SECTION R408
UNDER-FLOOR SPACE

R408.1 VENTILATION. THE UNDER-FLOOR SPACE BETWEEN THE BOTTOM OF THE FLOOR JOISTS & THE EARTH UNDER ANY BUILDING (EXCEPT SPACE OCCUPIED BY A BASEMENT OR CELLAR) SHALL BE PROVIDED WITH VENTILATION OPENINGS THROUGH FOUNDATION WALLS OR EXTERIOR WALLS. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN ONE SQUARE FOOT FOR EACH 150 SQUARE FEET (0.67 M² FOR EACH 100 M²) OF UNDER-FLOOR SPACE AREA. ONE SUCH VENTILATING OPENING SHALL BE WITHIN 3 FEET (914 MM) OF EACH CORNER OF SAID BUILDING.

R408.2 OPENINGS FOR UNDER-FLOOR VENTILATION. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT (0.0929 M²) FOR EACH 150 SQUARE FEET (100 M²) OF UNDERFLOOR SPACE AREA. ONE SUCH VENTILATING OPENING SHALL BE WITHIN 3 FEET (914 MM) OF EACH CORNER OF THE BUILDING. VENTILATION OPENINGS SHALL BE COVERED FOR THEIR HEIGHT & WIDTH WITH ANY OF THE FOLLOWING MATERIALS PROVIDED THAT THE LEAST DIMENSION OF THE COVERING SHALL NOT EXCEED 1/4 INCH (6.4 MM).

1. PERFORATED SHEET METAL PLATES NOT LESS THAN 0.070 INCH (1.8 MM) THICK.
2. EXPANDED SHEET METAL PLATES NOT LESS THAN 0.047 INCH (1.2 MM) THICK.
3. CAST IRON GRILLS OR GRATING.
4. EXTRUDED LOAD-BEARING BRICK VENTS.
5. HARDWARE CLOTH OF 0.035 INCH (0.89 MM) WIRE OR HEAVIER.
6. CORROSION-RESISTANT WIRE MESH, WITH THE LEAST DIMENSION BEING 1/8 INCH (3.3 MM).

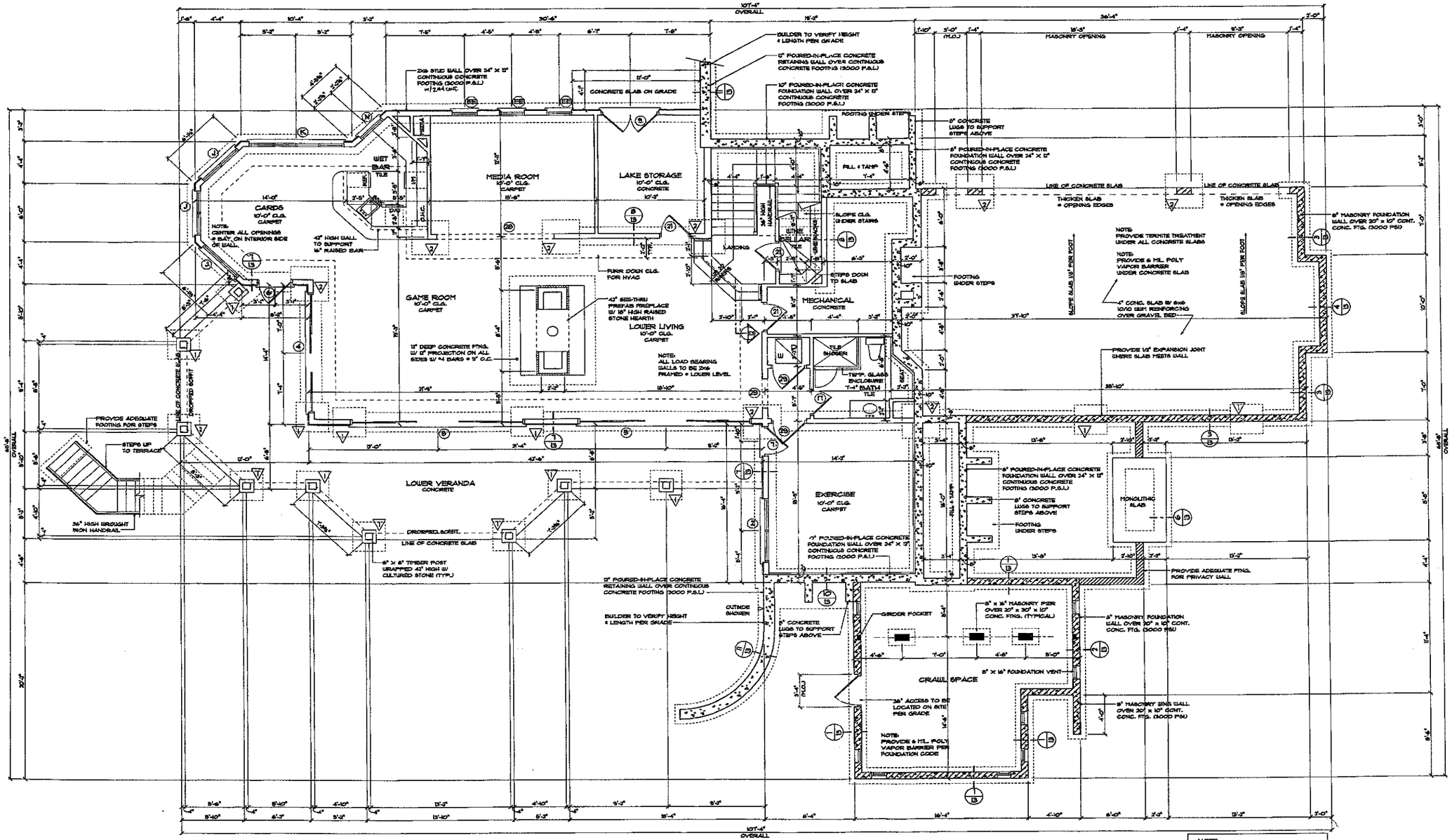
EXCEPTIONS:

1. WHERE WARRANTED BY CLIMATIC CONDITIONS, VENTILATION OPENINGS TO THE OUTDOORS ARE NOT REQUIRED IF VENTILATION OPENINGS TO THE INTERIOR ARE PROVIDED.
2. THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500 OF THE UNDER-FLOOR AREA (WHERE THE GROUND SURFACE IS TREATED WITH AN APPROVED VAPOR RETARDER MATERIAL AND THE REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. THIS INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED.
3. UNDER-FLOOR SPACES USED AS SUPPLY PLENUMS FOR DISTRIBUTION OF HEATED & COOLED AIR SHALL COMPLY WITH THE REQUIREMENTS OF "THE NORTH CAROLINA MECHANICAL CODE".
4. VENTILATION OPENINGS ARE NOT REQUIRED WHERE CONTINUOUSLY OPERATED MECHANICAL VENTILATION IS PROVIDED AT A RATE OF 1.0 CFM (0.11 L²/S) FOR EACH 50 SQUARE FEET (1.01 L/S) OF UNDERFLOOR SPACE FLOOR AREA & GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL.
5. VENTILATION OPENINGS ARE NOT REQUIRED WHEN THE GROUND SURFACE IS COVERED WITH AN APPROVED VAPOR RETARDER MATERIAL, THE SPACE IS SUPPLIED WITH CONDITIONED AIR AND THE PERIMETER WALLS ARE INSULATED IN ACCORDANCE WITH SECTION N1102.1.1.

FROM THE INTERNATIONAL RESIDENTIAL CODE (NORTH CAROLINA)

VENTILATION CALCULATIONS FOR CONTINUOUSLY OPERATED MECHANICAL VENTILATION

CRAWL SPACE AREA 368 SQUARE FEET DIVIDED BY 50 SQUARE FEET EQUALS (1.1 CFM x A RATE OF 1.0 CFM FOR EACH 50 SQUARE FEET.



NOTE:
ALL LOWER LEVEL HEADERS TO BE (2) 2x10'S UNLESS NOTED OTHERWISE

ALL ANGLES ARE 45 OR 90 UNLESS NOTED OTHERWISE

ALL EXTERIOR WALLS TO BE 2x6'S @ 16" ON CENTER W/ 1/2" x 4' x 8' PLYWOOD @ CORNERS

SEE FIRST FLOOR FRAMING FOR ALL LOWER LEVEL HEADERS, STUDS POCKETS, & FIRST FLOOR BEAM SIZES

FOOTING LEGEND:

- ▽ 36" x 36" x 12" CONCRETE FOOTING W/ 4 - #4 BARS EACH WAY
- ▽ 42" x 42" x 15" CONCRETE FOOTING W/ 5 BARS @ 8" O.C. EACH WAY

LOWER LEVEL PLAN

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

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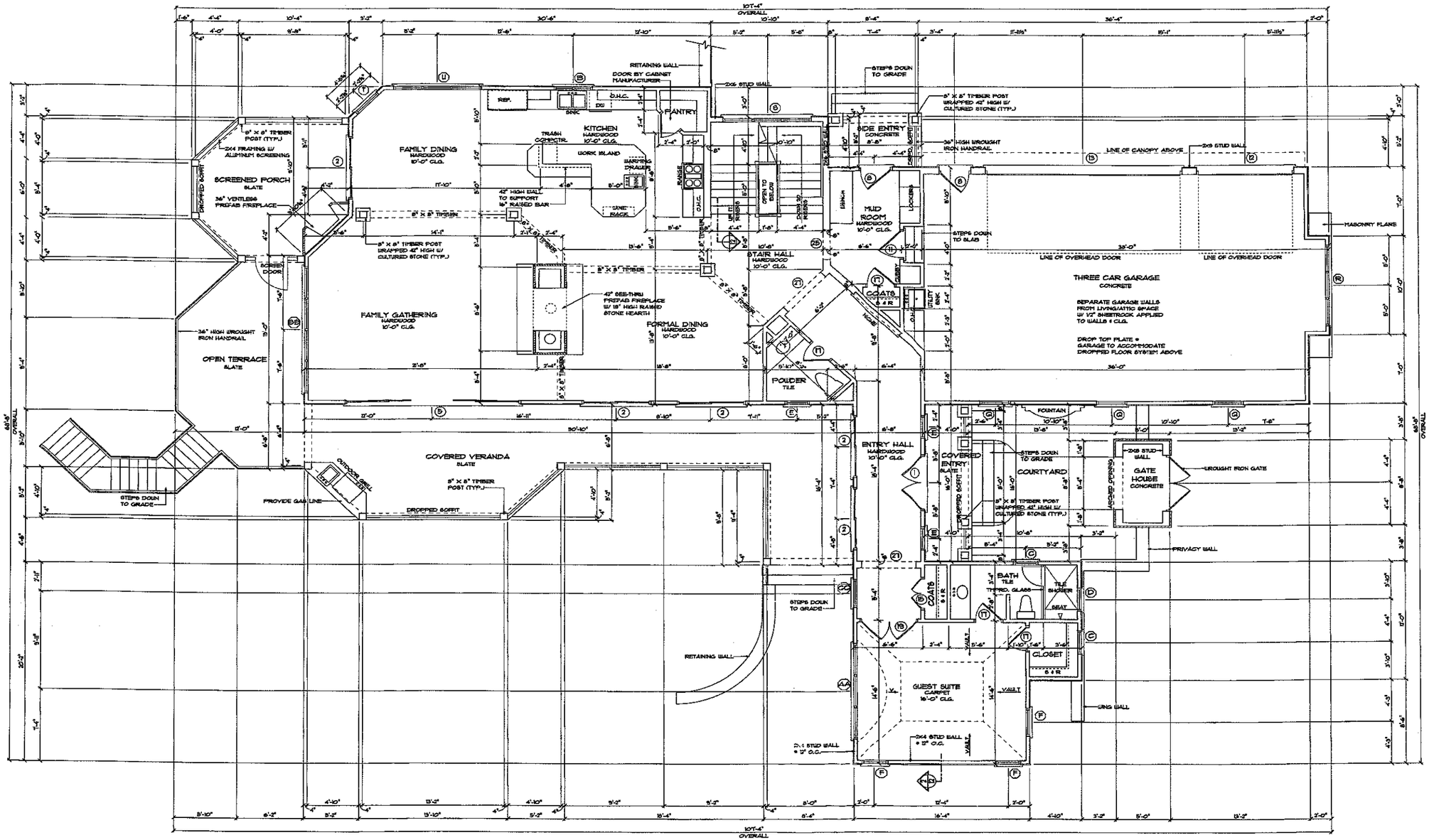
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SQUARE FOOTAGE	
First Floor Heated	2,165
Second Floor Heated	2,279
Lower Level Heated	1,928
Total Heated Space	6,369
Three Car Garage	909
Covered Entry	62
Side Entry	42
Screened Porch	154
Upper Covered Veranda	512
Lower Covered Veranda	594
Gate House	45
Mechanical/Attic Storage	270
Total Under Roof	8,863

NOTE:
SEE SECOND FLOOR FRAMING FOR ALL FIRST FLOOR STRUCTURE (BEAMS, HEADERS, & STUD POCKETS)

ALL ANGLES ARE 45 OR 90 UNLESS NOTED OTHERWISE

FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

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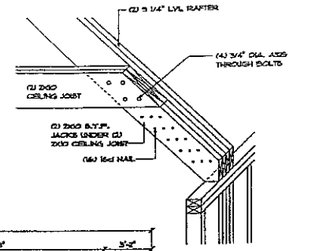
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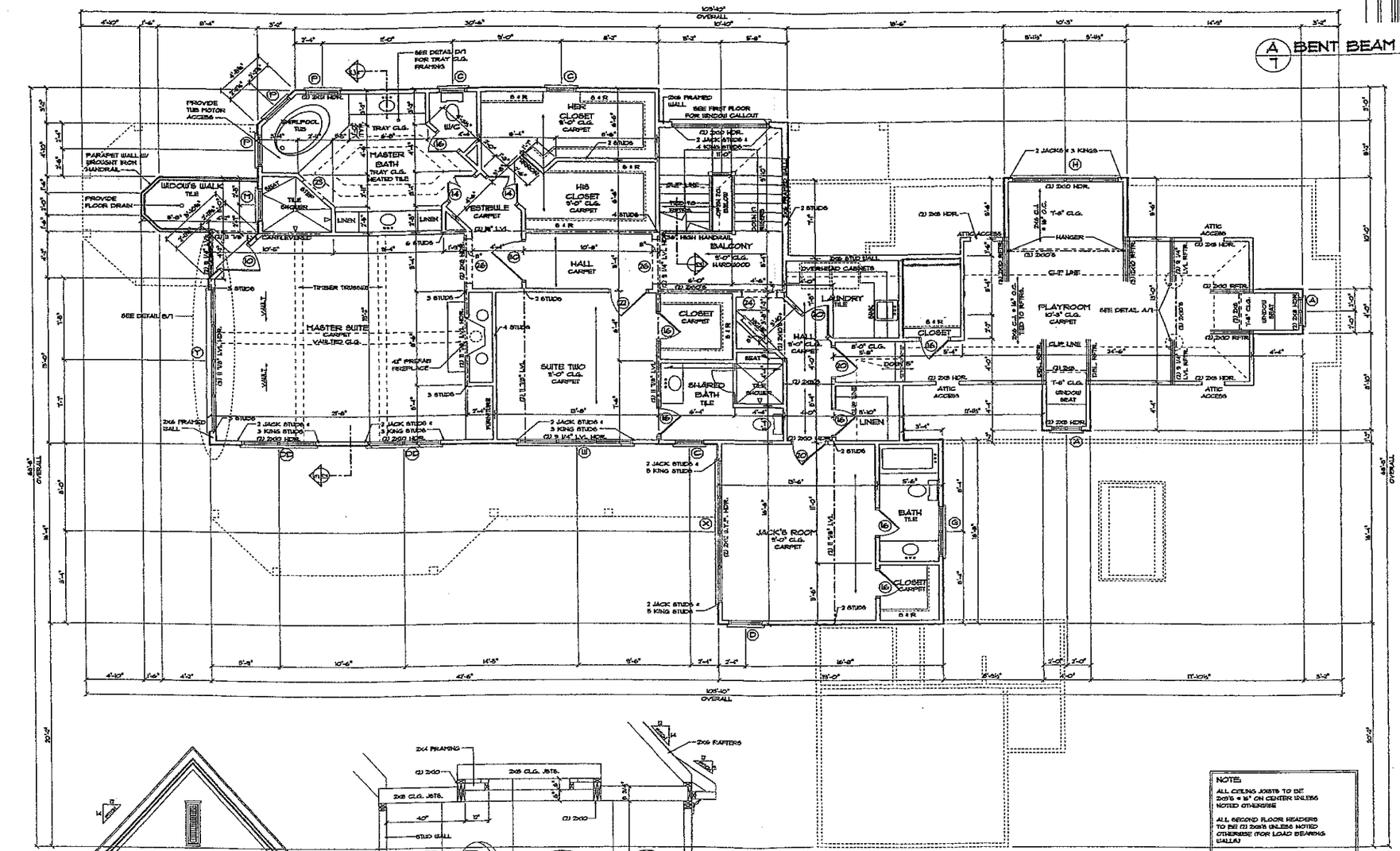
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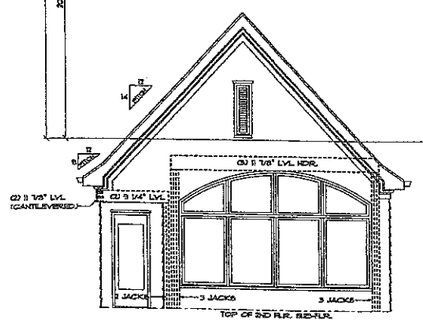
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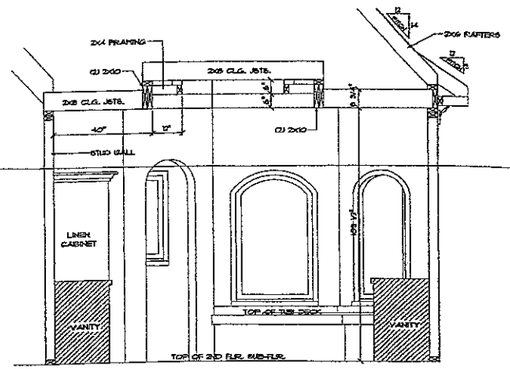


A/7 BENT BEAM DETAIL
NO SCALE

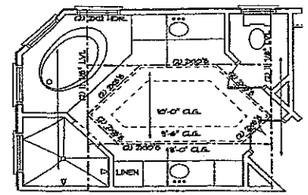




B/7 FRAMING DETAIL
SCALE 1/4" = 1'-0"



C/7 MASTER BATH SECTION
SCALE 1/2" = 1'-0"



D/7 MASTER BATH CEILING
TRAY FRAMING
SCALE 1/2" = 1'-0"

NOTE:
ALL CEILING JOISTS TO BE 2x8's @ 16" ON CENTER UNLESS NOTED OTHERWISE

ALL SECOND FLOOR HEADERS TO BE (2) 2x8's UNLESS NOTED OTHERWISE (FOR LOAD BEARING WALLS)

ALL ANGLES ARE 45 OR 90 UNLESS NOTED OTHERWISE

PROVIDE ATTIC ACCESS TO ALL ATTIC SPACES (PER CODE)

PROVIDE PULL DOWN STAIRS - FRAME AROUND STAIRS W/ (2) 2x8's @ ALL SIDES

INSTALL MINIMUM OF (2) 2x4 STUDS UNDER ALL BEAMS, LVL, OR PURLIN @ SECOND FLOOR LEVEL UNLESS NOTED OTHERWISE

ALL LVL BEAMS ARE 1 3/4" WIDE UNLESS NOTED OTHERWISE

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

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