

SCOPE OF WORK

PROVIDE ONE NEW 6.0 TON AND ONE NEW 4.0 TON HEAT PUMP ROOF TOP UNIT AND PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM.

PROVIDE 2 NEW RESTROOM EXHAUST FANS & 3 NEW EXHAUST FANS AS SHOWN IN THE PLAN.

COORDINATE WITH GC AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT AND GAS FLUE FOR WATER HEATERS.

MECHANICAL PLAN NOTES

- A. PROVIDE ONE NEW 6.0 TON AND ONE NEW 4.0 TON HEAT PUMP ROOF TOP UNIT AND PROVIDE NEW DUCTWORK AND NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEM. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AIR DUCT CONNECTIONS. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO ROOF TOP UNIT SCHEDULE FOR ADDITIONAL REQUIREMENTS.
- B. FOR SYSTEM OVER 2,000 CFM CHECK FOR DUCT MOUNTED AIR SMOKE DETECTORS AND THAT MEET THE REQUIREMENTS OF 2020 FMC 7th EDITION SEC. 606.2.1, INTERLOCKED TO SHUTDOWN AIR HANDLING 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. SMOKE DETECTOR SHALL MEET UL268A
- C. ALL DUCTS SHALL BE MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION FOR CONCEALED DUCTS AND ALL EXPOSED DUCTS WITH INTERNAL 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.
- D. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. COORDINATE LOCATION OF THERMOSTAT.
- E. ALL INDOOR DUCT AND PLENUM INSULATION SCHEDULE:
 1. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION.
 2. FLEXIBLE ELASTOMER, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

	SA PLENUM	RA PLENUM
UNCONDITIONED SPACES:	R-4.2	R-4.2
UNVENTED ATTIC ABOVE INSULATED CEILING:	R-6	R-4.2
EXTERIOR OF BUILDING:	R-6	R-4.2

- F. 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.
- G. ALL EVAPORATOR UNITS SHALL HAVE A FLOAT SWITCH TO CONTROL OVERFLOW THAT WILL AUTOMATICALLY SHUT DOWN THE A/C SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE SECONDARY DRAIN OUTLET ON THE UNIT.
- H. ALL ROOF TOP UNIT CONDENSATE DRAINS WILL BE PVC FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST APPROVED PLACE OF DISPOSAL.
- I. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.
- J. 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.
- K. 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.
- L. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
- M. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS/SLABS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS
- N. MAINTAIN MIN. 10 FT. DISTANCE BETWEEN ALL EXHAUST AIR SOURCES AND OUTSIDE AIR INTAKE SOURCES ON THE ROOF.

FLORIDA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2020 FBC 7th EDITION AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

- 1. 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.
- 2. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2020 FMC 7th EDITION.
 - A. VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES - MC 506
 - 3. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - A. STANDARDS OF HEATING- 2020 FMC 7th EDITION - 309.1
 - B. DUCT CONSTRUCTION AND INSTALLATION- 2020 FMC 7th EDITION - 603
 - C. AIR INTAKES, EXHAUSTS AND RELIEF - 2020 FMC 7th EDITION - 401.5
 - D. AIR FILTERS - 2020 FMC 7th EDITION - 605
 - E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2020 FMC 7th EDITION - 606
 - 4. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
 - 5. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2020 FMC 7th EDITION 401.
 - 6. 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 FMC 7th EDITION 403.3
 - 7. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
 - 8. 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 BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
 - 9. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
 - 10. SMOKE DETECTOR SHALL MEET UL268A.
 - 11. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

GENERAL NOTES

- A. 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.
- B. 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.
- C. 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.
- D. 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 RISERS AND DRIPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- E. 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.
- F. 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.
- G. 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.
- H. 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.
- I. 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 AND EXPOSED DUCTWORK WITH INTERNAL INSULATION.
- J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.
- K. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- L. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.
- M. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

THERMOSTATIC CONTROLS

C403.2.4 HVAC SYSTEM CONTROLS
EACH HEATING AND COOLING SYSTEM SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS AS SPECIFIED IN SECTION C403.2.4.1, C403.2.4.1.3, C403.2.4.2, C403.2.4.3, C403.2.12.5, C403.3.1, C403.4, OR C403.4.4.

C403.2.4.1 THERMOSTATIC CONTROLS
THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES, GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:

1. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/-45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15 240 MM); AND
2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.2.4.1.2 DEADBAND
WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 2 (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:
1. THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
2. OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C403.2.4.1.3 SET POINT 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 PROVIDED WITH THE CAPABILITY TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.2.4.1.2.

C403.2.4.2 OFF-HOUR CONTROLS
EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.

EXCEPTIONS:
1. ZONES THAT WILL BE OPERATED CONTINUOUSLY.
2. ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTUH (2 kW) AND HAVING A READILY ACCESSIBLE MANUAL SHUTOFF SWITCH.

C403.2.4.2.1 THERMOSTATIC SETBACK CAPABILITIES
THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES
AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.2.4.2.3 AUTOMATIC AND OPTIMUM START CAPABILITIES (MANDATORY)
AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

INDIVIDUAL HEATING AND COOLING SYSTEMS WITH SETBACK CONTROLS AND DIRECT DIGITAL CONTROL SHALL HAVE OPTIMUM START CONTROLS. THE CONTROL ALGORITHM SHALL, AS A MINIMUM, BE A FUNCTION OF THE DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED SET POINT, THE OUTDOOR TEMPERATURE, AND THE AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY. MASS RADIANT FLOOR SLAB SYSTEMS SHALL INCORPORATE FLOOR TEMPERATURE INTO THE OPTIMUM START ALGORITHM.

ROOF TOP UNIT SCHEDULE

UNIT TAG	RTU-1 (N)	RTU-2 (N)
UNIT TYPE	HEAT PUMP	HEAT PUMP
MANUFACTURER	CARRIER (OR EQUIVALENT)	CARRIER (OR EQUIVALENT)
MODEL	50FCQM07C1A6 (OR EQUIVALENT)	50FCQA05C1A6 (OR EQUIVALENT)
STATUS	NEW	NEW
MOUNTING	ROOF	ROOF
TOTAL CAPACITY	6.0 TONS	4.0 TONS
TOTAL COOLING MBH	75.0	49.9
SENSIBLE COOLING MBH	59.6	37.8
HEATING MBH	48.4	35.9
EER	11.2	11.8
SEER	-	14.3
IEER	15.0	-
COP	3.6	3.7
HSPFF	-	8.2
SUPPLY AIR (CFM)	2400	1600
OUTDOOR AIR (CFM)	565	250
ESP (IN. OF H2O)	1.0	1.0
VOLTAGE (V/PHz)	460/3/60	460/3/60
MCA (A)	14.0	10.0
MOCP (A)	20.0	15.0
WEIGHT (lbs)	800	600

- INCLUDED SYSTEM OPTIONS FOR RTU-1(N) & RTU-2(N)
 A. PROVIDE FULL PERIMETER 14" HIGH ROOF CURB.
 B. PROVIDE DUCT MOUNTED SMOKE DETECTOR IN SUPPLY SIDE. PROVIDE 2" MERV-8 FILTERS.
 C. PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS, COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS.
 D. CONTRACTOR TO PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH HUMIDITY CONTROL FOR RTU-1(N) & RTU-2(N).
 E. PROVIDE HAIL GUARD.
 F. PROVIDE NON FUSED DISCONNECT SWITCH.
 G. PROVIDE WITH TUBE & FIN COIL SYSTEM.
 H. PROVIDE WITH STANDARD CAP AND PHASE MONITOR SYSTEM.
 I. PROVIDE WITH GFCI FLD WIRE.
 J. PROVIDE STANDARD STATIC DIRECT DRIVE.
 K. PROVIDE HOT GAS BYPASS.
 L. UNIT TO BE PROVIDED WITH LOW AMBIENT OPERATION CAPABILITIES.
 M. PROVIDE AIR SIDE LOW LEAK ENTHALPY REFERENCE ECONOMIZER WITH BAROMETRIC RELIEF AND FDD FOR RTU-1(N).

- RTU NOTES:
 1. 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 A MINIMUM 1 YEAR WARRANTY.
 4. RTUS ARE BASED ON AHRI STANDARD CONDITIONS OF 80°F DB, 67°F WB INDOOR ENTERING AIR TEMPERATURE AND 95°F DB ENTERING AIR FOR OUTDOOR UNIT.
 5. MUST MEET THE EERS MINIMUM EFFICIENCY CODE REQUIREMENTS.

DIFFUSER SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	A1	B	R
USE	SUPPLY	SUPPLY	SUPPLY	RETURN
MODEL	TDC-AA	300 FS	TDC-AA	TDC-AA
MOUNTING	CEILING	DUCT	HARD CEILING	CEILING
LOCATION	AS SHOWN	DINING	RESTROOM	AS SHOWN
FACE SIZE	24" X 24"	AS SHOWN	12"X12"	24" X 24"
NECK SIZE	REFER TABLE - A	-	REFER TABLE - A	-
FRAME TYPE	LAY IN	FLANGED	FLANGED	LAY IN
ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER

- NOTES:
 1. MAX. NC LEVEL 30 OR LESS.
 2. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
 3. COORDINATE WITH ARCHITECT FOR PAINT AND FINISH.
 4. PROVIDE 4-WAY AIR THROW PATTERN UNLESS NOTED OR INDICATED.
 5. PROVIDE INSULATED BACKS ON ALL DIFFUSERS.

NECK SIZE TABLE - A

NECK SIZE DIA	CFM RANGE
Ø6"	0-100
Ø8"	101-200
Ø10"	201-400
Ø12"	401-600

FAN SCHEDULE

TAG	BEF-1(N)	BEF-2(N)	KEF-1(N)	KEF-2(N)	EF-1(N)
STATUS	NEW	NEW	NEW	NEW	NEW
QUANTITY	1	1	1	1	1
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	SP-A90	SP-A90	SP-A250	SP-A390	SP-A90
CFM	70 @ 0.3 (ESP IN W.C.)	70 @ 0.3 (ESP IN W.C.)	220 @ 0.7 (ESP IN W.C.)	250 @ 0.7 (ESP IN W.C.)	70 @ 0.3 (ESP IN W.C.)
AMPS	0.17	0.17	1.42	1.42	0.17
ACCESSORIES	BDD.LITE KIT	BDD.LITE KIT	BDD.LITE KIT	BDD.LITE KIT	BDD.LITE KIT
WEIGHT (LBS)	12	12	24	24	12
VOLT / PH / HZ	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60
NOTES	1,2,3.	1,2,3.	1,2,3.	1,2,3.	1,2,4.

- NOTES:
 1. PROVIDE DISCONNECT SWITCH.
 2. PROVIDE BACK DRAFT DAMPER.
 3. FAN SHALL INTERLOCK WITH RTU-2(N)
 4. FAN SHALL INTERLOCK WITH ROOM LIGHTS.

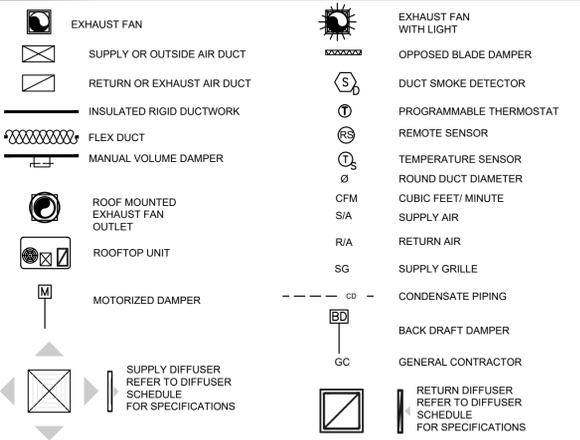
OCCUPANCY CALCULATION PER 2020 FLORIDA MECHANICAL CODE (2018 IMC),TABLE 403.3.1.1

CAFE/ DINING	788 SQ. FT. @70 PEOPLE/1000SQ.FT.	56 PEOPLE
SERVICE AREA	270 SQ. FT. @20 PEOPLE/1000SQ.FT.	6 PEOPLE
KITCHEN	160 SQ. FT. @20 PEOPLE/1000SQ.FT.	4 PEOPLE
	TOTAL	70 PEOPLE

VENTILATION REQUIREMENTS PER 2020 FLORIDA MECHANICAL CODE (2018 IMC),TABLE 403.3.1.1

CAFE/ DINING	788 SQ. FT. X 0.18 CFM/SQ. FT. =	142 CFM
	56 PEOPLE X 7.5 CFM/PEOPLE =	420 CFM
SERVICE AREA	270 SQ. FT. X 0.18 CFM/SQ. FT. =	49 CFM
	6 PEOPLE X 7.5 CFM/PEOPLE =	45 CFM
KITCHEN	372 SQ. FT. X 0.18 CFM/SQ. FT. =	67 CFM
	8 PEOPLE X 7.5 CFM/PEOPLE =	60 CFM
STORAGE	123 SQ. FT. X 0.12 CFM/SQ. FT. =	15 CFM
CLOSET	45 SQ. FT. X 0.12 CFM/SQ. FT. =	6 CFM
OUTSIDE AIR REQUIRED		804 CFM
EXHAUST AIR		
SERVICE AREA	270 SQ. FT. X 0.7 CFM/SQ. FT. =	189 CFM
KITCHEN	372 SQ. FT. X 0.7 CFM/SQ. FT. =	260 CFM
REST ROOM 1	70 CFM PER FIXTURE	70 CFM
REST ROOM 2	70 CFM PER FIXTURE	70 CFM
CLOSET	70 CFM PER FIXTURE	70 CFM
EXHAUST AIR REQUIRED		659 CFM
AIR BALANCE		
O/A PROVIDED THROUGH RTU-1(N)		+565 CFM
O/A PROVIDED THROUGH RTU-2(N)		+250 CFM
KEF-1(N)		-220 CFM
KEF-2(N)		-250 CFM
BEF-1(N)		-70 CFM
BEF-1(N)		-70 CFM
EF-1(N)		-70 CFM
BUILDING PRESSURE (BAROMETRIC PRESSURE)		+135 CFM

MECHANICAL SYMBOLS



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

MECHANICAL SCHEDULES AND SYMBOLS

SCALE	
N.T.S.	

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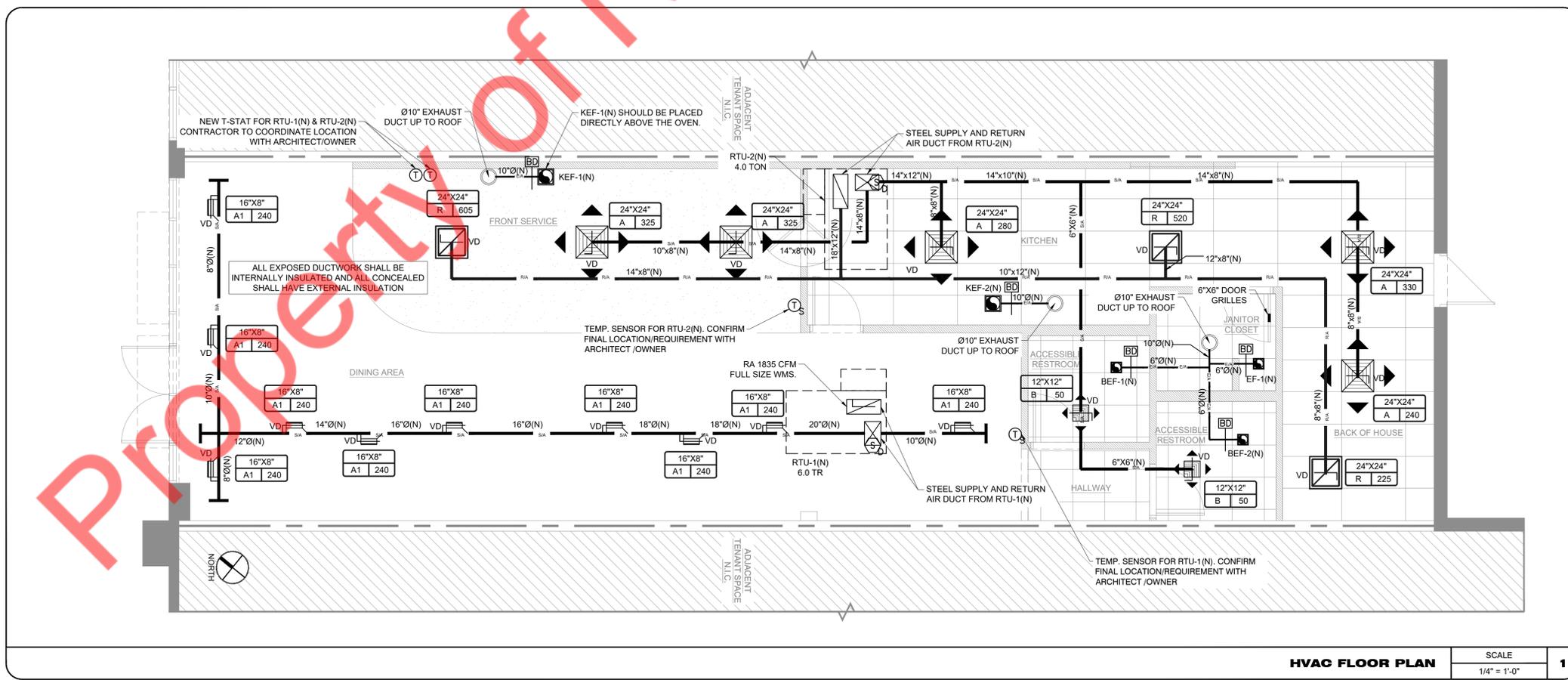
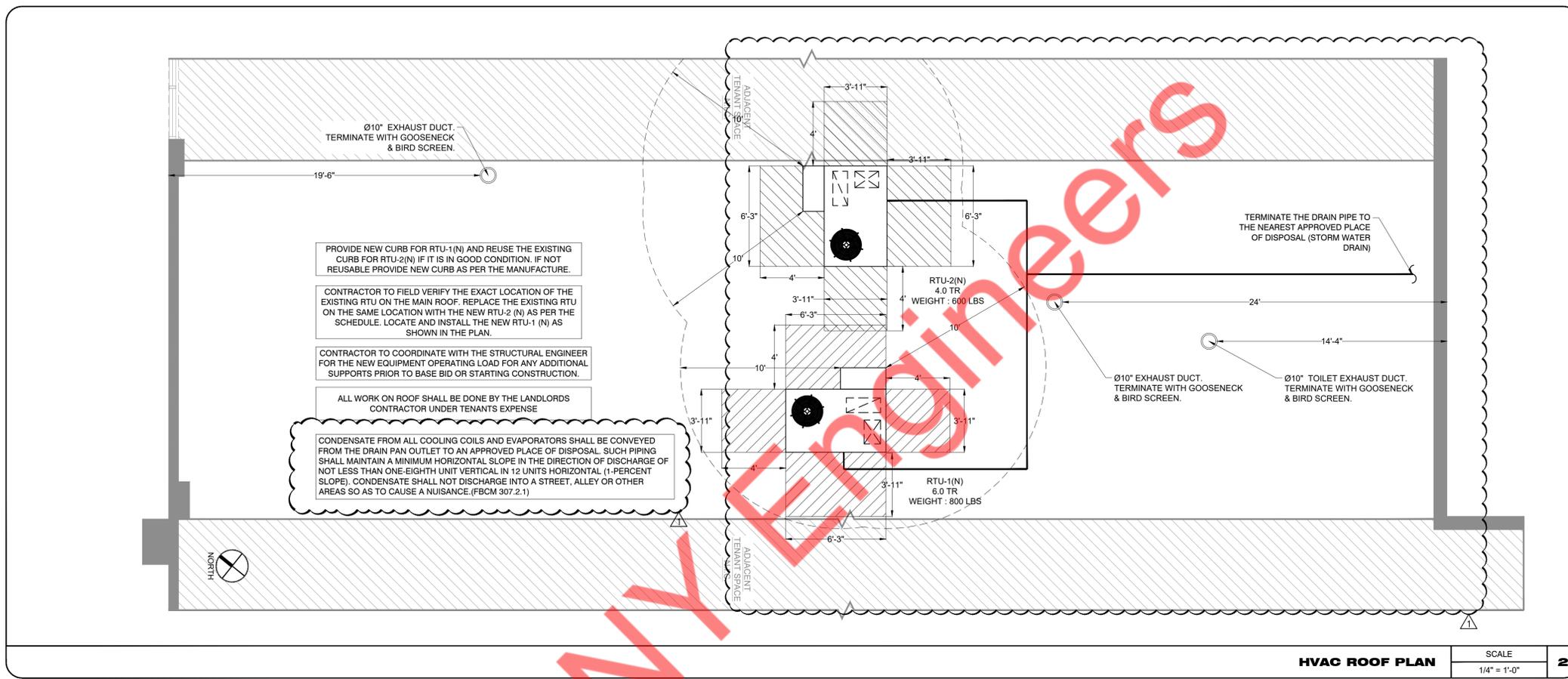
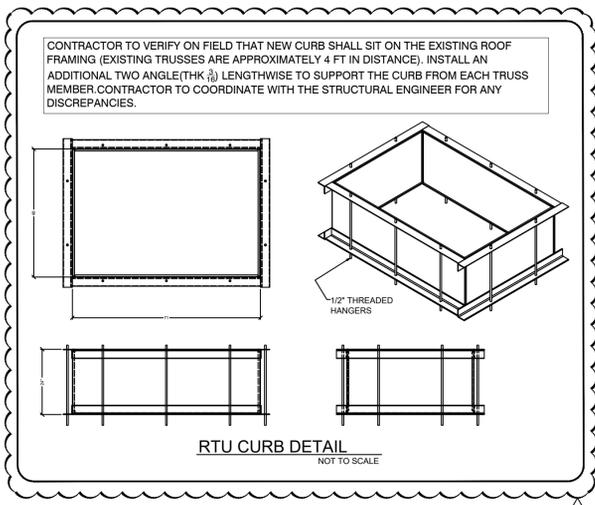
PROJECT

REVISIONS DATES:
01.30.24 BD COMMENTS

PROFESSIONAL SEAL

ISSUE DATE: 10.26.23
 PROJECT #: 415A.1401A
 DRAWN BY: NYE
 CHECKED BY: NYE

HVAC NOTES & SCHEDULES



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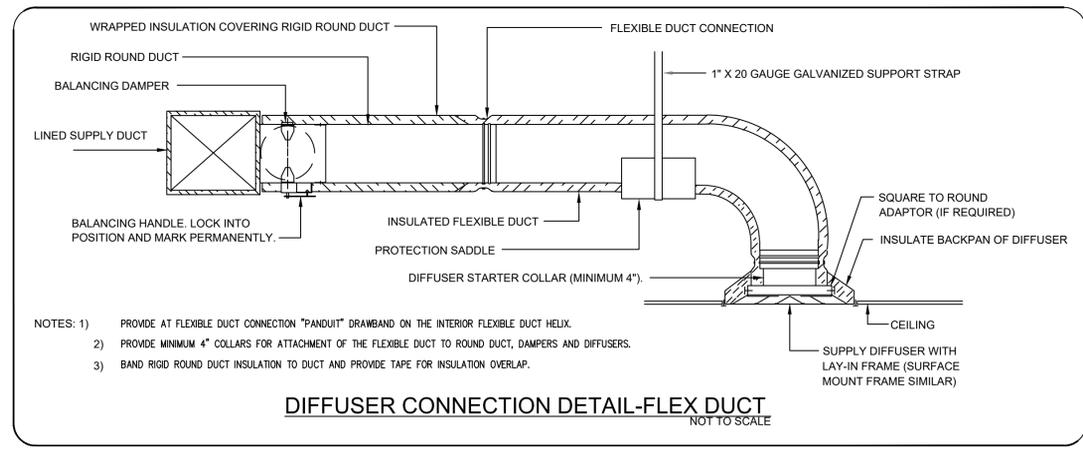
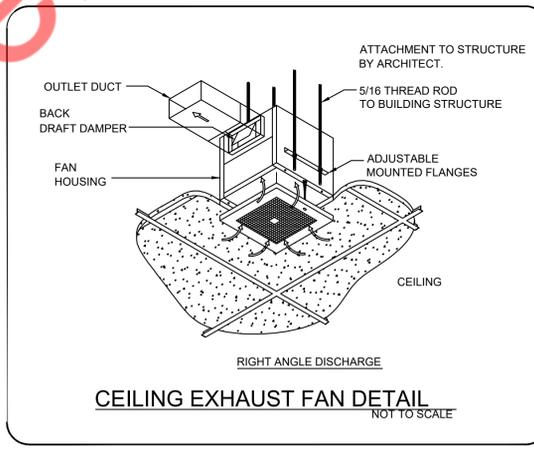
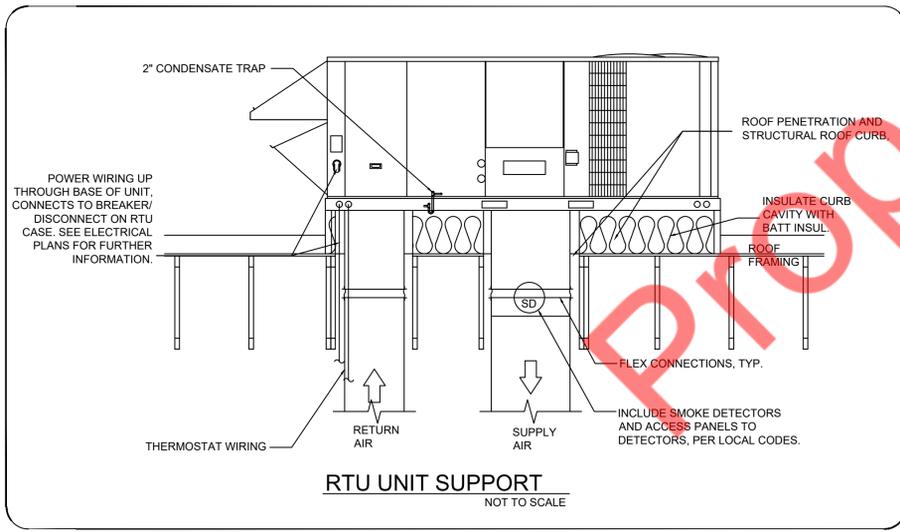
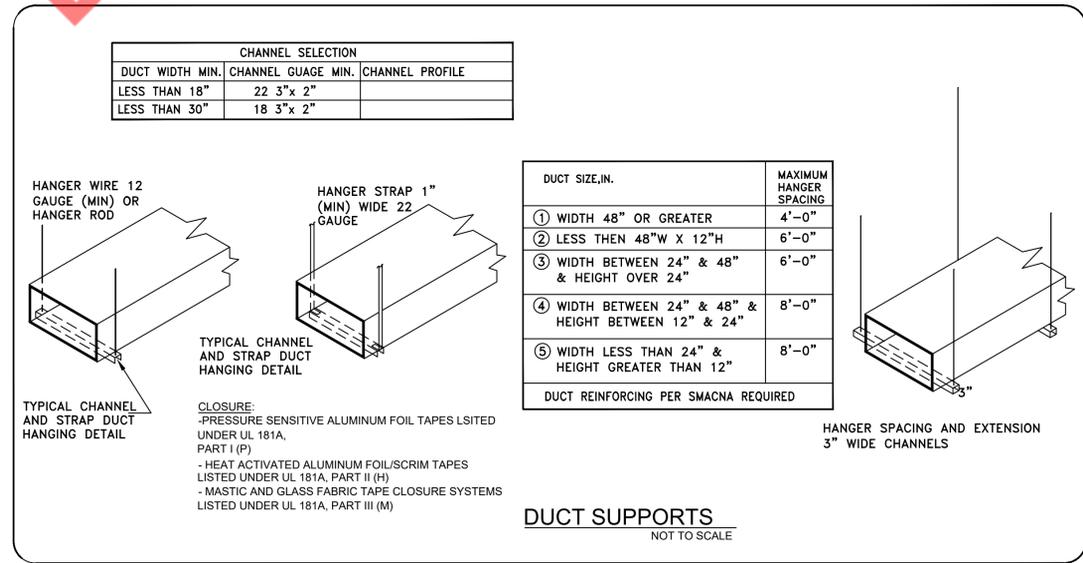
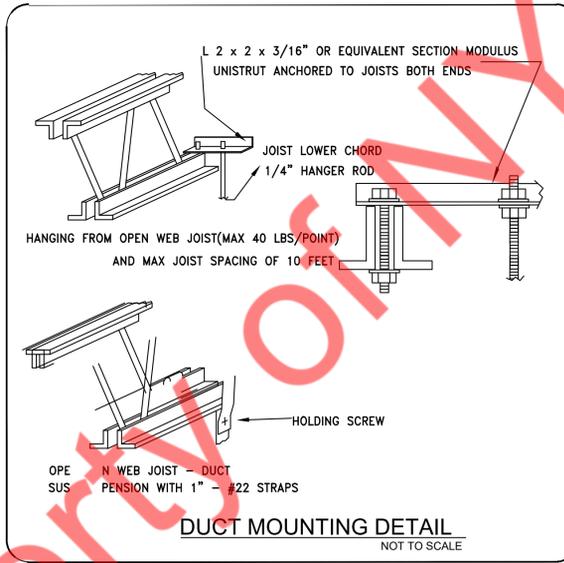
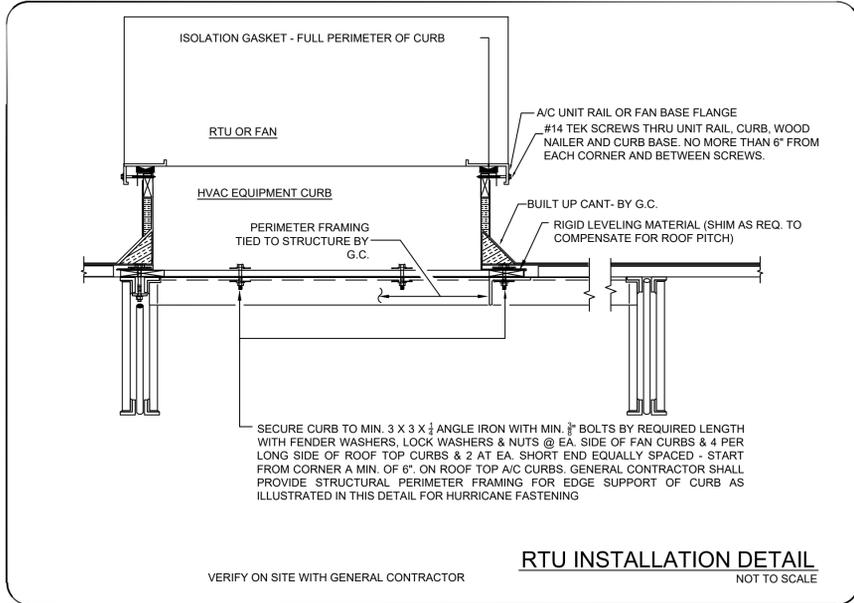
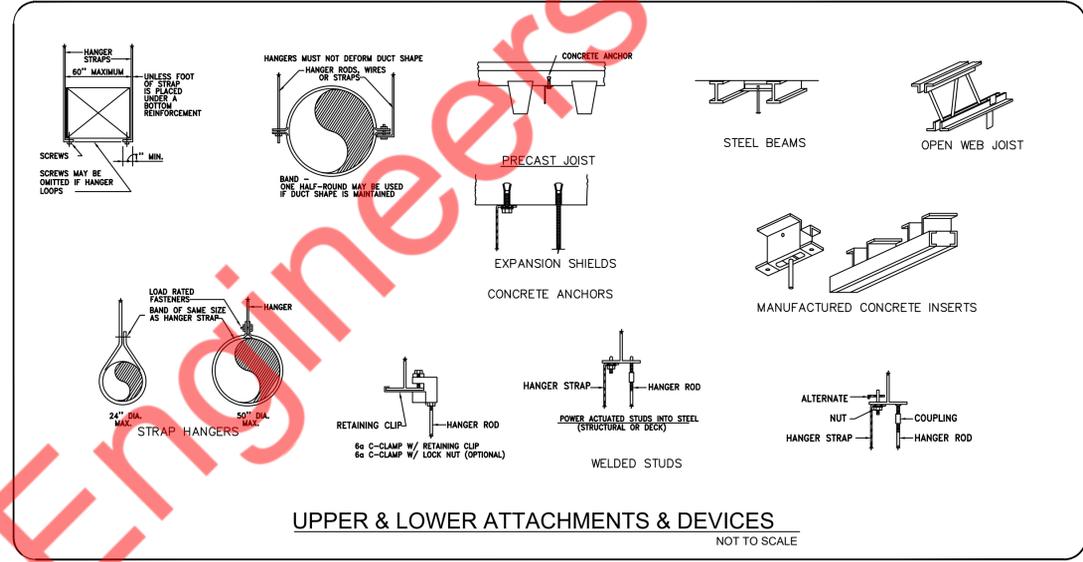
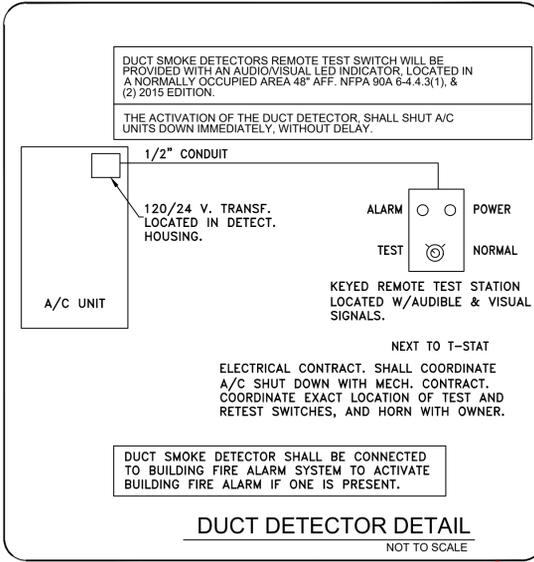
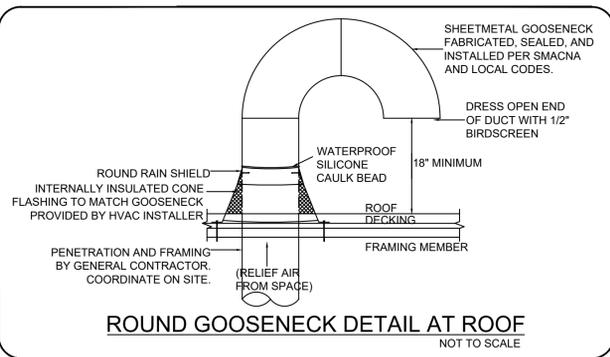
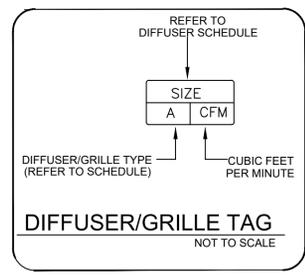
PROJECT

REVISIONS DATES:
 01.30.24 BD COMMENTS

PROFESSIONAL SEAL

ISSUE DATE: 10.26.23
 PROJECT #: 415A.1401A
 DRAWN BY: NYE
 CHECKED BY: NYE

HVAC FLOOR & ROOF PLANS



System Checksums By Trial

RTU-1

Single Zone

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 8 / 19			Mo/Hr: Sum of		Mo/Hr: Heating Design			Cooling		Heating		
Outside Air:		OADB/WB/HR: 86 / 76 / 122			OADB: Peaks		OADB: 39			SADB	50.6	77.1		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total (%)	Space Sensible	Percent Of Total (%)	Space Peak	Coil Peak	Percent Of Total (%)	Space Sens	Tot Sens				
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h				
Envelope Loads					Envelope Loads			Envelope Loads			AIRFLOWS			
Skylite Solar	0	0	0	0	0	0	0	0.00	0	0	0.00	Diffuser	2,056	2,056
Skylite Cond	0	0	0	0	0	0	0	0.00	0	0	0.00	Terminal	2,056	2,056
Roof Cond	2,998	1,534	4,533	4	2,935	5	-1,358	5.14	-1,358	-2,152	13.91	Main Fan	2,056	2,056
Glass Solar	12,627	0	12,627	11	18,592	33	0	0.00	0	0	0.00	Sec Fan	0	0
Glass/Door Cond	2,166	0	2,166	2	2,084	4	-5,828	7.63	-5,828	-5,828	4.08	Nom Vent	815	815
Wall Cond	3,620	2,204	5,824	5	4,001	7	-1,990	7.63	-1,990	-3,196	0.00	AHU Vent	815	815
Partition/Door	0	0	0	0	0	0	0	0.00	0	0	0.00	Infil	40	47
Floor	0	0	0	0	0	0	-456	1.09	-456	-456	0.00	MinStop/Rh	0	0
Adjacent Floor	0	0	0	0	0	0	0	0.00	0	0	0.00	Return	2,095	2,103
Infiltration	1,852	0	1,852	2	449	1	-1,709	4.08	-1,709	-1,709	0.00	Exhaust	855	862
Sub Total ==>	23,264	3,738	27,002	24	28,062	50	-11,340	31.85	-11,340	-13,341	0.00	Rm Exh	0	0
Internal Loads					Internal Loads			Internal Loads			ENGINEERING CKS			
Lights	4,155	1,039	5,193	5	4,114	7	0	0.00	0	0	0.00	% OA	39.6	39.6
People	29,277	0	29,277	26	12,364	22	0	0.00	0	0	0.00	cfm/ft²	1.21	1.21
Misc	10,957	0	10,957	10	10,865	19	0	0.00	0	0	0.00	cfm/ton	215.59	
Sub Total ==>	44,389	1,039	45,428	40	27,343	49	0	0.00	0	0	0.00	ft²/ton	178.58	
Ceiling Load	516	-516	0	0	404	1	-266	0.00	-266	0	0.00	Btu/hr-ft²	67.20	-24.59
Ventilation Load	0	0	42,735	37	0	0	0	0.00	0	-29,788	71.12	No. People	70	
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Dehumid. Ov Sizing	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ov/Undr Sizing	0	0	0	0	0	0	0	0.00	0	1,246	-2.97			
Exhaust Heat	0	-730	-730	-1	0	0	0	0.00	0	0	0.00			
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	0	0	0.00			
Duct Heat Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
Underflr Sup Ht Pkup	0	0	0	0	0	0	0	0.00	0	0	0.00			
Supply Air Leakage	0	0	0	0	0	0	0	0.00	0	0	0.00			
Grand Total ==>	68,168	3,531	114,434	100.00	55,810	100.00	-11,606	100.00	-11,606	-41,884	100.00			

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg		
ton	MBh	cfm	°F	°F	gr/lb	°F	°F	gr/lb		ft²	(%)	MBh	cfm	°F	°F		
Main Clg	9.5	114.4	64.0	80.4	68.6	86.6	50.6	50.5	54.7	Floor	1,703	Main Htg	-41.9	2,056	58.7	77.1	
Aux Clg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Part	0	Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0	Preheat	0.0	0	0.0	0.0	
Total	9.5	114.4								ExFlr	19	Humidif	0.0	0	0.0	0.0	
										Roof	1,703	Opt Vent	0.0	0	0.0	0.0	
										Wall	960	307	32				
										Ext Door	26	26	100	Total	-41.9		

Project Name: RAINING BERRIES
Dataset Name: RAINING BERRIES ORLANDO HLC.TRC

TRACE® 700 v6.3.3 calculated at 06:04 PM on 10/20/2023
Alternative - 1 System Checksums Report Page 1 of 1

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PROJECT

RAINING BERRIES

REVISIONS DATES:
01:30:24 BD COMMENTS

PROFESSIONAL SEAL

ISSUE DATE: 10.26.23
PROJECT #: 415A.1401A
DRAWN BY: NYE
CHECKED BY: NYE

HVAC HEAT LOAD SUMMARY

M-4

NY ENGINEERS

SCOPE OF WORK

PROVIDE (1) 100A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FROM UTILITY COMPANY FOR THE PROJECT SPACE. PROVIDE NEW (1) 100A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL METER & DISCONNECT SWITCH FOR THE PROJECT SPACE. NEW (1) 100A(M.C.B.), 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". NEW (1) 45KVA (PRIMARY) 277/480V TO (SECONDARY) 120/208V CEILING MOUNTED TRANSFORMER. NEW (1) 200A(M.C.B.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". NEW (1) 125A(M.L.O.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B1". ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE NEW RESTAURANT INCLUDING WIRING FOR VENTILATION EQUIPMENT. COORDINATE WITH G.C FOR LOW VOLTAGE WIRING.

ELECTRICAL PLAN NOTES

- 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 BIDDING, ORDERING, OR PROCEEDING WITH WORK.
- 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 INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. EXISTING 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 2017 EDITION OF THE NATIONAL ELECTRICAL CODE 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.
- CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE
- ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY.
- ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.146
- SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL
- ALL LOW VOLTAGE MUST BE IN CONDUIT TO ABOVE THE DROP CEILING. BRIDAL RINGS OR "J" HOOKS REQUIRED.
- SEPARATE PERMITS ARE REQUIRED FOR ALL LOW VOLTAGE SUCH AS TELEPHONE, DATA, THERMOSTAT, MUSIC, ALARMS ETC.
- SEPARATE PERMIT REQUIRED FOR SIGNAGE.
- PRIOR TO ANY CONSTRUCTION WORK BEGINNING AN ON-SITE MEETING WITH GENERAL CONTRACTORS IS REQUIRED.
- ELECTRICIAN MUST BE ON SITE FOR ALL INSPECTIONS.
- MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THIN INSULATION.
- 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.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE N.E.C. OR LOCAL CODES.
- ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- 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.
- CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.
- THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES.
- CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING.
- ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR

GENERAL LIGHTING NOTES

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

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
	COMBINATION EXHAUST FAN/LIGHT (REFER TO MECHANICAL PLANS)
	SPEAKERS @ CEILING
	JUNCTION BOX
	CEILING MOUNTED SMOKE DETECTOR 110V, INTERCONNECTED W/ BATT. BACKUP. SMOKE DETECTOR SHALL COMPLY WITH NFPA 72, AND FBC 905.2.
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
	WALL SWITCH (SINGLE, DOUBLE.)
	WALL SWITCH (3 WAY, 4 WAY)
	WALL SWITCH (TIMER)
	DIMMER WALL SWITCH
	OCCUPANCY SENSOR WALL SWITCH
	VARIABLE SPEED SWITCH
	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
	HALF SWITCHED DUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE
	QUADRUPLUX RECEPTACLE
	FLOOR MOUNTED, FLUSH DUPLEX RECEPTACLE
	FLOOR MOUNTED, FLUSH QUAD. RECEPTACLE
	FLOOR MOUNTED, FLUSH 230 VOLT RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	ELECTRICAL PANEL
	DISCONNECT SWITCH
	USB CHARGER RECEPTACLE
	TELEVISION OUTLET
	DATA OUTLET
	TELEPHONE/DATA OUTLET
	TELEPHONE OUTLET
	FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET
	QUAD. DATA OUTLET RJ45
	THERMOSTAT DEVICE

ABBREVIATIONS:
 ABOVE FINISH FLOOR= A.F.F.
 COUNTER TOP LEVEL= C
 GROUND FAULT INTERRUPTER= GFCI
 VERIFY PRIOR TO INSTALL= VH
 WEATHER PROOF= WP
 EXHAUST FAN= EF
 WATER HEATER= WH
 AUTHORITY HAVING JURISDICTION= A.H.J.
 NIGHT LIGHT=NL

BELOW COUNTER= BC
 PUSH BUTTON= PB
 UNDER CABINET= UC
 VAPOR PROOF= VP
 ELECTRICAL CONTRACTOR=E.C.
 BATHROOM EXHAUST FAN=BEF
 KITCHEN EXHAUST FAN=KEF
 ROOF TOP UNIT=RTU
 MUA=MAKE UP AIR UNIT

LIGHTING FIXTURE SCHEDULE

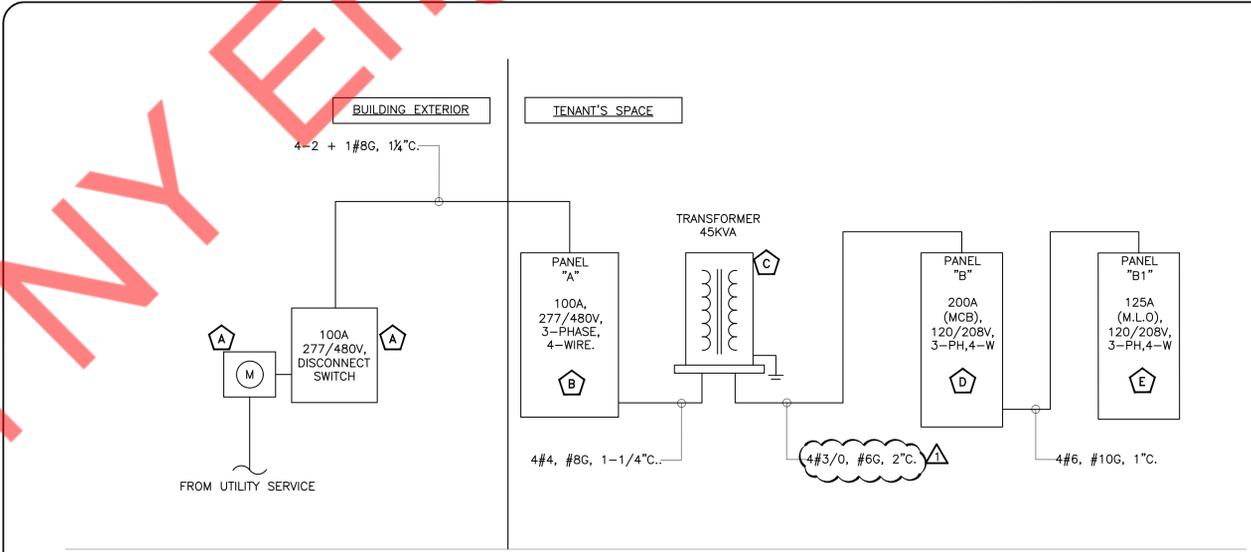
SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP WATTAGE	MOUNTING
	A	2x4 LED PANEL	TBD	TBD	120	38.9 WATTS	RECESSED
	A1	2x4 LED PANEL	TBD	TBD	120	30.8 WATTS	PENDANT
	C	60" LONG PENDENT LIGHT FIXTURE BY OWNER AND INSTALLED BY CONTRACTOR	TBD	TBD	120	100 WATTS	RECESSED
	D	36" LONG PENDENT LIGHT FIXTURE BY OWNER AND INSTALLED BY CONTRACTOR	TBD	TBD	120	50 WATTS	RECESSED
	T	TIMER WALL SWITCH	LEVITON	VPT24-16Z	120	-	-
	OS	OCCUPANCY WALL SWITCH	LEVITON	ODS10	120	-	-
	OS	CEILING OCCUPANCY SENSOR	LEVITON	OZC10-UDW	120	-	-
	TC	TIME CLOCK	INTERMATIC	ET8115C	120	-	-
	(E)	EXISTING LIGHTING FIXTURE SHALL REMAIN.	-	-	-	-	-

REFER TO REFLECTED CEILING PLAN IN ARCHITECTURAL DRAWINGS FOR MORE INFORMATION ON COLORS AND TRIMS REQUIRED.

SUBSTITUTIONS TO THE ABOVE FIXTURE SCHEDULE MUST BE SUBMITTED 14 DAYS PRIOR TO BID & REVIEWED BY THE ARCHITECT, ENGINEER & OWNER. SUBSTITUTIONS WILL NOT BE REVIEWED AFTER THIS TIME. SUBMITTAL PACKAGES MUST INCLUDE COLOR, CUT SHEETS, ALL PHOTOMETRICS & FIXTURE SAMPLES FOR ALL DECORATIVE FIXTURES, LANDSCAPE FIXTURES & OUTDOOR FIXTURES. WITHOUT THIS INFORMATION NO REVIEW WILL BE PROVIDED.

FINAL FIXTURE MAKE AND MANUFACTURER OF THE LIGHT FIXTURE TO BE COORDINATED WITH ARCHITECT/OWNER.

- NOTES:
- E.C. SHALL COORDINATE WITH ARCHITECT FOR FINAL FIXTURE COUNT AND TYPE.
 - COORDINATE EXACT CONTROL REQUIREMENTS WITH OWNER.
 - E.C SHALL PROVIDE REQUIRED POWER PACKS AND RELAYS SUITABLE FOR THE ABOVE LIGHT FIXTURES IN COORDINATION WITH THE LIGHTING VENDOR. BASE BID ACCORDINGLY.



ELECTRICAL RISER KEYED WORK NOTES:

- NEW 100A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL METER AND DISCONNECT SWITCH FOR THE PROJECT SPACE, E.C. TO COORDINATE WITH UTILITY/LANDLORD/OWNER/GENERAL CONTRACTOR FOR EXACT LOCATION OF ELECTRICAL METER AND DISCONNECT SWITCH IN FIELD.
- NEW 100A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- NEW 45KVA (PRIMARY) 277/480V TO (SECONDARY) 120/208V CEILING MOUNTED TRANSFORMER. E.C. SHALL PROVIDE ALL NECESSARY SUPPORTS FOR THE CEILING MOUNTING AS REQUIRED PER THE AHJ. COORDINATE WITH STRUCTURAL ENGINEER IF REQUIRED.
- NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- NEW 125A(M.L.O.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B1". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.

ELECTRICAL RISER SYMBOLS:

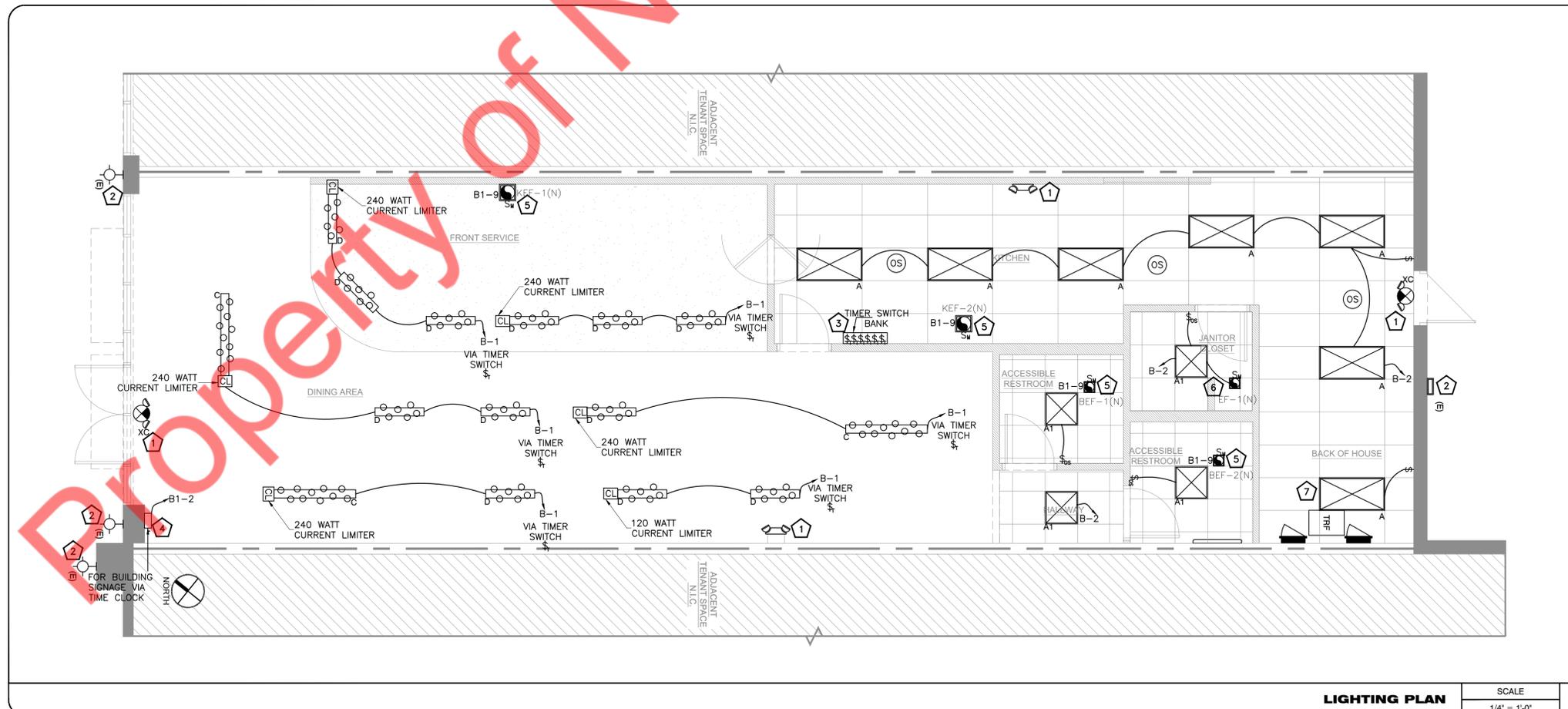
	NEW
	EXISTING ITEM/FEEDER TO REMAIN
	EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVED

ELECTRICAL RISER GENERAL NOTES:

- ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
- E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- E.C. TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
- E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD, REPLACE/RECTIFY IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

- ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:**
1. CONNECT ALL EMERGENCY EGRESS AND NIGHT LIGHTING FIXTURES TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.
 2. EXISTING LIGHT FIXTURE IN THIS AREA DENOTED BY (E) SHALL REMAIN CONNECTED TO THE RESPECTED EXISTING ELECTRICAL PANEL ALONG WITH THEIR CONTROLS. E.C. SHALL VERIFY THE CONTROLS IN FIELD AND REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
 3. COORDINATE EXACT LOCATION OF THE TIMER SWITCH BANK WITH ARCHITECT/OWNER.
 4. PROVIDE DISCONNECT SWITCH, TIMER AND OTHER ELECTRICAL CONNECTIONS FOR EXTERIOR SIGN. E.C. SHALL COORDINATE EXACT POWER REQUIREMENT, LOCATION AND MOUNTING DETAILS WITH OWNER/LANDLORD & SIGN VENDOR. COORDINATE EXACT LOCATION & POWER REQUIREMENT WITH SIGN VENDOR PRIOR TO ROUGH-IN.
 5. EXHAUST FANS BEF-1(N), BEF-2(N), KEF-1(N) & KEF-2(N) SHALL BE INTERLOCKED WITH RTU-2(N). E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD PRIOR TO ROUGH IN.
 6. EXHAUST FANS EF-1(N) SHALL BE INTERLOCKED WITH ROOM LIGHTS. E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD PRIOR TO ROUGH IN.
 7. LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIES WITH NEC 110.26(D).

- ELECTRICAL LIGHTING PLAN GENERAL NOTES:**
1. CONTRACTOR ADVISED TO UPDATE THE EMERGENCY LIGHT FIXTURES LOCATIONS/QUANTITY PER SITE REQUIREMENT UP ON FINAL INSPECTION OR PER LOCAL AHJ REQUIREMENT.
 2. PROVIDE MANUAL OVERRIDE SWITCH AS PER IECC C405.2.2.1
 3. (E) IN THE PLAN INDICATES EXISTING TO REMAIN.
 4. LIGHT BULBS SHALL BE SHIELDED, COATED, OR OTHERWISE SHATTER-RESISTANT IN AREAS WHERE THERE IS EXPOSED FOOD; CLEAN EQUIPMENT, UTENSILS, AND LINENS AS PER FOOD ESTABLISHMENT REQUIREMENTS OF HEALTH DEPARTMENT OF DELRAY BEACH.



LIGHTING PLAN SCALE 1/4" = 1'-0" 1

ELECTRICAL POWER PLAN GENERAL WORK NOTES:

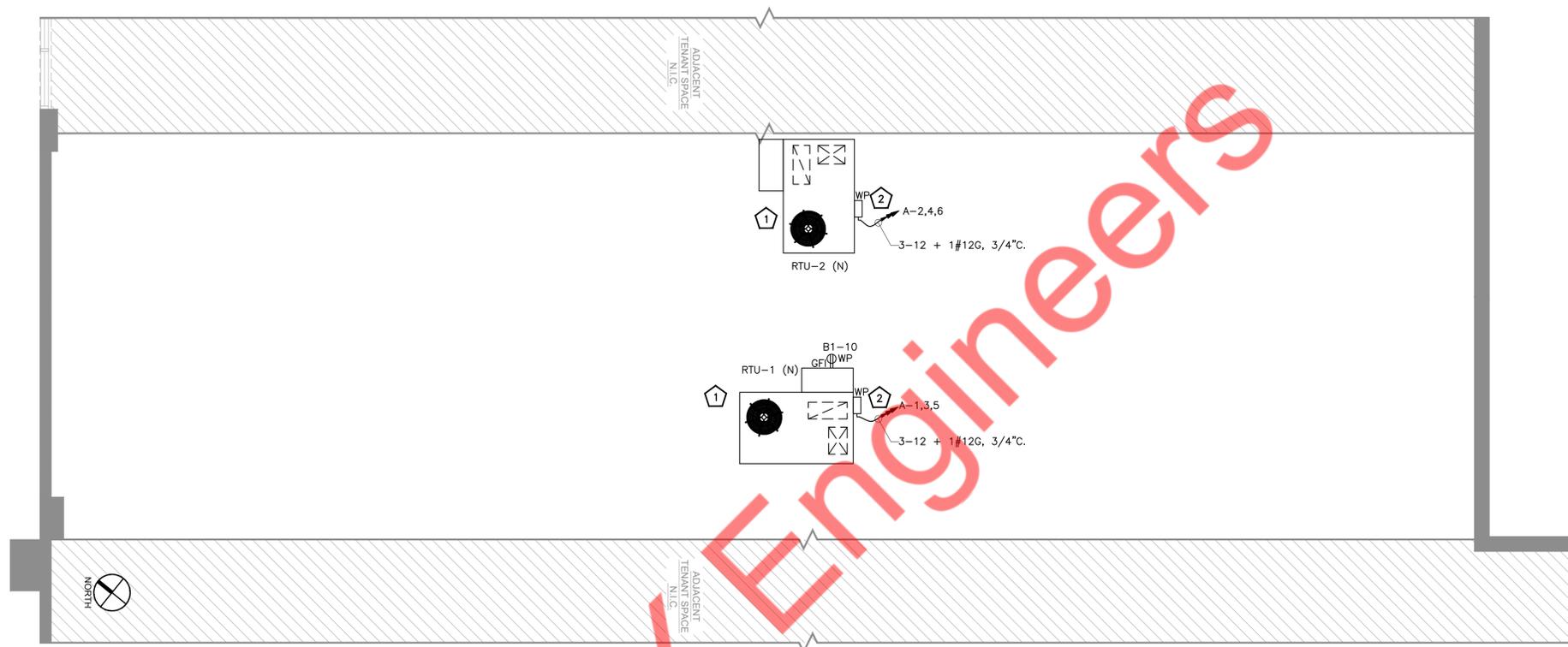
1. ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B) SHALL HAVE GFCI PROTECTION. ALL THE KITCHEN EQUIPMENT SHALL HAVE GFI BREAKER IN PANELS.
2. E.C. SHALL COORDINATE WITH THE EQUIPMENT VENDOR FOR EXACT RECEPTACLE REQUIREMENT AND WITH ARCHITECT/OWNER FOR EXACT LOCATION AND MOUNTING HEIGHT OF THE RECEPTACLES IN THE FIELD.

ELECTRICAL POWER PLAN KEYED WORK NOTES:

- 1 NEW 100A, 277/480V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- 2 NEW 45KVA (PRIMARY) 277/480V TO (SECONDARY) 120/208V CEILING MOUNTED TRANSFORMER. E.C. SHALL COORDINATE EXACT LOCATION OF THE TRANSFORMER WITH ARCHITECT IN FIELD. MAINTAIN 1 FEET CLEARANCE IN FRONT OF THE VENTILATION OPENINGS OF TRANSFORMER PER CODE.
- 3 NEW 200A(M.C.B.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- 4 NEW 125A(M.L.O.), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B1". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- 5 ELECTRICAL CONTRACTOR SHALL VERIFY THE INSTALLATION OF ELECTRICAL PANELS IN COMPLIANCE WITH N.E.C. ARTICLE 110.26(A) AND (B). E.C. SHALL FIELD VERIFY THAT THE PANELS ARE UNOBSTRUCTED AND THE AREA WHERE THE PANELS ARE PLACED SHALL NOT BE USED AS A STORAGE SPACE.
- 6 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE PLUMBING UNITS IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- 7 PROVIDE SHOW WINDOW RECEPTACLE AS PER N.E.C. 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.

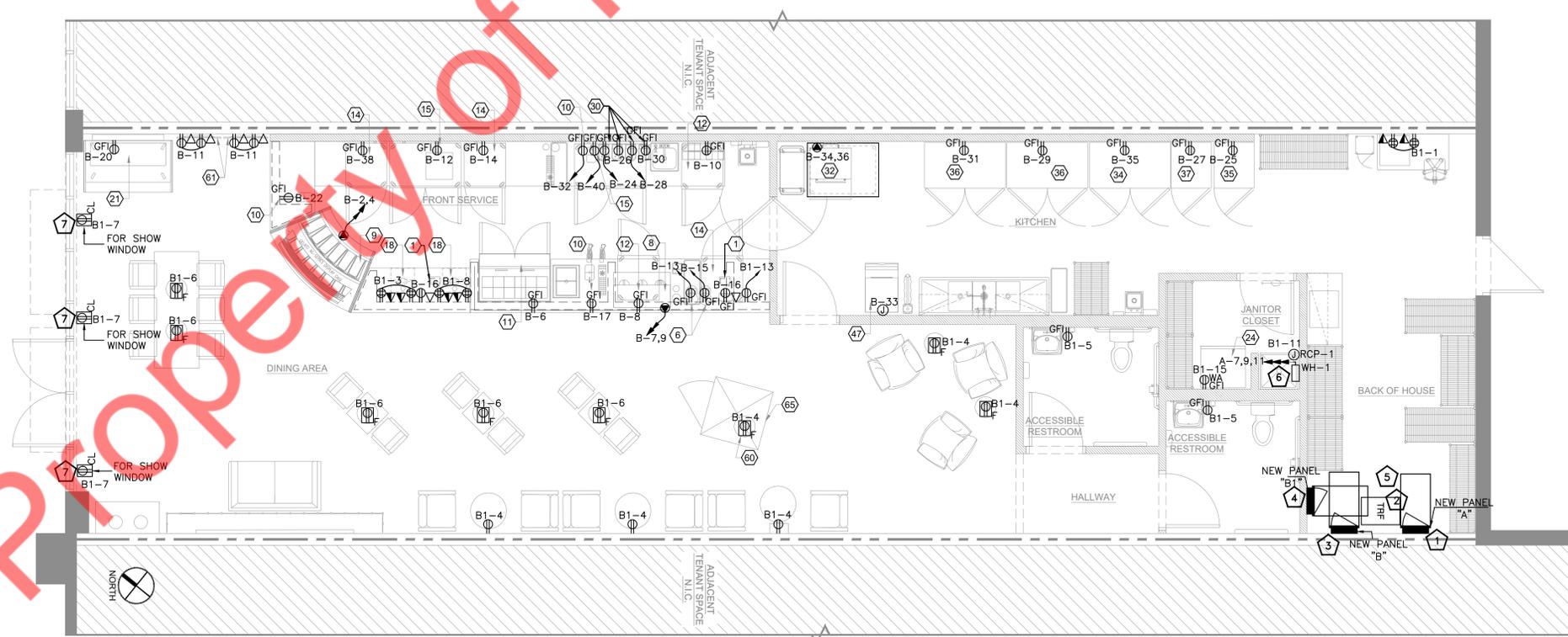
ELECTRICAL ROOF PLAN KEYED WORK NOTES:

- 1 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF THE MECHANICAL UNITS IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- 2 ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES



ROOF POWER PLAN

SCALE
1/4" = 1'-0"
1



POWER PLAN

SCALE
1/4" = 1'-0"
1

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PROJECT

REVISIONS DATES:
01.30.24 BD COMMENTS

PROFESSIONAL SEAL

ISSUE DATE: 10.26.23
PROJECT #: 415A.1401A
DRAWN BY: NYE
CHECKED BY: NYE

POWER PLAN &
ROOF POWER PLAN

PANEL SCHEDULE:

PANEL: A (NEW)										MOUNTING: RECESSED				
480Y/277		VOLTS,		3		PHASE,		4		WIRE		PANEL LOCATION: BOH AREA		
MAIN CB: 100A		MLO: NA		BUS: 125A		MIN.		FED FROM: NEW 100A DISCONNECT SWITCH						
NOTE:														
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1			H	3.71		6.37			2.65	H				2
3	3P-20	RTU-1 (N)	H	3.71	3#12, #12G, 3/4"C		6.37		2.65	H	RTU-2 (N)	3P-15		4
5			H	3.71				6.37	2.65	H				6
7			O	5.00		20.00			15.00	O				8
9	3P-25	WH-1	O	5.00	3#10, #10G, 3/4"C		20.00		15.00	O	45KVA TRANSFORMER	3P-70		10
11			O	5.00			20.00		15.00	O				12
13	20	SPARE				0.00					SPARE		20	14
15	20	SPARE				0.00	0.00				SPARE		20	16
17	20	SPARE						0.00			SPARE		20	18
19	20	SPARE				0.00					SPARE		20	20
21	20	SPARE					0.00				SPARE		20	22
23	20	SPARE						0.00			SPARE		20	24
25	20	SPARE				0.00					SPARE		20	26
27	20	SPARE					0.00				SPARE		20	28
29	20	SPARE						0.00			SPARE		20	30
TOTAL CONNECTED LOAD (KVA)						26.37	26.37	26.37						

KITCHEN EQUIPMENT SCHEDULE:

ITEM NO.	DESCRIPTION	VOLTAGE	PHASE	AMPS	KVA
#9	GELATO ANGEL DIPPING CASE	220	1	30	6.60
#8	Espresso Machine	208	1	24	4.99
#6	Coffee Grinder	115	1	2	0.23
#10	Dipper Well	115	1	1.2	0.14
#11	SALAD/SANWICH PRE REFRIGERATOR	115	1	3.5	0.40
#12	UNDERCOUNTER REFRIGERATOR 1 DOOR	115	1	1.2	0.14
#14	UNDERCOUNTER REFRIGERATOR 1 DOOR	115	1	1.2	0.14
#15	UNDERCOUNTER FREZEER 2 DOOR	115	1	1.7	0.20
#21	REFRIGERATED SELF-SERVICE DISPLAY	120	1	16	1.92
#24	WASHER MACHINE	120	1	4.2	0.50
#30	BLENDER, BAR	120	1	15	1.80
#32	RAPID COOK OVEN	208	1	30	6.24
#34	REACH-IN REFRIGERATOR 2 DOOR	115	1	4.5	0.52
#35	REACH-IN REFRIGERATOR 1 DOOR	115	1	3	0.35
#36	REACH-IN FREZEER 2 DOOR	115	1	9	0.10
#37	REACH-IN FREZEER 1 DOOR	115	1	8	0.92
#47	ICE MAKER, CUBE STYLE	115	1	12.7	1.46

PANEL: B (NEW)										MOUNTING: RECESSED				
208Y/120		VOLTS,		3		PHASE,		4		WIRE		PANEL LOCATION: BOH AREA		
MAIN CB: 200A		MLO: NA		BUS: 225A		MIN.		FED FROM: 45KVA TRANSFORMER						
NOTE:														
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	LIGHTING- DINING AREA & FRONT SERVICE	L	0.90	2#12, #12G, 3/4"C	4.20			2#8, #10G, 3/4"C	3.30	E	GELATO ANGEL DIPPING CASE (9)	40-2P*	2
3	20	LIGHTING- KITCHEN, BACK OF HOUSE, JANITOR CLOSET, HALLWAY & EF-1(N)	L	0.33	2#12, #12G, 3/4"C		3.63			3.30	E			4
5	20	LIGHTING- RESTROOM	L	0.06	2#12, #12G, 3/4"C			0.46	2#12, #12G, 3/4"C	0.40	E	SALAD/SANWICH PRE REFRIGERATOR (11)	20	6
7			E	2.50		2.65			2#12, #12G, 3/4"C	0.15	E	UNDERCOUNTER REF1 DOOR (12)	20	8
9	30-2P*	ESPRESSO CAPUCCINO MACHINE (8)	E	2.50	2#10, #10G, 3/4"C		2.65		2#12, #12G, 3/4"C	0.15	E	UNDERCOUNTER REF2 DOOR (12)	20	10
11	20	MENU BORD (G1)	E	0.72	2#12, #12G, 3/4"C			4.02	2#12, #12G, 3/4"C	0.35	E	UNDERCOUNTER REF 2 DOOR (15)	20	12
13	20	COFFEE GRINDER (6)	E	0.25	2#12, #12G, 3/4"C	3.55			2#12, #12G, 3/4"C	0.15	E	UNDERCOUNTER FREZEER 1 DOOR (14)	20	14
15	20	COFFEE GRINDER (6)	E	0.25	2#12, #12G, 3/4"C		0.61		2#12, #12G, 3/4"C	0.36	E	RECIPT PRINTER(1)	20	16
17	20	DIPPER WELL (10)	E	0.14	2#12, #12G, 3/4"C			0.37	2#12, #12G, 3/4"C	0.23	E	REFRIGERATED SANDWICH PRE TABLE(13)	20	18
19			O	2.86		4.78			2#12, #12G, 3/4"C	1.92	E	REFRIGERATED SELF-SERVICE DISPLAY (21)	20	20
21	3P-60	PANEL B1	O	2.86	4#6, #10G, 1"C		3.00		2#12, #12G, 3/4"C	0.14	E	DIPPER WELL (10)	20	22
23			O	2.86				4.66	2#12, #12G, 3/4"C	1.80	E	BLENDER, BAR (30)	20	24
25	20	REACH-IN REF (35)	E	0.35	2#12, #12G, 3/4"C	2.15			2#12, #12G, 3/4"C	1.80	E	BLENDER, BAR (30)	20	26
27	20	REACH-INFREZEER (37)	E	0.92	2#12, #12G, 3/4"C		2.72		2#12, #12G, 3/4"C	1.80	E	BLENDER, BAR (30)	20	28
29	20	REACH-IN FREZEER (36)	E	1.04	2#12, #12G, 3/4"C			2.84	2#12, #12G, 3/4"C	1.80	E	BLENDER, BAR (30)	20	30
31	20	REACH-IN FREZEER (36)	E	1.04	2#12, #12G, 3/4"C	1.18			2#12, #12G, 3/4"C	0.14	E	DIPPER WELL (10)	20	32
33	20	ICE MAKER, CUBE STYLE (47)	E	1.46	2#12, #12G, 3/4"C		4.58		2#8, #10G, 3/4"C	3.12	E	RAPIDCOOK OVEN(32)	40-2P*	34
35	20	REACH-IN REF (34)	E	0.52	2#12, #12G, 3/4"C			3.64	2#12, #12G, 3/4"C	3.12	E		20	36
37	20	SPARE				0.15			2#12, #12G, 3/4"C	0.15	E	UNDERCOUNTER FREZEER 1 DOOR (14)	20	38
39	20	SPARE					0.35		2#12, #12G, 3/4"C	0.35	E	UNDERCOUNTER REF 2 DOOR (15)	20	40
41	20	SPARE						0.00			SPARE		20	42
TOTAL CONNECTED LOAD (KVA)						18.65	17.53	15.99						

PANEL: B1 (NEW)										MOUNTING: RECESSED				
208Y/120		VOLTS,		3		PHASE,		4		WIRE		PANEL LOCATION: BOH AREA		
MAIN CB: NA		MLO: 125A		BUS: 125A		MIN.		FED FROM: PANEL B						
NOTE:														
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	RECEPTACLE- BOH	R	0.90	2#12, #12G, 3/4"C	2.10			2#12, #12G, 3/4"C	1.20	L	BUILDING SINAGE	20	2
3	20	RECEPTACLE- P.O.S STATION	R	0.72	2#12, #12G, 3/4"C		1.80		2#12, #12G, 3/4"C	1.08	R	RECEPTACLE- DINING AREA	20	4
5	20	RECEPTACLE- RESTROOM	R	0.42	2#12, #12G, 3/4"C			1.32	2#12, #12G, 3/4"C	0.90	R	RECEPTACLE- DINING AREA	20	6
7	20	RECEPTACLE- SHOW WINDOW	R	1.20	2#12, #12G, 3/4"C	1.92			2#12, #12G, 3/4"C	0.72	R	RECEPTACLE- P.O.S STATION	20	8
9	20	BEF-1(N),BEF-2(N), KEF-1(N), KEF-2(N)	H	0.37	2#12, #12G, 3/4"C		0.55		2#12, #12G, 3/4"C	0.18	R	RECEPTACLE- ROOF	20	10
11	20	RCP-1	O	0.09	2#12, #12G, 3/4"C			1.29				SPARE	20	12
13	20	RECEPTACLE - PRINTER	R	0.18	2#12, #12G, 3/4"C	1.26						SPARE	20	14
15	20	WASHER MACHINE	E	0.50	2#12, #12G, 3/4"C		0.50					SPARE	20	16
17	20	SPARE						0.00				SPARE	20	18
19	20	SPARE										SPARE	20	20
21	20	SPARE						0.00				SPARE	20	22
23	20	SPARE							0.00			SPARE	20	24
25	20	SPARE							0.00			SPARE	20	26
27	20	SPARE							0.00			SPARE	20	28
29	20	SPARE										SPARE	20	30
TOTAL CONNECTED LOAD (KVA)						5.28	2.85	2.61						

NOTE:
 A. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER FOR THE EXACT POWER PROVISION AND REQUIREMENTS PRIOR TO COMMENCING ANY WORK. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES. BASE BID ACCORDINGLY.
 B. * INDICATES GFI BREAKER.

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PROJECT

RAINING BERRIES

REVISIONS DATES:
01.30.24 BD COMMENTS

PROFESSIONAL SEAL

ISSUE DATE: 10.26.23
 PROJECT #: 415A.1401A
 DRAWN BY: NYE
 CHECKED BY: NYE

PANEL SCHEDULES

E-4

SCOPE OF WORK

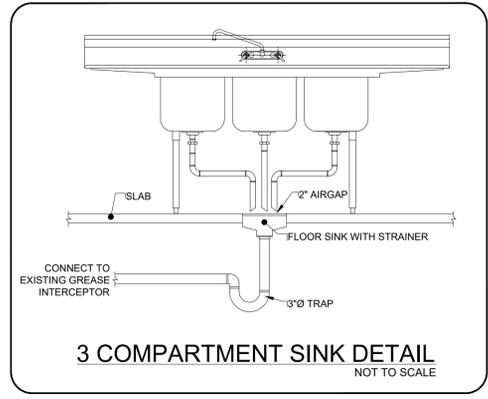
PROVIDE ALL PLUMBING FOR NEW COFFEE SHOP WITHIN AN EXISTING BUILDING, INCLUDING ALL WATER, GREASE & SANITARY LINES AND CONNECT TO EXISTING UTILITIES. PROVIDE ONE NEW ELECTRIC TANK WATER HEATER & REUSE THE EXISTING BASE BUILDING GREASE INTERCEPTOR.
COORDINATE WITH G.C. AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSING WATER LINES.

PLUMBING NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
- PLUMBING 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 BIDDING, ORDERING OR PRECEDING WITH WORK.
- ALL EQUIPMENT WHICH IS TO REMAIN MUST BE REFURBISHED TO A LIKE NEW CONDITION.
- PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
- ALL MATERIALS SHALL BE NEW.
- ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. PLUMBING CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
- DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ENGINEER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
- VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
- EXPOSED WATER PIPING SHALL BE TYPE "L" COPPER FOR 2" AND UNDER. WATER PIPING IN WALLS AND UNDERGROUND MAY BE "PEX" TYPE PIPING THAT MEETS ANSIS/ASTM STANDARD 61.
- SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE PVC BUT MAY NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
- ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND WITH GOOD ENGINEERING PRACTICE.
- DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS; EXCEPT AT WATER HEATER AS PER CODE.
- ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
- ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
- PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE WITHIN 72 HOURS OF NOTIFICATION AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED. PROVIDE COPY TO LL.
- STUDOR MINIMAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
- PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
- NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
- NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
- WATER PIPING INSULATION SHALL BE 1" THICK ARMAFLEX INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING, ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX INSULATION.
- CONDENSATE DRAIN LINES TO BE RUN UNDER SLAB IN PVC SCH 40 PIPE AND STUBBED OUT OF WALL TO UNIT. TIE-IN OF A/C TO BE BY OTHERS. PVC PIPING WITH 1/2" THICK ARMAFLEX INSULATION MAY BE USED IN LOCATIONS WHERE ALLOWED BY LOCAL CODES. SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40 FOR SIZE AND LOCATION OF PIPING. PVC WILL BE MIN. SCHEDULE 40.
- PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
- NO JOINTS UNDERGROUND FOR COPPER.
- PLUMBING FIXTURES SHALL COMPLY WITH 2020 FLORIDA PLUMBING CODE, 7TH EDITION.
- WATER HAMMER ARRESTORS AS PER 2020 FLORIDA PLUMBING CODE, 7TH EDITION.
- PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
- PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET).
- CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE. PROVIDE A COPY TO LL.
- OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.
- ALL WORK ON OR RELATING TO THE ROOF SHALL BE DONE ONLY BY CONTRACTOR DESIGNATED BY LANDLORD.
- TENANT TO ACKNOWLEDGE THAT LANDLORD IS PERFORMING NO WORK WITHIN THE PREMISES. TENANT SHALL COMPLY WITH THE FOLLOWING:
 - ALL ROOFING WORK SHALL BE PERFORMED BY LANDLORD DESIGNATED CONTRACTOR AT TENANT'S EXPENSE.
 - ANY WORK PERFORMED BY LANDLORD ON TENANT'S BEHALF SHALL BE REIMBURSED TO LANDLORD WITHIN THIRTY (30) DAYS AFTER RECEIPT OF AN INVOICE FROM LANDLORD.
- TENANT SHALL, AT TENANT'S EXPENSE AND SUBJECT TO LANDLORD'S PRIOR WRITTEN APPROVAL, PROVIDE AND INSTALL ANY EQUIPMENT NECESSARY TO ADAPT SUCH EXISTING SERVICES TO TENANT'S REQUIREMENTS. ADDITIONALLY, TENANT SHALL ESTABLISH PERMANENT UTILITY SERVICE UPON DELIVERY OF THE PREMISES AND ANY TEMPORARY UTILITIES SHALL BE THE RESPONSIBILITY OF TENANT.

PLUMBING LEGEND

	SANITARY SEWER PIPING (UNDERGROUND)
	EX. SANITARY SEWER PIPING (UNDERGROUND)
	GREASE SANITARY SEWER PIPING (UNDERGROUND)
	EX. GREASE SANITARY SEWER PIPING (UNDERGROUND)
	VENT PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	EXISTING DOMESTIC COLD WATER PIPING
	PIPE RISE
	PIPE DROP
	CAPPED END OF PIPE
	FLOOR CLEAN OUT
	P-TRAP
	SHUT-OFF VALVE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	WALL CLEAN OUT
	GATE VALVE
	FLOOR DRAIN
	CHECK VALVE
	BALANCING VALVE
	INDIRECT WASTE
	FLOOR SINK
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE

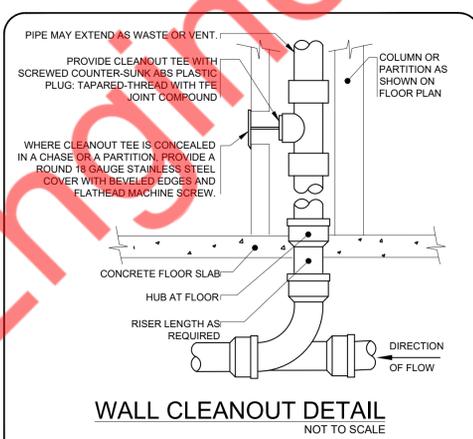
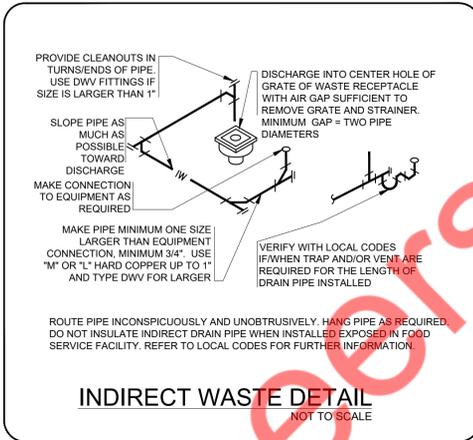


ENERGY CONSERVATION NOTES

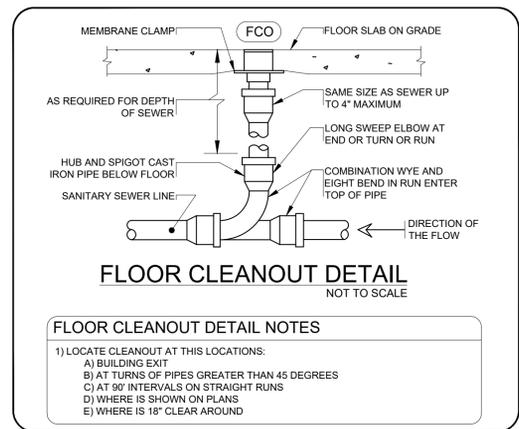
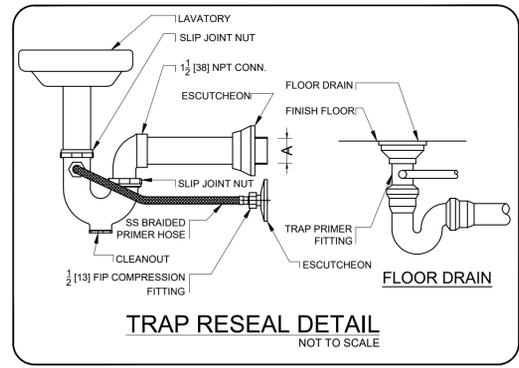
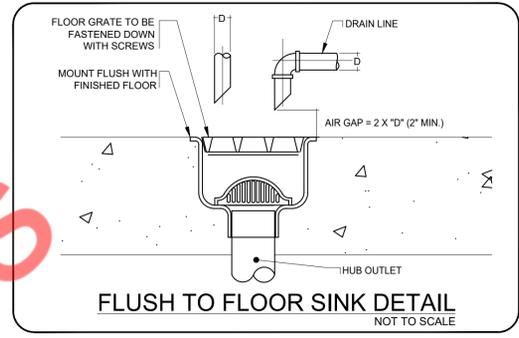
- AS PER 2020 FBC-ENERGY CONSERVATION CODE, 7TH EDITION SECTION C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10 OF MINIMUM PIPE INSULATION THICKNESS.

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU·IN./ (H·FT ² ·°F)	MEAN RATING TEMPERATURE °F	<1	1 TO <1½	1½ TO <4	4 TO <8	≥8
141-200	0.25-0.29	125	1.5	1.5	2	2	2
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0

- AS PER 2020 FBC-ENERGY CONSERVATION CODE, 7TH EDITION SECTION C404.6.1, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RECIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.
- AS PER 2020 FBC-ENERGY CONSERVATION CODE, 7TH EDITION SECTION C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
 - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR FIXTURE THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
 - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).



- WALL CLEANOUT DETAIL NOTES**
- PROVIDE WCO WHERE SHOWN ON PLANE, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT.
 - LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4' OF FLOOR.
 - CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.
 - LONG SWEEP AT END OF LINE OR COMBINATION WYE AND EIGHT BEND IN RUN OF LINE.
 - CLEAN OUT FACE SHALL BE WITHIN 4" OF WALL SURFACE. PROVIDE A PIPE EXTENSION IF REQUIRED.



- FLOOR CLEANOUT DETAIL NOTES**
- LOCATE CLEANOUT AT THIS LOCATIONS:
 - BUILDING EXIT
 - AT TURNS OF PIPES GREATER THAN 45 DEGREES
 - AT 90° INTERVALS ON STRAIGHT RUNS
 - WHERE IS SHOWN ON PLANS
 - WHERE IS 18" CLEAR AROUND

RESTROOM FIXTURE SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER		WASTE		Spec
					Hot	Cold	Waste	Usage	
A	2	WATER CLOSET	AMERICAN STANDARD	2989.101.020		3/4"	4"	1.28	GPF
B	2	LAVATORY	AMERICAN STANDARD	0355.012.020		1/2"	2"		
C	2	LAVATORY FAUCET	AMERICAN STANDARD	7075.050.020	1/2"	1/2"		0.5	OPM
	2	THERMAL MIXING VALVES	WATTS	LFMMV	1/2"	1/2"			
	2	PIPE INSULATION	TRUEBRO	LAV GUARD					

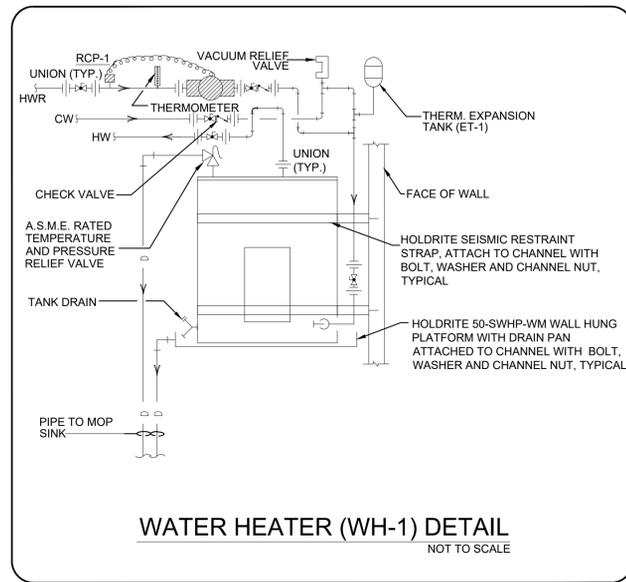
KITCHEN EQUIPMENT PLUMBING SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	MANUFACTURER	MODEL	WATER		WASTE	
					Hot	Cold	Direct	Indirect
5	2	GLASS RINSER	KROME DISPENSE	C461/C4016		1/2"	1/2"	
8	1	ESPRESSO CAPUCCINO MACHINE	SIMONELLI	AURELIA WAVE 3 GROUP		1/2"	1-1/4"	
10	3	DIPPER WELL	KROWNE	16-16SL		1/2"	1"	
17	1	DROP-IN ICE BIN	JOHN BOOS	PB-DI1B2218			1"	
24	1	WASHER MACHINE	-	-		3/4"	3/4"	2"
26	1	DROP-IN SINK	ADVANCE TABCO	DI-1-168		1/2"	2"	
27	1	GLASS FILLER	T&S BRASS	5GF-12P		1/2"		
39	1	WATER FILTRATION SYSTEM	3M PURIFICATION	DP390		3/4"		
47	1	ICE MAKER CUBE STYLE	SCOTSMAN	C0322SA-1		1/2"	3/4"	
48	1	ICE BIN FOR ICE MACHINE	SCOTSMAN	B322S			3/4"	
50	1	3 COMPARTMENT SINK	JOHN BOOS	3B16204-2D18-X			(3)2"	
51	1	DRAIN, LEVER/TWIST WASTE	T&S BRASS	B-3950			2"	
52	1	PRE-RINSE FAUCET ASSEMBLY	T&S BRASS	5PR-4DLS08		3/4"	3/4"	
53	2	HAND SINK	JOHN BOOS	PBHS-W-0909-P-SSLR		1/2"	1/2"	2"
57	1	ELECTRIC HOT WATER HEATER	REFER WH-1 SCHEDULE	REFER WH-1 SCHEDULE				
58	1	MOP SINK	-	-		3/4"	3/4"	3"
	4	THERMAL MIXING VALVE	WATTS	LFMMV				
FS	5	FLOOR SINK	ZURN	Z1900-23-31 (ZS1900 IF IN EXPOSED AREAS)				3"
FD	5	FLOOR DRAIN	ZURN	ZS415W TYPE BS STRAINER				3/4"

+ HOT WATER 140°F *PROVIDE TMV AS PER SCHEDULE. **PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.

FIXTURE BRANCH SCHEDULES

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET	3/4"	--	4"	2"
LAVATORY	1/2"	1/2"	2"	1-1/2"
FLOOR DRAIN	--	--	3/4"	2"
FLOOR SINK	--	--	3"	2"
MOP SINK	3/4"	3/4"	3"	2"
HAND/DROP-IN SINK	1/2"	1/2"	2"	1-1/2"



NY ENGINEERS

RAINING BERRIES

PROFESSIONAL SEAL

REVISIONS DATES:
01.30.24 BD COMMENTS

ISSUE DATE: 10.26.23
PROJECT #: 415A.1401A
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PLUMBING LEGENDS, NOTES & DETAILS

P-1

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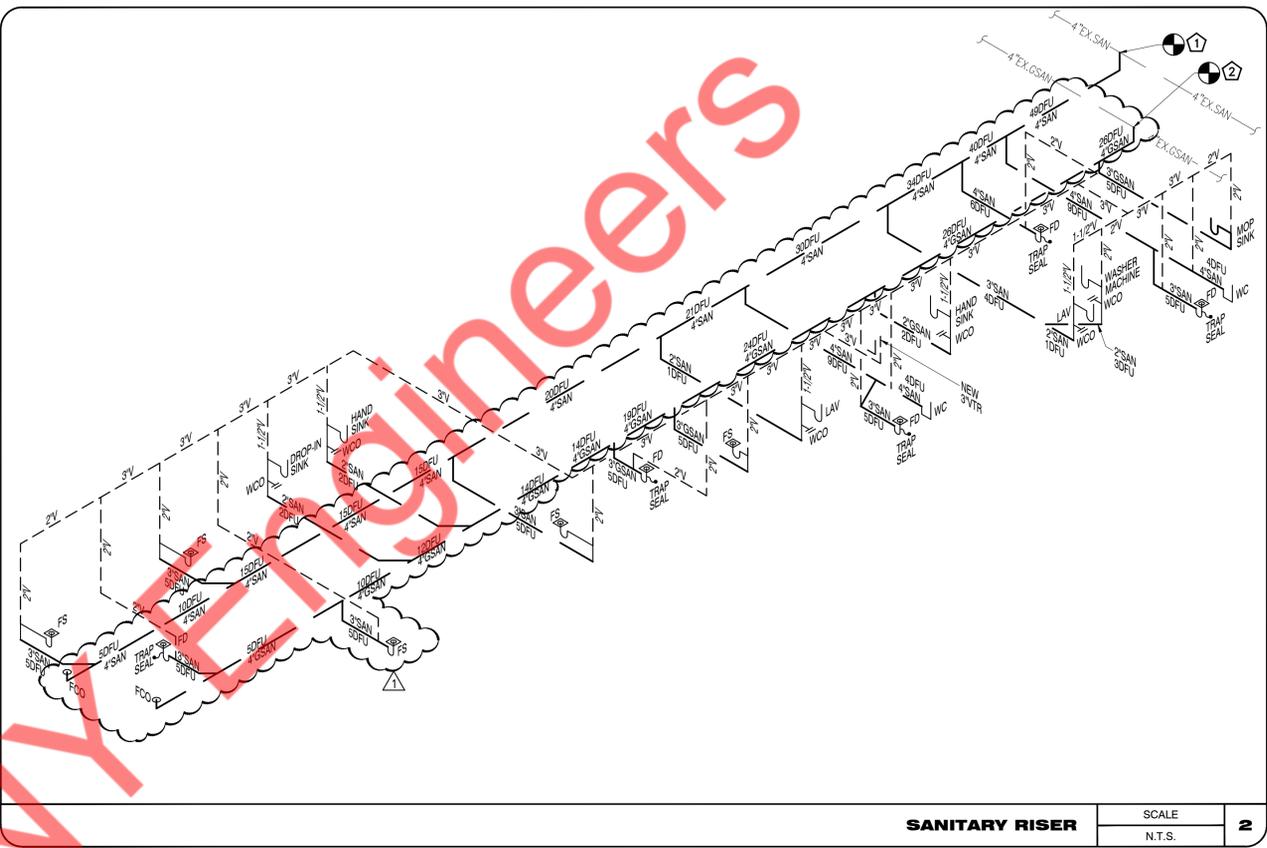
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SANITARY PLAN & RISER

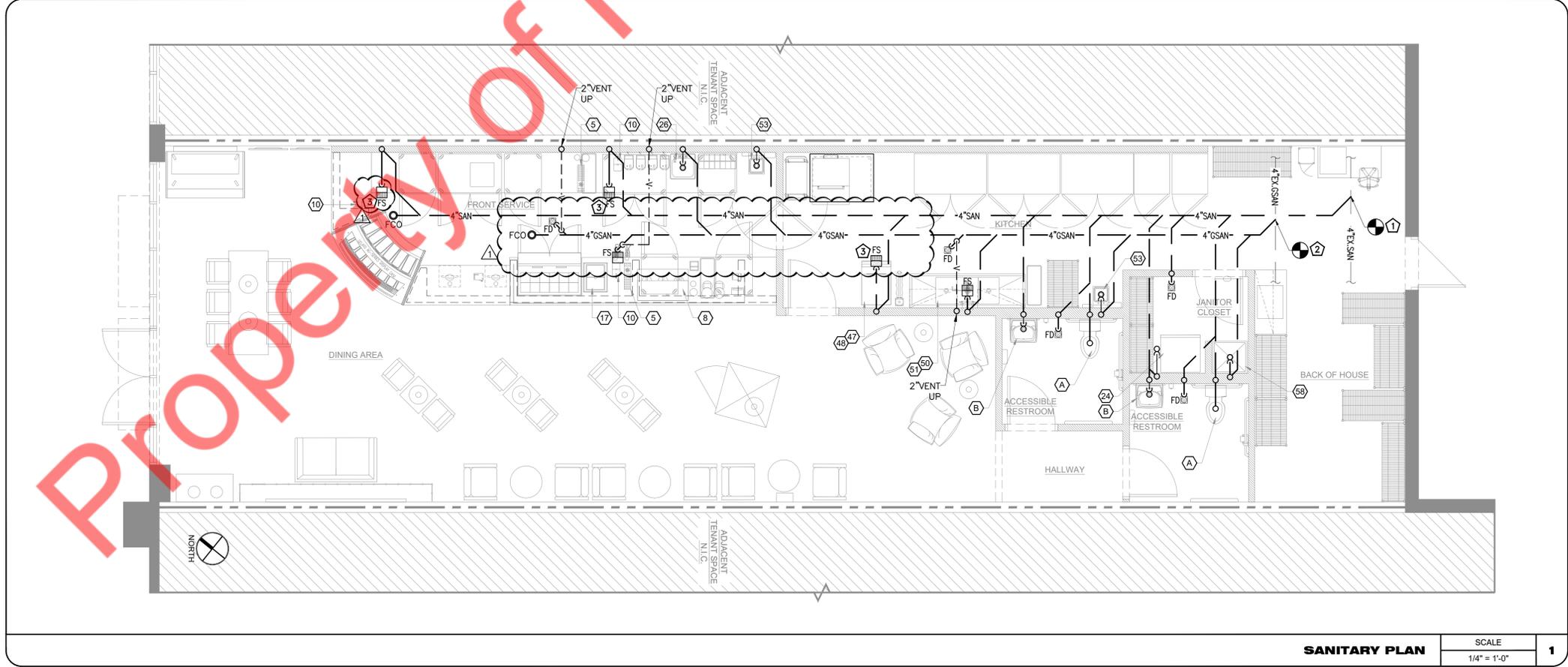
Grease Interceptor Calculations	
Seats x Gallons per Seat x (Hours/12) x Loading Factor = Effective Capacity (Gravity Interceptor Gallons)	
Seats:	23
Gallons per Seat:	25
Hours:	12
Loading Factor:	1
Gravity Interceptor Gallons:	575 gallons
Minimum Grease Interceptor Size required is 750 Gallons as per local codes	
CAPACITY OF EXISTING GREASE INTERCEPTOR: 1000 GALLONS. REFER LANDLORD DRAWINGS FOR THE EXACT LOCATION. INTERCEPTOR HAS CONNECTIONS TO OTHER TENANTS, HOWEVER NO OTHER TENANT IS DISCHARGING INTO INTERCEPTOR.	

- SANITARY PLAN & RISER KEY NOTES**
- CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING 4" SANITARY WASTE LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY MAIN AND MAKE NECESSARY CHANGES/UPGRADE EXISTING LINE IF REQUIRED.
 - CONNECT NEW 4" GREASE SANITARY WASTE PIPING TO EXISTING 4" GREASE SANITARY WASTE LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING GREASE SANITARY MAIN AND MAKE NECESSARY CHANGES/UPGRADE EXISTING LINE IF REQUIRED.
 - FLOOR SINK ONLY RECEIVING DRAIN FROM GLASS RINSER (TAG #5), DIPPER WELL (TAG #10), ICE MAKER & ICE BIN (TAGS #47 & 48) DO NOT PRODUCE GREASE WASTE. CONNECT THESE FLOOR SINKS TO SANITARY LINE ONLY.

- SANITARY GENERAL NOTES**
- SLOPE OF DRAINAGE PIPING SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" OR SMALLER.
 - CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
 - ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
 - ALL CLEANOUTS TO BE ACCESSIBLE.
 - CONTRACTOR TO FIELD VERIFY THE EXISTING SANITARY AND VENT LOCATION AND ROUTING. MAKE NECESSARY CHANGES TO NEW PIPING AS PER THE EXISTING SITE CONDITION.
 - CONTRACTOR TO FIELD VERIFY THE LOCATION & CAPACITY OF THE EXISTING GREASE INTERCEPTOR & EXISTING GREASE SANITARY LINE AND COORDINATE WITH LANDLORD/OWNER FOR THE CONNECTION OF NEW GREASE SANITARY LINE FROM OUR SPACE TO EXISTING GREASE SANITARY LINE. ALSO CONTRACTOR TO MAKE SURE THAT THE EXISTING GREASE INTERCEPTOR IS SUFFICIENT AS PER OUR SPACE REQUIREMENTS ACCORDING TO THE LOCAL CODES.



SANITARY RISER SCALE: 1/4" = 1'-0" 2



SANITARY PLAN SCALE: 1/4" = 1'-0" 1

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PROJECT

RAINING BERRIES

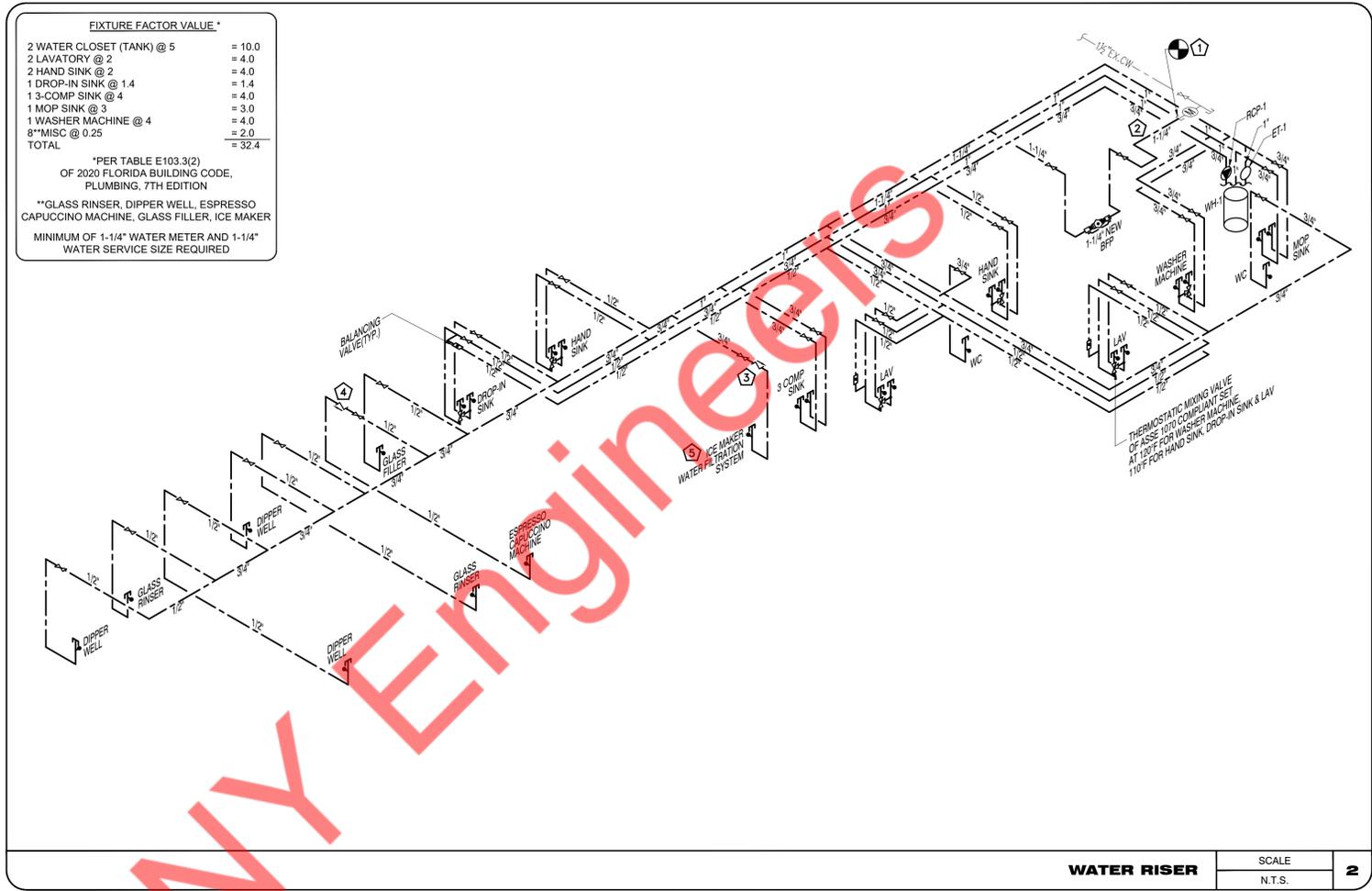
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WATER PLAN & RISER

P-3



RECIRCULATION PUMP SCHEDULE

MANUFACTURER & MODEL	GRUNDFOS UP-15-18 B5
EQUIPMENT TAG	RCP-1
STATUS	NEW
GPM	2
WATER TEMP. (°F)	140
PUMP TYPE	INLINE
MHP	85 WATTS
V/PH/Hz	115/1/60
RPM	2280
SERVICE FACTOR	1.0

NOTE:
PROVIDE AQUA STAT WITH AUTOMATIC TIMER KIT FOR THE TEMPERATURE CONTROL OF HOT WATER SYSTEM. COORDINATE ELECTRICAL REQUIREMENTS FOR TIMER WITH ELECTRICAL CONTRACTOR.

WATER HEATER SCHEDULE

MANUFACTURER	AO SMITH
MODEL	DVE-52
EQUIPMENT TAG	WH-1
STATUS	NEW
CAPACITY	50 GALLONS
QUANTITY	1
KW	15
FLOW RATE	77 GPH*
VOLTAGE	480/3/60
AMPERAGE	18
WEIGHT	265 LBS

NOTES:
1. *OPERATION @ 80°F TEMPERATURE RISE.
2. INSTALL NEW EXPANSION TANK (ET-1) AMTROL MODEL THERM-X-TROL ST-5C-DD, 2.0 GAL VOLUME PER LOCAL CODE REQUIREMENTS.

- WATER PLAN & RISER KEY NOTES**
- CONNECT NEW 1-1/4" CW LINE TO THE EXISTING WATER MAIN LINE IN THE SPACE WITH EXISTING WATER SUB-METER AND PROVIDE NEW 1-1/4" BFP AS SHOWN. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF THE EXISTING CW PIPING AND WATER SUB-METER & UPGRADE IF REQUIRED.
 - NO TAP OFF TO BE TAKEN BEFORE BFP.
 - PROVIDE DUAL CHECK VALVE WITH INTERMEDIATE ATMOSPHERIC VENT SECONDARY BFP OF ASSE 1012 APPROVED STANDARD, WATTS MODEL LF9DM3 OR EQUIVALENT.
 - PROVIDE DUAL CHECK VALVE SECONDARY BFP OF ASSE 1024 APPROVED STANDARD, WATTS MODEL LF7R OR EQUIVALENT.
 - COLD WATER PIPE FOR ICE MAKER TO BE CONNECTED TO ICE MAKER FILTER SYSTEM BEFORE CONNECTING IT TO THE ICE MAKER.

- WATER GENERAL NOTES**
- CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2020 FLORIDA BUILDING CODE, ENERGY CONSERVATION, 7TH EDITION (REFER SHEET P-1).
 - PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
 - PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
 - REFER WATER RISER DIAGRAM FOR ALL PIPE SIZES.
 - NEW WATER HEATER (WH-1) DRAIN SPILLS TO MOP SINK.

