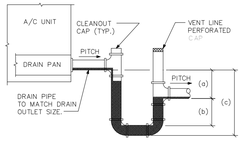
NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP
2. PITCH DRAIN FOR PROPER RUNOFF.
3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.



THIS STANDARD DETAIL MUST BE REVIEWED AND SITE ADAPTED BY CONTRACTOR PRIOR TO USE FOR FINAL EQUIPMENT.

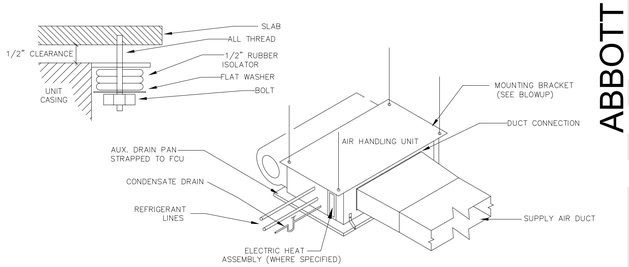
(a) THIS DIMENSION IN INCHES MUST BE EQUAL TO THE MAXIMUM FAN SUCTION (NEGATIVE) STATIC PRESSURE IN INCHES WG (WITH DIRTY FILTERS, COILS, AND MAXIMUM AIR FLOW) + 1" W.G.

(b) THIS DIMENSION IN INCHES MUST BE EQUAL TO MIN. 1/2 OF THE (a) ABOVE

(c) EQUALS (a) + (b) + PIPE DIA. + + INSULATION

CONDENSATE TRAP DETAIL

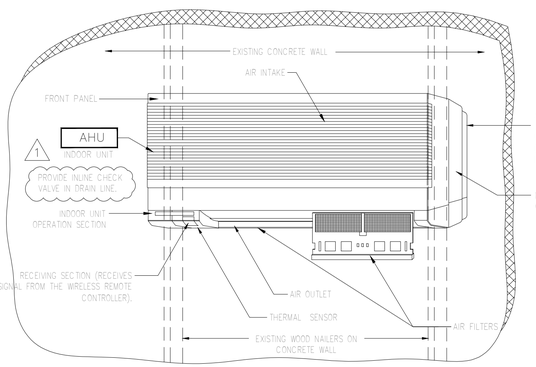
N.T.S.



AIR HANDLER HANGING DETAIL

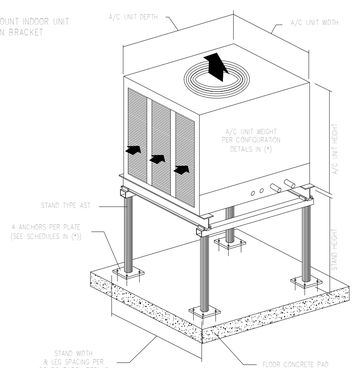
N.T.S.

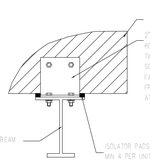
1. PROVIDE FLOAT SWITCH TO SHUTDOWN UNIT UPON OVERFLOW DETECTION.
2. PROVIDE ACCESS PANEL WHEN FCU SHALL BE MOUNTED ABOVE FINISHED CEILING. LOCATE PANEL BELOW UNIT & SIZED LARGE ENOUGH TO PROVIDE FULL ACCESS TO FAN COIL UNIT FOR MAINTENANCE, REMOVAL ETC. TYP. FOR FINISHED CEILING AREAS. SEE ARCH. DEWGS. FOR PANEL SPECIFICATION.



MINI-SPLIT INDOOR WALL MOUNTED AHU

SCALE: NTS





A/C UNIT TIE-DOWN DETAIL

NTS

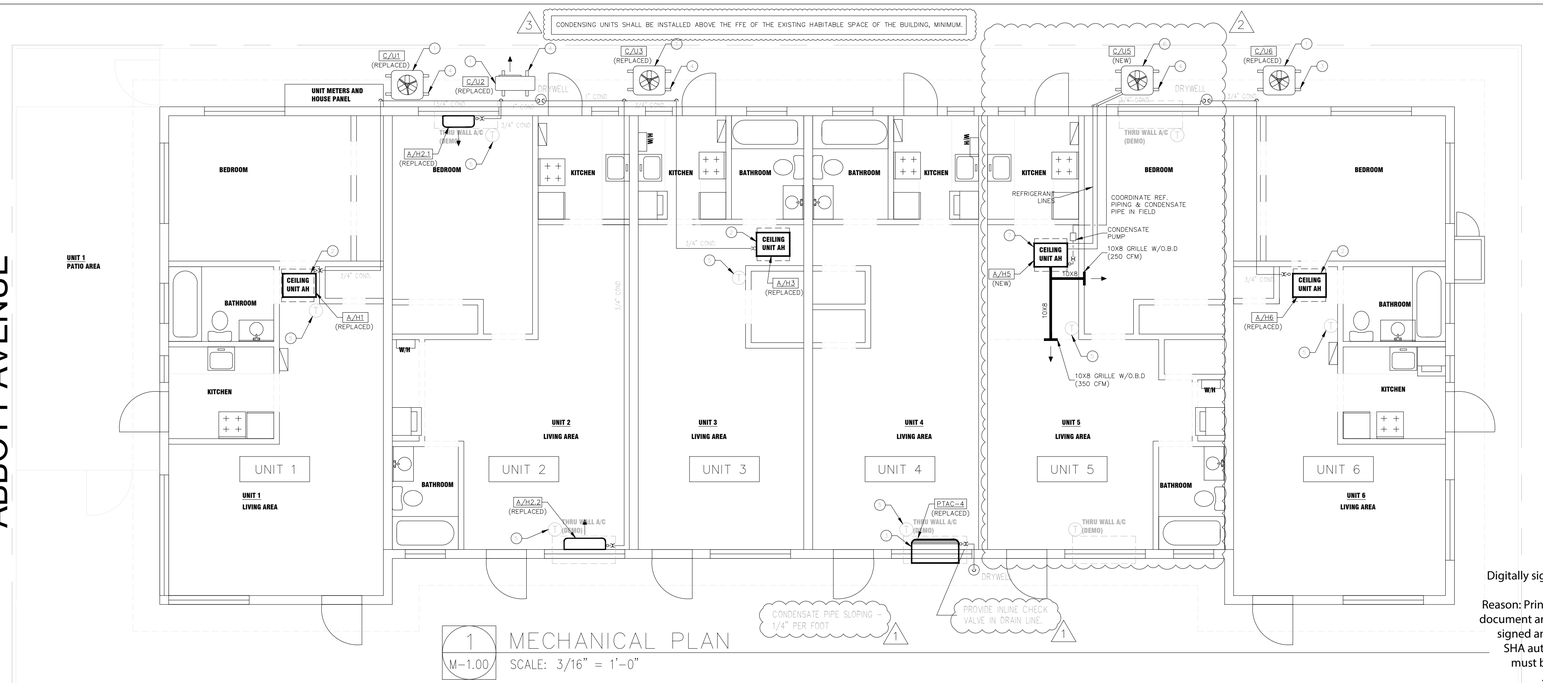
NOTES:
1. AIR INLETS (LOUVERS) ALLOW 12" MIN. CLEARANCE 3 SIDES.
2. AIR DISCHARGE ALLOW 60" CLEARANCE.
3. ALLOW 24" ACCESS CLEARANCE.
4. * FOR DETAILS AND SPECIFICATION SEE DESIGN ALUMINUM STAND DRAWING SHEETS - (TYPE AST) PER METALLUM ENTERPRISES, INC. 3011 SW 21 STREET MIAMI, FL 33145 PHONE: (305) 443-3425

NOA No. 17-1023.17
Exp. Date: JUNE 28, 2022

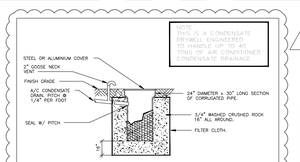
APPLIANCE INSTALLATION IS PER SECTION M1307.2.1 & M1411.4 AT THE F.B.C.R.

ALUMINUM A/C STAND MOUNT DETAIL

NTS



1 M-1.00 MECHANICAL PLAN
SCALE: 3/16" = 1'-0"



CONDENSATE DRYWELL DETAIL

NTS

REVISED TO SHOW CONDENSATE LINES AND DRYWELL LOCATIONS

AIR CONDITIONING SPLIT SYSTEM SCHEDULE

CONDENSING UNIT

CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(S)EER/IPLV	REFRIG	LIQ./SUCT.	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)
C/U1	PAYNE / PA14NC018	1.5	1	14	R410A	PER MANUF.	1	0.6	1	9.0	230/1/60	11.7/20	133	26X29X29
C/U2	PIONEER / YN027GMF116	2.0	1	16	R410A	PER MANUF.	1	0.6	1	10.1	230/1/60	18/30	133	14X29X30
C/U3	PAYNE / PA14NC018	1.5	1	14	R410A	PER MANUF.	1	0.6	1	9.0	230/1/60	11.7/20	133	26X29X29
C/U5	M4AC40B010000AA	3.0	1	16	R410A	PER MANUF.	1	0.7	1	7.7	230/1/60	10.4/15	133	14X29X30
C/U6	PAYNE / PA16NB018	1.5	1	14	R410A	PER MANUF.	1	0.6	1	9.0	230/1/60	11.7/20	133	26X29X29

AIR HANDLING UNIT

AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM	E.S.P.("W.G.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP-FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)
A/H1	FIRST CO. / 24HX-5	17.8	13.4	600	–	0.4	78/63	–	3/15	1/5 – 1.2	3	230/1/60	30/30	110	38X21X10
A/H2.1	PAYNE / W8D090MF116	9.0	6.75	320	–	0.1	78/63	–	3/15	1/5 – 0.2	9 MBH	230/1/60	0.2	18	28X8X10
A/H2.2	PAYNE / W8D036MF116	3.0	3.5	230	–	0.1	78/63	–	3/15	1/5 – 0.2	18 MBH	230/1/60	0.2	26	37X9X12
A/H3	FIRST CO. / 24HX-5	17.8	13.4	600	–	0.4	78/63	–	3/15	1/5 – 1.2	3	230/1/60	30/30	110	19X22X46
A/H5	FIRST CO. / 24HX-5	17.8	13.4	600	–	0.4	78/63	–	3/15	1/4 – 2.0	5	230/1/60	30/30	110	38X21X10
A/H6	FIRST CO. / 24HX-5	17.8	13.4	600	–	0.4	78/63	–	3/15	1/5 – 1.2	3	230/1/60	30/30	110	38X21X10

NOTES: **CONTACT THE MANUFACTURER FOR REFRIGERANT LINE SIZING FOR APPLICATIONS EXCEEDING 50 FT**
1. UNITS RATED PER ARI 210, 240 AND 270
2. PROVIDE WITH TXV, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
3. PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
4. PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
5. PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
6. PROVIDE SINGLE POINT POWER ENTRY AND HEAVY DUTY NICKEL-CHROMIUM ELEMENT HEATER
7. PROVIDE 1" THROWAWAY, MIN. 30% EFF. FILTER AND VIBRATION ISOLATION FOR AHU
8. PROVIDE MOTORIZED OUTSIDE AIR DAMPER INTERLOCK WITH COMPRESSOR
9. PROVIDE COASTAL CORROSION PROTECTION FOR CONDENSING UNIT, FULLY DIPPED COIL
10. PROVIDE FACTORY MOUNTED FUSIBLE DISCONNECT/STARTER FOR A.H.U., COORDINATE PRIOR TO PURCHASING
11. PROVIDE DISCONNECT FOR C.U. (INSTALLED BY ELECTRICAL) COORDINATE PRIOR TO PURCHASING
12. PROVIDE FACTORY RECOMMENDED PROGRAMMABLE THERMOSTAT.
13. REFRIGERANT LINE TO BE SIZED AS PER MANUFACTURER'S RECOMMENDATION.
14. PROVIDE CONDENSATE PUMP AS REQUIRED.

SCOPE OF WORK

SCOPE OF WORK IS TO REPLACE EXISTING AC UNITS WITH NEW ONES AS PER SCHEDULE

KEYNOTES

1. REPLACED CONDENSING UNIT.
2. REPLACED AIR HANDLING UNIT.
3. REPLACED PTAC UNIT.
4. CONDENSER UNIT RAIL MANUFACTURED BY MIAMI TECH INC. NOA # 17-1210.02
5. NEW THERMOSTAT LOCATION
6. NEW CONDENSING UNIT
7. NEW AIR HANDLING UNIT

HVAC DESIGN REQUIRES:	YES	NO
DUCT SMOKE DETECTOR		✓
FIRE DAMPER(S)		✓
SMOKE DAMPER(S)		✓
FIRE RATED ENCLOSURE		✓
FIRE RATED ROOF/FLOOR CEILING ASSEMBLY		✓
FIRE STOPPING		✓
SMOKE CONTROL		✓

PTAC SCHEDULE

A/C UNIT TAG	PTAC-4
MANUFACTURER	AMANA
MODEL	PTC123G25AX
COOLING CAP. MBH.	11.5
EER	10.4
DIMENSIONS W x H x D (IN.)	42X16X21
INDOOR CFM	290
POWER SUPPLY	208/1ø/60
ELECTRIC HEATER (KW)	2.5
HEATING CAP. MBH.	8.5
MCA	13.9
MOP	15

NOTES:
1. PROVIDE AUTO RESTART
2. PROVIDE DIGITAL CONTROL DISPLAY
3. PROVIDE DIP SWITCH SETTING FOR TEMPERATURE LIMITING
4. PROVIDE ENERGY SAVER MODE
5. PROVIDE FREEZE ROOM PROTECTION
6. PROVIDE ANTI-CORROSION TREATMENT FOR CONDENSER
7. PROVIDE POWER CORD
8. PROVIDE EXTERNAL THERMOSTAT (MOUNTED ON WALL) TO CONTROL THE PTAC
9. PROVIDE NEW SLEEVE AND EXTERIOR GRILLE

MECHANICAL SPECIFICATIONS

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE FLORIDA BUILDING CODE 2017 AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS; SMACNA-85, 95, 03, 05; ASHRAE 15-04, 34-04, 62-04; NFPA 70-08, 72-07, 90A-02, 90B-02, 91-04, 96-04, 101-06; ANSI Z10.1-98, Z10.3-96, Z21.8-94, Z21.83-98.
2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
4. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT/ENGINEER WITH "AS-BUILT" DRAWINGS.
5. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE [5] COPIES OF A COMPLETE SET OF SHOP DWGS, MANUFACTURER'S SUBMITTALS FOR EACH PIECE OF EQUIPMENT & CONTROLS INCLUDED IN CONTRACT.
6. ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED. ALL INSTALLATIONS SHALL COMPLY WITH FMC 2017, CH. 3, GENERAL REGULATIONS.
7. TEMPERATURE CONTROLS/THERMOSTAT:
   A. FOR NEW UNITS:
   PROVIDE PROGRAMMABLE TYPE AS RECOMMENDED BY MANUFACTURER.
8. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEER BEFORE INSTALLATION. INSTALL THERMOSTAT PER A.D.A REQUIREMENTS WHERE APPLICABLE; MAX. 48" HIGH FOR FORWARD REACH, MAX. 54" HIGH FOR SIDE REACH. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITIES AND SCOPE OF WORK FOR EACH TRADE PRIOR TO PURCHASING/INSTALLATION.
9. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE START-UP, REPLACE PRIOR TO FINAL ACCEPTANCE BY OWNER.
10. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT, IN ORDER TO PROVIDE A FULLY INTEGRATED MECHANICAL AND CONTROLS SYSTEMS WITH THE EXISTING ONES. ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND PLANS, OR ADDITIONAL CLARIFICATION REQ'D SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO FINAL BIDDING AND WORK.
11. AIR CONDITIONING CONDENSATE DRAIN PIPING SHALL BE SCH. 40 PVC-DWV.
12. CLEARANCE FOR MAINTENANCE, SERVICE, REPAIRS, AND REPLACEMENT FOR ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED TO COMPLY WITH FMC 2010, SEC. 306. SERVICE ACCESS PANELS FOR MECH. EQUIPMENT IN CONCEALED SPACES SHALL BE PROVIDED TO COMPLY WITH THE REQUIREMENTS OF SEC. 306.
13. MANUFACTURER'S WARRANTY: CONTRACTOR SHALL PROVIDE WARRANTY FOR A PERIOD OF (1) ONE YEAR AFTER BUILDING C.O. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS FOR (5) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN WILL BE DONE DURING NON-OPERATIONAL PERIODS OR AS AGREED WITH OWNER.
14. IF REMODELING AN EXISTING SPACE, THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID. CONTRACTOR SHALL INSPECT ALL EXISTING AND NEW COMPONENTS OF THE MECHANICAL SYSTEMS AND ENSURE THAT ALL ARE OPERATIONAL AND WORKING AS SHOWN ON THE APPROVED CD PLANS AT THE TIME OF C.O.
15. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER BRAZING-JOINT TYPE FITTINGS. USE BRAZING MATERIALS FOR HIGH PRESSURE PIPING PER ANSI A5.8: BCuP SERIES COPPER-PHOSPHORUS ALLOY OR BAg1 SILVER ALLOY. REFRIGERANT LINES SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS. SOFT COPPER TYPE "M" SHALL BE ALLOWED FOR RISER PIPING INSIDE CHASE TO LIMIT NUMBER OF JOINTS. COORDINATE WITH ENGINEER FOR PRIOR APPROVAL. ALL EXPOSED INSULATION SHALL BE PROTECTED WITH A PROTECTIVE, PUNCTURE AND TEAR RESISTANT JACKETING SYSTEM EQUAL TO "VENTURE CLAD"
16. "ARMAFLEX" OR EQUAL INSULATION SHALL BE USED FOR SUCTION REFRIGERANT LINES WITH THICKNESS PER FLORIDA ENERGY CODE TABLE 503.2.8. FILTER/DRYER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES.

KReL DESIGN

ARCHITECTURE/CIVIL/STRUCTURAL
924 NORTH FEDERAL HWY
HOLLYWOOD, FL 33022
(561) 666 2450

MEP ENGINEERS
RM2 ENGINEERING & DESIGN, LLC
CERTIFICATE OF AUTHORIZATION # 32694
3389 SHERIDAN STREET, #530
HOLLYWOOD, FL 33021
(305) 331 2699

Seal:
Digitally signed by Robert M Molina
Reason: Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies
Date: 2020.12.23 11:28:19 '-05'00

ROBERT M. MOLINA LICENSE No. 83253 STATE OF FLORIDA PROFESSIONAL ENGINEER

ROBERT M. MOLINA, P.E.
FLORIDA REG P.E. #83253

Revisions:

1.	12-06-19	PERMIT COMMENTS
2.	08-11-20	OWNER REVISION
3.	12-21-20	PERMIT COMMENTS

Project Name:

WINDOW, DOOR, & M/E SERVICES REPLACEMENT

7921 ABBOTT AVENUE
MIAMI BEACH, FL 33141

KEY PLAN

N

ISSUED FOR:

Comm. No.	2019.VIZ
Scale:	AS SHOWN
Date:	11.04.2019
Drawn:	MM
Checked:	RM
Draw'g Title:	MECHANICAL PLAN

Sheet No.

M-1.00