

**SCOPE OF WORK**

PROVIDE TWO NEW 4 TON DUCTED SPLIT HEAT PUMP UNITS. PROVIDE NEW DUCTWORK WHERE NECESSARY AND PROVIDE NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEMS.

PROVIDE 1 NEW RESTROOM EXHAUST FAN. PROVIDE 1 NEW KITCHEN EXHAUST FAN AS PER CODE REQUIREMENT.

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

**MECHANICAL PLAN NOTES**

- A. USE NEW 4 TON DUCTED SPLIT HEAT PUMP UNITS. PROVIDE MODIFICATIONS TO DUCT SYSTEM AS SHOWN. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. INSTALL FIRE DAMPERS IN ANY FIRE WALLS AND BETWEEN FLOORS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO 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 U.L. 288A, INTERLOCKED TO SHUTDOWN ROOF TOP 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 MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION. ALL DUCTS TO BE MANUFACTURED AND INSTALLED ACCORDING TO ASHRAE AND SMACNA METAL DUCT CONSTRUCTION STANDARD, LATEST EDITION. ALL MATERIALS WILL CONFORM TO NFPA 90A. NO DUCT BOARD ALLOWED.
- D. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. COORDINATE LOCATION OF THERMOSTAT.
- E. ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5", R-12 INSULATION, ACCORDING TO 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
- 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 NEW A/C UNITS CONDENSATE DRAINS WILL BE COPPER FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST ROOF DRAIN OR INDIRECT WASTE.
- 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 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, 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. HVAC SYSTEM TO BE TIED INTO MALL ENERGY MANAGEMENT SYSTEM AT TENANTS COSTS.

**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 MANUFACTURERS 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. ALL SG SUPPLY GRILLS WILL BE DOUBLE DEFLECTION WITH VOLUME CONTROLS.
- 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.

**THERMOSTATIC CONTROLS**

- A. GENERAL:  
THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE.
- B. DEAD BAND:  
WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 9°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.  
EXCEPTIONS:  
THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
- C. SETBACK CONTROLS:  
HEATING SYSTEMS LOCATED IN CLIMATE ZONES 2-8 SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE A HEATING SETPOINT ADJUSTABLE DOWN TO 55°F OR LOWER. COOLING SYSTEMS LOCATED IN CLIMATE ZONES 1B, 2B, AND 3B SHALL BE EQUIPPED WITH CONTROLS THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW A COOLING SETPOINT ADJUSTABLE UP TO 90°F OR HIGHER OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.
- D. AUTOMATIC SHUTDOWN:  
HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING: CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY-TYPES PER WEEK, ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE, OR EQUIVALENT FUNCTION, THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.
- E. SETPOINT OVERLAP RESTRICTION:  
WHERE HEATING AND COOLING TO A ZONE ARE CONTROLLED BY SEPARATE ZONE THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONE, MEANS (SUCH AS LIMIT SWITCHES, MECHANICAL STOPS, OR, FOR DDC SYSTEMS, SOFTWARE PROGRAMMING) SHALL BE PROVIDED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT MINUS ANY APPLICABLE PROPORTIONAL BAND.

**OCCUPANCY CALCULATION PER NCMC 2018, TABLE 403.3**

|               |             |                       |          |
|---------------|-------------|-----------------------|----------|
| CUSTOMER AREA | 176 SQ. FT. | @50 PEOPLE/1000SQ.FT. | 9 PEOPLE |
| KITCHEN       | 473 SQ. FT. | @0 PEOPLE/1000SQ.FT.  | 0 PEOPLE |

(OCCUPANCY FOR VENTILATION CALCULATIONS IS CONSIDERED AS PER ARCHITECTURAL LAYOUT)

**VENTILATION REQUIREMENTS PER NCMC 2018 WITH OCC. MODIFICATION, TABLE 403.3**

|                               |                                  |          |
|-------------------------------|----------------------------------|----------|
| CUSTOMER ROOM                 | 176 SQ. FT. X 0.06 CFM/SQ. FT. = | 11 CFM   |
|                               | 7 PEOPLE X 7.5 CFM/PEOPLE =      | 53 CFM   |
| OUTSIDE AIR REQUIRED          |                                  | 64 CFM   |
| KITCHEN                       | 473 SQ. FT. X 0.7 CFM/SQ. FT. =  | 330 CFM  |
| RESTROOM                      | 70 CFM PER FIXTURE               | 70 CFM   |
| EXHAUST AIR REQUIRED          |                                  | 400 CFM  |
| OUTSIDE AIR THROUGH AHU-1 (N) |                                  | 250 CFM  |
| OUTSIDE AIR THROUGH AHU-2 (N) |                                  | 250 CFM  |
| AIR BALANCE                   |                                  |          |
| O/A PROVIDED                  |                                  | +500 CFM |
| KEF-1                         |                                  | -330 CFM |
| BEF-1                         |                                  | -70 CFM  |
| BUILDING PRESSURE             |                                  | +100 CFM |

**DIFFUSER SCHEDULE**

| MANUFACTURER   | TITUS  | TITUS         | TITUS     | TITUS         |
|----------------|--|---------------|-----------|---------------|
| DESIGNATION    | A  | B             | C         | D             |
| USE            | SUPPLY   | SUPPLY        | SUPPLY    | RETURN        |
| MODEL          | TMS  | TMS           | 300 FS    | 56FL          |
| MOUNTING       | CEILING  | HARD CEILING  | DUCT/WALL | CEILING/WALL  |
| LOCATION       | SEE PLAN   | SEE PLAN      | DINING    | ANY           |
| FACE SIZE      | 24" X 24"  | SEE PLAN      | -         | AS SHOWN      |
| NECK SIZE      | TO MATCH DUCT                                    | TO MATCH DUCT | AS SHOWN  | AS SHOWN      |
| FRAME TYPE     | LAY IN   | FLANGED       | FLANGED   | LAY IN        |
| FINISH         | CONFIRM FINAL FINISH COLOR WITH ARCHITECT/OWNER. |               |           |               |
| NOISE CRITERIA | <30  | <30           | <30       | <30           |
| ACCESSORIES    | VOLUME DAMPER                                    | VOLUME DAMPER | OB DAMPER | VOLUME DAMPER |

**SPLIT HEAT PUMP UNIT SCHEDULES**

| TAGS                                | AC-1                            |                                | AC-2                           |                                |
|-------------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                     | AHU-1                           | CU-1                           | AHU-2                          | CU-2                           |
| STATUS                              | NEW                             |                                | NEW                            |                                |
| MANUFACTURER                        | TRANE                           |                                | TRANE                          |                                |
| MODEL                               | GAM5B0C48M41S B (OR EQUIVALENT) | 4TWA4048A4000A (OR EQUIVALENT) | GAM5B0C48M41SB (OR EQUIVALENT) | 4TWA4048A4000A (OR EQUIVALENT) |
| COOLING CAPACITY (TR)               | 4                               | -                              | 4                              | -                              |
| TOTAL COOLING BTU/HR                | 47000                           |                                | 47000                          |                                |
| HEATING CAPACITY (BTU/HR)           | 41500                           |                                | 41500                          |                                |
| HSPF                                | -                               | 8.20                           | -                              | 8.20                           |
| EER/SEER                            | -                               | 12/14.5                        | -                              | 12/14.5                        |
| SUPPLY CFM                          | 1586                            |                                | 1586                           |                                |
| OUTSIDE AIR (CFM)                   | 250                             |                                | 250                            |                                |
| SUPPLEMENTARY ELECTRIC HEATING (KW) | 5.7                             | -                              | 5.7                            | -                              |
| FAN HP                              | 3 / 4                           | -                              | 3 / 4                          | -                              |
| VOLTAGE/PHASE                       | 208-230 / 1                     | 460 / 3                        | 208-230 / 1                    | 460 / 3                        |
| MCA(A)                              | 42                              | 9                              | 42                             | 9                              |
| MOCP(A)                             | 45                              | 15                             | 45                             | 15                             |
| LOCATION                            | MEZZANINE                       | SEE PLAN                       | MEZZANINE                      | SEE PLAN                       |
| WEIGHT (LBS)                        | 166                             | 218                            | 166                            | 218                            |

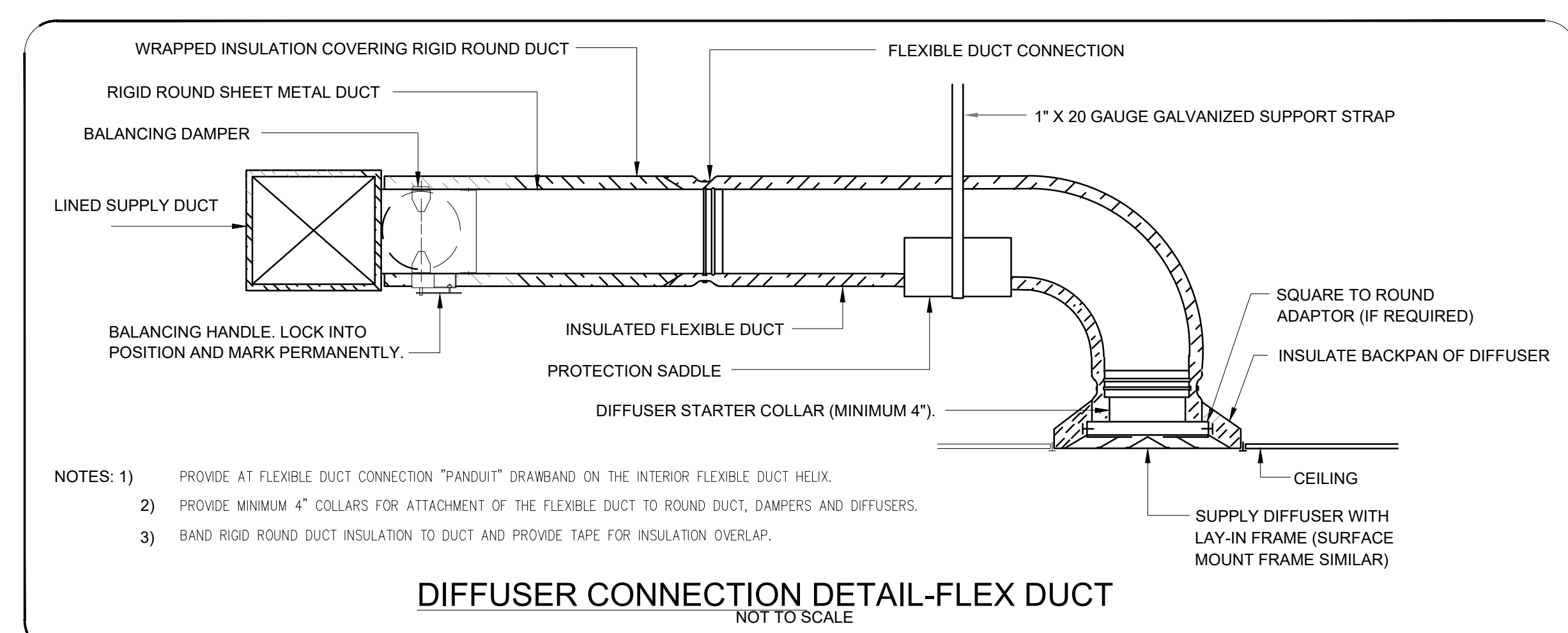
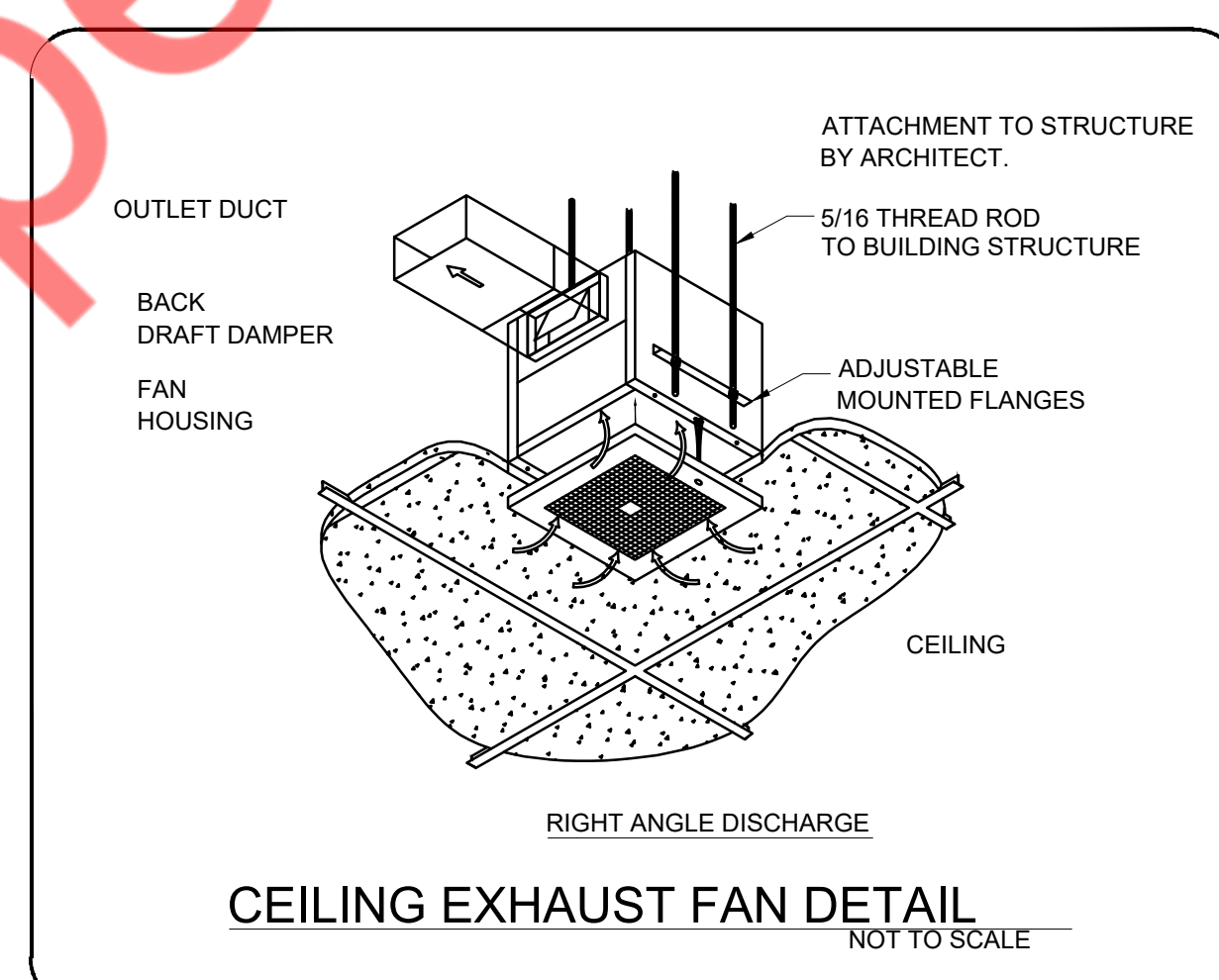
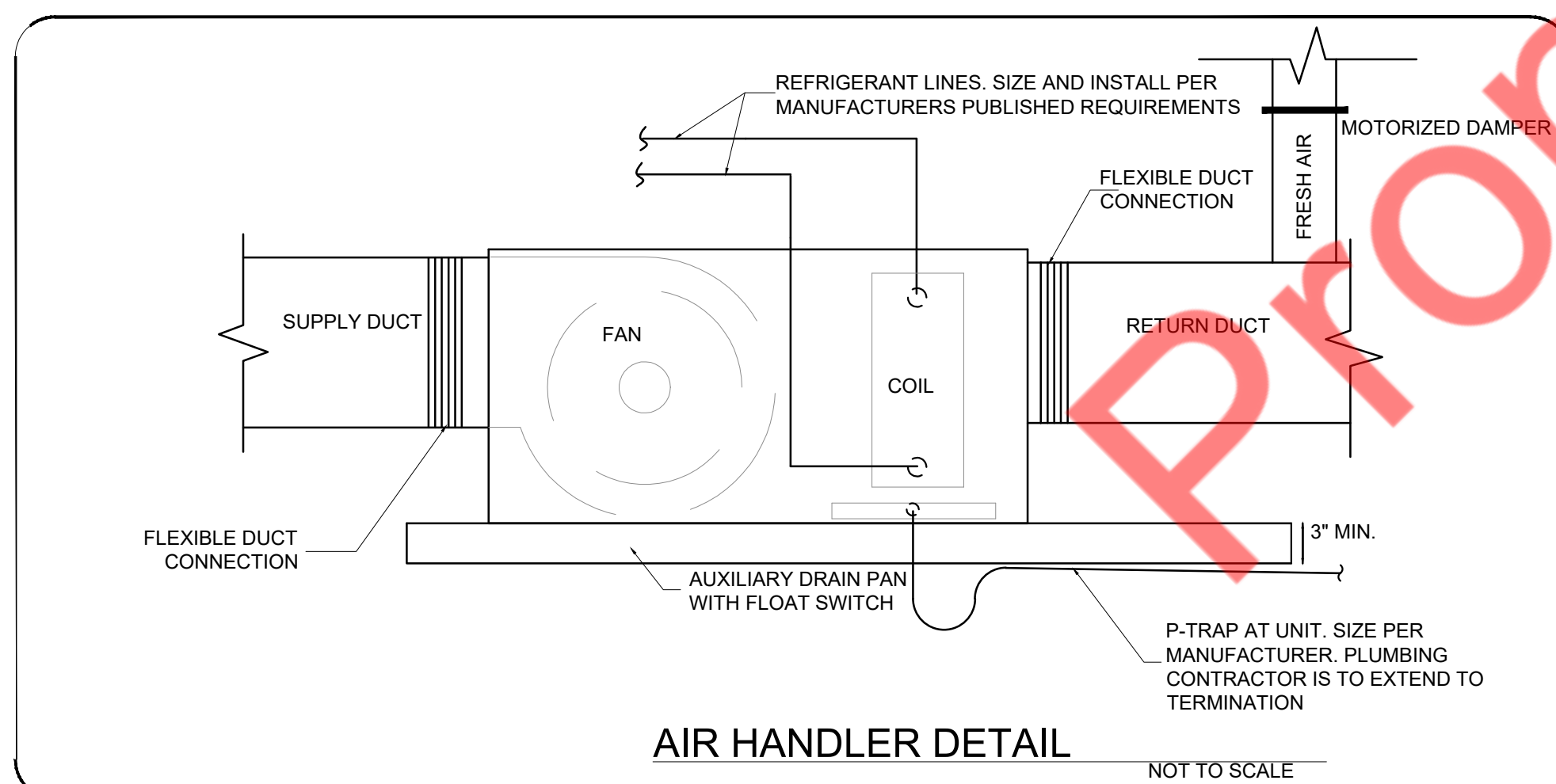
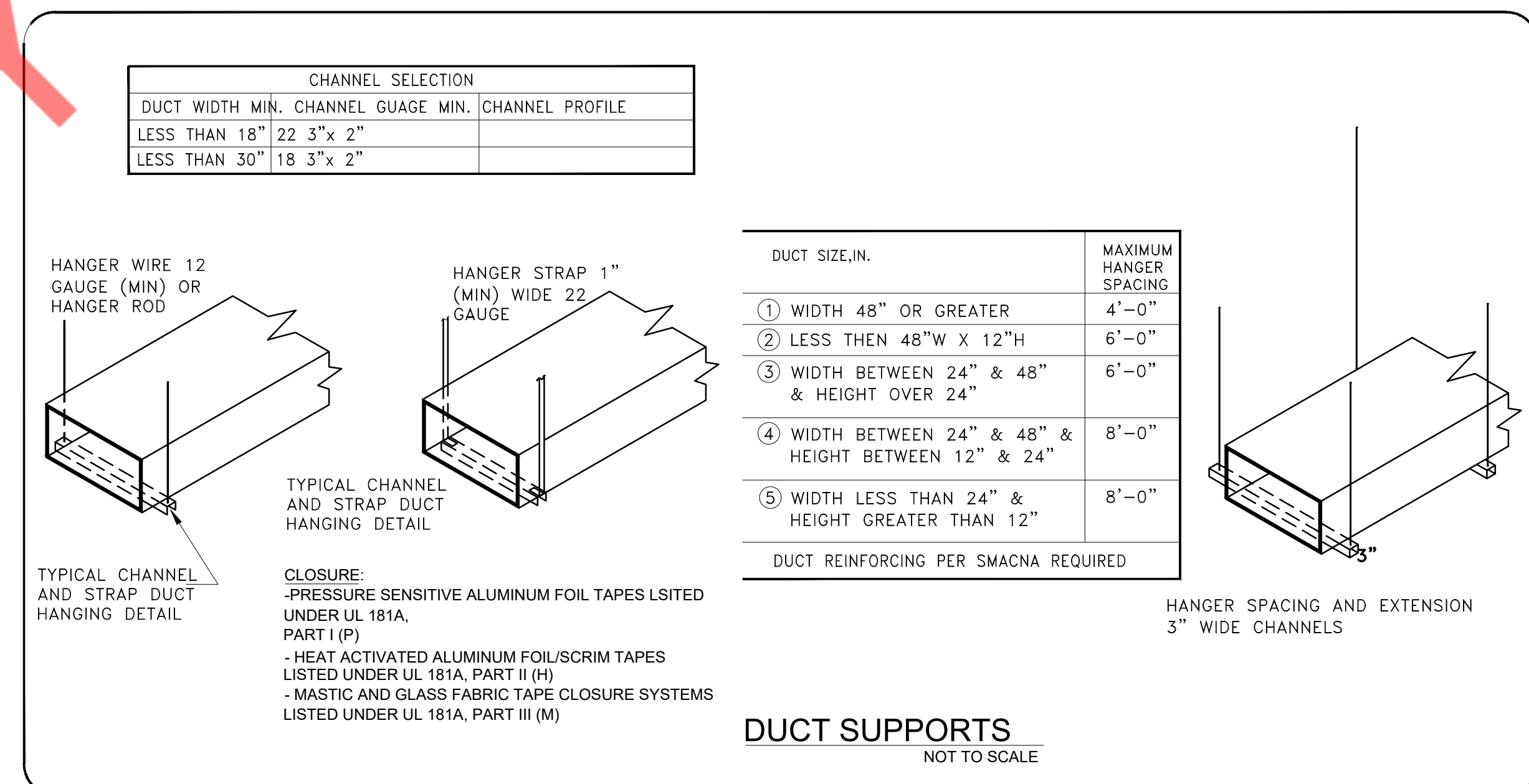
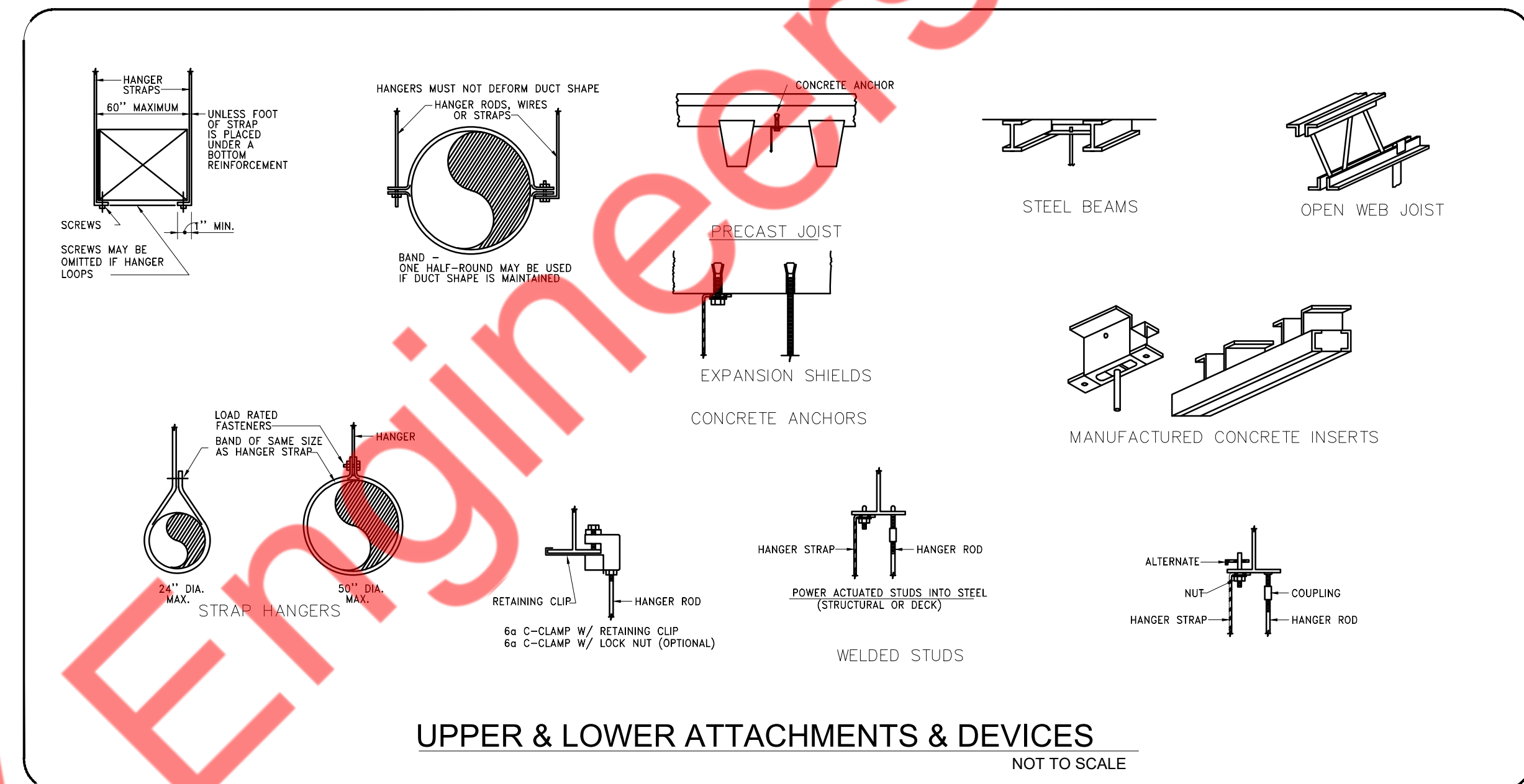
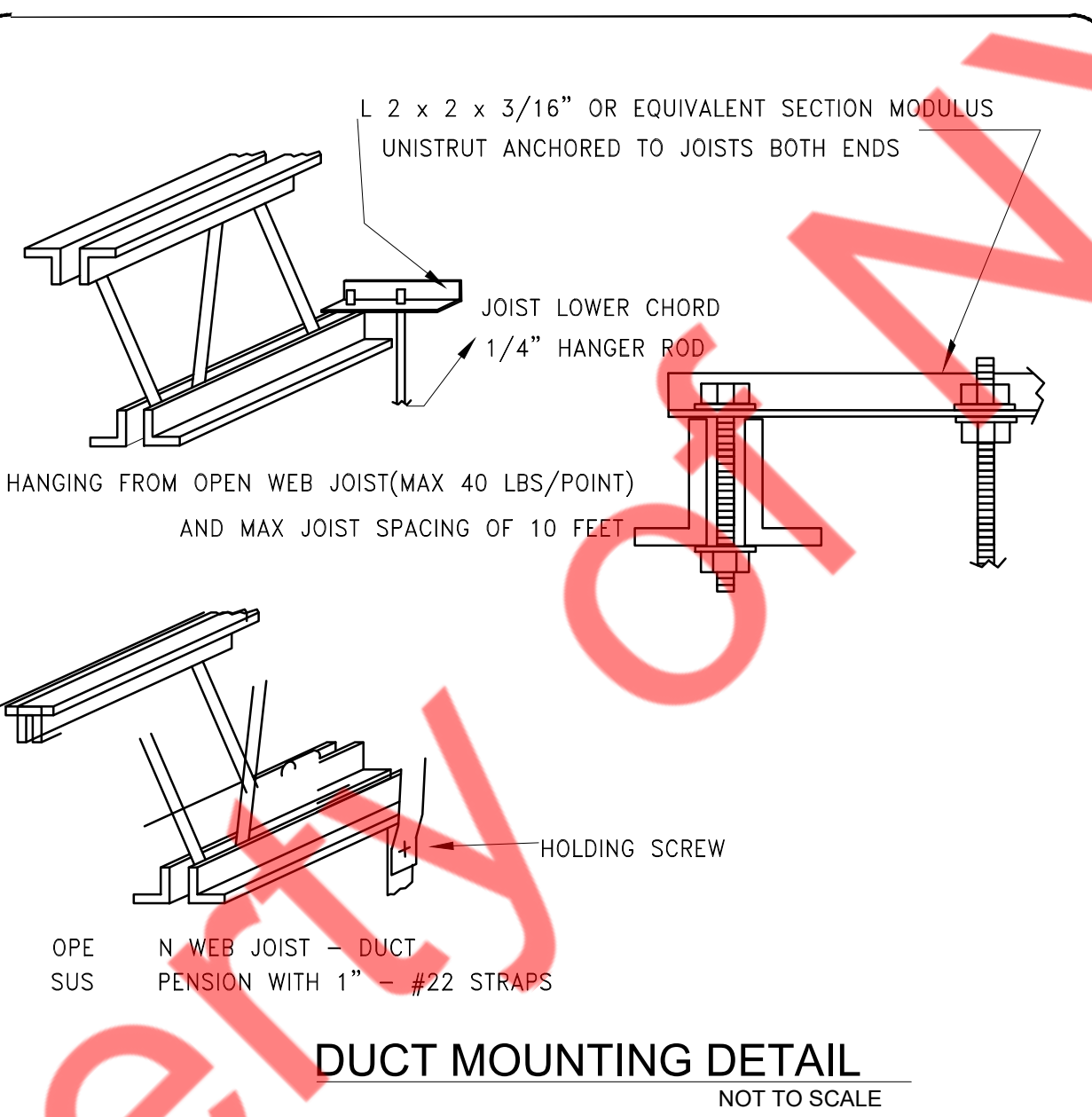
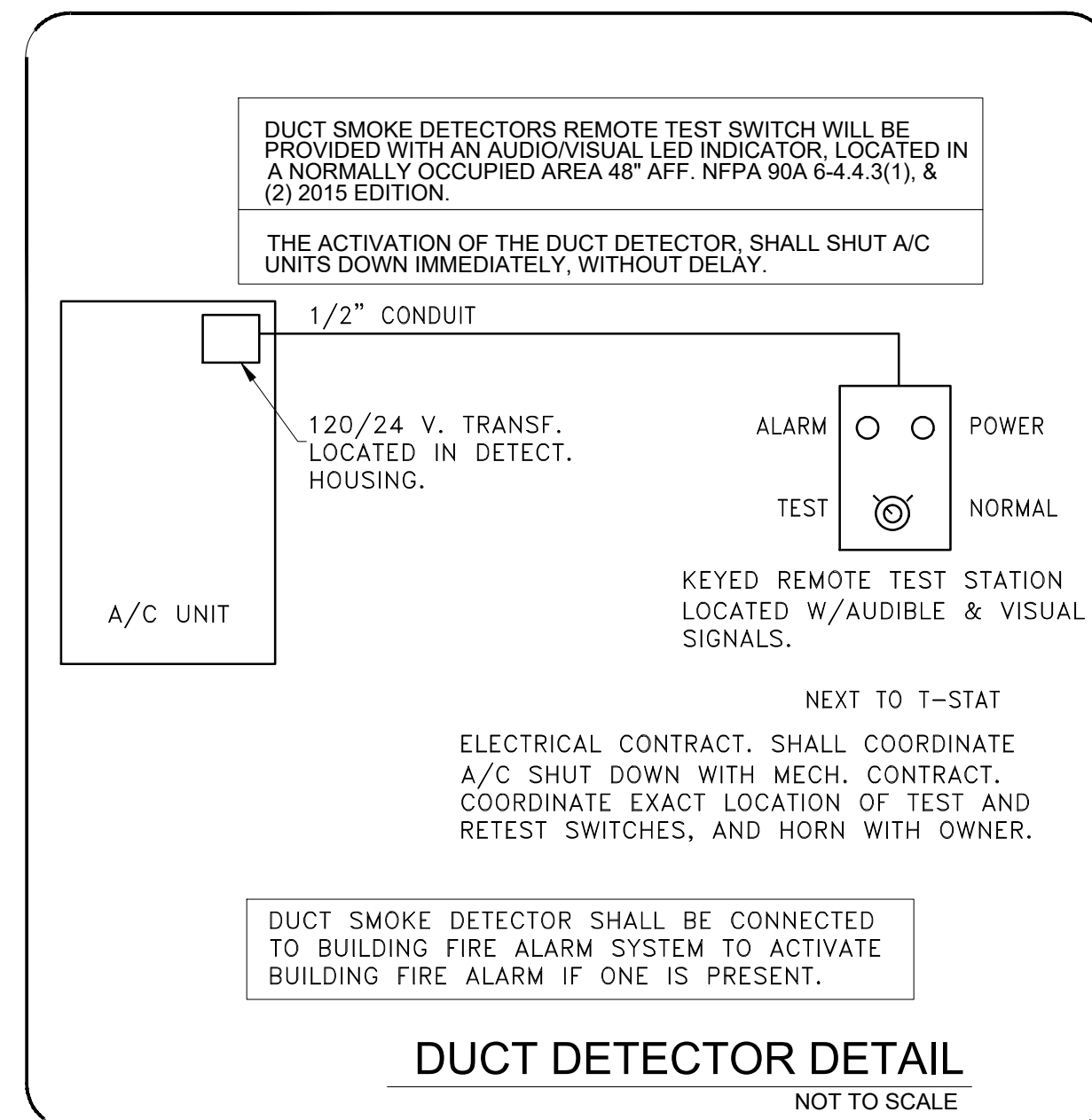
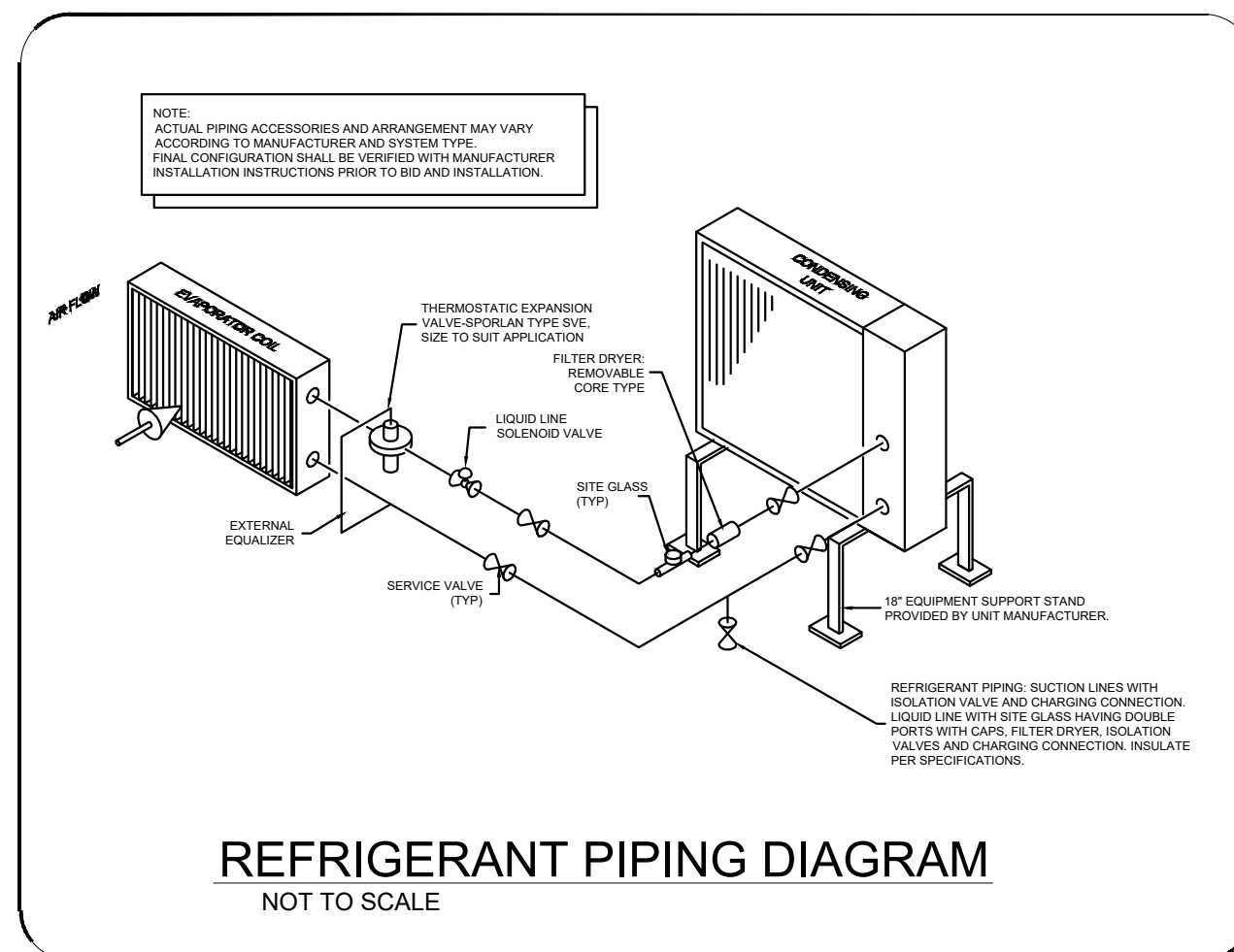
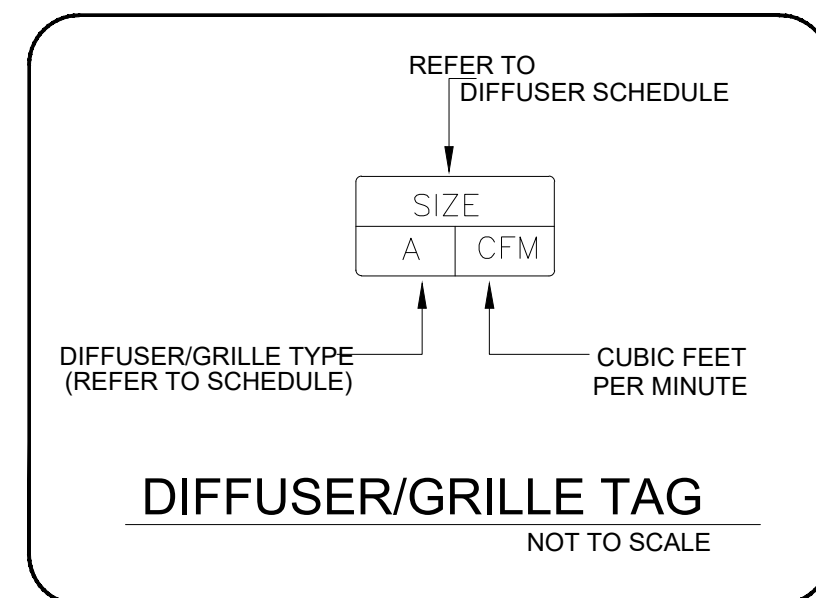
**FAN SCHEDULE**

| TAG          | KEF-1              | BEF-1             |
|--------------|--------------------|-------------------|
| STATUS       | NEW                | NEW               |
| QUANTITY     | 1                  | 1                 |
| MANUFACTURER | GREENHECK          | GREENHECK         |
| MODEL        | SP-A410            | SP-A90            |
| CFM          | 380 @0.3" W.G. ESP | 70 @0.3" W.G. ESP |
| AMPS         | 1.7                | 0.17              |
| ACCESSORIES  | BS,BDD             | BDD,LITE KIT      |
| WEIGHT (LBS) | 31                 | 12                |
| VOLTAGE      | 115/1/60           | 115/1/60          |

**NORTH CAROLINA BUILDING DEPARTMENT NOTES**

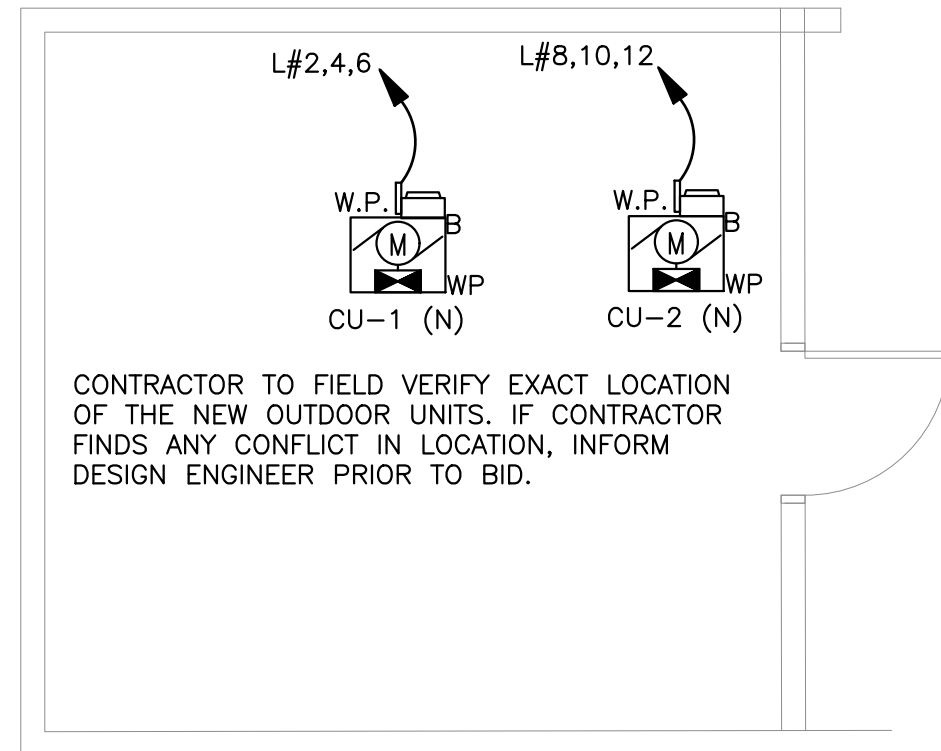
- ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF 2018 NORTH CAROLINA BUILDING CODE AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.
1. THE CONTRACTOR SHALL ENGAGE THE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS IF REQUIRED.
  2. 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.
  3. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2018 NORTH CAROLINA MECHANICAL CODE:
    - A. REFRIGERATION SYSTEMS - MC 1108
  4. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
    - A. DUCT CONSTRUCTION AND INSTALLATION- 2018 NCMC 603
    - B. AIR INTAKES, EXHAUSTS AND RELIEF - 2018 NCMC 401.5
    - C. GAS FIRED EQUIPMENT -2018 NORTH CAROLINA FUEL GAS CODE
  5. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
  6. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2018 NORTH CAROLINA MECHANICAL CODE .
  7. 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 2018 NORTH CAROLINA MECHANICAL CODE 403.3
  8. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
  9. 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.
  10. MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER 2018 NORTH CAROLINA ENERGY CONSERVATION CODE C403.2.2, C408.2.1, C408.2.5 FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF OCCUPANCY.
  11. A COMMISSIONING PLAN SHALL BE DEVELOPED BY A LICENSED DESIGN PROFESSIONAL, MECHANICAL ENGINEER OR APPROVED AGENCY.
  12. A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY THE LICENSED DESIGN PROFESSIONAL, ELECTRICAL ENGINEER, MECHANICAL ENGINEER OR APPROVED AGENCY AND PROVIDED TO THE BUILDING OWNER OR OWNERS AUTHORIZED AGENT.
  13. A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED IN ACCORDANCE WITH SECTION 2018 NORTH CAROLINA ENERGY CONSERVATION CODE C408.2.1.
  14. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
  15. SMOKE DETECTOR SHALL MEET UL288A.





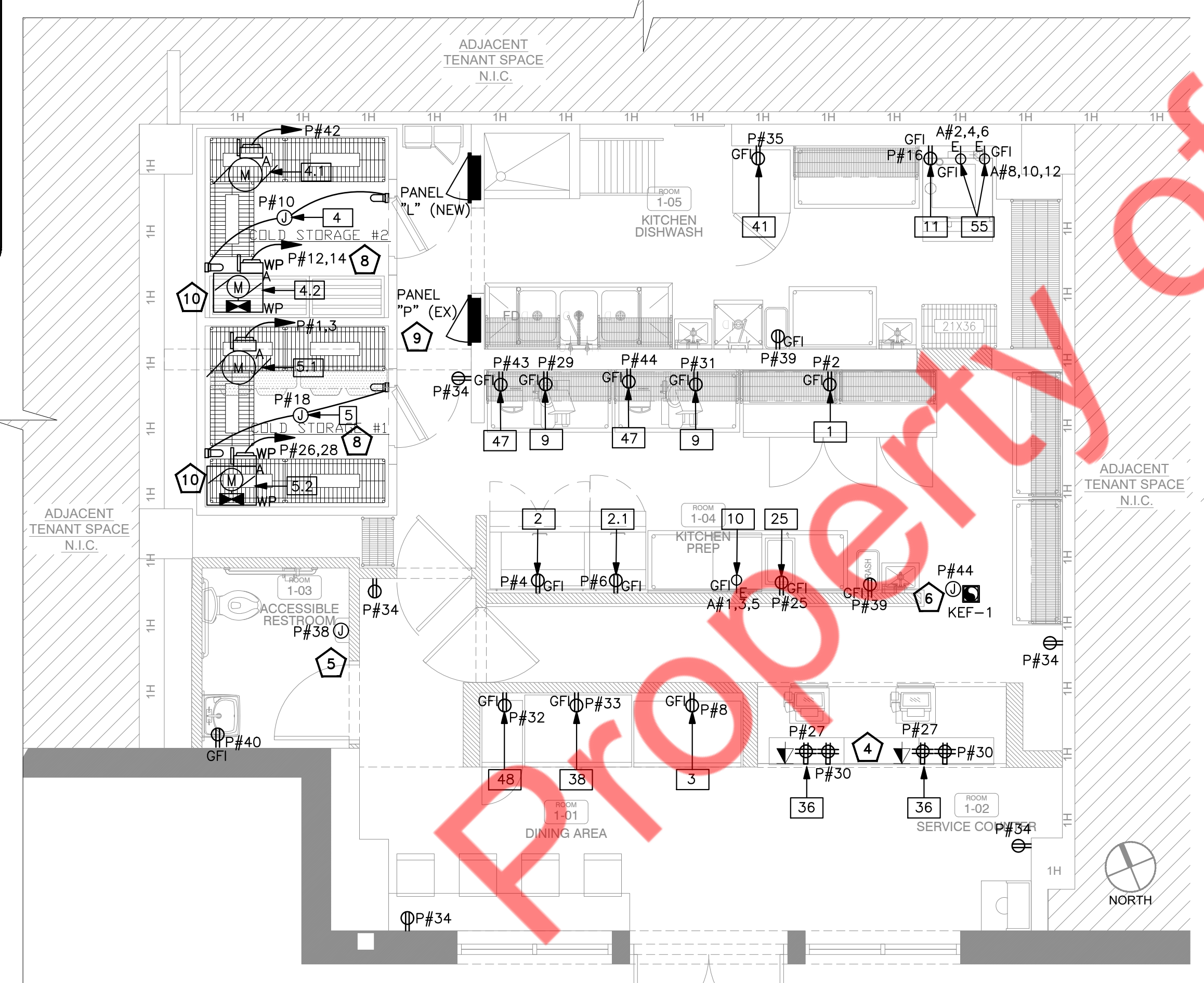
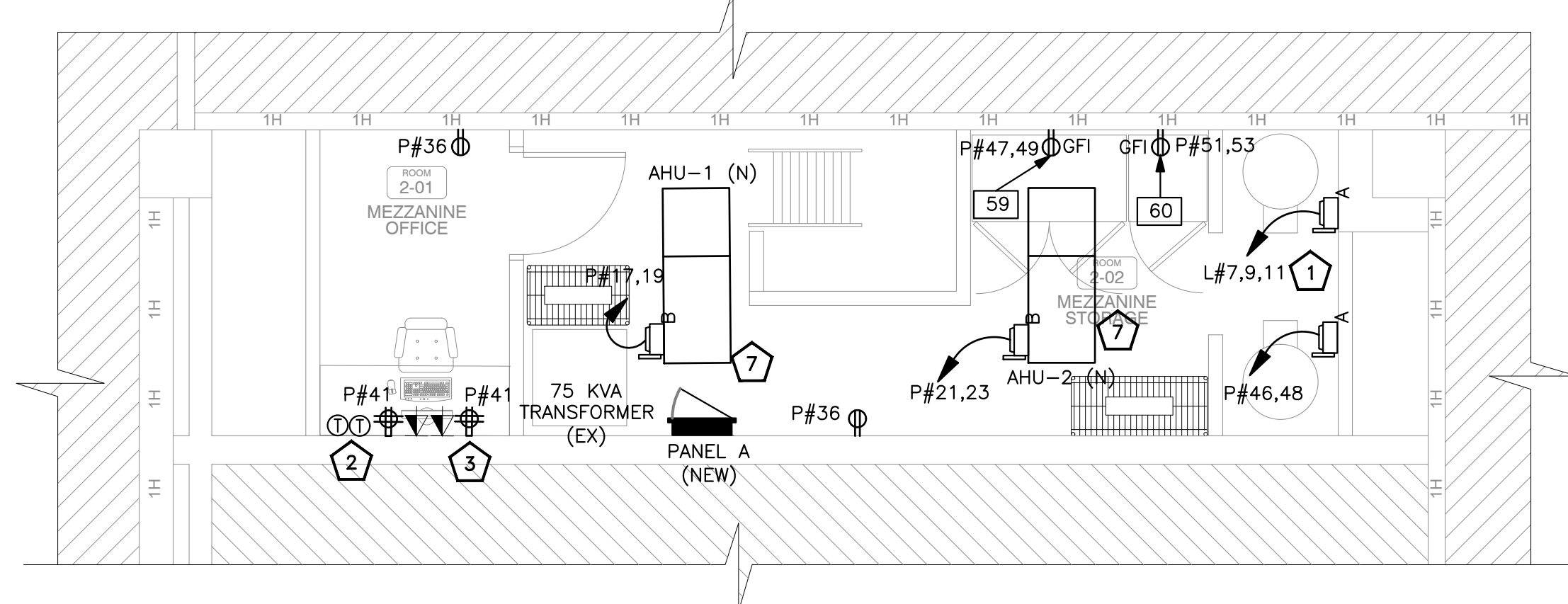
**ELECTRICAL POWER PLAN  
KEYED WORK NOTES:**

- 1 PROVIDE GFCI DUPLEX RECEPTACLE FOR WATER HEATER PER MANUFACTURER'S DATA SHEET. REFER TO ARCHITECTURAL/PLUMBING DRAWINGS TO COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- 2 E.C. SHALL PROVIDE BACK BOX AND CONDUIT WITH PULL STRING FOR MECHANICAL UNIT THERMOSTAT. CONFIRM FINAL LOCATION WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.
- 3 PROVIDE TWO (2) CAT6 HOMERUN TO DESK AND ONE (1) QUAD 20 AMP RECEPTACLE AT 18" A.F.F. AT DESK. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 4 PROVIDE TWO (2) CAT 6 HOMERUN TO EACH POS AND ONE (1) QUAD 20 AMPS RECEPTACLE AT 15" A.F.F. AT COUNTER FOR POS COORDINATE WITH OWNER PRIOR TO ROUGH-IN.
- 5 JUNCTION BOX FOR HAND DRYER. COORDINATE MOUNTING HEIGHT TO COMPLY WITH ADA.
- 6 PROVIDE 1P20 MOTOR RATED SWITCH IN WEATHERPROOF BOX FOR KEF-1.
- 7 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. COORDINATE LOCATION OF DISCONNECT WITH MANUFACTURER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.
- 8 ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT WITH WALK IN BOX MANUFACTURER AND MAKE POWER PROVISION ACCORDINGLY.
- 9 RELOCATED EXISTING ELECTRICAL PANEL "P". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/ OWNER.
- 10 E.C. TO FIELD VERIFY LOCATION OF CONDENSING UNIT AND PROVIDE POWER CONNECTION ACCORDINGLY.



CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF THE NEW OUTDOOR UNITS. IF CONTRACTOR FINDS ANY CONFLICT IN LOCATION, INFORM DESIGN ENGINEER PRIOR TO BID.

| WALL PARTITION LEGEND |   |  |                        |
|-----------------------|---|--|------------------------|
|                       | EXISTING EXTERIOR WALL TO REMAIN              |  | NEW INTERIOR PARTITION |
|                       | EXISTING INTERIOR PARTITION TO REMAIN         |  | NEW HEADER ABOVE       |
|                       | (E) 1 HR RATED TENANT DEMISING WALL TO REMAIN |  | NEW KNEE WALL BELOW    |



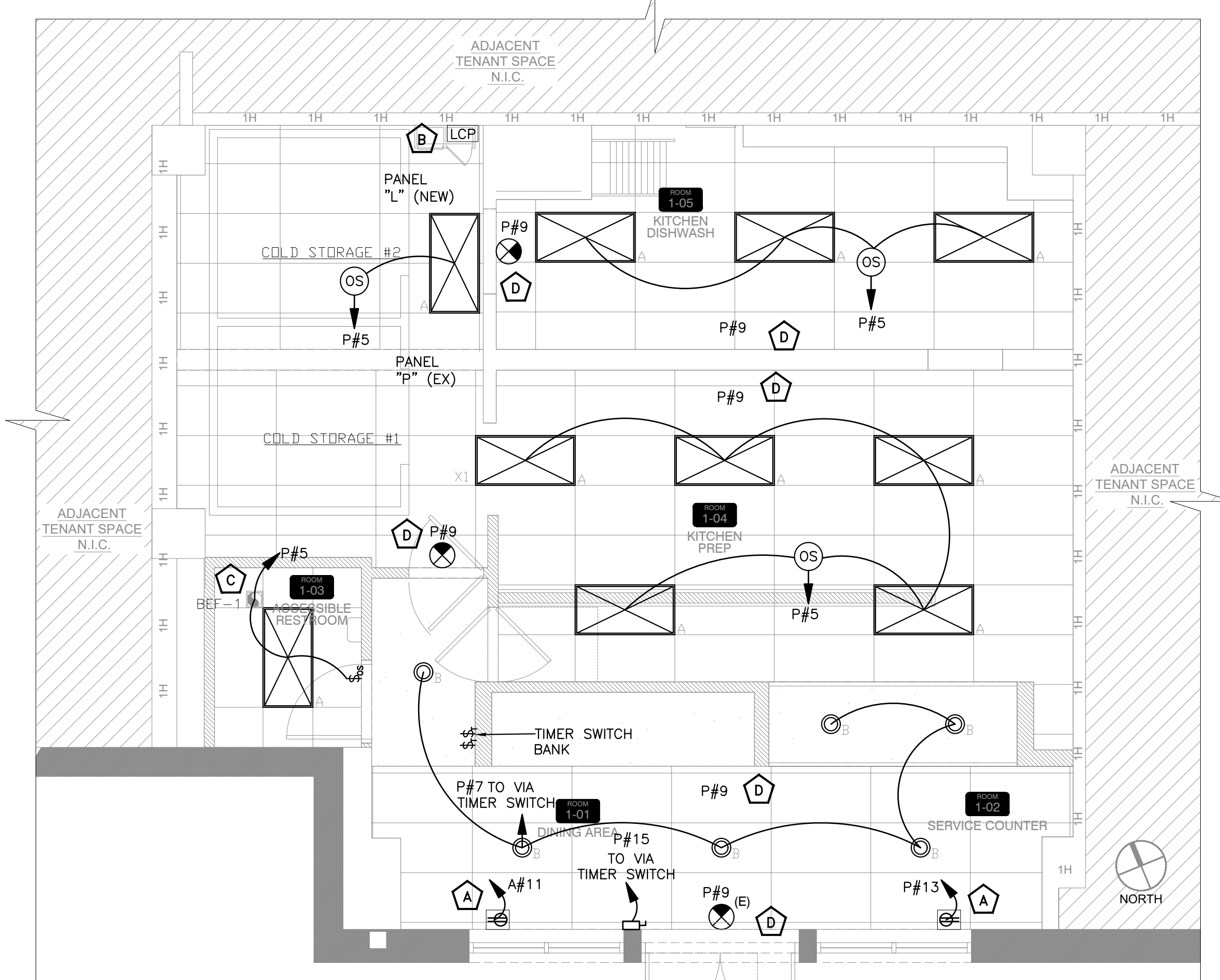
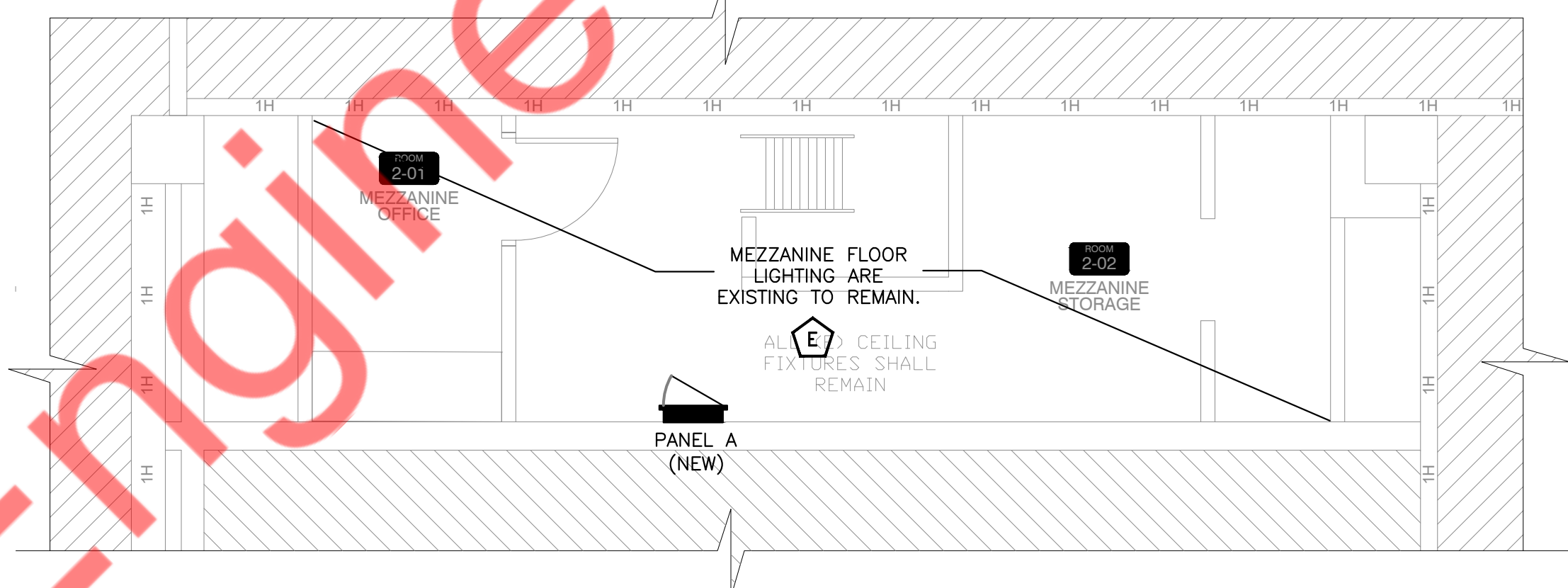
**POWER PLAN**

SCALE  
1/4" = 1'-0"

**ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:**

- A PROVIDE CEILING MOUNTED RECEPTACLE FOR SHOW WINDOW AS REQUIRED BY CODE. VERIFY WITH LOCAL ENERGY AGENCY. VERIFY EXACT LOCATION WITH ARCHITECT.
- B COORDINATE EXACT LOCATION OF THE LIGHTING CONTROL PANEL "LCP" WITH ARCHITECT/OWNER.
- C EXHAUST FANS SHALL BE CIRCUITED AND CONTROLLED ALONG WITH THE LIGHT FIXTURES IN THE SAME ROOM.
- D 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.
- E ALL LIGHTING IN THIS AREA SHALL REMAIN CIRCUITED TO THE EXISTING ELECTRICAL PANEL "P". E.C. SHALL VERIFY THE EXACT CONTROLLING AND CIRCUIT NUMBER IN FIELD.

| WALL PARTITION LEGEND |   |  |                        |
|-----------------------|---|--|------------------------|
|                       | EXISTING EXTERIOR WALL TO REMAIN              |  | NEW INTERIOR PARTITION |
|                       | EXISTING INTERIOR PARTITION TO REMAIN         |  | NEW HEADER ABOVE       |
|                       | (E) 1 HR RATED TENANT DEMISING WALL TO REMAIN |  | NEW KNEE WALL BELOW    |



**LIGHTING PLAN**

SCALE  
1/4" = 1'-0"

### SCOPE OF WORK

USE THE NEW 200 AMP 480/277V - 3Ø SERVICE AND PANEL. PROVIDE ALL NECESSARY EQUIPMENT AND ALL WIRING AND LIGHTING FOR NEW RESTAURANT BUILDOUT INCLUDING WIRING FOR NEW KITCHEN 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 2020 EDITION OF THE NATIONAL ELECTRIC CODE AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION.
  - DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION FOR ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.
  - ALL ELECTRICAL NOT BEING REUSED MUST BE REMOVED IN ITS ENTIRETY.
  - ALL CONDUIT IN OR UNDERGROUND OR IN CONCRETE MUST BE RIGID GALVANIZED STEEL.
  - 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

- TYPE CIRCUIT BREAKERS.
- PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, DEVICES, ETC. FOR ALL OUTLETS AS INDICATED.
  - 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.
  - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.
  - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRED CAULKING REQUIRED OF HIS WORK.
  - ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS W/TYPE WRITTEN DIRECTORIES.
  - ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 24" A.F.F. UNLESS NOTED OTHERWISE, AND VERTICALLY MOUNTED.
  - ALL LIGHT SWITCHES TO BE AT 42" A.F.F.
  - ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL WIRING FOR HVAC SYSTEM INCLUDING CONTROLS, THERMOSTATS, POWER, ETC. SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
  - BREAKER AND PANELS - ALL CURRENT CARRYING BUSSES SHALL BE COPPER. ALL GROUND BUS BARS SHALL BE COPPER. PANEL BOARD ENCLOSURES SHALL BE FURNISHED WITHOUT PRE-PUNCHED CONCENTRIC HOLES. A.I.C. RATINGS SHALL BE AS INDICATED ON PANEL BOARD SCHEDULES.
  - DISCONNECT SWITCHES SHALL BE H.P. RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.
  - MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, WITH OVERLOAD RELAYS IN EACH HOT LEG.
  - THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACT SHALL FURNISH AND INSTALL.
  - 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.
  - VOLTAGE DROP FOR ALL BRANCH CONDUCTORS SHALL NOT EXCEED 3% WHERE VOLTAGE DROP EXCEEDS 3%, CONTRACTOR SHALL INCREASE SIZE OF CONDUCTORS.
  - CONTRACTOR SHALL PROVIDE GFI TYPE BREAKER FOR ALL EXTERIOR 120V CIRCUITS OR GFI PROTECTION - FOR THE WHOLE CIRCUIT.
  - GAS PIPING SHALL BE BONDED.
  - ELECTRICAL CONTRACTOR SHALL COORDINATE SERVICE ENTRY WITH SERVICE PROVIDER PRIOR TO DETERMINING EXACT LOCATION OF THE METER BOX IN ORDER TO AVOID DISCREPANCIES BETWEEN DRAWINGS AND JOB CONDITIONS.
  - ALL OUTDOOR EQUIPMENT SHALL BE WEATHERPROOF.
  - 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.
  - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND FIRE CAULKING REQUIRED OF HIS WORK.
  - ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT FINAL CONNECTIONS ONLY (6" OR LESS).
  - 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.
  - CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED.
  - ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC AND UL REQUIREMENTS.
  - ALL PANELS TO BE UL LABELED WITH BOLT-ON TYPE CIRCUIT BREAKERS.
  - 7-DAY 24-HOUR TIME CLOCK IS REQUIRED TO CONTROL STOREFRONT ENTRY LIGHTS, SHOW WINDOW LIGHTS, SHOW WINDOW RECEPTACLES AND STOREFRONT SIGNAGE. ILLUMINATED STOREFRONT SIGNS MUST REMAIN LIT DURING ALL MALL BUSINESS HOURS.
  - TENANT IS REQUIRED TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRIC SERVICE. ANY/ALL MODIFICATIONS OR UPGRADES NEEDED ARE SUBJECT TO LANDLORD'S PRIOR APPROVAL AND WILL BE COMPLETED BY TENANT/TENANT'S GC AT TENANT'S SOLE EXPENSE.
  - ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
  - PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.

- ### 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 AND LOWER CASE LETTER DENOTES SWITCHING SCHEME.
  - 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, 3 WAY, 4 WAY)   |
|        | WALL SWITCH (TIMER)  |
|        | DIMMER WALL SWITCH   |
|        | OCCUPANCY SENSOR WALL SWITCH   |
|        | VARIABLE SPEED SWITCH  |
|        | SIMPLEX RECEPTACLE, +18" AFF OR AS NOTED. SUFFIX DENOTES FOLLOWING:<br>A - NEMA 5-15R<br>B - NEMA 6-15R<br>C - NEMA 14-30R<br>D - NEMA 14-50R<br>E - NEMA 15-30R |
|        | DUPLEX RECEPTACLE  |
|        | DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS   |
|        | HALF SWITCHED DUPLEX RECEPTACLE  |
|        | 230 VOLT RECEPTACLE  |
|        | QUADRUPLEX 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  |
|        | TELEPHONE OUTLET   |
|        | TELEPHONE/DATA OUTLET  |
|        | DATA OUTLET  |
|        | FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET   |
|        | QUAD. DATA OUTLET RJ45   |
|        | THERMOSTAT DEVICE  |
|        | AC OUTDOOR UNIT MOTOR AS NOTED WITH WEATHERPROOF CONTROLLER AND DISCONNECT SWITCH WITH   |
|        | NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED   |
|        | 30A/240V NON FUSED DISCONNECT SWITCH   |
|        | 60A/240V NON FUSED DISCONNECT SWITCH   |
|        | 100A/240V NON FUSED DISCONNECT SWITCH  |
|        | 2000A/240V NON FUSED DISCONNECT SWITCH   |

ABBREVIATIONS: ABOVE FINISH FLOOR= A.F.F. COUNTER TOP LEVEL= C GROUND FAULT INTERRUPTER= GFCI VERIFY PRIOR TO INSTALL= VH WEATHER PROOF= WP

BELOW COUNTER= BC PUSH BUTTON= PB UNDER CABINET= UC VAPOR PROOF= VP SALVAGED= S

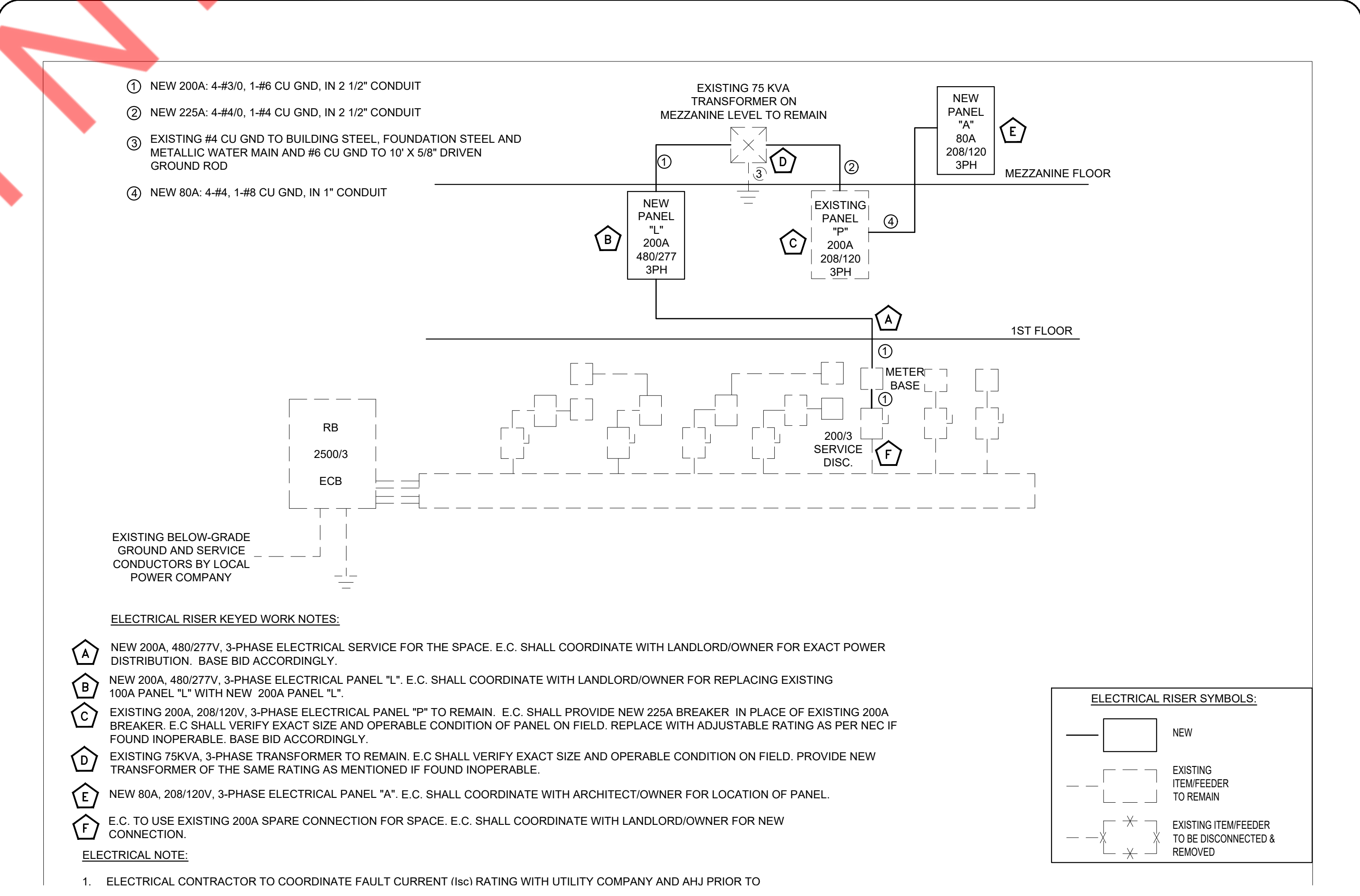
### LIGHTING FIXTURE SCHEDULE

| TYPE | DESCRIPTION                 | MANUFACTURER          | PRODUCT ID           | CATALOG NUMBER       | VOLT    | LAMP WATTAGE | MOUNTING |
|------|-----------------------------|-----------------------|----------------------|----------------------|---------|--------------|----------|
| A    | 2x4 RECESSED LAY IN FIXTURE | HE WILLIAMS           | CU-NAHMCA            | LT-24-L52/835-AF-DIM | 120/277 | 37 WATTS     | RECESSED |
| B    | RECESSED COMPACT FIXTURE    | COOPER LIGHTING       | CU-NAHMCB            | ML56128xx-692SC      | 120/277 | 17.5 WATTS   | RECESSED |
| X1   | EXIT SIGNS                  | BEST LIGHTING PRODUCT | BEST LTG ETXTEU3RWEM | X2-LEDR-1B           | 120     | 2 WATTS      |          |
| Y1   | EMERGENCY LIGHTS            | BEST LIGHTING PRODUCT |                      | X2-EZXTU-1RB         | 120     | 2 WATTS      |          |
| E    | EXIT/EMERGENCY COMBO SIGNS  | TBD                   |                      | TBD                  | 120     | 2 WATTS      |          |
| T    | TIMER WALL SWITCH           | LEVITON               |                      | 6124                 | 120     |              |          |
| OS   | OCCUPANCY WALL SWITCH       | LEVITON               |                      | ODS10                | 120     |              |          |
| OS   | CEILING OCCUPANCY SENSOR    | LEVITON               |                      | O2C10-UDW            | 120     |              |          |
| LCP  | LIGHTING CONTROL PANEL      | EATON                 |                      | LITEKEEPER 16        | 120     |              |          |

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 PHOTOMETRICS & FIXTURE SAMPLES FOR ALL DECORATIVE FIXTURES, LANDSCAPE FIXTURES & OUTDOOR FIXTURES. WITHOUT THIS INFORMATION NO REVIEW WILL BE PROVIDED.





**PLUMBING NOTES**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
2. 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.
3. ALL EQUIPMENT WHICH IS TO REMAIN MUST BE REFURBISHED TO A LIKE NEW CONDITION.
4. PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS.
5. ALL MATERIALS SHALL BE NEW.
6. 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.
7. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
8. 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 BY REGULATORY AUTHORITIES.
9. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
10. 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.
11. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREPANCIES.
12. 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 ANSI/NSF STANDARD 61.
13. SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE PVC BUT NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
14. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
15. FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND WITH GOOD ENGINEERING PRACTICE.
16. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS, EXCEPT AT WATER HEATER AS PER CODE.
17. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
18. ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN FLOORS AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
19. 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.
20. STUDDOR MINI/MAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
21. PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
22. NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
23. NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
24. 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.
25. 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.
26. PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
27. NO JOINTS UNDERGROUND FOR COPPER.
28. PLUMBING FIXTURES SHALL COMPLY WITH IPC.
29. WATER HAMMER ARRESTORS AS PER IPC.
30. PLUMBING CONTRACTOR TO PROVIDE ANTI-SCALDING VALVE FOR TUBS AND SHOWERS.
31. PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
32. PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET).
33. 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.
34. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE AS PER IPC.
35. AS PER IPC, ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH BACKFLOW PREVENTION AND CONTAMINATION PROVISION OF THE WATER SUPPLY SYSTEM.

**FIXTURE BRANCH SCHEDULES**

| FIXTURE                | COLD WATER | HOT WATER | WASTE | VENT      |
|------------------------|------------|-----------|-------|-----------|
| 4" WATER CLOSET (TANK) | 3/4"       |           | 4"    | 2"        |
| 2" LAVATORY            | 1/2"       | 1/2"      | 2"    | 1 1/2"-2" |
| 3" SERVICE SINK        | 3/4"       | 3/4"      | 3"    | 2"        |
| FLOOR DRAIN/SINK       | --         | --        | 3"    | 2"        |

**PLUMBING LEGEND**

|  |                                       |
|--|---------------------------------------|
|  | SANITARY SEWER PIPING                 |
|  | GREASE SANITARY SEWER PIPING          |
|  | EXISTING SANITARY SEWER PIPING        |
|  | EXISTING GREASE SANITARY SEWER PIPING |
|  | VENT PIPING                           |
|  | DOMESTIC COLD WATER PIPING            |
|  | HOT WATER PIPING                      |
|  | PIPE RISE OR DROP                     |
|  | PIPE RISER UP                         |
|  | POINT OF CONNECTION                   |
|  | CAPPED END OF PIPE                    |
|  | CLEAN OUT                             |
|  | P-TRAP                                |
|  | CLEAN OUT                             |
|  | DOMESTIC COLD WATER                   |
|  | DOMESTIC HOT WATER                    |
|  | GATE VALVE                            |
|  | CHECK VALVE                           |
|  | BALANCING VALVE                       |
|  | FLOOR DRAIN                           |
|  | INDIRECT WASTE                        |
|  | FLOOR SINK                            |
|  | THERMOSTATIC MIXING VALVE             |

**SANITRAY PLAN & RISER NOTES**

1. EXISTING FLOOR SINK TO REMAIN. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION IN FILED PRIOR TO WORK.
2. EXISTING PLUMBING FIXTURES AND PLUMBING CONNECTIONS TO REMAIN. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION IN FILED PRIOR TO WORK.
3. CONNECT NEW SANITARY LINE TO EXISTING SANITARY LINE. CONTRACTOR TO V.I.F. FOR EXACT SIZE & LOCATION.
4. CONNECT NEW GREASE SANITARY LINE TO EXISTING GREASE SANITARY LINE. CONTRACTOR TO V.I.F. FOR EXACT SIZE & LOCATION.
5. CONNECT NEW 3" VENT TO EXISTING VENT MAIN ABOVE CEILING. CONTRACTOR TO V.I.F. FOR EXACT LOCATION AND SIZE.
6. CONNECT NEW 2" VENT TO EXISTING VENT MAIN ABOVE CEILING. CONTRACTOR TO V.I.F. FOR EXACT LOCATION AND SIZE.

**WALL PARTITION LEGEND**

|  |   |
|--|---|
|  | EXISTING EXTERIOR WALL TO REMAIN              |
|  | EXISTING INTERIOR PARTITION TO REMAIN         |
|  | (E) 1 HR RATED TENANT DEMISING WALL TO REMAIN |
|  | NEW INTERIOR PARTITION                        |
|  | NEW HEADER ABOVE                              |
|  | NEW KNEE WALL BELOW                           |

**EXISTING CONTIDITONS NOTES**

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

**ENERGY CONSERVATION NOTES**

1. AS PER 2018 NORTH CAROLINA 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 C403.11.3 OF MINIMUM PIPE INSULATION THICKNESS.
2. AS PER 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WATER HEATING EQUIPMENT AND HOT WATER STORAGE TANKS SHALL MEET THE REQUIREMENTS OF TABLE C404.2. THE EFFICIENCY SHALL BE VERIFIED THROUGH THE DATA FURNISHED BY THE MANUFACTURER.

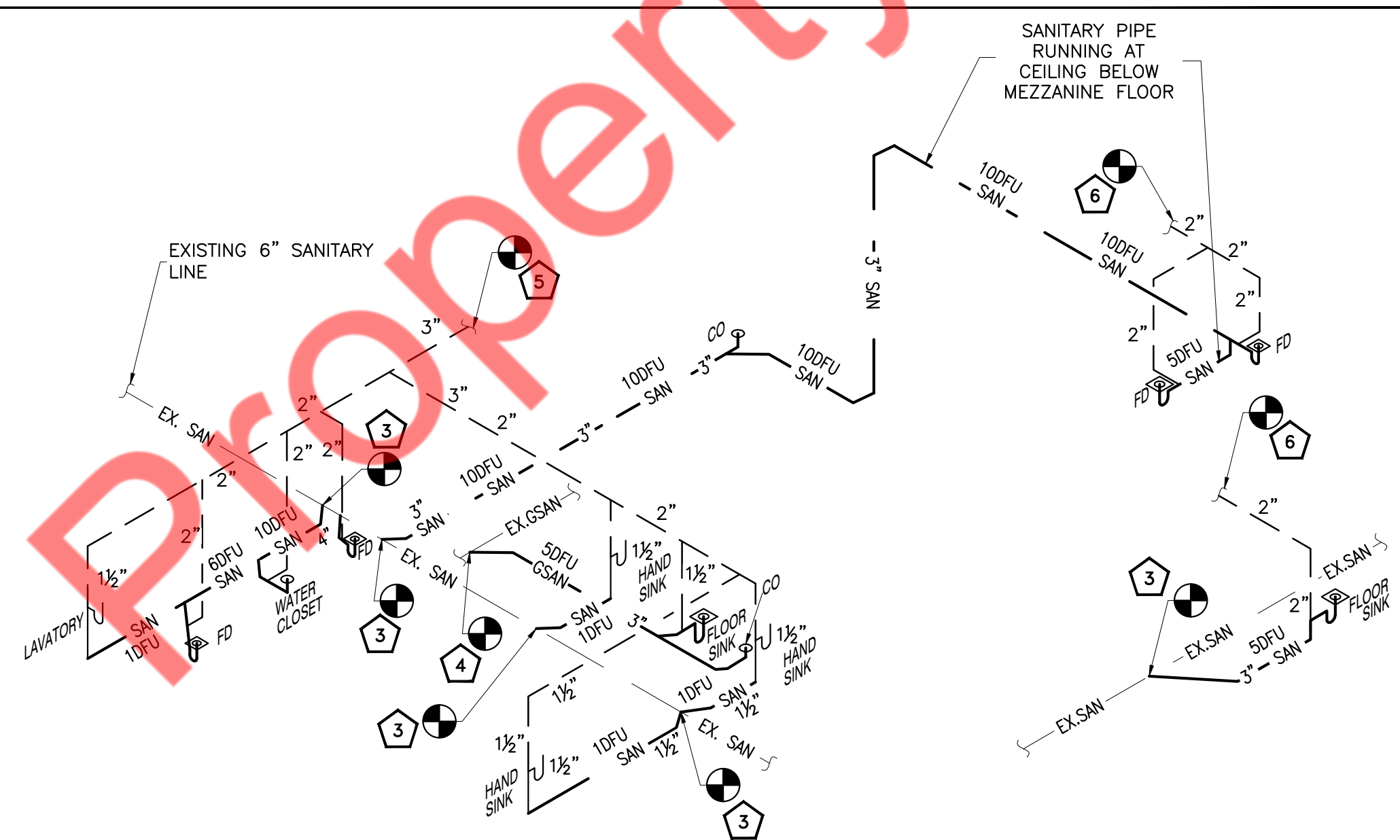
**SCOPE OF WORK**

PROVIDE ALL PLUMBING FOR NEW RESTAURANT INCLUDING ALL WATER, GREASE & SANITARY LINES AND CONNECT TO EXISTING UTILITIES. USE EXISTING STORAGE TYPE WATER HEATERS. COORDINATE WITH GC AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSATE LINES FOR WATER HEATER.

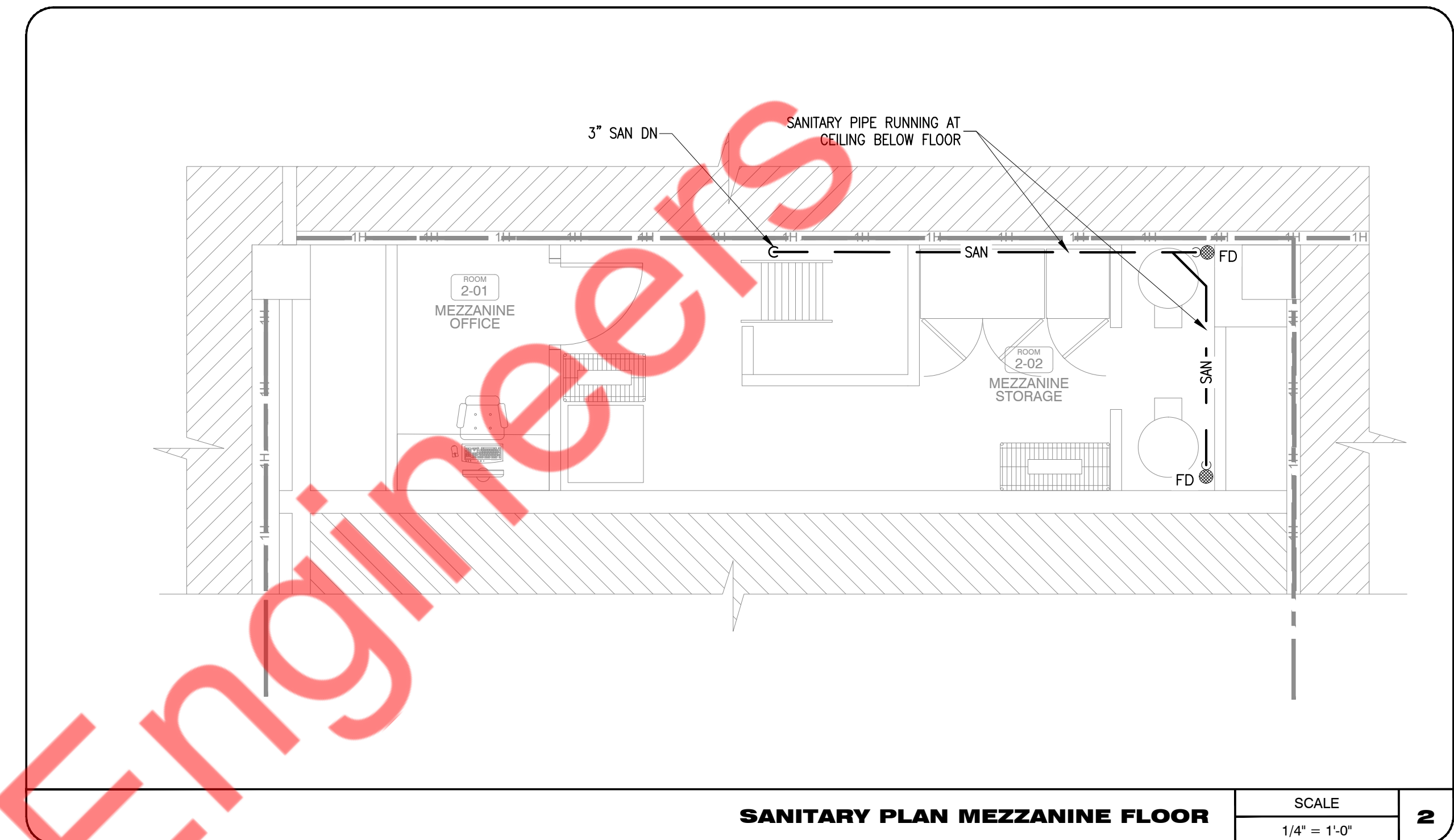
**GREASE INTERCEPTOR SIZING PROCEDURE FOR KITCHEN FIXTURES**

| FIXTURE TYPE                                       | QUANTITY | PIPE DIAMETER | GPM/FIXTURE | FIXTURE RATING | GPM          |
|--|----------|---------------|-------------|----------------|--------------|
| 2 or 3 comp pot sink                               | 1        | 2             | 33          | 1.00           | 33           |
| 1 or 2 comp meat prep sink                         |          |               |             |                | 0            |
| 1 or 2 comp vegetable prep sink                    |          |               |             |                | 0            |
| Pre-rinse sink                                     | 1        | 2             | 33          | 0.75           | 24.75        |
| Wok/tilt kettle                                    |          |               |             |                | 0            |
| Dishwasher   |          |               |             |                | 0            |
| Can wash/mop sink                                  |          |               |             |                | 7            |
| <b>Total</b>                                       |          |               |             |                | <b>64.75</b> |
| Grease Interceptor Size = flow rate x 24 minutes = |          |               |             |                | <b>1554</b>  |

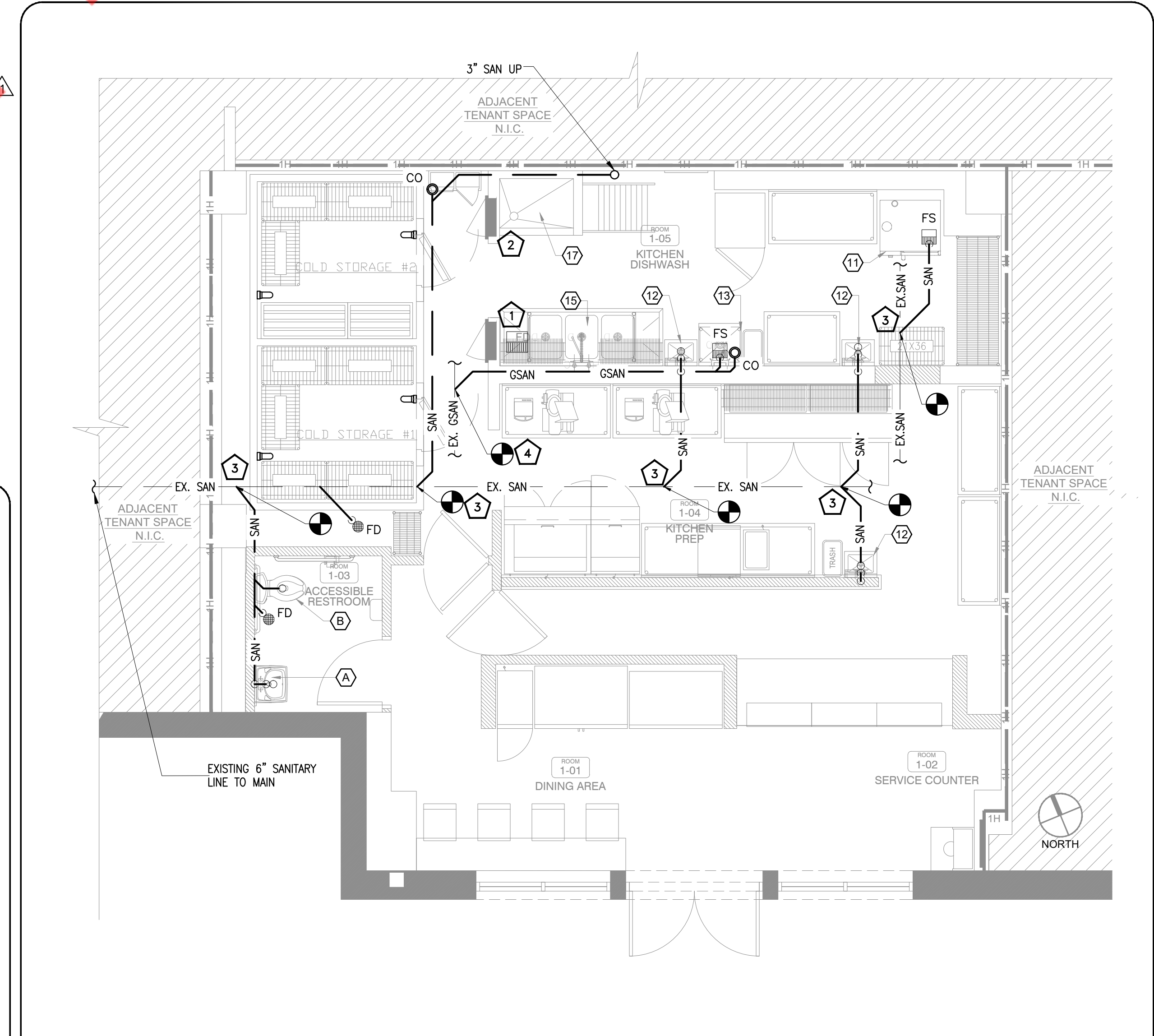
Please round up to the next available size to determine the required grease interceptor.  
EXISTING GREASE INTERCEPTOR SIZE = 2000 GALLONS



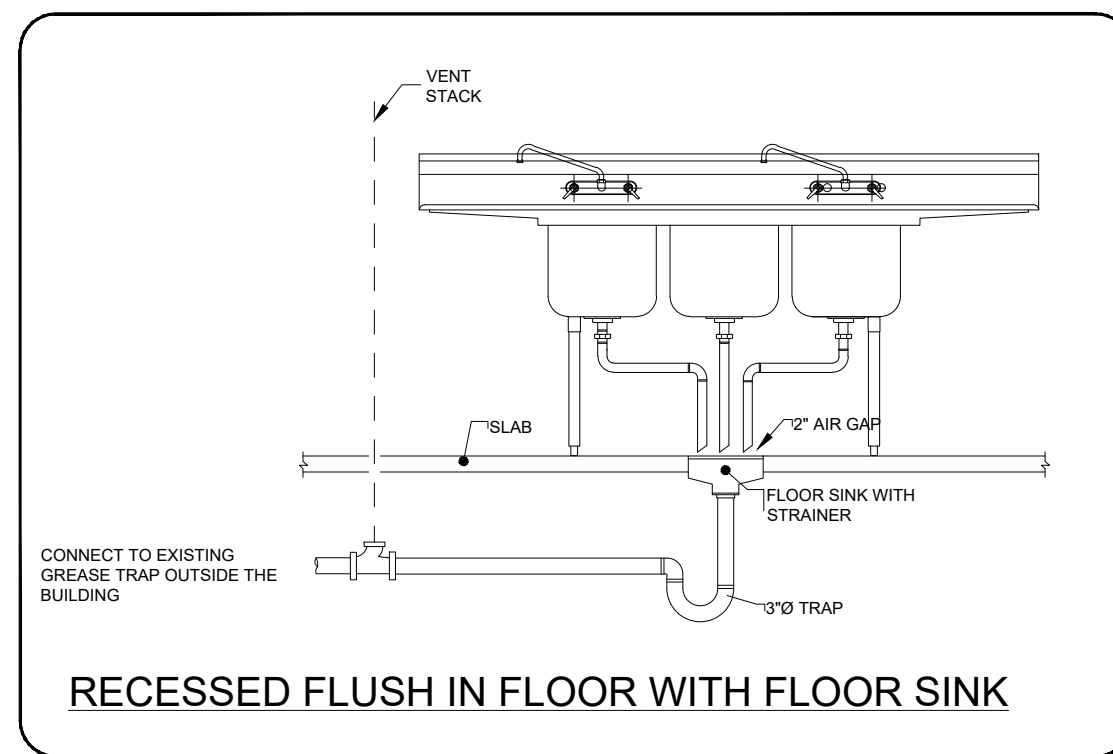
**SANITARY RISER** SCALE N.T.S. **3**



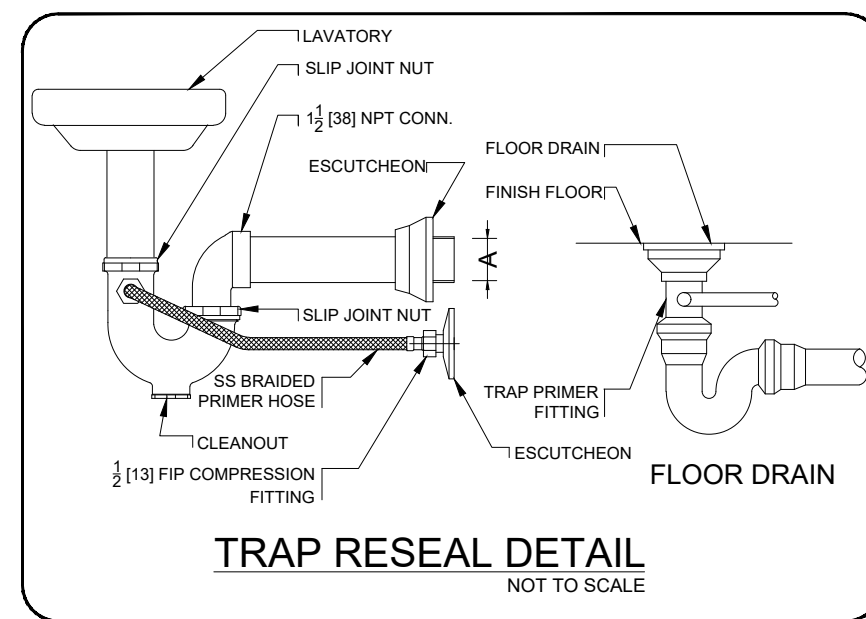
**SANITARY PLAN MEZZANINE FLOOR** SCALE 1/4" = 1'-0" **2**



**SANITARY PLAN BASE FLOOR** SCALE 1/4" = 1'-0" **1**



RECESSED FLUSH IN FLOOR WITH FLOOR SINK



TRAP RESEAL DETAIL

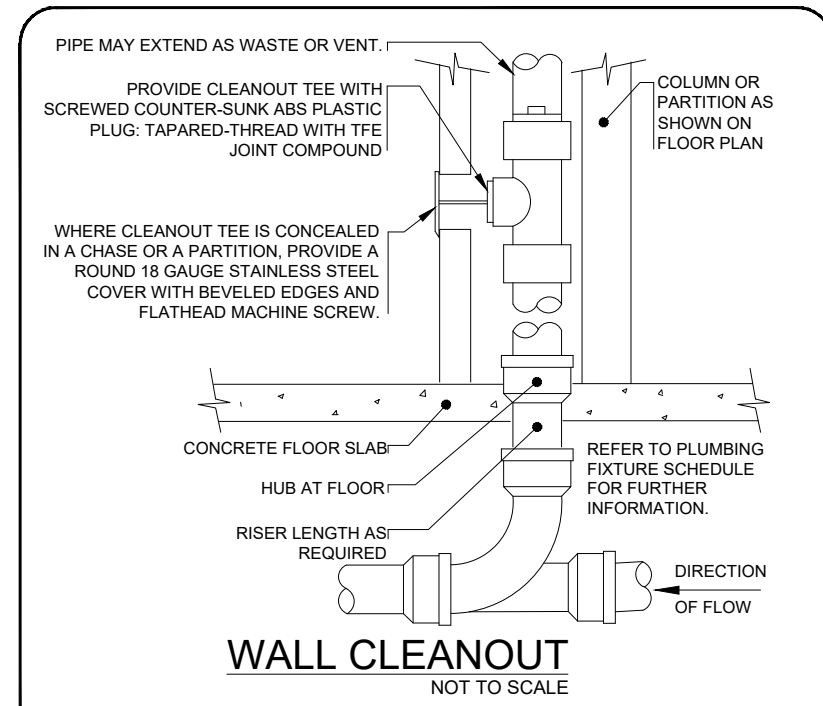
NOT TO SCALE

**WATER PLAN & RISER NOTES**

- CONNECT NEW 1-1/4" WATER LINE TO EXISTING WATER LINE CONTRACTOR TO V.I.F. & UPGRADE LINE IF NECESSARY AND PROVIDE RPZ & METER FOR SPACE WITH REMOTE READER DEVICE INSTALLED AT AN ACCESSIBLE HEIGHT.
- EXISTING PLUMBING FIXTURES TO REMAIN, CONTRACTOR TO V.I.F. FOR CONDITION.
- EXISTING WATER HEATER TO REMAIN & SHALL BE RELOCATED. EXISTING ASSOCIATED ACCESSORIES FOR WATER HEATER TO REMAIN.
- GC'S PLUMBER TO INSTALL A WATER SUBMETER AND REMOTE READER DEVICE INSIDE THE TENANT'S LEASED PREMISES. THE REMOTE READER DEVICE MUST BE INSTALLED IN AN ACCESSIBLE LOCATION SO THAT IT CAN BE MANUALLY READ. SUBMETER AND REMOTE READER DEVICE MAY BE SUPPLIED FROM ANY VENDOR THAT HAS COMPARABLE SPECIFICATIONS TO THE BELOW:  
M125-B MASTER METER MJ, 1.5" LEAD FREE BODY COLD WATER, WIIP88-PLUS REGISTER 1.10, STANDARD PULSE/GALLON (MASTER METER 1.5" BRASS COLD WATER METER)

**WALL PARTITION LEGEND**

- EXISTING EXTERIOR WALL TO REMAIN
- EXISTING INTERIOR PARTITION TO REMAIN
- (E) 1 HR RATED TENANT DEMISING WALL TO REMAIN
- NEW INTERIOR PARTITION
- NEW HEADER ABOVE
- NEW KNEE WALL BELOW

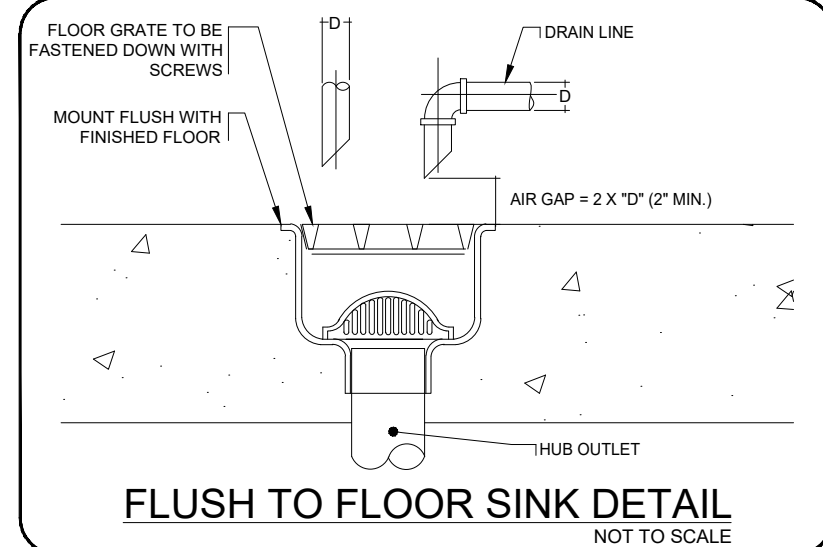


WALL CLEANOUT

NOT TO SCALE

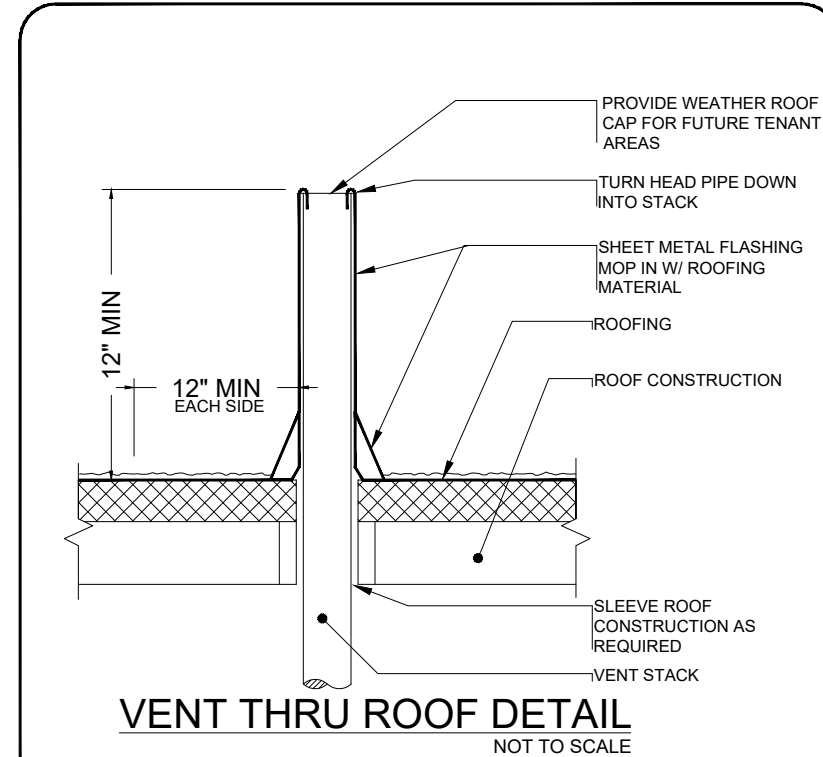
**WALL CLEANOUT DETAIL NOTES**

- PROVIDE WCO WHERE SHOWN ON PLANE, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT
- LOCATE ABOVE FIXTURE FLOOR FINISH WITHIN 4" OF FLOOR.
- CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.
- LONG SWEEP AT END OF LINE OR COMBINATION WYE AND RIGHT BEND IN RUN OF LINE
- CLEAN OUT FACE SHALL BE WITHIN 4" OF WALL SURFACE. PROVIDE A PIPE EXTENSION IF REQUIRED
- REFER TO PLUMBING FIXTURE SCHEDULE FOR FURTHER INFORMATION FOR



FLUSH TO FLOOR SINK DETAIL

NOT TO SCALE



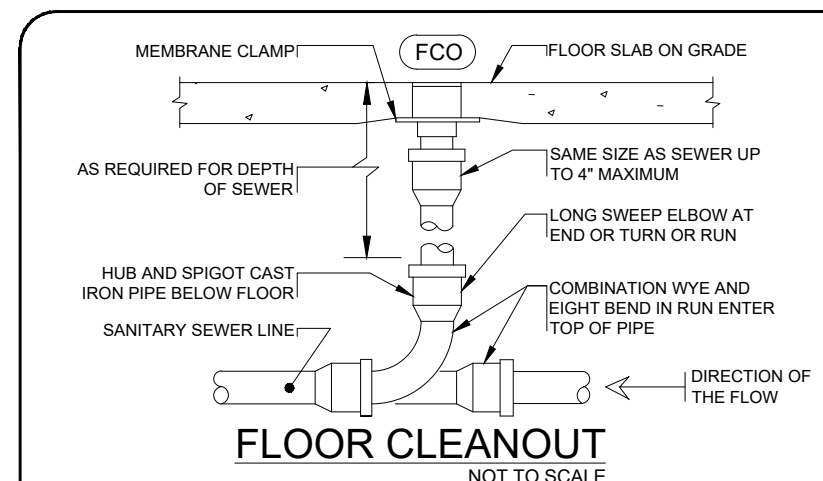
VENT THRU ROOF DETAIL

NOT TO SCALE

**VENT THRU ROOF DETAIL NOTE**

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

NOT TO SCALE



FLOOR CLEANOUT

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

**RESTROOM FIXTURE SCHEDULE**

| Item No. | Qty. | Description             | Manufacturer      | Model   | WATER |      | WASTE | Usage  | Spec |
|----------|------|-------------------------|-------------------|---|-------|------|-------|--------|------|
|          |      |                         |                   |   | Hot   | Cold |       |        |      |
| B        | 1    | ACCESSIBLE WATER CLOSET | AMERICAN STANDARD | GLENWALL VORMAX 2882107 COMBO WITH SEAT 5901100 |       | 3/4" | 4"    | 1.28   | GPF  |
| A        | 1    | ACCESSIBLE SINK         | AMERICAN STANDARD | LUCERNE, 0355.012                               |       |      |       | 1-1/2" |      |
| A.1      | 1    | ACCESSIBLE FAUCET       | KHOLER OR EQUAL   | K-R22797-4D OR EQUAL                            | 1/2"  | 1/2" |       | 2.2    | GPM  |
|          | 7    | THERMAL MIXING VALVES   | WATTS             | LFMMV   | 1/2"  | 1/2" |       |        |      |

**KITCHEN EQUIPMENT PLUMBING SCHEDULE**

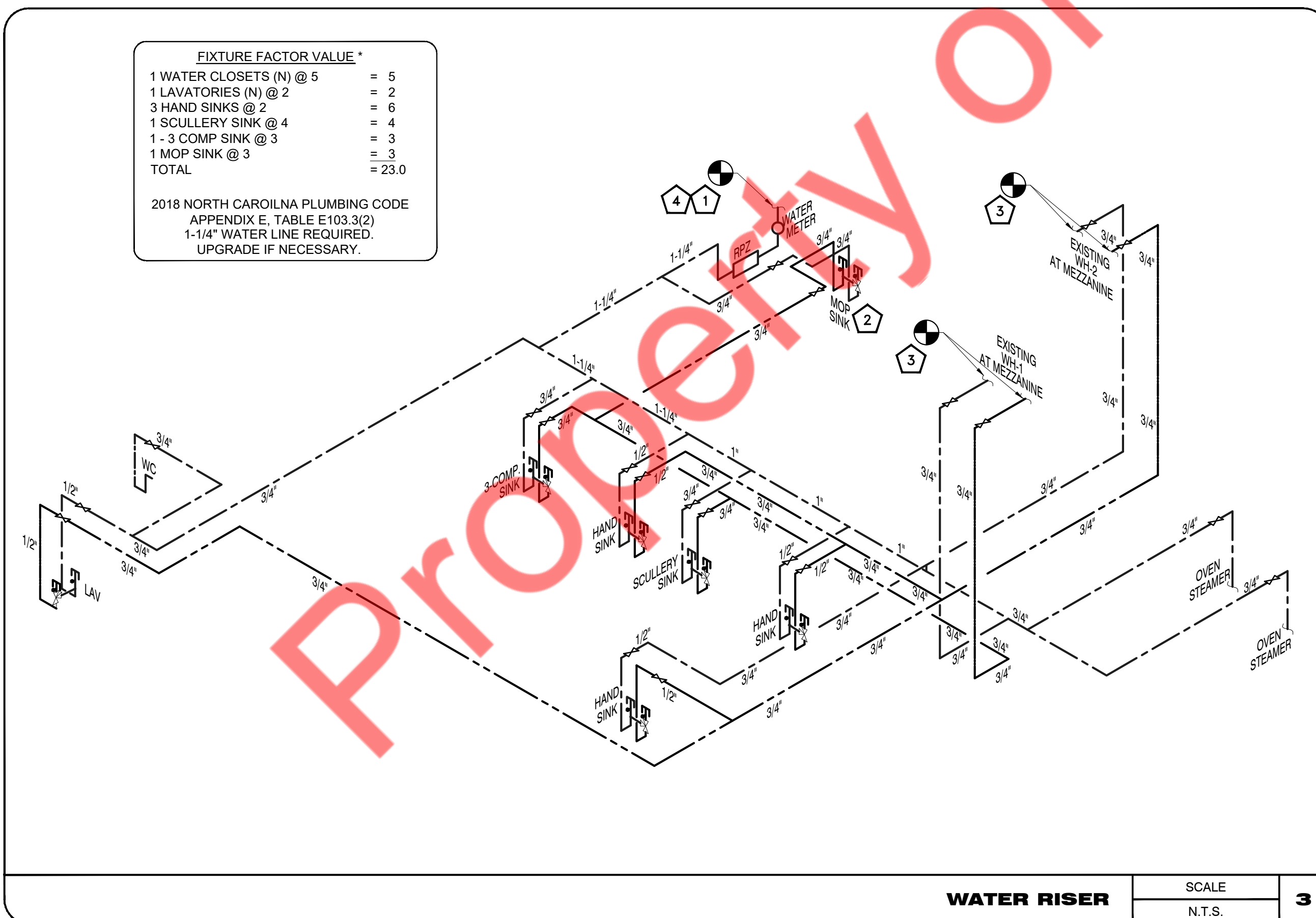
| Item No. | Qty. | Description                    | MANUFACTURER       | MODEL                                    | WATER |      | WASTE  |          |
|----------|------|--------------------------------|--------------------|--|-------|------|--------|----------|
|          |      |                                |                    |  | Hot   | Cold | Direct | Indirect |
| 11       | 2    | OVEN-STEAMER, COMBINATION OVEN | RATIONAL USA       | ICP 6-HALF/6-HALF E                      | --    | 1/2" |        | 3"       |
| 12       | 3    | HAND SINK                      | ATOSA              | MRS-HS-18                                |       |      |        | 1-1/2"   |
| 13       | 1    | SCULLERY SINK, 1 COMPARTMENT   | EAGLE/BLENDPORT    | BPS-1818-1-FE                            |       |      |        | 3"       |
| 15       | 1    | 3-COMPARTMENT SINK             | EAGLE GROUP        | BPS-1854-3-18-FC-X                       |       |      |        | 3"       |
| 17       | 1    | MOP SINK                       | EXISTING TO REMAIN | --                                       | --    | --   | --     | --       |
| 14       | 1    | SCULLERY FAUCET                | T & S BRASS        | B-0231-CC                                | 1/2"  | 1/2" |        |          |
| 16       | 1    | PRE-RINSE FAUCET               | T & S BRASS        | B-0133-C                                 | 3/4"  | 3/4" |        |          |
| 18       | 1    | MOP SINK FAUCET                | EXISTING TO REMAIN | --                                       | --    | --   | --     | --       |
|          | 2    | WATER HEATER                   | EXISTING TO REMAIN | --                                       | --    | --   | --     | --       |
|          |      | FLOOR SINKS                    | ZURN               | Z1900-23-31 (ZS1900 IF IN EXPOSED AREAS) |       |      |        | 3"       |
|          |      | FLOOR DRAINS*                  | ZURN               | ZS415 W/ TYPE BS STRAINER                |       |      |        | 3"       |

\* HOT WATER 140 DEG. \*PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS\*\*ADAPTOR REQUIRED\*\*\*LEVER WASTE VALVE REQUIRED

**EXISTING WATER HEATER SCHEDULE**

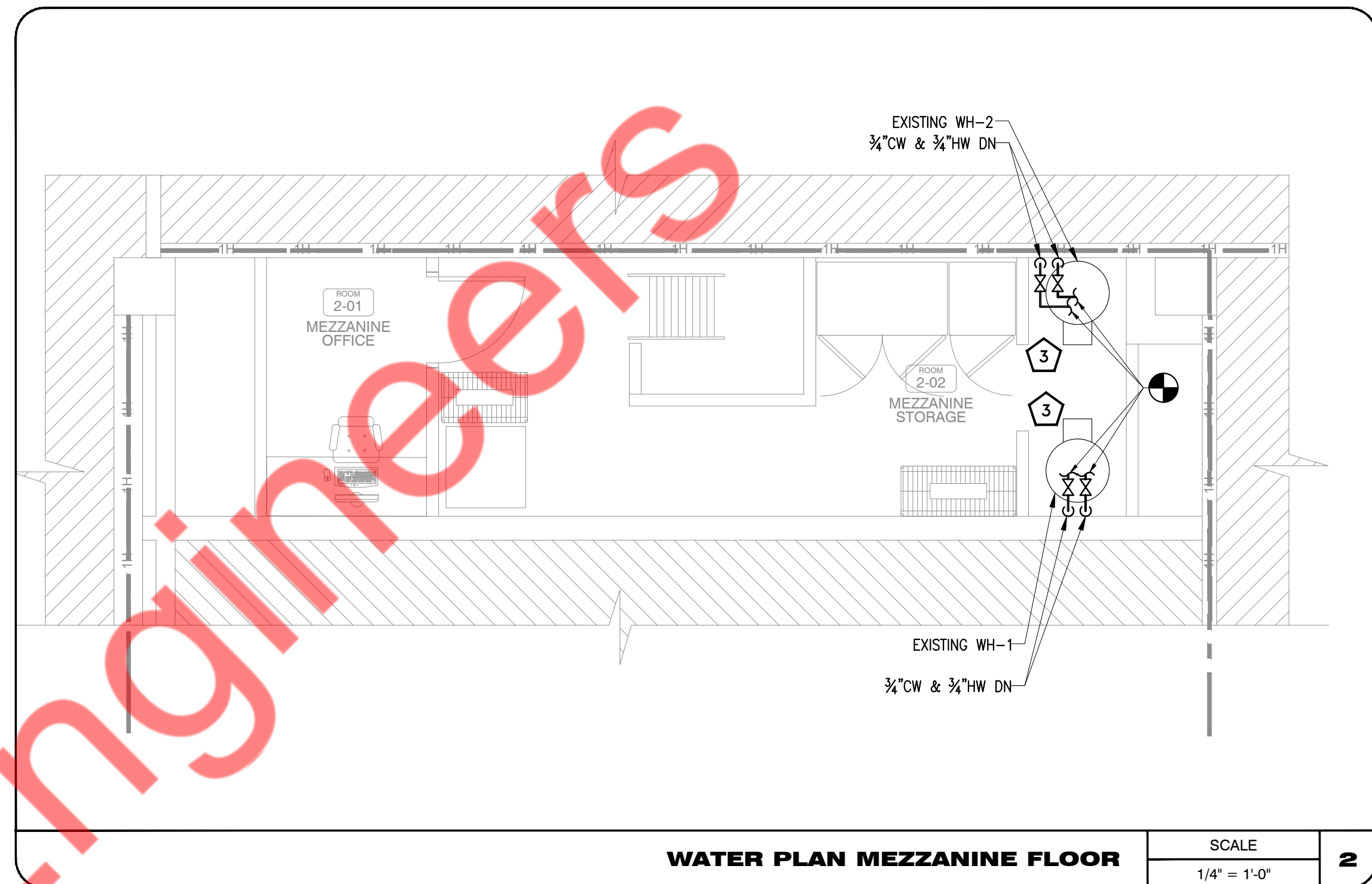
| MANUFACTURER     | RHEEM         | STATE         |
|------------------|---------------|---------------|
| MODEL            | E 50-18-G-1   | ES630DOLSX    |
| EQUIPMENT TAG    | EXISTING WH-1 | EXISTING WH-2 |
| STATUS           | NEW           | NEW           |
| CAPACITY(GALLON) | 50            | 30            |
| QUANTITY         | 1             | 1             |
| KW               | 18            | 4.5           |
| FLOW RATE        | 74 GPH*       | 18 GPH*       |
| VOLTAGE          | 480/3/60      | 208/1/60      |
| AMPERAGE         | 22            | 22            |
| WEIGHT (EMPTY)   | 270 LBS.      | 90 LBS.       |

\* @ 80° F TEMPERATURE RISE



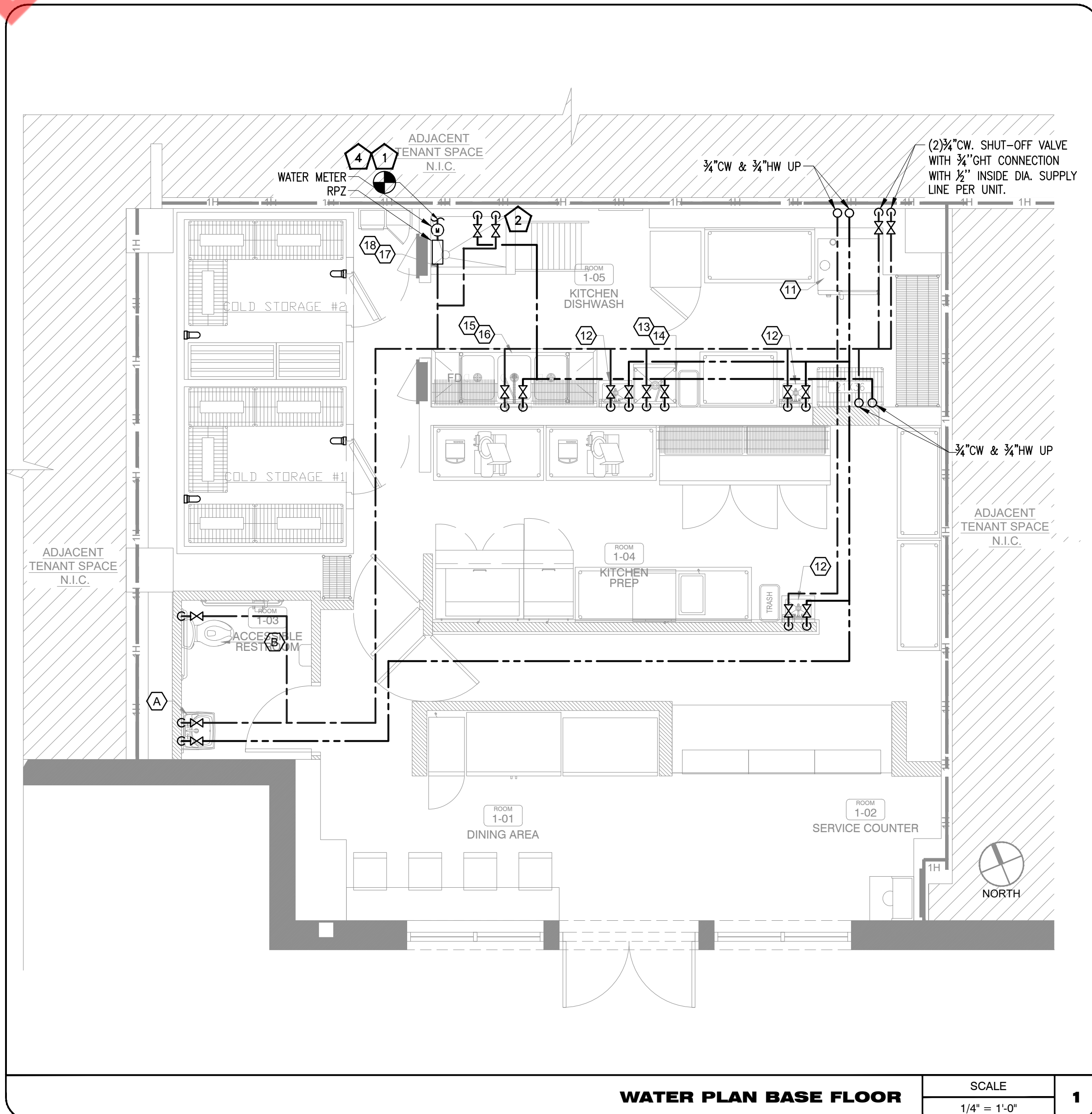
WATER RISER

SCALE  
N.T.S.



WATER PLAN MEZZANINE FLOOR

SCALE  
1/4" = 1'-0"

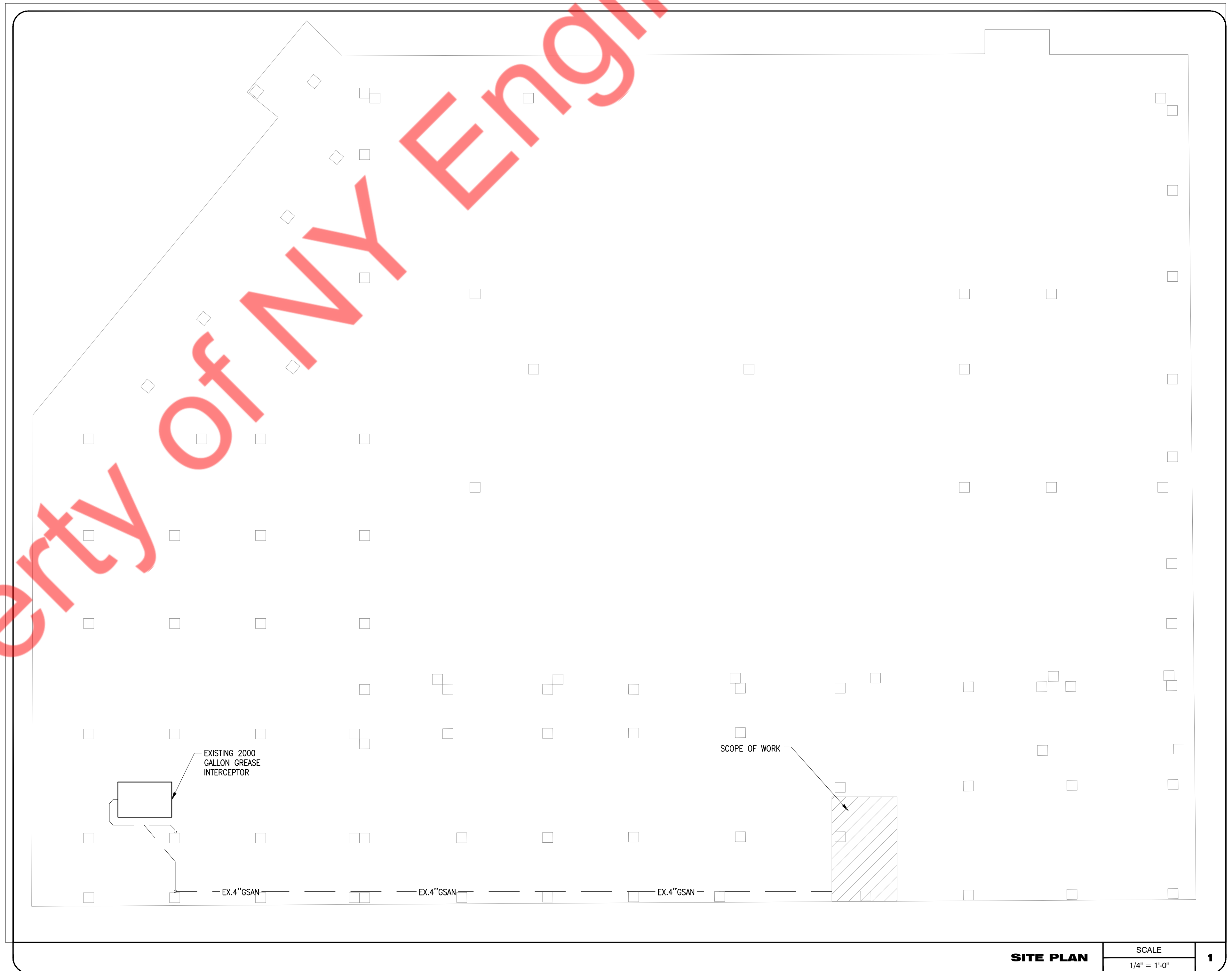


WATER PLAN BASE FLOOR

SCALE  
1/4" = 1'-0"



Property of NY Engineers

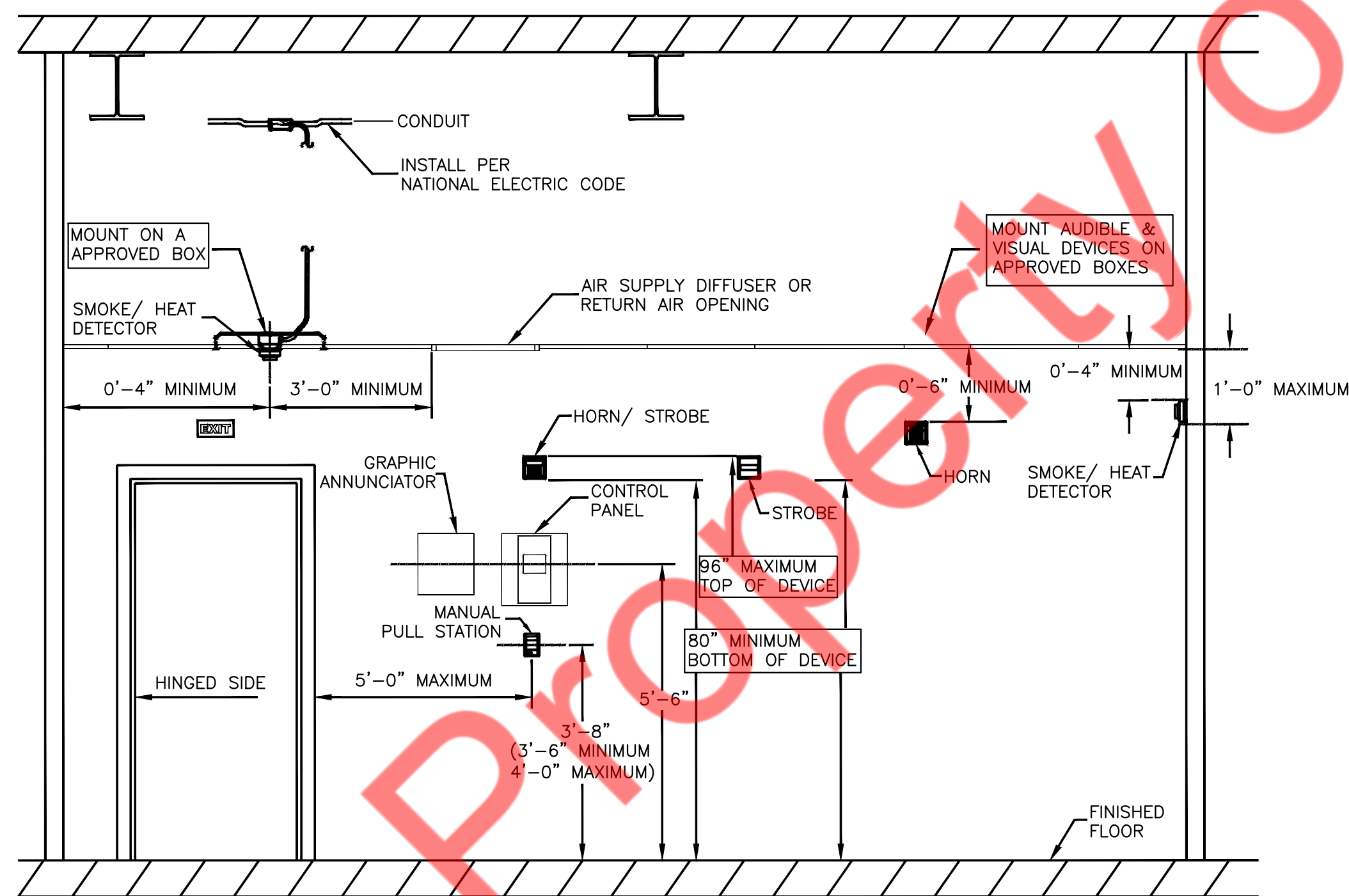


| PROJECT DATA        |                            |                    |  |  |                                    |   |                          |                        |                            |   |                      |                                 |
|---------------------|----------------------------|--------------------|--|--|------------------------------------|---|--------------------------|------------------------|----------------------------|---|----------------------|---------------------------------|
| PROJECT DESCRIPTION |                            | BUILDING OCCUPANCY |  |  | PROJECT DESCRIPTION                |   |                          |                        | FIRE ALARM SYSTEM FEATURES |   |                      |                                 |
|                     | NEW BUILDING               |                    | ASSEMBLY GROUP A (A1,A2,A3,A4 AND A5)    |  | RESIDENTIAL GROUP R (R1,R2 AND R3) | 1 | TOTAL NUMBER OF LEVELS   | ATRIUM                 | STAIR PRESSURIZATION       | X | NON-VOICE EVACUATION |                                 |
|                     | FIRE ALARM SYSTEM UPGRADE  | X                  | BUSINESS GROUP B                         |  | STORAGE GROUP S (S1 AND S2)        | 1 | ABOVE GROUND LEVELS      | FIRE DEPARTMENT ACCESS | POST FIRE SMOKE PURGE      |   | VOICE EVACUATION     |                                 |
|                     | LIFE SAFETY SYSTEM UPGRADE |                    | EDUCATIONAL GROUP E                      |  | UTILITY AND MISCELLANEOUS GROUP U  | 0 | BELOW GROUND LEVELS      | X                      | FULLY SPRINKLERED          |   | GENERATOR            | PARTIAL/SELECTIVE EVACUATION    |
| X                   | RENOVATION                 |                    | FACTORY INDUSTRIAL GROUP F (F1 AND F2)   |  | OTHER:                             | 0 | NUMBER OF ELEVATOR BANKS |                        | PARTIALLY SPRINKLERED      |   | FIRE PUMP            | GENERAL EVACUATION              |
|                     | EMERGENCY REPAIR           |                    | HIGH-HAZARD GROUP H (H1,H2,H3,H4 AND H5) |  |                                    | 0 | NUMBER OF EGRESS STAIRS  |                        | NON-SPRINKLERED            |   | OTHER:               | DIGITAL ALARM COMMUNICATOR      |
|                     | TENANT ADDITION            |                    | INSTITUTIONAL GROUP I (I1,I2 AND I3)     |  |                                    |   |                          |                        | PRE-ACTION SPRINKLER       |   | OTHER:               | PRE-SIGNAL SYSTEM               |
|                     | OTHER:                     |                    | MERCANTILE GROUP M                       |  |                                    |   |                          |                        |                            |   |                      | FIRE FIGHTER'S TELEPHONE SYSTEM |

| SYSTEM OUTPUTS<br>INDICATING/CONTROLLED DEVICES |                                       | CONTROL UNIT ANNUNCIATION |   |   |   |   |   | NOTIFICATION |   |   |   |   |   |    |
|---|---------------------------------------|---------------------------|---|---|---|---|---|--------------|---|---|---|---|---|----|
|   |                                       | A                         | B | C | D | E | F | G            | H | I | J | K | L |    |
| 1   | MANUAL PULL STATION                   | ●                         |   |   |   |   |   |              |   |   |   |   |   | 1  |
| 2   | WATERFLOW SWITCH                      |                           |   |   |   |   |   |              |   |   |   |   |   | 2  |
| 3   | AREA SMOKE DETECTOR                   | ●                         |   |   |   |   |   |              |   |   |   |   |   | 3  |
| 4   | SPRINKLER CONTROL VALVE/TAMPER SWITCH | ●                         |   |   |   |   |   |              |   |   |   |   |   | 4  |
| 5   | ALARM ACTIVATION OF OTHER SUBSYSTEM   | ●                         |   |   |   |   |   |              |   |   |   |   |   | 5  |
| 6   | TROUBLE ACTIVATION OF OTHER SUBSYSTEM |                           |   |   |   |   |   |              |   |   |   |   |   | 6  |
| 7   | FIRE ALARM AC POWER FAILURE           |                           |   |   |   |   |   |              |   |   |   |   |   | 7  |
| 8   | FIRE ALARM SYSTEM LOW BATTERY         |                           |   |   |   |   |   |              |   |   |   |   |   | 8  |
| 9   | OPEN CIRCUIT                          |                           |   |   |   |   |   |              |   |   |   |   |   | 9  |
| 10  | GROUND CIRCUIT                        |                           |   |   |   |   |   |              |   |   |   |   |   | 10 |
| 11  | NOTIFICATION APPLIANCE CIRCUIT SHORT  |                           |   |   |   |   |   |              |   |   |   |   |   | 11 |
| 12  | BASE BUILDING FACP                    |                           |   |   |   |   |   |              |   |   |   |   |   | 12 |

**FIRE ALARM NOTES:**

- ALL EQUIPMENT AND WIRING INDICATED ON THESE PLANS IS NEW (U.O.N.).
- PROVIDE WIRING AS REQUIRED BETWEEN ALL DEVICES AND EQUIPMENT AS REQUIRED TO PERFORM FIRE ALARM SYSTEM FUNCTIONS.
- WIRING FOR FIRE ALARM DEVICES IN FINISHED SPACES WITHOUT HUNG CEILING SHALL BE INSTALLED IN EMT CONDUIT.
- ALL STROBES AND HORN/STROBES SHALL BE FLUSH WALL MOUNTED FINISH BY ARCHITECT, APPROVED FOR USE IN AUTHORITY HAVING JURISDICTION (AHJ).
- FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
- WIRING FOR FIRE ALARM DEVICES IN UNFINISHED SPACES SHALL BE INSTALLED IN RGS CONDUIT UP TO 8'-0" AFF AND THEN IN EMT CONDUIT ABOVE 8'-0" AFF.
- CONTRACTOR SHALL VERIFY ALL WIRING WITH FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
- ALL WIRING SHALL BE IN ACCORDANCE WITH THE AHJ.
- PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSE CUTOUTS AND BRANCH CIRCUITS, ETC. FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
- STROBES AND HORNS SHALL BE WIRED ON ALTERNATING A-B CIRCUITING IN ALL AREAS, AS INDICATED ON THE RISER DIAGRAM.
- FIRE ALARM CONTROL PANEL (FACP) SHOULD BE COMPATIBLE AND CONNECTED WITH BASE BUILDING FACP.
- CONTRACTOR SHALL PERFORM ALL LOCAL BUILDING DEPT. FILINGS AND OBTAIN ALL APPROVALS. CONTRACTOR SHALL OBTAIN ALL REQUIRED SIGNED & SEALED LOCAL BUILDING DEPT. FORMS AND ALL REQUIRED SETS OF DRAWINGS FROM ENGINEER OF RECORD AND BUILDING DEPT. EXPEDITOR.
- UPON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE 100% PRE-TESTED BY THE FIRE ALARM VENDOR AND THE LICENSED ELECTRICAL CONTRACTOR PRIOR TO LOCAL FIRE DEPARTMENT INSPECTION.



TYPICAL DEVICE MOUNTING DETAIL  
N.T.S.

**DIVISION 16 - FIRE ALARM**

**PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK**

- WORK UNDER THIS SECTION INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, FURNISHING AND INSTALLING THE FOLLOWING:
  - FIRE ALARM PANEL, WIRING AND DEVICES
- ALL WORK SHALL BE COMPLETE AND ITEMS, EQUIPMENT, ETC., SHALL BE ELECTRICALLY CONNECTED FOR PROPER AND CORRECT OPERATION.
- ALL WORK UNDER THIS CONTRACT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS IN SO FAR AS THEY APPLY:
  - NATIONAL ELECTRICAL CODE
  - NFPA 72
  - UNDERWRITER'S LABORATORIES, INC., STANDARDS AND APPROVED LISTINGS.
  - ELECTRICAL TESTING LABORATORIES STANDARDS.
  - NORTH CAROLINA BUILDING CODE, LATEST EDITION AND REVISIONS.
  - ALL LOCAL CODES AND ORDINANCES.
- THE FIRE ALARM CONTRACTOR SHALL BE LICENSED IN THE STATE OF NORTH CAROLINA AND HAVE ALL LICENSES REQUIRED FOR THE WORK.
- OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC. REQUIRED FOR THE WORK AND PAY FOR THE SAME. FURNISH FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTOR HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- ALL WORK SHALL BE DONE BY SKILLED MECHANICS AND SHALL PRESENT A NEAT, TRIM, WORKMANLIKE CONDITION WHEN COMPLETED.

**1.2 INTENT**

- THE INTENT OF THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS IS TO CONVEY AS REASONABLY AS POSSIBLE THE REQUIREMENTS FOR A COMPLETE JOB READY FOR THE BUILDING TO OPERATE. THE FIRE ALARM CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION AND INCLUDE IN HIS BASE BID ALLOWANCE FOR CONTINGENCIES AS WILL ALLOW HIM TO PROVIDE MINOR PIECES OF EQUIPMENT AND LABOR NOT SPECIFICALLY INDICATED BUT REQUIRED FOR THE JOB TO OPERATE PROPERLY, AT NO ADDITIONAL COST TO THE OWNER.

**1.3 COORDINATION**

- COORDINATE WORK WITH OTHER CONTRACTORS. NOTIFY ARCHITECT OF APPARENT CONFLICT EARLY TO EXPEDITE CONSTRUCTION. IF STRUCTURAL DAMAGE APPEARS IMMINENT, STOP WORK AND NOTIFY ARCHITECT FOR A DECISION BEFORE RESUMING OPERATIONS.
- LOCATIONS SHOWN ARE APPROXIMATE. THE DRAWINGS DO NOT GIVE EXACT DETAILS AS TO ELEVATIONS AND LOCATIONS OF VARIOUS PIPES, FITTINGS, DUCTS, CONDUITS, ETC. AND DO NOT SHOW ALL OFFSETS AND OTHER INSTALLATION DETAILS WHICH MAY BE REQUIRED. COORDINATE ALL LOCATIONS WITH ARCHITECT BEFORE ANY ROUGH-IN.

**1.4 SHOP DRAWINGS**

- PROVIDE COMPLETE SHOP DRAWINGS PER NCSFC SECTION 907.1 TO THE LOCAL FIRE MARSHAL INCLUDING:
  - FLOORPLAN WITH ROOM NAMES
  - LOCATION OF ALL FA DEVICES
  - LOCATION OF PANELS
  - POWER CONNECTIONS
  - BATTERY CALCULATIONS
  - CONDUCTOR TYPES AND SIZES
  - VOLTAGE DROP CALCULATIONS
  - EQUIPMENT CUT-SHEETS, MODEL, NUMBERS, ETC.

**PART 2 - PRODUCTS AND MATERIALS**

**2.1 GENERAL**

- ALL MATERIAL SHOULD BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME TRADE AND UL LABEL WHERE SUCH STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. MATERIALS SHALL BE STANDARD PRODUCTS OF MANUFACTURER'S REGULARLY ENGAGED IN MANUFACTURE OF THE REQUIRED TYPE OF EQUIPMENT AND THE MANUFACTURER'S LATEST APPROVED DESIGN.
  - BOXES INSTALLED IN CONCEALED LOCATIONS SHALL BE SET FLUSH WITH THE FINISHED SURFACES.
  - PROVIDE RATED BOXES ON ALL FIRE BARRIERS AND WALLS INSTALLED PER CODE.

**PART 3 - EXECUTION**

**3.1 FIRE ALARM SYSTEM EQUIPMENT**

- PROVIDE A COMPLETE OPERABLE FIRE ALARM SYSTEM AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY STATE AND LOCAL CODES.
- ALL FIRE ALARM SYSTEM CABLES SHALL BE INSTALLED IN CONDUIT. SIZE AS REQUIRED BY THE EQUIPMENT SUPPLIER. PROVIDE A SUBMITTAL OF ALL DEVICES AND A RISER DIAGRAM FOR APPROVAL BEFORE INSTALLATION OF ANY EQUIPMENT.

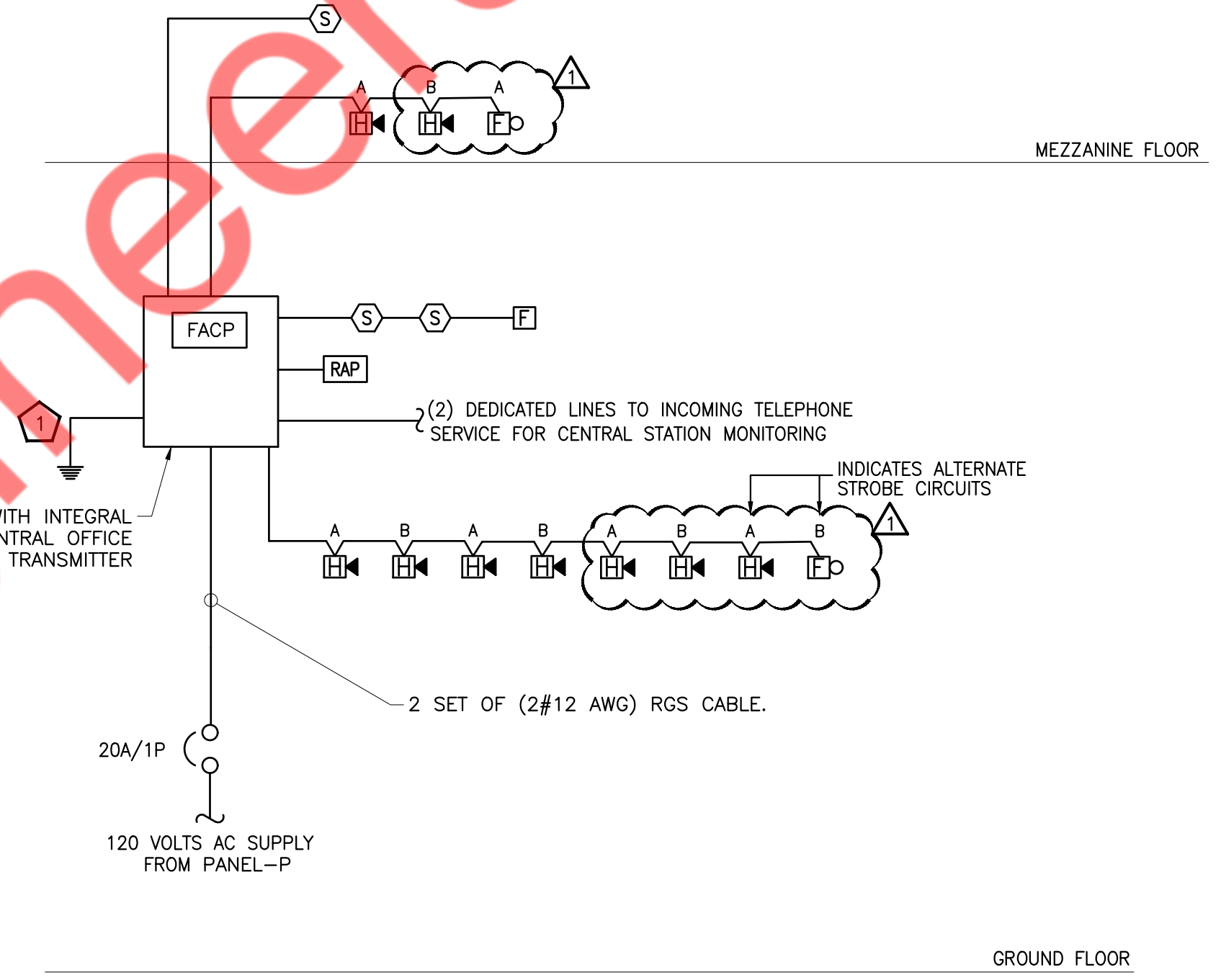
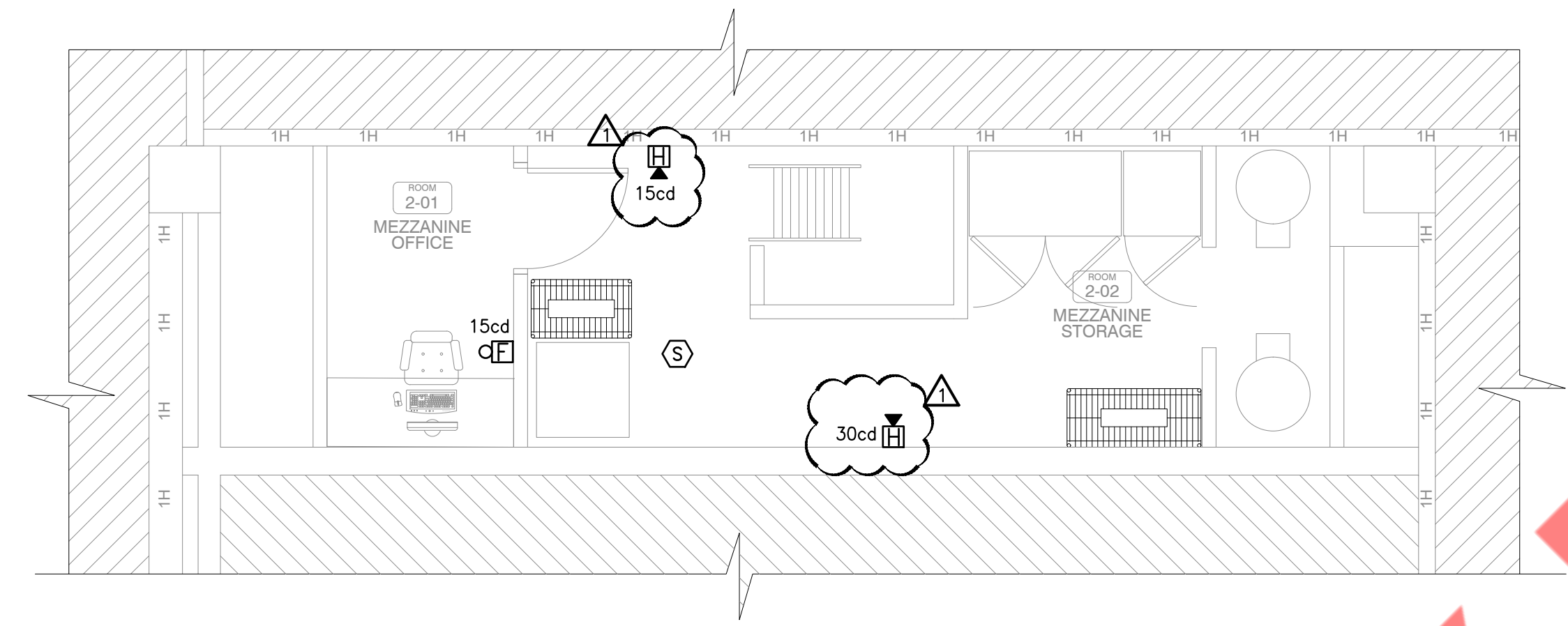
**3.2 CLEAN UP**

- DURING CONSTRUCTION, KEEP THE SITE CLEAN OF DEBRIS. UPON COMPLETION AND BEFORE FINAL INSPECTION, CLEAN UP THE PREMISES TO REMOVE ALL EVIDENCE OF WORK. IN ADDITION UPON COMPLETION OF CONSTRUCTION LEAVE EQUIPMENT CLEAN.

**3.3 GUARANTEE**

- GUARANTEE ALL MATERIALS AND LABOR INCLUDED IN THE FIRE ALARM WORK FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY PART OR PARTS OF THE WORK OR EQUIPMENT WHICH PROVE TO BE DEFECTIVE DURING THE GUARANTEE PERIOD SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

| WALL PARTITION LEGEND |   |  |                        |
|-----------------------|---|--|------------------------|
|                       | EXISTING EXTERIOR WALL TO REMAIN              |  | NEW INTERIOR PARTITION |
|                       | EXISTING INTERIOR PARTITION TO REMAIN         |  | NEW HEADER ABOVE       |
|                       | (C) 1 HR RATED TENANT DEMISING WALL TO REMAIN |  | NEW KNEE WALL BELOW    |

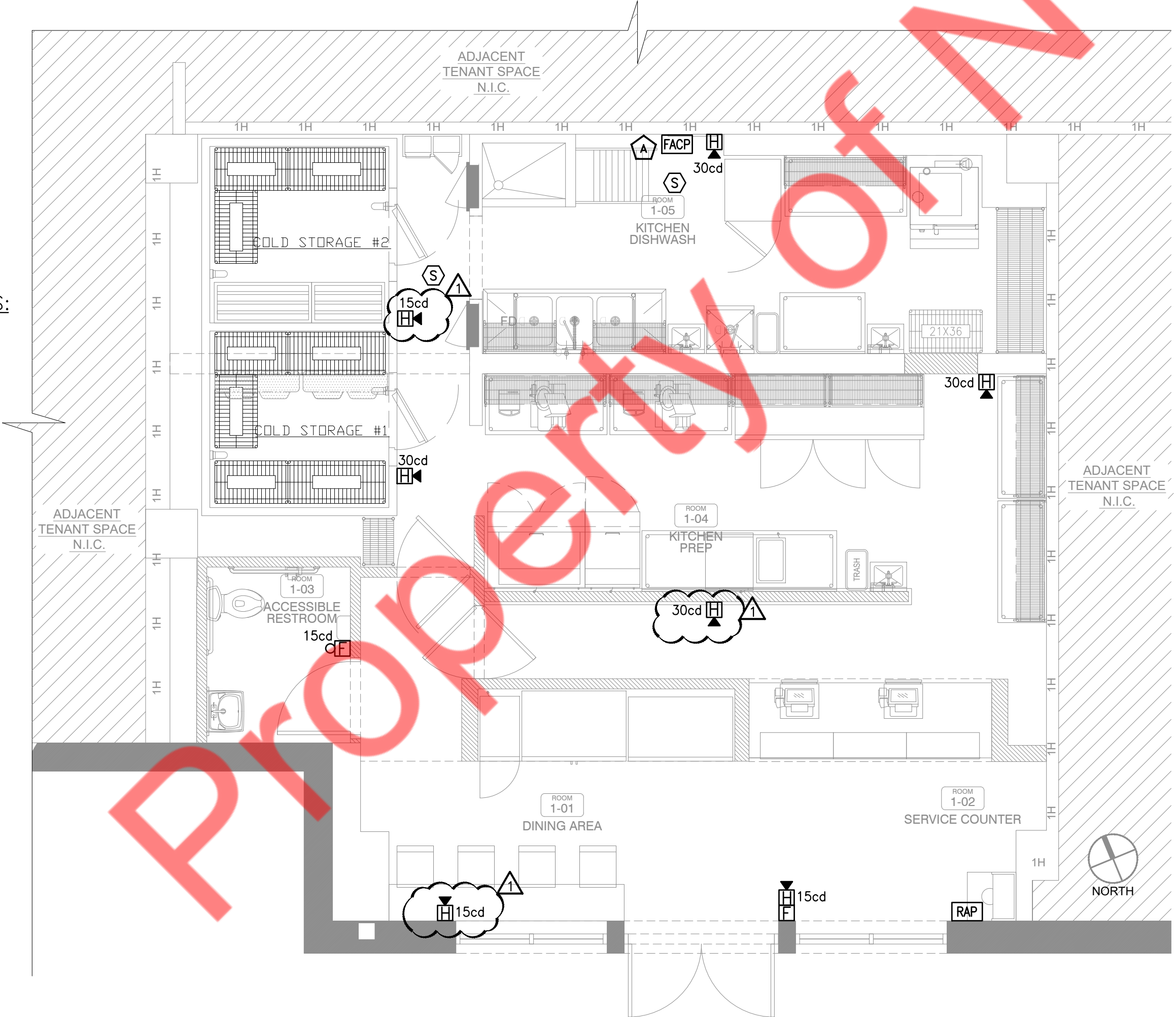


FIRE ALARM SYSTEM RISER DIAGRAM  
N.T.S

| SYMBOL | DESCRIPTION  |
|--------|--|
|        | FIRE ALARM CONTROL PANEL                               |
|        | STROBE LIGHT DEVICE, WALL MOUNTED (80" AFF)            |
|        | WALL MOUNTED HORN/STROBE COMBINATION DEVICE (80" AFF)  |
|        | FIRE ALARM MANUAL PULL STATION, WALL MOUNTED (48" AFF) |
|        | CEILING MOUNTED AREA SMOKE DETECTOR                    |
|        | REMOTE ANNUNCIATOR PANEL                               |

FIRE ALARM PLAN KEYED WORK NOTES:

1. E.C. TO COORDINATE WITH LOCAL FIRE OFFICIAL AND FACILITY MANAGER FOR LOCATION OF FACP. FACP SHALL BE LOCATED AS PER THE DIRECTION FROM THE AUTHORITY HAVING JURISDICTION (AHJ) AND LOCAL FIRE DEPARTMENT.



FIRE ALARM RISER NOTES:

- ALL COMPONENTS REQUIRED TO MAKE SYSTEM WORKABLE SHALL BE INCLUDED IN BID PRICE.
- EACH FA RELAY SHALL HAVE MINIMUM OF THREE SETS OF 2 CONTACT 10A RATED @ 120V (TYPICAL).
- COORDINATE WIRING DIAGRAM WITH FIRE ALARM VENDOR SHOP DRAWINGS. FOR STROBES MAXIMUM CURRENT PER ZONE SHALL NOT EXCEED 1.5A. ZONES FOR STROBES & STROBE/HORNS AS PER FIRE ALARM VENDOR SHOP DRAWINGS (TYPICAL).
- ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT WHERE REQUIRED BY AHJ.
- THIS RISER DIAGRAM IS A SCHEMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM. ALL WIRING SHALL BE AS PER APPROVED MANUFACTURER SHOP DRAWINGS.
- EACH FIRE ALARM INDICATING DEVICES CIRCUIT TO HAVE A MAXIMUM OF 14 DEVICES PER CIRCUIT. CONTRACTOR TO SUPPLY REQUIRING NUMBER OF INDICATING CIRCUIT TO PROVIDE REDUNDANT CIRCUITING (A,B) SCHEME.
- ALL FIRE ALARM CONDUITS SHALL BE MINIMUM 3/4".
- ALL WATER FLOW AND TAMPER SWITCH DEVICES SHALL BE CONNECTED TO FIRE ALARM CONTROL PANEL (FACP). COORDINATE EXACT LOCATION AND QUANTITIES WITH FIRE PROTECTION CONTRACTOR.

KEYED WORK NOTES:

- THE FIRE ALARM CONTROL PANEL CABINET SHALL BE GROUNDED SECURELY TO EITHER A COLD WATER PIPE OR A GROUNDING ROD.