRU 6

NOTES: FAN MANUFACTURER AND MODEL SHALL BE AS LISTED ABOVE OR APPROVED EQUAL.
 1. PROVIDE WITH GRAVITY BACKDRAFT DAMPER.
 2. PROVIDE WITH PERMANENTLY LUBRICATED MOTOR WITH BUILT-IN THERMAL OVERLOAD PROTECTION AND DISCONNECT PLUG.
 3. PROVIDE WITH MANUFACTURERS WHITE PLASTIC GRILLE.
 4. PROVIDE WITH PRE-WIRED SOLID STATE FAN SPEED CONTROLLER.
 5. PROVIDE WITH 0-15 MINUTE TIME DELAY SWITCH. INTERLOCK WITH ROOM LIGHT SWITCH.
 6. PROVIDE WITH HANGING VIBRATION ISOLATOR KIT.

WALL CAP SCHEDULE

MARK	MANUFACTURER- MODEL	SERVICE	SIZE	MATERIAL	COLOR	REMARKS
WC6	SEIHO: SFX6	EXHAUST	6"	ALUMINUM	TO BE SELECTED	SEE NOTES
WC8	SEIHO: SFX8	INTAKE	8"	ALUMINUM	TO BE SELECTED	SEE NOTES

NOTES:
 COORDINATE FINAL LOCATION WITH G.C. AND WALL CONSTRUCTION. MAINTAIN 10'-0" MINIMUM SEPARATION BETWEEN INTAKE AND EXHAUST WALL CAPS. SEAL WALL PENETRATION WATER-TIGHT.

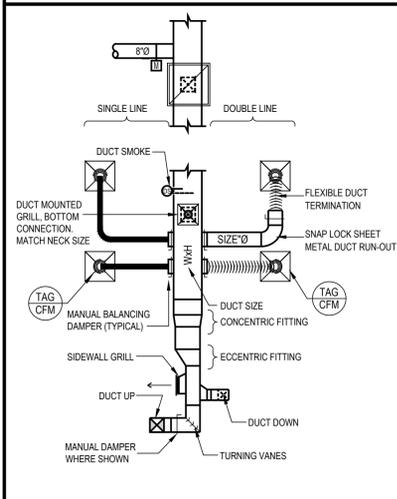
AIR DEVICE LEGEND

	SUPPLY AIR GRILL, CEILING / DUCT MOUNTED
	LINEAR AIR GRILL, CEILING MOUNTED
	ROUND SUPPLY AIR GRILL, CEILING / DUCT MOUNTED
	ROUND SUPPLY AIR GRILL, SIDEWALL MOUNTED
	RETURN AIR GRILL, CEILING / DUCT MOUNTED
	EXHAUST AIR GRILL, CEILING / DUCT MOUNTED

ANNOTATION & SYMBOL LEGEND

	CONNECT TO EXISTING
	POINT OF INTERFACE BETWEEN CONTRACTORS
	CONTINUATION OF PIPING OR SYSTEM, ANNOTATION BREAK
	DIRECTION OF FLOW
	KEYED NOTE
	EQUIPPED TO BE REMOVED / DEMOLISHED
	PIPING TO BE DEMOLISHED
	DETAIL BUBBLE (DETAIL # / SHEET)
	ELEVATION BUBBLE
	REVISION CLOUD, DELTA / CHANGE MARK

GRAPHIC FLOOR PLAN LEGEND



VENTILATION SUMMARY (2023 FBCM, TABLE 403.3.1.1)

ID#	ROOM NAME	PEOPLE (Pz)	AREA (Sq. Ft.)	OCCUPANCY CATEGORY	TABLE 403.3.1.1				MINIMUM		PROVIDED		TABLE 403.3.1.1		EA	NOTES
					Rp	Ra	Rp*Pz	Ra*Az	OA (CFM)	OA (CFM)	EXHAUST CFM/PER	FIXTURE COUNT	REQUIRED CFM			
1	Warehouse 100	2	2320	WAREHOUSES	10	0.06	20	139	159	159	0.0	0	0	a		
2	Restroom 101	0	52	RESTROOM (INTERMITTENT)	0	0	0	0	0	0	70.0	1	70	a,g,e		
TOTALS		2	2372						159	159		1	70			

a. BASED UPON NET OCCUPABLE FLOOR AREA
 b. MECHANICAL EXHAUST REQUIRED AND THE RECIRCULATION OF AIR FROM SUCH SPACES IS PROHIBITED. RECIRCULATION OF AIR THAT IS CONTAINED COMPLETELY WITHIN SUCH SPACES SHALL NOT BE PROHIBITED (SEE SECTION 403.2.1, ITEM 3).
 c. SPACES UNHEATED OR MAINTAINED BELOW 50°F ARE NOT COVERED BY THESE REQUIREMENTS UNLESS THE OCCUPANCY IS CONTINUOUS.
 d. VENTILATION SYSTEMS IN ENCLOSED PARKING GARAGES SHALL COMPLY WITH SECTION 404.
 e. RATES ARE PER WATER CLOSET OR URINAL. THE HIGHER RATE SHALL BE PROVIDED WHERE THE EXHAUST SYSTEM IS DESIGNED TO OPERATE INTERMITTENTLY. THE LOWER RATE SHALL BE PERMITTED ONLY WHERE THE EXHAUST SYSTEM IS DESIGNED TO OPERATE CONTINUOUSLY WHILE OCCUPIED.
 f. RATES ARE PER ROOM UNLESS OTHERWISE INDICATED. THE HIGHER RATE SHALL BE PROVIDED WHERE THE EXHAUST SYSTEM IS DESIGNED TO OPERATE INTERMITTENTLY. THE LOWER RATE SHALL BE PERMITTED ONLY WHERE THE EXHAUST SYSTEM IS DESIGNED TO OPERATE CONTINUOUSLY WHILE OCCUPIED.
 g. MECHANICAL EXHAUST IS REQUIRED AND RECIRCULATION FROM SUCH SPACES IS PROHIBITED. FOR OCCUPANCIES OTHER THAN SCIENCE LABORATORIES, WHERE THERE IS A WHEEL-TYPE ENERGY RECOVERY VENTILATION (ERV) UNIT IN THE EXHAUST SYSTEM DESIGN, THE VOLUME OF AIR LEAKED FROM THE EXHAUST AIRSTREAM INTO THE OUTDOOR AIRSTREAM WITHIN THE ERV SHALL BE LESS THAN 10 PERCENT OF THE OUTDOOR AIR VOLUME. RECIRCULATION OF AIR THAT IS CONTAINED COMPLETELY WITHIN SUCH SPACES SHALL NOT BE PROHIBITED (SEE SECTION 403.2.1, ITEMS 2 AND 4).
 h. FOR NAIL SALONS, EACH MANICURE AND PEDICURE STATION SHALL BE PROVIDED WITH A SOURCE CAPTURE SYSTEM CAPABLE OF EXHAUSTING NOT LESS THAN 80 CFM PER STATION. EXHAUST INLETS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 902.20. WHERE ONE OR MORE REQUIRED SOURCE CAPTURE SYSTEMS OPERATE CONTINUOUSLY DURING OCCUPANCY, THE EXHAUST RATE FROM SUCH SYSTEMS SHALL BE PERMITTED TO BE APPLIED TO

ST. JAMES CITY FIRE STATION
 STORAGE BUILDING
 5015 STRINGFELLOW ROAD
 ST. JAMES CITY, FL 33956

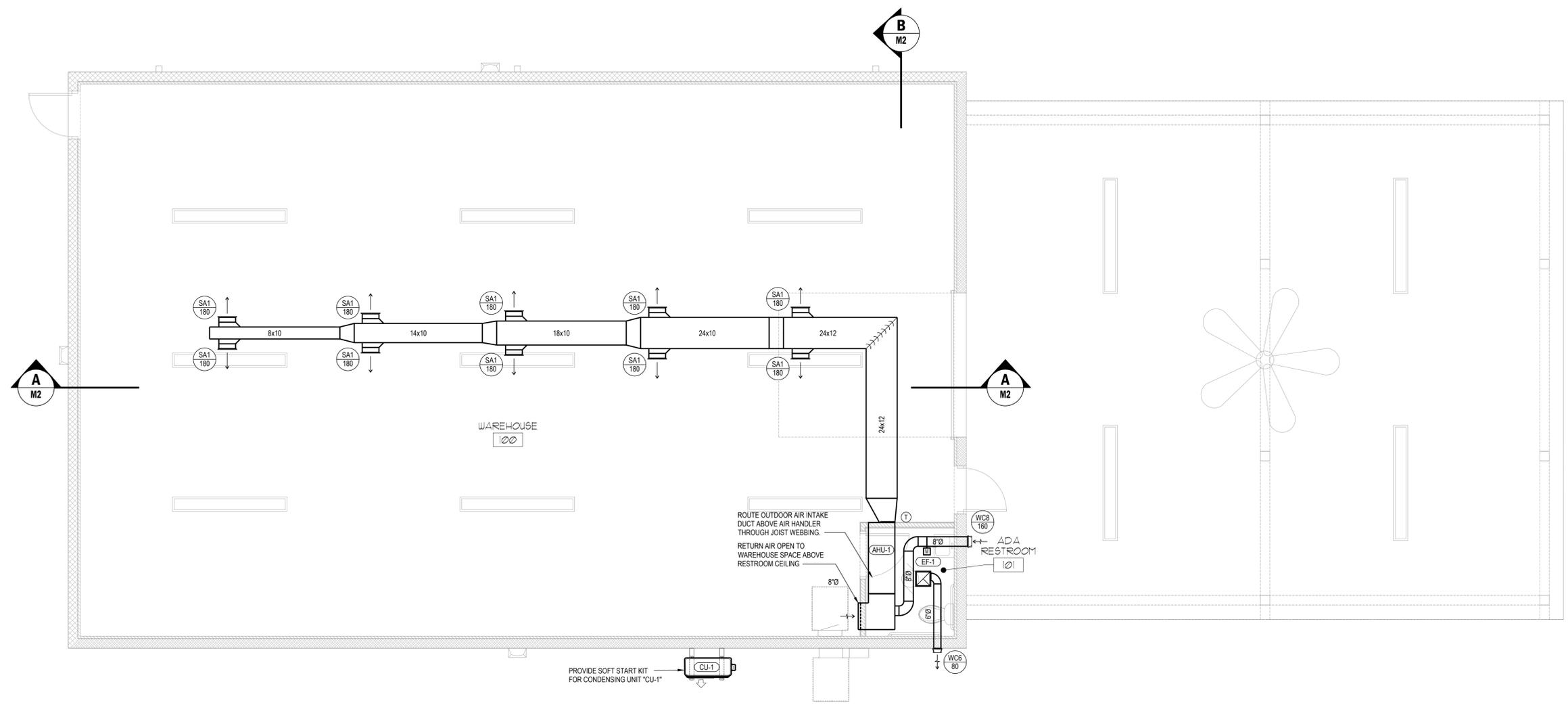
CASTELLANOS + TRAMONTE
 ARCHITECTS
 1228 LAFAYETTE STREET SUITE #1 CAPE CORAL, FLORIDA 33904
 (239) 549-0997
 AA 26003303

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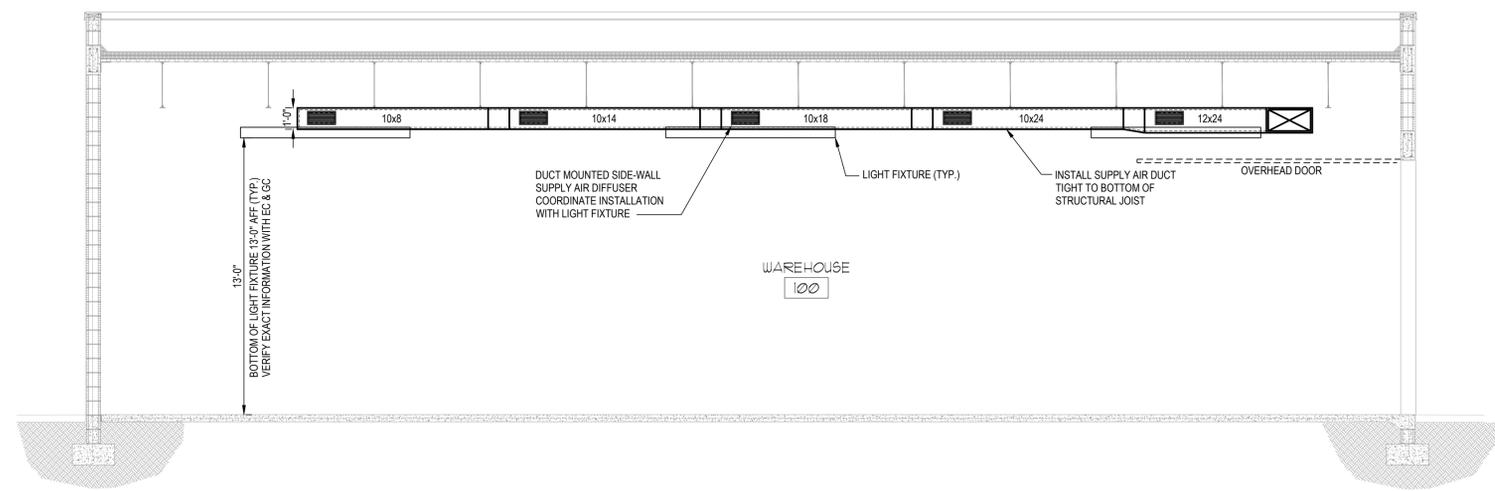
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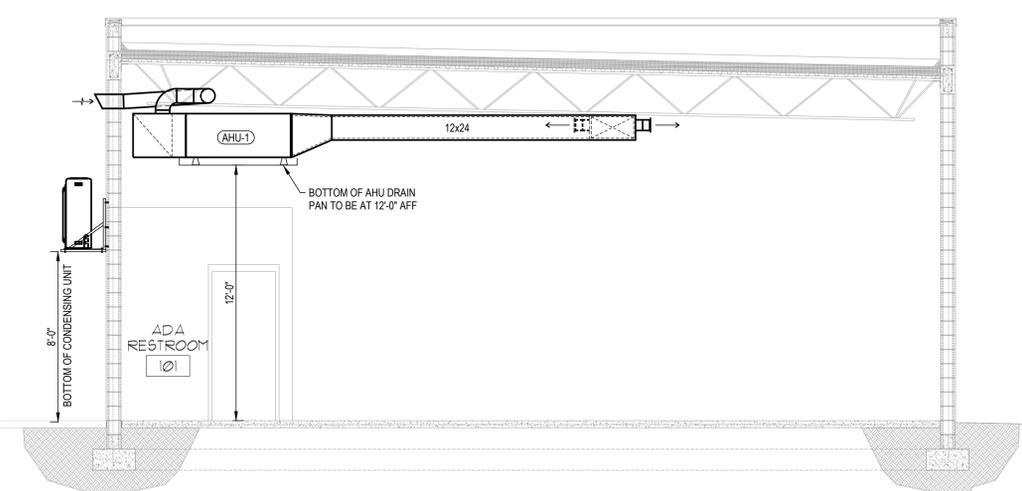
SHEET
M2



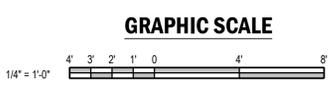
MECHANICAL HVAC FLOOR PLAN
 SCALE: 1/4" = 1'-0"



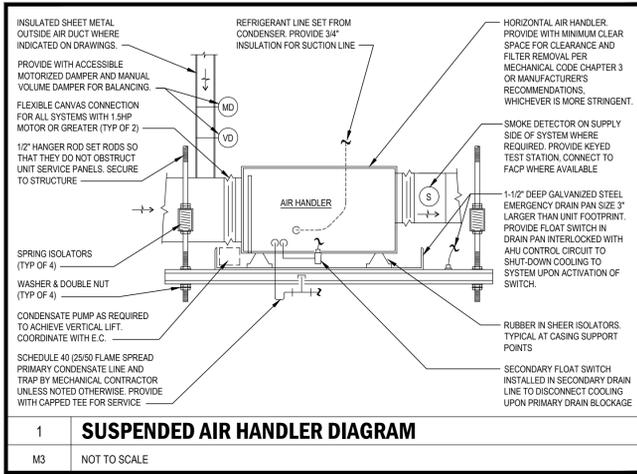
A
 M2
MECHANICAL HVAC SECTION
 SCALE: 1/4" = 1'-0"



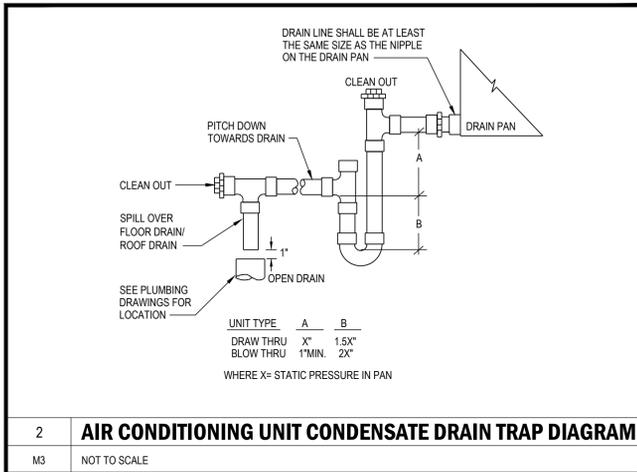
B
 M2
MECHANICAL HVAC SECTION
 SCALE: 1/4" = 1'-0"



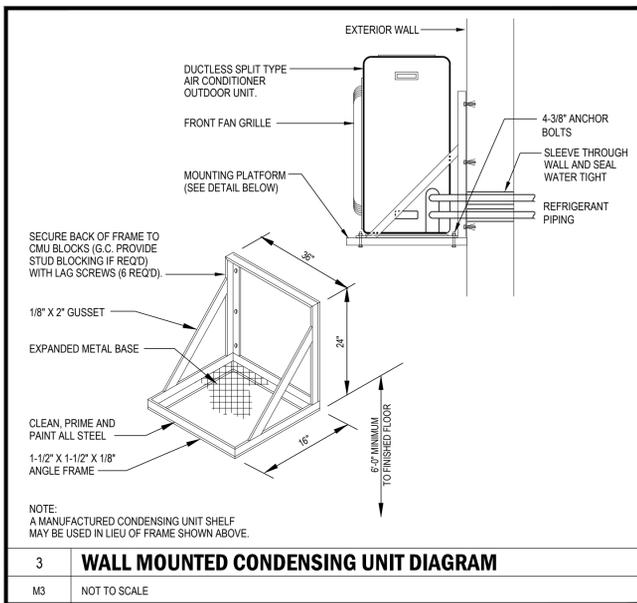
NPS Consulting
 MECHANICAL | ELECTRICAL | PLUMBING | ENGINEERING
 2534 SE SANTA BARBARA PLACE #201
 CAPE CORAL, FLORIDA 33904
 239.770.0513 | NICK@NPSCONSULTINGLLC.COM
 NICHOLAS P. STEWART | PRESIDENT
 CA# 32236
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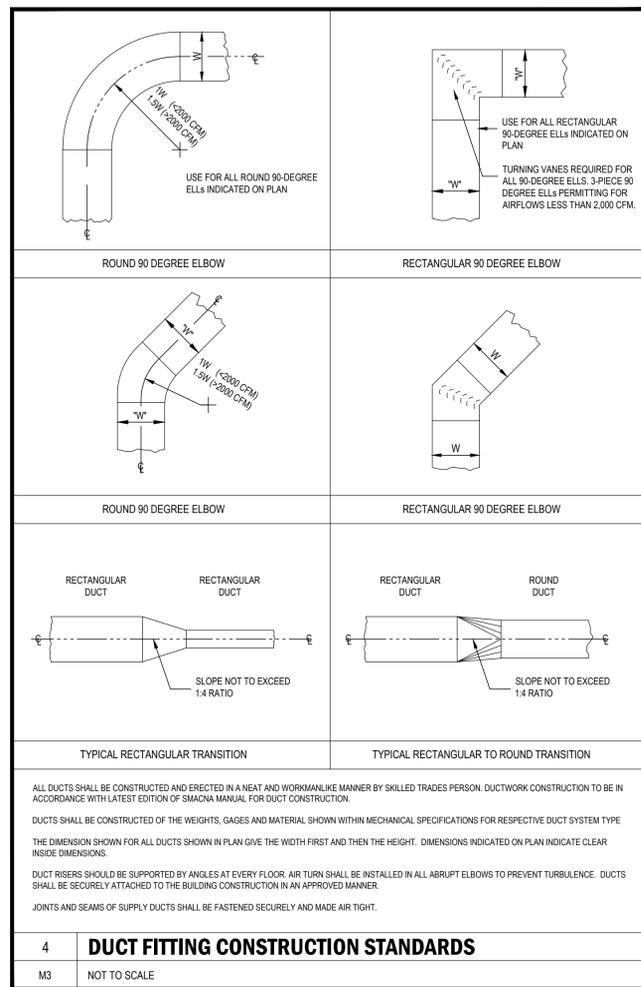
1 SUSPENDED AIR HANDLER DIAGRAM
M3 NOT TO SCALE



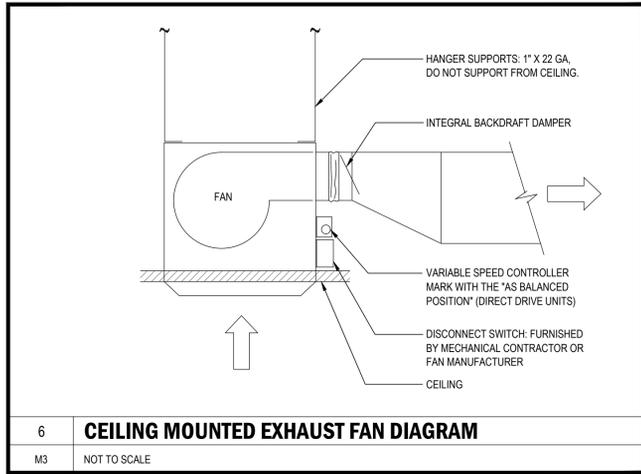
2 AIR CONDITIONING UNIT CONDENSATE DRAIN TRAP DIAGRAM
M3 NOT TO SCALE



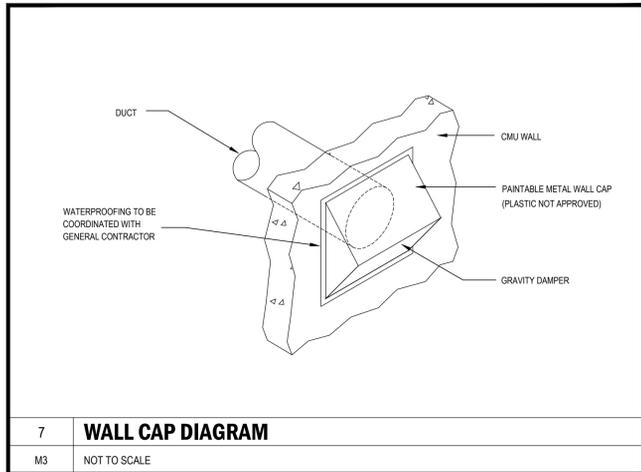
3 WALL MOUNTED CONDENSING UNIT DIAGRAM
M3 NOT TO SCALE



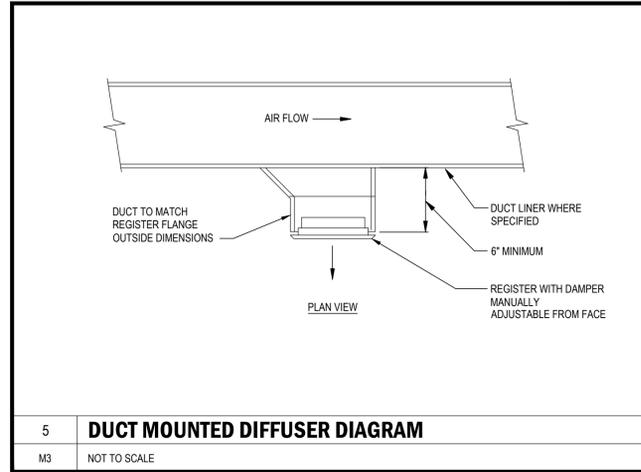
4 DUCT FITTING CONSTRUCTION STANDARDS
M3 NOT TO SCALE



6 CEILING MOUNTED EXHAUST FAN DIAGRAM
M3 NOT TO SCALE



7 WALL CAP DIAGRAM
M3 NOT TO SCALE



5 DUCT MOUNTED DIFFUSER DIAGRAM
M3 NOT TO SCALE



ST. JAMES CITY FIRE STATION
STORAGE BUILDING
5015 STRINGFELLOW ROAD
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DRAWING NAME:

SHEET
M3