

HEAT SUPPLY DUCTS ARE NOT PERMITTED IN EXTERIOR WALLS OR HOUSE TO GARAGE COMMON WALLS

FLEXIBLE DUCT
MAXIMUM LENGTH MEETING NFPA STANDARDS 90A AND 90B AND IS UL LISTED 181 - CLASS 1 WITH A MINIMUM POSITIVE PRESSURE RATING OF 6" WATER GAUGE

REGISTER SCHEDULE (WALL OR CEILING MOUNT)		NET FREE AREA
3" X 6"	AT TOILETS - 50CFM	14 S.I.
3" X 9"	FOR 150CFM SUPPLY	24 S.I.
4" X 12"	FOR 200&300CFM SUPPLY	44 S.I.
6" X 12"	FOR 350-850CFM RETURN	58 S.I.
8" X 14"	FOR 800-1000CFM RETURN	68 S.I.
8" X 18"	FOR 1000-1300CFM RETURN	86 S.I.

METAL LOUVER SIZE	COMBUSTION AIR SCHEDULE	NET FREE AREA
12" X 3"	0-27,000 BTU/HR	27 S.I.
12" X 6"	27,000-54,000 BTU/HR	54 S.I.
12" X 12"	54,000-108,000 BTU/HR	44 S.I.
12" X 18"	108,000-162,000 BTU/HR	162 S.I.

Light and Vent Schedule						
Window/Door Mark	Window Size	Vent Provided	Light Provided	Quantity	Remarks	
1 2040	1'-11 1/2" x 1'-11"	8.3	8.6	0	Pella Designer S.	
2 2060	1'-11 1/2" x 1'-11"	8.1	7.5	2	Pella Designer S.	
3 2030	2'-5 1/2" x 1'-11"	5.4	5.1	0	Pella Designer S.	
4 2040	2'-5 1/2" x 1'-11"	7.5	7	2	Pella Designer S.	
5 2050	2'-5 1/2" x 1'-11"	9.6	9	0	Pella Designer S.	
6 3030	2'-11 1/2" x 1'-11"	8	7.5	1	Pella Designer S.	
7 3040	2'-11 1/2" x 1'-11"	9.3	8.6	1	Pella Designer S.	
8 3050	2'-11 1/2" x 1'-11"	11.9	11.3	0	Pella Designer S.	
9 4050	3'-11 1/2" x 1'-11"	12.7	12.8	0	Pella Designer S.	
Floors exterior						
10 (2) 3008 In swing French	3'-9 1/2" x 6"	18	20.4	1		
11 3008 Entrance Door	3'-9 1/2" x 6"	18	0	1		
12						
13						
Totals		114.8	96.3	8		

VERIFY WINDOW STYLE WITH OWNER PRIOR TO PLACING ORDERS

Room	Area	Vent		Light		Window Type/Count												Remarks
		required	actual	required	actual	1	2	3	4	5	6	7	8	9	10	11	12	
FIRST FLOOR																		
101 - Family Room (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
102 - Laundry Room (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
103 - Bathroom (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
104 - Bedroom #3	236	9.44	20.7	18.58	23.3										1		1	
105 - Storage	152	0.08	0	12.16	0													NOT REQUIRED
SECOND FLOOR																		
200 - Master Bedroom (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
201 - Bedroom #1 (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
202 - Bedroom #2 (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
203 - Bathroom (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
204 - Living Room (Exst.)	NO CHANGE	0.04	0	0.08	0													EXISTING CONDITIONS
205 - Dining Room/Kitchen	472	18.88	76.5	37.76	76.6	2	2								1		2	
Totals		34.72	67.2	60.44	101.6	0	0	0	0	1	1	0	0	0	0	0	0	0

Values are for 8% required light and 4% required vent. Mechanical ventilation and/or electrical illumination is provided and noted where applicable

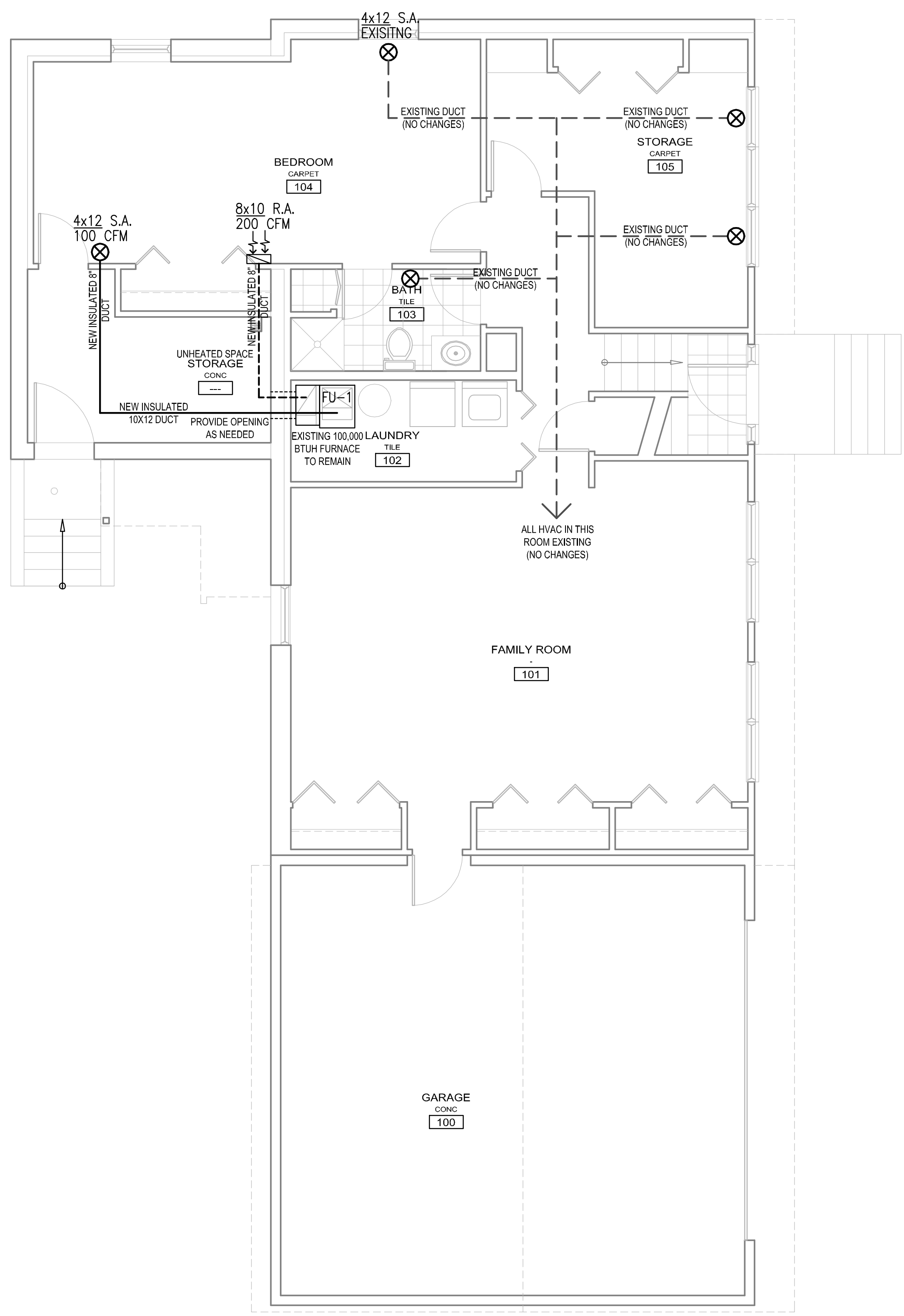
- MECHANICAL EQUIPMENT SCHEDULE:**
- FU-1 EXISTING LENNOX HIGH EFFICIENCY GAS-FIRED DIRECT VENT UPFLOW FURNACE 100,000 BTUH 3000 CFM FAN
 - CU-1 EXISTING 3.0 TON CONDENSING UNIT AT GRADE (SINGLE COMPRESSOR UNIT)
 - EF-1 BROWN 100 CFM EXHAUST FAN W/ 4" DIAMETER DUCT TO EXTERIOR. VERIFY WITH KITCHEN HOOD MANUFACTURER.

- HVAC NOTES:**
- GENERAL CONTRACTOR TO HAVE H.V.A.C. CONTRACTOR VERIFY THE CONDITION OF EXISTING HVAC, AND THAT THE EXISTING FAN CAN PROVIDE AN ACCEPTABLE QUANTITY OF CFM, AS WELL AS PROVIDE LINE DRAWINGS, SPECIFICATIONS, AIR BALANCING DATA OR DESIGN & DESIGN CRITERIA OR VENT SCHEDULES AS AUTHORITIES MAY REQUEST.
 - HVAC DUCTS TO BE MINIMUM 20 GA STEEL. ALL EXTERNAL JOINTS, SEAMS, AND DUCT CONNECTIONS SHALL BE TIGHT. 6", 8" OR 10" FLEXIBLE ROUND DISTRIBUTION DUCTS SHALL BE SCREWED AND TAPED AT ALL CONNECTIONS.
 - PROVIDE EXHAUST AND FRESH AIR SYSTEMS AS REQUIRED FOR ALL SPACES ACCORDING TO OCCUPANCY TYPE, AND TO THE OCCUPANT LOAD, PER LOCAL MECHANICAL CODE / IMC.
 - BALANCE ALL AREAS ONE ADDITIONAL TIME AT THE OWNER'S REQUEST AFTER OCCUPANCY IS GRANTED, BALANCE THE ENTRY SO ALL DOORS CLOSE COMPLETELY, AND THE FORCE NEEDED TO OPEN THE DOORS DOES NOT EXCEED 8#.
 - LOCATE AND ADJUST THERMOSTATS PER PLAN AT 60" MAX ABF

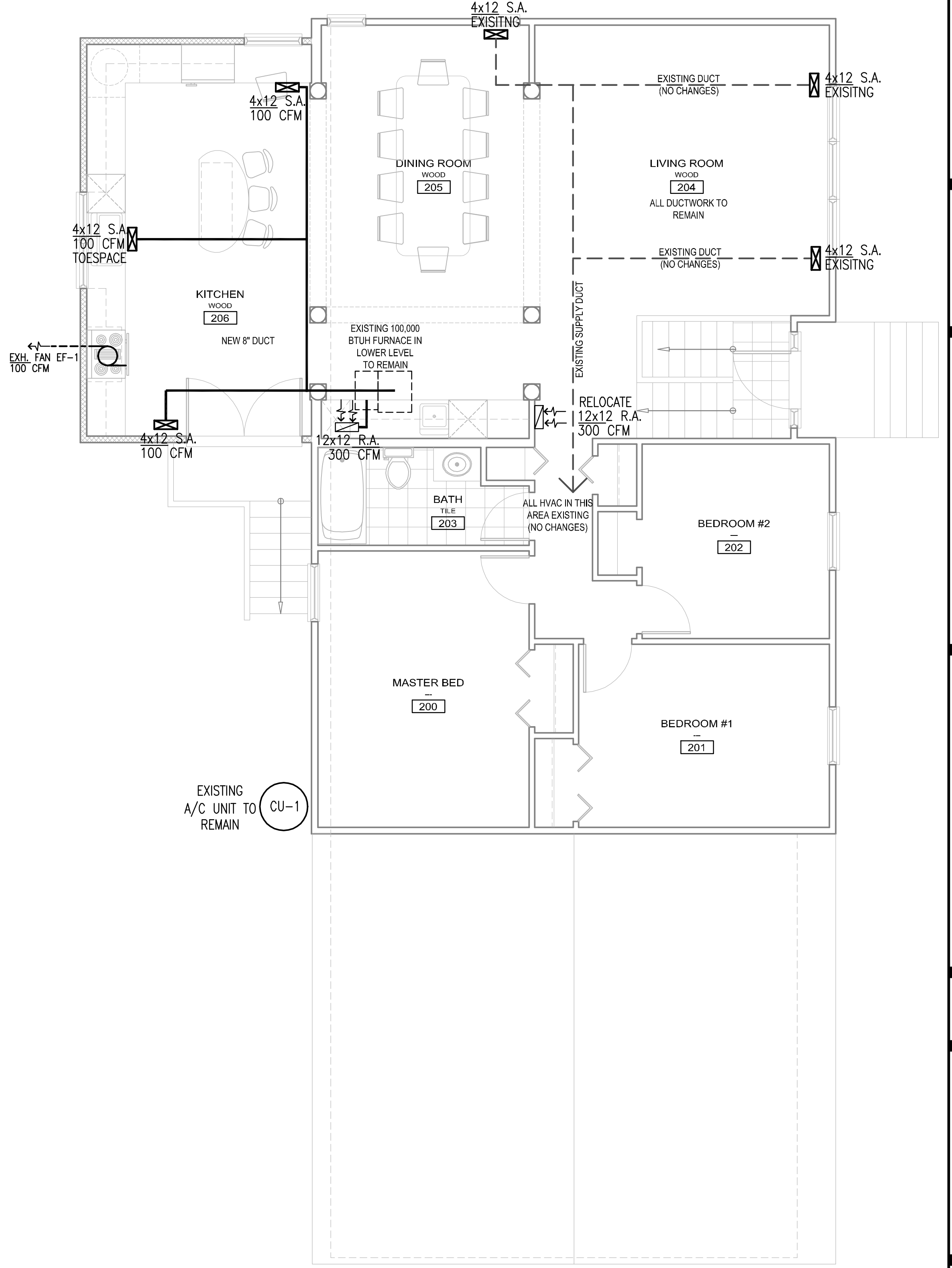
- ADDITIONAL MECHANICAL NOTES:**
- CLEARANCES FOR FORCED AIR FURNACES SHALL CONFORM TO MANUFACTURER'S REQUIREMENTS.
 - IF OUTSIDE COMBUSTION AIR IS REQUIRED FOR FURNACE, TWO PERMANENT OPENINGS SHALL BE PROVIDED - ONE HIGH AND ONE LOW. SIZE OF OPENINGS SHALL CONFORM TO ACCEPTED CODES IN THE AUTHORITY HAVING JURISDICTION.
 - PROVIDE 1" MINIMUM SEPARATION BETWEEN FURNACE FLUE AND ANY FRAMING OR DRYWALL.
 - FLOOR REGISTERS SHALL BE NOT MORE THAN 9" FROM WALL.
 - NOISE GENERATED BY ANY HVAC EQUIPMENT SHALL NOT EXCEED 35 dB AT ANY INTERIOR LIVING OR SLEEPING ROOMS

- LIGHT VENTILATION AND HEATING EXCEPTIONS:**
- THE GLAZED AREAS NEED NOT BE OPENABLE WHERE THE OPENING IS NOR REQUIRED BY SECTION R310 AND AN APPROVED MECHANICAL VENTILATION SYSTEM IS PROVIDED CAPABLE OF PRODUCING 0.35 AIR CHANGES PER HOUR IN THE ROOM OR A WHOLE HOUSE MECHANICAL VENTILATION SYSTEM IS INSTALLED CAPABLE OF OUTDOOR VENTILATION AIR OF 15 CUBIC FEET PER MINUTE (CFM) (7.08 L/s) PER OCCUPANT COMPUTED ON THE BASIS OF (2) OCCUPANTS FOR THE FIRST BEDROOM AND ONE OCCUPANT FOR EACH ADDITIONAL BEDROOM.
 - THE GLAZED AREA NEED NOT BE PROVIDED IN ROOM WHERE EXCEPTION 1 ABOVE IS SATISFIED AND ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 6 FOOT-CANDLES (6.46 LUX) OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FINISHED FLOOR LEVEL.
- SIX (6) FOOT CANDLE CALCULATIONS:
CALCULATIONS AT 30" A.F.F. FOR 8'-0" CEILING HEIGHT:
 $8.0' / 5.5' = 2.12$
1 WATT - 17.5 LUMENS (EXAMPLE: 60 WATT LIGHT POWER SOURCE - 1050 LUMENS)
FORMULA: LUMENS/ROOM AREA = FOOT CANDLES x 2.12

- MECHANICAL NOTES:**
- THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL FOR A COMPLETE INSTALLATION OF THE REQUIRED WORK IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE AUTHORITY HAVING JURISDICTION.
 - FINAL DUCT SIZE AND FURNACE/AC CAPACITY TO BE DETERMINED BY MECHANICAL CONTRACTOR AND TO COMPLY WITH LOCAL CODES AND ORDINANCES - IT IS THE INSTALLER/CONTRACTOR'S JOB TO PERFORM THE CORRECT SIZING CALCULATION FOR THE BUILDING. THE CALCULATING PROCEDURE SHALL FOLLOW MANUAL J OR OTHER APPROVED STANDARD.
 - COORDINATE ALL WORK SHOWN HERE WITH ARCHITECTURAL, ELECTRICAL, AND PLUMBING DRAWINGS.
 - PROVIDE AN IN-SIGHT SWITCHED FURNACE DISCONNECT. (IF NOT ALREADY PROVIDED)
 - PROVIDE AUXILIARY METAL PAN AND DRAIN WHERE REQUIRED. (IF NOT ALREADY PROVIDED)
 - ALL DUCTS IN UNHEATED SPACES TO HAVE A MIN R-5 INSULATION
 - EQUIPMENT EXPOSED TO NATURAL ELEMENTS SHALL BE WELDED OR SOLDERED AND SHALL RECEIVE ONE COAT OF PRIMER AND TWO COATS OF PAINT.
 - REGISTERS, DIFFUSERS, GRILLS, ETC. SHALL BE INSTALLED SO AS TO MATCH THE EXISTING EQUIPMENT.
 - CONTRACTOR SHALL USE CAUTION IN REMOVING AND RELOCATING EQUIPMENT TO REMAIN OR BE RELOCATED. DAMAGE TO SUCH EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - CONTROLS FOR THE COMPLETE INSTALLATION OF THE EQUIPMENT SHALL BE SUPPLIED BY THE HVAC CONTRACTOR AND CONNECTED BY THE ELECTRICAL CONTRACTOR.
 - ALL SHEET METAL DUCT WORK SHALL BE GALVANIZED AND CONSTRUCTED IN ACCORDANCE WITH "SMACNA" LOW PRESSURE STANDARDS.
 - HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE TESTING AND BALANCE OF THE HVAC EQUIPMENT.
 - DUCT CONNECTIONS TO DIFFUSERS MAY BE MADE WITH A FLEXIBLE DUCT SUCH THAT THE LENGTH OF THE FLEX DUCT DOES NOT EXCEED 6'-0".
 - INSTALL ANY DUCT WORK AS CLOSE AS POSSIBLE TO STRUCTURAL STEEL.
 - ALL HVAC EQUIPMENT SHALL BE LEVEL AS TO ASSURE PROPER WORKING ORDER.
 - CONTRACTOR SHALL INSTALL ANY REQUIRED REFRIGERANT LINES IN ACCORDANCE WITH CITY CODE REQUIREMENTS - TYPE "K" COPPER.
 - CONTRACTOR SHALL INSURE THAT FLUES OF EXISTING AND/OR NEW CONSTRUCTION EXTEND A MINIMUM OF 6'-0" ABOVE THE ROOF LINE AND THAT ALL FRESH-AIR INTAKES ARE INSTALLED A MINIMUM OF 15'-0" AWAY FROM ANY EXHAUST OUTLET. SOIL STACKS AND O.A.I. TO BE MINIMUM 10'-0" ABOVE GRADE.
 - CONTRACTOR SHALL MAKE SURE THAT ALL EXPANSION VALVE DEVICES AND CONNECTIONS ARE REMOVED FROM THE AIRSTREAM ON NEW AND EXISTING EQUIPMENT.
 - NATURAL GAS PIPING SHALL BE SCHEDULED 40 STANDARD WEIGHT BLACK STEEL PIPE WITH STANDARD WEIGHT BLACK THREADED MALLEABLE IRON FITTINGS 2" OR SMALLER AND STANDARD WELDED FITTINGS 2 1/2" OR LARGER.
 - ALL EQUIPMENT CONNECTED TO NATURAL GAS PIPING SHALL BE HARD PIPED CONNECTIONS.
 - PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTIONS TO ALL GAS BURNING APPLIANCES AND SHALL IN CONJUNCTION WITH THE HVAC CONTRACTOR MAKE ALL REQUIRED TESTS AS TO ASSURE A PROPER AND SAFE INSTALLATION.
 - SHEET METAL DUCTS SHALL INCORPORATE LOCK TYPE DAMPERS FOR BALANCING.
 - THE HVAC AND PLUMBING CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITIES FOR INCOMING SERVICE OF GAS, WATER, AND SEWAGE.
 - HVAC CONTRACTOR WILL GUARANTEE 70° F INDOOR AT -10° F OUTDOOR, AND 75° F AT 90° F OUTDOOR.



1ST FLOOR MECHANICAL PLAN
SCALE: 1/4" = 1'-0"
NORTH



2ND FLOOR MECHANICAL PLAN
SCALE: 1/4" = 1'-0"
NORTH