	ELECTRICAL GENERAL NOTES
1.	ALL WORK THIS DIVISION SHALL COMPLY WITH ALL BUILDING CODES, LAWS, REGULATIONS, ORDINANCES, AND THE REQUIREMENTS OF 1990 NATIONAL ELECTRICAL CODE.
2.	THE CONTRACTOR SHALL KEEP A RECORD OF THE CHANGES WHICH ARE IN CONFLICT WITH THESE DRAWINGS AND SPECIFICATIONS. AT THE COMPLETION OF HIS/HER WORK HE/SHE SHALL SUBMIT "AS BUILT" PRINTS TO THE OWNER.
3.	ALL SYSTEMS, EQUIPMENT, COMPONENTS, WORK, ETC. PROVIDED UNDER THIS DIVISION SHALL BE COVERED BY A ONE YEAR GUARANTEE STARTING AT THE TIME OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER . ANY DEFECTS IN THE WORK, SYSTEMS, EQUIPMENT, OR COMPONENTS FOUND DURING THIS YEAR SHALL BE CORRECTED AT NO CHARGE. THE GUARANTEE SHALL INCLUDE PROVIDING ALL NECESSARY CUTTING, PATCHWORK, REPAINTING, ETC. TO MAKE THE WORK COMPLETE AND NEW.
4.	ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER WITH TYPE "THW" OR "THHN" INSULATION AND THE MINIMUM WIRE SIZE SHALL BE #14 A.W.G. FOR 15A WHERE USED IN RESIDENTIAL/LIVING UNITS AND #12 A.W.G FOR 20A CIRCUITS UNLESS NOTED OTHERWISE, OR NOT ALLOWED BY LOCAL JURISDICTION HAVING AUTHORITY.
5.	ALL WORK MUST BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER ACCORDING TO GENERALLY ACCEPTED PRINCIPALS OF FIRST CLASS WORKMANSHIP.
6. 7	ALL SWITCHES FOR FANS, LIGHTS, ETC. WHICH ARE SHOWN TO BE MOUNTED IN THE SAME GENERAL AREA SHALL SHARE A MULTI-GANG COVER PLATE AS REQUIRED.
7. 8.	PROVIDE A TYPE WRITTEN DIRECTORY FOR ALL PANELS. CORRECTLY LABEL ALL CIRCUITS, SPARES, AND SPACES.
9.	LABEL AND IDENTIFY ALL JUNCTION BOXES, WIREWAYS AND MAJOR SWITCHES AT THE TIME OF INSTALLATION. PROVIDE PERMANENT NAMEPLATES/LABELS AS SPECIFIED
10.	VERIFY LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGH-IN.
11.	ALL CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION TYPE FITTINGS. WIRING SHALL BE INSTALLED AT DEPTHS BELOW FINISHED GRADE (BELOW SLAB
12.	AND SUB-BASE LEVEL) AS PER NEC ARTICLE SUD.SU. ALL BRANCH CIRCUITS SHALL BE ROUTED IN CONDUIT. MINIMUM HOMERUN CONDUIT SIZE SHALL BE: A. ABOVE GRADE: 3/4" B. BELOW GRADE: 1"
14.	COMMON NEUTRAL MAY BE USED AS PERMITTED BY NEC FOR MULTIWIRE BRANCH CIRCUITS. SEPARATE NEUTRAL SHALL BE PROVIDED FOR ALL CIRCUITS CONNECTED TO GROUND FAULT CIRCUIT INTERRUPTER TYPE DEVICES, UNLESS OTHERWISE NOTED. SEPARATE NEUTRAL SHALL BE PROVIDED FOR ALL ARC FAULT CIRCUIT INTERRUPTER CIRCUITS.
15.	ALL BRANCH CIRCUITS SHALL INCLUDE A GREEN INSULATED GROUND WIRE, SIZED PER NEC TABLE 250.122 OR AS SHOWN, CONNECTED TO EACH DEVICE AND OUTLET BOX ON THE CIRCUIT AND TO THE PANEL BOARD GROUND BUS. MULTIPLE WIRE BRANCH CIRCUITS WITH COMMON NEUTRAL REQUIRE ONLY ONE GROUND WIRE, UNLESS OTHERWISE NOTED.
16.	IN CASES WHERE CONFLICTS OCCUR BETWEEN DRAWINGS AND SPECIFICATION, OR BETWEEN DIFFERENT TRADES. AS WELL AS CASES OF ANY OMISSION OF INFORMATION, NOTIFY THE ARCHITECT AND PROCURE RESOLUTION OF THE CONFLICT OR OMISSION BEFORE PROCEEDING WITH THE INSTALLATION.
17.	ALL 15A AND/OR ZUA BRANCH RECEPTACLE CIRCUITS FOR 120V, CIRCUITS LONGER THAN 70'-0" SHALL BE MINIMUM #10 AWG, LONGER THAN 150' SHALL BE #8 AWG.
18.	THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATION OF ELECTRICAL WORK, DATA PRESENTED ON THE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITION IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN.
19.	COORDINATE WITH OTHER TRADES SO THAT INSTALLATION OF ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CHECK CONDUIT, FIXTURE AND OTHER EQUIPMENT LOCATIONS WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING DUCT WORK, STEEL PIPING, BEAM, OR OTHER OBSTRUCTIONS.
20.	THE GENERAL CONTRACTOR SHALL PROVIDE NOTICE TO THE ARCHITECT/ENGINEER THAT THERE HAS BEEN A FACE-TO-FACE MEETING WITH THE MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL SUBCONTRACTORS TO COORDINATE THEIR WORK. THIS MUST BE DONE PRIOR TO ORDERING ANY EQUIPMENT AND SHALL SERVE TO MATCH THE VOLTAGE, PHASE, AMPS, MCA, AND MOCP OF THE EQUIPMENT WITH THE DESIGNED ELECTRICAL CHARACTERISTICS. AFTER THIS MEETING HAS BEEN HELD THE GENERAL CONTRACTOR SHALL PROVIDE NOTICE (IN WRITING) TO THE A/E THAT THIS HAS BEEN DONE AND THERE ARE NO DISCREPANCIES. FAILURE TO MEET DOES NOT ENTITLE CONTRACTOR TO A CHANGE ORDER FOR INCOMPATIBLE EQUIPMENT AND SERVICE CHARACTERISTICS.
21.	PROVIDE UNSWITCHED HOT WIRE TO ALL EMERGENCY/EXIT LIGHTING.
22.	PROVIDE SEALING OF ALL OUTLET BOXES PER LOCAL FIRE CODE.
23. 24.	COMBUSTIBLE MATERIALS ARE NOT ALLOWED WITHIN AREAS WHERE PLENUM AIR SYSTEMS ARE BEING USED. THE CONTRACTOR SHALL PROVIDE AND INSTALL WIRING AND CIRCUIT ALL EQUIPMENT, MOTORS, AND OTHER ITEMS NOT EXPLICITLY SHOWN, BUT INDICATED, IN CONTRACT DOCUMENTS OR IN SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF SAID ITEMS BETWEEN ALL TRADES.
25.	NO PIPING, DUCT, OR EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE INSTALLED ABOVE ANY ELECTRICAL PANELBOARD, LOAD CENTER, MOTOR
26.	THERE SHALL BE NO BACK TO BACK RECEPTACLE WITHIN FIRE RATED WALLS. PROVIDE MINIMUM HORIZONTAL SPACE BETWEEN OUTLETS AT OPPOSITE SIDES OF A
77	FIRE RATED WALL.
28.	FIRE ALARM SYSTEM PROVIDED BY ELECTRICAL SUBCONTRACTOR PER NFPA 101, NFPA 72 AND IBC.
29.	NAME PLATES FOR DISCONNECT SWITCHES SHALL BE PRINTED LABELS.
30.	BELOW GRADE RACEWAY INSTALLATIONS - DIRECT BURIAL CONDUIT SHALL BE INSTALLED AT CODE REQUIRED BURIAL DEPTHS
51.	WITHIN CONCRETE WHERE THE OUTSIDE DIAMETER IS LARGER THAN 1/3 OF THE SLAB THICKNESS.
32.	PROVIDE OCCUPANCY SENSORS TO CONTROL LIGHTING IN ALL COMMON AREA RESTROOMS, OFFICES, STORAGE ROOMS, ETC.
55. 34.	CONDUIT FILL PER CODE
35.	IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE LIGHTS, HVAC REGISTERS AND SPRINKLERS. IN ADDITION, THE CONTRACTOR SHALL VERIFY CEILING TYPES
36.	ALL LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENT OF THE CEILING USING #12 GALVANIZED STEEL WRES, TWO WIRES AT OPPOSITE CORNERS OF THE FIXTURES.
37.	ALL ITEMS ON THE DRAWINGS SHALL BE NEW AND BEAR THE U.L. LABEL.
38.	THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE TRANSFORMER WITH THE LOCAL UTILITY COMPANY. FURTHER HE SHALL OBTAIN A DETAIL OF THE CONCRETE PAD FOR THE TRANSFORMER AND COORDINATE ANY METERING EQUIPMENT TO BE FURNISHED AND SHALL DO SO AT NO ADDITIONAL COST TO THE OWNER.
39.	WHERE WALLS ARE FIRE OR SMOKE RATED THE CONTRACTOR SHALL DO HIS INSTALLATION TO PREVENT VIOLATING THE RATING OF THE WALL, THIS MEANS COMPLYING WITH ALL U.L. REGULATIONS.
40.	FIRE WALLS SHALL HAVE PUTTY PADS ON METALLIC BOXES UNLESS BOXES ARE RATED FOR RATING OF THE WALL.
41.	PROVIDE A GROUND BAR AT EACH TELEPHONE BACKBOARD AND/OR MDF (HUB/ROUTER ROOM) AND TERMINATE USING A TERMINAL STRIP THAT CONTAINS NO LESS THAN TEN (10) PLACES FOR ADDITIONAL WIRES. BOND TO MAIN GROUND (#6 AWG) AT ELEC. RM.
42.	DO NOT SCALE DRAWINGS, LOCATION OF EQUIPMENT ARE APPROXIMATE, ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO PROVIDE PROPER WORKING
43.	ALL CONDUCTORS FOR EXTERIOR LIGHTING CIRCUITS SHALL BE MINIMUM #10 AWG (UNLESS OTHERWISE NOTED), EXCEPT THE CONDUCTORS FROM THE HANDHOLE UP THE POLE TO THE BALLAST MAY BE #12 AWG.
44.	THE CONTRACTOR SHALL MEASURE THE GROUND RESISTANCE, USING THE "FALL OF POTENTIAL METHOD" AND SUBMIT THE RESULTS TO THE A/E VIA EMAIL USING "WORD" SOFTWARE. IF THERE IS DIFFICULTY ACHIEVING 5 OHMS OR LESS THE CONTRACTOR SHALL CONTINUE TO DRIVE GROUND RODS OR ADD A NON TOXIC ENVIRONMENTALLY FRIENDLY MAGNESIUM SULFATE TO ACHIEVE THE 5 OHMS OR LESS TO GROUND. THE GROUNDING INFORMATION SHOULD BE SIGNED BY A TECHNICIAN. THE TYPE OF INSTRUMENT USE TO PERFORM THE TEST SHALL BE INCLUDED IN THE REPORT. THE TEST SHALL NOT BE DONE IF THERE HAD BEEN RAINFALL IN THE PREVIOUS 24 HOUR PERIOD. THIS SHALL BE DONE AT THE BEGINNING OF THE CONSTRUCTION PROCESS AND NOT AT THE END. ALL GROUNDS SHALL BE INTERCONNECTED AT THE MAIN GROUNDING ELECTRODE USING A ERICO MODEL TG8-A16L08PT MOUNTED ADJACENT TO THE MAIN SERVICE EQUIPMENT OR MAIN SWITCH.
45.	COORDINATE LOCATION AND QUANTITY OF FIRE / SMOKE DAMPERS WITH MECHANICAL CONTRACTOR PRIOR TO BID. COORDINATION OF LOCATIONS AND QUANTITIES WILL OVERRIDE LOCATIONS AND QUANTITIES INDICATED ON ELECTRICAL DRAWINGS. PROVIDE A 120V UNSWITCHED CIRCUIT TO EACH FIRE / SMOKE DAMPER. PROVIDE A DUCT MOUNTED SMOKE DETECTOR FOR EACH FIRE / SMOKE DAMPER. CONNECT DUCT MOUNTED SMOKE DETECTOR AND FIRE / SMOKE DAMPER TO FIRE ALARM SYSTEM. A CHANGE ORDER WILL NOT BE ALLOWED FOR LACK OF COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL CONTRACTOR FOR LOCATION AND QUANTITY OF FIRE / SMOKE DAMPERS.
46.	COORDINATE REQUIREMENTS FOR TELEPHONE AND CABLE TELEVISION SERVICES WITH UTILITY PROVIDER PRIOR TO BID. UTILITY COMPANY REQUIREMENTS SHALL OVERRIDE REQUIREMENTS INDICATED HEREIN.
47.	ALL SERVICE EQUIPMENT SHALL BE LABELED WITH THE MAXIMUM AVAILABLE FAULT CURRENT PROVIDED BY THE SERVICE EQUIPMENT MANUFACTURER. LABEL SHALL INCLUDE THE DATE OF CALCULATIONS. RECALCULATE AND RELABEL AS NECESSARY IN RENOVATIONS. (NEC 110.24)

	ELECTRICAL A	BBRE	VIATIONS
ACT	ABOVE COUNTERTOP OR BACKSPLASH	FACP	FIRE ALARM CONTROL PANEL
AC	ALTERNATING CURRENT	FIX	FIXTURE
AL	ALUMINUM	FL	FLOOR
AMP	AMPERES	FU	FUSED
AFF/AFG	ABOVE FINISHED FLOOR/GRADE	GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER
AHÚ	AIR HANDLING UNIT	GND/G	GROUND
APPROX	APPROXIMATELY	H.O.A.	HAND-OFF-AUTOMATIC
ARCH	ARCHITECTURAL	HP	HORSEPOWER
AWG	AMERICAN WIRE GAUGE	IEEE	INSTITUTE OF ELECTRICAL AND
BD	BOARD	ELECTRONIC	ENGINEERS
BLDG	BUILDING	JB	JUNCTION BOX
CAB	CABINET	KVA	KILOVOLT-AMPERE
CAP	CAPACITY	KW	KILOWATT
CATV	CABLE TELEVISION	KAIC	KILO-AMPERE INTERRUPTING CAPACITY
CBB	CABLE TELEVISION BACKBOARD	MCA	MINIMUM CIRCUIT AMPACITY
CKT	CIRCUIT	МСВ	MAIN CIRCUIT BREAKER
CLG	CEILING	MECH	MECHANICAL
C/B	CIRCUIT BREAKER	MISC	MISCELLANEOUS
C/L	CENTER LINE	MTR	MOTOR
COL	COLUMN	MTD	MOUNTED
COND/C	CONDUIT	MLO	MAIN LUG ONLY
CONN	CONNECTION	MOCP	MAXIMUM OVERCURRENT PROTECTION
CONT	CONTINUATION	M.O.D.	MOTOR OPERATED DAMPER
C&P	CORD AND PLUG	MRS	MOTOR RATED SWITCH
CPT	CONTROL POWER TRANSFORMER	NEC	NATIONAL ELECTRICAL CODE
CT	CURRENT TRANSFORMER	NES	NASHVILLE ELECTRIC SERVICE
CU	COPPER		NONFUSED
DET	DETAIL	NL	
DF/EDF	ELECTRICAL DRINKING FOUNTAIN	NU.	
DN	DOWN		NUT TO SCALE DOST INDICATOR VALVE
DS	DISCONNECT SWITCH	P.I.V.	POST INDICATOR VALVE
DWG	DRAWING		
EA	EACH	PTU	
EC	ELECTRICAL CONTRACTOR	СН СН	SHEFT
EF E	EXHAUST FAN	SW	SWITCH
ELEC		TR	TRANSFORMER
EQ EV		TBB	TELEPHONE BACKBOARD
		TELE	TELEPHONE
		UNO	UNLESS NOTED OTHERWISE
r 30	FIRE SMURE DAMPER	WP	WEATHERPROOF

	Electrical	Sheet	List
Sheet Number			Sheet Title
E001		Electrical Abbr	eviations Legends and Notes
E002		Elect	rical Specifications
E101		Electrical Ge	eneral Notes & Key Notes
E102		Renova	tion Plans Building A
E103		Renova	tion Plans Building B
E301			Riser Diagram
E401		F	Panel Schedules

	ELECTRICA	L LEG	END
S	WALL SWITCH SINGLE POLE SINGLE THROW, 48" AFF UNO.		CONDUIT EXPOSED TO VIEW UNLESS OTHERWISE NOTED
S₁	WALL SWITCH 3-WAY SINCLE DOLE SINCLE THROW 48" AFE LINO	\frown	WIRE CONCEALED IN CEILING, CAVITY OR WALL
.	WALL SWITCH 3-WAT, SINGLE FOLL SINGLE HIROW, 40 AIT ONO.	/~	CONDUIT CONCEALED IN FLOOR, SLAB OR UNDERGROUND
So	WALL OCCUPANCY SENSOR—SINGLE OR 3 WAY, 48" AFF UNO. DUAL TECHNOLOGY, MOTION AND INFRA—RED.	· _ · _ · _ ·	WIRING CONNECT EMERGENCY CIRCUIT
<u>o</u> 0	WALL/CEILING-MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY, MOTION AND INFRA-RED.	0/•	CONDUIT UP/CONDUIT DOWN
SD	WALL MOUNTED DIMMER SWITCH, WATTAGE NOTED (SIZE/WATTAGE AS REQUIRED), 48" AFF UNO.		1X4 WALL MOUNTED WRAP AROUND FLUORESCENT FIXTURE. SEE LIGHT FIXTURE SCHEDULE.
₽ CUSB	USB DUPLEX RECEPTACLE, WALL MOUNTED, 18" AFF UNO.		EMERGENCY FIXTURE WITH 90 MIN BATTERY. 1400 LUMEN BALLAST
Ð	DUPLEX RECEPTACLE, WALL MOUNTED, 18" AFF UNO.	$\vdash \ominus \dashv$	INDUSTRIAL FLUORESCENT STRIP FIXTURE, SURFACE OR STRIP SUSPENDED. SEE LIGHT FIXTURE SCHEDULE.
- 0	SINGLE RECEPTACLE, WALL MOUNTED, 18" AFF UNO.	⊢●	EMERGENCY FIXTURE WITH 90 MIN BATTERY. 1400 LUMEN BALLAST
₽	DUPLEX RECEPTACLE, CEILING MOUNTED	▲_ ▶	BATTERY POWER EMERGENCY LIGHT (PROVIDE UNSWITCHED HOT WIRE) SEE LIGHT FIXTURE SCHEDULE.
#	DUPLEX RECEPTACLE, WALL MOUNTED AFF, OR 8" ABOVE COUNTER UNO.		EXIT SIGN, CEILING/WALL MOUNTED ARROWS AS REQUIRED.
•	SWITCHED OUTLET		(PROVIDE UNSWITCHED HOT WIRE) SEE LIGHT FIXTURE SCHEDULE.
+	QUAD RECEPTACLE, WALL MOUNTED, 18" AFF UNO.	0	SURFACE OR RECESSED LIGHT FIXTURE. SEE LIGHT FIXTURE SCHEDULE.
#	QUAD RECEPTACLE, WALL MOUNTED AFF, OR 8" AVOBE COUNTER UNO.	Ŷ	WALL MOUNTED LIGHT FIXTURE COORDINATE MOUNTING HEIGHT
目	DUPLEX "GFCI" RECEPTACLE, WALL MOUNTED, 18" AFF UNO.		WALL MOUNTED HID LIGHT FIXTURE. COORDINATE MOUNTING
	DUPLEX "GFCI" RECEPTACLE, WALL MOUNTED, 18" AFF UNO. TYPE: LEGRAND #1597TRUSBAC OR APPROVED EQUAL		HEIGHT WITH ARCHITECT.
串	DUPLEX "GFCI" RECEPTACLE, WALL MOUNTED AFF, OR 8" ABOVE COUNTER UNO.	X	CEILING FAN. SEE LIGHT FIXTURE SCHEDULE.
нØ	SPECIAL OUTLET WALL MOUNTED, 18" AFF UNO.	₫/@	TIME CLOCK / PHOTOCELL
0	JUNCTION BOX	△⁄ ᠿ	METER / METER ABOVE CT CABINET
Φ	WALL MOUNTED JUNCTION BOX		EXHAUST FAN. COORDINATE EXACT LOCATION AND REQUIREMENTS
	SURFACE MOUNTED PANELBOARD		
	FLUSH MOUNTED PANELBOARD		
	SAFETY SWITCH, NON FUSED TYPE		
Ŋ	SAFETY SWITCH, FUSED TYPE		
H●	PUSH BUTTON, WALL MOUNTED 46" AFF		

	FIRE ALARM LEGEND		TELE / DATA LEGEND
⊕∕₽	CEILING/WALL MOUNTED HEAT DETECTOR	◄	WALL MOUNTED VOICE/DATA OUTLET, 18"AFF – 3/4" CONDUIT WITH PULLWIRE TO ABOVE ACCESSIBLE CEILING OR TO TELEPHONE BACKBOARD
©∕₽	SYSTEM SMOKE DETECTOR WITH SOUNDER BASE	•	WALL MOUNTED TELEPHONE OUTLET 18"AFF, PROVIDE (1) CAT5E CABLE AND TERMINATION PLATE.
๎ฃ∕ଡ଼	CEILING/WALL MOUNTED SYSTEM SMOKE DETECTOR	Þ	WALL MOUNTED DATA OUTLET, 18" AFF – 3/4" CONDUIT WITH PULLWIRE TO ABOVE ACCESSIBLE CEILING OR TO TELEPHONE
 	SMOKE DETECTOR AIR DUCT MOUNTED		BACKBOARD
ⓓ♽ًًً	FIRE ALARM TAMPER, FLOW AND PRESSURE SWITCH RESPECTIVELY (COORDINATE EXACT QUANTITY AND LOCATION WITH SPRINKLER SHOP DRAWINGS)		
\bigtriangledown	FIRE ALARM ADA APPROVED VISUAL STROBE DEVICE, 80" AFF		
5	FIRE ALARM LOW FREQUENCY SOUNDER DEVICE, 80" AFF		
F	FIRE ALARM ADA APPROVED PULLSTATION, 48" AFF		
▼ F	FIRE ALARM ADA APPROVED HORN/STROBE DEVICE, 80" AFF		
Ĕc	CEILING-MOUNTED FIRE ALARM ADA APPROVED HORN/STROBE DEVICE		
FACP	FIRE ALARM CONTROL PANEL		
FAAP	FIRE ALARM ANNUNCIATOR PANEL		
CO	SYSTEM CARBON MONOXIDE DETECTOR.		
FSD	FIRE SMOKE DAMPERS		
5	FIRE ALARM LOW FREQUENCY SOUNDER DEVICE W/STROBE, 80" AFF		
	SYSTEM SMOKE DETECTOR WITH SOUNDER BASE AND INTEGRAL STROBE.		

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★ PROFEDSIONA ML. PHWCP 10/13/2023
Renovation of Existing Group Home 4487 Trickum Road Marietta, Georgia 30066
FOR AARON ROSENHAFT, LIAMARA RIVERS ESTATES, LLC
REVISIONS
DATE
JOB NUMBER
DRAWN BY
CHECKED BY CDF
Electrical Abbrev, Legends, and Notes
F001

	Contractor shall provide the following: Labor.	1.1	Panelboards
b.	Supplies.		b. Ground
c. d.	Materials. Shop Drawings.		c. Solid ne
e.	Permits and inspection fees		e. Switch
f. g.	Certificate of final inspection and approval. One year guarantee.		f. Typewrit g. Plaque,
1.2	Contractor shall perform the following:	40400	h. Square
a. b.	Installation of all electrical equipment. Coordination with other trades of electrical equipment installation.	10190	Service Ent
C.	Material protection during construction.	1.2	Feeders and
a. e. f.	Coordination of electrical service with local telecommunications company.	16000	and with a
1.3	Governing codes shall be the following:	1 1	Coordinate
a.	National Electrical Code (NEC 1990) Code enforced in 1991	1.2	Provide low
b.	Utility Company regulations.	1.3 1 4	Provide the Match volta
d.	Current Applicable Building Code	1.5	Narrative d
e.	Local Building Codes and Ordinances	1.6	All recessed
t.	Standard Building Code (SBC) Code enforced in 1991 The National Manufacturer's Association Standards (NEMA)		
y. h.	Underwritter Laboratories Incorporated Standards (UL)	16210	EXISTING (
i.	American National Standard Institute (ANSI)	1.1	Visit site a
j.	The Manufacturer's recommendation	16220	TELEPHONE
1 4	Materials will be:	1.1	Coordinate
۰. ۹ ۵.	New.	40070	
b.	U.L. Listed	16230 1 1	Coordinate
1611) RACEWAYS	1.1	override an
1.1	Use and type: Service Entrance – Bioid Steel	16240	SAFETY S
a. b.	Service Entrance — Rigid Steel. Feeders — Rigid steel up to 8'-0", if outdoor. EMT indoor or above 8'-0". if outdoor.	1.1	Safety swite
с. d.	Branch Circuit, telephone, or communication – EMT. In earth or concrete – schedule 40 PVC.		be quick-n
e. f.	Recessed lighting fixtures — flexible steel conduit (short but maximum 72) Outdoor final connection to equipment or in wet locations — liquid — tight flexible steel conduit (maximum 36")	16250	FIRE RATE
g. h	All raceways, unless specifically indicated to be exposed, shall be concealed in walls, ceiling, or floors.	1.1	Provide fire penetrating
1.2	Conduit Bushings:		
а.	Provide insulated conduit bushings at each end of every conduit run.		
1612) WIRES AND CABLES, 600 VOLT		
1.1	Color Coding: 240/120V		
	Phase A Black Phase B Red		
	Neutral White		
	Ground Green		
1.2	Insulation: THHN, THWN, XHHW 75 degree C.		
1.3	Provide copper wiring unless aluminum is specifically shown on the drawings. When aluminum (compact) conductors are utilized – provide anti-oxidation inhibiting compound		
1.4	Fixture wire, 600 volt, 200 degree C. #14 AWG. minimum, stranded, tinned copper		
	with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2".		
1.5	with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority.		
1.5 1.6	with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF—2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having		
1.5 1.6 1.7	with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisdiction having		
1.5 1.6 1.7 1.8	 with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisdiction having authority. Voltage drop will not exceed 2% for feeders and 3% for branch circuits. 		
1.5 1.6 1.7 1.8 161	 with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisduction having authority. Voltage drop will not exceed 2% for feeders and 3% for branch circuits. BOXES 		
1.5 1.6 1.7 1.8 161 1.1	 with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisduction having authority. Voltage drop will not exceed 2% for feeders and 3% for branch circuits. 30 BOXES Attach securely to building construction or support from same. 		
1.5 1.6 1.7 1.8 161 1.1 1.2	 with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisduction having authority. Voltage drop will not exceed 2% for feeders and 3% for branch circuits. 30 BOXES Attach securely to building construction or support from same. Masonry boxes shall be RACO or Steel City. 		
1.5 1.6 1.7 1.8 161 1.1 1.2 1.3	 with silicone rubber insulation and an overall jackeT of glass braid, and rated as NEC type "SF-2". Type MC or AC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type NMC cabling may be utilized for branch circuit wiring if acceptable to local jurisdiction having authority. Type SE or USE cabling may be utilized for feeders to loadcenters in apartment units if acceptable to local jurisduction having authority. Voltage drop will not exceed 2% for feeders and 3% for branch circuits. 30 BOXES Attach securely to building construction or support from same. Masonry boxes shall be RACO or Steel City. Exposed boxes shall be cast type similar to Crouse Hinds type FS. 		
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ELECTRICAL SPECFICATIONS

shall have, but not be limited to the following:

ase, 3 wire, With Copper or Aluminum Busses s with set screw connection

tral, 100% rated with set screw connection n enamel trim

ted Bolt-on breakers

directorv lack with 1" high white letters to indicate panel name. Siemens, or General Electric.

ince a. See grounding detail on riser sheets

branch circuits: a. Provide a green insulated ground conductor, sized per the NEC, in each raceway cabling.

TURES

xture trims with ceiling in/on which it is being installed. emperature, high efficiency electronic ballasts in fluorescent fixtures. nal overload protection in both fluorescent and incandescent fixtures.

e of fixture to circuit to which fixture is shown connected. cription in lighting fixture schedule takes prescedence over catalog number.

fixtures installed in fire rated ceiling shall be provided with gypsum board enclosure, constructed and UL requirements, around portion of fixture located above suspended ceiling to maintain fire rating of ceiling.

DNDITIONS

d become familiar with existing conditions in and around the building.

SERVICE

lephone service requirements with local telephone company prior to any work. Telephone company shall override and/or add to requirements indicated on the drawinas.

ATV service requirements with local CATV company prior to any work. CATV company requirements shall /or add to requirements indicated on the drawings.

nes shall be general duty type, 600 or 250 volt, with number poles required. fused safety switches shall ake, quick—break mechanism, visible blades with rejection type fuse clip and NEMA class "RH" fuses. the Il be NEMA 1 enclosure for indoor, NEMA 3R for outdoor.All switches shall be lockable. SEALS

rated seal per UL requirements, for each penetration of fire rated wall or each conduit or sleeve a fire rated floor or ceiling to maintain fire rating of floor, wall, or ceiling.

16270 FIRE ALARM "SYSTEM" 1. Fire Alarm System:

Furnish and install complete fire alarm (FA) systems as indicated on drawings consisting of smoke detectors outside each sleeping room, each public room, each mechanical area or work area, including A/V alarms, thermal detectors in mechanical spaces as required by code. Locate the FA control panel as shown or as required by the Fire Marshall. The FA system shall be formally planned by a licensed FA contractor who shall submit signed and sealed drawings, if required for permit, and shall supervise and certify the installation. FA system contractor shall review the mechanical drawings and provide and install duct smoke detectors as required in the standard mechanical code and by the local Fire Marshall. Fire Alarm device locations indicated on drawings are to obtain a permit. Fire Alarm Contractor. Design and installation shall comply with NFPA 72. 2. Control Panel/Annunciator:

Provide a Gamewell type IF610-126 IdentiFlex Analog Addressable Control Panel/Annunciator with alphanumeric display, analog addressable loop, notification appliance circuits, power supply/battery charger, batteries, enclosure, type 5495 Distributed Power Panel (with batteries and enclosure), type ZMS-4 Synchronization Modules, and type 5104 Dual Line Digital Communicator Panel (with batteries, enclosure and two type FAS-31XT RJ31J Phone Jack/Surge Protectors). Coordinate location with authority having jurisdiction prior to rough-in. Provide one year monitoring of system by a UL listed Central Monitoring Station as part of this contract. Required telephone circuits shall be the responsibility of the building owner. All references to model numbers and other pertinent information herein is intended to establish the standards of performance, quality and appearance and is based upon equipment designed and manufactured by the Gamewell Company. Equals from Simplex Time Recorder, Fire Lite, Pyrotronic, Notifier, Honeywell, or Radionics are acceptable.

3. Remote Annunciator:

Provide a Gamewell type RAN2-RCF Alphanumeric Annunciator with integral alphanumeric display, system control/test switches, key operated enable switch and type RAN2-BB Back Box. Coordinate location with authority having jurisdiction prior to rough-in.

4. Manual Stations:

Provide Gamewell type MS-95 Analog Addressable Manual Stations with STI-1100 Protective Covers (with integral horn and 9V battery) as shown on the plans. 5. System Smoke Detectors:

Provide Gamewell type XP95-P Analog Addressable Photoelectric Smoke Detectors with type XP95-B6 Bases as shown on the plans.

6. Photoelectric Single Station Smoke Detectors:

Provide Gentex type 9123 Photoelectric Single Station Smoke Detectors with integral temporal horn and 9VDC Battery outside of all sleeping areas.

7. Heat Detectors: Provide Gamewell type XP95-T Adjustable Analog Addressable Thermal Detectors with type XP95-B6 Bases as shown on the plans. Provide 210 degree at top of elevator shaft and in elevator pit. All other Heat Detectors shall be 135 degree rate of rise

8. Duct Mount Smoke Detectors:

Provide Gamewell type XP95-PD Duct Mount Analog Addressable Photoelectric Smoke Detectors with type 70896 Sampling Tubes and type RCE-95 Addressable Control Relays as shown on the plans and as required to comply with the Mechanical Code. 9. Addressable Monitor Modules:

Provide Gamewell type PID-95P Addressable Monitor Modules as shown on the plans to monitor sprinkler flow switches, sprinkler valve supervisory switches, and sprinkler fire pump (as required). 10. Addressable Control Modules:

Provide Gamewell type RCE-95 Addressable Control Modules as required for interface with the elevator controls, elevator power controls and HVAC controls (as required).

11. Alarm Signals: Provide type SHG24-15/75-WW Horn Strobe Alarm Signals as shown on the plans for all public areas. Provide type GXS-4-15/75WW Strobe Visual Alarm Signals for all strobe only locations as shown on the plans. Provide type GX90-4W Mini-Horns as shown on the plans in all apartments.

12. Wiring:

Wiring shall be concealed in conduit. Provide wiring and conduit as directed by the manufacturer's authorized distributor

13. Applicable Codes and Standards: All equipment shall be U.L. listed for its intended use. All raceways and wiring shall be installed in compliance with NFPA Standard 70 (National Electrical Code).

NFPA Standards 71 and 72. NFPA 101 (Life Safety Code)

Americans with Disabilities Act (ADA).

Standard Building Code (SBC). Applicable local and national codes, and authorities having jurisdiction.

14. System Operation:

Actuation of any fire alarm initiating device shall immediately cause the following actions to be initiated. a. Identify the type of alarm, specific device and location on the back lit LCD display at the building fire alarm control panel and at the remote annunciators.

b. Cause the system alarm LED to flash at the fire alarm control panel.

c. Cause all system horns to sound.

d. Cause all visual alarm signals to flash.

e. Activate the digital communicator to report the type of alarm and location to the remote central monitoring station. Coordinate connections with owner's representative.

f. Activate signals to the building door lock controls to deactivate locks.

g. Activate signals to the HVAC controls to initiate shut down or rerouting of air handling systems.

15. Activation of any elevator lobby smoke detector, elevator shaft smoke detector or elevator machine room smoke detector during the alarm verification period (if so programmed) shall in addition to the above listed functions activate signals to the elevator controls to override automatic elevator programming and cause immediate nonstop return of all automatic elevators to the primary discharae level except that, when the alarm has been initiated on the primary discharge level, the elevators shall be returned to the designated alternate discharge level.

16. Activation of any elevator machine room or elevator shaft heat sensor shall in addition to the before listed functions activate signals to the elevator controls to override automatic elevator programming and cause immediate nonstop return of all automatic elevators to the designated discharge level and disconnect elevator power circuits.

17. Activation of any sprinkler valve supervisory switch shall automatically: (1) Cause the system supervisory LED to flash and an audible indicator to sound at the

control panel and remote annunciator(s). (2) Operation of the alarm acknowledge switch at the fire alarm control panel or at the remote annunciator shall permit the silencing of the alarm signals during the alarm condition. The silencing of the alarm signals shall not prevent the resounding of the alarm devices should a subsequent alarm condition occur.

(3) Identify the supervisory condition, specific device and location on the back lit LCD display at the system control panel and the remote annunciator(s).

18. Shaft Smoke Detector:

HVAC shaft smoke detector provided by HVAC contractor, installed and electronically connected by Electrical contractor. See Mechanical drawing for return air Fire/Smoke damper @ shaft detail for installation details.

END OF SECTION



LIGHTING FIXTURE SCHEDULE GENERAL NOTES

- 1. COORDINATE WITH INTERIOR DESIGN OR LIGHTING CONSULTANTS REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES AND CEILING TYPE FOR PROPER
- 2. LIGHT FIXTURES INSTALLED IN MECHANICAL EQUIPMENT ROOMS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR TO AVOID CONFLICTS WITH DUCTWORK AND/C
- 3. PROVIDE ZERO DEGREE DRIVERS FOR ALL EXTERIOR MOUNTED FIXTURES.
- 4. PROVIDE SUFFICIENT QUANTITY OF DRIVERS IN FIXTURE BASED ON SWITCHING CONFIGURATION INDICATED ON PLANS.
- 5. IF THERE IS A DISCREPANCY BETWEEN A FIXTURE DESCRIPTION, THE LIGHTING GENERAL NOTES, SPECIFICATIONS, AND THE CATALOG NUMBER LISTED THE MORE STRI REQUIREMENT SHALL TAKE PRECEDENCE.
- 6. ALL FINAL SELECTIONS OF FIXTURES SHALL BE BY ARCHITECT/ CONTRACTOR. DESCRIPTIONS AND CATALOG NUMBERS ARE SHOWN AS BASIS OF DESIGN FOR CODE DESIGN INTENT.
- 7. VERIFY FINISHES OF FIXTURES WITH ARCHITECT.
- 8. VOLTAGE OF LIGHTING FIXTURE SHALL MATCH CIRCUIT TO WHICH IT IS CONNECTED.
- 9. FINAL FIXTURE SELECTION TO BE APPROVED BY PROJECT ARCHITECT / CONTRACTOR.
- 10. FOR RECESSED DOWNLIGHTS THAT PENETRATE BUILDING ENVELOPE, PROVIDE AIR TIGHT TYPE FIXTURE.
- 11. ANY FIXTURE RECESSED IN A FIRE RATED CEILING SHALL BE PROVIDED WITH A FIRE RATED ENCLOSURE AROUND PORTION OF FIXTURE ABOVE CEILING. FIRE RATED ENCLOSURE SHALL MATCH FIRE RATING OF CEILING IT IS INSTALLED.
- 12. PROVIDE A DIMMABLE DRIVER FOR ALL LED FIXTURES CONNECTED TO AND COMPATIBLE WITH DIMMING SYSTEM OR ARE SHOWN TO BE DIMMED WITH A COMPATIBLE DIMMING DEVICE.

	LIGHTING FIXTURE SCHEDULE (GENERAL LIGHTING FIXTURES)														
ТҮРЕ	DESCRIPTION	MANUFACTURER	MODEL NUMBER	MOUNTING	MOUNTING HEIGHT	VOLTAGE	LAMPS	LUMENS	DIMMING	TOTAL WATTAG F	REMARKS				
А	SURFACE ROUND	LITON	LCMPD7R-W-T30 (LCMPD7-EMA-BLANK (optional))	SURFACE CEILING	CEILING	UNV (120V- 277V)	LED	1, 100 LUMENS	YES	14W	7" SURFACE PUCK				
AE	SURFACE ROUND	LITON	LCMPD7R-W-T30 / LCMPD7-EMA	SURFACE CEILING	9'	UNV (120V- 277V)	LED	1,100 LUMENS 1,100 LUMENS EM	YES	14W	7" SURFACE PUCK WITH 90-MINUTE RATED BATTERY BACK-UP				
w	OUTDOOR SCONCE	GARDCO	101L-16L-700-NW-G1-4-EBPC-UNV-PCB	SURFACE WALL	VARIES	UNV (120V- 277V)	LED	3,535 LUMENS 1,100 LUMENS EM	NO	37W	LED WALL SCONCE WITH 90- MINUTE RATED BATTERY BACK-UP. PROVIDE WITH INTEGRAL				
x	EXIT WITH BATTERY	BEGHELLI	VA4-R-SA-AT	SURFACE CEILING/WALL	VARIES	UNV (120V- 277V)	LED	N/A	NO	3.2W	THERMOPLASTIC LED EXIT WHITE WITH RED LETTERS WITH 90- MINUTE RATED BATTERY BACK-UP				

R FIXTURE TRIM.
OR PIPING.
INGENT
COMPLIANCE AND

	-
2.	SEAL ALL PENETRATIONS IN EVERY FIRE RATED WALL AND FLOOR PER UL TO MAINTAIN THE WALL AND FLOOR ORIGINAL RATING
5.	COORDINATED ALL DEVICE LOCATIONS INDICATED WITH KITCHEN, ARCHITECTURAL, AND INTERIOR DESIGNER DIMENSIONAL PLANS AND ELEVATIONS PRIOR TO ROUGH-IN.
ŀ.	PROVIDE #10 CONDUCTORS FOR ANY 120V CIRCUIT OVER 100'. PROVIDE #8 CONDUCTOR FOR ANY CIRCUIT OVER 150'
5.	FIRE ALARM SYSTEM INDICATED IS AN EXTENSION OF THE EXISTING BUILDING SYSTEM. FIELD LOCATE EXISTING FIRE ALAR CIRCUIT ENTRY INTO SPACE. FIRE ALARM DEVICES SHALL BE COMPLETELY COMPATIBLE WITH EXISTING CONTROL UNIT. CONFIRM DEVICE TYPES AND WIRING WITH MANUFACTURER PRIOR TO BID.

- DAMPER AND/OR SMOKE DAMPERS.
- 9. ALL RECEPTACLES TO BE TAMPER PROOF TYPE.

- ONE SOUNDS ALL, IN THAT LIVING UNIT, SOUND.

 $\langle 1 \rangle$ Equipment location. Provide GFI protection on breaker. GFI protection shall be via breaker or receptacle type. SEE FLOOR PLAN AND PANEL SCHEDULE FOR PROTECTION TYPE. COORDINATE EXACT LOCATION, MOUNTING HEIGHTS AND POWER REQUIREMENTS WITH ID, EQUIPMENT PROVIDER, AND MILLWORK PROVIDER PRIOR TO ROUGH-IN AND PURCHASE. $\langle 2 \rangle$ provide a (NEMA 5–20R) RECEPTACLE W/2#12, #12G. FOR WASHER. $\overline{\langle 3 \rangle}$ provide a (Nema 14–30R) receptacle w/3#10, #10G circuit for clothes dryer. Provide dryer cord. $\langle 4 \rangle$ provide a (nema 5–20r) receptacle w/2#12, #12G. For Gas range. Provide range cord. (5) RECIRCUIT ALL EXISTING LIGHTS IN THIS AREA TO A-42. RECIRCUIT ALL RECEPTACLES IN THIS AREA TO CIRCUITS A-61, A-63, A-65. NO MORE THAN 6 RECEPTACLES PER CIRCUIT. $\langle 6 \rangle$ circuit to breakers made spare during demo. Any replaced existing breaker made to be spare during demo to be GFI TYPE. REUSE OR REPLACE EXISTING SPARES AS NECESSARY. $\langle 7 \rangle$ provide NEMA L6–20R FOR PTAC UNIT. COORDINATE EXACT POWER AND CONNECTION REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND HVAC CONTRACTOR PRIOR TO ANY WORK.

CONTACT EOR FOR ANY DISCREPANCIES.

FLOOR PLAN GENERAL NOTES

1. (#) Indicates hvac equipment. See mechanical equipment connection schedule on e401.

(APPLIES TO E102 & E103)

(APPLIES TO E102 & E103)

6. COORDINATE LOCATION AND QUANTITY OF FIRE/SMOKE AND/OR SMOKE DAMPERS WITH MECHANICAL CONTRACTOR PRIOR TO BID. COORDINATION OF LOCATIONS AND QUANTITIES WILL OVERRIDE LOCATIONS AND QUANTITIES INDICATED ON ELECTRICAL DRAWINGS. PROVIDE A 120V UNSWITCHED CIRCUIT TO EACH FIRE/SMOKE DAMPER AND/OR SMOKE DAMPER. PROVIDE A DUCT MOUNTED SMOKE DETECTOR IN FIRE/SMOKE DAMPER SHAFT. CONNECT DUCT MOUNTED SMOKE DETECTOR AND FIRE/SMOKE AND/OR SMOKE DAMPER TO FIRE ALARM SYSTEM. A CHANGE ORDER WILL NOT BE ALLOWED FOR LACK OF COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL CONTRACTOR FOR LOCATION AND QUANTITY OF FIRE/SMOKE

7. ALL EXTERIOR ELECTRICAL EQUIPMENT AND DEVICES TO BE GFCI PROTECTED AND NEMA 3R OR WET LOCATION LISTED.

8. ALL 125V THROUGH 250V RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B) SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.

10. ALL NEW CEILING HEIGHT JUNCTION BOXES IN BEDROOMS TO BE FAN RATED.

11. HATCHED AREA IS EXISTING TO REMAIN AND IS NOT INCLUDED IN ENGINEER'S SCOPE OF WORK. ANY FIRE ALARM/ CO DETECTION INDICATED IN HATCHED AREAS TO BE INCLUDED IN CONTRACTOR'S SCOPE OF WORK.

12. WHERE MORE THAN ONE SMOKE DETECTOR IS INDICATED IN ONE LIVING UNIT THEY SHALL BE INTERCONNECTED SO THAT IF

13. SMOKE DETECTOR ACTIVATION, WITHIN LIVING UNITS, SHALL SOUND LOCALLY AND SEND A SIGNAL TO A CONSTANTLY ATTENDED LOCATION. IF SMOKE DETECTOR ALARM, AT CONSTANTLY ATTENDED LOCATION, IS NOT DEACTIVATED WITHIN A TIME FRAME DETERMINED BY FIRE MARSHAL, FIRE ALARM SYSTEM SHALL ALARM THE ENTIRE BUILDING.

FLOOR PLAN KEY NOTES

 $\langle 8 \rangle$ during demo shift existing circuits so 240V/1P spares can be utilized for New HVAC equipment. Provide New BREAKERS AS NECESSARY PER EQUIPMENT MANUFACTURER RECOMMENDATION. COORDINATE ALL CIRCUITS AND SPARES IN FIELD.











					MECH	ANIC	AL EQ	UIPME	NT CON	NECTION SCHEDULE (1)(7)						
TACNO		EQUIPMENT DESCRIPTION	EQUIPMENT CHARAC			RISTICS		MCA	MOCD	FEEDER	BREAKER		DISCO	NNECT	REMARKS / KEYNOTES	
TAG NO.	EQUIP. ID		VOLTAGE	PHASE	HP	kW	FLA	MCA	MOCP	FEEDER	(TRIP/POLE)	SIZE	POLE	FUSE	FEATURES	REMARKS / RETNUIES
1 WH		WATER HEATER	120	1		0.2	1.7		15	2#12(CU),1#12(CU)G-1/2"C(EMT)	15/1					NOTES: 2 & 11
2 HP-A		HEAT PUMP	240	1			26.5	32.8	50	2#6(CU),1#10(CU)G-3/4"C(EMT)	50/2	60	2	NF	NEMA 3R	NOTES: 11
3	HP-B/E	HEAT PUMP	240	1			10.8	13.4	20	2#12(CU),1#12(CU)G-1/2"C(EMT)	20/2	30	2	NF	NEMA 3R	NOTES: 11
4	HP-C	HEAT PUMP	240	1			26.5	32.8	50	2#6(CU),1#10(CU)G-3/4"C(EMT)	50/2	60	2	NF	NEMA 3R	NOTES: 11
5	HP-D	HEAT PUMP	240	1			26.5	32.8	50	2#6(CU),1#10(CU)G-3/4"C(EMT)	50/2	60	2	NF	NEMA 3R	NOTES: 11
6	FURN-A	FURNACE	120	1			10.0	13.3	15	2#12(CU),1#12(CU)G-1/2"C(EMT)	15/1					NOTES: 2
7	FURN-B	FURNACE	120	1			5.6	7.8	15	2#12(CU),1#12(CU)G-1/2"C(EMT) 15/1						NOTES: 2
8	FURN-C	FURNACE	120	1			8.3	11.0	15	2#12(CU),1#12(CU)G-1/2"C(EMT)	15/1					NOTES: 2
9	FURN-D	FURNACE	120	1			10.0	13.3	15	2#12(CU),1#12(CU)G-1/2"C(EMT)	15/1					NOTES: 2
10	TEF-A	TOILET EXHAUST FAN	120	1		0.0	0.4		15	2#12(CU),1#12(CU)G-1/2"C(EMT)	15/1					NOTES 2 & 6
11	PTAC-A-E	AIR CONDITIONER	240	1		3.5	15.6	20.0	20	2#12(CU),1#12(CU)G-1/2"C(EMT)	20/2					NOTES: 2
NOTES F	OR THIS SCHEDULE	<u>i</u>														
(1)		IT IS THE CONTRACTOR'S RES	SPONSIBILI	Y TO CO	ORDINA	TE ELEC	TRICAL WI	TH MECH	ANICAL EC	QUIPMENT REGARDING VOLTAGE AND PHA	SE.					
(2)	1	DISCONNECT PROVIDED INTE	EGRAL TO U	NIT BY D	VISION	15.										
(3)	h	MRS SHALL BE NEMA 3R FOR	DISCONNE	CTS LO	CATED O	UTDOOR	S.									
(4)	h	PROVIDE GFI RECEPTACLE IF	NOTINTEG	RAL TO	UNIT. CO	ORDINA	TE WITH M	IECHANI	CAL CONTR	RACTOR.						
(5)	i i	CONTROLLED BY WALL MOUN	ITED SWITC	H. SWITC	CH SHAL	L BE A TI	MER TYPE	E WITH A	20 MINUTE	MAX "ON" TIME.						
(6)	1	SWITCH AND CIRCUIT WITH L	IGHTS.													
(7)	h	SEE FLOOR PLANS FOR CIRC	UIT.													
(8) DSFC SHALL BE CONNECTED TO CORRESPONDING DSCU. COORDINATE EXACT REQ. WITH EQUIP. SUPPLIER PRIOR TO ROUGH-IN.																
(9)	i	DSCU LOAD INFORMATION IN	ICLUDES DS	FC.												
(10)	1	CIRCUIT WITH LIGHTS, BUT PI	ROVIDE SEF	ARATE	MOTOR	RATED SW	VITCH FOR	REXHAU	ST FAN.							
(11)	n	LOCK OFF BREAKER USED DI	SCONNECT	LOCK	MUST BE	PAD LOO	CKABLE.	NEC 422.3	31(B).							

		NEL	BOA	٨RD	"A"	SCH	IED	JLE	E															
VOLTAGE: 240/120V 1 Ph 3 Wire						M		MAN:	-			D MOUNTING: SURFACE							REMARKS:					
	BUS SIZE	400A					Т	OTAL	LOAD:	7:	2.6	KVA		FAULT	DUTY:	SEE F	RISER			Provide copper ground bu	IS			
CKT NO	DESCRIPTION	CONT	REC	MTR		VA) HTG	MISC	KIT	BKR	А	ASE B	BKR	KIT	MISC	LC HTG	AD (K A/C	VA) MTR	REC	CONT	DESCRIPTION				
1	FOYER/HALL/DEN REC.		0.5						20/1	1.3		20/1						0.7		KITCHEN/MAIN. REC. (4)	2			
3	BEDROOM 117 (5)								15/1		1.1	20/1						1.1		KITCHEN COUNTER (4)	4			
5	BEDROOM 120 (5)								15/1	0.8		15/1	0.8							DW (4)	6			
7	BEDROOM 114 (5)								15/1		0.8	15/1	0.8							DW (4)	8			
9	BEDROOM 122 (5)								15/1	0.5		15/1	0.5							DISPOSAL (4)	10			
11	BATHROOM 112						1.8		20/1		2.8	20/1	1.0							REF (4)	12			
13	BATHROOM 127						1.8		20/1	2.8		20/1	1.0							REF (4)	14			
15	BATHROOM 125						1.8		20/1		3.3	20/1	1.5							GAS RANGE (4)	16			
17	BEDROOM 126 (5)								15/1	1.5		20/1	1.5							GAS RANGE (4)	18			
19	BEDROOM 124 (5)								15/1		0.0	20/1									20			
21	APARTMENT 107 (5)								15/1	0.0		20/1									22			
23	APARTMENT 123 (5)								15/1		0.4	20/1						0.4		HALL 204 REC.	24			
25	BATHROOM 108						1.8		20/1	2.1		20/1							0.3	LIGHTING	26			
27	BATHROOM 109						1.8		20/1		2.2	20/1			0.4					WH (1)	28			
29	BATHROOM 207						1.8		20/1	3.3		20/1		1.5						CLOTHES WASHER (4)	30			
31	BEDROOM 205 (5)								15/1		1.5	20/1		1.5						CLOTHES WASHER (4)	32			
33	BEDROOM 206 (5)								15/1	2.5		20/1		2.5						DRYER (4)	34			
35	BEDROOM 201 (5)								15/1		2.5	20/1		2.5							36			
37	BEDROOM 202 (5)								<mark>15/1</mark>	2.5		20/1		2.5						DRYER (4)	38			
39	BATHROOM 118						1.8		20/1		4.3	20/1		2.5							40			
41	BEDROOM 118 (5)								20/1	1.5		20/1							1.5	FIRST FLOOR LTG	42			
43	PTAC-D					1.7			20/2		2.7	20/1		1.0		10 mil				FACP	44			
45						1.7				3.0		20/2				1.3				HP-B	46			
47	PTAC-C					1.7			20/2		3.0					1.3					48			
49						1.7				4.9		50/2				3.2				HP-A	50			
51	PTAC-B					1.7			20/2		4.9	-				3.2					52			
53						1.7				3.5	25	20/2			1.7					PTAC-E	54			
55	PTAC-A					1.7			20/2	24	3.5	4514			1./		0.7				56			
57				10		1.7			1 5 /1	2.4	10	15/1					0.7			FURN-B	58			
61			0.0	1.2					20/1	0.0	1.2	20/1									62			
63	EX. DEN ROOM REC. 102		0.9						20/1	0.9	0.7	20/1									64			
65			0.7						20/1	07	0.7	20/1									66			
67			0.7						20/1	0.7	0.2	20/1									68			
69			0.2						20/1	0.0	0.2	20/1									70			
71									20/1		0.0	20/1									72			
73									20/1	0.0		20/1									74			
75									20/1		0.0	20/1									76			
77		1	1	1	1	1	1		20/1	0.0		20/1	1		1				1		78			
79		1				1			20/1		0.0	20/1	1						1		80			
81					1	1			20/1	0.0		20/1	1						1		82			
83									20/1		0.0	20/1									84			
	CONNECTED KVA	0.0	3.1	1.2	0.0	13.8	12.6	0.0		34.1	35.0		7.0	14.0	3.9	9.0	0.7	2.2	1.8	CONNECTED KVA				
	AMPERES/PHASE		-		-		-			141.9	145.8									AMPERES/PHASE				
Т	Continous:	1.8	X 125%	, =	2	.2				N	DTES:													
0	Receptacles:	5.2	NEC22	20.44	5	.2				1)	This cir	cuit brea	ker to ha	ve pad lo	ckable d	evice.								
Т	Motors:	1.9	NEC22	20.18(A)	1	.9				2)	Circuit	breaker	to be "H	ACR" typ	e.									
Α	Largest Motor:	0.0	NEC43	30.24	0	0.0	Р	hillip	s	3)	Provide	e shunt t	rip type o	rcuit brea	aker.									
L	A/C:	9.0	X 100%) =	9	0.0	G	radio	k	4)	This sh	all be a	GFI ty pe	circuit br	eaker									
S	Heating: 1		X 100%	, =	1	7.7	Eng	inee	ring	5)	Deman	d load fo	r guest n	oom Itg&r	ecepts ca	alculated	by area	per NEC	Table 22	20.12, 220.14(J), & Table 220.42.				
	Miscellaneous:	26.6	X 100%	,=	20	6.6				6)	Div ersi	ty in acc	ordance	with 2020	NEC T	able 220	.84. 0 Ur	its @ 10	0%.					
	Kitchen: 7.0 NEC220.56				4.6					7) Not Used														
	Guest rooms (1772sq ft):	3.5	NOTE	5	1	.8																		
	Not Used.		Not Us	ed.	-		005			9)	NotUs	ed												
		NECIED KVA 72.6				1.0	CODE		6	10)	NotUs	ed												
	IOTAL AMPS 302.5 279.4								3	11)	NULUS	CU												



	HVAC SYMBOLS
SYMBOL	DESCRIPTION
\square	CEILING MTD RA GRD
\boxtimes	CEILING MTD EA GRD
\boxtimes	CEILING MTD SA GRD
	RA DUCT TURNING UP
	RA DUCT TURNING DOWN
	SA DUCI TURNING DOWN
<u>λ W/H ζ</u>	OVAL DUCT (WIDTH/HEIGHT)
<u>λ WxH </u>	RECT. DUCT (WIDTHxHEIGHT)
<u>8 #ø</u> ð	RECT. DUCT (INSIDE DIAMETER)
ΣΖ	LINED DUCTWORK
Σ	INSULATED DUCTWORK
KKK A	RECT. DUCT ELBOW WITH TURNING VANES
••••••, ~	FLEX DUCT
	DUCT TAKEOFF WITH SPIN—IN FITTING
BDD	BACKDRAFT DAMPER
BRD	BAROMETRIC RELIEF DAMPER
SD	DUCT SMOKE DETECTOR
	CEILING RADIATION DAMPER
	FIRE DAMPER
	FIRE/SMOKE DAMPER
	MANUAL VOLUME DAMPER, MVD
	MOTORIZED DAMPER
	SMOKE DAMPER
	SIDEWALL SA GRILLE
	SIDEWALL EA/RA GRILLE
\$	AND
@ 	AT
#	NUMBER / POUND (LB)
" %	PERCENT
	HVAC EQUIPMENT
H	HUMIDISTAT
(<u>)</u>	THERMOSTAT, T'STAT, DDC CONTROLLER
	SPACE TEMPERATURE SENSOR
	SPACE PRESSURE SENSOR
	KEYED NOTE TAG
	CONNECT TO EXISTING
	DRAWING REVISION TAG

HVA	AC ABBREVIATIONS	HVA	AC ABBREVIATIONS
#, LB(S)	POUND(S)	IN.	INCH
#, NO.	NUMBER	INT	INTERNAL
(E)	EXISTING	IPC	INTERNATIONAL PLUMBING CODE
•F	DEGREES FARENHEIT	IRC	INTERNATIONAL RESIDENTIAL BUILDING CODE
AD	ACCESS DOOR	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE
AHRI	AIR-CONDITIONING, HEATING & REFRIGERATION	МА	MIXED AIR
ΔHI I		MAX	MAXIMUM
		МВН	1,000 BTUh
ARCH	ARCHITECT	МСА	MINIMUM CIRCUIT AMPS
ARI	AMERICAN REFRIGERATION INSTITUTE	MIN.	мілімим
	AMERICAN SOCIETY OF HEATING & REFRIGERATION	MOCP	MAXIMUM OVERCURRENT PROTECTION
ASHKAL	ENGINEERS	MOD	MOTOR OPERATED DAMPER
BHP	BRAKE HORSEPOWER	MTD	
BTU	BRITISH THERMAL UNIT	MUA	
BTUh	BRITISH THERMAL UNIT PER HOUR	N C	
CD	CONDENSATE DRAIN	N.O.	
CFM	CUBIC FEET PER MINUTE	N.O.	
CO	CARBON MONOXIDE	NAIMA	NORTH AMERICAN INSULATION MANUFACTURERS
CO.	COMPANY	NIS	
C02	CARBON DIOXIDE		
COP	COEFFICIENT OF PERFORMANCE		
CPVC	CHLORINATED POLYVINYL CHLORIDE	NIS	
CRD	CEILING RADIATION DAMPER	0.0.	
CTG	CEILING TRANSFER GRILLE	UA	
CU	CONDENSING UNIT	ORD	
db	DRY BULB TEMPERATURE	PVC	
dBA	A-WEIGHTED DECIBELS	RA	
DP,∆P	PRESSURE DIFFERIENTIAL	RAG	RETURN AIR GRILLE
DWG	DRAWING	RECI.	RECIANGULAR
DX	DIRECT EXPANSION	RH	
EA	EXHAUST AIR	RLA	
EAT	ENTERING AIR TEMPERATURE	RR	RESTROOM
EEF	EFFICIENCY	RS/L	REFRIGERANT SUCTION/LIQUID LINES
EER	ENERGY EFFICIENCY RATIO	RTU	ROOF TOP UNIT
ELEC	ELECTRIC/ELECTRICAL	SA	SUPPLY AIR
ESP	EXTERNAL STATIC PRESSURE	SD	SMOKE DETECTOR (OR SMOKE DAMPER DEPENDING
EX	EXHAUST		
FCU	FAN COIL UNIT	SEER	SEASONAL ENERGY EFFICIENCY RATIO
FD	FIRE DAMPER	SENS.	SENSIBLE
FPM	FEET PER MINUTE	SF, SQ.FT.	SQUARE FEET
FSD	COMBINATION FIRE/SMOKE DAMPER	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS
FT	FEET	SP	STATIC PRESSURE
GA	GAUGE	TA	TRANSFER AIR
GPM	GALLONS PER MINUTE	UL	UNDERWRITER'S LABORATORY
GRD	GRILLES, REGISTERS, DIFFUSERS	UNO	UNLESS NOTED OTHERWISE
H.P.	HEAT PUMP	V	VOLTS
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
HSPF	HEATING SEASONAL PERFORMANCE FACTOR	W.C.	WATER COLUMN
IBC	INTERNATIONAL BUILDING CODE	W.G.	WATER GAUGE
IECC	INTERNATIONAL ENERGY CONSERVATION CODE	wb	WET BULB TEMPERATURE
IFGC	INTERNATIONAL FUEL GAS CODE	WxLxH	WIDTH X LENGTH X HEIGHT
IMC	INTERNATIONAL MECHANICAL CODE	L	

CONTRACTOR ITEMS COMMONLY MISSED BUT REQUIRED

- INSULATION SCHEDULE.
- CEILING ACCESS PANELS WITH ARCHITECT.

CONTRACTOR SHALL SELECT EQUIPMENT TO MEET PERFORMANCE REQUIREMENTS IN SCHEDULES AND NOT BASED ON MODEL NUMBERS OR NOMINAL VALUES. MODEL NUMBERS/NOMINAL VALUES ARE A GUIDE. DUCT LINER SHALL BE SEALED AT ALL JOINTS WITH MASTIC AS APPROVED BY LINER MANUFACTURER. SEE GENERAL NOTES ON THIS SHEET. DUCT LINER IS NOT A SUBSTITUTE FOR INSULATION UNO. SEE DUCT

EQUIPMENT & DUCTWORK SHALL BE KEPT CLEAN FROM DIRT & DEBRIS. DO NOT ALLOW THE INSIDE OF DUCT & LINER TO GET WET OR DIRTY. PROVIDE DUCT AND CEILING ACCESS PANELS WHERE INDICATED. COORDINATE

HVAC GENERAL NOTES

THIS SET OF DRAWINGS IS SCHEMATIC IN NATURE AND IS NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. PROVIDE A COMPLETE AIR CONDITIONING SYSTEM WITH ALL NECESSARY EQUIPMENT, ACCESSORIES AND CONTROLS, ENTIRELY COORDINATED WITH ALL DISCIPLINES. CONFORM TO ALL PARAMETERS GIVEN IN THESE DOCUMENTS METICULOUSLY. ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE HVAC SYSTEM IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, CODES AND THIS PACKAGE OF CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE CONTRACT. CAREFULLY STUDY ALL THE CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE SUBMITTING THE SHOP DRAWINGS AND SUBMITTALS. REVIEW SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE 2018 INTERNATIONAL MECHANICAL CODE, 2018 INTERNATIONAL BUILDING CODE, THE 2018 INTERNATIONAL FUEL GAS CODE. THE 2015 INTERNATIONAL ENERGY CONSERVATION CODE, 2020 NATIONAL ELECTRICAL CODE ALL WITH GEORGIA AMENDMENTS AND ALL APPLICABLE CODES AND ORDINANCES.

3. PRIOR TO PURCHASING MATERIALS OR STARTING WORK, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, VERIFY DUCTWORK SIZES, DUCTWORK LOCATIONS, EQUIPMENT SIZES, EQUIPMENT LOCATIONS, VOLTAGES, ETC. SHOWN ON THE DRAWINGS OR CONDITIONS AFFECTING THIS WORK. REPORT ANY DEVIATIONS TO THE ARCHITECT.

4. ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE OWNER TO SUIT THEIR OPERATING CONDITIONS. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF MECHANICAL EQUIPMENT, DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING

ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.

ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

6. ALL ROOF ASSOCIATED WORK SHALL BE DONE BY THE OWNER'S APPROVED ROOFING CONTRACTOR. COORDINATE WITH THE OWNER PRIOR TO START OF WORK. ALL ROOF-TOP EQUIPMENT CURBS SHALL BE A MINIMUM OF 8 INCHES ABOVE THE FINISHED ROOF SURFACE FOR COUNTER-FLASH ENDORSED BY THE ROOF MANUFACTURER. THE TOPS OF ALL EQUIPMENT CURBS AND HOUSEKEEPING PADS SHALL BE LEVEL. ALL MISCELLANEOUS ROOF-TOP EQUIPMENT SUPPORTS SHALL BE ENDORSED BY BOTH THE RESPECTIVE EQUIPMENT MANUFACTURER AND THE ROOF SYSTEM MANUFACTURER. ALL TIE-DOWNS AND ANCHORING SYSTEMS SHALL MEET THE REQUIREMENTS SET FORTH IN THE APPLICABLE MECHANICAL AND BUILDING CODES.

INSTALL OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL AS SHOWN IN DETAIL. UNO, INSTALL GRADE MOUNTED OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL ON MIN 3.5" THICK REINFORCED CONCRETE PADS, EXTENDING 6" BEYOND UNIT PERIMETER. ALL CORNERS CHAMFERED. AND ALL EXPOSED-TO-VIEW SURFACES DRESSED SMOOTH.

8. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTIVE COVERS FOR EXPOSED AIR TERMINALS AND COOLING COILS ON MECHANICAL EQUIPMENT DURING CONSTRUCTION.

9. LABEL EQUIPMENT WITH BLACK STENCILED LETTERING ON A WHITE BACKGROUND OR USE BAKELITE LETTERING ON A DIFFERENT COLOR BACKGROUND. MINIMUM 2" LETTERING. LABEL RTUS ON BOTH LONG SIDES.

10. HVAC EQUIPMENT SUBMITTALS: SEE NOTES ON THIS SHEET FOR SUBMITTAL AND RESUBMITTAL REQUIREMENTS.

11. THE MECHANICAL CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR THAT A FACE TO FACE MEETING IS REQUIRED BETWEEN ELECTRICAL AND MECHANICAL CONTRACTORS PRIOR TO ORDERING AND INSTALLING EQUIPMENT TO COORDINATE VOLTAGE, PHASE, AMPS, AND OTHER ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT. AFTER THIS MEETING HAS OCCURRED THE GENERAL CONTRACTOR SHALL PROVIDE NOTICE IN WRITING THAT THIS MEETING HAS OCCURRED AND ANY DISCREPANCIES HAVE BEEN RFSOLVED.

12. FOR UL LISTED EQUIPMENT, CONTRACTOR SHALL SUBMIT AN ADDITIONAL REVIEW TO THE ARCHITECT TO CONFIRM THAT THE EQUIPMENT BEING SUBMITTED IS UL LISTED FOR THE APPLICABLE UL ASSEMBLIES AS LISTED ON THE ARCHITECT'S DRAWINGS.

13. IF THE CONTRACTOR REQUESTS THE ENGINEER'S CAD DRAWINGS OR IF THE DRAWINGS ARE REQUESTED BY OTHERS TO BE USED BY CONTRACTOR (FOR AS-BUILTS, COORDINATION, ETC.), DRAWINGS SENT OUT (BY THE ENGINEER) WILL BE OF FLOOR PLANS AND SECTIONS, BUT WILL NOT HAVE DETAILS, GENERAL NOTES, SCHEDULES, OR OTHER ITEMS DEEMED PROPRIETARY BY THE ENGINEER.

14. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ISSUING HVAC EQUIPMENT SUBMITTALS OR SHOP DRAWINGS OR ORDERING EQUIPMENT, AND CONTRACTOR SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN ON THE ELECTRICAL DRAWINGS.

15. MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. MOUNT FCUS WITH INTEGRAL DISCONNECT SWITCHES SO THERE IS PROPER WORKING CLEARANCE PER NEC 110.26. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS, AND ELECTRICAL DRAWINGS.

16. INCLUDE CONTROL WIRING AS A PART OF THE MECHANICAL WORK UNLESS SHOWN ON THE ELECTRICAL DRAWINGS. CONTROL WIRING, INCLUDING THERMOSTAT WIRING, SHALL BE PLENUM RATED (MEETING THE 25/50 FLAME AND SMOKE DEVELOPED RATING OF ASTM E84).

17. CONTROLS FOR THERMOSTATS CONTROLLING MOTOR OPERATED DAMPERS AND FANS CAN BE EITHER 120V OR 24V. PROVIDE CONTROL TRANSFORMER WHERE REQUIRED. INSTALL 120V WIRING IN CONDUIT. ROUTE WIRING IN WALLS WHERE AVAILABLE.

18. INSTALL MECHANICAL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NO MECHANICAL EQUIPMENT, PIPING, OR DUCTWORK SHALL BE LOCATED ABOVE OR WITHIN 42" OF ELECTRICAL SWITCHBOARDS, PANELBOARDS, OR LOAD CENTERS.

19. GUARANTEE MECHANICAL EQUIPMENT AND SYSTEMS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER. ALL GUARANTEES COMMENCE ON PROJECT DATE OF SUBSTANTIAL COMPLETION. ALL GUARANTEES FULLY COVER THE COSTS OF MATERIALS & LABOR FOR REPAIR AND/OR REPLACEMENT WITHIN THE GUARANTEE PERIOD.

20. PROVIDE HVAC COMPRESSORS WITH AN EXTENDED 5-YEAR MANUFACTURER'S WARRANTY.

21. RIGID SHEET METAL DUCT: UNLESS NOTED OTHERWISE, ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER THE GUIDELINES OF SMACNA, 2005 EDITION. UNLESS NOTED OTHERWISE, ALL DUCTWORK SHALL BE GALVANIZED SHEETMETAL NOT LESS THAN 30 GAGE (0.016 INCHES) WITH A ZINC COATING DESIGNATION OF G90 OR GREATER. DUCTS AND EQUIPMENT SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENTS TO STRUCTURE SHALL BE PER SMACNA STANDARDS. ALL EXHAUST DUCTS, OUTDOOR AIR, AND RETURN DUCTS UNDER A NEGATIVE PRESSURE SHALL BE CONSTRUCTED TO A MINIMUM PRESSURE CLASS OF NEGATIVE 1/2" W.C. AND ALL JOINTS SHALL BE SEALED TO A SEAL CLASS OF "C" AS DEFINED BY SMACNA. ALL SUPPLY (CONDITIONED AIR) DUCTS SHALL BE CONSTRUCTED TO A PRESSURE CLASSIFICATION OF +2" W.C. AND SEALED TO A CLASS "C". ALL JOINTS AND SEAMS IN ALL DUCTWORK SHALL BE SEALED WITH DUCT SEALER, UL LISTED 181A OR 181B FOR TAPES AND MASTICS. DO NOT USE DUCT TAPE. IF APPLICABLE, STAIR/ELEVATOR PRESSURIZATION AND SMOKE EXHAUST DUCTWORK SHALL MEET THE REQUIREMENTS LISTED ON THE DRAWINGS DETAILING THOSE SYSTEMS IN THIS SET OF PLANS.

22. SHEETMETAL DUCT ELBOWS SHALL BE STANDARD RADIUS TYPE OR RECTANGULAR TYPE WITH SINGLE THICKNESS TURNING VANES. DO NOT USE RADIUS ELBOWS WITH A SQUARE THROAT. DO NOT USE TURNING VANES ON RETURN, EXHAUST, OR OA DUCT ELBOWS UNLESS NOTED OR SPECIFICALLY SHOWN ON THE DRAWINGS. INSTEAD USE STANDARD RADIUS ELBOWS.

23. ROUN DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH SPIN-IN OR DOVE-TAIL FITTINGS. ALSO PROVIDE BALANCING DAMPERS WHERE INDICATED IN THESE GENERAL NOTES AND ON THE DRAWINGS. DO NOT PROVIDE A SCOOP FITTING. .ALL OPEN ENDED DUCTS SHALL BE REINFORCED WITH 1/2" X 1/32" GALVANIZED STEEL ANGELS BOLTED OR RIVETED 6" ON CENTER (MAXIMUM) ALL AROUND THE EXTERIOR PERIMETER OF THE DUCT.

24. DUCTWORK FOR RESIDENTIAL DRYER EXHAUST SHALL BE 0.016" THICK OR THICKER SHEET METAL. THE MALE END OF THE DUCT AT OVERLAPPED DUCT JOINTS SHALL EXTEND IN THE DIRECTION OF FLOW. CLOTHES DRYER TRANSITION DUCTS SHALL BE LIMITED TO 4 FT IN LENGTH AND SHALL BE LISTED AND LABELED FOR THE APPLICATION. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION. TRANSITION DUCTS SHALL BE TRIMMED TO BE AS SHORT AS POSSIBLE WHILE STILL PROVIDING SWEEPING TURNS. SHEET-METAL DUCT SHALL BE INSTALLED SO THAT THE LONGITUDINAL SEAMS ARE ON THE TOP OF THE DUCT (NOT ON BOTTOM). SLOPE DUCTWORK SUCH THAT ANY CONDENSATE WILL DRAIN TOWARDS WALL CAP AND NOT BACK INTO DRYER. MECHANICAL CONTRACTOR SHALL INSTALL A PERMANENT PLAQUE STATING THE TOTAL EQUIVALENT LENGTH OF THE DRYER EXHAUST DUCT. REFER TO DRYER VENT WARNING LABEL DETAIL.

25. RIGID SHEET METAL DUCT INSULATION: FIBERGLASS DUCT WRAP, WITH FOIL FACED VAPOR BARRIER INSULATION SHALL BE U.L. LISTED. GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE II, WITHOUT FACING AND WITH ALL-SERVICE JACKET MANUFACTURED FROM KRAFT PAPER, REINFORCING SCRIM, ALUMINUM FOIL, AND VINYL FILM. EXTERIOR SURFACE JACKET SHALL HAVE THE FOLLOWING STAMP: R-VALUE AT THE INSTALLED THICKNESS. MANUFACTURER'S NAME. & FLAME/SMOKE SPREAD RATING. JOHNS MANVILLE, OWENS CORNING, OR EQUAL. IF DUCTWORK SUPPORT STRAPS ARE ATTACHED TO THE DUCT, THEN LOCATE STRAPS INSIDE THE INSULATION AND SEAL WITH MASTIC AT PUNCTURE. ALL PUNCTURES (STAPLES) AND PENETRATIONS OF THE FOIL VAPOR BARRIER SHALL BE SEALED AIRTIGHT WITH FOIL TAPE AND/OR MASTIC - DO

26. <u>DUCT LINER</u>: RECTANGULAR DUCT: SHEET METAL DUCTWORK SHOWN OR CALLED OUT AS BEING INTERNALLY LINED SHALL BE LINED WITH 1" THICK, 1.5 LB./CU. FT. DENSITY DUCTLINER, R=4.2 PER INCH, MANVILLE LINACOUSTIC RC OR EQUAL. DUCT LINER SHALL MEET REQUIREMENTS OF NFPA 90A & 90B, MEET THE 25/50 FLAME AND SMOKE DEVELOPED RATING OF ASTM E84, MEET ASTM G-21 AND G-22, A MIN. NOISE REDUCTION COEFFICIENT OF 0.70. LINE ALL DUCTWORK MIN, 10'-0" DOWNSTREAM OF ALL FAN COIL/AIR HANDLING OR ROOF TOP UNITS UNLESS NOTED OTHERWISE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEAL ALL EDGES, SEAMS, RIPS, TEARS, ETC COMPLETELY (NO OPENINGS ALLOWED) WITH MANUFACTURER RECOMMENDED SEALER. A SEALER SHALL BE APPLIED AS NOTED ABOVE REGARDLESS OF DIRECTION BY MANUFACTURER. NOTE: LINER IS NOT A SUBSTITUTE FOR INSULATION UNLESS SPECIFICALLY NOTED TO BE. ROUND AND SPIRAL DUCT: SPIRACOUSTIC BY JOHNS MANVILLE, HAVING THE FOLLOWING CHARACTERISTICS: HAVING KERFS (CUTS) WITHIN THE LINER TO ALLOW IT TO CONFORM TO THE ROUND SHAPE AND SAME CHARACTERISTICS AS RECTANGULAR DUCT SHALL BE LINER ABOVE.

28. ALL WALL-APPLIED ITEMS (SUCH AS, BUT NOT NECESSARILY LIMITED TO, THERMOSTATS, SENSORS, ANNUNCIATORS, AND DETECTORS) SHALL BE INSTALLED PLUMB, LEVEL, AND IN THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. ANY DEVICES REQUIRING USER INTERACTION SHALL BE MOUNTED SUCH THAT THE TOP OF THE DEVICE IS NO MORE THAN 48" AFF. PROVIDE DIGITALLY LOCKABLE THERMOSTATS OR CLEAR LOCKING COVER ASSEMBLIES FOR ALL THERMOSTATS LOCATED IN PUBLIC AREAS. ALL DEVICE COVERS AND TRIM SHALL FIT SNUGLY TO WALL SURFACES ON ALL SIDES. IF THE CONTRACT DOCUMENTS HAVE OVERLOOKED SPECIFIC LOCATIONS FOR SOME ITEMS, THEN THE CONTRACTOR SHALL OBTAIN CLARIFICATION AND DIRECTION FROM THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION OF THESE ITEMS.

32. PROVIDE MVDs AT TAKE-OFFS, WHERE ACCESSIBLE CEILING (LAY-IN) IS PROVIDED, OF RUNOUTS TO DIFFUSERS AND WHERE SHOWN ON PLANS. WHERE BALANCING DAMPERS ARE ALSO PROVIDED AT THE SUPPLY GRILLE/DIFFUSER (SEE SCHEDULE), BALANCE THE SYSTEM WITH THE DAMPER AT THE TAKE-OFF (NOT AT GRILLE). GRILLE DAMPER SHOULD BE 100% OPEN AFTER TEST AND BALANCE.

34. FIRE-STOPPING: PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE ASSEMBLY TO THE ORIGINAL INTEGRITY. SEE UL PENETRATION AND FIRE-STOPPING DETAILS IN THIS SET OF DRAWINGS AND CONSULT WITH FIRE-STOPPING MANUFACTURER FOR ADDITIONAL INFORMATION.

35. DUCT-MOUNTED SMOKE DETECTORS SHALL BE PROVIDED WHERE SHOWN ON THE PLANS. EACH SMOKE DETECTOR SHALL BE WIRED TO STOP THE FAN UPON DETECTION OF SMOKE AND SIGNAL THE BUILDING FIRE ALARM CONTROL PANEL. THE SMOKE DETECTOR SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL/FIRE ALARM CONTRACTOR BUT MOUNTED IN THE DUCT BY THE MECHANICAL CONTRACTOR. DO NOT INSTALL DUCT DETECTORS IN DUCTWORK SERVING SHOWER OR STEAM ROOMS OR ROOMS PRODUCING EXCESSIVE MOISTURE. SMOKE DETECTORS SHALL BE UL LISTED PER UL 268A SPECIFICALLY FOR USE IN AIR HANDLING SYSTEMS.

37. MOTOR OPERATED DAMPERS (MOD) FOR OA VENTILATION AT FCUs SHALL HAVE THE FOLLOWING CHARACTERISTICS: BUTTERFLY STEEL DAMPER WITH RUBBER/NEOPRENE GASKET AROUND BLADE, MAX 60 DBA SOUND WHEN OPERATING. 24 VOLT OPERATION, TWO POSITION. POWERED OPEN POWERED CLOSED (NOT SPRING RETURN) BASIS OF DESIGN: FIELD CONTROLS FAD.

38. UNLESS NOTED OTHERWISE, STARTERS, SMOKE DETECTORS, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. PROVIDE A STARTER FOR ALL MOTORS. IF A SIGNAL IS REQUIRED TO START A MOTOR THEN PROVIDE AN H-O-A TYPE STARTER.

39. MOTOR STARTERS: PROVIDE AUTOMATIC MOTOR STARTERS FOR THREE-PHASE AND SINGLE-PHASE MOTORS. FRACTIONAL HP SINGLE-PHASE MOTORS SHALL HAVE INTERNAL THERMAL OVERLOAD PROTECTION EXCEPT WHERE STARTERS ARE SCHEDULED. STARTERS SHALL BE BY THE SAME MANUFACTURER (GE TYPE CR-306 OR EQUAL BY SQUARE-D, WESTINGHOUSE, ALLEN-BRADLEY, OR FURNAS) SUBJECT TO FULL COMPLIANCE WITH ALL CRITERIA. UNITS SHALL HAVE NEMA-1 ENCLOSURES (NEMA-3R IF OUTDOORS), THREE THERMAL OVERLOADS IN THREE-PHASE STARTERS, AND WITH AUXILIARY CONTACTS AND PUSH BUTTON SWITCHES AS REQUIRED BY THE "CONTROLS" SPECIFICATIONS. MOUNT MOTOR STARTERS IN THEIR OWN INDIVIDUAL ENCLOSURES OR IN A FACTORY-BUILT STARTER PANEL.

40. <u>REFRIGERANT PIPING</u> SHALL BE TYPE L OR REFRIGERATION SERVICE COPPER TUBING. SUCTION PIPING SHALL BE INSULATED WITH 1" MINIMUM (VERIFY THICKNESS WITH ANY UL PENETRATION DETAILS) RUBATEX, ARMAFLEX, OR EQUAL PIPE INSULATION SLID OVER TUBING WITHOUT CUTTING. ALL JOINTS AND SEAMS SHALL BE SEALED WITH ADHESIVE, ALL SEAMS AND JOINTS MUST BE SEALED COMPLETELY, PROVIDE INSULATION PIPE HANGER OR CLAMP SUPPORTS TO AVOID COMPRESSION OF INSULATION. SUPPORTS SHALL BE EQUAL TO ARMACELL ARMAFIX INSULATION PIPE HANGERS. DO NOT LEAVE SECTIONS OF PIPE UNINSULATED. ALL INSULATION LOCATED OUTSIDE SHALL HAVE TWO COATS OF WEATHER RESISTANT LIQUID COATING WHICH SHALL BE A SOLUTION SUCH AS WB/ARMAFLEX FINISH, FOSTER TITE-FIT COATING OR AS RECOMMENDED BY THE INSULATION MANUFACTURER. INSULATE THE VAPOR LINE THE ENTIRE LENGTH. ROUTE PIPE AS STRAIGHT AS POSSIBLE BETWEEN THE TWO UNITS (FCU & CU/HP) TO PROVIDE FOR SHORTEST DISTANCE. ALL REFRIGERANT LINES SHALL BE ROUTED IN WALLS OR ABOVE CEILING (NOT EXPOSED). PIPE SHALL BE SUPPORTED OUTSIDE ON GRADE OR ROOF WITH WITH PIPE CLAMPS OR HANGERS ATTACHED TO UNISTRUT OR CHANNEL SUPPORTS. DO NOT ALLOW SUPPORTS AND PIPE TO BE OF DISSIMILAR METALS IN CONTACT WITH EACH OTHER. CONTRACTORS SHALL GET IN WRITING FROM MANUFACTURER THEIR RECOMMENDATION FOR PIPE SIZING AND ROUTING. DO NOT ALLOW THE LIQUID AND VAPOR LINES TO COME IN CONTACT WITH EACH OTHER.

41. REFRIGERANT PIPE ROUTED THRU A WALL SHALL BE SLEEVED WITH A PVC SCHEDULE 40 OR GREATER PIPE AT LEAST ¹/₂" LARGER THAN THE PIPE (WITH INSULATION). ONE SLEEVE CAN ACCOMMODATE A LIQUID, SUCTION AND T'STAT WIRE. CAULK AS NECESSARY AROUND AND INSIDE SLEEVE TO PRESERVE WALL INTEGRITY.

43. DURING CONSTRUCTION AND PRIOR TO OPERATING HVAC SYSTEMS, PROVIDE MIN. MERV 8 PLEATED FILTERS IN ALL UNITS. ALSO PROVIDE BLUE AIR FILTER MEDIA AT RETURN DUCT INLETS. AT TIME OF TEST AND BALANCE, REMOVE FILTER MEDIA AND PLEATED FILTERS AND PROVIDE SCHEDULED/SPECIFIED FILTERS FOR HVAC SYSTEMS.

44. TEST AND BALANCE (TAB): AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM (EXCEPT APARTMENT UNITS UNLESS NOTED OTHERWISE), INCLUDING THE EXHAUST AND RETURN AIR SYSTEMS SHALL BE TESTED, ADJUSTED, AND BALANCED TO DELIVER THE AIR QUANTITIES SHOWN ON THE DRAWINGS. SUBMIT CERTIFIED TEST AND BALANCE REPORT TO ARCHITECT AND ENGINEER FOR APPROVAL. EXHAUST AND RETURN SYSTEMS UNDER NEGATIVE PRESSURE SHALL NOT EXCEED BY MORE THAN 10% FOR EACH FAN AND BY NO MORE THAN 10% AT EACH INLET OF THE VALUES INDICATED ON THE DRAWINGS. TEST AND BALANCE SHALL BE DONE PRIOR TO OPERATING THE HVAC EQUIPMENT. HVAC EQUIPMENT SHALL ONLY BE TURNED ON BEFORE TEST AND BALANCE TO VERIFY OPERATION (AFTER VERIFICATION TURN EQUIPMENT OFF). AFTER TEST AND BALANCE SHUTDOWN THE EQUIPMENT UNTIL ENGINEER/ARCHITECT REVIEWS TEST AND BALANCE REPORT AND RESPONDS BACK WITH COMMENTS. TESTING AGENCY SHALL BE AABC OR NEBB CERTIFIED AND SHALL BE INDEPENDENT (NONAFFILIATED) FROM THE CONTRACTOR (INCLUDING SUBCONTRACTOR). THE CONTRACTOR SHALL INCLUDE IN THEIR SCOPE OF WORK ONE (1) FULL DAY (8 HOURS AT SITE) ON SITE WITH THE MECHANICAL ENGINEER OR OWNER OR AS DIRECTED BY THE ENGINEER TO SPOT CHECK OR RE-MEASURE AIRFLOWS, TEMPERATURES, ETC. TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE TAB REPORT.

NOT USE DUCT TAPE (FABRIC OR CLOTH TYPE EVEN IF IT HAS A FOIL FACE). MASTIC MUST BE APPLIED THICK ENOUGH TO COMPLETELY COVER STAPLES. PERIMETER JOINTS SHALL BE FORMED SUCH THAT THE INSULATION ON THE TOP OF THE DUCT OVERLAPS THE INSULATION ON THE SIDES AND THE SIDES OVERLAP THE BOTTOM. DO NOT COMPRESS THE INSULATION WITH SUPPORTS (STRAPS, HANGERS, ETC.) - WHERE NECESSARY PROVIDE RIGID BOARD (6 LB DENSITY) THE SAME THICKNESS AS THE INSULATION INSERTED INTO THE INSULATION AT THE HANGER. INSULATION SHALL BE LABELED EVERY 36" ON THE EXTERIOR JACKET WITH: INSTALLED R-VALUE, FLAME & SMOKE DEVELOPED RATINGS, MANUFACTURER'S NAME.

27. DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS. INCREASE SIZE TO ACCOMMODATE LINER.

29. LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC.

30. PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS (SHEET ROCK, ETC.) AND IN WALL STRUCTURES TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT, REMOVAL OF EQUIPMENT. AND BALANCING OF SYSTEM. PROVIDE TYPE AND STYLE PER ARCHITECT. IF STRUCTURE (CEILING) IS FIRE RATED ACCESS PANEL WILL BE REQUIRED TO BE AS WELL.

31. DUCT ACCESS DOOR SHALL BE SIZE AS INDICATED ON DRAWINGS AND SHALL HAVE THE FOLLOWING: LOW PRESSURE DUCT ACCESS DOORS SHALL BE DOUBLE WALL IF INSTALLED ON SUPPLY DUCT AND PROVIDED WITH THUMB LATCHES FOR AN AIR TIGHT FIT. DOORS SHALL BE A MINIMUM OF 12x12 IF NOT STATED OTHERWISE.

33. ROUTE DUCT HIGH AS POSSIBLE UNDER JOIST/ROOF SUPPORT. DUCT SUPPORTS/HANGERS SHALL BE ATTACHED TO THE TOP CHORD OF JOISTS.

36. FIRE DAMPERS SHALL BE TYPE B (BLADES OUT OF AIRSTREAM) UNLESS NOTED OTHERWISE IN DETAILS.

42. <u>CONDENSATE PIPING</u> SHALL BE CPVC. CONDENSATE SHALL BE PUMPED AS REQUIRED. IF CPVC IS USED IN AN HVAC AIR PLENUM THEN THE PIPE SHALL HAVE THE FOLLOWING CHARACTERISTICS: BE NONCOMBUSTIBLE AND MEET THE 25/50 FLAME AND SMOKE DEVELOPED RATING OF ASTM E84 WITHOUT BEING WATER FILLED. CONTRACTOR SHALL PROVIDE A CUTSHEET STATING THESE CHARACTERISTICS TO THE LOCAL CODE OFFICIAL IF REQUESTED. ROUTE ROOF MOUNTED CONDENSATE DIRECTLY TO ROOF DRAINS AND PROVIDE PIPE SUPPORTS AS NECESSARY. DO NOT SPILL ONTO SPLASH BLOCKS OR DIRECTLY ON TO ROOF SURFACE. MAINTAIN AT LEAST 1 PER L.F. SLOPE. SEE DETAILS.



	_		FAN	IS				
TAG	MAKE & MODEL NO.	TYPE	AREA SERVED	AIRFLOW (CFM)	ESP INCHES	MAX POWER	MAX SONES	T
TEF-A	PANASONIC FV-0510VS1	CEILING MOUNTED EXHAUST	APARTMENT TOILET	50	0.25	50 W	2.0	Т

1. SONE VALUES ARE VALUES MEASURED 5 FT FROM THE FAN - OPEN ENDED. SONE VALUES MUST NOT EXCEED SCHEDULED AMOUNT. FAN SHALL BE HVI OR AMCA CERTIFIED F AND PERFORMANCE AND UL LISTED.

2. CONTRACTOR RESPONSIBLE FOR VERIFYING ARCHITECTURAL CONSTRUCTION FOR FAN INSTALLATION; PROVIDE SUPPORTS, BRACKETS, CURB, OR APPROPRIATE MOUNTING HARDW SECURE FAN TO STRUCTURE INCLUDING VIBRATION ISOLATION AS LISTED IN SPECIFICATIONS, EQUIPMENT NOTES, AND DETAILS.PROVIDE TRANSITION TO ACTUAL FAN INLET/OUT

DUCT SIZE LISTED ON PLANS. 3. COORDINATE EXACT CEILING MOUNTED FAN LOCATIONS WITH ARCHITECTURAL/ID RCP PLANS.

ACCESSORIES:

1. PROVIDE BACKDRAFT DAMPER AT FAN DISCHARGE.

2. PROVIDE DISCONNECT SWITCH INTEGRAL TO UNIT. 3. PROVIDE WITH MATCHING METAL PAINTABLE WALL CAP; NECK SIZE SAME AS DUCT SIZE SHOWN ON PLANS, UNO. COLOR SELECTION BY ARCHITECT AT TIME OF SHOP DRAWINGS.

<u>CONTROLS:</u> A. FAN SHALL BE CONTROLLED BY DEDICATED WALL MOUNTED SWITCH OR INTERLOCKED WITH LIGHTS. SEE ELECTRICAL.

GRILLES, REGISTERS & DIFFUSERS

TAG	MODEL	SERVICE	SIZE	CFM	BLOW	TYPE/NOTES
Α	HART & COOLEY 682/683	SUPPLY	SEE DWGS	ON PLANS	AS SHOWN	CEILING OR SIDEWALL STAMPED FACE, 1/2" SPACED FINS SET
В	HART & COOLEY 682-OBD/683-OBD	SUPPLY	SEE DWGS	ON PLANS	AS SHOWN	CEILING OR SIDEWALL STAMPED FACE, 1/2" SPACED FINS SET
С	HART & COOLEY 650	RETURN	SEE DWGS	-	-	CEILING OR SIDEWALL STAMPED RETURN, 1/2" BLADE SPACINO
D	HART & COOLEY 411	SUPPLY	SEE DWGS	ON PLANS	AS SHOWN	HEAVY DUTY FLOOR REGISTER, FOOT-OPERATED DAMPER
E	HART & COOLEY 420	SUPPLY	SEE DWGS	ON PLANS	_	TOE KICK REGISTER, STAMPED FACE, 1/2" SPACED FINS SET
F	HART & COOLEY 265	RETURN	SEE DWGS	ON PLANS	_	HEAVY DUTY FLOOR GRILLE, 2"x1/2" SPACED EGGCRATE

1. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF MOUNTING OR SUSPENSION SYSTEM.

2. COLOR SELECTED BY ARCHITECT; SUBMIT FINISH CHART WITH SHOP DRAWINGS. 3. REGISTERS AND GRILLES SHALL HAVE A BAKED ENAMEL FINISH. DO NOT FIELD PAINT GRDS.

4. PROVIDE REGISTERS WITH BLOW PATTERNS AS INDICATED ON PLANS.

5. RUNOUTS TO REGISTERS AND GRILLES SHALL BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED OTHERWISE.

6. PROVIDE SQUARE/RECTANGULAR TO ROUND TRANSITION WHERE INDICATED ON DRAWINGS. SEE PLANS FOR COLLAR SIZE. 7. DIFFUSER SHALL NOT HAVE AN NC RATING GREATER THAN 30 AT THE CFM INDICATED ON THE FLOOR PLANS. STATIC PRESSURE DROP SHALL NOT BE GREATER THAN 0.10" AT THE CFM INDICATED.

ACCESSORIES:

1. MULTI-SHUTTER VALVE WITH INTERLOCKING LOUVERS (MVD).

DUCT INSULATION - SHEET METAL DUCT (NOTES 1,2)						
DUCT TYPE	DUCT LOCATION	INSULATION TYPE	NOTES			
SUPPLY	ATTIC OR TOP FLOOR/CEILING ASSEMBLY	DUCTWRAP, R VALUE = 8.0	1,2			
RETURN	ATTIC OR TOP FLOOR/CEILING ASSEMBLY	DUCTWRAP, R VALUE = 8.0	1,2			
SUPPLY	ABOVE CEILING, UNO	DUCTWRAP, R VALUE = 6.0	1,2			
RETURN	ELSEWHERE, UNO	NONE	1,2			
OUTDOOR AIR	ANYWHERE, UNO	DUCTWRAP, R VALUE = 6.0	1,2			
EXHAUST	ANYWHERE, UNO	DUCTWRAP, R VALUE = 6.0	1,2			
<u>NOTES:</u> 1. DUCT INSULATION CHARACTERISTICS SHALL BE AS NOTED IN HVAC GENERAL NOTES.						

INTEGRAL

BALANCING

DAMPER

CONNECTION

SIZE

YES | SEE DWGS | STEEL

YES SEE DWGS STEEL

NO SEE DWGS STEEL

YES | SEE DWGS | STEEL

YES | SEE DWGS | STEEL

NO SEE DWGS STEEL

MATERIAL

INSTALLED VALUES (BASED ON INSTALLED THICKNESS).

DRIVE	WEIGHT (LB)	NOTES	ACCESSORIES	CONTROLS	-
DIRECT	10	1,2,3	1,2,3	A	
OR SOUND VARE TO LET FROM		BASIS O EQUAL E BROAN	F DESIGN: AS SO BY: COOK, PENN,	CHEDULED; ACME,	

IGHT LB)	NOTES	ACCESSORIES	CONTROLS		
10	1,2,3	1,2,3	A		
	BASIS O EQUAL E BROAN	if design: As SC By: Cook, Penn,	CHEDULED; ACME,		

SPLIT SYSTEM FURNACE - NATUR

THO		COOLING COIL	OUTDOOR UNIT	NOMINAL	AREA	TOTAL	OA	ESP
IAG	MODEL #	MODEL #	MODEL #	TONS	SERVED	CFM	CFM	(INCHES)
FURN/CU-A	58MC0C070E21-16	CNPVP48	GH5SAN44800A	4.0	BLDG. A – LEVEL 1	1600	0	0.50
FURN/CU-B	58MC0C04514-12	CNPVP18	GH5SAN41800A	1.5	BLDG. A – LEVEL 2	600	0	0.50
FURN/CU-C	58MC0C090E21-16	CNPVP48	GH5SAN44800A	4.0	BLDG. B – LEVEL 1	1600	0	0.50
FURN/CU-D	58MC0C070E21-16	CNPVP48	GH5SAN44800A	4.0	BLDG. B – LEVEL 2	1600	0	0.50

NOTES: 1. COOLING CAPACITIES ARE BASED ON 95°F db ENTERING AIR AT OUTDOOR UNIT. CAPACITIES OF UNITS SUBMITTED SHALL NOT BE LESS TH SCHEDULED VALUES INCLUDING LINE LOSSES - SEE ACCESSORY NOTE BELOW REGARDING LONG LINE SETS.

2. FCU WEIGHT INCLUDES GAS HEAT AND COOLING COIL WEIGHT. INDICATE A TOTAL WEIGHT VALUE IN THE SUBMITTAL.

3. SEER2 AND EER VALUE IS BASED ON ARI STANDARD 210/240.

4. ESP VALUES DO NOT INCLUDE THE COOLING COIL PRESSURE DROP NOR THE INTERNAL PRESSURE DROPS SUCH AS THE GAS HEAT. 5. PRESSURE DROP THROUGH COOLING COIL SHALL NOT EXCEED 0.20". 6. SUBMIT CLEARLY LABELED SHOP DRAWINGS INDICATING THE PROPOSED UNIT'S CAPACITIES.

ACCESSORIES:

1. PROVIDE STANDARD THROW-AWAY 1" PLEATED FIBERGLASS FILTER FOR FURN-1-10. PROVIDE 2" THICK MERV 7 FOR AHU-1,2. 2. SINGLE POINT POWER FOR FCU. MANUFACTURER SHALL PROVIDE TRANSFORMER AS NECESSARY FOR BLOWER FAN. 3. 5-YEAR COMPRESSOR WARRANTY.

4. BAKED ON ENAMEL FINISH.

5. PROGRAMMABLE 7 DAY THERMOSTAT, WITH NIGHT SETBACK (55° HEATING, 85° COOLING), AUTO CHANGEOVER FOR HEAT-COOL, 5 DEGREE ADJUSTMENT BETWEEN HEAT AND COOL OPERATION. 6. FILTER DRYER.

7. ANTI-SHORT-CYCLE KIT.

8. PROVIDE FCU WITH THERMAL EXPANSION VALVE AND TIME DELAY RELAY. PROVIDE KIT TO ALLOW LOW AMBIENT COOLING DOWN TO 20° DEC 9. COMPRESSOR CRANKCASE HEATER. 10. REFRIGERANT LINES SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATION. PROVIDE LONG LINE REFRIGERATION LINE SET WHERE

BY MANUFACTURER, - LINES SHALL BE SIZED BY MANUFACTURER TO MAINTAIN SCHEDULED CAPACITY. SHOW MANUFACTURER'S RECOMMEN SET SIZE IN SUBMITTALS. MANUFACTURER SHALL DETERMINE IF LONG LINE APPLICATION KIT IS REQUIRED. PROVIDE DOCUMENTATION IN S DRAWINGS. PROVIDE ALL ACCESSORIES REQUIRED BY THE MANUFACTURER FOR LONG LINE APPLICATIONS. 11.DISCONNECT SWITCH FOR EACH FCU FACTORY PROVIDED: DISCONNECT FOR EACH CONDENSING UNIT PROVIDED BY AND INSTALLED BY ELE

12. FLUE PIPE SHALL BE PVC OR STEEL AND SHALL HAVE A ROOF TERMINATION KIT AS REQUIRED BY MANUFACTURER. PROVIDE ALL ACCESS REQUIRED TO USE PROPANE GAS FOR HEATING.

PTAC	HEAT	PUMP	UNITS	

TAG	AREA SERVED	MAKE & MODEL	NOMINAL TONS	TOTAL CFM	OA CFM	TOTAL COOL, MBH	SENS. COOL, MBH	MIN. Eer	ELEC HEAT KW @ 208V	MAX UNIT WEIGHT, LBS	COP	NOTES	ACCES
PTAC-A	BDRM A124	GE AZ61H09D	0.75	360	25	9.2	6.9	12.0	2.82	116	3.6	1,2,3	1,2,3
PTAC-B	BDRM A126	GE AZ61H07D	0.5	340	25	7.0	5.9	12.0	2.82	116	3.6	1,2,3	1,2,3
PTAC-C	BDRM A114	GE AZ61H07D	0.5	340	25	7.0	5.9	12.0	2.82	116	3.6	1,2,3	1,2,3
PTAC-D	BDRM A120	GE AZ61H07D	0.5	340	25	7.0	5.9	12.0	2.82	116	3.6	1,2,3	1,2,3
PTAC-E	BDRM A118	GE AZ61H07D	0.5	340	25	7.0	5.9	12.0	2.82	116	3.6	1,2,3	1,2,3

<u>NOTES:</u> 1. COOLING CAPACITIES BASED ON 95° F db OUTSIDE AIR.

2. UNIT SHALL BE UL LISTED. 3. OUTDOOR AIR SHALL BE BY OPERABLE WINDOWS.

ACCESSORIES:

1. PROVIDE A RAB77 WALL CASE, FIBERGLASS REINFORCED POLYESTER.

2. UNIT SHALL BE PROVIDED WITH A MATCHING SUBBASE KIT WITH A NEMA 6-20R POWER CORD. COORDINATE W/ ELECTRICAL CONTRACTOR. 3. PROVIDE AN ARCHITECTURAL EXTERIOR GRILLE. GRILLE COLORED PER ARCHITECT. SUBMIT COLOR CHART WITH SUBMITTAL.

4. PROVIDE A RAD10 (IN BOTTOM OF WALL CASE) CONDENSATE DRAIN KIT. PROVIDE A SAUERMANN MINI INLINE CONDENSATE PUMP TO BE INSTALLED ON UNITS WHERE 1/8" MIN. SLOPE CANNOT BE MAINTAINED TO DISPOSAL POINT. INSTALL PUMP CONCEALED IN PTAC UNIT. SECONDARY DRAINAGE SHALL OCCUR THROUGH DRAIN HOLES IN REAR OF THE WALL CASE (ON OUTSIDE OF BUILDING). WALL CASE HAS PRIMARY AND OVERFLOW DRAIN HOLES TO ALLOW CONDENSATE AND RAIN TO DRAIN FROM WALL CASE ONTO FACE OF BUILDING, WHERE I BE NOTICABLE BY PASSERS BY AND MAINTENANCE STAFF. 5. REMOTE T'STAT. SEE ARCHITECTURAL UNIT PLANS FOR LOCATION. COORDINATE WITH ARCHITECT.

2. INSULATION THICKNESS AND DENSITY CAN VARY. R VALUES MUST BE MET OR EXCEEDED. R-VALUES ARE

NOTES

1-6

1-6

1–3

1–7

1–7

1,2,3,5,6

BASIS OF DESIGN: HART & COOLEY, NAILOR. EQUAL BY: US AIRE, TITUS, PRICE, KRUEGER.

ACCESSORIES

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FM	OA	ESP		MDLI		G (NOTE 1)	MIN	G/ HEA	AS TING	MAX FCU WEIGHT	ACCESSORIES	
	CFM		S) HP	TOTAL	SENS.	(DB/WB)	SEER2	INPUT (MBH)	OUTPUT (MBH)	(LBS) (NOTE 3)		
600	0	0.50	3/4	46.8	36.1	80/67	15.0	63.0	51.0	142	1 THRU 12	
00 600	0	0.50	1/3 3/4	17.2 46.8	13.1 36.1	80/67 80/67	15.0 15.0	44.0 88.0	56.0 72.0	104 137	1 THRU 12	
600	0	0.50	3/4	46.8	36.1	, 80/67	15.0	40.0	37.0	142	1 THRU 12	01
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	ION LINE	E SET WI	HERE REQ	JIRED I INF								
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	3.6	1,2,3	1,2,3,4,5,6	, ;								
	3.6	1,2,3	1,2,3,4,5,6	<u>;</u>								
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FLAT ⁻
OVER



10.06.23

CSB

CDF









3 Building B - Existing Floor Plan - Third Floor Scale: 1/8"= 1'-0" Plan











PLAN NOTES:

- . CONDENSING UNITS / HEAT PUMPS SHALL HAVE THE FOLLOWING MINIMUM CLEARANCES, OR AS SPECIFIED BY MANUFACTURER: A. 12 IN. FROM BUILDING B. 30 IN. FROM CONDENSING UNIT ON OPPOSITE SIDE FROM BUILDING
- C. 24 IN. FROM CONDENSING UNIT ON TWO REMAINING SIDES
- 2. INSPECT, CLEAN, AND REPAIR ALL DUCT TO LIKE NEW CONDITIONS. ANY DUCT THAT IS IRREPARABLE SHALL BE REPLACED.
- 3. PROVIDE NEW DUCT WRAP ON ALL NEW AND EXISTING DUCTWORK.
- 4. ALL HEAT PUMPS AND CONDENSING UNITS SHALL BE LABELED BY THE MECHANICAL CONTRACTOR BY BUILDING AND LEVEL SERVED. FURNACES SHALL BE LABELED TO MATCH THE ASSOCIATED HEAT PUMP OR CONDENSING UNIT.
- 5. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL OUTDOOR EQUIPMENT INCLUDING BUT NOT LIMITED TO GAS FLUES, WALL VENTS, HEAT PUMPS AND CONDENSING UNITS.
- 6. SEE ELECTRICAL DRAWINGS FOR LOCATIONS OF MECHANICAL EQUIPMENT ELECTRICAL DISCONNECTS.
- 7. REPLACE REFRIGERANT LINESETS FOR EACH COMBINATION HEAT PUMP AND FURNACE BEING REPLACED. RERUN LINESETS AS CLEAN AS IS FEASIBLE TO MINIMIZE LENGTHS AND TO AVOID CONFLICTS WITH FUNCTION OF THE UNITS AND OTHER PIPING INSTILLATION.



PLUMBING FIXTURE SCHEDULE – APARTMENT UNITS										INSTA	NTANEC	US WAT	ER HE	ATER S	CHEE					
TAG	DESCRIPTION	CO CW	NNEC	10NS s/w	HEIGHT	WATER USE	DESCRIPTION		FINISH/COLOR	MODEL	KEY NOTES	MARK	QUANTITY	LOCATION	ENERGY SOURCE	INPUT ENERGY	TEMPERATURI	E FLOW RATE	EFFICIENCY RATING	TEMPE
IMB	ICE MACHINE BOX	1/2"	-	-	24"	-	RECESSED, MOLDED PLASTIC, MOUNTING BRACKETS, FACEPLATE FRAME, PRE-INSTALLED COLD WATER VALVE WITH INTEGRAL WATER HAMMER ARRESTOR.	BOX: VALVE:	White Polished Chrome	OATEY 39148/38491 OR EQUAL BY GUY GRAY, OATEY, SIOUX CHIEF OR APPROVED EQUAL.	(1)	WH1	4	SEE PLANS	GAS	199 MBH	60°F	6.5 GPM	96%	12
L1	PRIVATE ROOM, COUNTERTOP, UNDERMOUNT LAVATORY	· ½"	¥2"	1–¼"	-	1.2 GPM	BOWL: VITREOUS CHINA, 17" X 13" RECTANGLE, UNDERMOUNT, FAUCET HOLES ON 4" CENTERS. FAUCET: SINGLE LEVER, RED/BLUE HOT/COLD INDICATORS, CERAMIC CONTROL COMPONENTS, 4" CENTERS, BRONZE BODY, ALL METAL CONSTRUCTION, AERATOR, LIFT ROD AND POP-UP DRAIN ASSEMBLY.	Bowl: Faucet	WHITE : Polished Chrome	BOWL: KOHLER K-2882 OR EQUAL BY AMERICAN STANDARD, BRIGGS, STERLING, OR APPROVED OTHER. FAUCET: OLYMPIA L-6050 SERIES OR EQUAL BY DELTA, KOHLER, CFG, OR APPROVED OTHER.	(2)	<u>NOTES:</u> (1) WA (2) ALI (3) WA	IER HEATER MU WATER HEATER TER HEATERS N	ST BE DIRECT VENTED R VENTING MUST BE IN IUST HAVE THEIR CON	WITH FORCEL ISTALLED PER TROLS INTERC) combustion The manufa Onnected Pe	I. CTURER'S VENTI R THE MANUFA	ing requirem Acturer's gui	ents using 1 Delines.	THE MANU
L2	WALL MOUNT, PEDESTAL LAVATORY	¥."	¥2"	1-½"	31"	1.2 GPM	BOWL: VITREOUS CHINA, RECTANGULAR BASIN WITH PEDESTAL, FAUCET HOLES ON 4" CENTERS, COMPATIBLE WITH CONCEALED ARM CARRIER, OVERFLOW. FAUCET: SINGLE LEVER, RED/BLUE HOT/COLD INDICATORS, CERAMIC CONTROL COMPONENTS, 4" CENTERS, BRONZE BODY, ALL METAL CONSTRUCTION, ELOW LINETAC ACTION	Bowl: Faucet	WHITE : Polished Chrome	BOWL: KOHLER K-2359 OR EQUAL BY AMERICAN STANDARD, KOHLER TOTO, OR OTHER APPROVED EQUAL. FAUCET: CLEVELAND FAUCET 42711 OR EQUAL BY DELTA, KOHLER, OLYMPIA, SYMMONS OR APPROVED OTHER.	(4)(5)	(4) EX	PIPING	ieaters shall have TYPES & I	AN OUTDOOR REQUIR	VENT KIT AN EMENTS	D ALL WATER F	PIPING INSULA	тер. Г	²LUM
S1	STAINLESS STEEL	<u></u> к"	<u></u> к"	1-%"	_	1.8 GPM	BOWL: TWO COMPARTMENT, UNDERMOUNT, 18 GAUGE TYPE 304 STAINLESS STEEL, CENTER PUNCHED DRAIN HOLE, 13.5"X16"X8" DEEP BOWL WITH ROUNDED CORNERS. FAUCET: SINGLE HANDLE PULL DOWN FAUCET, CERAMIC CONTROL COMPONENTS.	H BOWL: POLISHED STAINLESS STEEL FAUCET: POLISHED CHROME	BOWL: ELKAY ELUH3118PD OR EQUAL BY ELKAY, JUST, OR APPROVED OTHER. FAUCET: OLYMPIA K-5020 OR EQUAL BY DELTA, KOHLER, SLOAN, OR APPROVED OTHER. DRAIN: JUST J-35 OR APPROVED EQUAL.	_	SANITAR	SERVICE Y, WASTE & VE	LOCATION NT ALL	MATER	RIAL	NOTES (1)	SYMB0	L — 	MAI 	
	two compartment sink						HANDLE LIMIT STOP, RED/BLUE HOT/COLD INDICATORS, 360° HEAD SWIVEL, BRONZE BODY AND ALL METAL CONSTRUCTION. DRAIN: STAINLESS STEFL DRAIN WITH STAINLESS STEFL CRIME CUP STRAINER.				DOM	ESTIC WATER	ALL	CPW SCH	40	(2)		_	(E)(
SH1	SHOWER	¥."	¥"	2"	_	1.75 GPM	BASIN: ACRYLIC OR VIRELL SUP-RESISTANT SURFACE, REINFORCED FLOOR, SIZED PER ARCHITECTURAL PLANS. VALVE: PRESSURE BALANCING MIXING VALVE WITH LEVER HANDLE, ADJUSTABLE TEMPERATURE CONTROL LIMIT STOP, SHOWERHEAD WITH ARM AND FLANGE. DRAIN: GRID TO DRAIN ASSEMBLY BY BASIN MANUFACTURER.	Basin: Valve: Drain:	WHITE POLISHED CHROME MATCH VALVE COLOR	BASIN: STERLING, AMERICAN STANDARD, KOHLER, OR APPROVED EQUAL. VALVE: OLYMPIA T-2372 OR EQUAL BY DELTA, KOHLER, MOEN, OR APPROVED OTHER.	(1)	(1) AT T WITH (2) PEX	gas Ime of design In Air plenum: Is an accepta	ALL APARTMENT MECHANIC S SHALL BE CPVC OR BLE ALTERNATIVE.	BLACK S	ARE AIR PLEN	- UMS. PIPING			(E)H (E)H G FI FI
T1	STANDARD BATHTUB WITH SHOWER	Ķ"	½"	2"	-	1.75 GPM	TUB: FULL LENGTH SLIP-RESISTANT SURFACE, APRON FRONT, SOLID ACRYLIC OR VIKRELL MATERIAL, GLOSS FINISH, SIZED PER ARCHITECTURAL DRAWINGS. VALVE: PRESSURE BALANCING MIXING VALVE, INTEGRAL DIVERTER, ADJUSTABLE TEMPERATURE CONTROL LIMIT STOP, SHOWERHEAD WITH ARM AND FLANGE, TUB SPOUT. DRAWING ADJUSTABLE DOD. LIP DRAWING ASSEMBLY.	TUB: VALVE: DRAIN:	WHITE POLISHED CHROME MATCH VALVE COLOR	TUB: STERLING, AMERICAN STANDARD, KOHLER, OR APPROVED OTHER. VALVE: OLYMPIA T-2380 SERIES OR EQUAL BY DELTA, KOHLER, MOEN, OR APPROVED OTHER. DRAIN: BY TUB MANUFACTURER.	(1)	UPON / SHALL	FL WARDING OF CO PERFORM A FLC	OW TEST D	ATA DIECTION CON HYDRANTS NE	ITRACTOR AREST THE				
WC1	FLOOR MOUNTED, TANK TYPE WATER CLOSET	½"	-	3"	-	1.28 GPF	BOWL: VITREOUS CHINA, TWO PIECE, CLOSE COUPLED TANK, FULLY GLAZED TRAP WAY, SIPHON ACTION FLUSH, ELONGATED BOWL. SEAT: PLASTIC, CLOSED FRONT WITH COVER, INTEGRALLY MOLDED BUMPERS, BOLT CAPS.	Bowl: Seat:	WHITE MATCH BOWL COLOR	BOWL: BRIGGS 4035 OR EQUAL BY AMERICAN STANDARD, BRIGGS KOHLER, TOTO OR APPROVED OTHER. SEAT: BEMIS 1280SLOW OR EQUAL BY BEMIS, BENEKE, CENTOCO, OR SEAT MADE BY WATER CLOSET MANUFACTURER.	(3)	PROVID DATE O TIME O	er of test f test f day of test	PROVIDER DATE TIME						B/ B/
WMB	WASHING MACHINE BOX	½"	½"	2"	_	-	RECESSED, MOLDED PLASTIC, MOUNTING BRACKETS, FACEPLATE FRAME, 2" DRAIN OPENING, PRE-INSTALLED HOT AND COLD WATER VALVES WITH INTEGRAL WATER HAMMER ARRESTORS.	BOX: VALVES	White : Polished Chrome	OATEY 38102/38479 OR EQUAL BY GUY GRAY, OATEY, OR APPROVED EQUAL.	(1)	LOCATIO	ON OF FLOW HY	DRANT LOCATION						
<u>Fixtu</u> A.	RE SCHEDULE GENERAL NOTE SPECIFICATIONS AND FIXTURE	<u>:S:</u> Model	NUMBE	rs are /	GENERAL	GUIDE ONLY	AND THE MODEL NUMBER MAY NOT REFLECT ALL FEATURES, ACCESSORIES, SIZE, C	OR MINIM	UM OR MAXIMUM ALLOWABLE I	DIMENSIONS OF THE REQUIRED PRODUCT.		STATIC RESIDU FLOW	PRESSURE AL PRESSURE	STATIC RESIDUAL FLOW						

A. SPECIFICATIONS AND FIXTURE MODEL NUMBERS ARE A GENERAL GUIDE ONLY AND THE MODEL NUMBER MAY NOT REFLECT ALL FEATURES, ACCESSORIES, SIZE, OR MINIMUM OR MAXIMUM ALLOWABLE DIMENSIONS OF THE REQUIRED PRODUCT.

3. FEATURES OF THE FIXTURE MODEL TO BE PROVIDED BY THE CONTRACTOR SHALL BE VERIFIED WITH THE DESCRIPTIONS GIVEN IN THIS SCHEDULE AND WITH THE ARCHITECTURAL AND/OR INTERIOR DESIGN DRAWINGS.

CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES OF FIXTURE REQUIREMENTS, DESCRIPTIONS, SIZES, DIMENSIONS, OR MODEL NUMBER EXIST BETWEEN THE ARCHITECTURAL, INTERIORS, AND PLUMBING DRAWINGS PRIOR TO SUBMITTING BID.

. BY SUBMITTING A BID FOR THIS PROJECT, THE CONTRACTOR IS CERTIFYING THAT ALL FIXTURES INCLUDED IN THEIR BID PACKAGE HAVE BEEN VERIFIED TO COMPLY WITH THE GENERAL PERFORMANCE REQUIREMENTS OF THIS SCHEDULE AND THAT ALL FIXTURES INCLUDED IN THEIR BID PACKAGE HAVE BEEN VERIFIED TO COMPLY WITH THE GENERAL PERFORMANCE REQUIREMENTS OF THIS SCHEDULE AND THAT ALL FIXTURES INCLUDED IN THEIR BID PACKAGE HAVE BEEN VERIFIED TO COMPLY WITH THE GENERAL PERFORMANCE REQUIREMENTS OF THIS SCHEDULE AND THAT ALL FIXTURES INCLUDED FIXTURE DIMENSIONS HAVE BEEN COORDINATED WITH THE ARCHITECTURAL DRAWINGS.

CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL COUNTER MOUNTED FIXTURES WITH ARCHITECTURAL DRAWINGS AND CABINET FABRICATOR.

LOW LEAD VERSIONS OF ALL FIXTURES SHALL BE USED WHEN OFFERED BY THE MANUFACTURER AS AN OPTION. G. THE TERM "APPROVED OTHER" OR "APPROVED EQUAL", WHERE USED IN THIS SCHEDULE, SHALL MEAN AN ENGINEER APPROVED ALTERNATE MANUFACTURER AND MODEL.

FIXTURE SCHEDULE KEY NOTES: 1) SEE ARCHITECTURAL ELEVATIONS FOR COMPONENT MOUNTING HEIGHTS.

PROVIDE POP-UP TYPE DRAIN ASSEMBLIES ON LAVATORIES IN ALL PRIVATE BATH ROOMS.

WATER CLOSETS MUST BE CAPABLE OF AT LEAST REMOVING 800 GRAMS PER FLUSH BASED ON MAXIMUM PERFORMANCE (MAP) OF TOILET FIXTURES BY VERITEC CONSULTING, INC. AND KOELLER CO. PROVIDE BOLT TO THE FLOOR STYLE CAST IRON CARRIERS BY (MIFAB, J.R. SMITH, ZURN OR EQUAL) FOR ALL WALL MOUNTED FIXTURES. BRACKETS SECURED ONLY TO STUD WALLS IS NOT AN ACCEPTABLE ALTERNATE. LAG BOLTS PASSING COMPLETELY THROUGH CONCRETE WALLS MAY BE USED IN LIEU OF CARRIERS ON WALL HUNG LAVATORIES AND DRINKING FOUNTAINS.



-WATER HEATER MANIFOLD PIPING SHALL BE IN A REVERSE/RETURN CONFIGURATION.



1 TANKLESS WATER HEATER PIPING DETAIL

ICE MAKER CONNECTION



4 ICE MAKER BOX DETAIL NO SCALE





BID SUBMITTAL IF PURCHASING OF DISPOSALS IS TO BE INCLUDED IN THEIR CONTRACT. IF INCLUDED, DISPOSAL SHALL BE 1/3 HP BY INSINKERATOR, MOEN, OR WASTEMADE. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL DISPOSALS, INCLUDING THOSE PURCHASED BY OTHERS.

2 DISHWASHER & DISPOSAL PIPING DETAIL NO SCALE



A FLOW TEST WAS NOT AVAILABLE AT TIME OF DESIGN

FOLLOW THE SPECS ON THIS SHEET FOR SYSTEM REQUIREMENTS.

INSTALLING/ORDERING SYSTEM COMPONENTS.

FIRE PROTECTION SCOPE - ALTERED EXISTING SYSTEM

OF NFPA 13 AND NFPA 13-D FOR THE NEW ARCHITECTURAL PLANS. PROVIDE SPRINKLER HEADS AND PIPING TO MEET

THE CEILING TYPE AND HAZARD CLASSIFICATION (DESIGN CRITERIA). THE SYSTEM SHALL BE HYDRAULICALLY DESIGNED.

SPRINKLER CONTRACTOR SHALL DESIGN THE SPRINKLER SYSTEM TO WORK WITHIN THE PRESSURE AND FLOW PRESENT AT THE EXISTING SITE.

SUBMIT SHOP DRAWINGS INCLUDING HYDRAULIC CALCULATIONS DETAILING THE SYSTEM DESIGN AND PERFORMANCE.

NOTE: 1. THE FIRE CONTRACTOR SHALL VERIFY THAT THE EXISTING FIRE PROTECTION SYSTEM INCLUDES A FIRE RISER

COMPLIANT WITH NFPA 13-D AND THAT A BFP HAS BEEN PROVIDED ON THE WATER LINE SERVING THE SYSTEM.

ACCOUNT THE EXISTING BFP AND FIRE RISER COMPONENTS AND IF NOT NOTIFY THE ARCHITECT/ENGINEER PRIOR TO

CONTRACTOR SHALL CONFIRM THAT WATER FLOW/PRESSURE IS ADEQUATE FOR THE DESIGN WHEN TAKING INTO

THE CONTRACTOR SHALL MODIFY THE EXISTING SPRINKLER SYSTEM TO CONFORM TO THE SPRINKLER REQUIREMENTS

3 WASHING MACHINE BOX DETAIL NO SCALE

CHEDULE						
	Temperature Set point	BASIS OF DESIGN	REMARKS			
	120°F	NAVIEN NPE-240 OR OWNER PRE-APPROVED EQUAL	(1)(2)(3)(4)			

THE MANUFACTURER'S VENT KIT AND MATERIALS.

PLUMBING LEGEND						
MARK	DESCRIPTION					
W	WASTE PIPE					
٧	VENT PIPE					
CW	COLD WATER PIPE					
(E)CW	EXISTING COLD WATER PIPE					
HW	HOT WATER PIPE					
(E)HW	EXISTING HOT WATER PIPE					
G	GAS PIPE					
FD	FLOOR DRAIN					
CO	CLEANOUT					
BV	BALL VALVE					
WHA	WATER HAMMER ARRESTOR					
CKV	CHECK VALVE					
STR	STRAINER					
AAV	AIR ADMITTANCE VALVE					
B/F	BELOW FLOOR					
B/G	BELOW GROUND					
VTR	VENT THRU ROOF					

GENERAL NOTES

- 1. COORDINATE ALL PIPING WITH DUCT WORK AND LIGHTING FIXTURES.
- 2. ALL PIPING DROPS IN CHASES AND WALLS ARE TO BE SECURED TO WALLS.
- 3. ALL VERTICAL WASTE, WATER, AND VENT RISERS THAT ARE EXPOSED IN AREAS INTERIOR TO THE BUILDING THAT ARE VISIBLE TO THE PUBLIC SHALL BE ENCASED IN ARCHITECTURAL FURR OUTS. NOTIFY GC IF FURR OUTS ARE NOT PROVIDED ON ARCHITECTURAL DRAWINGS.
- 4. MAKE ALL FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT. 5. CAP ALL OPEN PIPING ENDS DURING CONSTRUCTION TO PREVENT THE ENTRY OF DEBRIS INTO THE PLUMBING SYSTEMS.
- 6. ALL WASTE PIPING 4" OR LARGER TO BE SLOPED AT 1/8" PER LINEAR FOOT. ALL WASTE PIPING SMALLER THAN 4" TO BE SLOPED AT 1/4" PER LINEAR FOOT.
- 7. ALL PIPING IN EXTERIOR WALLS TO BE RUN ON "WARM" SIDE OF INSULATION.
- 8. NO PIPING FOR ANY SERVICE SHALL BE INSTALLED ABOVE ELECTRICAL PANELS, LOADCENTERS, ELEVATOR EQUIPMENT, OR OTHER ELECTRICAL SYSTEM. CONTRACTOR SHALL NOTIFY ENGINEER AND ARCHITECT IF NO CODE COMPLIANT PIPE ROUTE EXISTS THAT DOES NOT CROSS AN ELECTRICAL SYSTEM PRIOR TO THE INSTALLATION OF THE PLUMBING PIPING IN THE AREA.
- 9. THE GENERAL CONTRACTOR SHALL ORGANIZE A FACE TO FACE MEETING, PRIOR TO BEGINNING CONSTRUCTION, BETWEEN THE PLUMBING CONTRACTOR, FIRE PROTECTION CONTRACTOR, ELECTRICAL CONTRACTOR, HVAC CONTRACTOR, AND ANY OTHER CONTRACTORS THAT MAY HAVE INSTALLATION WORK TO PERFORM WHERE PLUMBING PIPING IS TO BE INSTALLED, TO COORDINATE THE INSTALLATION NEEDS OF THE PLUMBING SYSTEM WITH OTHER TRADES FOR THE PURPOSE OF IDENTIFYING AND AVOIDING INSTALLATION CONFLICTS DURING CONSTRUCTION FOR PIPE ROUTING, DRAIN LOCATIONS, DRAINAGE REQUIREMENTS FOR OTHER TRADES, AND ANY AND ALL OTHER POINTS WHERE MULTIPLE TRADES MAY COME INTO CONTACT. THIS MEETING SHALL ALSO SERVE TO MATCH THE VOLTAGE, PHASE, AMPS, MCA, AND MOCP OF THE EQUIPMENT WITH THE DESIGNED ELECTRICAL CHARACTERISTICS. RECORDS OF THIS MEETING, INCLUDING MEETING MINUTES AND A LIST OF ATTENDEES. SHALL BE MADE AVAILABLE TO THE OWNER AND THE DESIGN TEAM UPON REQUEST.
- 10. ALL PIPING ABOVE TO BE HUNG AS HIGH AS POSSIBLE.
- 11. UNLESS OTHERWISE INDICATED, ALL SANITARY AND WASTE PIPING SHOWN ON DRAWINGS IS BELOW FLOOR AND ALL WATER, GAS, AND VENT PIPING IS ABOVE CEILING.
- 12. PROVIDE TRAP PRIMERS (AUTOMATIC OR WATER SAVER TYPE) ON ALL FLOOR DRAINS AND HUB DRAINS. SEE DETAIL SHEET FOR TRAP PRIMER DETAIL.
- 13. COORDINATE COUNTER TOP FIXTURE LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- 14. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVE CONNECTIONS SUCH FOR WASHING MACHINES, ICE MAKERS, DISHWASHERS, FLUSH VALVES AND DRINKING FOUNTAINS.
- 15. PROVIDE A GAS RATED BALL VALVE, DIRT LEG AND UNION AT EACH GAS APPLIANCE CONNECTION.
- 16. ALL COPPER PIPING SHALL BE ISOLATED FROM DISSIMILAR METALS.
- 17. HEAT TRAPS OR HEAT TRAP NIPPLES ARE REQUIRED ON ALL WATER HEATERS.
- 18. ALL VENT OPENINGS SHALL BE A MINIMUM OF 10 FEET FROM ANY AIR INTAKE, DOOR, OR OPERABLE WINDOW.
- 19. ALL VALVES ON ALL PLANS AND DETAILS ARE NORMALLY OPEN UNLESS NOTED OTHERWISE ON DRAWINGS, SPECIFICATIONS, OR MANUFACTURER'S INSTALLATION INSTRUCTIONS. DEMOLITION NOTES
- CONTRACTOR SHALL VISIT SITE BEFORE BID TO BECOME FAMILIAR WITH AND VERIFY EXISTING CONDITIONS. LOCATION OF EXISTING EQUIPMENT AND PIPE ROUTING MAY DEVIATE FROM WHAT IS SHOWN ON THE DRAWINGS.
- 2. WHERE EQUIPMENT, PIPES, CONTROL DEVICES, CONDUITS, CABLES, AND WIRING ARE DISCONNECTED FOR THE REMOVAL OR RELOCATION OF EQUIPMENT, OR BECAUSE OF ALTERATIONS, THEY SHALL BE RECONNECTED, TESTED AND MADE
- 3. UNLESS OTHERWISE NOTED, ALL MATERIALS AND EQUIPMENT SHOWN OR SPECIFIED TO BE REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE.
- 4. CONTRACTOR SHALL DO ANY AND ALL CUTTING AND PATCHING REQUIRED FOR THIS SCOPE OF WORK, RESTORING ALL SURFACES TO THEIR ORIGINAL CONDITION TO MATCH SURROUNDING FINISHES.
- 5. THE CONTRACTOR SHALL REMOVE ALL SUPPORTING FACILITIES NO LONGER NEEDED OR MADE OBSOLETE BY THE NEW EQUIPMENT AND MATERIALS FURNISHED UNDER THIS CONTRACT. SUCH REMOVAL INCLUDES, BUT IS NOT LIMITED TO, EXPOSED WIRING, EXPOSED CONDUIT RUNS WITH WIRING AND SUPPORT BRACKETS AND ATTACHMENTS, ABANDONED PIPING SUPPORT BRACKETS AND ATTACHMENTS, FRAMES AND BASES, EXISTING SWITCHES AND CONTROLS. REMOVAL OF PIPING SHALL INCLUDE ASSOCIATED VALVES. WELDED SUPPORTS SHALL BE REMOVED FLUSH WITH SURFACE. SURFACE SHALL BE GROUND SMOOTH, CLEANED, PRIMED, AND PAINTED TO MATCH SURROUNDING
- 6. PIPE AND EQUIPMENT SIZES SHOWN ARE BASED ON THE ENGINEER'S BEST ESTIMATE. SIZES, LOCATIONS, AND ROUTING MAY DEVIATE FROM WHAT IS SHOWN. FIELD VERIFY.

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Image: state stat
Renovation of Existing Group Home 4487 Trickum Road Marietta, Georgia 30066
FOR AARON ROSENHAFT, LIAMARA RIVERS ESTATES, LLC
REVISIONS
DATE 10.06.23
DRAWN BY
CDF
Plumbing Schedules & Details
PO01

- 1/2" VALVES WITH INTEGRAL WATER HAMMER ARRESTOR.

- 2"HUB







5 Building A - Existing Floor Plan - Second Floor Scale: 1/8''= 1'-0'' Plan

















