

EXISTING CONDITION NOTES

THE CONTRACTOR AND SUB CONTRACTOR SHALL NOT INITIATE ANY WORK UNTIL EXISTING FIELD CONDITIONS ARE PROPERLY VERIFIED. THIS SHALL HOLD TRUE FOR FIRST GENERATION AND SECOND GENERATION SPACES. WHEN DEMOLITION IS REQUIRED, THAT WILL BE PERMITTED TO EXPOSE CONDITIONS. THESE VERIFICATIONS SHALL INCLUDE BUT NOT LIMITED TO: DIMENSIONS BOTH HORIZONTAL AND VERTICAL, ELECTRICAL SERVICE/PANELS LOCATION AND VOLTS/PHASE, LOCATION/QT. 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 REMAINED ETC. IF NOT VERIFIED AND DISCOVERED AT A LATER TIME, THE CONTRACTOR SHALL REMBURSE 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.

SCOPE OF WORK

REUSE ONE EXISTING 3.5 TON GAS HEAT AND ONE EXISTING 5.0 TON HEAT PUMP SPLIT SYSTEM AND PROVIDE ONE NEW 3.5 TON HEAT PUMP SPLIT SYSTEM. REUSE EXISTING DUCTWORK AS MUCH AS POSSIBLE AND PROVIDE NEW DUCTWORK AND ACCESSORIES AS SHOWN IN THE PLANS FOR COMPLETE HVAC SYSTEM. PROVIDE 1 NEW RESTROOM EXHAUST FAN & 2 NEW OTHER EXHAUST FANS AS SHOWN IN PLAN. COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT.

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 ARCHITECTS OFFICE IN CASE OF UNEXPECTED DIFFICULTIES.
- I. ALL A/C ROUND EXPOSED DUCTS WILL BE SPIRAL GALVANIZED AND READY FOR PAINTING. ALL RECTANGULAR DUCTS OVER CEILINGS MAY BE SHEET METAL WITH EXTERNAL INSULATION AND ALL EXPOSED ROUND SHEET METAL DUCTS SHALL BE INTERNALLY INSULATED.
- J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.
- K. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- L. CONSTRUCTION 'AS BUILT' DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.
- M. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

MECHANICAL PLAN NOTES

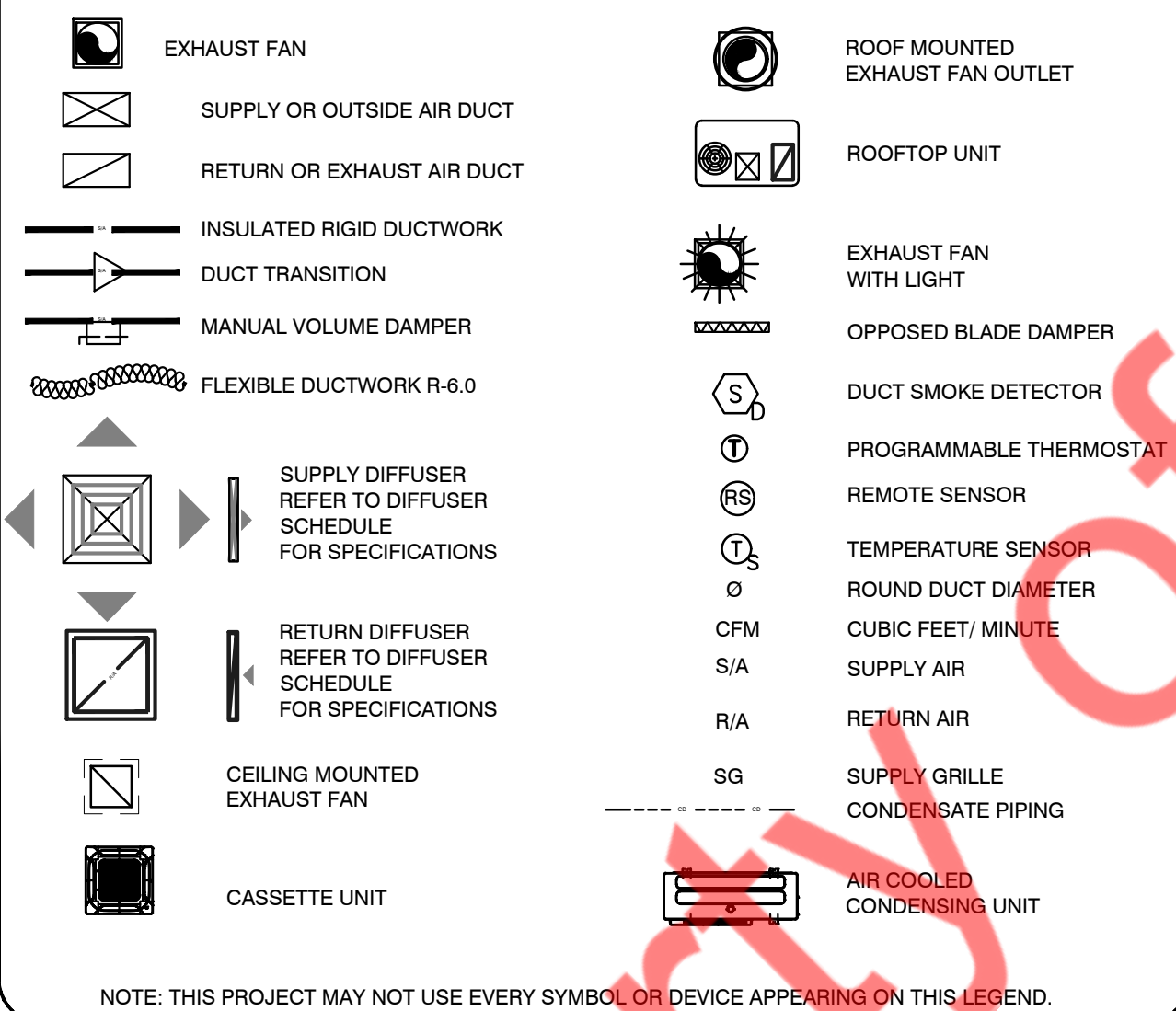
- A. REUSE ONE EXISTING 3.5 TON GAS HEAT AND ONE EXISTING 5.0 TON HEAT PUMP SPLIT SYSTEM AND PROVIDE ONE NEW 3.5 TON HEAT PUMP SPLIT SYSTEM. REUSE EXISTING DUCTWORK AS MUCH AS POSSIBLE AND PROVIDE NEW DUCTWORK AND ACCESSORIES AS SHOWN IN THE PLANS FOR COMPLETE HVAC SYSTEM. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN. PROVIDE DUCTWORK AND AIR DISTRIBUTION DEVICES AS INDICATED ON THE PLAN. REFER TO ROOFTOP UNIT SCHEDULE & HEAT PUMP 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 A/C UNIT UPON DETECTION OF SMOKE. IF NECESSARY PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR, ALARM AND POWER L.E.D.'S FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING.
- C. ALL DUCTS WILL BE FIBERBOARD OR MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION. ALL DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA/ANSI-HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, LATEST EDITION, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL LATEST EDITION, NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARD AND 2015 INTERNATIONAL MECHANICAL CODE, SECTION 603 THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.
- D. ALL RECTANGULAR OR ROUND SUPPLY AND RETURN DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181 AND INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING. THE MANUFACTURERS INSTRUCTION AND CONTRACTOR TO PROVIDE NECESSARY TEST CERTIFICATE TO INSPECTOR CONFORMING THE MATERIAL STANDARDS AS SPECIFIED ON 2015 INTERNATIONAL MECHANICAL CODE 302.2. FACTORY-MADE AIR DUCTS SHALL BE INSTALLED WITH NOT LESS THAN 4 INCHES OF SEPARATION FROM EARTH, EXCEPT WHERE INSTALLED AS A LINER INSIDE OF CONCRETE, TILE OR METAL PIPE AND SHALL BE PROTECTED FROM PHYSICAL DAMAGE.
- E. 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.
- 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 AND EXTERIOR DUCTS SHALL HAVE R-9 INSULATION. ACCORDING TO 2018 NORTH CAROLINA ENERGY CONSERVATION CODE (2015 IECC).
- 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 AHU SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE SECONDARY DRAIN OUTLET ON THE UNIT.
- K. ALL 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 MANUFACTURERS INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.
- M. TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH 2018 NORTH CAROLINA ENERGY CONSERVATION CODE (2015 IECC), 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.
- 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.

RALEIGH, NC BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE 2018 NORTH CAROLINA BUILDING CODE (2015 IBC), AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

- 1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- 2. VENTILATION FOR ALL AREA SHALL COMPLY WITH 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC), CHAPTER 4.
- 3. 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.
- 4. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE INTERNATIONAL 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC):
 - A. VENTILATION SYSTEM BALANCING 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 403.3
- 5. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - A. STANDARDS OF HEATING 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 309.1
 - B. DUCT CONSTRUCTION AND INSTALLATION 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 603
 - C. AIR INTAKES, EXHAUSTS AND RELIEF 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 401.5
 - D. AIR FILTERS 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 605
 - E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - 2018 NORTH CAROLINA MECHANICAL CODE (2015 IMC) - 606
 - F. GAS FIRED EQUIPMENT - 2018 INTERNATIONAL FUEL AND GAS CODE.
- 6. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- 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 (2015 IMC) - 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 EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- 10. SMOKE DETECTOR SHALL MEET UL268A.
- 11. VENTILATION SYSTEMS SHALL BE BALANCED TO MAINTAIN THE MINIMUM VENTILATION AIRFLOW RATE AS SHOWN IN VENTILATION REQUIREMENT TABLE. THIS SYSTEM SHALL BE BALANCED BY APPROVED METHOD. CONTRACTOR TO SUBMIT THE AIR - BALANCE REPORT TO INSPECTOR OF RESPECTIVE BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.

MECHANICAL SYMBOLS



SPLIT (GAS HEAT) SYSTEM SCHEDULE

UNIT TAG	FUR-1(E)
UNIT TYPE	GAS HEAT
AREA SERVED	REFER PLAN
SUPPLY AIR (CFM)	1400
OUTSIDE AIR (CFM)	380
STATIC PRESS. (E.S.P INCH OF W.C.)	S.A.E
MANUFACTURER	S.A.E
MODEL NO.	S.A.E
WEIGHT, LBS	S.A.E
VOLTS/PH/Hz	120/1/60 (V.I.F)
M.C.A. / MAX. CKT. BRKR. AMPS	10.2 / 20.0(V.I.F)
TOTAL COOLING CAPACITY (MBH)	S.A.E
TOTAL SENSIBLE CAPACITY (MBH)	S.A.E
NOM. HEATING CAPACITY IN GAS (MBH)	95.0 (V.I.F)
NOM. HEATING CAPACITY OP GAS (MBH)	S.A.E
AFUE (%)	S.A.E
UNIT TAG	AC-1(E)
AIR HANDLER SERVED	FUR-1(E)
CAPACITY	3.5 TR
REFRIGERANT	S.A.E
TOT. COOLING CAP. (MBH)	S.A.E
COOLING SENS. CAP. (MBH)	S.A.E
COMPRESSOR RLA/LRA	S.A.E
OUTDOOR FAN FLA	S.A.E
VOLTS-PH-HZ	208-3/60 (V.I.F)
M.C.A. & MAX. CKT. BRKR. AMPS (208/230)	18.0 / 30.0 (V.I.F)
MANUFACTURER	S.A.E
MODEL	S.A.E
SEER2	S.A.E
HSFP / HSFP 2	S.A.E
WEIGHT, LBS	S.A.E

- NOTES FOR FUR-1(E) & AC-1(E):-
- EXISTING SYSTEM WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
 - S.A.E : SAME AS EXISTING & V.I.F. : VERIFY IN FIELD.
 - CONTRACTOR TO FIELD VERIFY IF AIR HANDLING UNIT & CONDENSING UNIT IN WORKING AT THEIR 100% RATED CAPACITIES/LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNITS ON SITE PRIOR TO START ANY WORK.
 - IF REQUIRED: PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSORS COMPATIBLE WITH EXISTING AIR HANDLING UNIT. COORDINATE FINAL LOCATIONS OF T-STAT AND T-SENSORS WITH ARCHITECT/OWNER.
 - CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING AIR HANDLING UNIT TO MATCH VALUES MENTIONED IN ABOVE TABLE.
 - CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF AIR HANDLING UNIT AND CONDENSING UNIT.
 - REPLACE AIR FILTERS WITH NEW FILTERS IF REQUIRED.
 - CONTRACTOR TO PROVIDE CONDENSATE DRAIN PUMP IF REQUIRED.
 - CONTRACTOR TO FIELD VERIFY THE EXACT CAPACITY OF THE UNIT PRIOR STARTING STARTING CONSTRUCTION/ BASE BID. INFORM ENGINEER IN CHARGE IF ANY DISCREPANCY FOUND.

OCCUPANCY CALCULATION PER 2015 IMC, TABLE 403.3.1.1

POS COUNTER & LOUNGE AREA	445 SQ. FT. @30 PEOPLE/1000SQ.FT.	14 PEOPLE
BOULIQUE AREA	930 SQ. FT. @15 PEOPLE/1000SQ.FT.	14 PEOPLE
SERVICE AREA	505 SQ. FT. @10 PEOPLE/1000SQ.FT.	6 PEOPLE
OFFICE	46 SQ. FT. @5 PEOPLE/1000SQ.FT.	1 PEOPLE
ISOLATION ROOM	73 SQ. FT. @10 PEOPLE/1000SQ.FT.	1 PEOPLE
TOTAL		36 PEOPLE

VENTILATION REQUIREMENTS PER 2015 IMC TABLE 403.3.1.1

POS COUNTER & LOUNGE AREA	445 SQ. FT. X 0.06 CFM/SQ. FT. =	27 CFM
	14 PEOPLE X 5 CFM/PEOPLE. =	70 CFM
BOULIQUE AREA	930 SQ. FT. X 0.12 CFM/SQ. FT. =	112 CFM
	14 PEOPLE X 7.5 CFM/PEOPLE. =	105 CFM
SERVICE AREA	505 SQ. FT. X 0.18 CFM/SQ. FT. =	91 CFM
	6 PEOPLE X 7.5 CFM/PEOPLE. =	45 CFM
ISOLATION ROOM	73 SQ. FT. X 0.18 CFM/SQ. FT. =	14 CFM
	1 PEOPLE X 7.5 CFM/PEOPLE. =	8 CFM
OFFICE	46 SQ. FT. X 0.06 CFM/SQ. FT. =	3 CFM
	1 PEOPLE X 5.0 CFM/PEOPLE. =	5 CFM
RECEIVING AREA	60 SQ. FT. X 0.18 CFM/SQ. FT. =	11 CFM
OUTSIDE AIR REQUIRED		491 CFM
EXHAUST AIR		
SERVICE AREA	505 SQ. FT. X 0.9 CFM/SQ. FT. =	455 CFM
ISOLATION ROOM	73 SQ. FT. X 0.9 CFM/SQ. FT. =	66 CFM
UNISEX RESTROOM	70 CFM PER FIXTURE	70 CFM
EXHAUST AIR REQUIRED		591 CFM
AIR BALANCE		
Q/A PROVIDED THROUGH FUR-1(E)		+380 CFM
Q/A PROVIDED THROUGH AHU-2(E)		+540 CFM
Q/A PROVIDED THROUGH AHU-3(E)		+380 CFM
EF-1(N)		-1010 CFM
EF-2(N)		-150 CFM
EF-3(N)		-70 CFM
BUILDING PRESSURE		+70 CFM

HEAT PUMP SPLIT SYSTEM SCHEDULE

UNIT TAG	AHU-2(E)	AHU-3(N)
UNIT TYPE	HEAT PUMP	HEAT PUMP
AREA SERVED	REFER PLAN	REFER PLAN
SUPPLY AIR (CFM)	2000	1400
OUTSIDE AIR (CFM)	540	380
STATIC PRESS. (E.S.P INCH OF W.C.)	S.A.E	0.4
MANUFACTURER	TRANE (V.I.F)	RHEEM (OR EQUIVALENT)
MODEL NO.	TEMA40C60S81SBA (V.I.F)	RH2TY4821STAN (OR EQUIVALENT)
WEIGHT, LBS	S.A.E	130
VOLTS/PH/Hz	208-230/3/60 (V.I.F)	208-230/1/60
ELECTRIC HEATER	10.8 (V.I.F)	-
MCA (A)	44 (V.I.F)	5
MOCP (A)	60 (V.I.F)	15
UNIT TAG	HP-2(E)	HP-3(N)
AIR HANDLER SERVED	AHU-2(E)	AHU-3(N)
CAPACITY	5.0 TR	3.5 TR
REFRIGERANT	S.A.E	R-454B
TOT. COOLING CAP. (MBH)	S.A.E	40.0
COOLING SENS. CAP. (MBH)	S.A.E	30.7
TOT. HEATING CAP. (MBH) @47°F	S.A.E	24.8
COMPRESSOR RLA	S.A.E	18.0
OUTDOOR FAN FLA	S.A.E	1.0
VOLTS/PH/Hz	208/3/60 (V.I.F)	208/1/60
M.C.A. / MAX. CKT. BRKR. AMPS	21/35 (V.I.F)	24/40
MANUFACTURER	TRANE (V.I.F)	RHEEM (OR EQUIVALENT)
MODEL	4TWA4080A300000AB (V.I.F)	RP14AY42A (OR EQUIVALENT)
SEER / SEER 2	S.A.E	14.3
HSFP / HSFP 2	S.A.E	7.5
WEIGHT, LBS	S.A.E	240

- NOTES FOR AHU-2(E) & HP-2(E):-
- EXISTING SYSTEM WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
 - S.A.E : SAME AS EXISTING & V.I.F. : VERIFY IN FIELD.
 - CONTRACTOR TO FIELD VERIFY IF AIR HANDLING UNIT & CONDENSING UNIT IN WORKING AT THEIR 100% RATED CAPACITIES/LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNITS ON SITE PRIOR TO START ANY WORK.
 - IF REQUIRED, PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSORS COMPATIBLE WITH EXISTING AIR HANDLING UNIT. COORDINATE FINAL LOCATIONS OF T-STAT AND T-SENSORS WITH ARCHITECT/OWNER.
 - CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING AIR HANDLING UNIT TO MATCH VALUES MENTIONED IN ABOVE TABLE.
 - CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF AIR HANDLING UNIT AND CONDENSING UNIT.
 - REPLACE AIR FILTERS WITH NEW FILTERS IF REQUIRED.
- NOTES FOR AHU-3(N) & HP-3(N):-
- PROVIDE DISCONNECT SWITCH.
 - COORDINATE FINAL LOCATION OF INDOOR AND OUTDOOR UNIT WITH ARCHITECT/ OWNER/ LANDLORD.
 - SUPPLY AIR CFM BASED ON HIGH SPEED.
 - REFRIGERANT R454B SHALL BE PROVIDED.
 - PROVIDE ALL ASSOCIATED ACCESSORIES.
 - ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
 - CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEEDS THE MANUFACTURERS STANDARD RECOMMENDED LENGTH. CONTRACTOR TO FIELD VERIFY THE EXACT TOTAL REFRIGERANT LENGTH AND COORDINATE WITH THE MANUFACTURER PRIOR ORDERING UNIT.
 - PROVIDE DRAIN PAN WITH WATER LEAK DETECTOR.
 - VERIFY ALL DATA WITH MANUFACTURER PRIOR TO ORDERING EQUIPMENT.
 - PROVIDE CONDENSATE DRAIN PUMP IF REQUIRED. ROUTE CONDENSATE DRAIN FROM AHU-3(N) TO THE NEAREST APPROVED PLACE OF DISPOSAL. COORDINATE WITH PLUMBING CONTRACTOR.
 - CONDENSING UNIT TO BE SELECTED AT 85°F AMBIENT CONDITION.
 - PROVIDE ACCESS DOOR FOR THE UNIT IN COORDINATION WITH ARCHITECT.

DIFFUSER SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS	TITUS
DESIGNATION	A	B	R	E
USE	SUPPLY	SUPPLY	RETURN	EXHAUST
MODEL	TDC-AA	250-AA (2/3 WAY)	350RL	350RL
MOUNTING	CEILING	CEILING	CEILING	CEILING
LOCATION	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN
FACE SIZE	24" X 24"	12"X12"	24" X 24"	12" X 12"
NECK SIZE	REFER TABLE - A	REFER TABLE - A	-	-
FRAME TYPE	LAY IN	FLANGED	LAY IN	FLANGED
ACCESSORIES	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER	VOLUME DAMPER

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

DEHUMIDIFIER SCHEDULE

MANUFACTURER	SANTA FE
UNIT TAG	DH-1(N), DH-2(N), DH-3(N)
QUANTITY	3
MODEL	ULTRAMD33
MOUNTING	WALL
CAPACITY (GAL)	4.1
DRAIN CON.	Ø3/4" OD
V/PH/Hz	120/1/60
M.C.A (AMP)	2.8
M.O.C.P (AMP)	15
WEIGHT (LBS)	40

- NOTES/OPTIONS :
- PROVIDE SURFACE MOUNT KIT FOR DH-1(N), DH-2(N) & DH-3(N). CONFIRM THE FINAL TYPE WITH ARCHITECT/CLIENT.
 - COORDINATE WITH PLUMBING CONTRACTOR FOR DRAIN CONNECTION/TERMINATIONS AS PER LOCAL CODES FOR ALL DEHUMIDIFIERS.
 - PROVIDE ALL NECESSARY CONTROLS AND ACCESSORIES AS PER THE MANUFACTURER REQUIREMENTS FOR THE COMPLETE FUNCTIONING OF THE UNITS.
 - COORDINATE WITH ELECTRICAL CONTRACTOR FOR THE EXACT POWER REQUIREMENT FOR THE UNITS.
 - COORDINATE FOR THE FINAL LOCATION OF THE UNITS DH-1(N), DH-2(N) & DH-3(N) WITH THE ARCHITECT/CLIENT PRIOR BASE BID OR STARTING ANY CONSTRUCTION.

WALL LOUVER SCHEDULE

DESIGNATION	OAL-1
MANUFACTURER	GREENHECK (OR EQUIVALENT)
MODEL	EDJ-635 (OR EQUIVALENT)
CFM	540
PRESSURE DROP	0.06 (IN W.C.)
WIDTH (IN)	22
HEIGHT (IN)	16
DEPTH (IN)	6
FREE AREA VELOCITY (FPM)	651
FREE AREA (SOFT.)	0.8

- NOTES :
- PRESSURE DROP ACROSS LOUVER SHALL NOT EXCEED THE PRESSURE DROP OF 0.1 (IN W.C.)

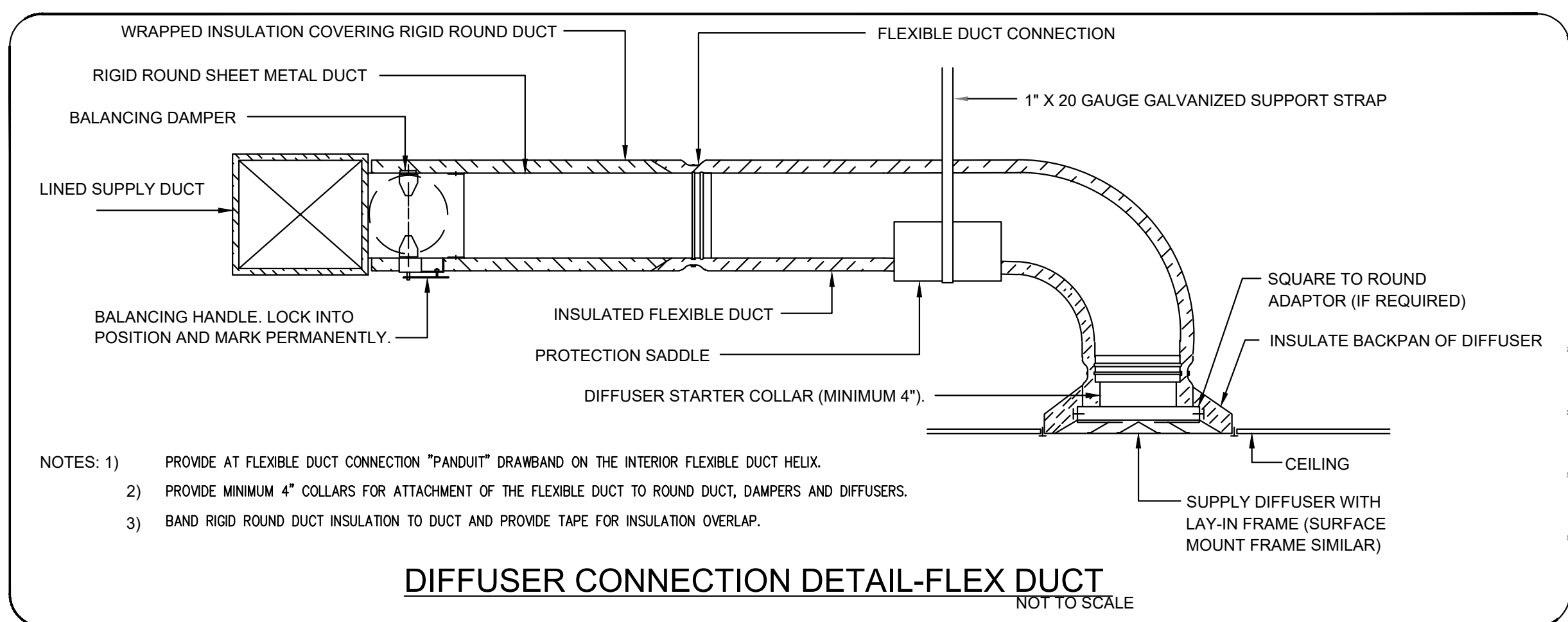
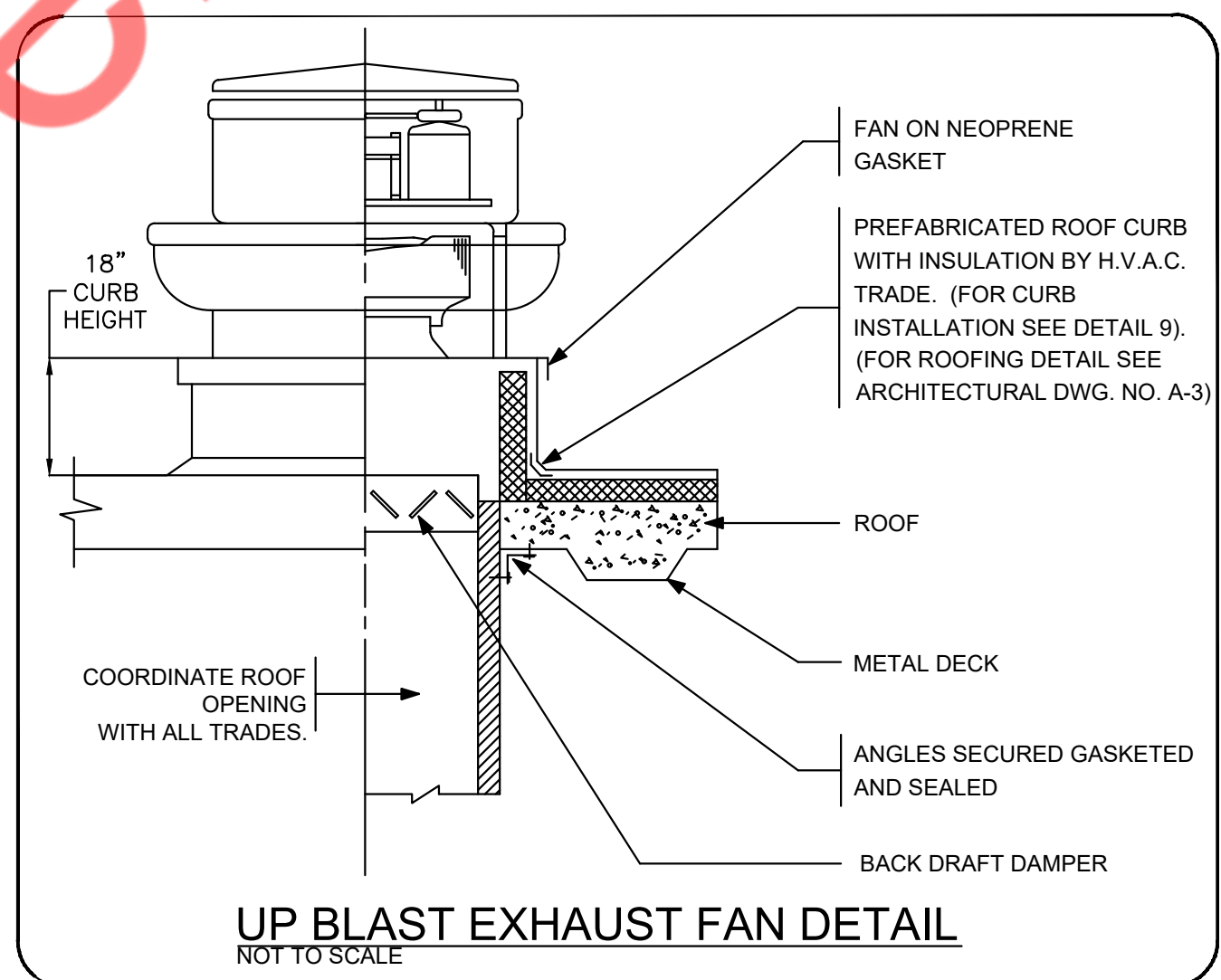
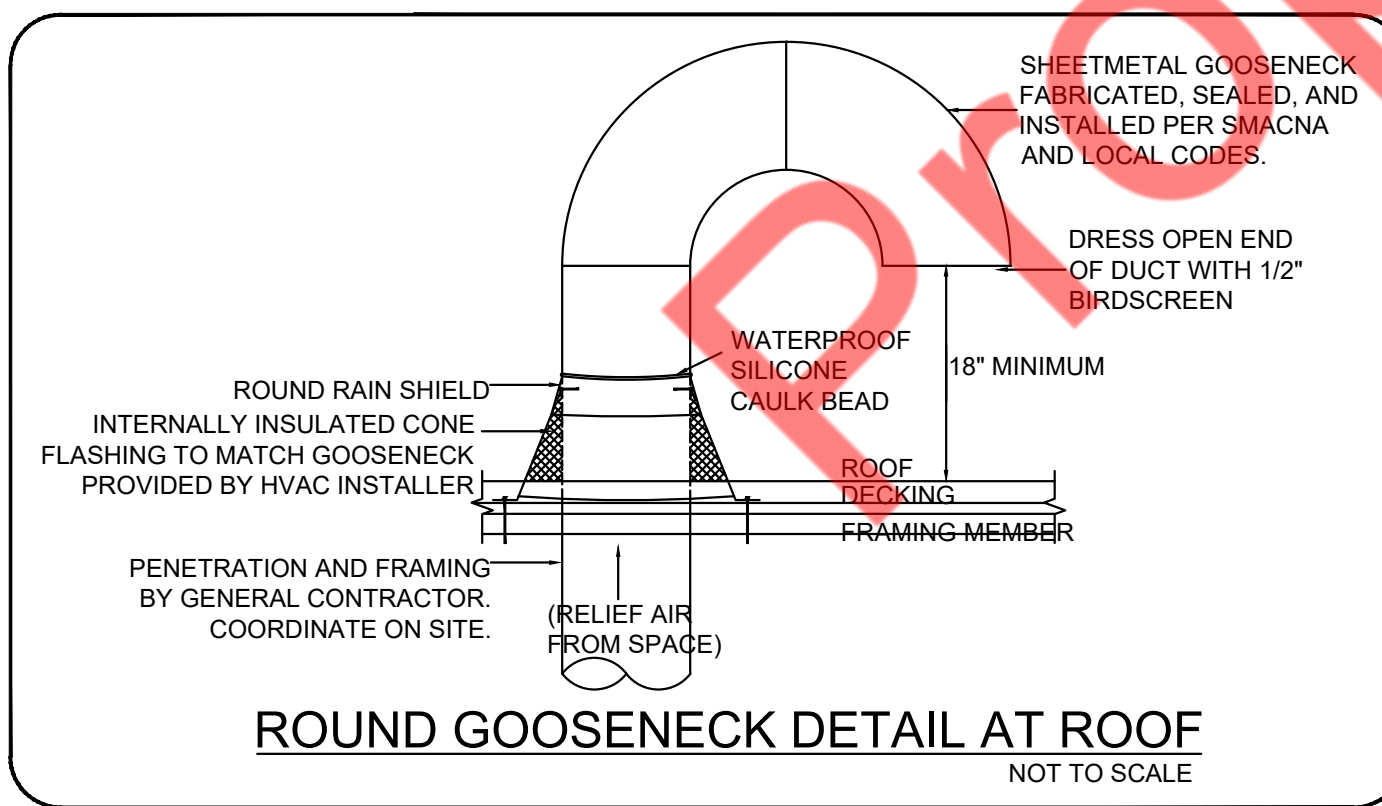
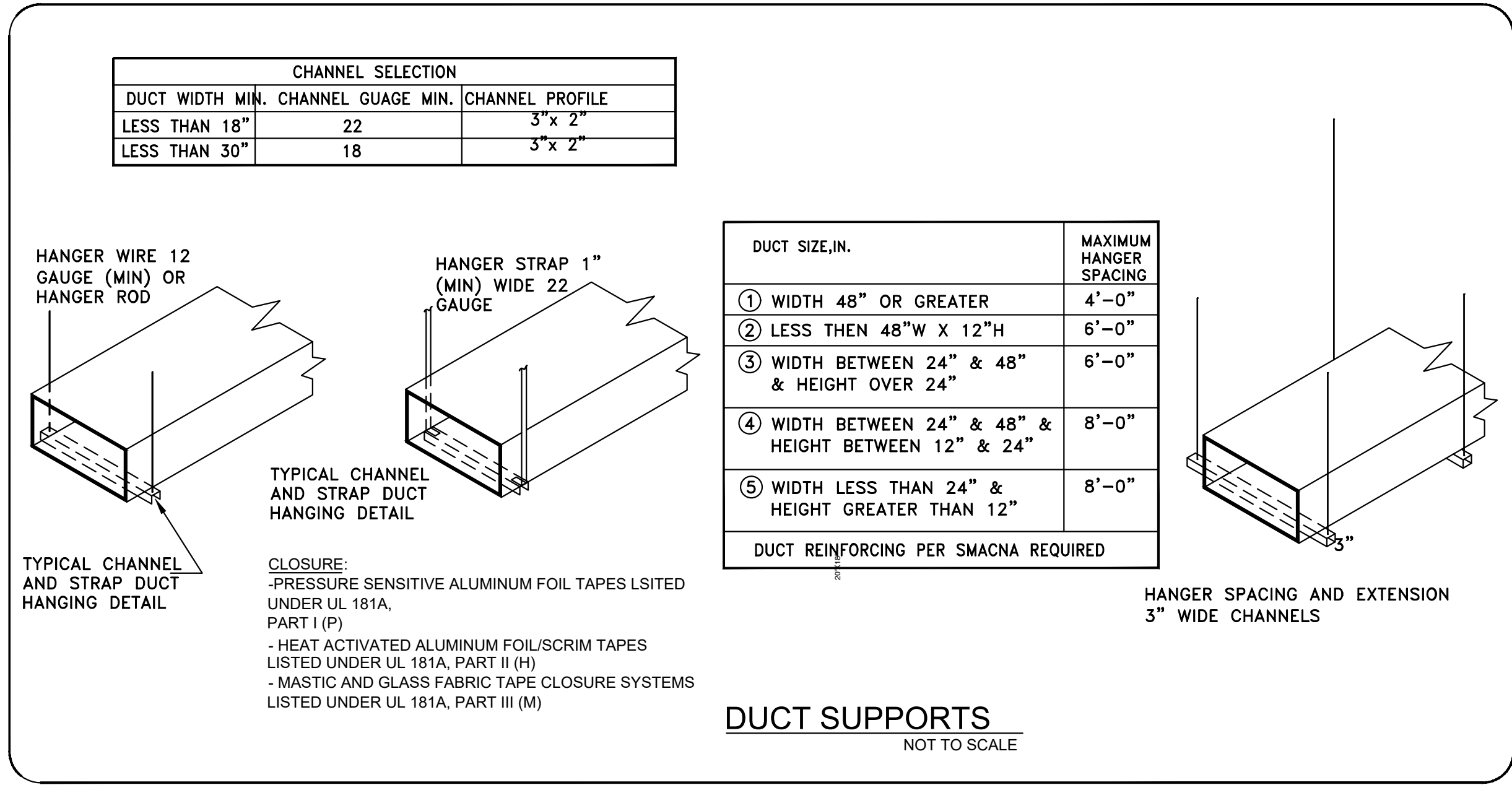
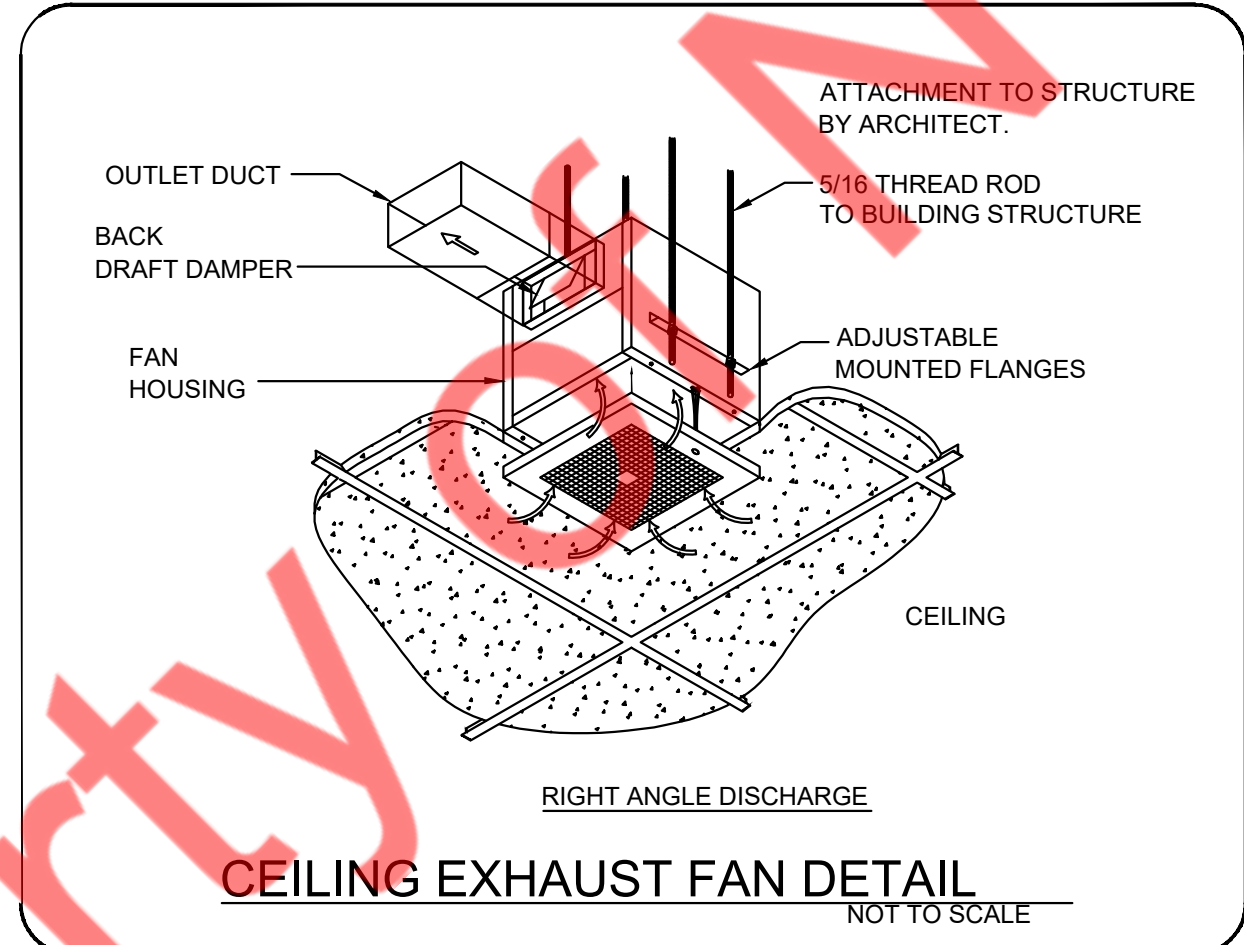
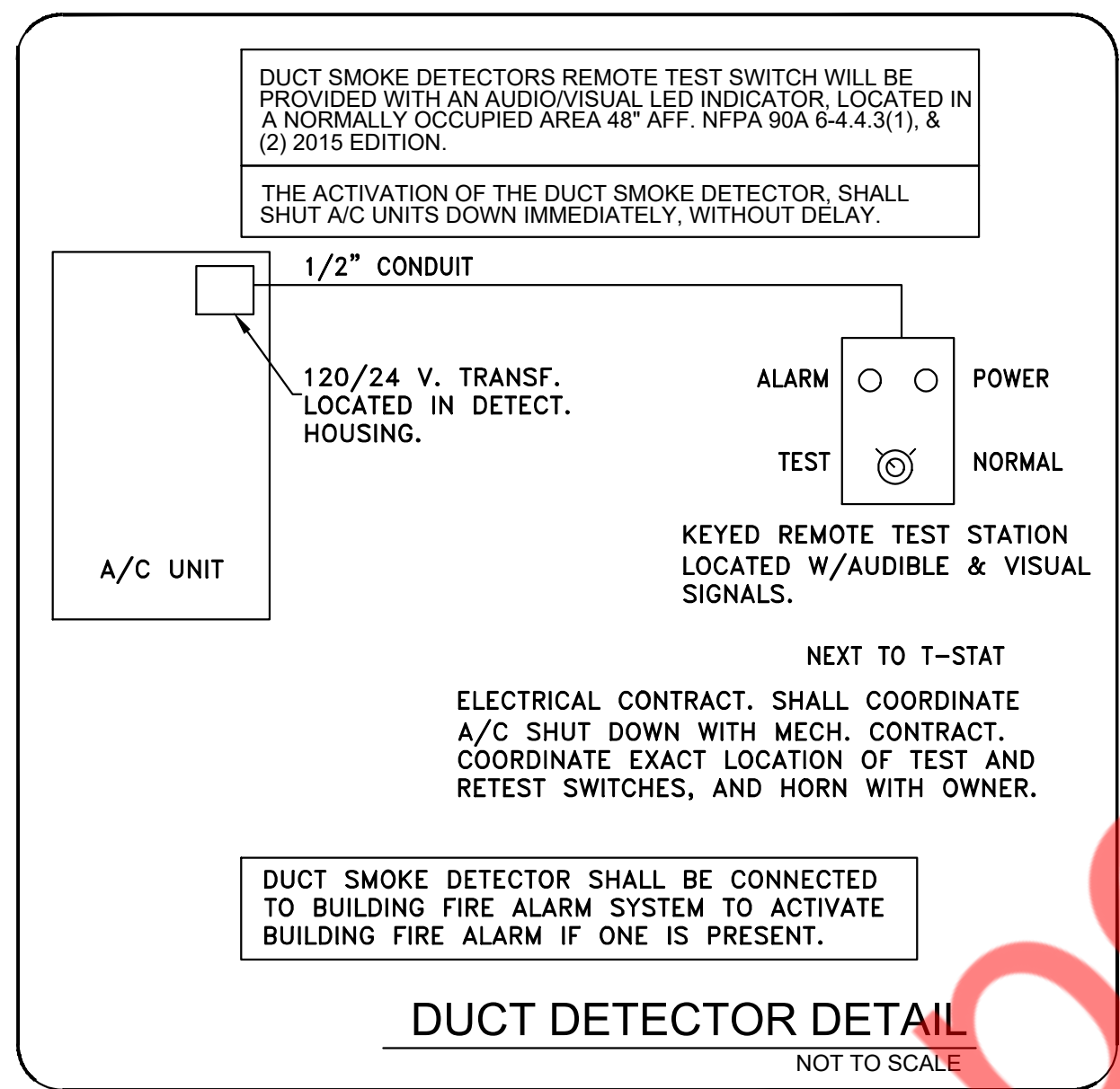
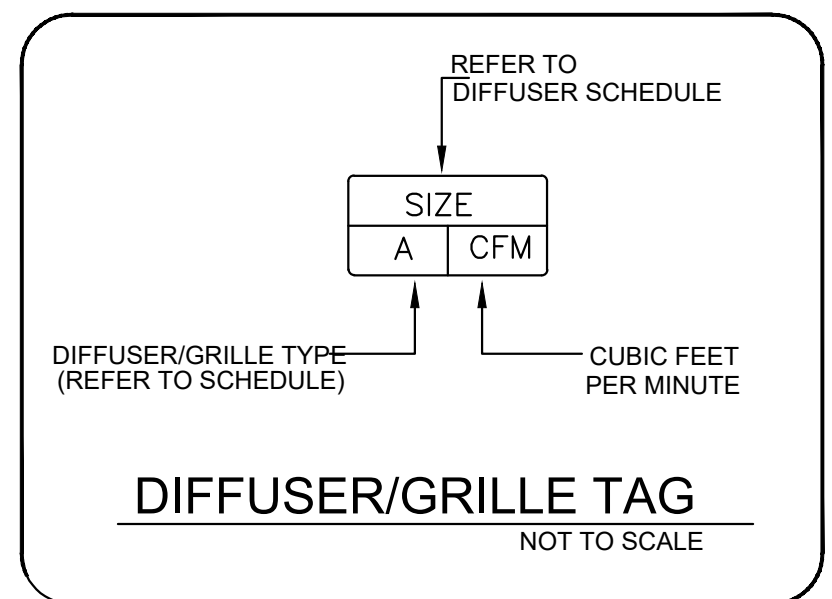
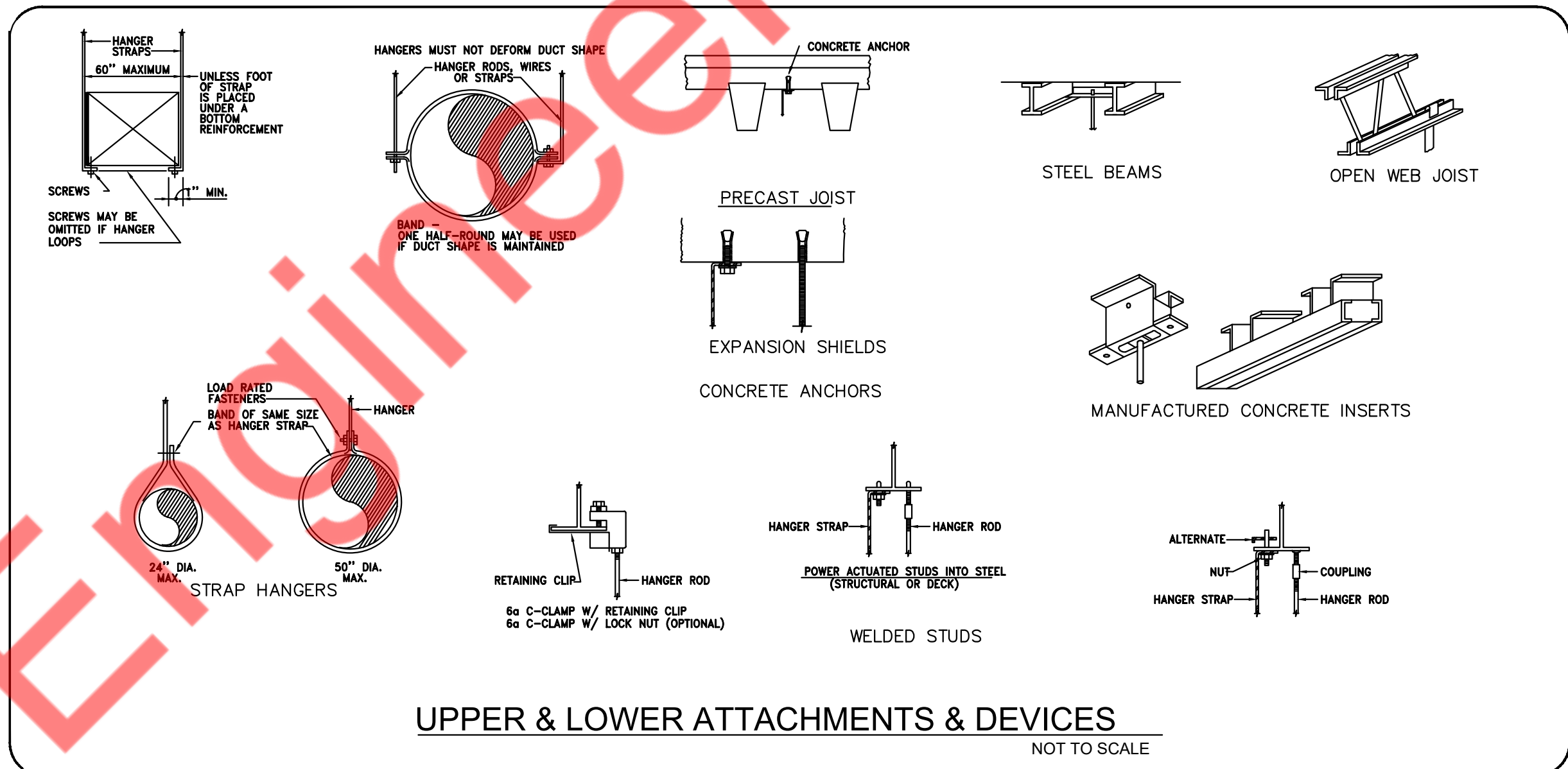
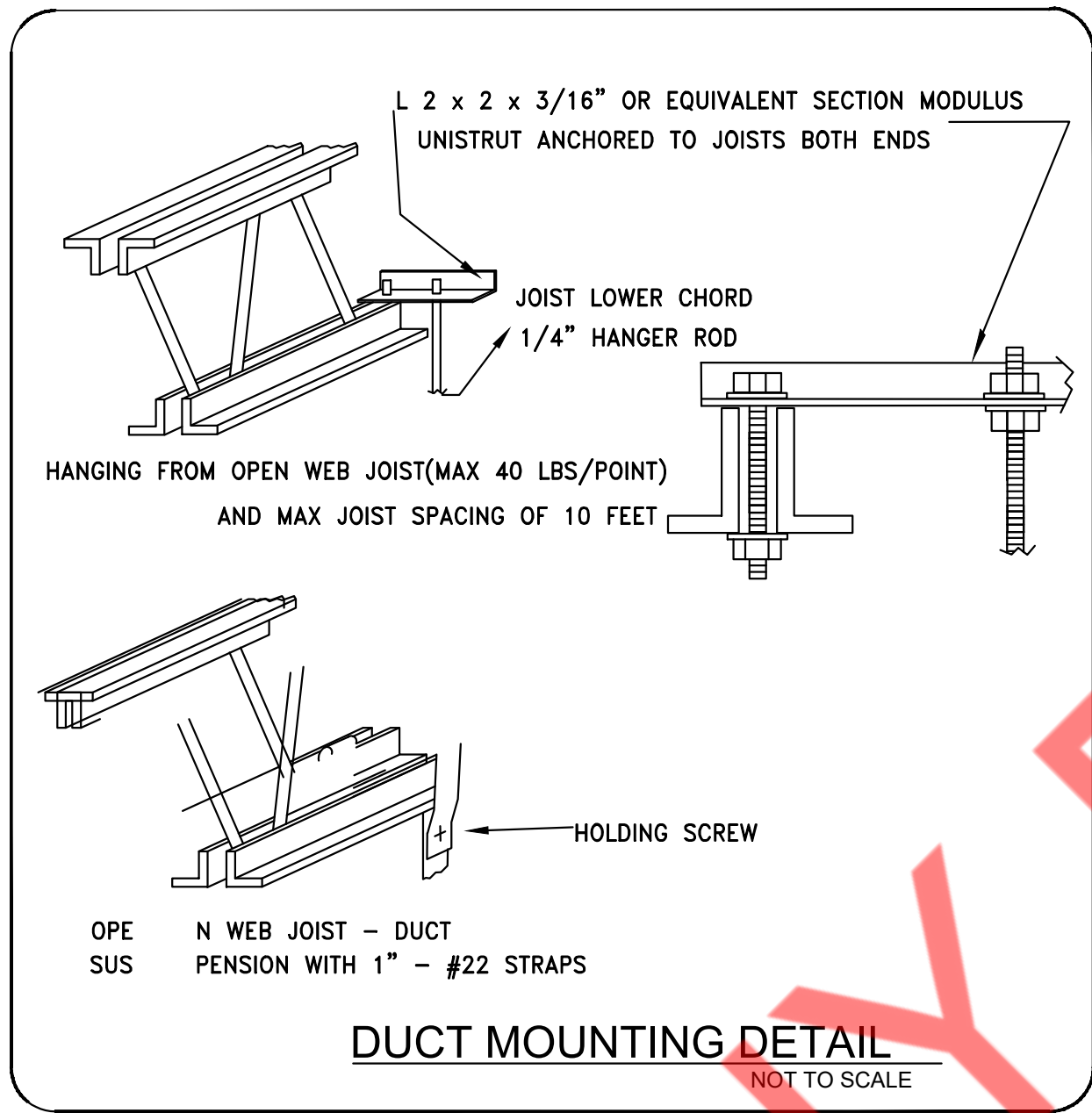
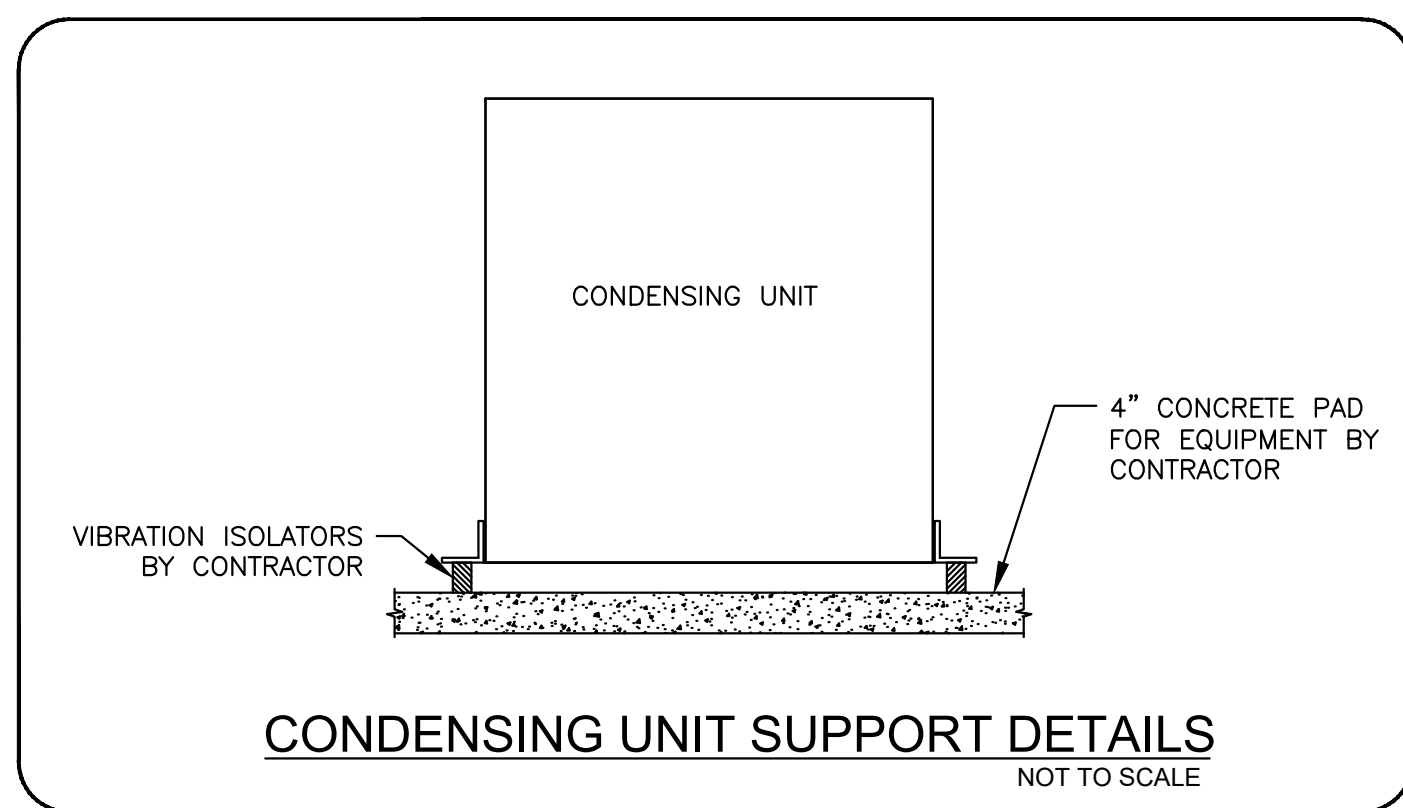
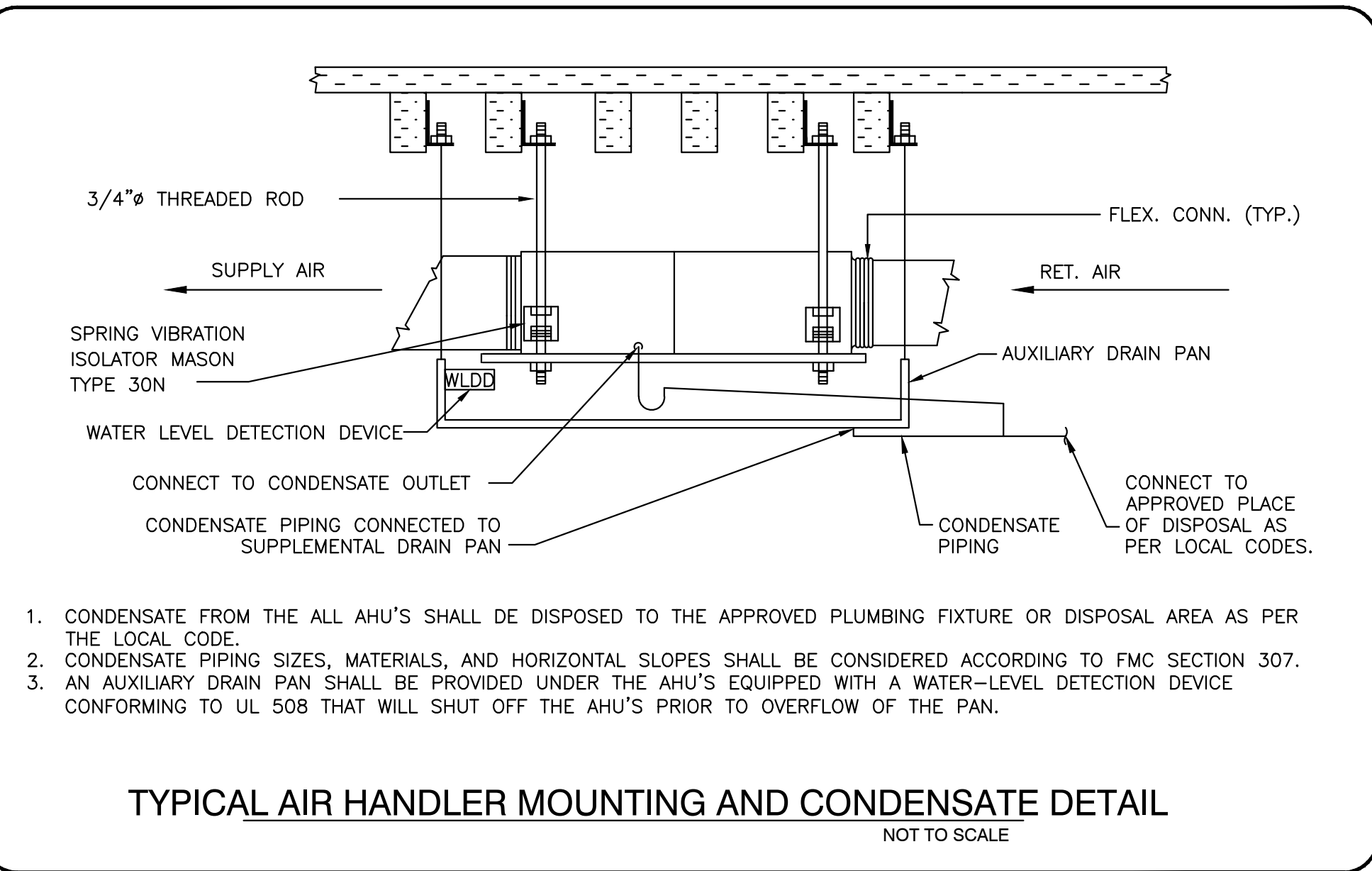
NECK SIZE TABLE - A

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

FAN SCHEDULE

DESIGNATION	EF-1(N)	EF-2(N)	EF-3(N)
STATUS	NEW	NEW	NEW
QUANTITY	1	1	1
MANUFACTURER	GREENHECK (OR EQUIVALENT)	GREENHECK (OR EQUIVALENT)	GREENHECK (OR EQUIVALENT)
MODEL	GB-100	SP-B150	SP-A90
CFM	1010@0.5 IN W.C ESP	150@0.5 IN W.C ESP	70@0.3 IN W.C ESP
FLA (AMPS)	5.8	1.8	0.17
VOLTAGE	115/1/60	115/1/60	115/1/60
WEIGHT (LBS)	60	25	25
ACCESSORIES	BDD	BDD	BDD

- NOTES :
- PROVIDE DISCONNECT SWITCH.
 - PROVIDE BACK DRAFT DAMPER.
 - FANS SHALL BE PROVIDED WITH MANUAL SWITCH.
 - EF-1(N) SHALL BE PROVIDED WITH COMPATIBLE MANUAL SPEED CONTROLLER.



SCOPE OF WORK

1. REUSE THE EXISTING (1) 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FROM BASE BUILDING FOR THE TENANT SPACE.
2. REUSE THE EXISTING (1) 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER AND DISCONNECT.
3. REUSE THE EXISTING (1) 200A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A".
4. REUSE THE EXISTING (1) 60A(M.L.O), 120/208V, 1-PHASE, 3-WIRE ELECTRICAL PANEL "B".
5. PROVIDE ALL NECESSARY EQUIPMENT AND ALL WIRING AND LIGHTING FOR THE PROPOSED TENANT SPACE. 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 250.146
12. SUBMIT SERVICE ENTRANCE EQUIPMENT FOR SEPARATE APPROVAL.
13. ALL LOW VOLTAGE MUST BE IN CONDUIT TO AVOID 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 THHN INSULATION.
19. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS. PLASTIC AND CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
20. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL 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

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 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.
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 CONTRACT 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'-0" 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.
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/TENANTS GC AT TENANTS SOLE EXPENSE.
58. ALL ELECTRICAL PANELS TO BE MOUNTED ON PLYWOOD BACKER BOARD.
59. PANEL PHASE LOADS TO BE BALANCED WITHIN 10%.
60. ELECTRICAL PANELS MAY NOT BE RECESSED IN DIMINISHING PARTITIONS. SURFACE MOUNT OR FULL FUROUT WALL TO ACHIEVE FLUSH FINAL APPEARANCE.
61. COORDINATE ALL CONCRETE TRENCHING/CORING TO ENSURE THAT ANY UNDER SLAB UTILITIES, ETC. ARE NOT DAMAGED DURING FLOOR CUT. ANY DAMAGE TO BE REPAIRED AT TENANTS EXPENSE. PRIOR APPROVAL AND COORDINATION WITH PROPERTY MANAGEMENT IS REQUIRED FOR ALL CONCRETE CUTTING.
62. CONFIRM ELECTRICAL METER REQUIREMENTS WITH BASE BUILDING OPERATIONS.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
	JUNCTION BOX
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
	WALL SWITCH (SINGLE)
	WALL SWITCH (TIMER)
	OCCUPANCY SENSOR WALL SWITCH
	DUPLEX RECEPTACLE
	QUADRUPLUX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	FLOOR MOUNTED DUPLEX RECEPTACLE
	AC INDOOR UNIT
	MOTOR SWITCH
	MOTORIZED DAMPER
	ELECTRICAL PANEL
	TELEVISION OUTLET
	TELEPHONE/DATA OUTLET
	DATA OUTLET
	FLOOR MOUNTED DATA OUTLET
	230 VOLT RECEPTACLE
	30A/240V NON FUSED DISCONNECT SWITCH
	60A/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
 EXHAUST FAN= EF
 WATER HEATER= WH
 WA = WASHER
 AUTHORITY HAVING JURISDICTION= A.H.J.
 HP = HEAT PUMP
 BELOW COUNTER= BC
 PUSH BUTTON= PB
 UNDER CABINET= UC
 VAPOR PROOF= VP
 ELECTRICAL CONTRACTOR=E.C.
 ROOF TOP UNIT= RTU
 RECIRCULATION PUMP=RCP
 DR = DRYER
 CU = CONDENSING UNIT
 AHU = AIR HANDLING UNIT

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	NUMBER OF FIXTURES	LAMP WATTAGE	TOTAL WATTS	MOUNTING	REFER TO REFLECTED CEILING PLAN IN ARCHITECTURAL DRAWINGS FOR MORE INFORMATION ON COLORS AND TRIMS REQUIRED.
	A	2x4 RECESSED LAY-IN LED	ORACLE LIGHTING	24-FPL1-LED	120	9	34 WATTS	306 WATTS	RECESSED	
	A1	2x2 RECESSED LAY-IN LED	ORACLE LIGHTING	22-FPL1-LED	120	2	32 WATTS	64 WATTS	RECESSED	
	C	DOWNLIGHT 6" LED	ELCO LIGHTING	EL695	120	33	24 WATTS	792 WATTS	DOWNLIGHT	
	D	TRACK LIGHTING	CONTECH LIGHTING	CTL905 SERIES	120	27	7 WATTS	189 WATTS	TRACK	
	X1	EXIT SIGN	BEST LIGHTING	LEDRI5DT	120	2	2 WATTS	4 WATTS	WALL/CEILING	
	Y1	WALL MOUNTED EMERGENCY LIGHTS	BEST LIGHTING	ETX2EURWEM	120	4	3 WATTS	12 WATTS	WALL	
	OS	CEILING OCCUPANCY SENSOR	INTERMATIC	IOS-CMP-U	120	---	---	---	CEILING	
	OS	OCCUPANCY WALL SWITCH	INTERMATIC	IOS-DDR-WH	120	---	---	---	WALL	
	TS	TIMER WALL SWITCH	INTERMATIC	ST700W	120	---	---	---	WALL	
(E)	(E)	EXISTING 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.

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.

**2018 APPENDIX B
 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
 ELECTRICAL DESIGN
 (PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one **ENERGY CODE: PRESCRIPTIVE**

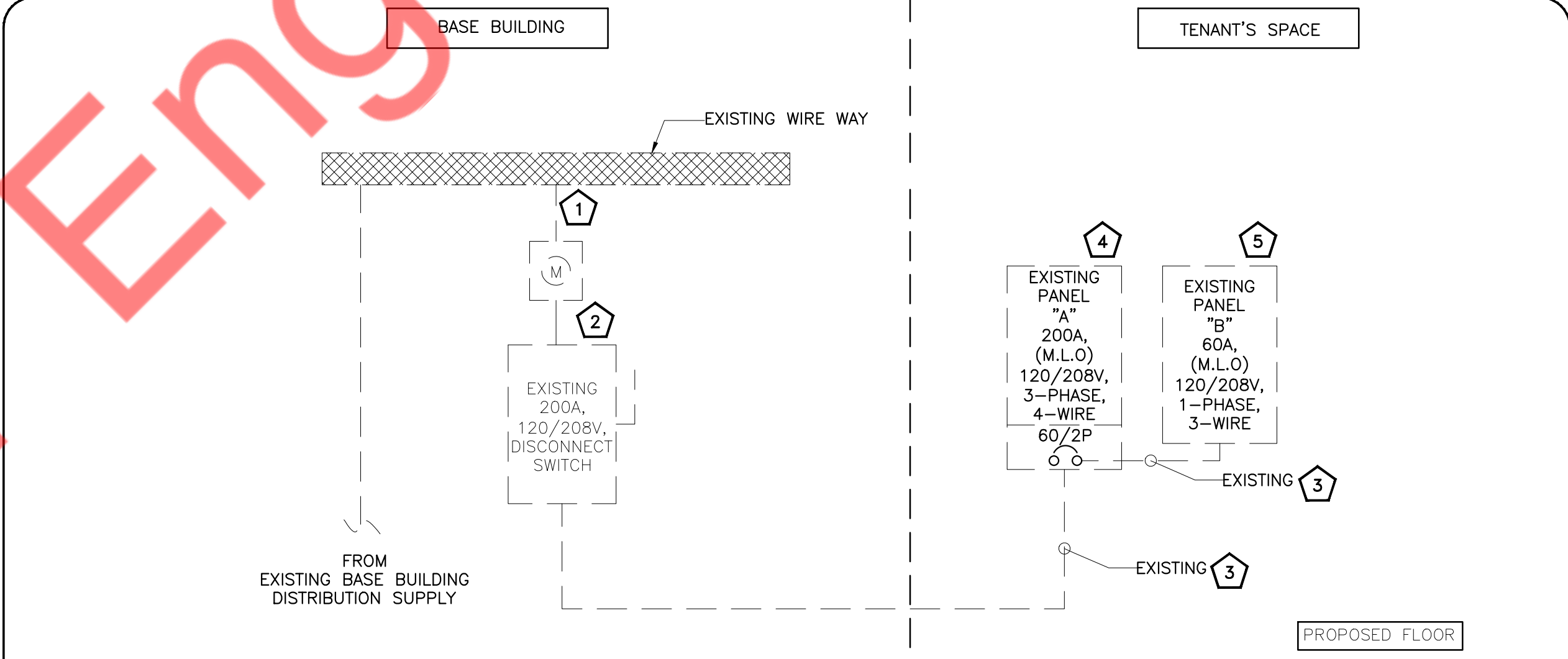
Lighting schedule (each fixture type)
 lamp type required in fixture
 number of lamps in fixture
 ballast type used in the fixture
 number of ballasts in fixture
 total wattage per fixture
 total interior wattage specified vs. allowed (whole building or space by space) **1813 WATTS/ 3662 WATTS**
 total exterior wattage specified vs. allowed **NA**

Additional Efficiency Package Options
 (When using the 2018 NCECC; not required for ASHRAE 90.1)

- C406.2 More Efficient HVAC Equipment Performance
- C406.3 Reduced Lighting Power Density
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating

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 VERTICAL. ELECTRICAL SERVICE /PANELS LOCATION AND VOLTS/PHASE. LOCATION/ITY 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.

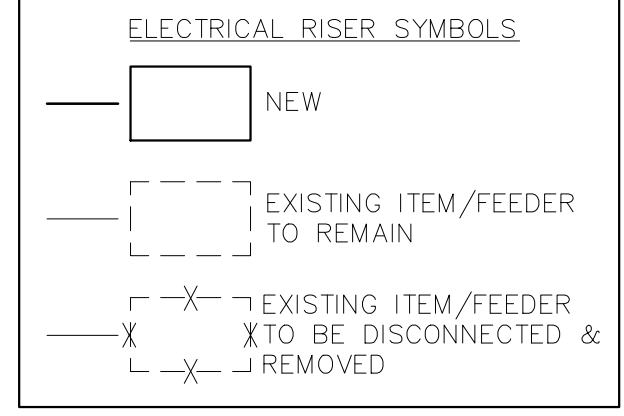


ELECTRICAL RISER KEYED NOTES:

1. EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE FROM THE BASE BUILDING ELECTRICAL SUPPLY TO REMAIN. E.C. SHALL GET INFORMATION ABOUT THE EXISTING POWER DISTRIBUTION PRIOR TO COMMENCING ANY WORK AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES. BASE BID ACCORDINGLY.
2. EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER & DISCONNECT SWITCH TO REMAIN. E.C. SHALL COORDINATE WITH BASE BUILDING/LANDLORD/OWNER FOR EXACT LOCATION. E.C. TO VERIFY OPERABLE CONDITION OF EXISTING ELECTRICAL METER & DISCONNECT IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
3. EXISTING FEEDERS TO REMAIN. E.C. TO VERIFY OPERABLE CONDITION OF FEEDER IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
4. EXISTING 200A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
5. EXISTING 60A(M.L.O), 120/208V, 1-PHASE, 3-WIRE ELECTRICAL PANEL "B" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL GENERAL NOTE:

- 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. E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- C. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
- D. E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD. REPLACE/RECTIFY IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.
- E. EXISTING ELECTRICAL DISTRIBUTION TO BE MAINTAINED AND UTILIZED TO SERVE PROJECT SPACE. POWER RISER DIAGRAM INDICATED FOR REFERENCE PURPOSES ONLY.



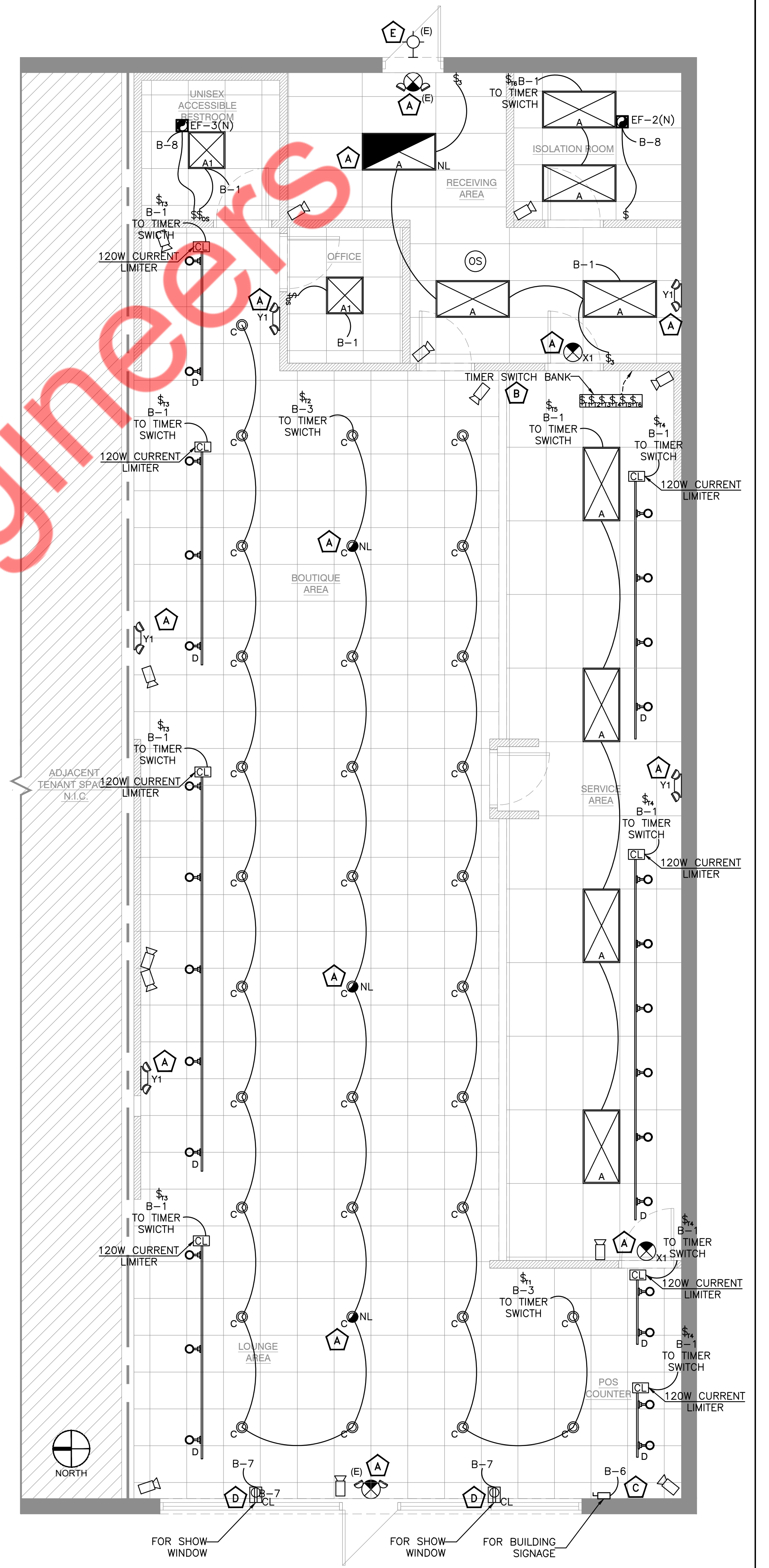
ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:

- A** CONNECT ALL EMERGENCY EGRESS & NIGHT LIGHT FIXTURES TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.
- B** COORDINATE EXACT LOCATION OF TIMER SWITCH BANK WITH OWNER/ARCHITECT.
- C** E.C. TO COORDINATE WITH OWNER/SIGN VENDOR FOR THE EXACT LOCATION & CONNECTION REQUIREMENTS FOR BUILDING SIGNAGE. BASE BID ACCORDINGLY.
- D** PROVIDE SHOW WINDOW RECEPTACLE AS PER NEC 210.62. VERIFY EXACT LOCATION AND REQUIREMENT WITH ARCHITECT/OWNER.
- E** EXISTING LIGHT FIXTURE IN THIS AREA DENOTED BY (E) SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL HOUSE PANEL ALONG WITH THEIR CONTROLS. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL LIGHTING PLAN GENERAL NOTES:

1. COORDINATE EXACT LOCATION OF SWITCHES WITH OWNER/ARCHITECT.
2. COORDINATE FINAL FIXTURE MAKE & MODEL WITH ARCHITECT/OWNER.
3. ALL LIGHT FIXTURES CONSIDERED TO BE AS 120 VOLT FIXTURE. E.C. SHALL INFORM ENGINEER ON RECORD OTHERWISE.
4. UPPER CASE LETTER NEXT TO LIGHT FIXTURE DENOTES FIXTURE TYPE.
5. ALL EMERGENCY FIXTURES SHALL BE CONNECTED TO AN UNSWITCHED HOT CONDUCTOR.
6. CONTRACTOR ARE ADVISED TO UPDATE THE EMERGENCY LIGHT FIXTURES LOCATIONS/ QUANTITY PER SITE REQUIREMENT UP ON FINAL INSPECTION OR PER LOCAL A.H.J. REQUIREMENT.

Property of MY Engineers



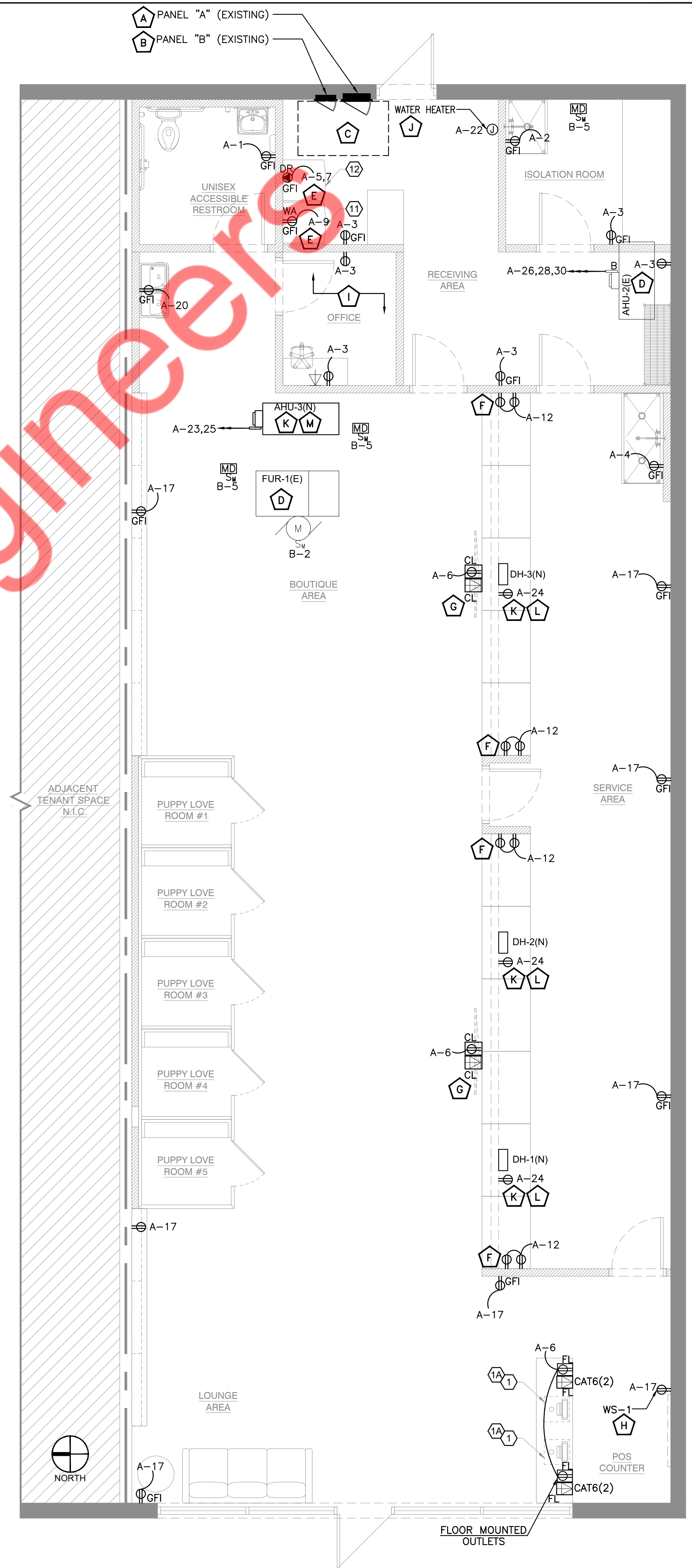
ELECTRICAL POWER PLAN KEYED WORK NOTES:

- A** EXISTING 200A(M.L.O), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" TO REMAIN. E.C. SHALL COORDINATE LOCATION WITH ARCHITECT/OWNER.
- B** EXISTING 60A(M.L.O), 120/208V, 1-PHASE, 3-WIRE ELECTRICAL PANEL "B" TO REMAIN. E.C. SHALL COORDINATE LOCATION WITH ARCHITECT/OWNER.
- C** E.C. SHALL VERIFY/PERFORM THE INSTALLATION OF ELECTRICAL PANELS IN COMPLIANCE WITH NEC 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.
- D** EXISTING MECHANICAL UNIT ALONG WITH ITS ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL "A". E.C. SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE ON FIELD. REPLACE IF FOUND INOPERABLE. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY. BASE BID ACCORDINGLY.
- E** ELECTRICAL SUPPLY PROVISION FOR THE WASHER & DRYER. E.C. SHALL COORDINATE WITH THE OWNER/MANUFACTURER FOR THE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.
- F** E.C. SHALL COORDINATE WITH VENDOR/MANUFACTURER/OWNER FOR EXACT LOCATION AND EXACT NUMBER OF OUTLET REQUIREMENT NEEDED FOR THE LED STRIPS AT KENNEL DISPLAY UNITS AND MAKE PROVISIONS ACCORDINGLY. BASE BID ACCORDINGLY.
- G** PROVIDE POWER AND DATA CONNECTIONS FOR TELEVISION AT LOCATION SHOWN. VERIFY EXACT REQUIREMENTS PRIOR TO BID. COORDINATE LOCATION, MOUNTING HEIGHT AND RECEPTACLE REQUIREMENT WITH ARCHITECT AND OWNER PRIOR TO BID, ROUGH-IN AND INSTALL.
- H** E.C. SHALL CO-ORDINATE WITH ARCHITECT/OWNER/MANUFACTURER FOR EXACT MOUNTING HEIGHT, LOCATION AND POWER REQUIREMENT OF WALL SIGN AND PROVIDE ACCORDINGLY. BASE BID ACCORDINGLY.
- I** E.C. SHALL COORDINATE EXACT REQUIREMENTS OF POWER AND DATA INSIDE THE OFFICE. COORDINATE LOCATION, MOUNTING HEIGHT AND RECEPTACLE REQUIREMENT WITH ARCHITECT AND OWNER PRIOR TO BID, ROUGH-IN AND INSTALL. BASE BID ACCORDINGLY.
- J** ELECTRICAL SUPPLY PROVISION FOR THE WATER HEATER (WH-1). E.C. SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR THE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.
- K** E.C. ELECTRICAL CONTRACTOR SHALL COORDINATE FOR EXACT LOCATION OF MECHANICAL EQUIPMENTS WITH MECHANICAL DRAWINGS.
- L** ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT POWER REQUIREMENT FOR DH-1(N), DH-2(N) & DH-3(N) UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE POWER PROVISION AS REQUIRED. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.
- M** 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.

ELECTRICAL POWER PLAN GENERAL NOTE:

1. EC SHALL COORDINATE WITH THE EQUIPMENT MANUFACTURER FOR ALL THE EQUIPMENT WHICH NEEDS ELECTRICAL SUPPLY AND CONFIRM THE POWER PROVISION REQUIREMENTS PRIOR TO COMMENCING ANY WORK. COORDINATE THE MOUNTING HEIGHTS AS WELL BEFORE ROUGH-INS. BASE BID ACCORDINGLY.
2. EC SHALL COORDINATE WITH OWNER FOR EXACT POWER PROVISION REQUIREMENTS TO EACH ROOM PRIOR TO COMMENCING ANY WORK. COORDINATE THE MOUNTING HEIGHTS AS WELL BEFORE ROUGH-INS. BASE BID ACCORDINGLY.

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FLOOR POWER PLAN

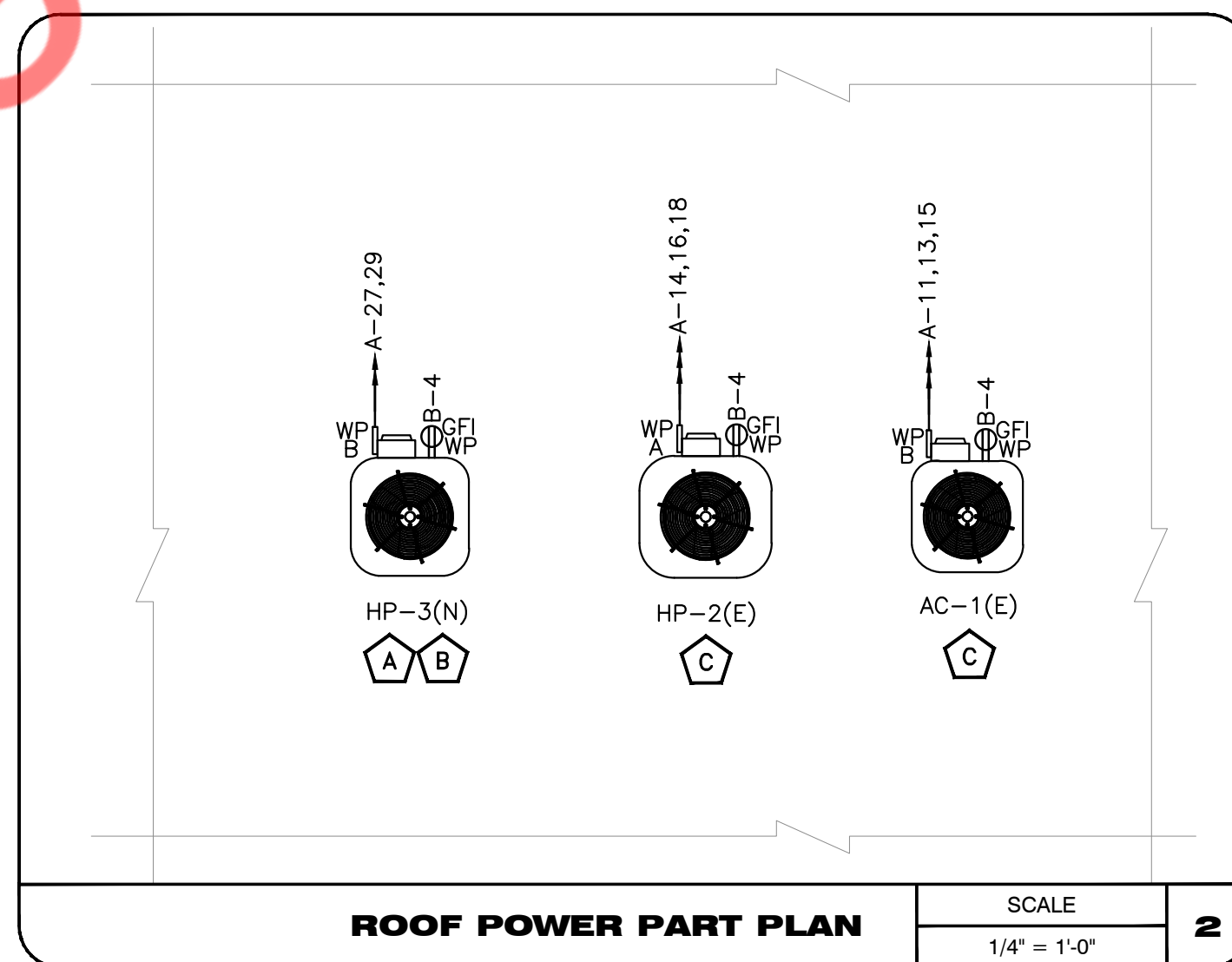
SCALE
1/4" = 1'-0"

ELECTRICAL ROOF POWER PLAN KEYED WORK NOTES:

- A** 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.
- B** 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.
- C** EXISTING MECHANICAL UNIT ALONG WITH ITS ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL "A". E.C SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE ON FIELD. REPLACE IF FOUND INOPERABLE. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY. BASE BID ACCORDINGLY.

ELECTRICAL ROOF POWER PLAN GENERAL NOTE:

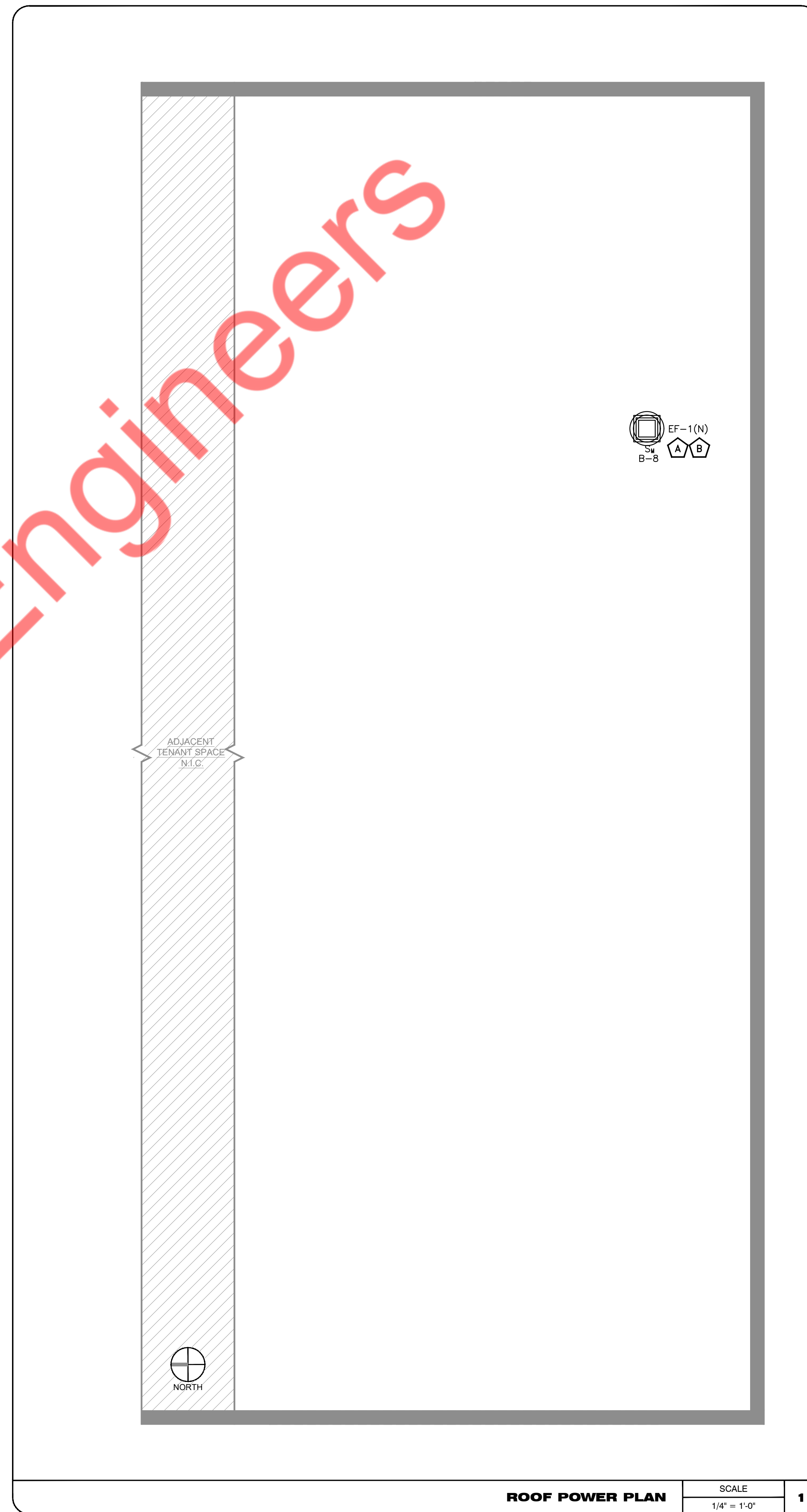
- 1. EC SHALL COORDINATE WITH THE ROOFER FOR THE ELECTRICAL REQUIREMENTS ON THE ROOF BEFORE COMMECNING ANY WORK. BASE BID ACCORDINGLY.



ROOF POWER PART PLAN

SCALE
1/4" = 1'-0"

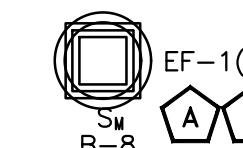
2



ADJACENT
TENANT SPACE
N.I.C.



NORTH



ROOF POWER PLAN

SCALE
1/4" = 1'-0"

1

PANEL SCHEDULE:

PANEL: A(E)										MOUNTING:		RECESSED			
208Y/120		VOLTS,		3		PHASE,		4		WIRE					
MAIN CB		NA		MLO: 200A		BUS: EXISTING		MIN,		FED FROM:		EXISTING METER/DISCONNECT			
*NOTE: L-LIGHTING, R- RECEPTACLES, E-EQUIPMENTS, H- HVAC, M- MOTOR, O-OTHER/MISCELLANEOUS, *: GFCI BREAKER *															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20	RECEPTACLE- RESTROOM	R	0.18	2#12 , #12G, 3/4"C	1.18			2#12 , #12G, 3/4"C	1.00	E	GARBAGE DISPOSAL	20	2	
3	20	RECEPTACLE- OFFICE, RECEIVING AREA	R	1.08	2#12 , #12G, 3/4"C		2.08		2#12 , #12G, 3/4"C	1.00	E	GARBAGE DISPOSAL	20	4	
5	30-2P*	DRYER	E	3.12	2#10, #10G, 3/4"C			3.84	2#12 , #12G, 3/4"C	0.72	R	TV + POS	20	6	
7			E	3.12		3.12						SPARE	20	8	
9	20	WASHER	E	1.20	2#12 , #12G, 3/4"C		1.20					SPARE	20	10	
11			H	2.16				3.60	2#12 , #12G, 3/4"C	1.44	R	RECEPTACLE- LED STRIP	20	12	
13	35-3P	AC- 1(E.)	H	2.16	EXISTING	4.68				2.52	H		20	14	
15			H	2.16			4.68		EXISTING	2.52	H	HP-2(E.)	30-3P	16	
17	20	RECEPTACLE-SERVICE AREA, LOUNGE	R	1.44	2#12 , #12G, 3/4"C			3.96		2.52	H		20	18	
19			O	3.73		4.48			2#12 , #12G, 3/4"C	0.75	R	DRINKING WATER FOUNTAIN	20	20	
21	60-2P	PANEL B	O	3.73	EXISTING		3.93		2#12 , #12G, 3/4"C	0.20	O	WATER HEATER	20	22	
23			H	0.52				1.53	2#12 , #12G, 3/4"C	1.01	H	DH - 1(N), DH - 2(N), DH - 3(N)	20	24	
25	15-2P	AHU- 3(N)	H	0.52	2#12 , #12G, 3/4"C	5.80				5.28	H		20	26	
27			H	4.16			9.44		EXISTING	5.28	H	AHU -2(E.)	60-3P	28	
29	40-2P	HP-3(N)	H	4.16	2#8 , #10G, 3/4"C			9.44		5.28	H		20	30	
TOTAL CONNECTED LOAD (KVA)						19.27	21.34	22.38							

PANEL: B(E)										MOUNTING:		RECESSED			
120/240		VOLTS,		1		PHASE,		3		WIRE					
MAIN CB		NA		MLO: 60		BUS: EXISTING		MIN,		FED FROM:		PANEL A			
*NOTE: L-LIGHTING, R- RECEPTACLES, E-EQUIPMENTS, H- HVAC, M- MOTOR, O-OTHER/MISCELLANEOUS, *: GFCI BREAKER *															
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-TRACK LIGHT, SERVICE AREA, OFFICE, RECEIVING AREA, ISOLATION ROOM, UNISEX RESTROOM	L	0.79	2#12 , #12G, 3/4"C	2.59			EXISTING	1.80	H	FUR - 1(E.)	20	2	
3	20	LIGHTING- BOTUIQUE AREA	L	0.79	2#12 , #12G, 3/4"C		1.33		2#12 , #12G, 3/4"C	0.54	R	ROOF RECEPTACLE	20	4	
5	20	MOTORIZED DAMPER	M	0.30	2#12 , #12G, 3/4"C	1.50			2#12 , #12G, 3/4"C	1.20	L	EXTERIOR SIGNAGE	20	6	
7	20	SHOW WINDOW RECEPTACLE	R	1.20	2#12 , #12G, 3/4"C		1.92		2#12 , #12G, 3/4"C	0.72	M	EF-1(N), EF-2(N) & EF-3(N)	20	8	
TOTAL CONNECTED LOAD (KVA)						4.09	3.25								

PANEL SCHEDULE GENERAL NOTES:

- ALL CIRCUITING SHOWN IN PANEL "A" & "B" FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING & BREAKER SIZE OF THE EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
- ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
- E.C. SHALL PROVIDE NEW CIRCUIT BREAKERS IN PLACE OF EXISTING CIRCUIT BREAKERS WHEREVER NECESSARY TO BE IN LINE WITH THE PANEL SCHEDULE.
- E.C. SHALL VERIFY THE EXISTING EQUIPMENT LOAD & RATINGS IN FIELD AND ACCORDINGLY CONSIDER THE ELECTRICAL LOAD IN PANEL BOARD SCHEDULE.
- E.C. SHALL PROVIDE NEW CIRCUIT BREAKER IN PLACE OF EXISTING CIRCUIT BREAKER WHEREVER NECESSARY TO BE IN LINE WITH THE PANEL SCHEDULE. ALSO CHECK COMPATIBILITY OF NEWLY ADDED BREAKERS WITH EXISTING PANEL BEFORE PURCHASE

PANEL SCHEDULE KEY NOTES:

- PROVIDE (1) 20A/1P BREAKER IN PLACE OF (1) SPACE. BASE BID ACCORDINGLY.
- PROVIDE (1) 40A/2P AND 15/2P BREAKER IN PLACE OF (1) 20A/1P AND (1)40A/3P BREAKER. BASE BID ACCORDINGLY.

* INDICATES GFCI BREAKER.

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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 ANS/NSF STANDARD 61.
- SOIL, WASTE, VENT AND RAINWATER PIPING SHALL BE PVC BUT MAY NOT RUN THRU RATED ASSEMBLIES OR IN PLENUMS.
- ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- FURNISH AND INSTALL APPROVED AIR CHAMBERS AT EACH PLUMBING FIXTURE GROUP AS PER CODE AND WITH GOOD ENGINEERING PRACTICE.
- DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS; EXCEPT AT WATER HEATER AS PER CODE.
- ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS WITH ISOLATOR PAD.
- ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING VOIDS BETWEEN PIPE AND WALL/FLOOR SLEEVES WITH FIRE RATED FOAM, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS AS PART OF THE PLUMBER'S WORK.
- PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF CERTIFICATE OF OCCUPANCY. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE WITHIN 72 HOURS OF NOTIFICATION AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED. PROVIDE COPY TO LL.
- STUDOR MINIMAXI AIR ADMITTANCE VALVES MAY NOT BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF.
- PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEAN OUT PLUG OR ACCESS PANEL FOR ALL CLEANOUTS.
- NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOMS OR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
- NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
- WATER PIPING INSULATION SHALL BE 1" THICK ARMAFLEX INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR ALL HOT WATER PIPING. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING, ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ARMAFLEX INSULATION.
- CONDENSATE DRAIN LINES TO BE RUN UNDER SLAB IN PVC 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.
- PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.
- NO JOINTS UNDERGROUND FOR COPPER.
- PLUMBING FIXTURES SHALL COMPLY WITH 2018 NORTH CAROLINA STATE PLUMBING CODE.
- WATER HAMMER ARRESTORS AS PER 2018 NORTH CAROLINA STATE PLUMBING CODE.
- PLUMBING CONTRACTOR TO PROVIDE ANTI-SCALDING VALVE FOR TUBS AND SHOWERS.
- PLUMBING CONTRACTOR SHALL REVIEW ALL BID DOCUMENTATION.
- PLUMBING CONTRACTOR SHALL REVIEW WALL FINISHES @ LOCATION REQUIRING BARRIER-FREE COMPLIANCE (EXAMPLE: CENTER LINE TO TOILET).
- CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE. PROVIDE A COPY TO LL.
- OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. PROVIDE A COPY TO LL.

PLUMBING LEGEND

	SANITARY SEWER PIPING
	EXISTING SANITARY SEWER PIPING
	VENT PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	GAS PIPE
	PIPE RISE
	PIPE DROP
	BALANCING VALVE
	FLOOR CLEAN OUT
	P-TRAP
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	GATE VALVE
	FLOOR DRAIN
	POINT OF CONNECTION
	GAS SHUT OFF VALVE
	FLOOR SINK
	THERMOSTATIC MIXING VALVE

FIXTURE BRANCH SCHEDULES

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
LAVATORY	1/2"	1/2"	2"	1-1/2"
WATER CLOSET	3/4"	--	4"	2"
WASHER DRYER	1/2"	1/2"	2"	2"
UTILITY SINK(2-COMP.)	1/2"	1/2"	I.D.	-
DRINKING FOUNTAIN	1/2"	--	2"	1-1/2"
UTILITY SINK	1/2"	1/2"	2"	1-1/2"
FLOOR DRAIN	--	--	3/4"	2"

WATER HEATER SCHEDULE

MANUFACTURER	NAVIEN
MODEL	NPE-240A2
EQUIPMENT TAG	WH-1
STATUS	NEW
QUANTITY	1
CAPACITY	TANKLESS
FUEL	GAS
BTU/HR	199,900
FLOW RATE	4.9GPM*
UNIFORM ENERGY FACTOR	0.95
AIR INTAKE / EXHAUST/VENT	2"Ø / 2"Ø
VOLTAGE	120/1/60
AMPERAGE	4
WEIGHT (EMPTY)	77 LBS

- NOTES:**
- 180°F TEMPERATURE RISE.
 - INSTALL NEW EXPANSION TANK (ET-1) AMTROL MODEL THERM-X-TROL ST-5C-DD AS PER LOCAL CODE REQUIREMENTS.
 - WATER HEATER COMES WITH INBUILT RECIRCULATION PUMP.

RESTROOM FIXTURE SCHEDULE

Item No.	Qty.	Description	Manufacturer	Model	WATER		WASTE		Usage	Spec
					Hot	Cold	Waste	Usage		
A	1	WATER CLOSET	AMERICAN STANDARD	2988101		3/4"	4"			
B	1	LAVATORY	AMERICAN STANDARD	35692102			2"			
B1	1	LAVATORY FAUCET	AMERICAN STANDARD	2064101	1/2"	1/2"				
TMV	4	THERMAL MIXING VALVES	WATTS	LFMMV	1/2"	1/2"				
M	1	DRINKING FOUNTAIN	ELKAY	R781069	1/2"	2"				

SERVICE AREA PLUMBING FIXTURE SCHEDULE

Item No.	Qty.	Description	MANUFACTURER	MODEL	WATER		WASTE	
					Hot	Cold	Direct	Indirect
8	1	UTILITY SINK AND FAUCET	STEELETON	522US13624	1/2"	1/2"	1/2"	
8A	1	UTILITY SINK(2-COMP.)	REGENCY	522US2424				1/2"
9	2	HIGH PRE RINSE FACUET	WATERLOO	750PRW812	1/2"	1/2"		
10	1	TANKLESS WATER HEATER	NAVIEN	NPE-240A2				
11	1	WASHER	TBD	TBD	1/2"	1/2"		
12	1	DRYER	TBD	TBD				
15	2	GARBAGE DISPOSAL	WASTE KING OR SIMILAR	L-8000 OR SIMILAR				
FD	3	FLOOR DRAINS*	ZURN	ZS415 W/ TYPE BS STRAINER				4"Ø

*PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS

EXISTING CONTIDITONS NOTES

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

ENERGY CONSERVATION NOTES

1. AS PER 2018 NORTH CAROLINA STATE ENERGY CONSERVATION CODE (ADOPTS IECC 2015) C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.10 OF MINIMUM PIPE INSULATION THICKNESS.

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

2. HOT WATER SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2018 NORTH CAROLINA STATE ENERGY CONSERVATION CODE (ADOPTS IECC 2015) C404.5.1. THE MAXIMUM ALLOWABLE PIPE LENGTH 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 1/2"	0.5'	8'
1 1/2"	0.5'	6'
2" OR LARGER	0.5'	4'

3. AS PER 2018 NORTH CAROLINA STATE ENERGY CONSERVATION CODE (ADOPTS IECC 2015) C404.6.1, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RE-CIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.

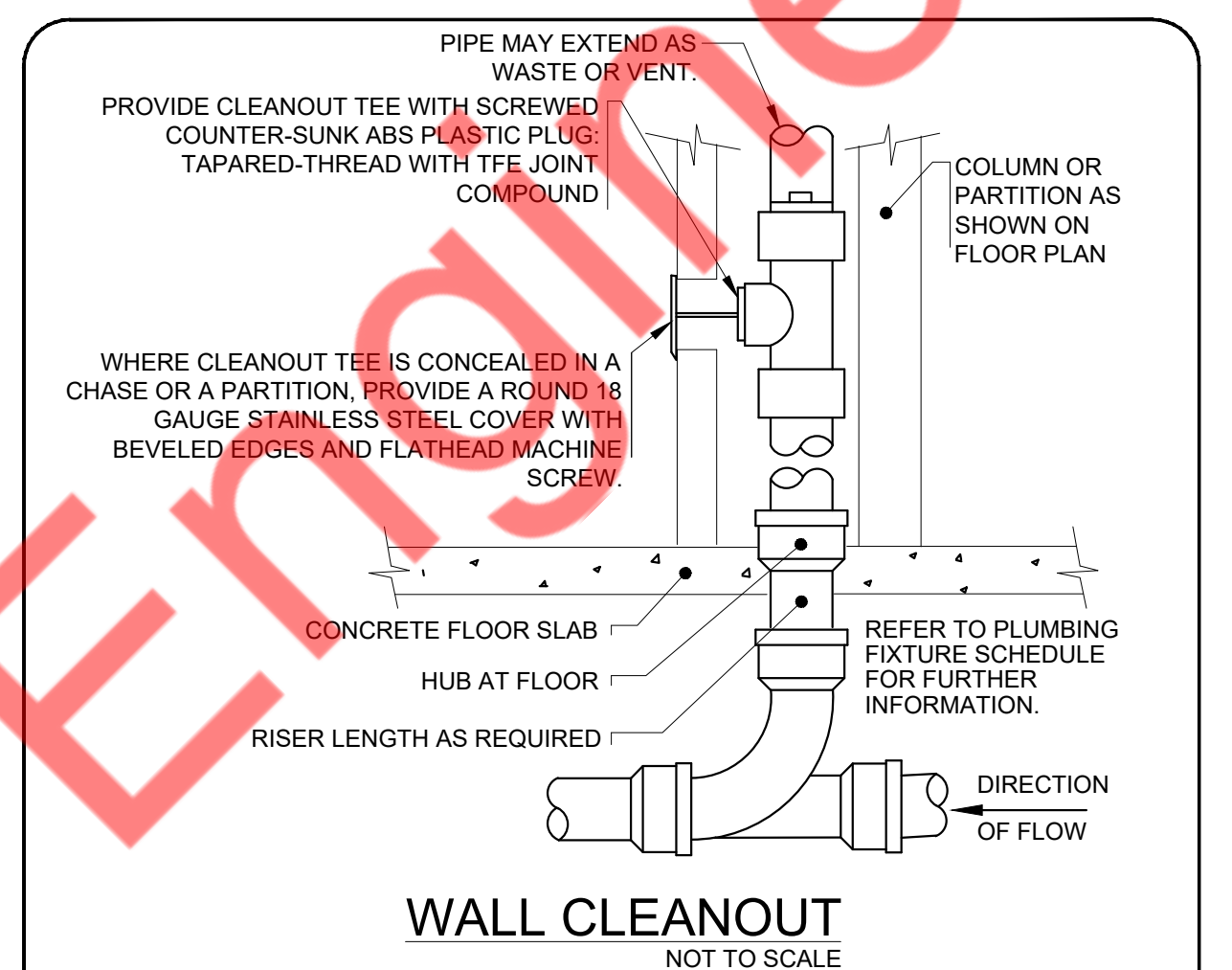
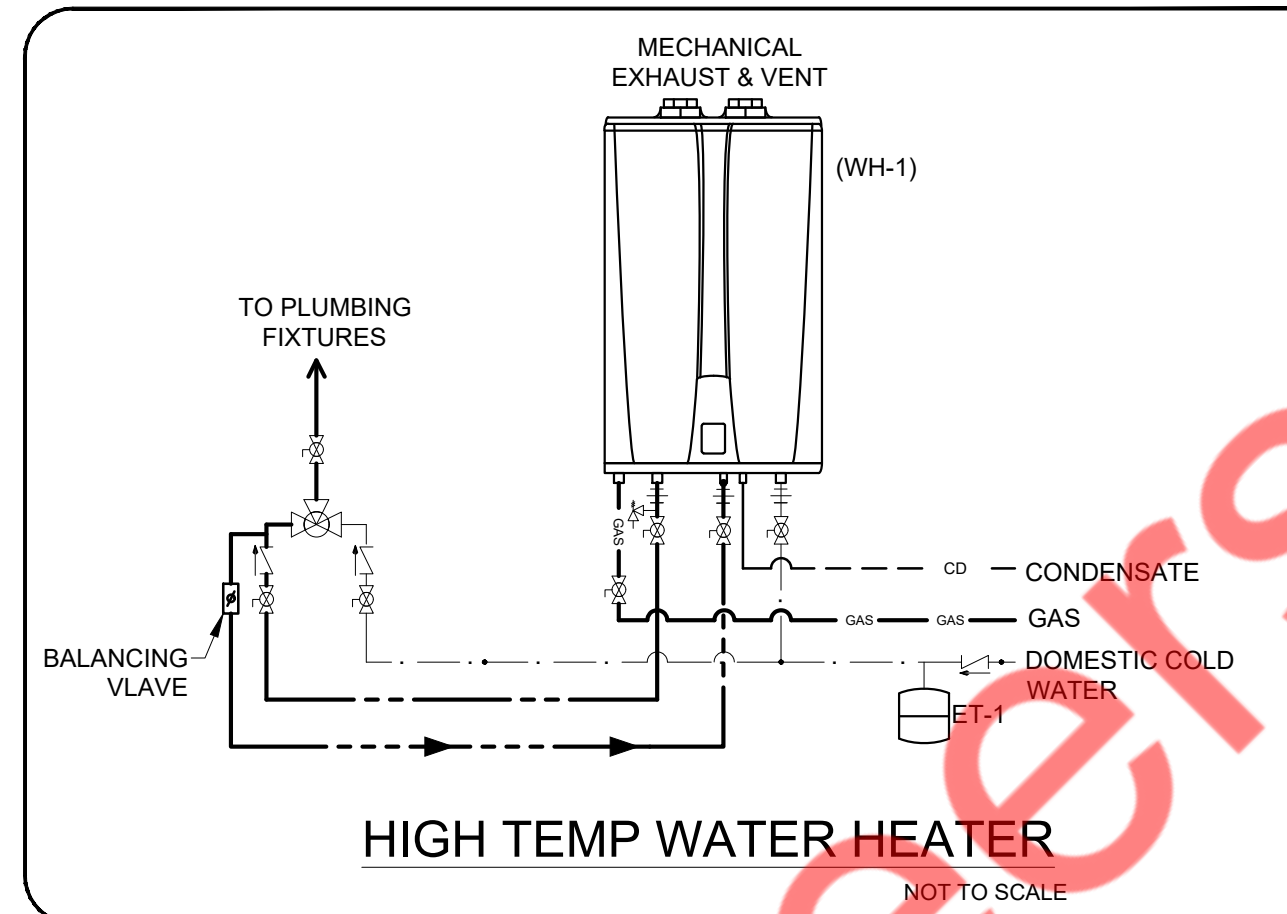
4. AS PER 2018 NORTH CAROLINA STATE ENERGY CONSERVATION CODE (ADOPTS IECC 2015)C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:

- A. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
- B. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

SCOPE OF WORK

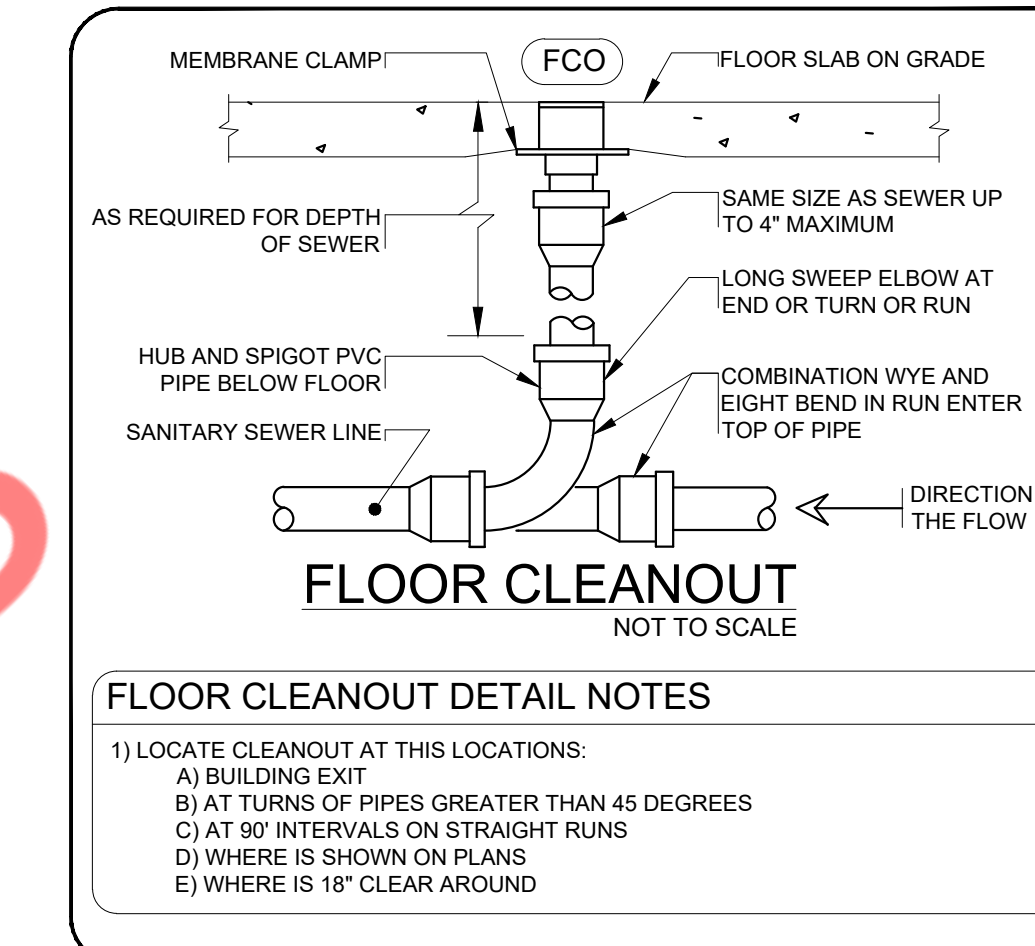
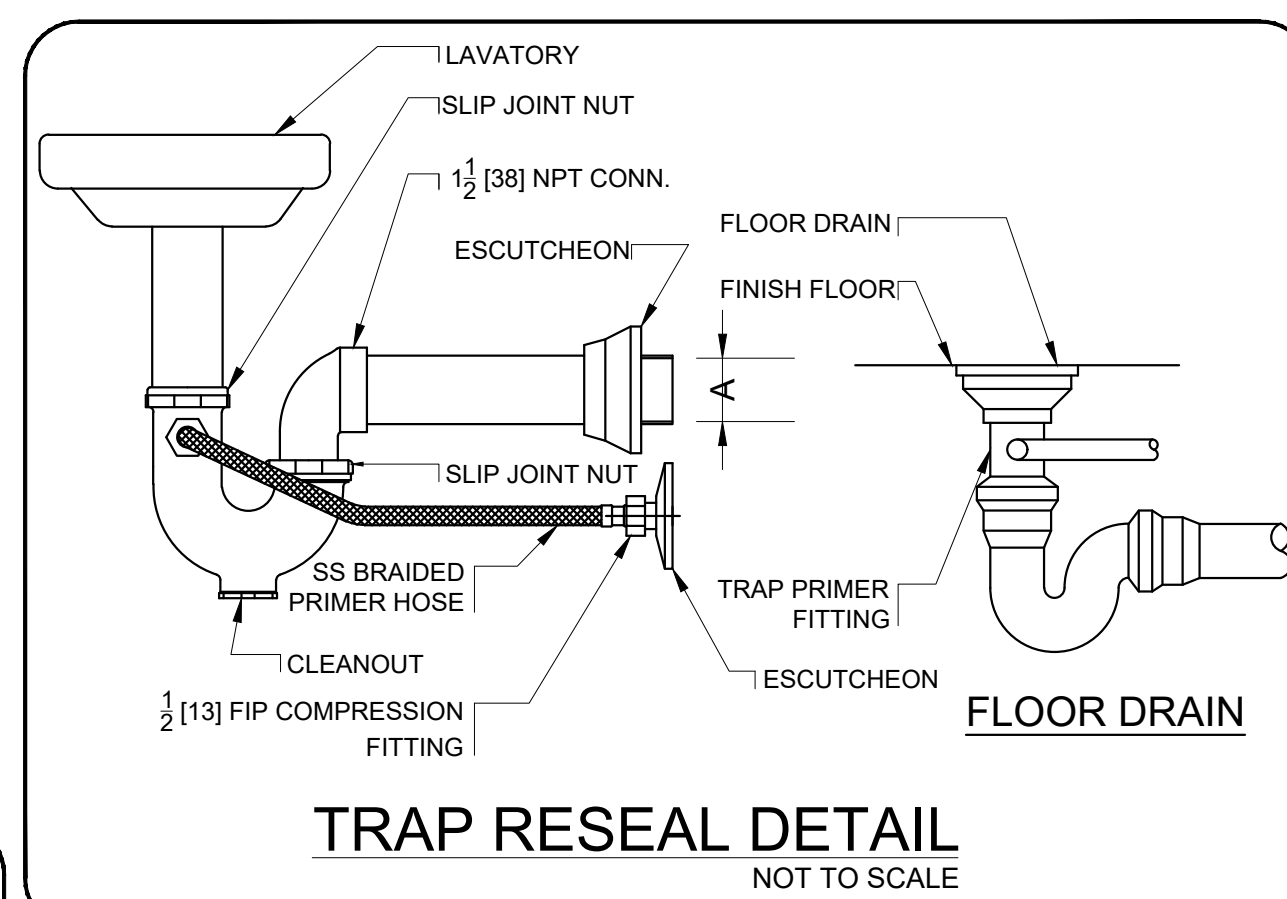
PROVIDE ALL PLUMBING FOR NEW RETAIL STORE PUPPY BOUTIQUE BUSINESS INCLUDING WATER, SANITARY LINES, GAS, VENT AND CONNECTIONS TO EXISTING UTILITIES. PROVIDE (1) NEW TANKLESS GAS WATER HEATER.

COORDINATE WITH GC AND MECH CONTRACTOR FOR ANY REQUIRED CONDENSATE LINES, IF REQUIRED.



WALL CLEANOUT DETAIL NOTES

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



FLOOR CLEANOUT DETAIL NOTES

- 1) 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

PROVIDE CLEANOUTS IN TURNS/ENDS OF PIPE. USE DWV FITTINGS IF SIZE IS LARGER THAN 1".

DISCHARGE INTO CENTER HOLE OF GRATE OF WASTE RECEPTACLE WITH AIR GAP SUFFICIENT TO REMOVE GRATE AND STRAINER. MINIMUM GAP = TWO PIPE DIAMETERS.

SLOPE PIPE AS MUCH AS POSSIBLE TOWARD DISCHARGE.

MAKE CONNECTION TO EQUIPMENT AS REQUIRED.

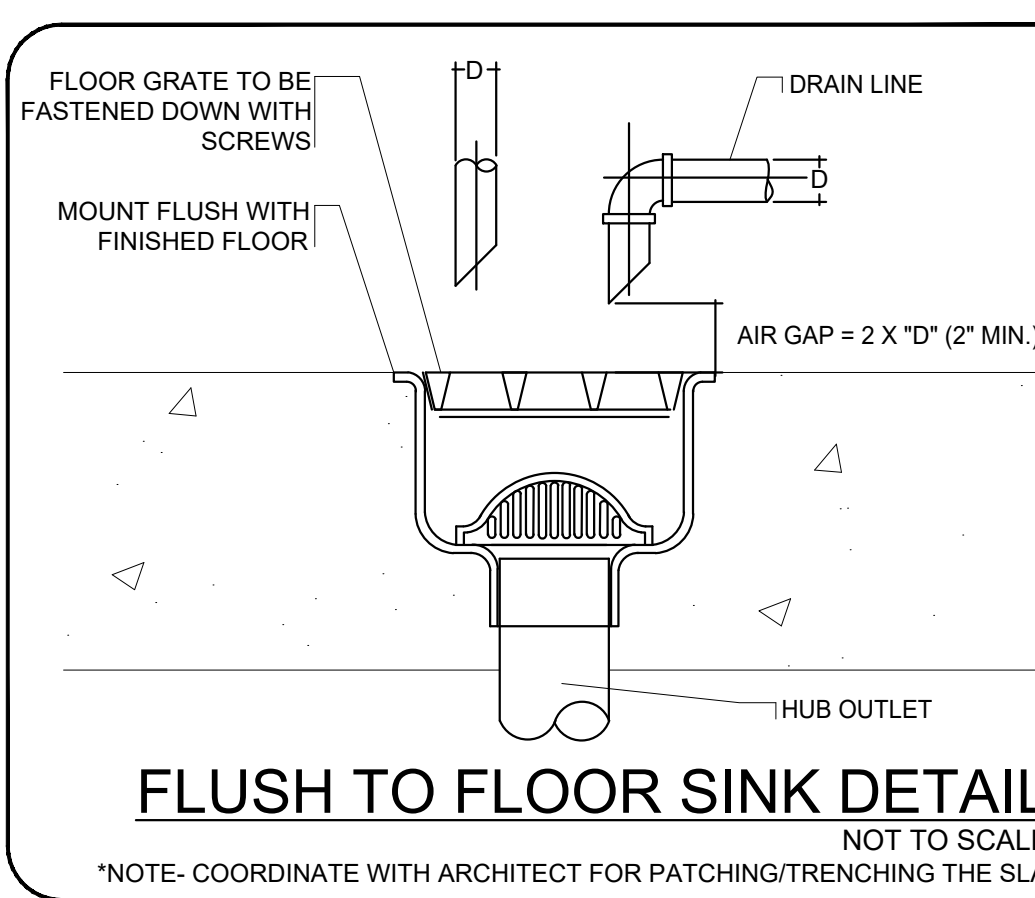
MAKE PIPE MINIMUM ONE SIZE LARGER THAN EQUIPMENT CONNECTION, MINIMUM 3/4". USE "M" OR "L" HARD COPPER UP TO 1" AND TYPE DWV FOR LARGER.

VERIFY WITH LOCAL CODES IF/WHEN TRAP AND/OR VENT ARE REQUIRED FOR THE LENGTH OF DRAIN PIPE INSTALLED.

ROUTE PIPE INCONSPICUOUSLY AND UNOBTUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

INDIRECT WASTE CONNECTION DETAIL

NOT TO SCALE

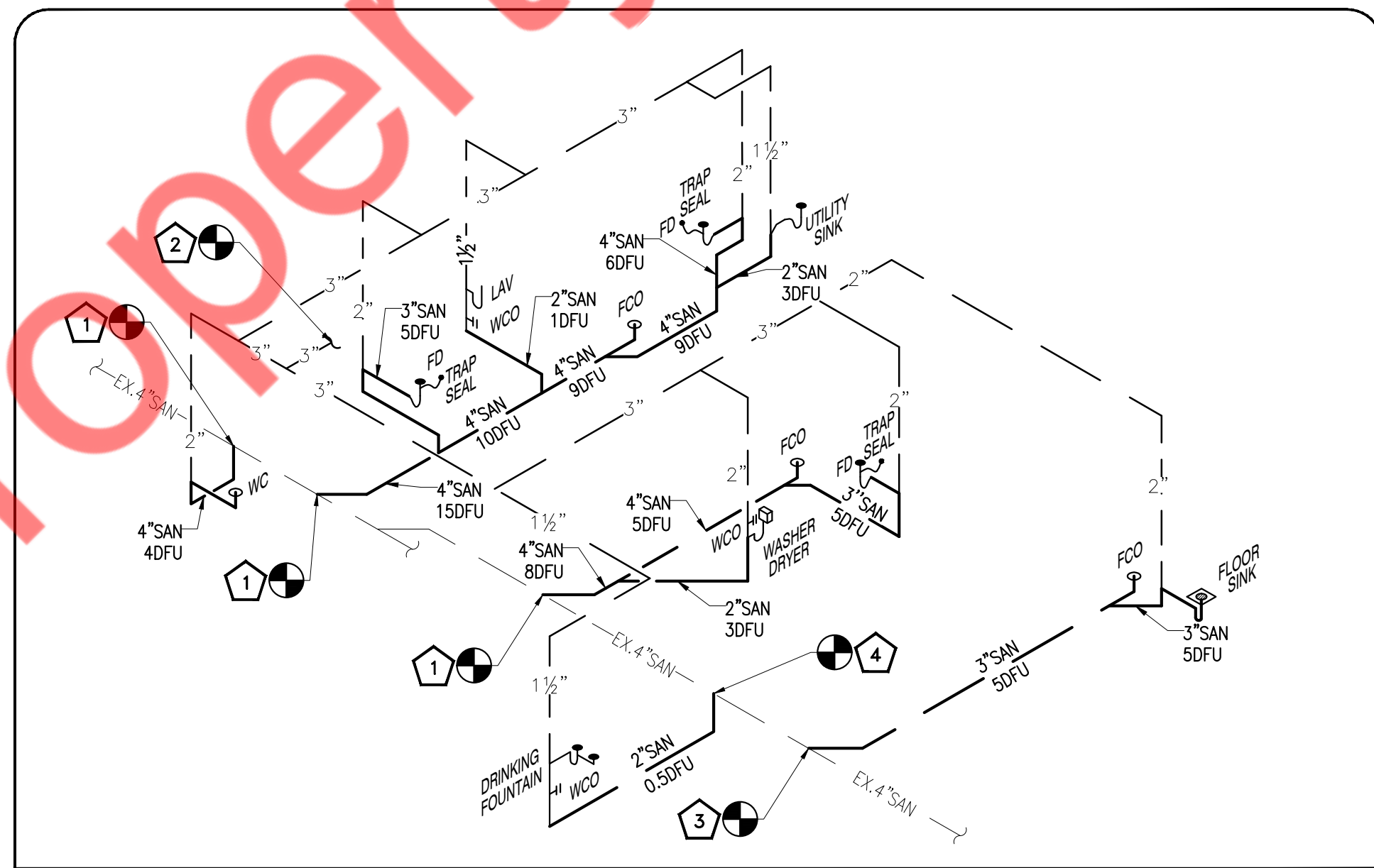


GENERAL NOTES

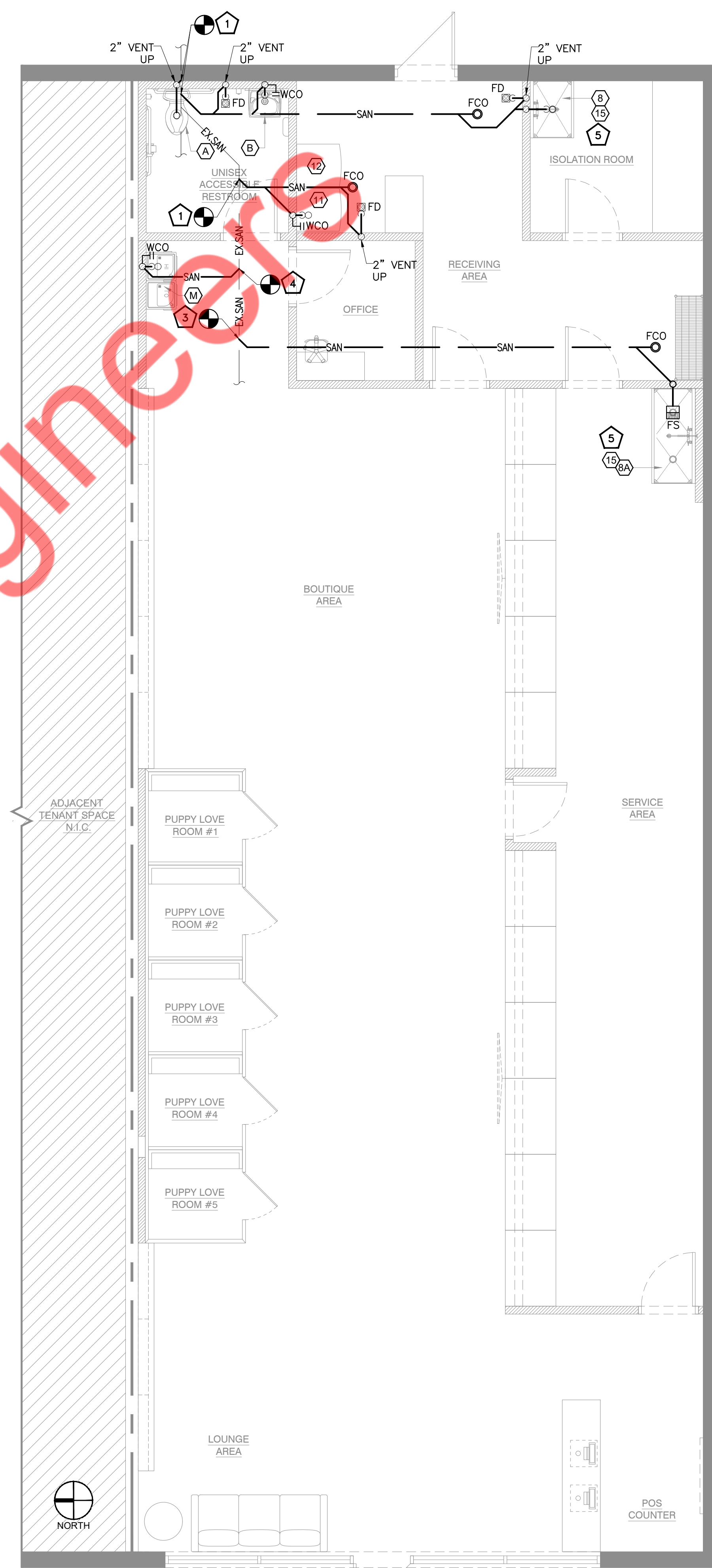
1. SLOPE OF DRAINAGE PIPING SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 3" TO 6" AND 1/4" PER FOOT OF RUN FOR PIPE 2-1/2" AND SMALLER. VENT PIPING SHALL BE PITCHED TO DRAIN.
2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
4. PROVIDE ACCESS PANELS FOR CLEANOUTS AS REQUIRED.
5. REFER SANITARY RISER DIAGRAM FOR ALL PIPE SIZES.
6. CONTRACTOR TO VERIFY THE EXISTING SANITARY AND VENT LOCATION AND ROUTING. MAKE NECESSARY CHANGES TO NEW PIPING AS PER THE EXISTING SITE CONDITION.
8. EXISTING SANITARY/VENT PIPES FROM EXISTING DEMOLISHED FIXTURE/ EQUIPMENT TO BE CAPPED AT CEILING NEAR THE FIXTURE/ EQUIPMENT.
9. WATER HEATER DRAIN SPILL TO FLOOR DRAIN.

SANITARY PLAN NOTES

1. CONNECT NEW 4" SANITARY LINE TO THE EXISTING 4" SANITARY LINE IN SPACE. CONTRACTOR TO FIELD VERIFY FOR THE SIZE, LOCATION AND INVERT ON SITE OF THE EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
2. CONNECT NEW 3" VENT LINE TO THE EXISTING VENT IN SPACE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION AND UPGRADE IF REQUIRED.
3. CONNECT NEW 3" SANITARY LINE TO THE EXISTING 4" SANITARY LINE IN SPACE. CONTRACTOR TO FIELD VERIFY FOR THE SIZE, LOCATION AND INVERT ON SITE OF THE EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
4. CONNECT NEW 2" SANITARY LINE TO THE EXISTING 4" SANITARY LINE IN SPACE. CONTRACTOR TO FIELD VERIFY FOR THE SIZE, LOCATION AND INVERT ON SITE OF THE EXISTING SANITARY LINE AND MAKE NECESSARY CHANGES IF REQUIRED.
5. CONTRACTOR TO PROVIDE AND INSTALL GARBAGE DISPOSAL AS PER MANUFACTURER'S RECOMMENDATIONS.



SANITARY RISER SCALE N.T.S. 2



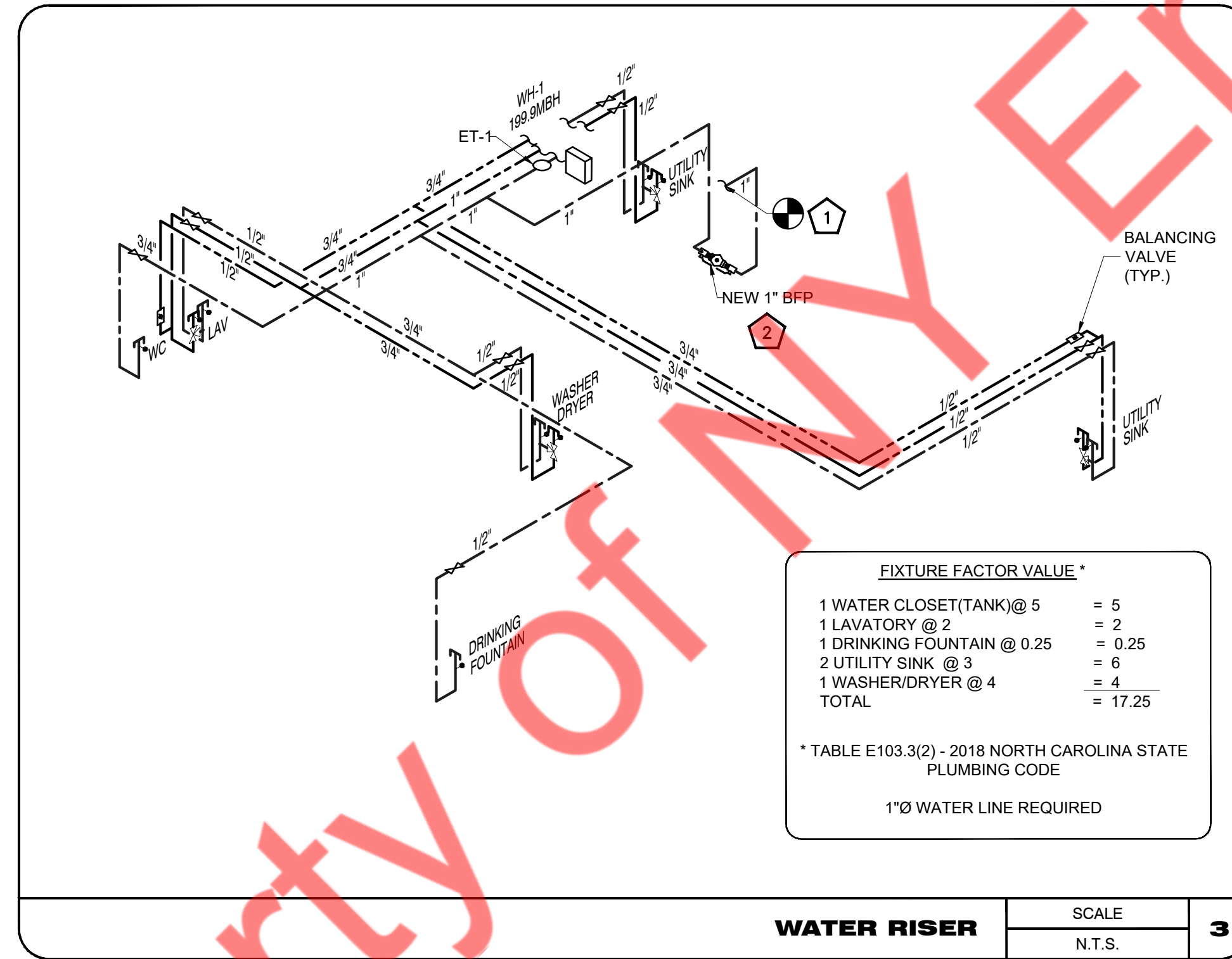
SANITARY FLOOR PLAN SCALE 1/4" = 1'-0" 1

GENERAL NOTES

1. CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2018 NORTH CAROLINA STATE ENERGY CONSERVATION CODE (REFER SHEET P-1).
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. PROVIDE ACCESS PANELS FOR SHUT-OFF VALVES AS REQUIRED.
4. REFER WATER RISER DIAGRAM FOR ALL PIPE SIZES.
5. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
6. NEW WATER HEATER (WH-1) DRAIN SPILLS TO FLOOR DRAIN.

WATER & GAS PLAN & RISER KEY NOTES

1. CONNECT NEW 1" CW LINE WITH EXISTING WATER METER. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING WATER METER AND UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.
2. PROVIDE NEW 1" BFP AND CONNECT IT WITH THE NEW PIPING AS SHOWN IN THE PLAN AND RISER. NO TAP SHOULD BE TAKEN BEFORE THE BFP. CONTRACTOR TO ROUTE BFP DRAIN TO THE NEARBY FLOOR DRAIN.
3. CONNECT NEW 1/2" GAS PIPING TO EXISTING GAS LINE. CONTRACTOR TO FIELD VERIFY EXISTING GAS METER SIZE, PRESSURE AND LOCATION IN FIELD. PROVIDE PRESSURE REGULATOR IF REQUIRED. AT OUTLET OF THE EXISTING GAS METER TO MAINTAIN THE REQUIRED PRESSURE AT ALL MECHANICAL EQUIPMENT AND WATER HEATER.
4. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR ALL MECHANICAL EQUIPMENTS AND GAS FIRED WATER HEATER. PROVIDE PRESSURE REGULATOR IF REQUIRED. CONTRACTOR TO MAKE SURE THAT EXISTING GAS METER IS OF MINIMUM 300CFH AND UPGRADE IF REQUIRED.
5. EXISTING FURNACE TO REMAIN WITH EXISTING GAS PIPING, RELATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.



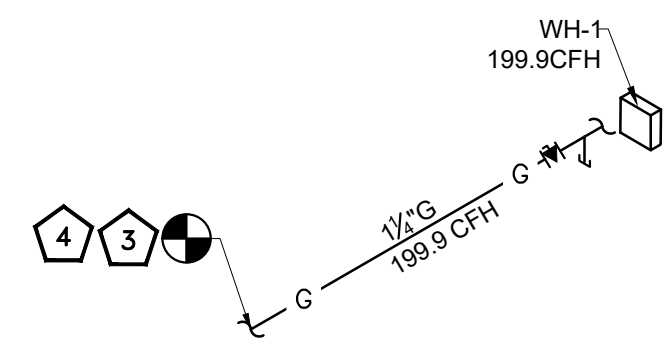
WATER RISER

SCALE
N.T.S. **3**

GAS PIPE SIZING PER TABLE 402.4(2) 2018 NORTH CAROLINA STATE FUEL GAS CODE
EQUIVALENT LENGTH OF PIPE = 125 FEET

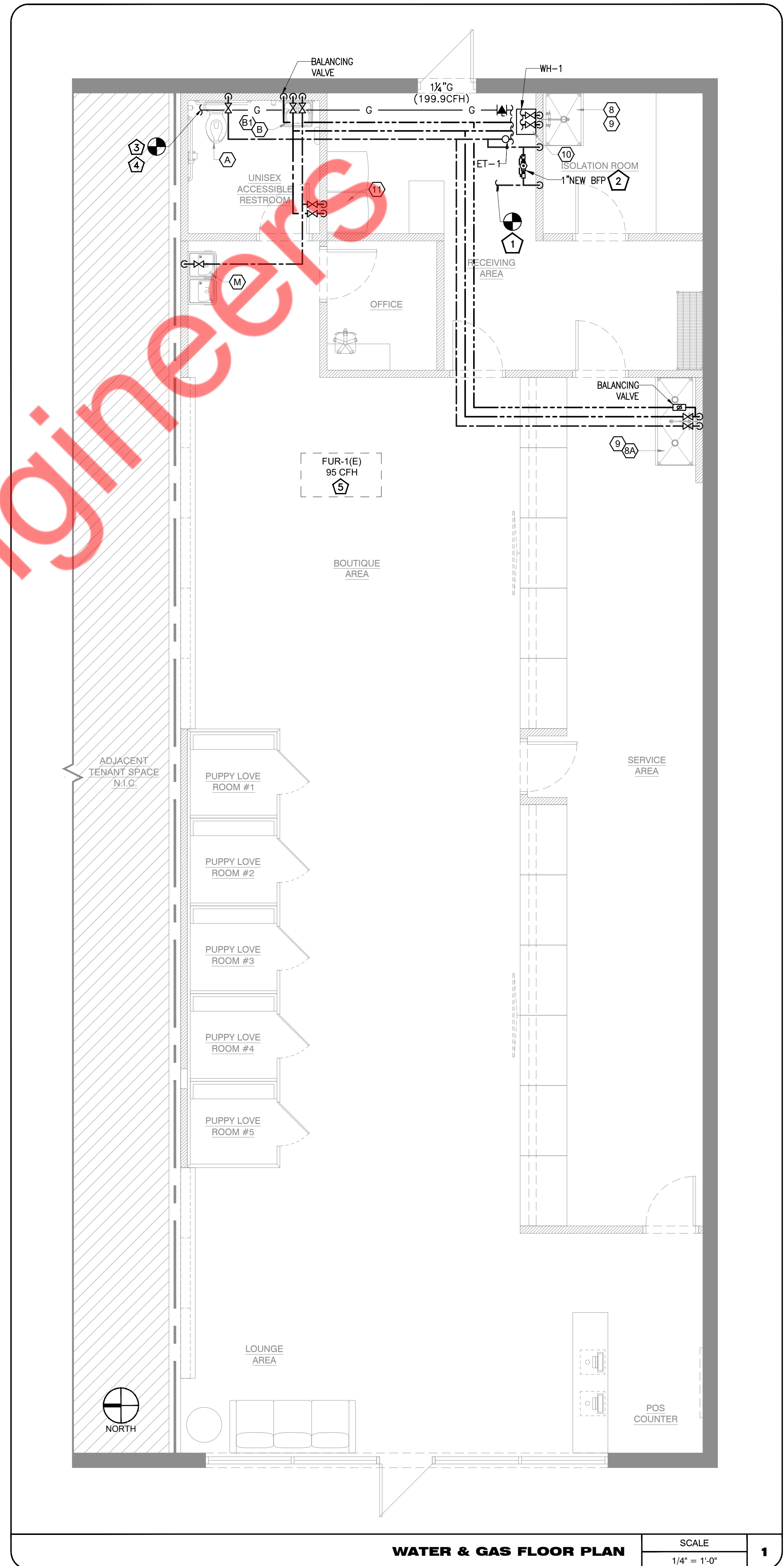
NATURAL GAS PIPING SYSTEM
PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND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

- NOTES:**
1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWED FITTINGS.
 2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
 3. VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING 2018 NORTH CAROLINA STATE FUEL GAS CODE TABLE 402.4(2).
 4. COORDINATE WITH OWNER/LANDLORD FOR THE LOCATION AND REQUIREMENT OF GAS METER. PROVIDE NEW METER WITH THE COORDINATION OF BOTH IF NOT EXISTING OR IF EXISTING IS AVAILABLE BUT NOT SUFFICIENT THEN UPGRADE THE EXISTING METER.



GAS RISER

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



WATER & GAS FLOOR PLAN

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