



Right Elevation
SCALE: 3/16" = 1'-0"



Rear Elevation
SCALE: 3/16" = 1'-0"

2018 IECC ENERGY CODE COMPLIANCE REQUIREMENTS

THE BUILDING SHALL CONFORM TO THE FOLLOWING MANDATORY REQUIREMENTS PER THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE:

COMPLIANCE CERTIFICATE	A PERMANENT CERTIFICATE APPROVED BY THE LOCAL JURISDICTION DESCRIBING THE R-VALUES, U-FACTORS, AND SHGC OF THE BUILDING COMPONENTS AND BUILDING AIR LEAKAGE TEST RESULTS SHALL BE AFFIXED TO THE ELECTRICAL DISTRIBUTION PANEL OR ANOTHER LOCATION APPROVED BY THE LOCAL JURISDICTION, PER IECC R401.3 (IRC N1102.14).
AIR LEAKAGE	ALL NEW CONSTRUCTION BUILDINGS SHALL BE CONSTRUCTED TO LIMIT THE THERMAL ENVELOPE AIR LEAKAGE TO 3 AIR CHANGES PER HOUR AT 50 PASCALS OF PRESSURE AND TESTED VIA A BLOWER DOOR TEST PER IECC R402.4 (IRC N1102.4).
MAXIMUM FENESTRATION U-FACTOR AND SHGC	THE MAXIMUM U-FACTOR ALLOWED USING EITHER THE TOTAL UA ALTERNATIVE METHOD PER IECC R402.1.5 (IRC N1102.1.5) OR THE SIMULATED PERFORMANCE ALTERNATIVE PER IECC R405 (IRC N1105) SHALL BE 0.48 FOR VERTICAL FENESTRATION AND 0.75 FOR SKYLIGHTS PER IECC R402.5 (IRC N1102.5).
HVAC CONTROLS	EACH HEATING AND COOLING SYSTEM SHALL HAVE AT LEAST ONE THERMOSTAT PER IECC R403.1 (IRC N1103.1). THE THERMOSTAT CONTROLLING THE PRIMARY HEATING AND COOLING SYSTEM SHALL BE A PROGRAMMABLE THERMOSTAT PER IECC R403.1.1 (IRC N1103.1.1).
HEAT PUMP SUPPLEMENTARY HEAT	HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTAL HEAT FROM OPERATING WHEN THE HEAT PUMP COMPRESSOR CAN MEET THE HEATING LOAD PER IECC R403.1.2 (IRC N1103.1.2).
DUCT SEALING	WHEN NEW FORCED AIR SYSTEMS ARE PROVIDED, ALL DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED PER IRC M1601.4.1. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER A ROUGH-IN OR POSTCONSTRUCTION TEST PER IECC R403.3.3 (IRC N1103.3.3) UNLESS DUCTS AND AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.
BUILDING CAVITIES AS DUCTS OR PLENUMS	BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS PER IECC R403.3.5 (IRC N1103.3.5).
MECHANICAL SYSTEM PIPING INSULATION	MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F OR BELOW 55°F SHALL BE INSULATED TO R-3 MINIMUM PER IECC R403.4 (IRC N1103.4). PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DEGRADATION AND DECAY PER IECC R403.4.1 (IRC N1103.4.1).
CIRCULATING HOT WATER SYSTEMS	CIRCULATING HOT WATER SYSTEMS SHALL BE PROVIDED WITH AN AUTOMATIC OR READILY ACCESSIBLE MANUAL SWITCH TO TURN OFF THE CIRCULATING PUMP WHEN THE SYSTEM IS NOT IN USE PER IECC R403.5.1 (IRC N1103.5.1).
MECHANICAL VENTILATION	THE BUILDING SHALL BE PROVIDED WITH VENTILATION PER IRC M1505 OR OTHER APPROVED MEANS OF VENTILATION PER IECC R403.6 (IRC N1103.6). WHOLE-HOUSE VENTILATION FANS SHALL MEET EFFICIENCY STANDARDS PER IECC TABLE R403.6.1 (IRC TABLE N1103.6.1).
EQUIPMENT SIZING	HEATING AND COOLING EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED HEATING AND COOLING CALCULATION METHODOLOGIES PER IECC R403.7 (IRC N1103.7).
SYSTEMS SERVING MULTIPLE DWELLING UNITS	SYSTEMS SERVING MULTIPLE DWELLING UNITS SHALL CONFORM TO IECC SECTIONS C403 AND C404.
SNOW MELT SYSTEMS CONTROLS	SNOW AND ICE MELT SYSTEMS SUPPLIED THROUGH ENERGY SERVICE TO THE BUILDING SHALL INCLUDE AUTOMATIC CONTROLS CAPABLE OF SHUTTING OFF THE SYSTEM WHEN THE PAVEMENT TEMPERATURE IS ABOVE 50°F AND NO PRECIPITATION IS FALLING, AND AUTOMATIC OR MANUAL CONTROLS CAPABLE OF SHUTTING OFF THE SYSTEM WHEN THE OUTDOOR TEMPERATURE IS ABOVE 40°F PER IECC R403.9 (IRC N1103.9).
POOLS AND INGROUND PERMANENTLY INSTALLED SPAS	POOLS AND INGROUND SPA HEATERS SHALL HAVE AN ACCESSIBLE ON-OFF SWITCH MOUNTED ON THE OUTSIDE OF THE HEATER THAT ALLOWS SHUT-OFF WITHOUT AFFECTING THE THERMOSTAT SETTINGS PER IECC R403.10.1 (IRC N1103.10.1); GAS-FIRED HEATERS SHALL NOT HAVE CONSTANT BURNING PILOT LIGHTS. HEATERS SHALL HAVE TIME SWITCHES OR OTHER CONTROL METHODS TO AUTOMATICALLY TURN ON AND OFF PER A PRESET SCHEDULE PER IECC R403.10.2 (IRC N1103.10.2). HEATED POOLS AND INGROUND SPAS SHALL BE PROVIDED WITH A VAPOR-RETARDANT COVER PER IECC R403.10.3 (IRC N1103.10.3).
LIGHTING EQUIPMENT	A MINIMUM OF 90% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS PER IECC R404.1 (IRC N1104.1).
FUEL GAS LIGHTING EQUIPMENT	FUEL GAS SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHT SYSTEMS PER IECC R404.1.1 (IRC N1104.1.1).

THE BUILDING SHALL ALSO CONFORM TO THE FOLLOWING PRESCRIPTIVE REQUIREMENTS:

THE BUILDING CONFORMS TO THE PRESCRIPTIVE REQUIREMENTS DETAILED IN THE CHART BELOW PER IECC R402.1.2 & R402.1.3 (IRC N1102.1.2 & N1102.1.3). EQUIVALENT U-FACTORS MAY BE SUBSTITUTED FOR REQUIRED R-VALUES PER IECC R402.1.4 (IRC N1102.1.4). THE BUILDING SHALL ALSO CONFORM TO THE DETAILED REQUIREMENTS OF IECC R402.2 (IRC N1102.2).

COMPONENT	REQUIRED VALUE
CEILING/ROOF	R-49 (COMPRESSED OVER WALL TOP PLATE AT EAVES) OR R-38 (UNCOMPRESSED OVER WALL TOP PLATE AT EAVES)
WALLS	R-20 CAVITY OR R-13 CAVITY PLUS R-5 CONTINUOUS
BASEMENT WALLS	R-10 CONTINUOUS OR R-13 CAVITY
SLAB	R-10, 2" DEPTH
CRAWL SPACE WALLS	R-10 CONTINUOUS OR R-13 CAVITY
FLOORS OVER UNCONDITIONED SPACE	R-19
DUCTS OUTSIDE CONDITIONED SPACE	R-8 FOR SUPPLY DUCTS IN ATTICS R-6 FOR ALL OTHER DUCTS
HOT WATER PIPES	R-3 UNLESS OTHERWISE ALLOWED BY IECC R403.5.3 (IRC N1103.5.3)
FENESTRATION	U-FACTOR = 0.32 MAX; SHGC = 0.40 MAX
SKYLIGHTS	U-FACTOR = 0.55 MAX; SHGC = 0.40 MAX

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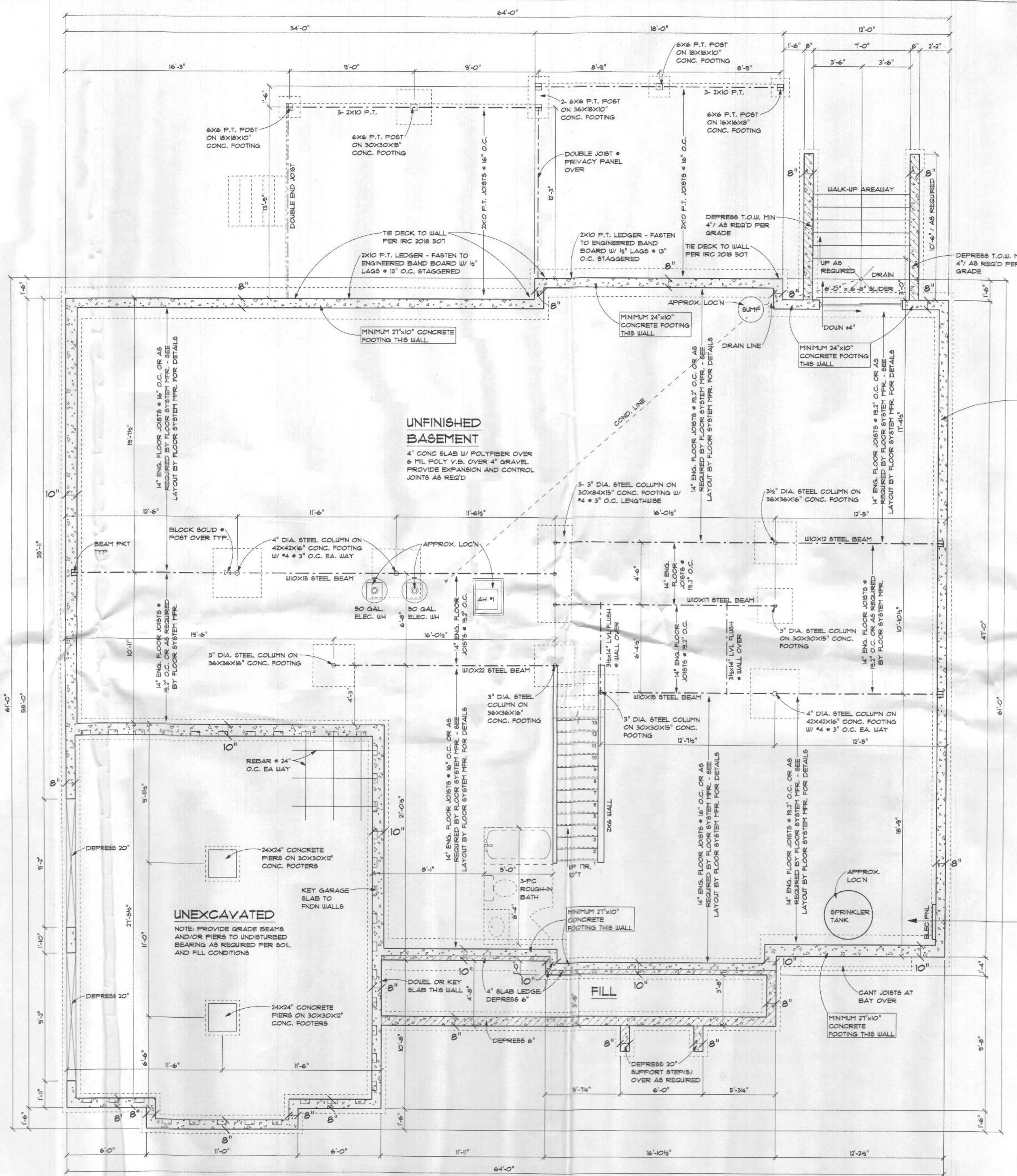
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SHEET NO.

A-2

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2018 CODE



NOTE: PLUMBER PASSIVE RADON SYSTEM
 3\"/>

HVAC: EQUIPMENT - GOODMAN
 ZONE 1: 92% EFFICIENCY PROPANE GAS FURNACE WITH 14 SEER A/C UNIT 4 TON
 ZONE 2: 14 SEER HEAT PUMP 4 TON
 * VENT RANGE HOOD TO EXTERIOR

NOTE: FOOTING SIZES CALLED ARE CALCULATED BASED ON ACTUAL BUILDING WEIGHTS AND DESIGN LOADS

MINIMUM 6\"/>

NOTE: 9'-0\"/>

NOTE: ENGINEERED FLOOR JOISTS TO BE MINIMUM WEYERHAEUSER TJ 210 SERIES OR EQUAL UNLESS OTHERWISE NOTED. FLOOR JOISTS TO BE DESIGNED FOR L/480 MAX DEFLECTION (L/360 TILE/BRITTLE FINISHES) TYPICAL THROUGHOUT.

**NOTE: 9'-0\"/>
 APPROX. 2670 SF UNFINISHED BASEMENT
Foundation Plan
 SCALE: 1/4\"/>**

HYAC
C.F.A. = 5,548

NOTES
 1. 2000 PSF SOIL BEARING CAPACITY ASSUMED.
 2. BEAMS, JOISTS, HEADERS AND RAFTERS TO BE 5/8\"/>

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THE ESTATES AT RIVER HILL INTERIOR TRIM PACKAGE

DOORS: 1ST AND 2ND FLOORS - HOLLOW CORE, 2-FLAT PANELS

DOOR HARDWARE: SATIN NICKEL STOPS, KNOBS, HINGES, AND HANDLES

DOOR TRIM: 1ST AND 2ND FLOORS - 3/4" BEADED EDGE CASING, FINGER JOINT

BASE: 1ST AND 2ND FLOORS - 5/8" WM-163E

CHAIR RAIL: TWO PIECES WM-302 W/ 1/4" BEADED BOTTOM BACKER IN DINING ROOM
* WOOD EXTENSIONS & CASINGS AROUND ALL WINDOWS EXCEPT IN THE GARAGE

CROWN MOULDING: THREE PIECE 4 5/8" CROWN W/ BEADED BOTTOM BACKER W/ #183 TRIM IN DINING ROOM, FOYER, STUDY, BEDROOM #5 AND SECOND FLOOR HALL.
COFFERED CEILING: TWO PIECE 4 5/8" CROWN W/ BOTTOM BACKER

NOTE: CARPENTER
ALLOW 4" FOR 3/4" CASING ON 1ST FLOOR AND 2ND FLOOR

NOTE: ELECTRICIAN:
HARDWARE BOX INSIDE FIREPLACE

GREAT ROOM FIREPLACE: HEATILATOR FIREPLACES PROPANE GAS PRE ENGINEERED DIRECT VENT FIREPLACE

F.P. ROUGH OPENING, HEATILATOR FIREPLACE

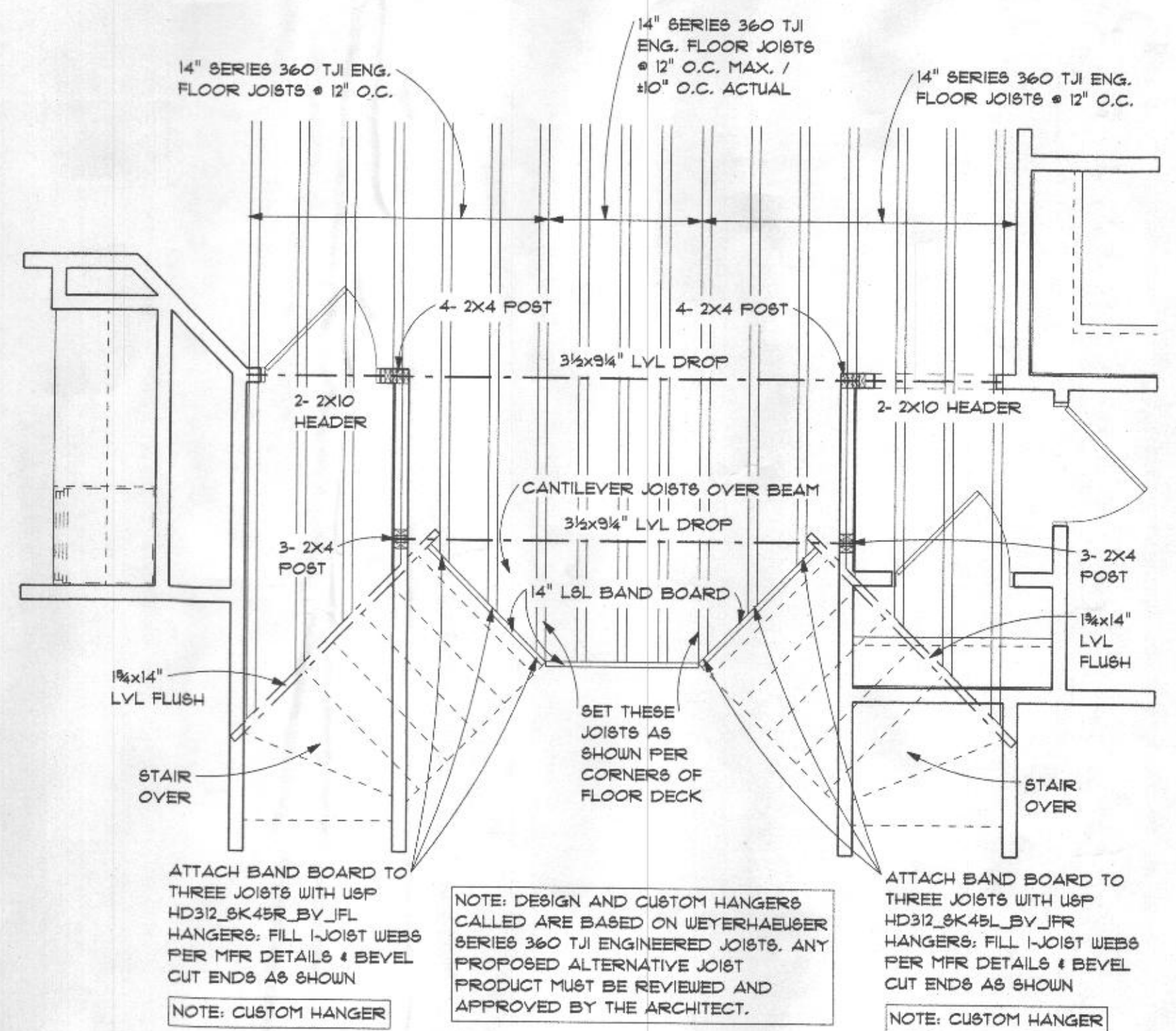
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CONTACT INFO:
FIRESIDE HEARTH & HOME
BONNIE GEYER (703) 367-9218
CALL TO:
1) SET/INSTALL F.P.
2) SET MANTEL & SURROUND & START UP F.P.

GARAGE DOOR OPENERS

ADULT HEIGHT POWDER ROOM VANITY

NOTE: ALL JOISTS ILLUSTRATED HERE (AT EXTENT OF GREAT ROOM) ARE TO BE CONTINUOUS FROM EDGE OF FLOOR DECK AT FOYER TO BEARING WALL AT REAR OF GREAT ROOM



ATTACH BAND BOARD TO THREE JOISTS WITH USP HD312_SK45R_BV_JFL HANGERS. FILL I-JOIST WEBS PER MFR DETAILS & BEVEL CUT ENDS AS SHOWN

NOTE: CUSTOM HANGER

NOTE: DESIGN AND CUSTOM HANGERS CALLED ARE BASED ON WEYERHAEUSER SERIES 360 TJI ENGINEERED JOISTS. ANY PROPOSED ALTERNATIVE JOIST PRODUCT MUST BE REVIEWED AND APPROVED BY THE ARCHITECT.

ATTACH BAND BOARD TO THREE JOISTS WITH USP HD312_SK45L_BV_JFR HANGERS. FILL I-JOIST WEBS PER MFR DETAILS & BEVEL CUT ENDS AS SHOWN

NOTE: CUSTOM HANGER

NOTE: 10' CEILINGS U.O.N. 2X6 EXTERIOR WALLS

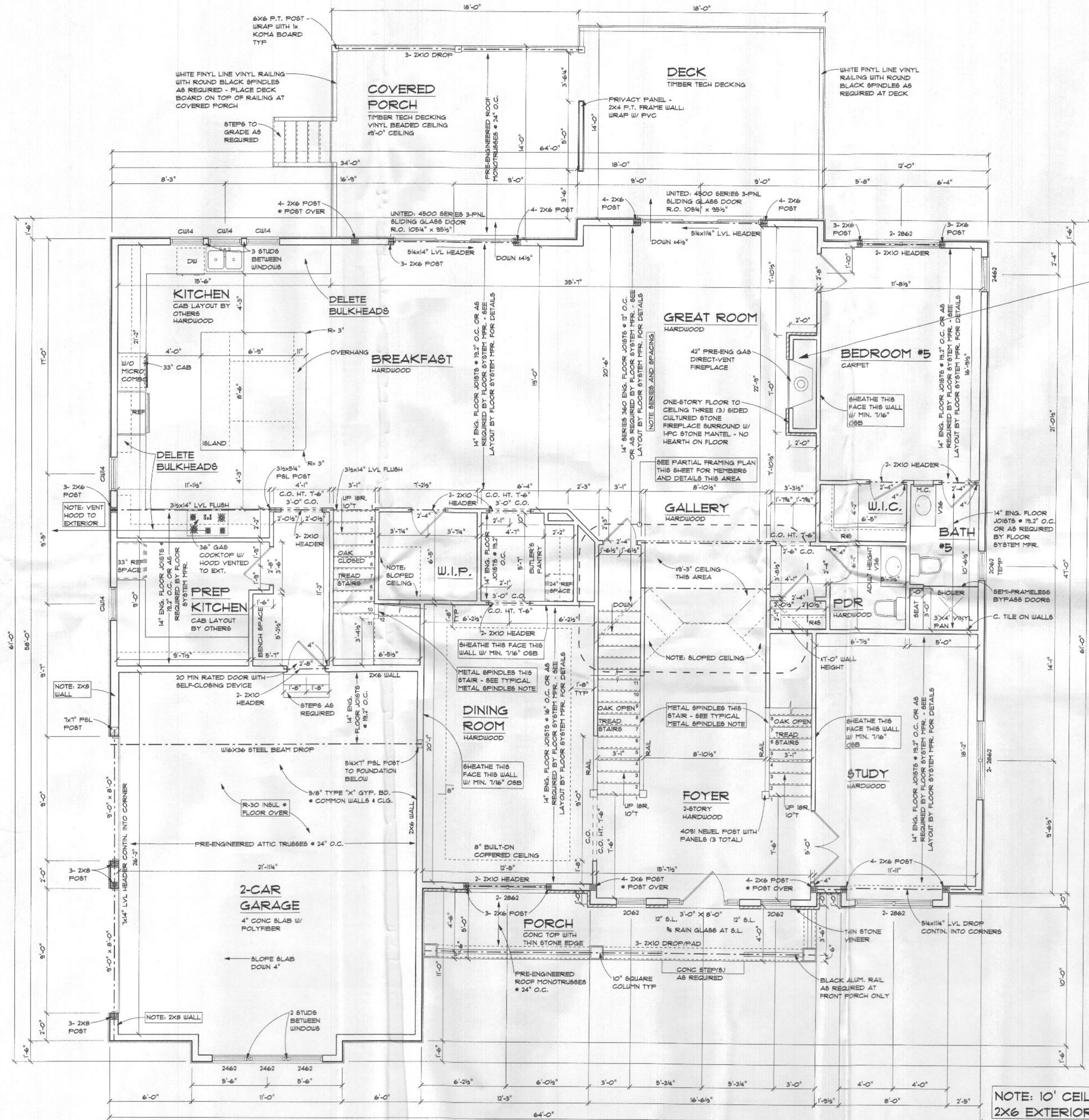
NOTE: ENGINEERED FLOOR JOISTS TO BE MINIMUM WEYERHAEUSER TJI 210 SERIES OR EQUAL UNLESS OTHERWISE NOTED. FLOOR JOISTS TO BE DESIGNED FOR L/480 MAX DEFLECTION (L/840 & TILE/BRITTLE FINISHES) TYPICAL THROUGHOUT.

NOTE: 1'-0" HI INTERIOR FLOOR DOORS - 2-FLAT PANELS THIS FLOOR ONLY

TYPICAL METAL SPINDLES
INCLUDES 3/4" BLACK IRON BASKET AND STRAIGHT BALUSTERS FRONT & REAR STAIRS (PER PLAN)

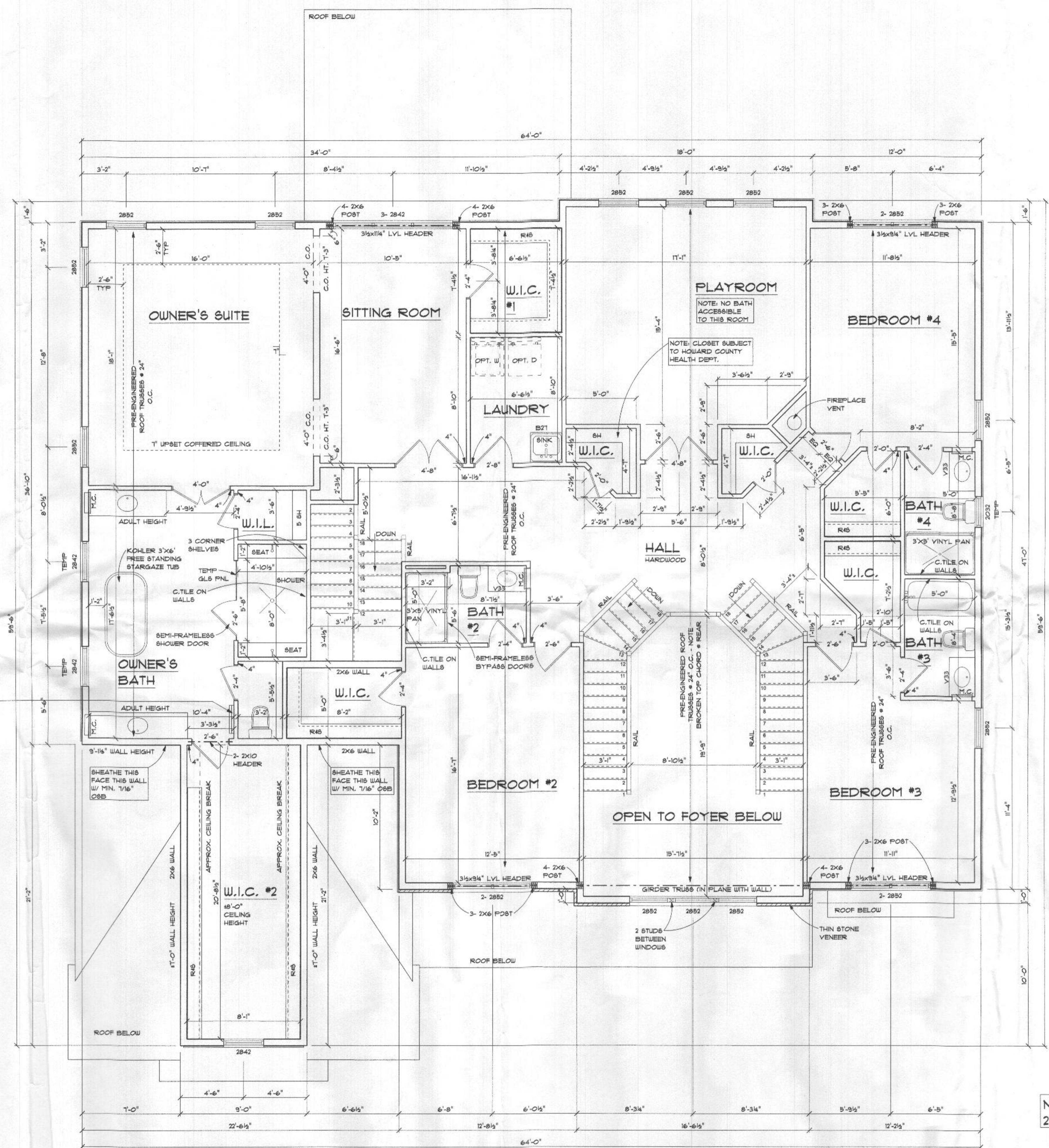
NOTE: 10'-0" WALL HEIGHT ANGLES 45 DEGREES TYP U.O.N.

APPROX. 2,134 SF 1ST FLOOR
First Floor Plan
SCALE: 1/4" = 1'-0"



Partial Framing Plan at Stairs
SCALE: 3/8" = 1'-0"

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NOTE: ELECTRIC
 ADD 220V BASE HEAT, 2' LONG
 W/ WALL THERMOSTAT IN
 OWNER'S BATH OVER GARAGE

ADULT HEIGHT OWNER'S
 BATH VANITIES

NOTE: CARPENTER:
 RAISE MCs 4"

NOTE: 9' CEILINGS U.O.N.
 2X6 EXTERIOR WALLS

NOTE: 9'-11/16" WALL HEIGHT
 ANGLES 45 DEGREES TYP U.O.N.

NOTE: 6'-8" HI INTERIOR DOORS THIS FLOOR ONLY

NOTE: 10" X 10" POCKET AT BATH #2, #4, #5, AND OWNER'S BATH - (5 TOTAL)

APPROX. 2,814 SF 2ND FLOOR
 APPROX. 228 SF OPEN FOYER
Second Floor Plan
 SCALE: 1/4" = 1'-0"

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 PERMITS
 DIVISION
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The Berkshire III