SCOPE OF WORK

USE EXISTING ONE 12.5 TON ROOF TOP UNIT & PROVIDE ONE NEW 6.0 TON ROOF TOP UNIT, HEAT PUMP MODEL & PROVIDE ALL DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM

PROVIDE TWO NEW BATHROOM EXHAUST FANS & ONE NEW JANITOR EXHAUST FAN.

COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND WITH GC AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT.

MECHANICAL PLAN NOTES

- . USE EXISTING 12.5 TON ROOF TOP UNIT & PROVIDE ONE NEW 6.0 TON ROOF TOP UNIT. PROVIDE MODIFICATIONS TO DUCT SYSTEM AS SHOWN & NEW DUCTWORK WITH REQUIRED ACCESSORIES. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. INSTALL FIRE DAMPERS IN ANY FIRE WALLS AND BETWEEN FLOORS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO A/C UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS.
- FOR SYSTEM OVER 2,000 CFM CHECK FOR DUCT MOUNTED AIR SMOKE DETECTORS AND THAT MEET THE REQUIREMENTS OF U.L. 268A, INTERLOCKED TO SHUTDOWN A/C UNIT UPON DETECTION OF SMOKE. IF NECESSARY PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR, ALARM AND POWER L.E.D.'S FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING.
- ALL DUCTS WILL MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION. ALL DUCTS TO BE MANUFACTURED AND INSTALLED ACCORDING TO ASHRAE AND SMACNA METAL DUCT CONSTRUCTION STANDARD, LATEST EDITION. ALL MATERIALS WILL CONFORM TO NFPA 90A.
- THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. IF EXISTING THERMOSTAT AND REMOTE SENSOR ARE NOT REUSABLE THEN PROVIDE NEW THERMOSTAT WITH LOCKABLE COVER. COORDINATE LOCATION OF THERMOSTAT. PROVIDE REMOTE SENSOR LOCATED 72" ABOVE FINISHED FLOOR NEAR LOCATION INDICATED. SEAL WALL OPENINGS WITH CAULK. COORDINATE LOCATION ON SITE WITH GENERAL CONTRACTOR AND EQUIPMENT.
- ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5" R-4.2 INSULATION. OUTSIDE AIR DUCTS TO HAVE R-6 INSULATION ACCORDING TO 2020 FBC -ENERGY CONSERVATION, 7TH EDITION.
- ALL SEAMS, JOINTS, ETC WILL BE SEALED TO MAKE AIR DUCT AIRTIGHT. PRESSURE SENSITIVE MATERIALS AND OTHERS APPROVED BY LATEST SMACNA. SEALING MATERIALS WILL BE USED.
- ALL EVAPORATOR UNITS SHALL HAVE A FLOAT SWITCH TO CONTROL OVERFLOW THAT WILL AUTOMATICALLY SHUT DOWN THE RTU SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE
- SECONDARY DRAIN OUTLET ON THE UNIT. ALL CONDENSATE DRAINS WILL BE COPPER FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST ROOF DRAIN OR INDIRECT WASTE.
- ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.
- TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH 2020 FBC ENERGY CONSERVATION, 7TH EDITION, SECTION C408.2.2. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (N.E.B.B.), THE ASSOCIATED AIR BALANCE COUNCIL (A.A.B.C) NATIONAL STANDARDS OR EQUIVALENT PROCEDURES.
- HANGER ATTACHMENTS TO THE STEEL STRUCTURE WILL BE RATED POWDER ACTUATED FASTENERS, "C" CLAMPS, WELDED STUDS, CLAMP HANGERS, JOIST CLAMPS OR OTHER METHODS RECOMMENDED BY SMACNA'S "METAL AND FLEXIBLE STANDARDS", CHAPTER 4, AND WILL HAVE A MINIMUM SAFETY MARGIN OF 4:1. SUSPENDED FROM TOP CHORD OF JOISTS, NOTHING FROM DECK OR CROSS BRACING.
- ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

THERMOSTATIC CONTROLS

A. GENERAL:

- THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE.
- B. DEAD BAND:

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:

THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

C. SETBACK CONTROLS:

HEATING SYSTEMS LOCATED IN CLIMATE ZONES 2-8 SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE A HEATING SETPOINT ADJUSTABLE DOWN TO 55°F OR LOWER. COOLING SYSTEMS LOCATED IN CLIMATE ZONES 1B, 2B, AND 3B SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW A COOLING SETPOINT ADJUSTABLE UP TO 90°F OR HIGHER OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

D. AUTOMATIC SHUTDOWN:

HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING: CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY-TYPES PER WEEK, ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE, OR EQUIVALENT FUNCTION, THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.

E. HEAT PUMP SUPPLEMENTARY HEAT :

HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

. SETPOINT OVERLAP RESTRICTION :

WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE CONFIGURED TO PREVENT THE HEATING SETPONIT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

GENERAL NOTES

- CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET. PAY SPECIAL ATTENTION TO THE RESPONSIBILITY SCHEDULE. WORK DESIGNATED ON SCHEDULE SHALL BE CONSIDERED INCLUDED IN YOUR SCOPE OF WORK AND CONTRACT AMOUNT.
- CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING, OR PROCEEDING WITH WORK.
- DRAWINGS/DETAILS ARE TO BE CONSIDERED DIAGRAMMATIC, NOT NECESSARILY SHOWING IN DETAIL OR TO SCALE ALL MINOR ITEMS. UNLESS SPECIFIC DIMENSIONS ARE SHOWN, THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN EXACT LOCATIONS. CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK, AND CHECK/COORDINATE DRAWINGS OF ALL TRADES.
- COORDINATE WITH THE WORK OF OTHERS SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DRIPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL EXPOSED WIRING IN THE PLENUM SHALL BE PLENUM RATED.
- VERIFY LOCATION OF PERMISSIBLE NEW STRUCTURAL ROOF PENETRATIONS AND ADAPT THE REQUIRED DUCTS ACCORDINGLY. THE OPENINGS MUST BE LOCATED USING A REBAR LOCATOR, TRYING TO LEAVE A TRANSVERSE BAR WITHIN 4" FROM THE OPENING. LOCATE OPENINGS AT MID-DISTANCE BETWEEN THE STEMS OF THE DOUBLE TEE AND LONGITUDINAL REINFORCEMENT SHALL NEVER BE CUT. CALL THE ARCHITECT'S OFFICE IN CASE OF UNEXPECTED DIFFICULTIES.
- ALL A/C AND FRESH AIR ROUND EXPOSED DUCTS WILL BE SPIRAL GALVANIZED AND READY FOR PAINTING. ALL RECTANGULAR DUCTS OVER CEILINGS MAY BE SHEET METAL WITH EXTERNAL INSULATION. ALL SG SUPPLY GRILLS WILL BE DOUBLE DEFLECTION WITH VOLUME CONTROLS.
- G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.
- REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.
- OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

FLORIDA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF FBC 2020 BASED ON 2018 IBC AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE. THE CONTRACTOR SHALL ENGAGE THE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED

- SPECIAL INSPECTIONS AND TESTS THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2020 FBC - MECHANICAL, 7TH EDITION:
- A. REFRIGERATION SYSTEMS MC 1108 4. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
- A. DUCT CONSTRUCTION AND INSTALLATION- 2020 FBC MECHANICAL, 7TH EDITION SECTION 603 B. AIR INTAKES. EXHAUSTS AND RELIEF - 2020 FBC - MECHANICAL. 7TH EDITION SECTION 401.5
- VENTILATION FOR ALL AREA SHALL COMPLY WITH 2020 FBC MECHANICAL, 7TH EDITION SECTION 401. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE
- KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2020 FBC - MECHANICAL, 7TH EDITION SECTION 403.3. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND
- LOCATION. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN
- ACCORDANCE WITH APPLICABLE CODES. . MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER 2020 FBC - ENERGY CONSERVATION ,7TH EDITION C403.2.2, C408.2.1, C408.2.5 FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF
- OCCUPANCY. 11. A COMMISSIONING PLAN SHALL BE DEVELOPED BY A LICENSED DESIGN PROFESSIONAL, MECHANICAL ENGINEER OR APPROVED AGENCY.
- 12. A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY THE LICENSED DESIGN PROFESSIONAL, ELECTRICAL ENGINEER, MECHANICAL ENGINEER OR APPROVED AGENCY AND PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT AS PER 2020 FBC ENERGY CONSERVATION ,7TH EDITION C408.2.4.
- 13. A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED IN ACCORDANCE WITH SECTION 2020 FBC - ENERGY CONSERVATION ,7TH EDITION C408.2.2.
- 14. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- 15. SMOKE DETECTOR SHALL MEET UL268A. 16. AIR ECONOMIZERS SHALL UNDERGO A FUNCTIONAL TEST TO DETERMINE THAT THEY OPERATE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.



CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER

MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.

ROOF TOP UNIT SCHEDULE								
TAG	RTU -1(E)	RTU -2(N)						
UNIT	SAE	HEAT PUMP						
MANUFACTURER	CARRIER	CARRIER						
MODEL	SAE	50TCQA07B2A5						
STATUS	EXISTING	NEW						
MOUNTING	ROOF	ROOF						
NOMINAL CAPACITY	12.5 TON	6.0 TON						
TOTAL COOLING MBH	SAE	70.4						
SENSIBLE MBH	SAE	54.2						
HEATING CAPACITY MBH	SAE	66.0						
HEATER CAPACITY (KW)	SAE	4.9						
ESP (IN. OF W.C.)	SAE	1.0						
EER/COP	SAE	11.1/3.50						
SUPPLY AIR (CFM)	5000	2400						
OUTDOOR AIR (CFM)	1000	255						
VOLTAGE/PH/Hz	208-230/3/60	208-230/3/60						
MCA (A)	SAE	52						
MCB (A)	SAE	60						
WEIGHT (lbs)	SAE	900						

NOTES FOR EXISTING RTU-1(E) . EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE

REUSED.

- 2. S.A.E : SAME AS EXISTING. 3. CONTRACTOR TO FIELD VERIFY IF RTU IN WORKING AT THEIR 100% RATED CAPACITIES/LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUMD IN PERFORMANCE PRIOR TO
- CONSTRUCTION. 4. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNIT ON SITE.
- 5. IF REQUIRED , PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSOR COMPATIBLE WITH EXISTING RTU. CO-ORDINATE FINAL LOCATION OF T-SENSOR WITH ARCHITECT/OWNER.
- 6. CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN ABOVE TABLE. 7. CLEAN/REPLACE RETURN AIR FILTERS.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID

INCLUDED SYSTEM OPTIONS FOR NEW RTU:

- A. PROVIDE FULL PERIMETER 14" HIGH ROOF CURB.
- B. PROVIDE DUCT MOUNTED SMOKE DETECTOR IN RETURN SIDE. C. PROVIDE 2" MERV-8 FILTERS - FACTORY.
- D. PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS FACTORY.
- E. CONTRACTOR TO PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR RTU WITH HUMIDITY CONTROL.
- F. HAIL GUARD FLD.
- G. PROVIDE NON FUSED DISCONNECT SWITCH- FACTORY. H. PROVIDE WITH TUBE & FIN COIL SYSTEM - FACTORY.
- I. PROVIDE WITH DRAIN PAN OVERFLOW SWITCH-FACTORY.
- J. PROVIDE WITH STANDARD CAP AND PHASE MONITOR SYSTEM FACTORY. K. PROVIDE MULTISTAGE AIR VOLUME - FACTORY.
- L. PROVIDE WITH GFCI FLD WIRED FACTORY INSTALLED
- M. PROVIDE HIGH STATIC DIRECT DRIVE
- N. UNIT TO BE PROVIDED WITH LOW AMBIENT OPERATION CAPABILITIES. O. PROVIDE LOW-LEAK ECONOMIZER WITH FDD (FAULT DETECTION & DIAGNOSTICS).
- PROVIDED HOT GAS BYPASS SYSTEM, THEN CAPACITY OF HOT GAS PASS SHALL BE LIMITED TO 50% OF TOTAL UNIT CAPACITY.
- Q. PROVIDE RELIEF DAMPER WITH RELIEF HOOD. R. AIR ECONOMIZERS TO MEET THE REQUIREMENTS FOR DESIGN CAPACITY.
- CONTROL SIGNAL, VENTILATION CONTROLS, HIGH-LIMIT SHUT-OFF, INTEGRATED ECONOMIZER CONTROL, AND PROVIDE A MEANS TO RELIEVE EXCESS OUTSIDE AIR DURING OPERATION.
- S. RTU SHOULD BE PROVIDED WITH 100% MODULATING ENTHALPY ECONOMIZER WITH WEATHER HOOD.

- INSTALL AS PER MANUFACTURERS SPECIFICATIONS AND MAINTAIN ALL SERVICE CLEARANCES. 2. PROVIDE CONDENSATE DRAIN 'P' TRAP MINIMUM 3" DEEP OR TWICE THE TOTAL STATIC PRESSURE WHICHEVER IS GREATER.
- 3. COMPRESSOR SHALL HAVE A MINIMUM 5 YEAR WARRANTY ALL OTHER | EQUIPMENT SHALL HAVE, MINIMUM 1 YEAR WARRANTY.
- 4. RTU IS BASED ON AHRI STANDARD CONDITIONS OF 80°F DB, 67°F WB INDOOR ENTERING AIR TEMPERATURE AND 105°F DB ENTERING AIR FOR OUTDOOR UNIT. 5. MUST MEET THE EER'S MINIMUM EFFICIENCY CODE REQUIREMENTS.
- 6. PROVIDE: CARRIER HOT GAS REHEAT WITH ASSOCIATED CONTROLS AND SENSORS FOR DEHUMIDIFICATION CONTROL.

FITNESS AREA	2018 SQ. FT.	@7 PEOPLE	/1000SQ.FT.	14	PEOP		
OFFICE	120 SQ. FT.	@5 PEOPLE	/1000SQ.FT.	1	PEOP		
LOBBY & RECEPTION	446 SQ. FT.	@30 PEOPL	.E/1000SQ.FT.	13	PEOP		
(OCCUPANCY FO ARCHITECTURAL	R VENTILATION LAYOUT)	CALCULATIC	ONS IS CONSIE	DERE	ED AS I		
VENTIL MECHA	ATION REQ NICAL,7TH		TS PER 202 TABLE 403	20 I 3.3.	=BC - 1.1		
	OUTSIDE	AIR CALCULA	TIONS				
	2018 SQ.	FT. X 0.18 CF	M/SQ. FT. =		363		
FIINESS AREA	41 PEOP	PLE X 20 CFM	/PEOPLE. =		820		
LOBBY &	446 SQ.	FT. X 0.06 CF	M/SQ. FT. =		27		
RECEPTION	4 PEOP	4 PEOPLE. X 5 CFM/PEOPLE. =					
	120 SQ.	120 SQ. FT. X 0.06 CFM/SQ. FT. =					
OFFICE	2 PEOP	2 PEOPLE. X 5 CFM/PEOPLE. =					
TOTAL OUTSIDE	AIR REQUIRED				1247		
	EXHAUST	AIR CALCUL	TIONS	4			
MEN TOILET	7	0 PER FIXT.			= 70		
WOMEN TOILET	7	0 PER FIXT.			= 70		
MOP SINK	7	0 PER FIXT.			= 70		
TOTAL EXHAUST REQUIRED	AIR				210		
				-			

OCCUPANCY CALCULATION PER 2020 FBC -

MECHANICAL,7TH EDITION,TABLE 403.3.1.1

OUTSIDE AIR THROUG OUTSIDE AIR THROUGH RTU-2(N)

TOTAL EXHAUST AIR

AIR BALANCE

- O/A PROVIDED (RTU-1 & RTU TOTAL EXHAUST AIR (EXHAUST FANS)
- BUILDING PRESSURE (BAROMETRIC RELIEF)

MECHANIC	CAL SYMBOLS
	EXHAUST FAN
	SUPPLY OR OUTSIDE AIR DUCT
	RETURN OR EXHAUST AIR DUCT
	INSULATED RIGID DUCTWORK
	DUCT TRANSITION
	MANUAL VOLUME DAMPER
	FLEXIBLE DUCTWORK R-6.0
	ROOF MOUNTED EXHAUST FAN OUTLET
	ROOFTOP UNIT
CFM	CUBIC FEET/ MINUTE
S/A	SUPPLY AIR
R/A	RETURN AIR
SG	SUPPLY GRILLE
Ø	ROUND DUCT DIAMETER
$\langle s \rangle$	SMOKE ALARM ANNUNCIATOR
BD	BACK DRAFT DAMPER

			DIFFUSE	ER SCHEDULE			
	MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	
LE	DESIGNATION	А	В	С	R	R1	
LE	USE	SUPPLY	SUPPLY	SUPPLY	RETURN	RETURN	
LE	MODEL	TDC-AA	300 FS	250-AA(2/3 WAY)	56FL	56FL	
PER	MOUNTING	SAT CEILING	DUCT	CEILING	CEILING	CEILING / WALL	
-	LOCATION	ON ANY		RESTROOM	ANY	ANY	
	FACE SIZE	24" X 24"	-	12"X12"	AS SHOWN	AS SHOWN	
	NECK SIZE	TO MATCH DUCT	TO MATCH DUCT	TO MATCH DUCT	TO MATCH DUCT	TO MATCH DUCT	
CFM CFM	FRAME TYPE	LAY IN	LAY IN	LAY IN /FLANGED	LAY IN /FLANGED	LAY IN /FLANGED	
CFM	FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	
CFM CFM	NOISE CRITERIA	<30	<30	<30	<30	<30	
CFM CFM	ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	
-							

1. MAX. NC LEVEL 30 OR LESS.

= 70 CFM

210 CFM

1000 CFM

255 CFM

210 CFM

+1255 CFM

+1045 CFM

-210 CFM

= 70 CFM | 2. PROVIDE SQUARE TO ROUND NECK ADAPTOR. 3. SEE ARCHITECTURAL DRAWINGS FOR PAINT AND FINISH.

4. PROVIDE 4-WAY AIR THROW PATTERN UNLESS NOTED OR INDICATED.

= 70 CFM 5. PROVIDE INSULATED BACKS ON ALL DIFFUSERS.

FAN SCHEDULE									
DESIGNATION	BEF-1(N)	BEF-2(N)	EF-1(N)						
STATUS	NEW	NEW	NEW						
QUANTITY	1	1	1						
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK						
MODEL	SP-A200	SP-A200	SP-A200						
CFM	70 CFM @ 0.3 IN. W.G. ESP	70 CFM @ 0.3 IN. W.G. ESP	70 CFM @ 0.3 IN. W.G. ESP						
AMPS	0.46	0.46	0.46						
ACCESSORIES	BD DAMPER	BD DAMPER	BD DAMPER (OCC SENSOR)						
WEIGHT (LBS)	24	24	24						
VOLTAGE	115/1/60	115/1/60	115/1/60						
NOTES	1,2,3,4	1,2,3,4	1,2,4						

1. PROVIDE DISCONNECT SWITCH. 2. PROVIDE WITH VARI-GREEN MOTOR.

3. INTERLOCK WITH RESTROOM LIGHTS (BEF-1(N), BEF-2(N) & SEF-1(N)).

4. PROVIDE BACK DRAFT DAMPER.

		SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
		RETURN DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
	0	PERORATED TYPE SUPPLY DIFFUSER REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS
		EXHAUST FAN WITH LIGHT
		OPPOSED BLADE DAMPER
	SD	DUCT SMOKE DETECTOR
	Ē	PROGRAMMABLE THERMOSTAT
	RS	REMOTE SENSOR
-		CONDENSATE PIPING
	VD	VOLUME CONTROL DAMPER

NOTE: THIS PROJECT MAY NOT USE EVERY SYMBOL OR DEVICE APPEARING ON THIS LEGEND.





HVA	C ROOF PLAN	S 1/4'	CALE ' = 1'-0"	1



SCOPE OF WORK

REUSE EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE, METER, AND DISCONNECT SWITCH TO THE SPACE. EXISTING (1) 225A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" TO BE REUSED. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE PROPOSED SPACE. COORDINATE WITH G.C FOR LOW VOLTAGE WIRING.

ELECTRICAL PLAN NOTES

BIDDING, ORDERING, OR PROCEEDING WITH WORK.

- ELECTRICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET.
- CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT, NOTIFY ARCHITECT/ENGINEER BEFORE
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED. CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT. CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL OWNER HAS DIRECTED CORRECTIVE ACTION TO BE TAKEN
- ELECTRICAL CONTRACTOR SHALL VISIT JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATIONS 36. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING DIRECTORIES. CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC... THAT ARE PART OF THE FINAL SYSTEM SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SUBMITTING HIS BID.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2014 EDITION 38. ALL LIGHT SWITCHES TO BE AT 42" A.F.F. OF THE NATIONAL ELECTRIC CODE AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
- DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
- ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY. ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
- 9. CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE.
- 0. ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY
- 1. ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.146
- 12. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
- 3. ALL LOW VOLTAGE MUST BE IN CONDUIT TO ABOVE THE DROP CEILING. BRIDAL RINGS OR "J" HOOKS REQUIRED.
- 14. SEPARATE PERMITS ARE REQUIRED FOR ALL LOW VOLTAGE SUCH AS TELEPHONE, DATA, THERMOSTAT, MUSIC, ALARMS ETC.
- 15. SEPARATE PERMIT REQUIRED FOR SIGNAGE.
- 16. PRIOR TO ANY CONSTRUCTION WORK BEGINNING AN ON-SITE MEETING WITH GENERAL CONTRACTORS IS REQUIRED.
- 17. ELECTRICIAN MUST BE ON SITE FOR ALL INSPECTIONS.
- 8. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL | 47. GAS PIPING SHALL BE BONDED. CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THHN INSULATION.
- 19. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, PLASTIC AND CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS
- 20. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL 50. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER
- WORKING ORDER. 21. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS THE BUILDING OWNER.
- REQUIRED BY THE N.E.C. OR LOCAL CODES. 22. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
- 23. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR 53. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT
- 24. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- 25. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE THAT CERTIFICATE OF OCCUPANCY IS ISSUED.
- WARRANTY SHALL BE PROVIDED IN WRITING. PROVIDE COPY TO LL. 26. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL 56. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS. CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- 7. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK
- 28. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.
- 29. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES. 30. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND
- PROVIDE ALL NECESSARY CONTROL WIRING. 31. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR

TYPE CIRCUIT BREAKERS.

- . PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED. 3. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS
- THEREOF. SHALL BE NEW AND SUCH AS APPEAR ON THE ULLIST OF APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF N.E.C. NEMA, AND IECE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.
- 35. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRED CAULKING REQUIRED OF HIS WORK.
- 7. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F.
- UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
- 39. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL WIRING FOR HVAC SYSTEM INCLUDING CONTROLS, THERMOSTATS, POWER, ETC. SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- BREAKER AND PANELS -- ALL CURRENT CARRYING BUSSES SHALL BE COPPER. ALL GROUND BUS BARS SHALL BE COPPER. PANEL BOARD FNCLOSURES SHALL BE FURNISHED WITHOUT PRE-PUNCHED CONCENTRIC HOLES. A.I.C. RATINGS SHALL BE AS INDICATED ON PANEL BOARD SCHEDULES.
- 41. DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
- 2. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
- THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACT SHALL FURNISH AND INSTALL
- 4. CONTRACTOR SHALL CONFIRM WITH ANY AND ALL REQUIREMENTS SUCH AS LUG SIZE RESTRICTIONS, CONDUIT ENTRY, TRANSFORMER SIZE, SCHEDULED DOWN TIME FOR OWNERS CONFIRMATION, ETC. ANY CONFLICTS SHALL BE BROUGHT TO ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK.
- 45. VOLTAGE DROP FOR ALL BRANCH CONDUCTORS SHALL NOT EXCEED 3%. WHERE VOLTAGE DROP EXCEEDS 3%, CONTRACTOR SHALL INCREASE SIZE OF CONDUCTORS.
- 46. CONTRACTOR SHALL PROVIDE GFI TYPE BREAKER FOR ALL EXTERIOR 120V CIRCUITS OR GFI PROTECTION -- FOR THE WHOLE CIRCUIT.
- 48. ELECTRICAL CONTRACTOR SHALL COORDINATE SERVICE ENTRY WITH SERVICE PROVIDER PRIOR TO DETERMINING EXACT LOCATION OF THE METER BOX IN ORDER TO AVOID DISCREPANCIES BETWEEN DRAWINGS AND JOB CONDITIONS.
- 49. ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
- PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE, PROVIDE A COPY TO LL.
- 1. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO
- ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6'-0" OR LESS).
- IN RIGHT ANGLES TO THE BUIDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
- 54. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED
- 55. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
- 7. 7-DAY 24-HOUR TIME CLOCK IS REQUIRED TO CONTROL STOREFRONT ENTRY LIGHTS, SHOW WINDOW LIGHTS, SHOW WINDOW RECEPTACLES AND STOREFRONT SIGNAGE. ILLUMINATED STOREFRONT SIGNS MUST REMAIN
- LIT DURING ALL MALL BUSINESS HOURS. TENANT IS REQUIRED TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRIC SERVICE. ANY/ALL MODIFICATIONS OR UPGRADES NEEDED ARE SUBJECT TO LANDLORD'S PRIOR APPROVAL AND WILL BE COMPLETED BY TENANT/TENANT'S GC AT TENANT'S SOLE EXPENSE.
- 59. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD. 60. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

CASE LETTER DENOTES SWITCHING SCHEME. C. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR **ELECTRICAL** SYMBOL DESCRIPT EXHAUST I COMBINAT SPEAKERS JUNCTION **CEILING M** BACKUP. S BATTERY E <u>0</u>0 BATTERY E WALL SWIT WALL SWIT WALL SWIT DIMMER W OCCUPANO DUPLEX RE QUADRUPI FLOOR MO CEILING MO ELECTRICA DISCONNE **TELEVISIOI** TELEPHON DATA OUT لت ا 30A/240V N 60A/240V N l⊂_B ۲<u>ل</u> 100A/240V MANUAL M $>^{\sf M}$ ABBREVIATIONS:

ABOVE FINISH FLOOR= A.F.F. COUNTER TOP LEVEL= C PUSH BUTTON= PB GROUND FAULT INTERRUPTER= GFCI UNDER CABINET= UC VERIFY PRIOR TO INSTALL= VH VAPOR PROOF= VP WEATHER PROOF= WP SALVAGED = S

STOP AND READ

THE CONTRACTOR AND SUB-CONTRACTORS SHALL NOT INITIATE ANY WORK UNT EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND 2ND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTALLY AND VERTICAL, ELECTRICAL SERVICE / PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE, FIRE SPRINKLER MAIN RUNS, TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAIN AND ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.

GENERAL LIGHTING NOTES

A. WHERE LIGHT FIXTURE IS FOLLOWED BY "NL", THIS FIXTURE IS DESIGNATED AS A NIGHT LIGHT AND SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR. B. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE AND LOWER

LEGEND
10N
TION EXHAUST FAN/LIGHT (REFER TO MECHANICAL PLANS)
BOX
OUNTED SMOKE DETECTOR 110V., INTERCONNECTED W/ BATT. MOKE DETECTOR SHALL COMPLY WITH NFPA 72, AND FBC 905.2.
BACK UP EXIT LIGHT
BACK UP EMERGENCY LIGHT
rch (Single, Double,)
TCH (3 WAY, 4 WAY)
rch (Timer)
ALL SWITCH
CY SENSOR WALL SWITCH
ECEPTACLE
LEX RECEPTACLE
UNTED. FLUSH DUPLEX RECEPTACLE
OUNTED DUPLEX RECEPTACLE
AL PANEL
CT SWITCH
N OUTLET
IE/DATA OUTLET
LET
NON FUSED DISCONNECT SWITCH
NON FUSED DISCONNECT SWITCH
NON FUSED DISCONNECT SWITCH
10TOR SWITCH
IISH FLOOR= A.F.F. BELOW COUNTER=

EXISTING CONTIDITONS NOTES



◆L1PENDENT LIGHTCBMC LIGHTING SOLUTIONS120340 W120CEL2LINEAR LIGHTCBMC LIGHTING SOLUTIONS120440 W160CE✓L32X2 RECESSED LED LIGHTCBMC LIGHTING SOLUTIONS1202140 W840CEI✓L4RECESSED 6" CAN LEDCBMC LIGHTING SOLUTIONS120820 W160CEI✓L4RECESSED 6" CAN LEDCBMC LIGHTING SOLUTIONS120820 W160CEI✓L6LED ROPE LIGHTTBD120945 W / FT470CEI✓X1CEILING/WALL MOUNTED EXIT SIGNBEST LIGHTING12015 WATTS LED5CEI✓XCEXIT SIGN-EMERGENCY LIGHT COMBOBEST LIGHTING12021 WATTS LED2WALL/✓Y5EMERGENCY LIGHTBEST LIGHTING12053.6 WATTS LED18MOD		TYPE	DESCRIPTION	MANUFACTURER	VOLT	NUMBER OF FIXTURES	WATTS PER LAMP	TOTAL WATTS	MOUNTING
L2LINEAR LIGHTCBMC LIGHTING SOLUTIONS120440 W160CEImage: Solution of the state of the	\	L1	PENDENT LIGHT	CBMC LIGHTING SOLUTIONS	120	3	40 W	120	CEILING
Image: Note of the sector of		L2	LINEAR LIGHT	CBMC LIGHTING SOLUTIONS	120	4	40 W	160	CEILING
● L4 RECESSED 6" CAN LED CBMC LIGHTING SOLUTIONS 120 8 20W 160 CEI L6 LED ROPE LIGHT TBD 120 94 5 W / FT 470 CEI ◇ X1 CEILING/WALL MOUNTED EXIT SIGN BEST LIGHTING 120 1 5 WATTS LED 5 CEI ◇ X2 EXIT SIGN-EMERGENCY LIGHT COMBO BEST LIGHTING 120 2 1 WATTS LED 2 WALL/ ◇ Y5 EMERGENCY LIGHT BEST LIGHTING 120 5 3.6 WATTS LED 18 MOI	\square	L3	2X2 RECESSED LED LIGHT	CBMC LIGHTING SOLUTIONS	120	21	40 W	840	CEILING
L6LED ROPE LIGHTTBD120945 W / FT470CEIImage: State of the state	0	L4	RECESSED 6" CAN LED	CBMC LIGHTING SOLUTIONS	120	8	20 W	160	CEILING
Image: Notice of the state		L6	LED ROPE LIGHT	TBD	120	94	5 W / FT	470	CEILING
XC EXIT SIGN-EMERGENCY LIGHT COMBO BEST LIGHTING 120 2 1 WATTS LED 2 WALL/ Y5 EMERGENCY LIGHT BEST LIGHTING 120 5 3.6 WATTS LED 18 MOI	\bigotimes	X1	CEILING/WALL MOUNTED EXIT SIGN	BEST LIGHTING	120		5 WATTS LED	5	CEILING
↔ Y5 EMERGENCY LIGHT BEST LIGHTING 120 5 3.6 WATTS LED 18 MOL	*	хс	EXIT SIGN-EMERGENCY LIGHT COMBO	BEST LIGHTING	120	2	1 WATTS LED	2	WALL/CEILIN
	<u>~~</u> >	Y5	EMERGENCY LIGHT	BEST LIGHTING	120	5	3.6 WATTS LED	18	WALL MOUNTED
(E) EXISTING FIXTURE SHALL REMAIN		(E)	EXISTING FIXTURE SHALL REMAIN	- 📥			-	-	-







ELECTRICAL POWER PLAN KEYED WORK NOTES: 225A(MLO), 120/208V, 3-PH, 4W EXISTING ELECTRICAL PANEL "A". CO-ORDINATE LOCATION OF PANEL WITH ARCHITECT/OWNER. B E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR EXACT HEIGHTS OF OUTLETS. E.C. SHALL PROVIDE CAT 6 CABLING FOR FRONT DESK FROM AV RACK. PROVIDE AN ADDITIONAL 15 FEET OF CABLING OUT OF THE FLOOR CONDUIT AND TWO (2) QUAD 20AMP RECEPTACLES. E.C. TO COORDINATE HEIGHT AND EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN. D MODEM AND ROUTER AT FRONT DESK, COORDINATE WITH LV VENDOR FOR EXACT LOCATION & POWER PROVISION. BASE BID ACCORDINGLY. E.C. SHALL PROVIDE CAT 6 CABLING FOR IP SECURITY CAMERAS FROM AV RACK. PROVIDE AN ADDITIONAL 6 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. SHALL COORDINATE WITH SECURITY DRAWINGS SPECIALIST FOR EXACT LOCATIONS, POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY. WALL MOUNTED SPEAKER. E.C. SHALL COORDINATE WITH THE LV VENDOR FOR THE EXACT OPERATION AND THE POWER PROVISION PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY. E.C. SHALL PROVIDE CAT 6 CABLING FOR WIRELESS ACCESS POINTS (WAP) FROM AV RACK. PROVIDE AN ADDITIONAL 10 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. SHALL COORDINATE WITH IT DRAWINGS/SPECIALIST FOR EXACT POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY. (2)20A CIRCUITS PER (1) QUAD RECEPTACLE & AT AV RACK LOCATION FOR FIELD CABLES TO BE PULLED THROUGH (1)3" CONDUITS STRAPPED TO WOOD BACKING AND ELECTRICAL BOXES WIRED. E.C. TO CO-ORDINATE EXACT LOCATION & REQUIREMENTS WITH ARCHITECT/AV CONSULTANT. E.C. SHALL PROVIDE CAT 6 CABLING FOR OFFICE DESK FROM AV RACK. AND ONE (1) QUAD 20 AMP RECEPTACLE AT DESK. COORDINATE EXACT LOCATION, HEIGHT WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN. E.C. SHALL PROVIDE CAT 6 CABLING FOR TVS FROM AV RACK. PROVIDE AN ADDITIONAL 6 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. TO CO-ORDINATE EXACT LOCATION OF TV'S WITH ARCHITECT/OWNER/AV CONSULTANT. E.C. SHALL PROVIDE CAT 6 CABLING FOR WASP FROM AV RACK. PROVIDE AN ADDITIONAL 10 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. SHALL COORDINATE WITH IT DRAWINGS/SPECIALIST FOR EXACT POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY. E.C. SHALL PROVIDE RG58/U CABLING FOR ANTENNAS FROM AV RACK. PROVIDE AN ADDITIONAL 3 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. SHALL COORDINATE WITH SPECIALIST FOR EXACT LOCATIONS, POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY.

E.C. SHALL PROVIDE CAT 6 CABLING FOR BAG STAND MONITORS FROM AV RACK. E.C. SHALL COORDINATE WITH IT DRAWINGS/SPECIALIST FOR EXACT POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY.

ADJACENT TENANT SPACE N.I.C.

SPK F Δ Φ Φ A#17⁺¹² A#19 124" (F) A#14 A#15 +102" HORIZONTAL E C ₽Ê A#13 **⊕ (**C \mathbf{G} E A#13 A#12 A#38 STRAINERS STATION (\mathbb{N}) F) A#19₩ OFFICE A#10 ADJACENT TENANT SPACE N.I.C.



NORTH







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			I I	
		sc	ALE	
	ROOF POWER PLAN	4 / 4"	_ 1! 0!	1
		1/4"	= 1°-0"	

PANEL:	A (EX)													MOUNTING: RECESSED																								
208Y/120	VOLTS,		3	PHASE,			4	WIRE						PANEL LOCATION: FITNESS AREA																								
MAIN CB:	NA		MLO:	225A		BUS:	225A	MIN,						FED FROM: MAIN SERVICE																								
NOTE:													_																									
	TRIP			חא	LOAD	LOAD	MINIMUM BRANCH	PER PHASE (KVA)		PER PHASE (KVA)		PER PHASE (KVA)		PER PHASE (KVA)		PER PHASE (KVA)		PER PHASE (KVA)		PER PHASE (KVA) MI		PER PHASE (KVA) MINI		PER PHASE (KVA)		LOAD	LOAD											
CKT NO.	AMPS		DESCRIPTION OF LO		ТҮРЕ	(KVA)	CIRCUIT	Α	В	С	CIRCUIT	(KVA)	TYPE	DESCRIPTION OF LOAD	AMPS	CKT NO.																						
1					н	8.28		8.65			2#12, #12G, 3/4"C	0.37	L	LIGHTING-LOBBY,OFFICE	20	2																						
3	80/3P	RTU-1(E)			н	8.28	EXISTING		9.62		2#12, #12G, 3/4"C	1.34	L	LIGHTING-FITNESS AREA	20	4																						
5					н	8.28				9.78	2#12, #12G, 3/4"C	1.50	L	BUILDING SIGNAGE	20	6																						
7	20	TIME CLOCK			R	0.10	2#12, #12G, 3/4"C	0.24			2#12, #12G, 3/4"C	0.14	L	LIGHTING-RR, UTILITY ROOM, SHOWER	20	8																						
9	20/20	SDADE					EVISTING		0.72		2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-FITNESS AREA GENERAL	20	10																						
11	 	SPARE					EXISTING			0.54	2#12, #12G, 3/4"C	0.54	R	RECEPTACLE-FITNESS AREA GENERAL	20	12																						
13	20	RECEPTACLE-FROM	IT DESK		R	0.40	2#12, #12G, 3/4"C	1.12			2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-FITNESS AREA TV	20	14																						
15	20	RECEPTACLE-SLAT	WALL(RETAIL)		R	0.18	2#12, #12G, 3/4"C		0.54		2#12, #12G, 3/4"C	0.36	R	RECEPTACLE-OFFICE	20	16																						
17	20	RECEPTACLE-LOBB	Y TV		R	0.18	2#12, #12G, 3/4"C			0.29	2#12, #12G, 3/4"C	0.11	R	TRADEMILL	20	18																						
19	20	RECEPTACLE-LOBB	Y GENERAL, OFFICE		R	0.54	2#12, #12G, 3/4"C	0.65			2#12, #12G, 3/4"C	0.11	R	TRADEMILL	20	20																						
21	20	RECEPTACLE-DRIN	KING FOUNTAIN		R	0.18	2#12, #12G, 3/4"C		0.29		2#12, #12G, 3/4"C	0.11	R	TRADEMILL	20	22																						
23	20	RECEPTACLE-REST	ROOMS AND UTILITY	/	R	0.54	2#12, #12G, 3/4"C			0.65	2#12, #12G, 3/4"C	0.11	R	TRADEMILL	20	24																						
25	20	SHOW WINDOW			R	1.60	2#12, #12G, 3/4"C	2.56			2#12, #12G, 3/4"C	0.96	R	RACK MOUNT POWER	20	26																						
27	20	SHOW WINDOW			R	1.60	2#12, #12G, 3/4"C		2.56		2#12, #12G, 3/4"C	0.96	R	RACK MOUNT POWER	20	28																						
29	20	SHOW WINDOW			R	1.60	2#12, #12G, 3/4"C			3.60		2.00	0			30																						
31	20	EF-1(N)			М	0.53	2#12, #12G, 3/4"C	2.53			3#10, #10G, 3/4"C	2.00	0	WH	30/3P	32																						
33					н	6.24			8.24			2.00	0			34																						
35	60/3P	RTU-2(N)			Н	6.24	3#6, #10G, 3/4"C			6.28	2#12, #12G, 3/4"C	0.04	М	RCP	20	36																						
37					Н	6.24		6.42			2#12, #12G, 3/4"C	0.18	R	TRAINERS STATION	20	38																						
39	20	RECEPTACLE-ROOF	-		R	0.18	2#12, #12G, 3/4"C		0.36		2#12, #12G, 3/4"C	0.18	R	TRAINERS STATION	20	40																						
41	20	SPARE								0.00				SPARE	20	42																						
						TOTAL C	ONNECTED LOAD (KVA)	22.17	22.33	21.14																												

<u>GENERAL NOTE:</u>

1. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT POWER AND CONNECTION REQUIREMENTS WITH THE MANUFACTURER PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.









INCLUDING ALL WATER & SANITARY LINES AND CONNECT T EXISTING UTILITIES. PROVIDE NEW STORAGE TYPE WATER

ANY REQUIRED CONDENSATE LINES TO MECHANICAL

SANITARY SEWER PIPING

VENT PIPING

DOMESTIC COLD WATER PIPING

HOT WATER PIPING

POINT OF CONNECTION

CAPPED END OF PIPE

BALANCING VALVE

CLEAN OUT

P-TRAP

CLEAN OUT

DOMESTIC COLD WATER

DOMESTIC HOT WATER DOMESTIC HOT WATER RETURN

VENT THRU ROOF

GATE VALVE

CHECK VALVE

FLOOR DRAIN

EXISTING CONTIDITONS NOTES

STOP AND READ THE CONTRACTOR AND SUB-CONTRACTORS SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND 2ND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTALLY AND VERTICAL, ELECTRICAL SERVICE /PANELS LOCATION AND VOLTS/PHASE, LOCATION/QTY OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HUNG UNITS HAVE PROPER SUPPORT CONNECTIONS FOR EXISTING STRUCTURE, FIRE SPRINKLER MAIN RUNS, TOILET ROOM DIMENSIONS, DOOR SWING FOR DOORS TO REMAIN AND ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REIMBURSE THE ARCHITECT FOR THE REDESIGN FEE. THIS DOES NOT INCLUDE HIDDEN WORK I.E. PITCH OF SANITARY LINES, ACTUAL CONDITIONS OF EXISTING HVAC EQUIPMENT, STRUCTURAL COLUMNS/BEARING WALLS OR CONDITIONS OF GREASE INTERCEPTORS AND ETC.

ENERGY CONSERVATION NOTES

1. AS PER 2020 FBC - ENERGY CONSERVATION CODE, 7TH EDITION, C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10 OF MINIMUM PIPE INSULATION THICKNESS.

2.HOT WATER SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2020 FBC - ENERGY CONSERVATION CODE, 7TH EDITION. THE HOT WATER VOLUME FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER MAXIMUM PIPING LENGTH TABLE.

3.AS PER 2020 FBC - ENERGY CONSERVATION CODE, 7TH EDITION, C404.6.3, PUMPS THAT CIRCULATE WATER BETWEEN A HEATER AND STORAGE TANK HAVE CONTROLS THAT LIMIT OPERATION FROM STARTUP TO <=5 MINUTES AFTER END OF HEATING CYCLE.

4.AS PER 2020 FBC - ENERGY CONSERVATION CODE, 7TH EDITION, C404.7, THE CONTROLS SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO NOT GREATER THAN 104°F (40°C).

5.AS PER 2020 FBC - ENERGY CONSERVATION CODE, 7TH EDITION, C404.6.1, CONTROLS ARE INSTALLED THAT LIMIT THE OPERATION OF A RECIRCULATION PUMP INSTALLED TO MAINTAIN TEMPERATURE OF A STORAGE TANK. SYSTEM RETURN PIPE IS A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

SANITARY PLAN KEY NOTE

CONNECT NEW 4" SANITARY PIPING TO EXISTING SANITARY STUBOUT. CONTRACTOR TO FIELD VERIFY SIZE, LOCATION, ROUTING AND INVERT ON

CONNECT NEW 3" VENT PIPING TO EXISTING VENT LINE IN FIELD. CONTRACTOR TO FIELD VERIFY SIZE, LOCATION AND ROUTING ON SITE.



*LAVATORY FAUCET MAXIMUM HOT WATER TEM **PROVIDE TRAP PRIMERS FOR ALL FLOOR DRA

		WA	TER	WASTE		
MANUFACTURER	MODEL	Hot	Cold	Waste	Usage	Spec
AMERICAN STANDARD	4142.100		3/4"	4"		
EXISTING TO REMAIN						
KOHLER	GREENWICH K-12643-O	1/2"	1/2"	2"		
AMERICAN STANDARD OR EQUIVALENT						
EXISTING TO REMAIN						
ELKAY	EZH2O		1/2"	1 1/4"		
FIAT	MSB-2424	1/2"	1/2"	2"		
SEE SCHEDULE	SEE SCHEDULE					
ZURN	ZS415 W/TYPE BS STRAINER					
PERATURE MUST BE RE NS.	GULATED TO NOT EXCEED 110F	BY A C	EVICE C	OMPLYING	WITH AS	SE 1070.





LAVATORY / SLIP JOINT NUT

□ 1¹/₂ [38] NPT CONN.

ESCUTCHEON

SLIP JOINT NUT

FLOOR DRAIN

FINISH FLOOR



WATER HEATER SCHEDULE	
MANUFACTURER	BRADFORD WHITE
MODEL	LE330S3-3
EQUIPMENT TAG	WH
STATUS	NEW
CAPACITY	30 GALLONS
FUEL	ELECTRIC
KW	6
GPH	25 GPH*
THERMAL EFFICIENCY	0.97
VOLTAGE	208/3/60
WEIGHT (EMPTY)	100 LBS.
NOTES:	
1. * @ 100° F TEMPERATURE RISE	
2. INSTALL NEW EXPANSION TANK AMTROL MODEL THERM-X-TROL	



FIXTURE BRANCH SCHEDULES