

SCOPE OF WORK

USE ONE 4.0 TON GAS HEAT ROOFTOP UNIT (PROVIDED BY LL) AND PROVIDE ONE NEW 6.0 TON GAS HEAT ROOFTOP UNIT. PROVIDE NEW DUCTWORK AND PROVIDE NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEMS.

PROVIDE TWO NEW KITCHEN EXHAUST FAN, ONE NEW BATHROOM EXHAUST FAN AND ONE NEW MOP SINK EXHAUST FAN.

COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND WORK REQUIRED ON KITCHEN EXHAUST SYSTEMS AND WITH GC AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT AND GAS FLUE FOR WATER HEATERS, IF REQUIRED.

MECHANICAL PLAN NOTES

A. USE ONE 4.0 TON GAS HEAT ROOFTOP UNIT (PROVIDED BY LL) AND PROVIDE ONE NEW 6.0 TON GAS HEAT ROOFTOP UNIT. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO GAS HEAT ROOFTOP 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 U.L. 268A, INTERLOCKED TO SHUTDOWN ROOFTOP 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.

C. ALL DUCTS WILL BE FIBERBOARD OR 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. ALL RECTANGULAR OR ROUND SUPPLY AND RETURN DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181.

E. ALL DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA/ASHHAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, LATEST EDITION. SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL, LATEST EDITION, NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARD AND 2006 INTERNATIONAL MECHANICAL CODE, SECTION 603. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.

F. FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOW OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE.

G. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. COORDINATE LOCATION OF THERMOSTAT.

H. ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5" R-6 INSULATION. EXTERIOR AIR DUCTS TO HAVE R-8 INSULATION ACCORDING TO INTERNATIONAL ENERGY CONSERVATION CODE - 2022.

I. 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.

J. 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.

K. ALL ROOFTOP UNIT CONDENSATE DRAINS WILL BE PVC FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST APPROVED PLACE OF DISPOSAL.

L. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.

M. TESTING AND BALANCING SHALL BE DONE 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.

N. 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.

O. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.

P. ALL COMBUSTIBLE MATERIALS EXPOSED WITHIN THE PLENUM SPACE MUST COMPLY WITH IMC SECTION 602.2. FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50.

Q. ENVIRONMENTAL EXHAUST DUCT TERMINATIONS SHALL BE NO CLOSER THAN 3' FROM A PROPERTY LINE OR 3' FROM OPENINGS BACK INTO THE BUILDING OR 3' TO THE WINDOW.

R. AIR MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000CFM INDIVIDUALLY OR IN AGGREGATE SHALL BE EQUIPPED WITH SMOKE DUCT DETECTORS THAT INITIATE HVAC SHUTDOWN. SMOKE DUCT DETECTORS SHALL BE MONITORED BY THE BUILDING'S FIRE ALARM SYSTEM.

S. 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.

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 RISES 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 EXPOSED DUCT ARE INTERNALLY INSULATED AND ALL RECTANGULAR DUCTS OVER CEILING ARE EXTERNALLY INSULATED.

J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.

K. IF APPLICABLE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR KITCHEN VENTILATION SYSTEM INCLUDING TYPE 1 HOOD AND FOR THE WALK-IN COOLER & FREEZER.

L. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

M. 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.

N. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

COLUMBIA, MD BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2021 IBC 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 2021 IMC WITH AMENDMENTS: A. VENTILATION SYSTEM- 2021 IMC 403.3.

3. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2021 IMC CHAPTER 4.

4. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:

- A. STANDARDS OF HEATING - INTERNATIONAL MECHANICAL CODE 2021 - 309.1
B. DUCT CONSTRUCTION AND INSTALLATION - INTERNATIONAL MECHANICAL CODE 2021 - 603
C. AIR INTAKES, EXHAUSTS AND RELIEF - INTERNATIONAL MECHANICAL CODE 2021 - 401.5
D. AIR FILTERS - INTERNATIONAL MECHANICAL CODE 2021 - 605
E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2021 INTERNATIONAL MECHANICAL CODE - 606
F. GAS AND FIRE EQUIPMENT- INTERNATIONAL FUEL & GAS CODE 2021

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

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 2021 IMC 403.3.

7. 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.

8. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

9. SMOKE DETECTOR SHALL MEET UL268A.

10. 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.

THERMOSTATIC CONTROLS

C403.4.1 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, NOT FEWER THAN 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 THAT BOTH OF THE FOLLOWING CONDITIONS ARE MET:

- 1. THE PERIMETER SYSTEM INCLUDES NOT FEWER THAN 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).
2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.4.1.2 DEADBAND WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS 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.

C403.4.1.3 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 SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

OC403.4.2 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.

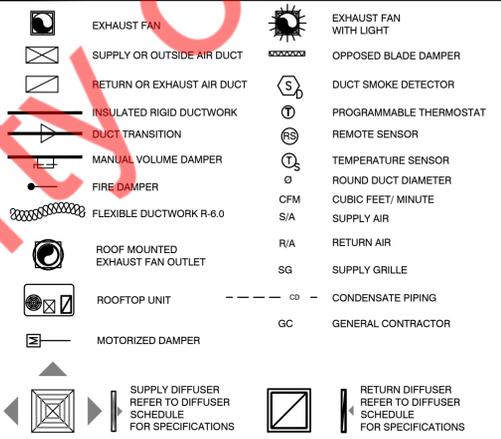
EXCEPTIONS: 1. ZONES THAT WILL BE OPERATED CONTINUOUSLY. 2. ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 8,800 BTU/H (2 KW) AND HAVING A MANUAL SHUTOFF SWITCH LOCATED WITH READY ACCESS.

C403.4.2.1 THERMOSTATIC SETBACK THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED 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).

C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN 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 NOT FEWER THAN 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 CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS, OR AN OCCUPANCY SENSOR.

C403.4.2.3 AUTOMATIC START AND STOP AUTOMATIC START AND STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE AUTOMATIC START 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. AUTOMATIC STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM WITH DIRECT DIGITAL CONTROL OF INDIVIDUAL ZONES. THE AUTOMATIC STOP CONTROLS SHALL BE CONFIGURED TO REDUCE THE HVAC SYSTEMS HEATING TEMPERATURE SETPOINT AND INCREASE THE COOLING TEMPERATURE SETPOINT BY NOT LESS THAN 2°F (-16.6°C) BEFORE SCHEDULED UNOCCUPIED PERIODS BASED ON THE THERMAL LAG AND ACCEPTABLE DRIFT IN SPACE TEMPERATURE THAT IS WITHIN COMFORT LIMITS.

MECHANICAL SYMBOLS



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

ROOFTOP UNIT SCHEDULE

Table with columns: UNIT TAG, UNIT TYPE, MANUFACTURER, MODEL, STATUS, LOCATION, TOTAL CAPACITY, TOTAL COOLING MBH, TOTAL SENSIBLE MBH, EER/SEER2, IEER, HEATING MBH (INPUT), HEATING MBH (OUT.), THERMAL EFF (%), SUPPLY AIR (CFM), OUTDOOR AIR (CFM), VOLTAGE/PHASE/HZ, MCA (A), MOCP (A), ESP (IN. OF H2O), WEIGHT (LBS).

- OPTIONS: 1. RTU-2(E) PROVIDED BY LANDLORD. 2. PROVIDE FULL PERIMETER 14" HIGH ROOF CURB. 3. PROVIDE DUCT MOUNTED SMOKE DETECTOR FOR RTUS IN RETURN SIDE IF DESIGN CAPACITY IS MORE THAN 2000 CFM IN THE RETURN DUCT. 4. PROVIDE 2" MERV-8 FILTERS. 5. PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS, COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS. 6. CONTRACTOR TO PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR RTU WITH HUMIDITY CONTROL. 7. PROVIDE HAIL GUARD. 8. PROVIDE NON FUSED DISCONNECT SWITCH. 9. PROVIDE WITH TUBE & FIN COIL SYSTEM. 10. PROVIDE WITH DRAIN PAN OVERFLOW SWITCH. 11. PROVIDE WITH STANDARD CAP AND PHASE MONITOR SYSTEM. 12. PROVIDE MULTISTAGE AIR VOLUME. 13. PROVIDE WITH GFCl FLD WIRE. 14. PROVIDE ULTRA LOW LEAK ENTHALPY ECONOMIZER WITH FDD AND BAROMETRIC RELIEF ONLY FOR RTU-1(N). 15. PROVIDED HOT GAS REHEAT SYSTEM/HUMIDIFIER FOR HUMIDITY CONTROL. 16. PROVIDE LOW AMBIENT CONTROLLER.

- 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, 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 EER'S MINIMUM EFFICIENCY CODE REQUIREMENTS.

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

DIFFUSER SCHEDULE

Table with columns: MANUFACTURER, DESIGNATION, USE, MODEL, MOUNTING, LOCATION, FACE SIZE, NECK SIZE, FRAME TYPE, NOISE CRITERIA, ACCESSORIES.

- NOTES: 1. MOUNTING FRAME TYPE SHALL BE COORDINATED WITH CEILING/ WALL CONSTRUCTION. 2. COORDINATE FINAL FINISH/COLOR WITH ARCHITECT/OWNER. 3. PROVIDE ROUND TO SQUARE NECK ADAPTOR. 4. PROVIDE 4 WAY AIR THROW PATTERN UNLESS NOTES OR INDICATED.

NECK SIZE TABLE - A

Table with columns: FLEX DUCT DIA, CFM RANGE.

OCCUPANCY CALCULATION

Table with columns: DINING AREA, KITCHEN AREA, TOTAL, PEOPLE.

ARCHITECTURAL OCCUPANCY CONSIDERED. REFER TO SHEET CS-1 FOR THE OCCUPANT LOAD CALCULATION.

VENTILATION REQUIREMENTS PER IMC-2021, TABLE 403.3.1.1

Table with columns: AREA, VOLUME, PEOPLE, CFM, CFM/PERSON.

FAN SCHEDULE

Table with columns: DESIGNATION, STATUS, MANUFACTURER, MODEL, CFM, E.S.P (IN. WG), FLA (AMPS), WEIGHT (LBS), V/Ph/Hz.

- NOTES FOR KEF-2(N), BEF-1(N) & EF-1(N): 1. PROVIDE DISCONNECT SWITCH. 2. PROVIDE BACK DRAFT DAMPER. 3. FANS SHALL BE INTERLOCKED WITH RTU-1(N). NOTES FOR KEF-1(N): 1. REFER SHEET M-4 FOR ALL OPTIONS. 2. KEF-1(N) SHALL BE INTERLOCKED WITH MAU-1(N).

MAKE-UP AIR UNIT SCHEDULE

Table with columns: UNIT TAG, UNIT TYPE, MANUFACTURER, MODEL, STATUS, LOCATION, HEATING MBH (INPUT), HEATING MBH (OUT.), THERMAL EFF (%), SUPPLY AIR (CFM), VOLTAGE/PHASE/HZ, MCA (A), MOCP (A), ESP (IN. OF H2O), WEIGHT (LBS).

- NOTES: 1. AIR FLOW ARRANGEMENT: VARIABLE VOLUME. 2. WEATHERHOOD: ALUMINUM MESH, 16X20X2 - (2). 3. DAMPER: INLET. 4. OUTDOOR AIR INTAKE POSITION: END DISCHARGE POSITION: BOTTOM. 5. COATING: GALVANIZED. 7. INSULATION: DOUBLE WALL - TEMPERING ON. 8. SUPPLY FAN CONTROL: VARI-GREEN ECM. 9. VARI-GREEN CONTROL: EXTERNAL 2-10 VDC. 10. ACCESS SIDE: RIGHT-HAND. 11. UNIT WEIGHT: 421 LB. 12. CONTROL CENTER. 13. HEAT INLET AIR SENSOR. 14. UNIT CONTROLS: TERMINAL STRIP. 15. TEMPERATURE CONTROL: DISCHARGE. 16. DIRECT GAS OPTIONS/ACCESSORIES. 17. APPROVALS: ETL FM COMPLIANT. 18. FLAME SENSING: FLAME ROD IGNITION. 19. CONTROL: PILOT.

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

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PROJECT

MAHANA FRESH

REVISIONS DATES:

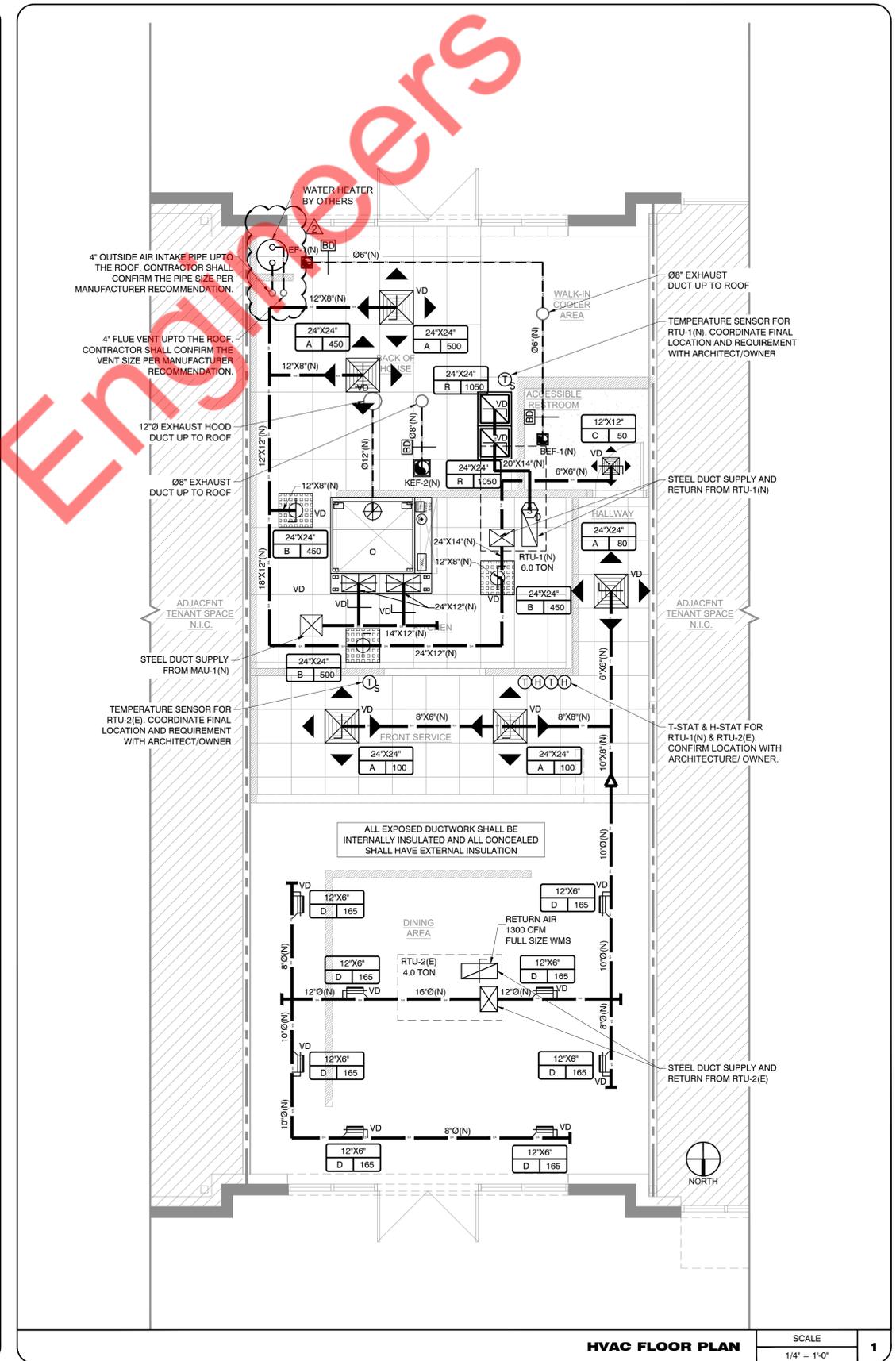
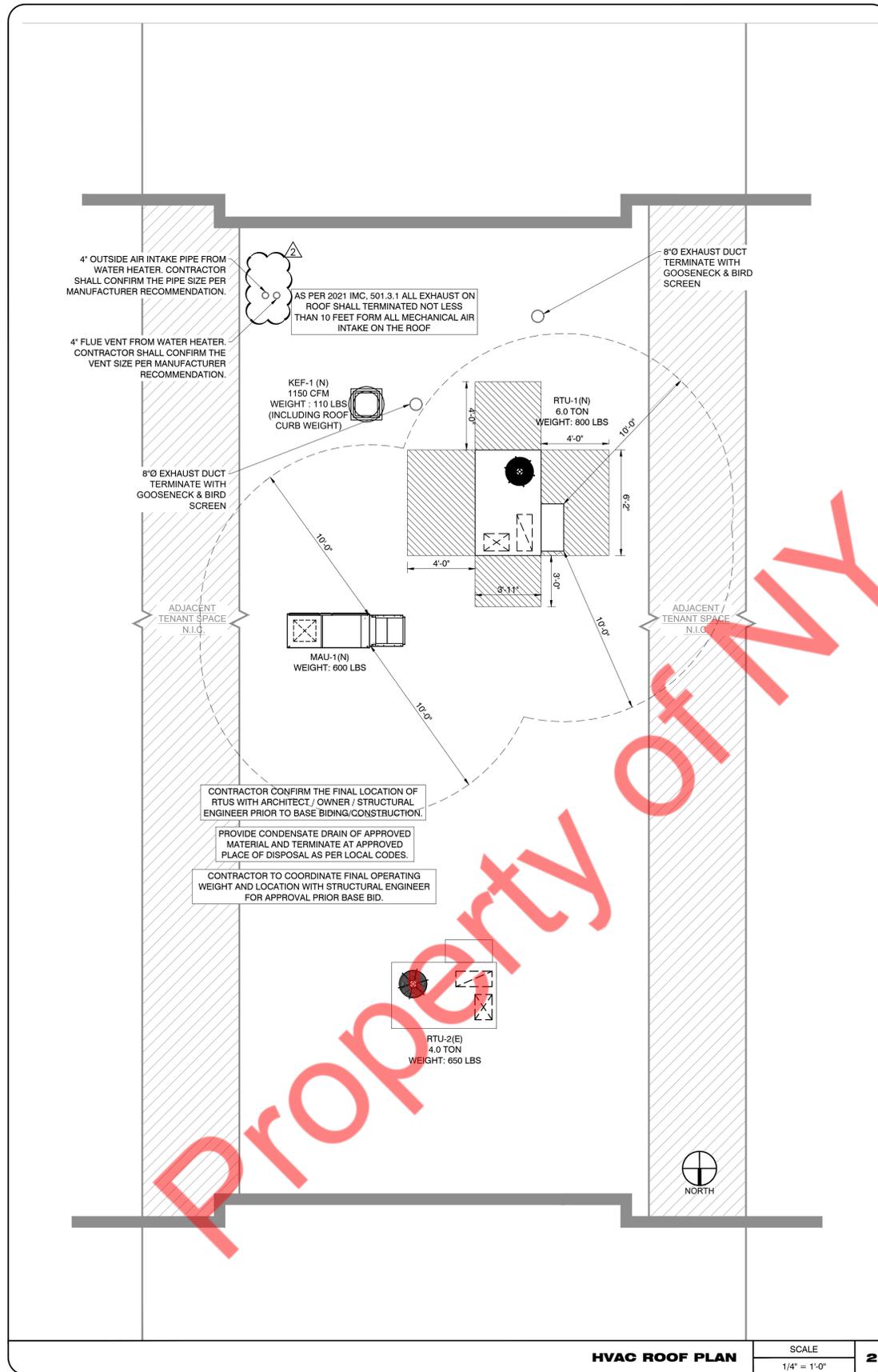
- 05/06/2024 HID COMMENTS
07/02/2024 PROJECT COORDIN.

PROFESSIONAL SEAL

ISSUE DATE: 12.14.23
PROJECT #: 381C.1367C
DRAWN BY: NYE
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HVAC NOTES & SCHEDULES

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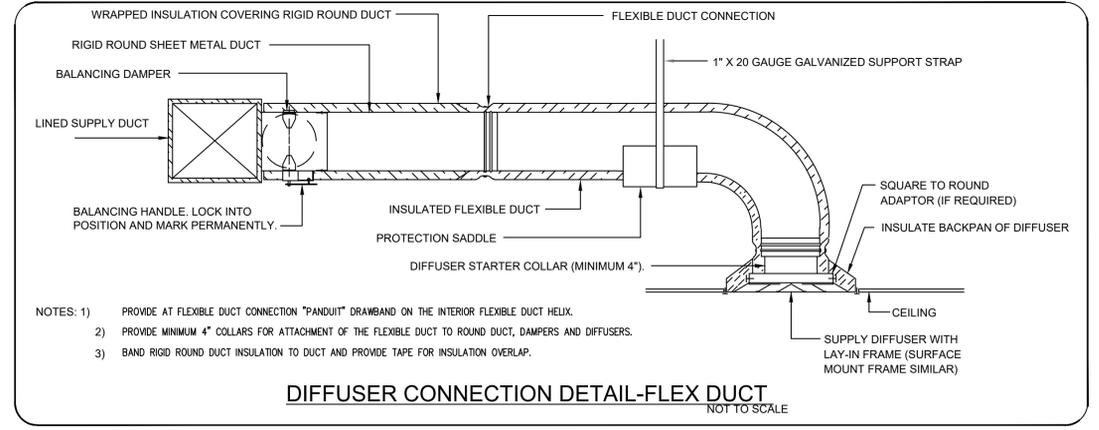
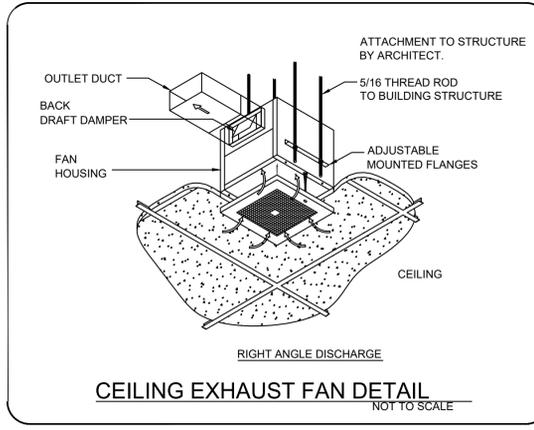
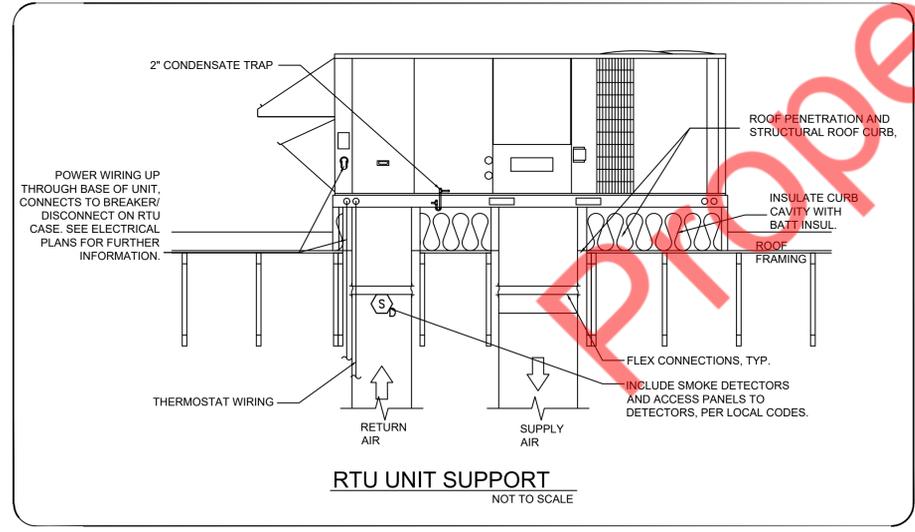
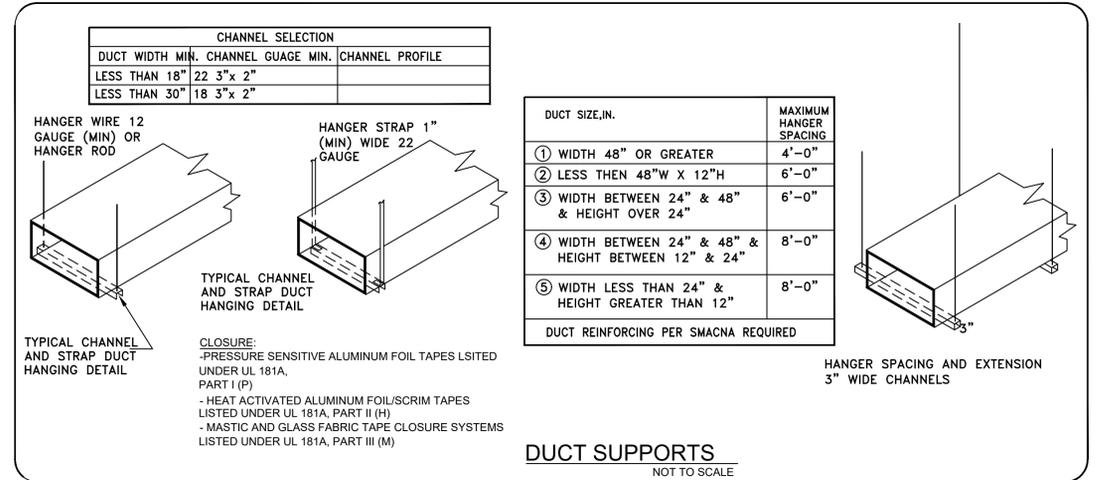
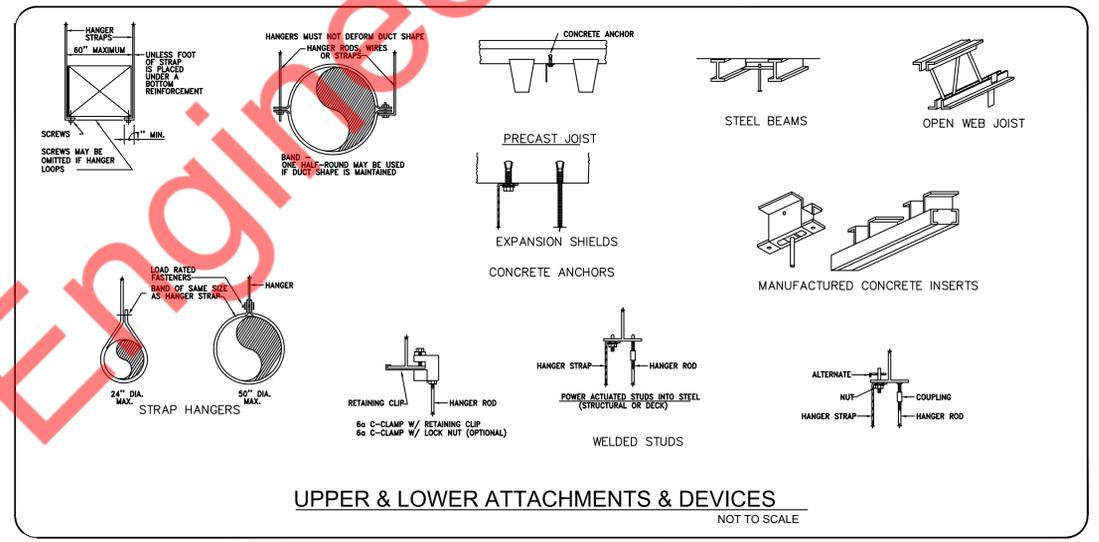
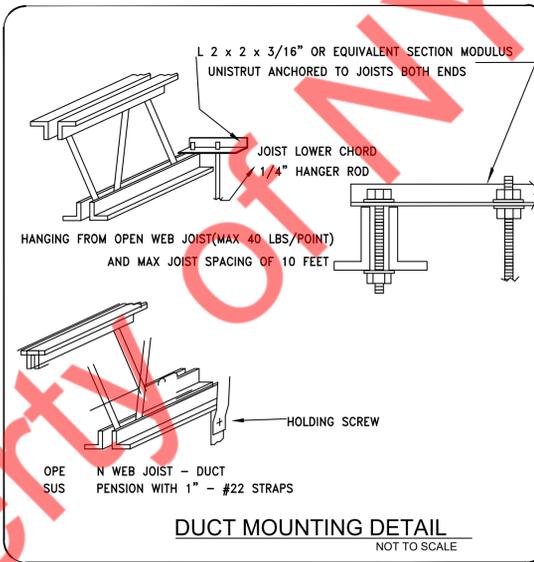
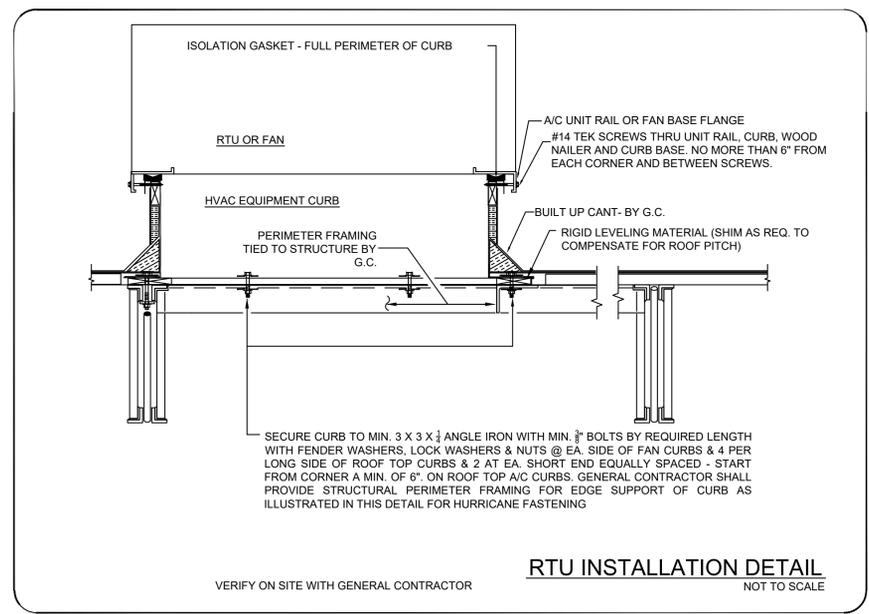
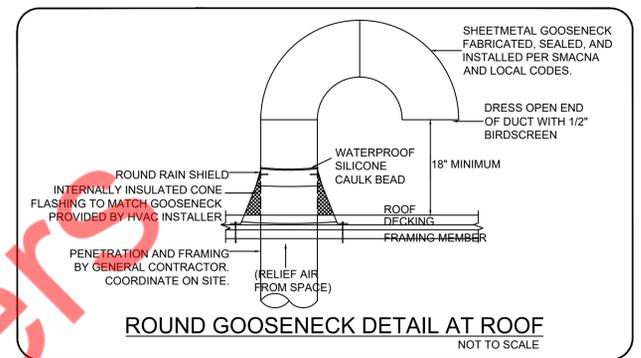
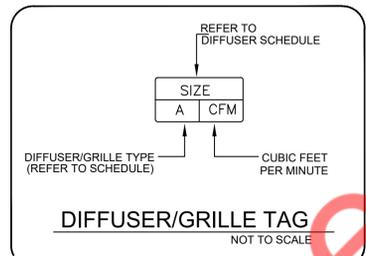
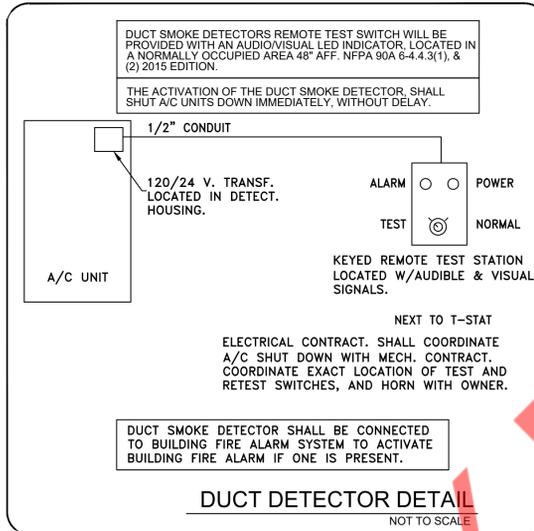
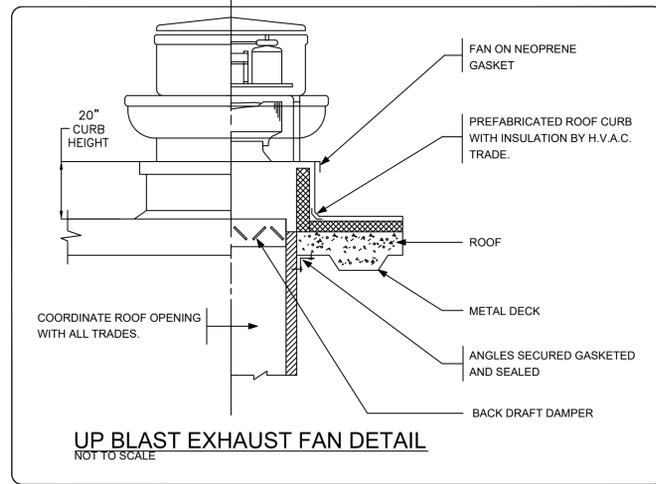
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- 05/06/2024 HD COMMENTS
- 07/02/2024 PROJECT COORDIN.

PROFESSIONAL SEAL

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HVAC FLOOR & ROOF PLANS



NY ENGINEERS

MAHANA FRESH

PROFESSIONAL SEAL

MECHANICAL DETAILS

M-3

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05/06/2024	HD COMMENTS
07/02/2024	PROJECT COORDIN.

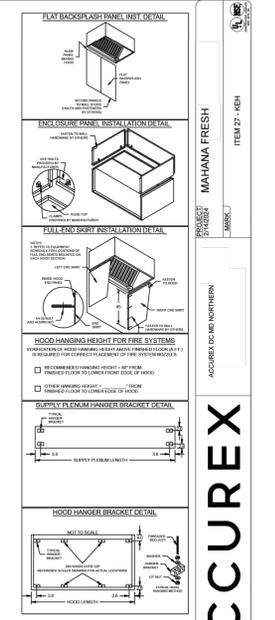
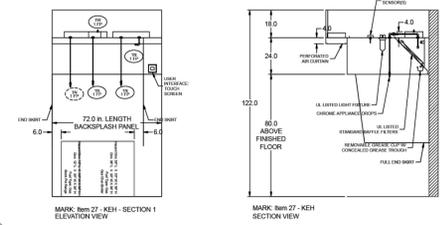
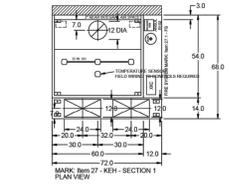
ISSUE DATE: 12.14.23
PROJECT #: 381C.1367C
DRAWN BY: NYE
CHECKED BY: NYE

HOOD INFORMATION													
MARK	MODEL	HOOD DIMENSIONS (IN.)	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	SECTION
ITEM 27 - KEH	KBW-60-S	60 x 54 x 24	1100	60	54	24	24	1100	60	54	24	24	SECTION 1

HOOD INFORMATION													
MARK	MODEL	HOOD DIMENSIONS (IN.)	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	SECTION
ITEM 27 - KEH	KBW-60-S	60 x 54 x 24	1100	60	54	24	24	1100	60	54	24	24	SECTION 1

HOOD INFORMATION													
MARK	MODEL	HOOD DIMENSIONS (IN.)	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	HOOD WEIGHT (LBS)	HOOD LENGTH	HOOD WIDTH	HOOD HEIGHT	HOOD DEPTH	SECTION
ITEM 27 - KEH	KBW-60-S	60 x 54 x 24	1100	60	54	24	24	1100	60	54	24	24	SECTION 1

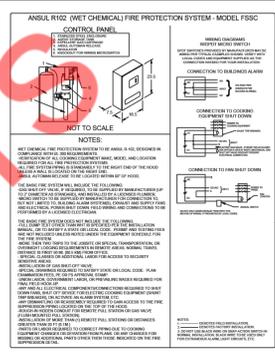
15.75 LITERS W/O EXHAUST FAN DAMPER - 14. WIGGERS
 BACK INTEGRAL AIR SPACE - 3 IN WIDE
 15 IN HIGH CEILING ENCLOSURES - FRONT LEFT RIGHT - FIELD INSTALLED
 FACTORY MOUNTED EXHAUST COLLARS
 LEFT FULL END SKIRT - 45.00 IN HIGH 48.50 IN TOP WIDTH 42.5 IN BOTTOM WIDTH
 RIGHT FULL END SKIRT - 45.00 IN HIGH 48.50 IN TOP WIDTH 42.5 IN BOTTOM WIDTH
 BACKING 45.00 IN HIGH 52.00 IN LONG
 PERFORMANCE ENHANCING UP-FLOW TECHNOLOGY
 STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH



MAHANA FRESH
 ACCUREX
 PROJECT: MAHANA FRESH
 ACCUREX DC MD NORTHERN VA, 2311
 ITEM 27 - KEH

FIRE SYSTEM INFORMATION									
MARK	MODEL	LOCATION	FLOW POINTS	SUPPLY LINE	DETECTION	MARKS PROTECTED BY FIRE SYSTEM			
ITEM 27.1 - FS	ANSLU 60-10	CABINET - RIGHT END OF ITEM 27	5 LITERS/20 LBS	CONTINUOUS	FUSIBLE LINK	ITEM 27 - KEH SECTION 1			

FIRE SYSTEM OPTIONS AND ACCESSORIES
 FULL INSULATION (INCLUDES FIRE-PROOF HOODS) WITH DETECTION AND FACTORY COORDINATED INSTALL
 CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
 METAL BLOW-OFF GARD - INCLUDED
 GAS VALVE - INCLUDED - MECHANICAL SHUT-OFF VALVE 2" (ANSI) - PART# ANSLU64HSHUTOFFVALVE20
 HOOD SUPPRESSION RANK - INCLUDED - 1.5 GAL. @ 11.5 GPM/SEC
 REMOTE PULL STATION - STANDARD - FIELD INSTALLATION AT SINGLE POINT OF EGRESS

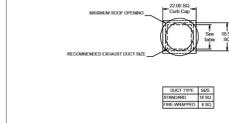


NOTES
 ALL WIRING FOR THIS HOOD SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B. THE HOOD SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE HOOD SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE HOOD SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

MAHANA FRESH
 ACCUREX
 PROJECT: MAHANA FRESH
 ACCUREX DC MD NORTHERN VA, 2311
 ITEM 27.1 - FS

Direct Drive Upblast Centrifugal Roof Exhaust Fan									
MARK	MODEL	FAN INFORMATION	MOTOR INFORMATION						
ITEM 27.2 - KEP	KEC-220-S	220 CFM, 1150 RPM, 1.5 HP, 1150 RPM, 1.5 HP, 1150 RPM, 1.5 HP	1150 RPM, 1.5 HP, 1150 RPM, 1.5 HP, 1150 RPM, 1.5 HP						

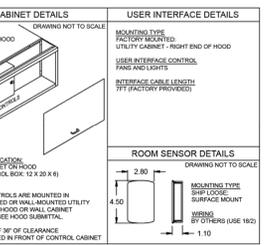
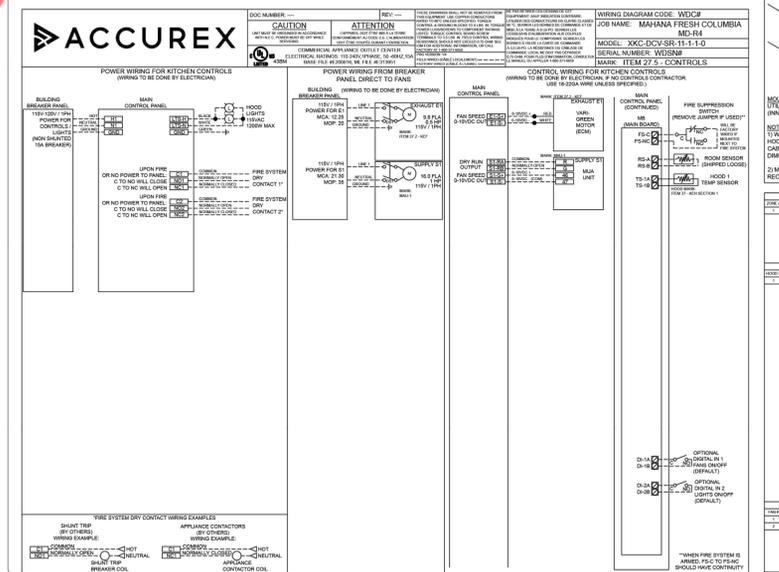
Die piece fully vented overhead
 Tapered leading sheet metal
 Breather tube outlet area min. 4 sq. ft. (area 09-480), 2.0 sq. ft. (area 05-05)
 Min. weather material thickness: 0.017" aluminum (90-265), 0.008" aluminum (240-09), 240-09)
 0.017" aluminum (area 300-480)
 Large Coil Cap Size - 22 Square
 ULADA 705 Listed - Supplement (EC - "Power Ventilators for Restaurant Exhaust Appliances" Formally UL 762)
 Switch: MANUAL ON/Off Toggle
 Hinge: Factory Installed
 High Temp Gasket Seal (Applied for Continuous Duty at 1500 F (Factory Installed)
 Drawn: TYP (IN 475538)
 Control: Choke City 1



MAHANA FRESH
 ACCUREX
 PROJECT: MAHANA FRESH
 ACCUREX DC MD NORTHERN VA, 2311
 ITEM 27.2 - KEP

CONTROL INFORMATION										
MARK	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE	FAN	FAN MARK	ZONE	
ITEM 27.5 - CONTROLS	KXC-DO-08-11-1-1-0	RIGHT CABINET ON ITEM 27	TOUCHSCREEN	CABINET - RIGHT CABINET ON ITEM 27	1	EXHAUST	E1	ITEM 27.2 - KEP	1	150

CONTROL FEATURES
 HOOD LIGHT CONTROL
 TEMP SENSORS (FACTORY INSTALLED) - QTY: 1
 ROOM SENSOR (SHIPPED LOOSE) - QTY: 1
 BAY FIRE CONTACTS - QTY: 2
 LIGHTS OFF DURING FIRE
 SILENT RUN DURING FIRE
 DISPLAY OFF DURING FIRE



WIRING DIAGRAM CODE - WEDC									
MARK	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE	FAN	FAN MARK	ZONE
ITEM 27.5 - CONTROLS	KXC-DO-08-11-1-1-0	RIGHT CABINET ON ITEM 27	TOUCHSCREEN	CABINET - RIGHT CABINET ON ITEM 27	1	EXHAUST	E1	ITEM 27.2 - KEP	1

MAHANA FRESH
 ACCUREX
 PROJECT: MAHANA FRESH
 ACCUREX DC MD NORTHERN VA, 2311
 ITEM 27.5 - CONTROLS

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PROJECT

MAHANA FRESH

REVISIONS DATES:
 05/06/2024 HD COMMENTS
 07/02/2024 PROJECT COORDIN.

PROFESSIONAL SEAL

ISSUE DATE: 12.14.23
 PROJECT #: 381C.1367C
 DRAWN BY: NYE
 CHECKED BY: NYE

HOOD DETAILS

M-4

EQUIPMENT SCHEDULE									
NO.	DESCRIPTION	MAKE	MODEL	QTY	UNIT	REMARKS	DATE	BY	CHECKED
1	TEMPERATED MAKE-UP AIR UNIT	ACCUREX	ADHENT102R01H10NM27	1	UNIT				

NOTE: Roof Opening Requirements:
 Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides. For example: if the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.
 Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb. For example: if the roof curb is 75 x 50 in. square, the maximum roof opening is 71.5 x 25.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb.
 This is by design, in order to help alleviate water infiltration issues. MUA Unit supports are shipped loose with unit.

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PROJECT

MAHANA FRESH

REVISIONS DATES:

05/06/2024	HD COMMENTS
07/02/2024	PROJECT COORDIN.

PROFESSIONAL SEAL

MICHAEL TOBIAS #6018
 PROFESSIONAL ENGINEER
 STATE OF MARYLAND

ISSUE DATE: 12.14.23
 PROJECT #: 381C.1367C
 DRAWN BY: NYE
 CHECKED BY: NYE

HOOD DETAILS

M-5

SCOPE OF WORK

1. REUSE EXISTING 200A, 208/120V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE, METER AND DISCONNECT SWITCH FOR THE TENANT'S SPACE(PROVIDED BY LANDLORD).
2. REUSE EXISTING(1) 200A, 208/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE TENANT'S SPACE(PROVIDED BY LANDLORD).
3. ALL NECESSARY EQUIPMENT, WIRING AND LIGHTING FOR THE PROJECT SPACE INCLUDING WIRING FOR VENTILATION EQUIPMENT. COORDINATE WITH G.C FOR LOW VOLTAGE WIRING.

ELECTRICAL PLAN NOTES

1. ELECTRICAL CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THIS SET.
2. 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.
3. 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.
4. 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.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2020 EDITION OF THE NATIONAL ELECTRIC CODE AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
6. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
7. ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY.
8. ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
9. CIRCUIT BREAKERS AND PANELS TO BE BOLT ON TYPE.
10. ALL EQUIPMENT SHALL BE APPROVED BY UL OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY.
11. ALL RECEPTACLES SHALL BE GROUNDED AS REQUIRED BY NEC 250.148.
12. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
13. 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.
18. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER AND UNLESS OTHERWISE NOTED THIN 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 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 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 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 CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
27. 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.
32. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED.
33. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UL LIST OF APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF N.E.C. NEMA, AND IEC.
34. 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.
36. ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN DIRECTORIES.
37. ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
38. ALL LIGHT SWITCHES TO BE AT 42" A.F.F.
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.
40. BREAKER AND PANELS - ALL CURRENT CARRYING BUSES SHALL BE COPPER. ALL GROUND BUS BARS SHALL BE COPPER. PANEL BOARD ENCLOSURES 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.
42. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
43. THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACTOR SHALL FURNISH AND INSTALL.
44. 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.
47. GAS PIPING SHALL BE BONDED.
48. ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
49. 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.
50. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.
51. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6" OR LESS).
52. EXPOSED CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY. NO CONDUIT TO BE SUPPORTED FROM THE ROOF DECK.
53. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
54. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
55. ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
56. 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.
57. 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.
58. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
59. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

EXISTING CONDITIONS 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 VERTICALLY, ELECTRICAL SERVICE (PANEL LOCATION AND VOLT/PHASE), LOCATION/TYPING OF ROOF MOUNTED HVAC EQUIPMENT, CONFIRM THAT INTERIOR HVAC HANGING 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. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE.
- B. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
[Symbol]	EXHAUST FAN
[Symbol]	COMBINATION EXHAUST FAN/LIGHT (REFER TO MECHANICAL PLANS)
[Symbol]	JUNCTION BOX
[Symbol]	BATTERY BACK UP EXIT LIGHT
[Symbol]	BATTERY BACK UP EMERGENCY LIGHT
[Symbol]	WALL SWITCH (SINGLE, DOUBLE,)
[Symbol]	WALL SWITCH (3 WAY, 4 WAY)
[Symbol]	WALL SWITCH (TIMER)
[Symbol]	OCCUPANCY SENSOR WALL SWITCH
[Symbol]	SINGLE RECEPTACLE
[Symbol]	DUPLEX RECEPTACLE
[Symbol]	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
[Symbol]	HALL SWITCHED DUPLEX RECEPTACLE
[Symbol]	230 VOLT RECEPTACLE
[Symbol]	QUADRUPLEX RECEPTACLE
[Symbol]	FLOOR MOUNTED, FLUSH DUPLEX RECEPTACLE
[Symbol]	FLOOR MOUNTED, FLUSH QUAD. RECEPTACLE
[Symbol]	FLOOR MOUNTED, FLUSH 230 VOLT RECEPTACLE
[Symbol]	CEILING MOUNTED DUPLEX RECEPTACLE
[Symbol]	ELECTRICAL PANEL
[Symbol]	DISCONNECT SWITCH
[Symbol]	USB CHARGER RECEPTACLE
[Symbol]	TELEVISION OUTLET
[Symbol]	TELEPHONE OUTLET
[Symbol]	TELEPHONE/DATA OUTLET
[Symbol]	DATA OUTLET
[Symbol]	FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET
[Symbol]	QUAD. DATA OUTLET RJ45
[Symbol]	NON FUSED DISCONNECT SWITCH
[Symbol]	CURRENT LIMITER

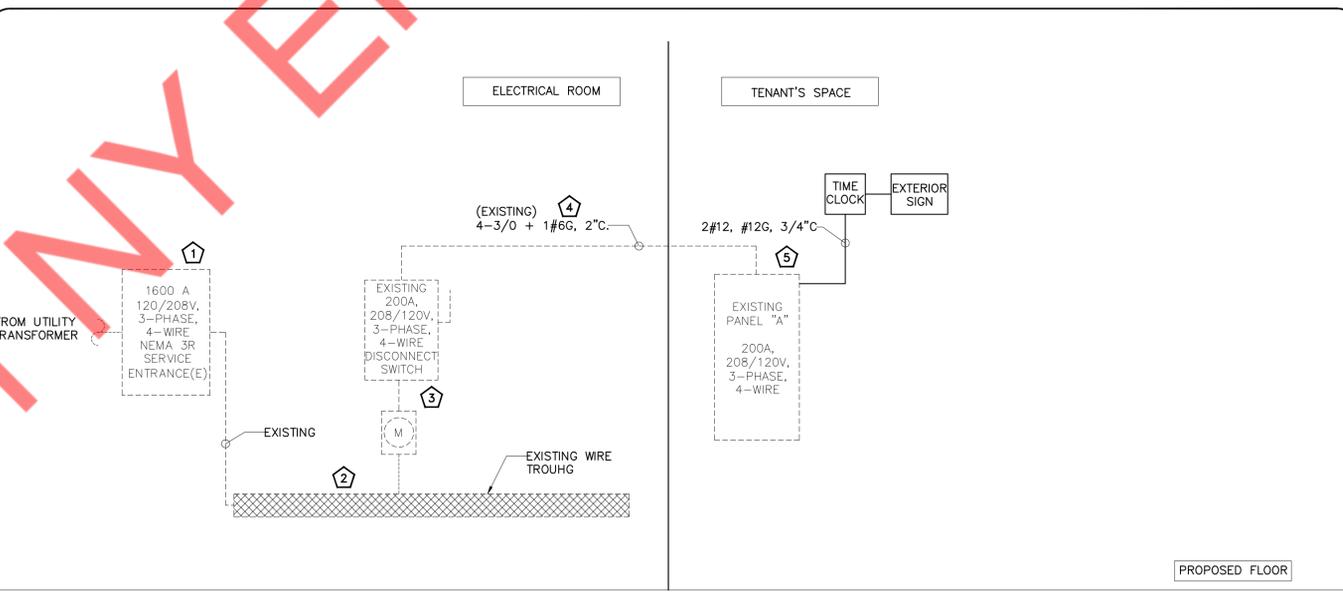
ABBREVIATIONS:
 ABOVE FINISH FLOOR= A.F.F.
 COUNTER TOP LEVEL= C
 GROUND FAULT INTERRUPTER= GFCI
 VERIFY PRIOR TO INSTALL= V.H
 WEATHER PROOF= W.P
 KITCHEN EXHAUST FAN= KEF
 WATER HEATER= WH
 AUTHORITY HAVING JURISDICTION= A.H.J.
 MAKE UP AIR UNIT=MUA
 CURRENT LIMITER=CL
 BELOW COUNTER= BC
 PUSH BUTTON= PB
 UNDER CABINET= U.C
 VAPOR PROOF= V.P
 ELECTRICAL CONTRACTOR=E.C
 BATHROOM EXHAUST FAN=BEF
 RECIRCULATION PUMP=RCP
 ROOF TOP UNIT=RTU
 EXHAUST FAN=EF

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP WATTAGE	MOUNTING
[Symbol]	A	2x4 RECESSED LED FLAT PANEL	NORA LIGHTING	PD-E24/30/A4HL	120	46 WATTS	RECESSED
[Symbol]	B	2x2 RECESSED LED FLAT PANEL	TBD	TBD	120	40 WATTS	RECESSED
[Symbol]	C	RECESSED COMPACT	NORA LIGHTING	P500022-143	120	13 WATTS	RECESSED
[Symbol]	D	RECESSED LOW VOLTAGE DAMNABLE DOWNLIGHT	NORA LIGHTING	P500022-143	120	12 WATTS	RECESSED
[Symbol]	G	PENDANT LIGHT	PROGRESS LIGHTING	P400097-143	120	13 WATTS	PENDENT
[Symbol]	F	WALL SCONE	PROGRESS LIGHTING	P300124-143	120	13 WATTS	WALL
[Symbol]	H	TRACK LIGHTING	NORA LIGHTING	NTE-875L940X18B	120	8 WATTS	TRACK
[Symbol]	EU	EMERGENCY LIGHTS	BEST LIGHTING PRODUCT	LED1R1(B IF BLACK)	120	36 WATTS	WALL
[Symbol]	XUC	EXIT/EMERGENCY COMBO SIGNS	BEST LIGHTING PRODUCT	LEDXC2E2R(W OR B)	120	2 WATTS	WALL
[Symbol]	UC	EXIT SIGNS	TBD	TBD	120	-	WALL
[Symbol]	T	TIMER WALL SWITCH	INTERMATIC	ST700	120	-	WALL
[Symbol]	OS	OCCUPANCY WALL SWITCH	INTERMATIC	IOS-DDR-WH	120	-	WALL
[Symbol]	OS	CEILING OCCUPANCY SENSOR	INTERMATIC	IOS-CMP-U	120	-	CEILING
[Symbol]	(E)	EXISTING LIGHTING FIXTURE TO REMAIN	-	-	-	-	-

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

LIGHT FIXTURE SCHEDULE NOTES:
 REFER TO SHEET A-2 - REFLECTED CEILING PLAN IN ARCHITECTURAL DRAWINGS FOR MORE INFORMATION ON COLORS AND TRIMS REQUIRED
 (*) EXISTING FIXTURES ARE ACCEPTABLE. IF THEY NEED TO BE REPLACED, REPLACE W/ EXACT MATCH OR MATCH SCHEDULE
 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 PHOTO METRICS & FIXTURE SAMPLES FOR ALL DECORATIVE FIXTURES, LANDSCAPE FIXTURES & OUTDOOR FIXTURES. WITHOUT THIS INFORMATION NO REVIEW WILL BE PROVIDED.

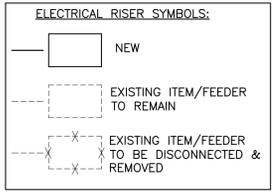


ELECTRICAL RISER KEYED NOTES:

1. EXISTING 120/208V, 3-PHASE, 4-WIRE, 1600A ELECTRICAL SERVICE ENTRANCE TO REMAIN. E.C. SHALL VERIFY WITH OWNER/BASE BUILDING FOR EXACT POWER DISTRIBUTION.
2. EXISTING 120/208V, 3-PHASE, 4-WIRE ELECTRICAL WIRE TROUGH SHALL REMAIN. E.C. SHALL COORDINATE WITH OWNER/BASE BUILDING FOR EXACT POWER DISTRIBUTION.
3. EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER AND DISCONNECT. E.C. TO COORDINATE WITH UTILITY COMPANY/LANDLORD/OWNER FOR EXACT LOCATION OF ELECTRICAL METER & DISCONNECT IN FIELD.
4. EXISTING INCOMING FEEDERS TO REMAIN. E.C. TO VERIFY OPERABLE CONDITION OF FEEDER'S IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
5. EXISTING 200A, 208/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A"(NAME TO BE VERIFY IN FIELD). E.C. TO FIELD VERIFY EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

RISER DIAGRAM GENERAL NOTES:

- A. 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.
- B. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
- C. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- D. E.C SHALL COORDINATE WITH OWNER/LANDLORD/BASE BUILDING FOR THE EXACT DETAILS/LIABILITIES



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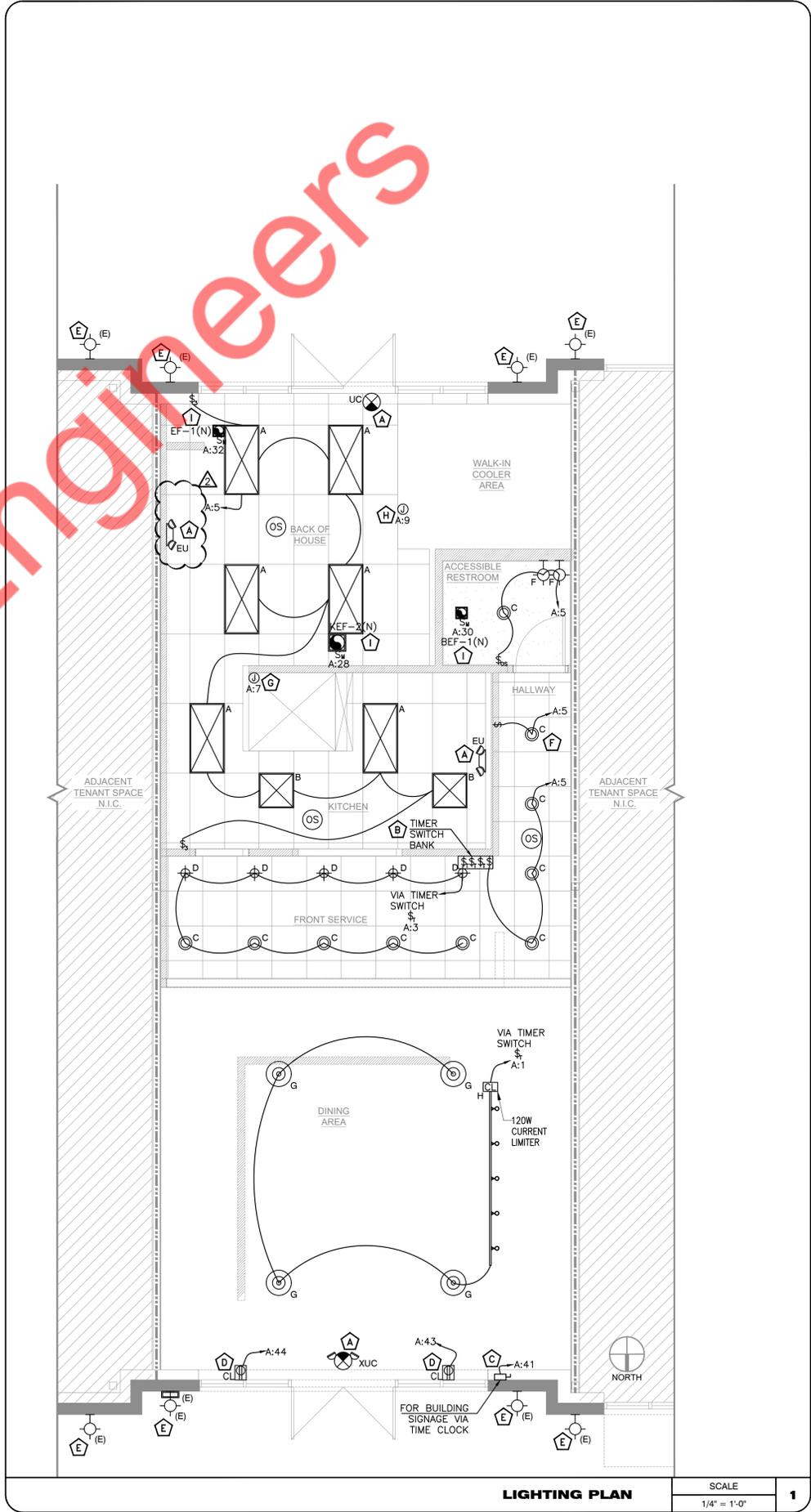
ELECTRICAL PLAN NOTES AND RISER DIAGRAM

E-1

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- 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. AT LEAST 50 FOOT-CANDLES OF SHIELDED LIGHT SHALL BE REQUIRED ON ALL WORK SURFACES, FOOD PREPARATION AREAS AND UTENSIL WASHING AREAS. ADDITIONALLY, 20 FOOT-CANDLES OF SHIELDED LIGHTING MUST BE PROVIDED FOR ALL WALK-IN COOLERS, STORAGE AREAS, TOILET ROOMS, LOCKER ROOMS, AND IN GARBAGE AND RUBBISH STORAGE AREAS.

- LIGHTING PLAN KEYED NOTES:**
- (A) CONNECT EMERGENCY AND EGRESS LIGHTING FIXTURES TO THE NEAREST LIGHTING CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.
 - (B) COORDINATE EXACT LOCATION OF THE TIMER SWITCH BANK WITH OWNER/ARCHITECT.
 - (C) 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.
 - (D) PROVIDE SHOW WINDOW RECEPTACLE AS PER N.E.C. 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.
 - (E) EXISTING LIGHT FIXTURE IN THIS AREA DENOTED BY (E) SHALL REMAIN CONNECTED TO THE RESPECTIVE EXISTING ELECTRICAL HOUSE PANEL ALONG WITH THEIR CONTROLS.
 - (F) LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIED AS PER NEC 110.26(D).
 - (G) PROVIDE 120V DEDICATED CIRCUIT FOR NEW HOOD LIGHTING & CONTROL PANEL. COORDINATE FOR LIGHTING CONNECTION & ALL OTHER REQUIREMENT WITH CAPTIVE AIRE HOOD DRAWINGS/MANUFACTURER IN FIELD.
 - (H) E.C. SHALL PROVIDE JUNCTION BOX AND CIRCUIT FOR WALK-IN COOLER LIGHTING TO BE PROVIDED BY WALK IN BOX MANUFACTURER. COORDINATE WITH WALK IN BOX MANUFACTURER FOR EXACT LIGHTING CONNECTIONS AND OTHER REQUIREMENTS BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.
 - (I) KEF-2(N), BEF-1(N) EF-1(N) SHALL BE INTERLOCKED WITH RTU-1(N). E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD. PRIOR TO ROUGH IN.



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

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LIGHTING PLAN

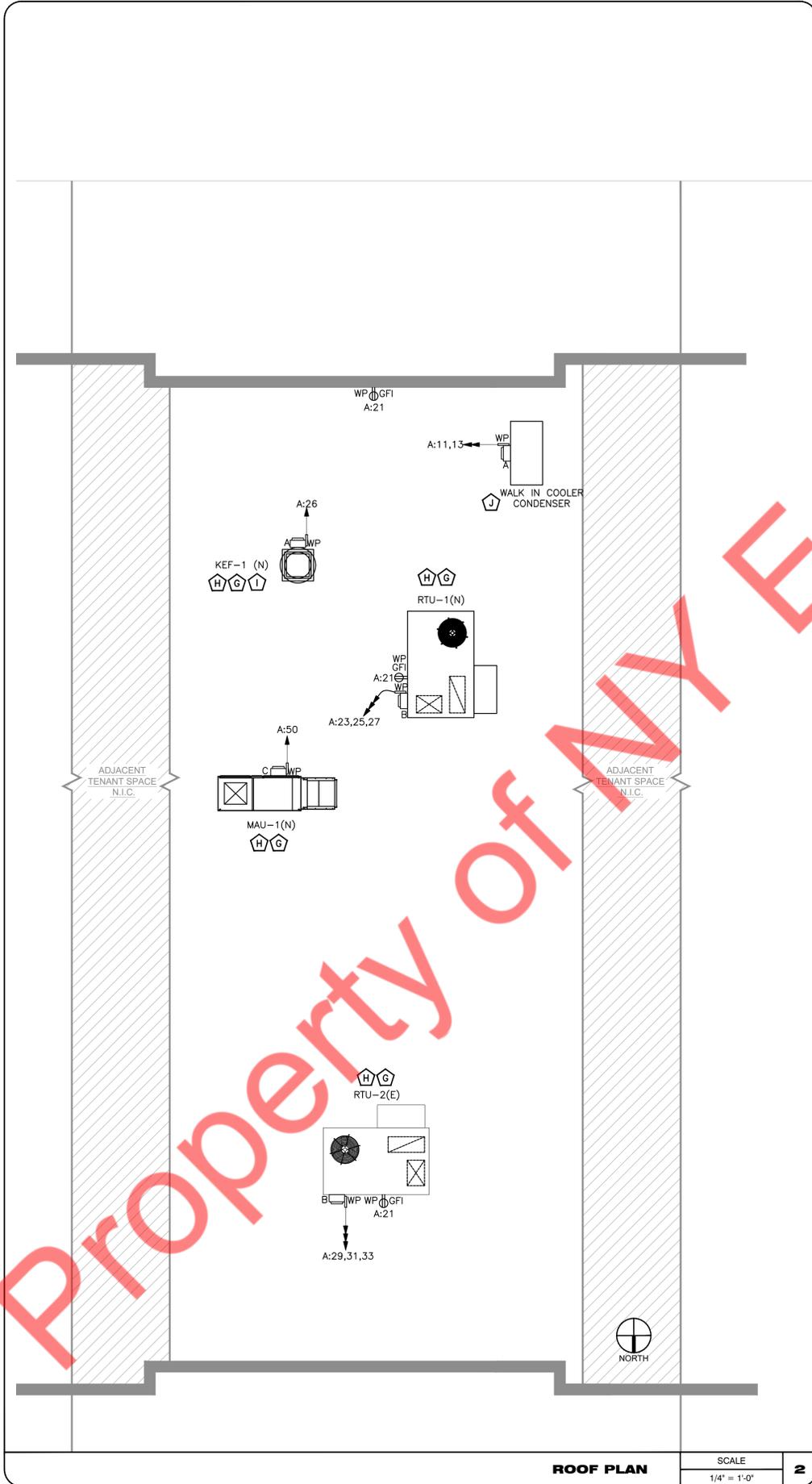
E-2

POWER PLAN GENERAL NOTES:

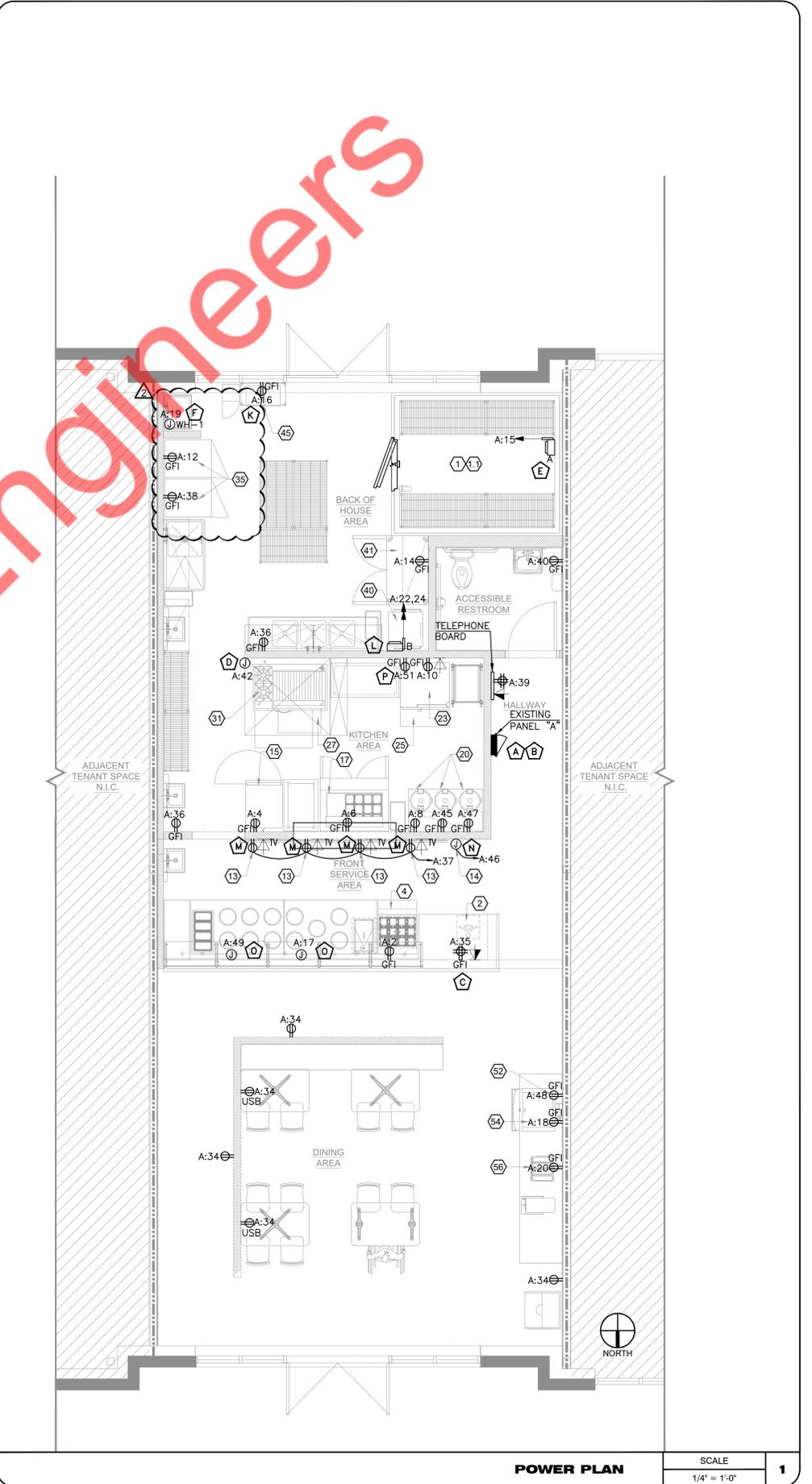
- ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B) SHALL HAVE GFCI PROTECTION. ALL THE KITCHEN EQUIPMENT SHALL HAVE GFI BREAKER IN PANELS.
- E.C. SHALL COORDINATE WITH THE EQUIPMENT VENDOR FOR EXACT RECEPTACLE REQUIREMENT, EXACT LOCATION AND MOUNTING HEIGHT OF THE RECEPTACLES WITH ARCHITECT/OWNER IN THE FIELD.
- ELECTRICAL CONDUITS AND PLUMBING PIPES ARE TO BE KEPT AS HIGH AS POSSIBLE ABOVE THE FLOOR TO PROVIDE ADEQUATE SPACE FOR CLEANING, PIPING CONDUIT AND SIMILAR CONSTRUCTION LOCATED OUTSIDE A WALL, MUST BE INSTALLED SO THAT THERE IS A MINIMUM OF 3/4-INCH SPACE BETWEEN IT AND THE WALL. E.C. SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR EXACT ROUTING OF CONDUITS IN THE FIELD.

POWER PLAN KEYED NOTES:

- EXISTING 200A, 208/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A"(NAME TO BE VERIFY IN FIELD). E.C. SHALL VERIFY EXACT SIZE, LOCATION AND OPERABLE CONDITION OF PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- E.C. SHALL VERIFY THE INSTALLATION OF ELECTRICAL EQUIPMENTS ARE 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.
- PROVIDE (2) CAT 6 HOME RUN TO EACH POS AND ONE (1) QUAD 20 AMPS RECEPTACLE FOR POS. COORDINATE WITH OWNER FOR EXACT HEIGHT BEFORE COMMENCING ANY WORK.
- ELECTRICAL CONTRACTOR TO CO-ORDINATE WITH FIRE SUPPRESSION SYSTEM VENDOR FOR ITS POWER REQUIREMENT AND OTHER DETAILS BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENTS WITH WALK IN COOLER MANUFACTURER AND MAKE POWER PROVISIONS ACCORDINGLY.
- 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.
- 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.
- 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. BASE BID ACCORDINGLY.
- KEF-1(N), SHALL BE INTERLOCKED WITH RTU-1(N). E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR IN THE FIELD. PRIOR TO ROUGH IN.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION OF WALK IN COOLER CONDENSER. ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR WALK IN COOLER CONDENSER UNIT WITH EQUIPMENT MANUFACTURER BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT AND #45_BAG BOX EQUIPMENT MANUFACTURER FOR EXACT POWER REQUIREMENT, MOUNTING HEIGHT & LOCATION BEFORE COMMENCING ANY WORK. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER #40_DISHWASHER OVER COUNTER FOR EXACT POWER REQUIREMENT PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT/VENDOR OF #13_LED TV'S FOR EXACT POWER REQUIREMENT AND MOUNTING HEIGHT ON SITE PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/ARCHITECT/VENDOR OF #14_BRAND SIGNAGE FOR EXACT POWER REQUIREMENT, LOCATION AND MOUNTING HEIGHT ON SITE PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/EQUIPMENT MANUFACTURER/VENDOR OF #5_QUART TOP-MOUNT ROUND WARMERXSW/DROP-IN COOLED PANS & #5.1_QUART TOP-MOUNT ROUND WARMERXSW/DROP-IN COOLED PANS FOR EXACT POWER REQUIREMENT, RECEPTACLE REQUIREMENT (IF ANY) AND MOUNTING HEIGHT ON SITE PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OWNER/EQUIPMENT MANUFACTURER/VENDOR OF #25_VENTLESS CONDENSATE HOOD FOR EXACT POWER REQUIREMENT, MOUNTING HEIGHT AND LOCATION ON SITE PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. BASE BID ACCORDINGLY.



ROOF PLAN SCALE 1/4" = 1'-0" **2**



POWER PLAN SCALE 1/4" = 1'-0" **1**

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POWER & ROOF PLAN

ELECTRICAL PANEL SCHEDULE:-

PANEL: A(E)										MOUNTING: RECESSED				
20BY/120		VOLTS, 3		PHASE, 4		WIRE		LOCATION: HALLWAY		FED FROM: EXISTING DISCONNECT				
MAIN CB		NA		MLO: 200		BUS: EXISTING		MIN.		EXISTING DISCONNECT				
NOTE: L : LIGHTING, H : HVAC LOAD, M : MOTOR LOAD, R : RECEPTACLES, O : OTHER/MISC. (TYPICAL)														
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	L	0.09	2#12, 1#12G, 3/4"C	0.55			2#12, 1#12G, 3/4"C	0.46	E	#4_REFRIGERATED PREP TABLE	20	2
3	20	LIGHTING FRONT SERVICE	L	0.13	2#12, 1#12G, 3/4"C		2.13		2#12, 1#12G, 3/4"C	2.00	E	#15_CABINET, MOBILE, WARMING & HOLDING	20	4
5	20	LIGHTING KITCHEN, HALLWAY, BACK OF HOUSE, RESTROOM	L	0.45	2#12, 1#12G, 3/4"C			0.95	2#12, 1#12G, 3/4"C	0.51	E	#17_REFRIGERATED PREP TABLE 48"	20	6
7	20	LIGHTING HOOD	L	0.90	2#12, 1#12G, 3/4"C	2.36			2#12, 1#12G, 3/4"C	1.46	E	#20_RICE COOKER	20	8
9	20	LIGHTING WALK IN COOLER	L	1.80	2#12, 1#12G, 3/4"C		2.70		2#12, 1#12G, 3/4"C	0.90	E	#23_OVEN STEAMER, COMBINATION, GAS	20	10
11								2.30	2#12, 1#12G, 3/4"C	0.26	E	#35_REACH-IN FREEZER	20	12
13	30-2P	WALK IN COOLER CONDENSER	H	2.04	2#10, 1#12G, 3/4"C	2.40			2#12, 1#12G, 3/4"C	0.36	E	#41_WORKTOP FREEZER	20	14
15	20	WALK IN COOLER EVAPORATOR	H	0.15	2#12, 1#12G, 3/4"C		0.65		2#12, 1#12G, 3/4"C	0.50	E	#45_BAG-IN BOX	20	16
17	20	FOOD WARMING STATION	E	0.83	2#12, 1#12G, 3/4"C			2.15	2#12, 1#12G, 3/4"C	1.32	E	#54_ICE MAKER CUBE STYLE	20	18
19	20	WATER HEATER	O	0.18	2#12, 1#12G, 3/4"C	1.08			2#12, 1#12G, 3/4"C	0.90	E	#56_DISPENSER, BEVERAGE/NON-CARBONATED	20	20
21	20	ROOF RECEPTACLE	R	0.54	2#12, 1#12G, 3/4"C		4.55		2#18, 1#10G, 3/4"C	4.01	E	#40_DISHWASHER OVER COUNTER	40-2P	22
23			H	3.48			7.49		2#12, 1#12G, 3/4"C	4.01	E			24
25	45-3P	RTU-1(N)	H	3.48	3#8, 1#10G, 3/4"C	4.61			2#12, 1#12G, 3/4"C	1.13	M	KEF-1(N)	20	26
27			H	3.48			3.65		2#12, 1#12G, 3/4"C	0.16	M	KEF-2(N)	20	28
29			H	3.12				3.14	2#12, 1#12G, 3/4"C	0.02	M	BEF-1(N)	20	30
31	30-3P	RTU-2(E)	H	3.12	3#10, 1#10G, 3/4"C	3.14			2#12, 1#12G, 3/4"C	0.02	M	EF-1(N)	20	32
33			H	3.12			4.02		2#12, 1#12G, 3/4"C	0.90	R	RECEPTACLE DINING AREA	20	34
35	20	POS	R	0.36	2#12, 1#12G, 3/4"C			0.72	2#12, 1#12G, 3/4"C	0.36	R	RECEPTACLE KITCHEN AND BOH	20	36
37	20	TV RECEPTACLE	R	0.72	2#12, 1#12G, 3/4"C	0.98			2#12, 1#12G, 3/4"C	0.26	E	#35_REACH-IN FREEZER	20	38
39	20	RECEPTACLE IT RACK	R	0.36	2#12, 1#12G, 3/4"C		0.54		2#12, 1#12G, 3/4"C	0.18	R	RECEPTACLE RESTROOM	20	40
41	20	EXTERIOR SIGNAGE	L	1.00	2#12, 1#12G, 3/4"C			1.90	2#12, 1#12G, 3/4"C	0.90	O	FIRE SUPPRESSION SYSTEM	20	42
43	20	RECEPTACLE SHOW WINDOW	R	1.20	2#12, 1#12G, 3/4"C	2.40			2#12, 1#12G, 3/4"C	1.20	R	RECEPTACLE SHOW WINDOW	20	44
45	20	#20_RICE COOKER	E	1.46	2#12, 1#12G, 3/4"C		1.96		2#12, 1#12G, 3/4"C	0.50	R	#14_BRAND SIGNAGE	20	46
47	20	#20_RICE COOKER	E	1.46	2#12, 1#12G, 3/4"C			1.64	2#12, 1#12G, 3/4"C	0.18	E	#52_FILTER SYSTEM ICE MAKER	20	48
49	20	FOOD WARMING STATION	E	0.83	2#12, 1#12G, 3/4"C	3.28			2#8, 1#10G, 3/4"C	2.45	H	MAU-1(N)	35	50
51	20	#25_VENTLESS CONDENSATE HOOD	E	0.35	2#12, 1#12G, 3/4"C		0.35					SPARE	20	52
53	20	SPARE					0.00					SPARE	20	54
55	20	SPARE					0.00					SPARE	20	56
57	20	SPARE					0.00					SPARE	20	58
59	20	SPARE						0.00				SPARE	20	60
61	20	SPARE					0.00					SPARE	20	62
63	20	SPARE						0.00				SPARE	20	64
65	20	SPARE						0.00				SPARE	20	66
67	20	SPARE					0.00					SPARE	20	68
69	20	SPARE						0.00				SPARE	20	70
71	20	SPARE						0.00				SPARE	20	72
TOTAL CONNECTED LOAD (KVA)						20.80	20.54	20.29						

EQUIPMENT SCHEDULE:-

ITEM NO.	DESCRIPTION	VOLTAGE	PHASE	AMPS	KVA
4	REFRIGERATED PREP TABLE	115	1	4.00	0.46
15	CABINET, MOBILE, WARMING & HOLDING	120	1	16.67	2.00
17	REFRIGERATED PREP TABLE 48"	115	1	4.40	0.51
20	RICE COOKER	120	1	12.20	1.46
23	OVEN STEAMER, COMBINATION, GAS	120	1	7.50	0.90
25	VENTLESS CONDENSATE HOOD	115	1	2.90	0.33
35	REACH-IN FREEZER	115	1	2.2	0.26
40	DISHWASHER OVER COUNTER	208	1	38.50	8.01
41	WORKTOP FREEZER	115	1	3.10	0.36
45	BAG-IN BOX	120	1	4.17	0.50
54	ICE MAKER CUBE STYLE	115	1	11.50	1.32
56	DISPENSER, BEVERAGE/NON-CARBONATED	120	1	7.50	0.90

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PANEL SCHEDULES

SCOPE OF WORK

PROVIDE ALL PLUMBING FOR NEW FAST FOOD RESTAURANT WITHIN AN EXISTING BUILDING SHELL, INCLUDING ALL WATER, GAS, VENT, GREASE & SANITARY LINES AND CONNECT TO EXISTING UTILITIES. PROVIDE NEW GAS FIRED STORAGE TYPE WATER HEATER & USE EXISTING GREASE INTERCEPTOR PROVIDED BY LANDLORD.

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 ANSISF STANDARD 61.
- SOIL, WASTE AND VENT 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 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 SCH40 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 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 2021 INTERNATIONAL PLUMBING CODE.
- WATER HAMMER ARRESTORS AS PER 2021 INTERNATIONAL PLUMBING CODE.
- 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.
- OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.

PLUMBING LEGENDS

	SANITARY SEWER PIPING (UNDERGROUND)
	GREASE SANITARY SEWER PIPING (UNDERGROUND)
	EXISTING SANITARY SEWER PIPING (UNDERGROUND)
	EXISTING GREASE SANITARY SEWER PIPING (UNDERGROUND)
	VENT PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	EXISTING DOMESTIC COLD WATER PIPING
	GAS PIPING
	PIPE RISE
	PIPE DROP
	CAPPED END OF PIPE
	FLOOR CLEAN OUT
	P-TRAP
	SHUT-OFF VALVE
	VENT THROUGH ROOF
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	WALL CLEAN OUT
	DOUBLE CHECK VALVE ASSEMBLY
	GATE VALVE
	GAS COCK
	CHECK VALVE
	FLOOR DRAIN
	INDIRECT WASTE
	BALANCING VALVE
	FLOOR SINK
	THERMOSTATIC MIXING VALVE

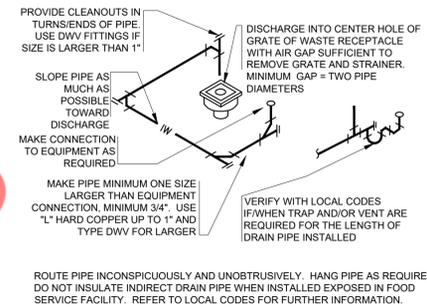
RESTROOM FIXTURE SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER		WASTE		Spec
					Hot	Cold	Waste	Usage	
A	1	WATER CLOSET	AMERICAN STANDARD	2989.101.020		3/4"	4"	1.28	GPF
	1	ELONGATED SEAT	AMERICAN STANDARD	EXTRA HD COMMERCIAL TOILET SEAT					
B	1	LAVATORY	AMERICAN STANDARD	0355.012.020			2"		
C	1	LAVATORY FAUCET	AMERICAN STANDARD	7075.050.002	1/2"	1/2"		0.5	GPM
	1	THERMAL MIXING VALVE	WATTS	LMMV	1/2"	1/2"			
	1	INSULATED PLUMBING COVERS	PLUMBEREX	HANDI SHIELD					

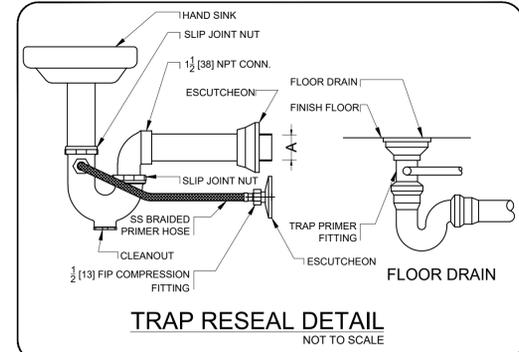
KITCHEN EQUIPMENT PLUMBING SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER		WASTE	
					Hot	Cold	Direct	Indirect
5	1	FOOD WARMER	CUSTOM				3/4"	
5.1	1	FOOD WARMER	CUSTOM				3/4"	
8	3	HAND SINK WALL MOUNTED W/GOOSE NECK FAUCET	JOHN BOOS & CO	PBHS-W-1410-P-SSSLR	1/2"+	1/2"	2"	
23	1	OVEN-STEAMER, COMBINATION, GAS	CONVOTHERM, USA	C4ET 6.10 GB RA		(2)1/2"	2"	
24	1	WATER TREATMENT SYSTEM	CONVOTHERM, OPTIPIRE	WBT-QSX-2PG		(2)1/2"		
32	1	1 COMPARTMENT SINK W/RIGHT DRAIN BOARD	JOHN BOOS & CO	E1S8-24-14R24			2"	
33	1	WALL/ SPLASH MOUNT FAUCET	KROWNE	12-810L	1/2"+	1/2"		
34	1	DRAIN, LEVER/ TWIST WASTE	KROWNE	22-204			2"	
36	1	3 COMPARTMENT SINK W/ L&R DRAIN BOARD	JOHN BOOS & CO	DT3B18244-2D18R			(3)2"	
37	1	DRAIN, LEVER/ TWIST WASTE	JOHN BOOS & CO	PB-LWR-1			2"	
38	1	PRE-RINSE FAUCET, SPLASH MOUNT	JOHN BOOS & CO	PB-PRW-1LF	3/4"+	3/4"		
40	1	DISHWASHER OVER COUNTER	NOBLE WAREWASHING	UH30-FND	3/4"+		1"	
42	1	MOP SINK**	-	-			3"	
43	1	HEAVY DUTY SERVICE FAUCET W/PAIL HOOK	T&S BRASS	B0664, B-0230-K, B-0618-01, B-0653	3/4"+	3/4"		
44	1	HOT WATER HEATER	REFER SCHEDULE	REFER SCHEDULE				
45	1	BAG-IN BOX	SERVEND	20008237		1/2"		
52	1	FILTER SYSTEM ICE MAKER	MANITOWOC ICE	AR-1000-P		1/2"		
53	1	DISPENSER ICE/BEVERAGE	-	-		1/2"	3/4"	
54	1	ICE MAKER CUBE STYLE	MANITOWOC ICE	IYT0500A		1/2"	3/4"	
FS	5	FLOOR SINKS	ZURN	Z1900-23-31 (ZS1900 IF IN EXPOSED AREAS)			3"	
FD	2	FLOOR DRAINS*	ZURN	ZS415 W/ TYPE BS STRAINER			3/4"	
TMV	4	THERMAL MIXING VALVE	WATTS	LMMV	1/2"/3/4"	1/2"/3/4"		

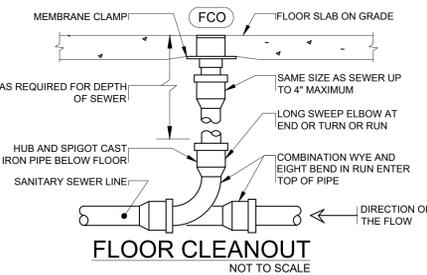
+ HOT WATER 140°F, ++ PROVIDE TMV AS PER SCHEDULE, *PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS, **ADAPTOR REQUIRED



INDIRECT WASTE DETAIL
NOT TO SCALE

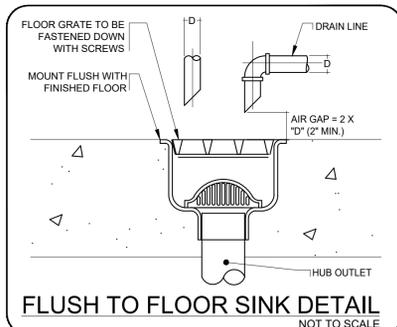


TRAP RESEAL DETAIL
NOT TO SCALE

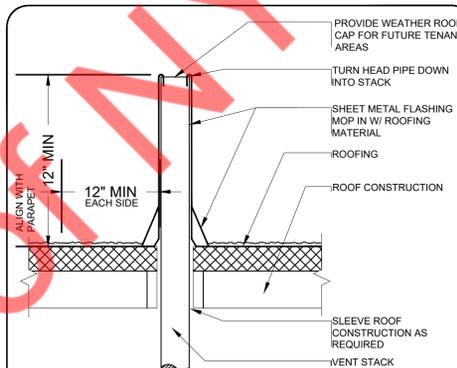


FLOOR CLEANOUT DETAIL NOTES

- LOCATE CLEANOUT AT THIS LOCATIONS:
 - A) BUILDING EXIT
 - B) AT TURNS OF PIPES GREATER THAN 45 DEGREES
 - C) AT 90° INTERVALS ON STRAIGHT RUNS
 - D) WHERE IS SHOWN ON PLANS
 - E) WHERE IS 18" CLEAR AROUND



FLUSH TO FLOOR SINK DETAIL
NOT TO SCALE



VENT THRU ROOF DETAIL
NOT TO SCALE

VENT THRU ROOF DETAIL NOTE

ANY VENT PIPE WITHIN 10'-0" OF ANY DOOR, WINDOW, OR EXHAUST OPENING SHALL EXTEND NOT LESS THAN 3'-0" ABOVE SUCH OPENING.

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"
MOP SINK	3/4"	3/4"	3"	--
3-COMP SINK	3/4"	3/4"	1W	--
HAND SINK	1/2"	1/2"	2"	1-1/2"
FLOOR SINK	--	--	3"	2"

ENERGY CONSERVATION NOTES

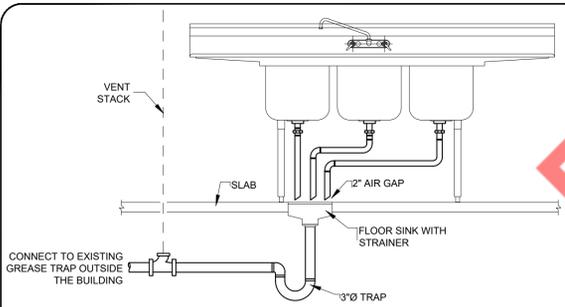
1. AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE OF MINIMUM PIPE INSULATION THICKNESS TABLE C403.12.3.

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)		
	CONDUCTIVITY BTU x IN./ (H x FT x F)	MEAN RATING TEMPERATURE, °F	< 1	1 to < 1 1/2	1 1/2 to < 4
141-200	0.25-0.29	125	1.5	1.5	2.0
105-140	0.21-0.26	100	1.0	1.0	1.5
40-80	0.21-0.27	75	0.5	0.5	1.0

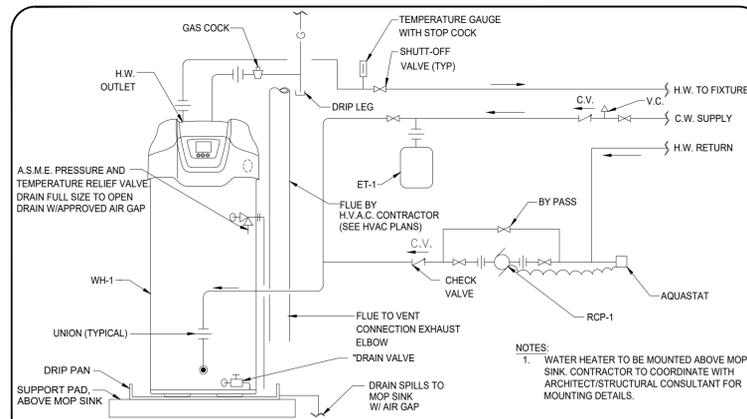
2. HOT WATER SYSTEM PIPING IS DESIGNED ACCORDING TO THE MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE C404.5.1. THE HOT WATER VOLUME FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER MAXIMUM PIPING LENGTH TABLE.

NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
3/8"	3'	50'
1/2"	2'	43'
3/4"	0.5'	21'
1"	0.5'	13'
1 1/4"	0.5'	8'
1 1/2"	0.5'	6'
2" OR LARGER	0.5'	4'

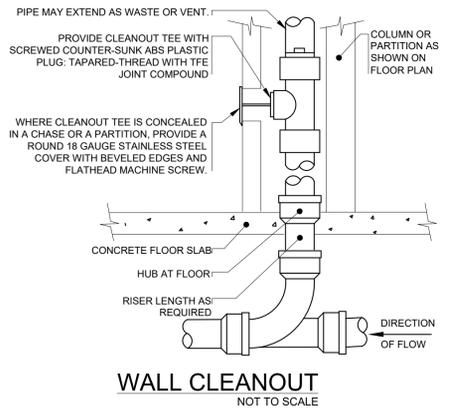
3. AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE C404.6.1, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RECIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD WATER PIPING TO NOT GREATER THAN 104°F (40°C).



3 COMPARTMENT DETAIL
NOT TO SCALE



STORAGE WATER HEATER DETAIL
NOT TO SCALE



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.

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PLUMBING LEGENDS, NOTES & DETAILS

P-1

REVISIONS DATES:

05/06/2024	HD COMMENTS
07/02/2024	PROJECT COORDIN.

ISSUE DATE: 12.14.23
PROJECT #: 381C.1367C
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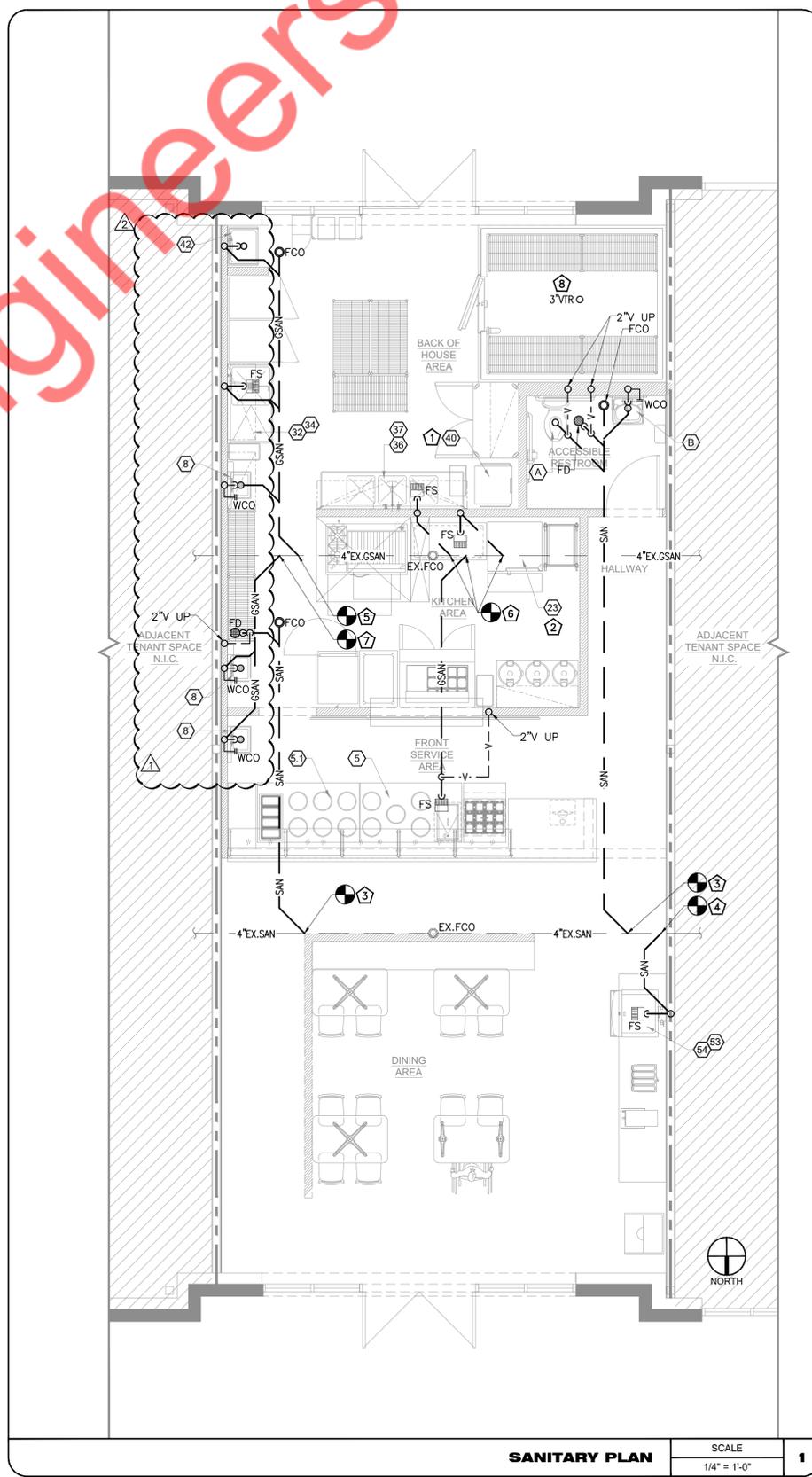
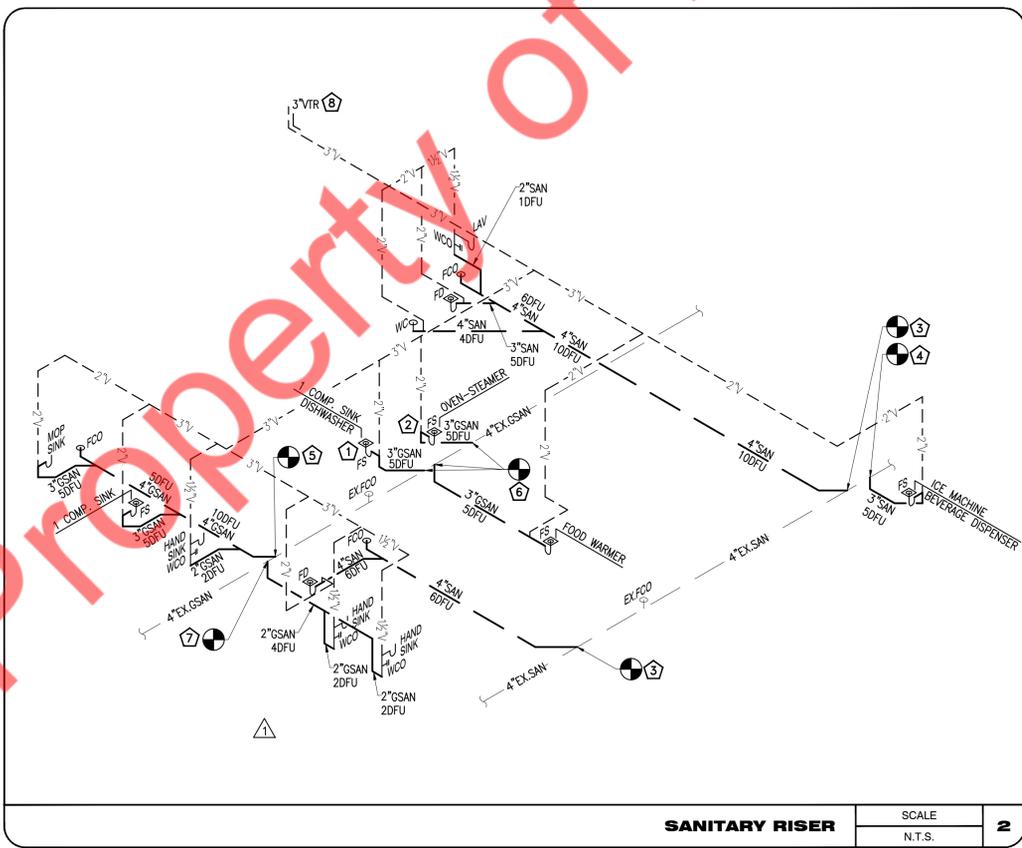
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SANITARY PLAN & RISER

- SANITARY PLAN & RISER KEY NOTES**
- 1 ROUTE INDIRECT WASTE FROM DISHWASHER TO NEAREST FLOOR SINK WITH APPROVED AIR GAP.
 - 2 ROUTE INDIRECT WASTE FROM OVEN-STEAMER TO NEAREST FLOOR SINK WITH APPROVED AIR GAP.
 - 3 CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING 4" SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
 - 4 CONNECT NEW 3" SANITARY WASTE PIPING TO EXISTING 4" SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
 - 5 CONNECT NEW 4" GREASE SANITARY WASTE PIPING TO EXISTING 4" GREASE SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING GREASE SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
 - 6 CONNECT NEW 3" GREASE SANITARY WASTE PIPING TO EXISTING 4" GREASE SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING GREASE SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
 - 7 CONNECT NEW 2" GREASE SANITARY WASTE PIPING TO EXISTING 4" GREASE SANITARY MAIN LINE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING GREASE SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
 - 8 PROVIDE NEW 3" VENT THROUGH ROOF (VTR) AS SHOWN. CONTRACTOR TO MAKE SURE THAT THE VTR SHOULD BE AT LEAST 10' AWAY FROM THE AIR INTAKES OF MECHANICAL UNITS.

- GENERAL NOTES**
1. 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" AND SMALLER. SLOPE OF SANITARY PIPE AT THE UPSTREAM OF GREASE INTERCEPTOR SHALL NOT BE LESS THAN 1/4" PER FOOT OF RUN. VENT PIPING SHALL BE PITCHED TO DRAIN.
 2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
 3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
 4. ALL CLEANOUTS TO BE ACCESSIBLE.



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WATER SUPPLY PLAN & RISER

RECIRCULATION PUMP SCHEDULE

MANUFACTURER & MODEL	GRUNDFOS UP 15-18 B5
EQUIPMENT TAG	RCP-1
STATUS	NEW
QUANTITY	1
GPM	2
WATER TEMP.(°F)	140
PUMP TYPE	INLINE
MHP	86 WATTS
V/PHHZ	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	BTX-100
EQUIPMENT TAG	WH-1
STATUS	NEW
QUANTITY	1
CAPACITY	50 GALLONS
FUEL	GAS
BTU/HR	100,000
RECOVERY RATE	129 GPH*
THERMAL EFFICIENCY	96%
AIR INTAKE / EXHAUST VENT	4"Ø / 4"Ø
VOLTAGE	120/1/60
AMPERAGE	5

NOTES:
 1. * @ 90°F TEMPERATURE RISE.
 2. INSTALL NEW EXPANSION TANK (ET-1) AMTROL MODEL THERM-X-TROL ST-SC-DD. TANK VOLUME - 2 GALLONS, PER LOCAL CODE REQUIREMENTS.

WATER SUPPLY PLAN & RISER KEY NOTES

1. CONNECT NEW 1-1/4" CW LINE TO EXISTING 1-1/4" WATER LINE STUB. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF EXISTING CW PIPING AND UPGRADE IF REQUIRED.
2. NO TAP OFF TO BE TAKEN BEFORE BFP.
3. CONTRACTOR TO COORDINATE WITH LANDLORD AND OWNER FOR THE SCOPE OF WORK / REQUIREMENT / LOCATION OF WATER METER AND BFP.
4. CONTRACTOR TO PROVIDE VACUUM BREAKER ON MOP SINK FAUCET. CONTRACTOR TO INSTALL A BACKFLOW DEVICE MEETING A.S.S.E 1052 SPECIFICATIONS IN BETWEEN FAUCET SPOUT AND HOSE WITH SPRAYER.

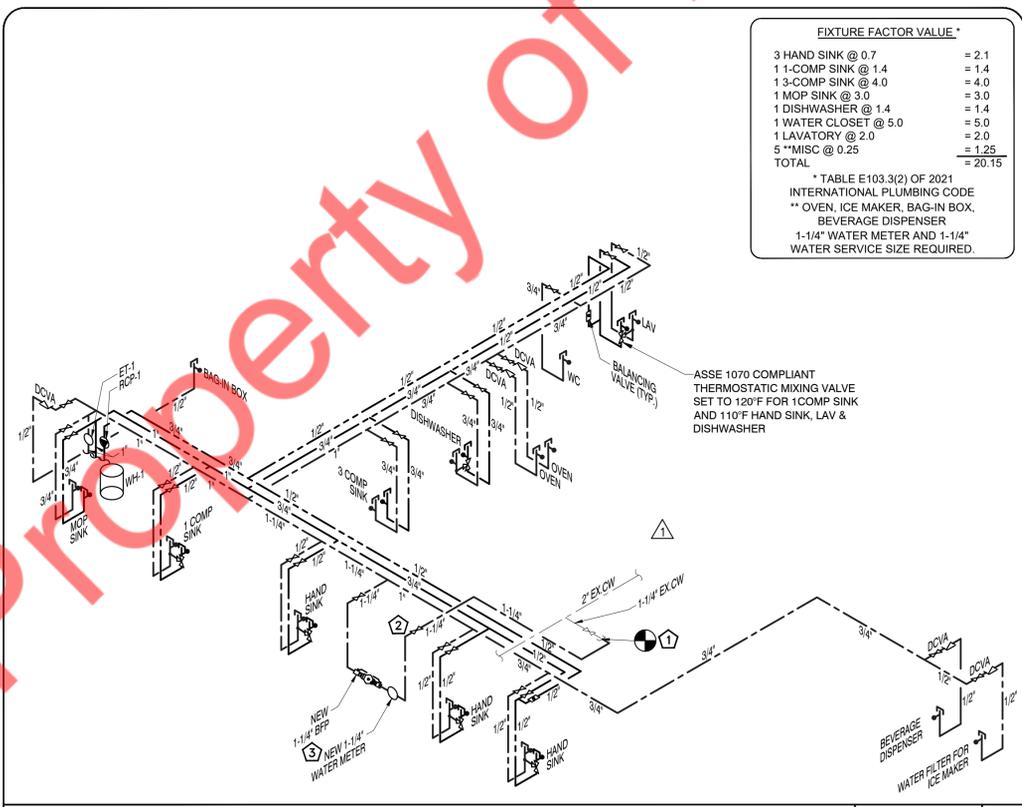
GENERAL NOTES

1. CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2021 INTERNATIONAL ENERGY CONSERVATION CODE (REFER SHEET P-1).
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
4. NEW WATER HEATER DRAIN SPILLS TO MOP SINK.
5. ELECTRICAL CONDUITS AND PLUMBING PIPES ARE TO BE KEPT AS HIGH AS POSSIBLE ABOVE THE FLOOR TO PROVIDE ADEQUATE SPACE FOR CLEANING. PIPING CONDUIT AND SIMILAR CONSTRUCTION LOCATED OUTSIDE A WALL, MUST BE INSTALLED SO THAT THERE IS A MINIMUM OF 3/4 INCH SPACE BETWEEN IT AND THE WALL. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR EXACT ROUTING OF CONDUITS IN THE FIELD.
6. ALL BACK FLOW PREVENTION DEVICES INCLUDING DCVA TO BE REPLACED AFTER EVERY 3 YEARS.

FIXTURE FACTOR VALUE *

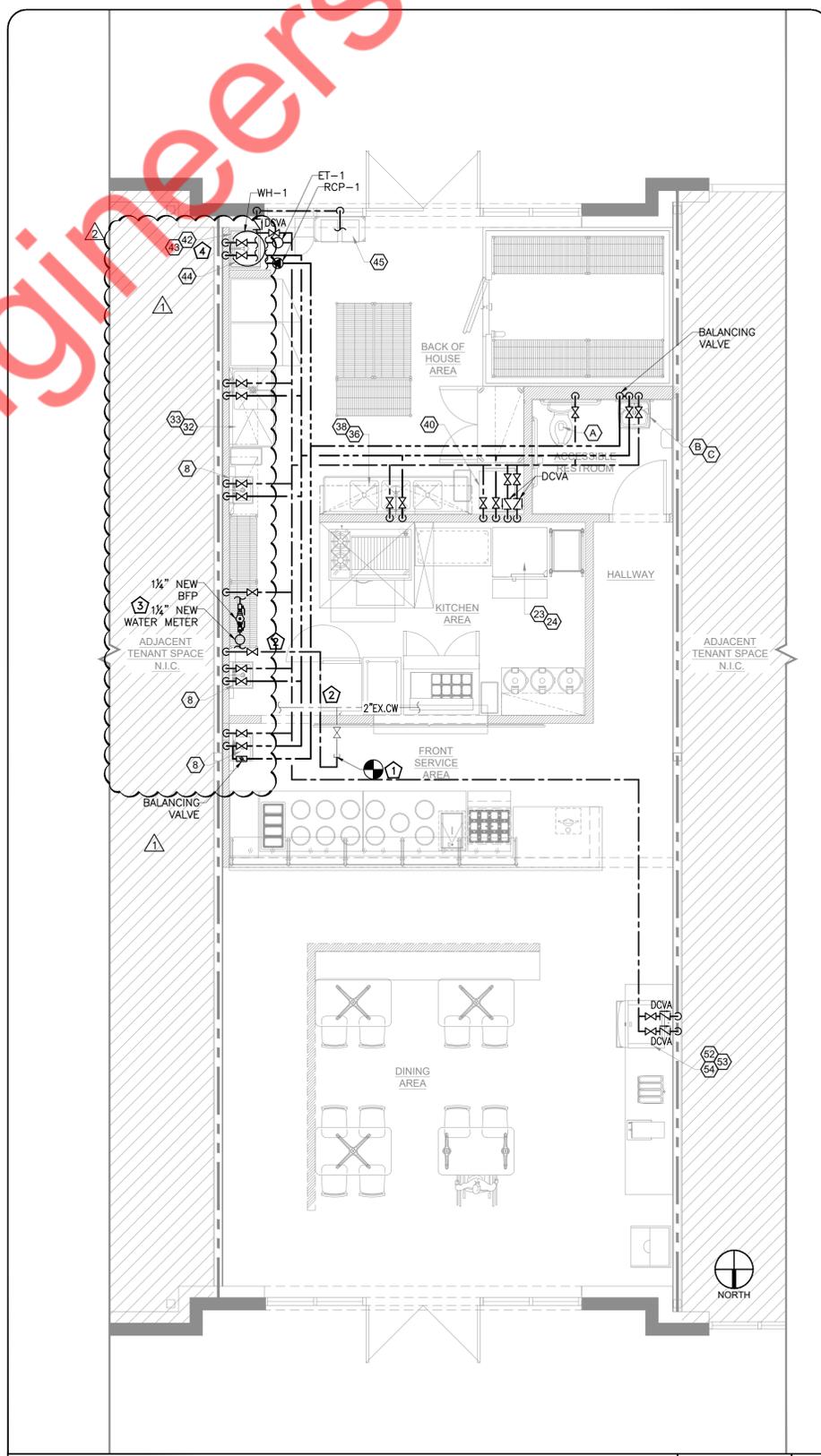
3 HAND SINK @ 0.7	= 2.1
1 1-COMP SINK @ 1.4	= 1.4
1 3-COMP SINK @ 4.0	= 4.0
1 MOP SINK @ 3.0	= 3.0
1 DISHWASHER @ 1.4	= 1.4
1 WATER CLOSET @ 5.0	= 5.0
1 LAVATORY @ 2.0	= 2.0
5 **MISC @ 0.25	= 1.25
TOTAL	= 20.15

* TABLE E103.3(2) OF 2021 INTERNATIONAL PLUMBING CODE
 ** OVEN, ICE MAKER, BAG-IN BOX, BEVERAGE DISPENSER
 1-1/4" WATER METER AND 1-1/4" WATER SERVICE SIZE REQUIRED.



WATER SUPPLY RISER

SCALE
 N.T.S. **2**



WATER SUPPLY PLAN

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

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GAS PLAN & RISER

P-4

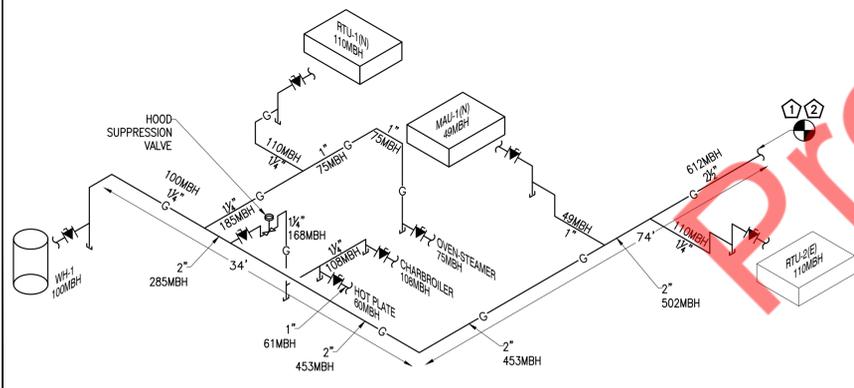
- GAS PLAN & RISER KEY NOTES**
- CONNECT NEW 2-1/2" GAS LINE TO EXISTING GAS LINE WITH EXISTING GAS METER (PROVIDED BY LANDLORD). CONTRACTOR TO FIELD VERIFY CAPACITY, OUTLET PRESSURE AND LOCATION OF EXISTING PIPING AND GAS METER WITH OWNER/LANDLORD AND UPGRADE IF REQUIRED.
 - CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE PRESSURE AT OUTLET OF EXISTING GAS METER AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE TO GAS FIRED EQUIPMENTS & MECHANICAL UNITS. PROVIDE PRESSURE REGULATOR IF REQUIRED.
 - EXISTING GAS METER OF 1000 MBH CAPACITY. CONTRACTOR TO VERIFY THE CAPACITY OF GAS METER WITH OWNER/LANDLORD.

NATURAL GAS PIPING SYSTEM
 PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, GAS PRESSURE REGULATORS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

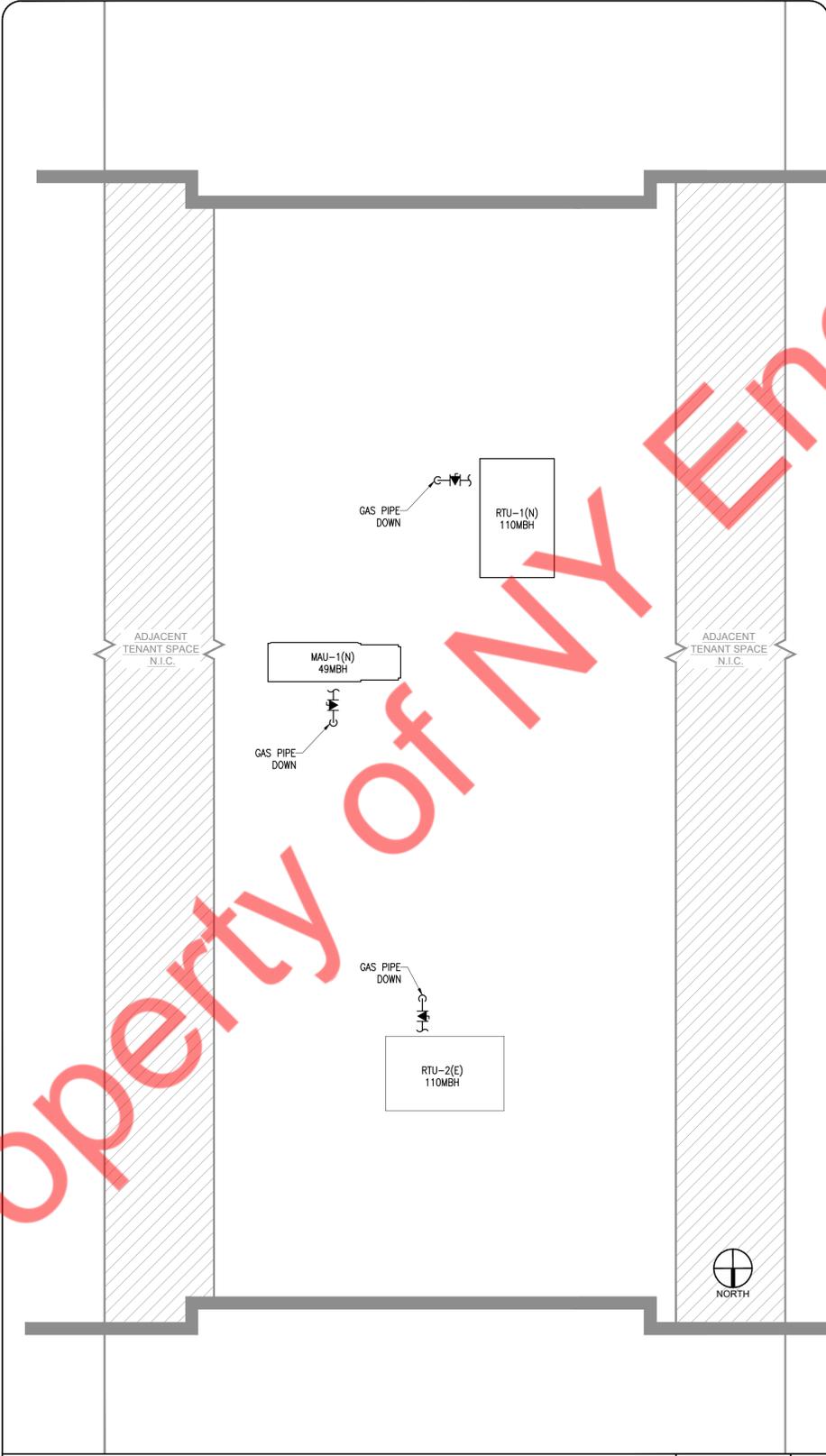
- NOTES:**
- GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWED FITTINGS.
 - GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
 - VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TABLE 6.2.1(a) NFPA 54-2021.

GAS PIPE SIZING PER TABLE 6.2.1(a) NFPA 54-2021
 EQUIVALENT LENGTH OF PIPE = $34+74+33+15 = 156$
 + FITTINGS (+40%) = 219 FEET

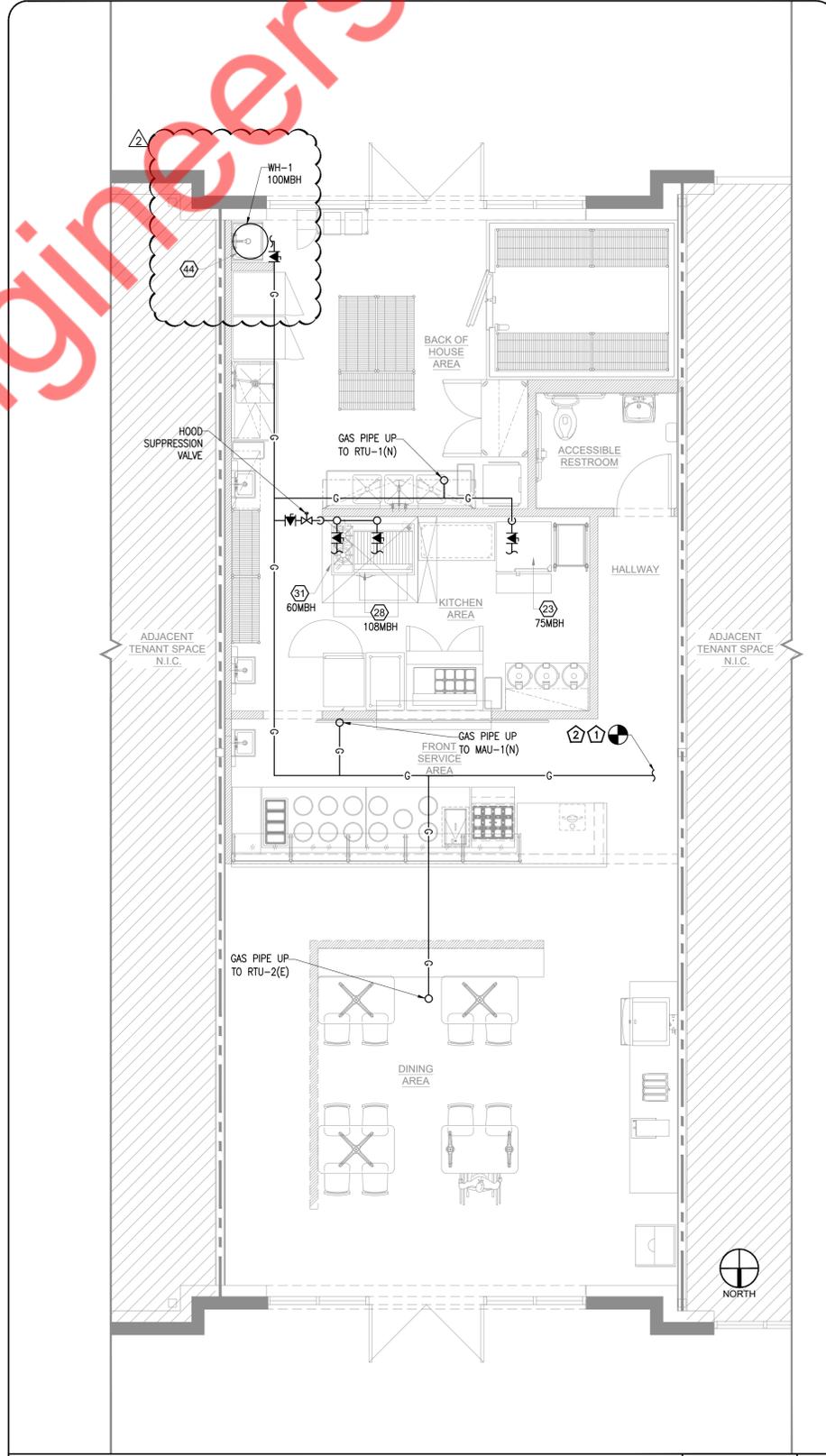
GAS SCHEDULE						
ITEM NO.	QTY.	DESCRIPTION	MANUFACTURER	MODEL	SIZE	BTU/HR.
WH-1	1	WATER HEATER	AO SMITH	BTX-100	1 1/2"	100,000
RTU-1(N)	1	ROOF TOP UNIT	REFER MECHANICAL PLANS	REFER MECHANICAL PLANS	1 1/2"	110,000
RTU-2(E)	1	ROOF TOP UNIT	REFER MECHANICAL PLANS	REFER MECHANICAL PLANS	1 1/2"	110,000
MAU-1(N)	1	MAKEUP AIR UNIT	REFER MECHANICAL PLANS	REFER MECHANICAL PLANS	1"	49,000
23	1	OVEN-STEAMER	CONVOOTHERM, USA	C4ET 6.10 GB RA	1"	75,000
28	1	CHARBROILER	GARLAND	GTBG36-AR36	1 1/2"	108,000
31	1	HOT PLATE	U.S. RANGE	UTOG 12-2	1"	60,000
TOTAL LOAD						612,000



GAS RISER SCALE N.T.S. 2



GAS ROOF PLAN SCALE 1/4" = 1'-0" 1



GAS FLOOR PLAN SCALE 1/4" = 1'-0" 1