



General Notes

- It is imperative that the contractor observe manufacturers' instructions and procedures in installing all material and equipment. All instructions and warranties of all materials and equipment to be delivered to the owner at completion of construction.
- Layout:**
It is recognized that the Contract Documents are diagrammatic in showing certain physical relationships of the various elements and systems and their interfacing with other elements and systems. Establishments and coordination of these relationships is the exclusive responsibility of the Contractor. Do not scale the drawings. Lay out and arrange all elements to carry the harmony of the design throughout the work in case of conflict or locations not dimensioned. Verify required position with Marshall Architecture.
- This project shall comply with all governing regulations, ordinances, or covenants of the project area in which it is built.
- Egress windows to have maximum sill height of 44", minimum vertical clear opening of 34", minimum horizontal opening of 30", and have a minimum of 5.7 square feet clear open area.
- Top of stair handrails to be 34" to 36" above the stair nosing and should be continuous the full length of stair run. Minimum headroom above the stair nosing to be 6'-0". Top of guardrails to be minimum 36" above finished floor. Open rail members to have less than 4" spaces between. Handrails to be minimum of 1-1/2", minimum of 2" in diameter, spaced a minimum of 1-1/2" from the face of wall.
- Tempered glazing required at the following locations:
 - Within 24" of a door.
 - Within 18" of a floor or 60" vertically of a bathtub drain.
 - Showers enclosures.
 - Within 36" horizontally of the standing surfaces of a bathtub or shower.
- Flash all pocket doors, flues, and openings at the top of walls.
- Flash all exterior openings, wood trim members and roof/wall intersections with 26 gauge galvanized flashing material.
- All exterior doors and doors leading to unheated areas to be weather-stripped with threshold.
- Vert all exhaust fans to exterior. Provide rain caps with back draft dampers.
- Exhaust vent for clothes dryer to be installed per Section M1502 IRC 2022 and manufacturer's installation instructions. Exhaust ducts shall not exceed a total combined horizontal and vertical length of 15 feet including two 90-degree elbows. Five feet shall be deducted for each 90 degrees elbow in excess of two.
- Center water closets in spaces provided (minimum 5' from vertical surfaces at sides).
- Attic ventilation shall not be less than 1/300th of the attic area as a combination of a rooftop and soffit vents.
- Garage finish: All surfaces adjacent to habitable space to be insulated and finished with 5/8" type "X" gypsum board. All structural elements supporting structure above to be wrapped with 5/8" type "X" gypsum board. R-30 insulation in floor above.
- Garage to house door to be 1-3/8" solid core or a door having a fire rating of 20 minutes with spring closer hinges in a weather stripped frame with threshold.
- Exterior doors should open onto landing located not more than 1-1/2" below the top of the threshold of the door. Minimum length of the landing should not be less than 36".
- Deck framing members within 18" of exposed ground should be pressure treated or naturally decay resistant wood. Wood located nearer than 6" to the earth or in contact with concrete shall be pressure treated or naturally decay resistant.
- All exterior walls are to be 2x4's at 16" on center unless otherwise noted. Double top plate single bottom plate. All interior load bearing walls @ 16" O.C. All non bearing to be 24" O.C. LCN by engineer.

WINDOW TYPES:

- SL = HORIZONTAL SLIDER
 SH = SINGLE HUNG
 FX = FIXED FRAME
 FT = FIXED TRANSOM
 PS = PATIO SLIDER
 (T) = TEMPERED GLASS
 (CSMT) = CABINET
- NOTE:**
 ALL WINDOWS TO HAVE U-FACTOR OF .30 OR LESS
- NOTE:**
 ALL EGRESS WINDOWS TO HAVE A MINIMUM 5.7 SF. CLEAR OPENING.

WINDOW NOTES:

- SEE UNIT FLOOR PLANS FOR LOCATION OF ALL WINDOWS - COORDINATE WITH ELEVATIONS.
- CONTRACTOR TO VERIFY ALL WINDOW TYPES AND SIZES PRIOR TO FABRICATION.
- (T) = TEMPERED GLAZING PER CODE. - CONTRACTOR TO FIELD VERIFY ALL CONDITIONS. SEE GENERAL NOTE #6.
- L.N.O. - ALL WINDOW HEADS @ 6'-10 1/2" A.F.F.
- 2660 SH by a window indicates a 2'-6" wide by 6'-0" high window, that is a single hung window.

DOOR TYPES:

- SC-1 3/4" SOLID CORE ENTRY DOOR (RE: ELEVATIONS)
- INTERIOR - 1 3/8" HOLLOW CORE, RAISED 6-PANEL, PAINTED
 - BP - BI-FASB - HOLLOW CORE, RAISED 6-PANEL, PAINTED
 - SEDR DR - 1 3/4" METAL, 20 MINUTE RATED, WITH CLOSER, FLUSH FINISH, PAINTED
 - CH DR - SECTIONAL STEEL OVERHEAD DOOR, PAINTED
 - BF - BI-FOLD - HOLLOW CORE, RAISED 6-PANEL, PAINTED
 - PS - SLIDING GLASS DOOR

NOTE:
 ALL OPAQUE DOORS TO HAVE U-FACTOR OF .21 MAXIMUM

DOOR NOTES:

- AT DOOR FROM HOUSE TO GARAGE, PROVIDE SELF-CLOSER (DOOR SHALL BE SELF-CLOSING FROM THE 2/3RD'S OPEN POSITION)
- PROVIDE DOOR STOP AT ALL SWING DOORS
- PROVIDE FULL PERIMETER WEATHER STRIPPING AT ALL EXTERIOR DOORS
- CONTRACTOR TO VERIFY ALL DOOR TYPES AND SIZES & COORDINATE HARDWARE REQUIREMENTS WITH OWNER
- OPTIONAL DOOR
- 3068 by a door indicates a 3'-0" wide by 6'-8" high door.

ENERGY CODE:

PERFORMANCE-BASED INSPECTION MUST COMPLY WITH CHAPTER 4 OF THE 2021 IECC

DESIGN LOADS:

These plans were designed to meet the external load conditions noted below:

	Dead Loads	Live Loads
Roof, with Composite Shingles	10 psf	30 psf
Floor	10 psf	40 psf
Exterior Decks	12 psf	60 psf
Ceiling	10 psf	20 psf

(Space above ceilings where limited storage is possible, but additional room construction is not.)

90 mph/exposure B
 30 psf ground
 5

FRAMING NOTES:

- FRAMING LUMBER:
 - ALL FRAMING LUMBER TO BE HEM-FIR LARCH 2 AND BETTER. P=650/176 psf, F=75 psf, R=1,250 psf, E=1,200,000 psi 2x STUDS TO BE HEM-FIR LARCH "STUD" GRADE. P=675/150 psf, F=75 psf, R=800 psf, E=1,200,000 psi
 - TJI® AND "MICRO-LAM®" BY TRUS JOIST CORP. OR EQUIV. P=2,600 psf, F=285 psf, R=150 psf, E=1,800,000 psi
- ALL Headers to be 2-2x12 UNLESS NOTED OTHERWISE ON PLAN.
- Provide min. 2-2x POST UNDER EACH END OF ALL BEAMS AND HEADERS UNLESS NOTED OTHERWISE ON PLAN.
- Provide solid blocking under all posts 2-2x and larger.
- BRAEHT ALL EXTERIOR WALLS WITH 1/8" EXTERIOR GRADE OSB NAIL C/S/B SHEATHING W/BD NAILS AT 4" O.C. AT EDGES AND 2" O.C. AT INTERMEDIATE MEMBERS.
- Provide solid 2x rim joist at end of all floor joists with dimension lumber flir joists and "TIMBERSTRAND" rim joist at all "TJI" floor joists LJO.
- ALL METAL CONNECTORS TO BE SIMPSON STRONG TIE OR EQUIVALENT.
- ALL EXTERIOR WALLS TO BE FRAMED WITH 2x STUDS AT 24" O.C. WITH DOUBLE TOP AND SINGLE BOTTOM PLATE LJO.
- ALL INTERIOR BEARING WALLS TO BE FRAMED WITH 2x STUDS AT 16" O.C. WITH DOUBLE TOP AND SINGLE BOTTOM PLATE LJO.
- GLUE AND NAIL ALL MULTIPLE MEMBERS 2-2x AND LARGER W/BD NAILS AT 6" O.C. FULLY BLOCK WEBB, GLUE AND NAIL ALL MULTIPLE "TJI" FLOOR JOISTS.

- ROOF SHEATHING TO BE MIN. 5/8" OSB. EXTERIOR GRADE SHEATHING AND FLOOR SHEATHING TO BE MIN. 3/4" TGS PLUTWOOD GLUED AND NAILED.
- FRAMER RESPONSIBLE FOR MISSING HEATING AND PLUMBING PINS.
- PROVIDE SIMPSON HPS OR EQUAL AT ALL TRUSS AND ROOF RAFTER BEARING LOCATIONS.
- ALL FRAMING TO BE IN CONFORMANCE WITH 2021 EDITION OF INTERNATIONAL RESIDENTIAL CODE

Drawing Legend

Drawing Notes:

The number "7" refers to plan note 7 for further information regarding the area indicated.

Drawing References:

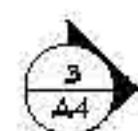
RE: 2 - A2 indicates refer to drawing 2 on sheet A2

Room Titles:

ROOM - room name
 ST/CRPT - ceiling height/floor covering
 CPT = carpet
 LINO = sheet linoleum
 FMC = Floor Material Change

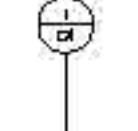
Section Markers:

shows location and direction of section



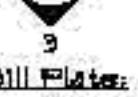
Detail Markers:

shows location and direction of detail



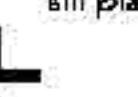
Interior Elevation Markers:

4 - The letters around the outside indicates direction and the letter in the middle - indicates sheet



Sill Plates:

sill plate location



Slope:

Indicates rise of 1" in 12" horizontal length



Sheet Index

Revision Date

A1	Cover Sheet	n/a
A2	2021 IRC Notes	n/a
A3	Main Level Floor Plan	n/a
A4	Exterior Elevations	n/a
A5	Building Sections	n/a
A6	Crawl Space Floor Plan	n/a
A7	Details	n/a
A8	Air Barrier Details	n/a
A9	Optional Solar Details	n/a
A10	Framing Plans	n/a
A11	Electrical Floor Plan	n/a

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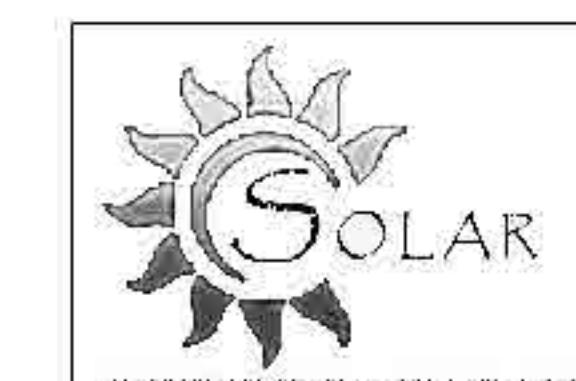
sheet index:
 COVER SHEET

sheet no.

A1 of 11

Building Codes

2021 IRC
 2021 IECC
 2023 NEC
 2021 IMC



TRANSITION BUILDING SYSTEMS INC.

2021 INTERNATIONAL RESIDENTIAL CODE REFERENCE NOTES

LOCATION ON LOT

- 1 EXTERIOR WALLS LESS THAN 5 FEET FROM A PROPERTY LINE OR ASSUMED PROPERTY LINE SHALL BE OF NOT LESS THAN A ONE-HOUR FIRE-RESISTIVE RATING WITH EXPOSURE FROM BOTH SIDES. (SECTION R302.1)
- 2 PROJECTIONS BEYOND THE EXTERIOR WALL SHALL COMPLY WITH SECTION R302.1 AND SHALL NOT EXTEND BEYOND 1' 0" POINT CLOSER THAN 3 FEET FROM THE LINE USED TO DETERMINE THE FIRE SEPARATION DISTANCE.
- 3 EXCEPT FOR APPROVED FOUNDATION VENTS, OPENINGS IN EXTERIOR WALLS OF DWELLINGS OR ACCESSORY BUILDINGS LESS THAN 3 FEET FROM A REAL OR AN ASSUMED PROPERTY LINE ARE NOT PERMITTED. (SECTION R302.1)
- 4 PENETRATIONS OF THE EXTERIOR WALL LOCATED LESS THAN 3 FEET FROM REAL OR AN ASSUMED PROPERTY LINE SHALL BE PROTECTED IN ACCORDANCE WITH SECTION R302.2. (SECTION R302.2)
- 5 MINIMUM CEILING HEIGHTS
BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND BASEMENTS SHALL COMPLY THE MINIMUM HEIGHT REQUIREMENT FOR HABITABLE ROOMS, HALLWAYS, CORRIDORS, WITH THE SECTION R303.1
- 6 LIGHT, VENTILATION AND HEATING
ALL HABITABLE ROOMS SHALL HAVE EXTERIOR GLAZING OF NOT LESS THAN 1% PERCENT OF THEIR FLOOR AREA TO PROVIDE NATURAL LIGHT IN ACCORDANCE WITH SECTION R303.1 OR THEY SHALL COMPLY WITH SECTION R303.2 FOR ADJOINING ROOMS.
- 7 ALL HABITABLE ROOMS SHALL BE PROVIDED WITH AT LEAST ONE NATURAL VENTILATION OUTDOOR AIR IN ACCORDANCE WITH SECTION R303.1 OR PROVIDED WITH MECHANICAL VENTILATION IN ACCORDANCE WITH SECTION R303.1, EXCEPTION 1. FOR ADJOINING ROOMS SEE SECTION R303.2
- 8 LIGHT AND VENTILATION FOR BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL COMPLY WITH SECTION R303.2
- 9 INTERIOR EXTERIOR STAIR ILLUMINATION SHALL COMPLY WITH SECTION R303.3 EXTERIOR STAIR ILLUMINATION SHALL COMPLY WITH SECTION R303.3 REQUIRED GLAZED OPENINGS SHALL COMPLY WITH SECTION R303.3
- 10 WHEN WINTER DESIGN TEMPERATURE IS BELOW 40° F (4° C) DWELLING UNITS SHALL BE PROVIDED WITH HEATING FACILITIES WHICH WILL MAINTAIN A TEMPERATURE OF 65° F (18° C) IN COMPLIANCE WITH SECTION R303.4
- EMERGENCY ESCAPE AND RESCUE
11 BASEMENTS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE WINDOW OR EXTERIOR DOOR CONFORMING TO SECTION R304.1 FOR EMERGENCY ESCAPE OR RESCUE WHICH ARE OPEN IN A PRACTICAL WAY.
- 12 UNDERWALLS SHALL COMPLY WITH SECTION R304.1 TOTAL OF 5 SQ. FT. MIN. WITH A MINIMUM PROJECTION OF 18" A VERTICAL DEPTH GREATER THAN 44" SHALL REQUIRE A LADDER. (SECTION R304.2)
- 13 BARS, GRILLS, COVERS AND SCREENS PLACE OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSURES, OR WINDOWS WILL BE PERMITTED PROVIDED THEY COMPLY WITH SECTION R304.2 THROUGH R304.22 AND R304.24 ACCESSIBLE FROM INSIDE WITHOUT THE USE OF KEYS OR TOOLS. (SECTION R304.4)
- 14 EXITS, LANDINGS, STAIRWAYS, HANDRAILS, RAMPS AND GUARDS
AN EXTERIOR EXIT DOOR THAT DOES NOT PASS THROUGH THE GARAGE IS REQUIRED AND MUST COMPLY WITH THE TYPE AND SIZE REQUIREMENTS OF SECTION R304.13 32" WIDE AND 6'-6" HIGH.
- 15 EXTERIOR DOORS SHALL BE READILY OPERABLE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. (SECTION R304.12)
- 16 A FLOOR OR LANDING IS REQUIRED AT EACH SIDE OF AN EXTERIOR DOOR. (SECTION R304.13)
- 17 LANDINGS SHALL BE AT LEAST AS WIDE AS THE DOOR OR STAIRWAY SERVED AND SHALL HAVE A MINIMUM DIMENSION IN THE DIRECTION OF TRAVEL OF 36 INCHES. (SECTION R304.13)
- 18 STAIRWAYS SHALL HAVE A MINIMUM CLEAR WIDTH OF 36 INCHES ABOVE THE PERMITTED HANDRAIL HEIGHT. (SECTION R304.14)
- 19 STAIRWAYS SHALL HAVE A MINIMUM WIDTH OF 36 INCHES AT AND BELOW THE HANDRAIL WHEN ONLY ONE HANDRAIL IS PROVIDED. (SECTION R304.14)
- 20 HANDRAILS SHALL NOT PROJECT MORE THAN 45 INCHES ON EITHER SIDE OF THE STAIRWAY. (SECTION R304.15)
- 21 TREADS SHALL BE AT LEAST 10 INCHES DEEP. RISERS SHALL NOT BE GREATER THAN 7 1/4" IN HEIGHT AND THE TREAD OR RISER VARIAENCE SHALL NOT EXCEED 1/4" WITHIN ANY FLIGHT OF STAIRS. (SECTION R304.14 & R304.15)
- 22 THE PROFILE OF TREADS AND RISERS SHALL CONFORM TO (SECTION R304.15)
- 23 A LANDING SHALL BE PROVIDED AT THE TOP AND BOTTOM OF STAIRWAYS. (SEE EXCEPTION FOR TOP ON EXTERIOR STAIRS.) (SECTION R304.15)
- 24 THE FLOOR OR LANDING AT THE EXIT DOOR SHALL NOT BE MORE THAN 18" LOWER THAN THE TOP OF THRESHOLD. (SECTION R304.15)
- 25 A MINIMUM HEAD ROOM CLEARANCE FOR STAIRWAYS OF NOT LESS THAN 6 FEET, 6 INCHES SHALL BE PROVIDED. (SECTION R304.15)
- 26 UNDER STAIRS SHALL COMPLY WITH SECTION R304.15.2 UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 10" MEASURED BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AT THE INTERSECTIONS OF THE WALKLINE. UNDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 6" INCHES AT ANY POINT WITHIN THE CLEAR WIDTH OF THE STAIRS WITHIN ANY FLIGHT OF STAIRS. THE LARGEST UNDER TREAD DEPTH AT THE WALKLINE SHALL NOT EXCEED THE SHALLOWEST UNDER TREAD BY MORE THAN 1/4 INCH.
- 27 ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH 1/2 INCH GYPSUM BOARD. (SECTION R304.21)
- 28 HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS. (SECTION R304.15)
- 29 THE TOP OF THE HANDRAILS SHALL BE PLACED NOT LESS THAN 34 INCHES OR MORE THAN 38 INCHES ABOVE THE NOSING OF THE TREADS. (SECTION R304.15)
- 30 HANDRAILS ADJACENT TO WALL SHALL HAVE A SPACE OF AT LEAST 1/4 INCHES BETWEEN THE WALL AND THE HANDRAIL. (SECTION R304.15)
- 31 THE HANDRAILS GRIP SIZE SHALL COMPLY WITH SECTION R304.15.5
- 32 GUARDS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS, AND LANDINGS, THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD. (SECTION R304.11)
- 33 REQUIRED GUARDS AT OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS, AND LANDINGS, SHALL BE NOT LESS THAN 56 INCHES HIGH AND 36 INCHES VERTICALLY ABOVE THE EQUIVALENT WALKING SURFACE. ADJACENT FIXED SEATINGS OR THE LINE CONNECTING THE LEADING EDGES OF THE TREADS. (SEE EXCEPTION) (SECTION R304.13)
- 34 REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE FLOOR. GUARD HEIGHT WHICH ALLOW THE PASSAGE OF A SPHERE 4 INCHES IN DIAMETER. (SECTION R304.13)

GLAZING

- 35 TYPE AND THICKNESS OF GLASS SHALL BE SPECIFIED IN ACCORDANCE WITH SECTION R306.6
- 36 INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS IN HAZARDOUS LOCATIONS SUCH AS THOSE INDICATED AS DEFINED IN SECTION R306.4.1, SHALL MEET THE TEST REQUIREMENTS OF SECTION R306.6.1 EXCEPTIONS:
1. LOWERED WINDOWS AND JALOUSIE SHALL COMPLY WITH SECTION R306.6.2
2. MIRRORS AND OTHER GLASS PANELS MOUNTED OR HUNG ON A SURFACE THAT PROVIDES A CONTINUOUS BACKING SUPPORT.
3. GLASS UNIT MASONRY COMPLYING WITH SECTION R306.7
- 37 THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING (SECTION R306.4.2)
1. GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING, AND SWING DOORS.
2. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL SURFACE IS WITHIN A 36 INCH ARC OF THE DOOR IN A SWING POSITION AND WHERE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.
3. INDIVIDUAL FIXED OR OPERABLE PANEL, OTHER THAN THOSE DESCRIBED IN ITEMS 1 AND 2 ABOVE, THAT MEET ALL OF THE FOLLOWING CONDITIONS:
a. IN EXPOSED AREA OF AN INDIVIDUAL PANEL IS LARGER THAN 9 SQUARE FEET.
b. BOTTOM EDGE LESS THAN 16 INCHES ABOVE FLOOR.
c. TOP EDGE GREATER THAN 36 INCHES ABOVE FLOOR.
d. ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
e. ALL GLAZING IN RAISING REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE, INCLUDED ARE STRUCTURAL BALUSTERS PANELS AND NON-STRUCTURAL INFLAT PANELS.
f. GLAZING IN ENCLUSED PORCHES, PATIOS, HOT TUBS, SWIMMING POOLS, HOT TUBS, AND SPA'S WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
g. GLAZING IN WALLS AND FENCES ADJACENT TO INDOOR AND OUTDOOR SWINGING POOLS, HOT TUBS, AND SPA'S WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED HORIZONTALLY AND IN A STRAIGHT LINE OF THE WALKING EDGE. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANELS IN MULTIPLE GLAZING.
- 38 1. GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS WITHIN 36 INCHES HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE.
2. GLAZING ADJACENT TO THE LANDINGS AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 36 INCHES ABOVE THE LANDINGS AND WITHIN 360 INCHES HORIZONTAL AND LESS THAN 180 DEGREES FROM THE NOSE OF THE TREAD.
- 39 SKYLIGHTS AND SLOPED GLAZING SHALL COMPLY WITH SECTION R306.8
- 40 EXTERIOR WINDOWS AND GLASS DOORS SHALL CONFORM TO THE PROVISIONS OF SECTION R302.1 AND THE FOLLOWING:
EXTERIOR WINDOWS AND DOORS SHALL BE DESIGNED TO RESIST THE DESIGN ROLL LOADS SPECIFIED IN TABLE R302.1 AND ADJUSTED FOR HEIGHT AND EXPOSURE PER TABLE R302.3.
- 41 EXTERIOR GLASS AND GLASS DOORS SHALL BE ANCHORED IN ACCORDANCE WITH THE MANUFACTURED MANUFACTURER'S RECOMMENDATIONS. (SECTION R302.1)
- 42 ANCHORAGE OF EXTERIOR WINDOWS SHALL CONFORM TO (SECTION R302.12)
- 43 MULLENS OCCURRING BETWEEN INDIVIDUAL WINDOW AND GLASS DOOR ASSEMBLIES SHALL COMPLY WITH (SECTION R306.8)
- 44 SMOKE ALARMS
SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS (SECTION R301.4)
1. IN EACH SLEEPING ROOM.
2. OUTSIDE EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM.
3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING ESTATEMENTS AND HABITABLE ATTICS BUT NOT INCLUDING CRAWL SPACE AND UNHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SURVEY FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.
- 45 SMOKE ALARMS SHALL BE INTERCONNECTED AS INDICATED IN SECTION R314.4
- 46 THE POWER SOURCE FOR SMOKE ALARMS SHALL COMPLY WITH SECTION R304.6 SANITATION, TOILET, BATH AND SHOWER SPACES
- 47 TOILET, BATH AND SHOWER FIXTURES SHALL BE SPACED AS PER FIGURE R307.11 (SECTION R307.11)
- 48 GARAGES AND CARPORTS
- 49 OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. (SECTION R302.5)
- 50 OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1 1/2 INCHES IN THICKNESS, SOLID OR HOLLOW CORE STEEL DOORS NOT LESS THAN 1 1/2 INCHES THICK OR 30 MIL PRE-PATINATED DOOR. (SECTION R302.6)
- 51 THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE R302.6. OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R302.1. THIS PROVISION DOES NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT WALL. (SECTION R302.6)
- 52 DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM 10.25 GAUGE SHEET STEEL OR OTHER APPROVED MATERIAL. SUCH DUCTS SHALL HAVE NO OPENINGS TO THE GARAGE. (SECTION R302.8)
- 53 GARAGE FLOOR SURFACES SHALL BE OF AN APPROVED NON-COMBUSTIBLE MATERIAL AND THE AREA USED TO PARK VEHICLES SHALL BE SLOPED TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY. (SECTION R302.11)
- 54 INSULATION
INSULATION MATERIALS SHALL COMPLY WITH THE PROVISIONS OF SECTION R302.10 & GIVEN COMPLIANCE SUBMITTAL VALUES USED IN ENERGY CODE.
- 55 INSULATIVE INSULATION SHALL BE SEPARATED A MINIMUM OF THREE INCHES FROM RECESSED LIGHTING FIXTURES, FAN MOTORS AND OTHER HEAT-PRODUCING DEVICES (SEE EXCEPTION) (SECTION R302.14)

PROTECTION AGAINST SUBTERRANEAN TERMITES

- 56 PROTECTION SHALL BE BY CHEMICAL SOIL TREATMENT, PRESSURE-PRESERVATIVE TREATED MODERN TERMITE-RESISTANT WOOD OR PHYSICAL BARRIER (SUCH AS METAL OR PLASTIC TERMITE SHELLS), OR ANY COMBINATION OF THESE METHODS. (SECTION R306.1)
1. THE CONCENTRATION RATE OF APPLICATION AND METHOD OF TREATMENT OF THE CHEMICAL TERMICIDE SHALL BE IN STRICT ACCORDANCE WITH THE TERMICIDE LABEL. (SECTION R306.1)
2. FIELD CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESSURE-PRESERVATIVE TREATED WOOD SHALL BE RETREATED IN THE FIELD IN ACCORDANCE WITH ALUMA 14 (SECTION R306.1)

PROTECTION OF WOOD AND WOOD-BASED PRODUCTS AGAINST DECAY

- 57 THE FOLLOWING LOCATIONS SUBJECT TO DECAY DAMAGE COMPLYING WITH SECTION R307.17

1. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR CLOSER THAN 18 INCHES FROM GROUND WHEN CLEARANCE IS NEEDED TO BE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREA LOCATED WITHIN THE PERIMETER OF THE BUILDING FOUNDATION.
2. ALL WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 6 INCHES FROM THE EXPOSED GROUND.
3. BILLS AND BLEEPERS ON A CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND UNLESS SEPARATED FROM SUCH SLABS BY AN IMPERVIOUS MOISTURE BARRIER.
4. THE ENDS OF WOOD BORDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 12 INCHES ON TOP, SIDES AND ENDS.
5. WOOD SIDING, SHEATHING AND WALL FRAMING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES FROM THE GROUND.
6. WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE WEATHER, SUCH AS CONCRETE OR MASONRY SLAB UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER.
7. WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE EXTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS.
8. WOOD STRUCTURAL MEMBERS INCLUDING SUPPORTS FOR BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES SUBJECT TO WEATHER WITHOUT APPROPRIATE PROTECTION SHALL COMPLY WITH SECTION R307.17

ROOF VENTILATION AND ATTIC ACCESS

- 58 ENCLOSED ATTICS AND ENCLOSED RAKER SPACES COVERED WITH CEILING MATERIALE SHALL BE VENTILATED IN ACCORDANCE WITH SECTION R304.4
- 59 ATTIC ACCESS SHALL BE PROVIDED FOR BUILDINGS WITH COMBUSTIBLE CEILINGS OR ROOF CONSTRUCTION. (SECTION R307.1)

WALL COVERINGS, CEILING / INTERIOR WALL COVERING

- 60 GYPSUM BOARD SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.3 AND TABLE R302.3.

- 61 CEILING TILE SURFACES SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.4.

- 62 FIBER-CEMENT, FIBER-MAT REINFORCED CEMENT, GLASS MATT GYPSUM BACKER OR FIBER-REINFORCED GYPSUM BACKER IN COMPLIANCE WITH ASTM C 119, C 120, C 121, RESPECTIVELY, AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SHALL BE USED AS BACKERS FOR WALL TILE IN TILES AND SHOWER AREA AND WALL PANELS IN SHOWER AREA. (SECTION R302.5)

- 63 WALL AND CEILING FINISHES SHALL HAVE A PLATE-SPREAD CLASSIFICATION OF NOT GREATER THAN 200 (R302.3) AND A BURKE-DEVELOPED INDEX OF NOT GREATER THAN 400. (SECTION R302.2)

EXTERIOR WALL COVERINGS

- 64 LEATHER-EXPOSED SURFACES SHALL BE PROVIDED WITH A FIRE-RESISTIVE BARRIER (BUILDING FELT OR APPROVED MATERIAL) IN ACCORDANCE WITH SECTION R302.3

- 65 WOOD, HARDBOARD AND WOOD STRUCTURAL PANEL SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.3

- 66 EXTERIOR WALL COVERING SHALL HAVE THE MINIMUM THICKNESS AND BE ATTACHED IN ACCORDANCE WITH TABLE R302.5(A). (SECTION R302.5)

- 67 WOOD SHAKES AND SHINGLES USED AS AN EXTERIOR WALL COVERING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.5(B)

- 68 EXTERIOR STONE AND MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.5(B)

- 69 MASONRY VENEER ABOVE OPENING SHALL BE SUPPORTED WITH LINTELS OF NON-COMBUSTIBLE MATERIALS. (SECTION R302.5)

- 70 MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL WITH CORROSION-RESISTANT METAL TIES IN ACCORDANCE WITH SECTION R302.5(A) WITH AN SPACE OR MORTAR FILM PER SECTION R302.5(A)

- 71 MASONRY VENEER SHALL BE PROVIDED WITH FLASHING IN ACCORDANCE WITH SECTION R302.5(B)

- 72 LEAF HOLES SHALL BE PROVIDED IN THE OUTSIDE WIDTH OF MASONRY WALLS IN ACCORDANCE WITH SECTION R302.5(B)

- 73 EXTERIOR INSULATION FINISH SYSTEMS (EIFS) SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.5(C)

- 74 EXTERIOR WALLS SHALL BE PROVIDED WITH FLASHING TO PREVENT THE ENTRY OF WATER INTO THE WALL CAVITY. (SECTION R302.4)

CHIMNEYS AND FIREPLACES FACTORY-BUILT FIREPLACES

- 75 FACTORY-BUILT FIREPLACES SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING FACTORY-BUILT FIREPLACES SHALL BE TESTED IN ACCORDANCE WITH UL 21 (SECTION R302.4)

- 76 HEARTH EXTENSIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE FACTORY-BUILT FIREPLACE LISTING AND BE READILY DISTINGUISHABLE FROM THE SURROUNDING FLOOR AREA. (SECTION R302.4)

EXTERIOR AIR SUPPLY

- 77 CHIMNEYS FOR USE WITH FACTORY-BUILT FIREPLACES SHALL COMPLY WITH THE REQUIREMENT OF UL 121. (SECTION R302.5)

ROOF COVERINGS AND MATERIALS ROOF CLASSIFICATION

- 78 ROOF COVERINGS SHALL BE COVERED WITH MATERIALS AS SET FORTH IN SECTION R302.4 AND R302.5. (SECTION R302.5)

- 79 ROOF COVERINGS SHALL BE CLASS A, B, OR C. (SECTION R302.5)

LEATHER PROTECTION

- 80 ROOF DECKS SHALL BE COVERED WITH APPROVED ROOF COVERINGS. (SECTION R302.5)

- 81 FLASHING SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF R302.5

- 82 UNDER ROOF DRAINS ARE REQUIRED. DRAFFON DRAINS HAVING THE SAME SIZE AS THE ROOF DRAINS SHALL BE INSTALLED WITHIN 12 INCHES OF THE LINE OF THE DRAFFON DRAINS THREE TIMES THE SIZE OF THE ROOF DRAINS AND HAVE A MINIMUM CLEAVING HEIGHT OF 1 INCH SHALL BE INSTALLED IN THE ADJACENT PARALLEL WALLS WITH THE METAL FLANGE 2 INCHES ABOVE THE LOW POINT OF THE DRAFFON DRAINS. THE INSTALLATION AND WIRING OF OVERFLOW DRAINS, LEADERS AND CONDUCTORS SHALL COMPLY WITH THE INTERNATIONAL PLUMBING CODE (SECTION R302.5)

MATERIALS

- 83 ROOF ASSEMBLIES SHALL BE APPLIED IN ACCORDANCE WITH CHAPTER 8 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. (SECTION R302.7)

- 84 ROOF COVERINGS SHALL BE DELIVERED IN PACKAGES BEARING THE MANUFACTURER'S IDENTIFYING MARKS AND APPROVED TESTING AGENCY LABELS WHEN REQUIRED. (SECTION R302.4)

REQUIREMENTS FOR ROOF REQUIREMENTS

- 85 ASPHALT SHINGLES SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.8

ARCHITECTURAL LEGEND

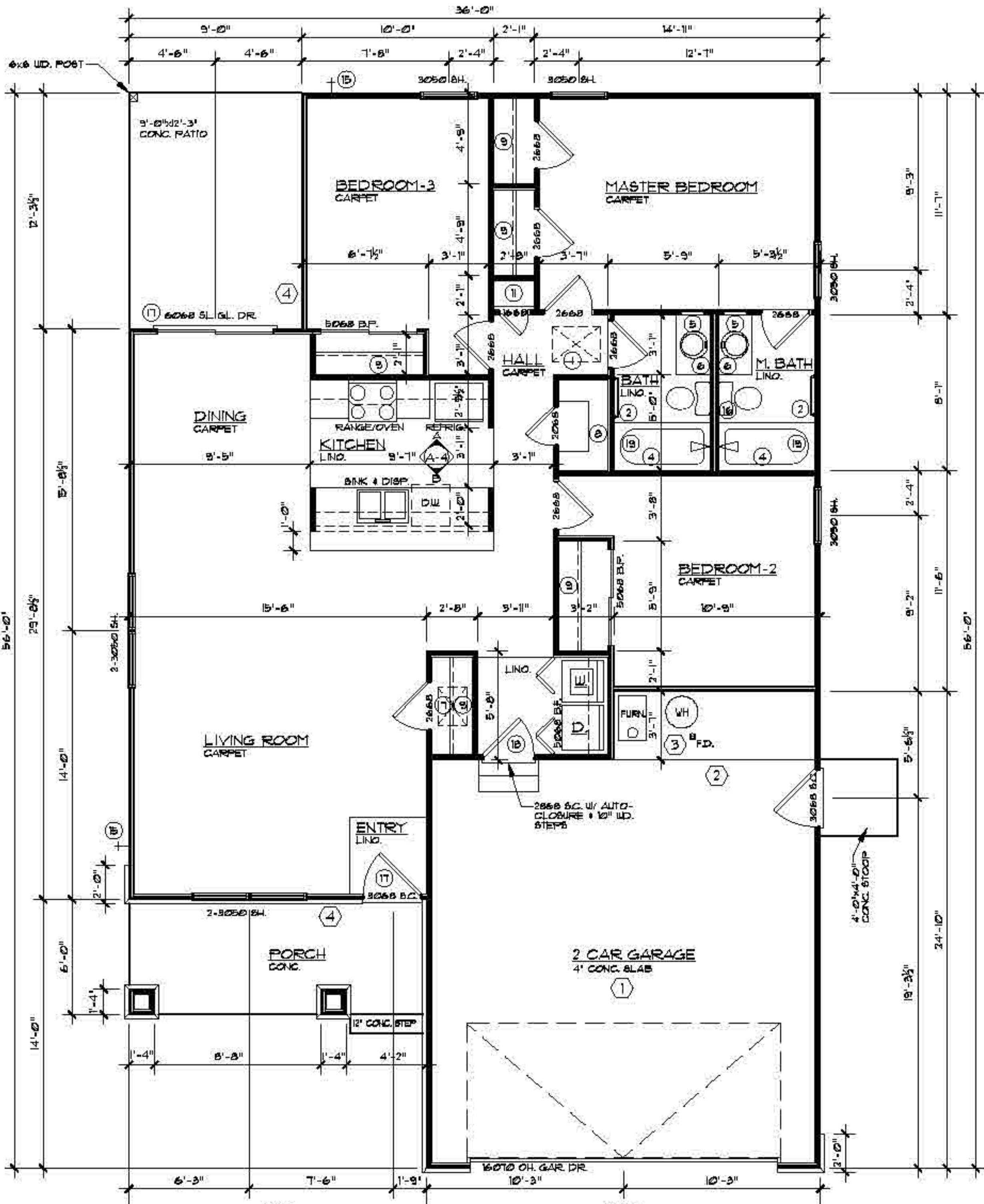
1. Provide 22"x30" attic access.
2. 24" towel bar.
3. Towel ring.
4. Soap and grab bar.
5. Recessed medicine cabinet.
6. Mirror.
7. 36"x36" shower receptor w/ tempered glass enclosure.
8. Pantry closet 5 shelves.
9. One shelf and one rod.
10. One shelf and two rods 42" high and 40" between.
11. Linen closet - 5 shelves.
12. 34" high (min) 38" high (max) 1 1/2" + hardware.
13. 34" high (min) 38" high (max) 6000 type grab rail w/ 2x2 balusters = 4" o.c.
14. Heatilator ND4236 36" gas fireplace.
15. Hose bibb.
16. 2x6 stud wall.
17. Maximum vertical height measured from top of threshold of door to landing not to exceed 1 1/2". Maximum threshold height at door to interior landing not to exceed 1".
18. Door between house and garage to be 1 1/2" minimum. Changes in elevations at doors due to landings or termination of stairs, to be measured from top of door threshold.
19. Shower stall walls to be finished with a non-absorbent surface such as tile or tub surround to a height of 72" a.f.t. fiber-cement, fiber-mat reinforced cement, glass mat gypsum backers or fiber-reinforced gypsum backers in compliance with astm c 1286, c 1925, c 1178 or c 1218 respectively, and installed in accordance with manufacturer's recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.

GENERAL NOTES

1. Provide ½" Type "X" 1-hour fire rated drywall & garage walls, ceilings and structural members adjacent to living areas as per section 309.2 of the IRC. (drywall to extend to the underside of the highest roof sheathing or be installed to entire ceiling.)
2. Start top of 4" concrete garage slab, 2" below top of garage foundation wall & rear end slope 4" down to front foundation wall over blockout (2" min. required by code).
3. Provide 1" minimum clearance around furnace flue.
4. Install an impervious membrane between all concrete patios/porches and wood frame as per code.

Do not scale drawings, use dimensions as specified on drawings.

NOTE: FOR BEAM SIZES AND FRAMING NOTES, REFER TO STRUCTURAL SHEETS.



MAIN LEVEL FLOOR PLAN
1/4" = 1'-0" Eq. Ft.=1255

Model no. [REDACTED]

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checked by: [REDACTED]

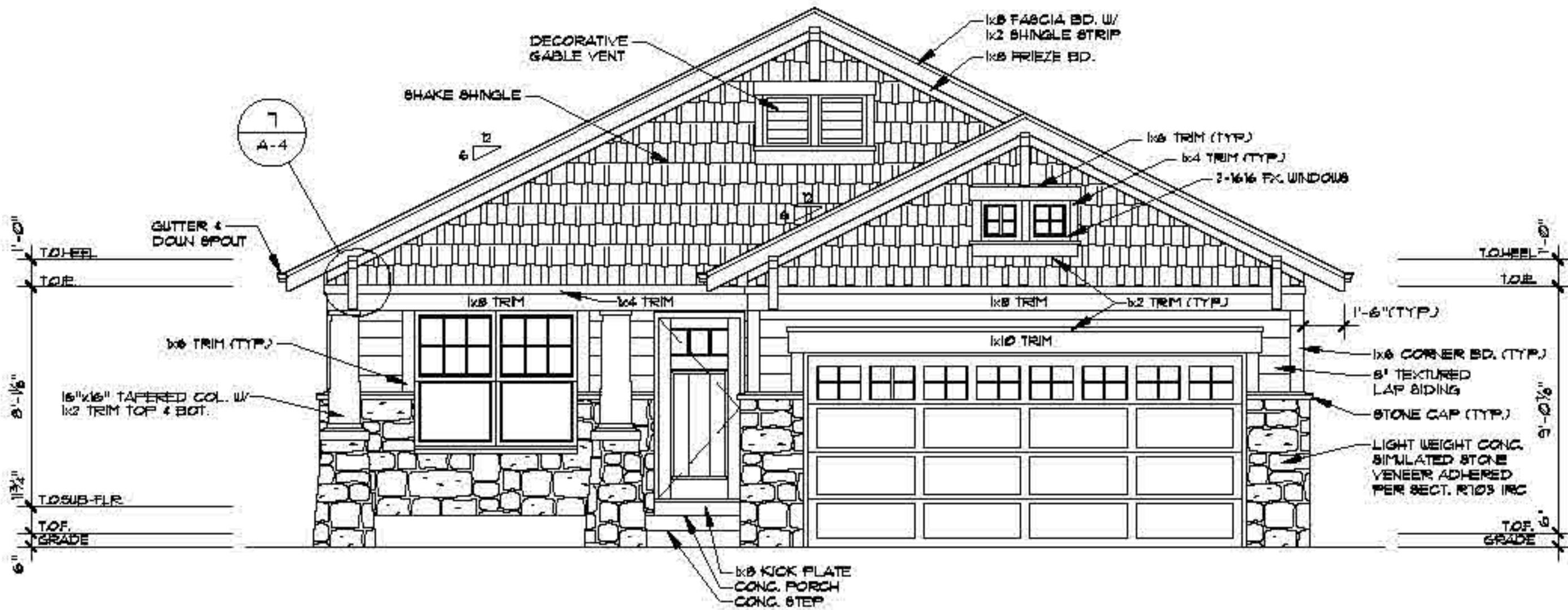
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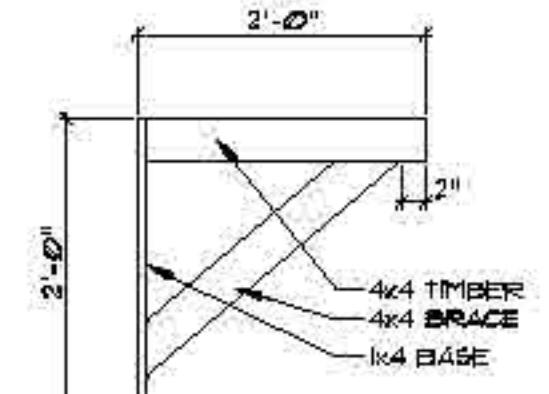
sheet index:
FLOOR PLAN

sheet no. [REDACTED]

A3 of 11



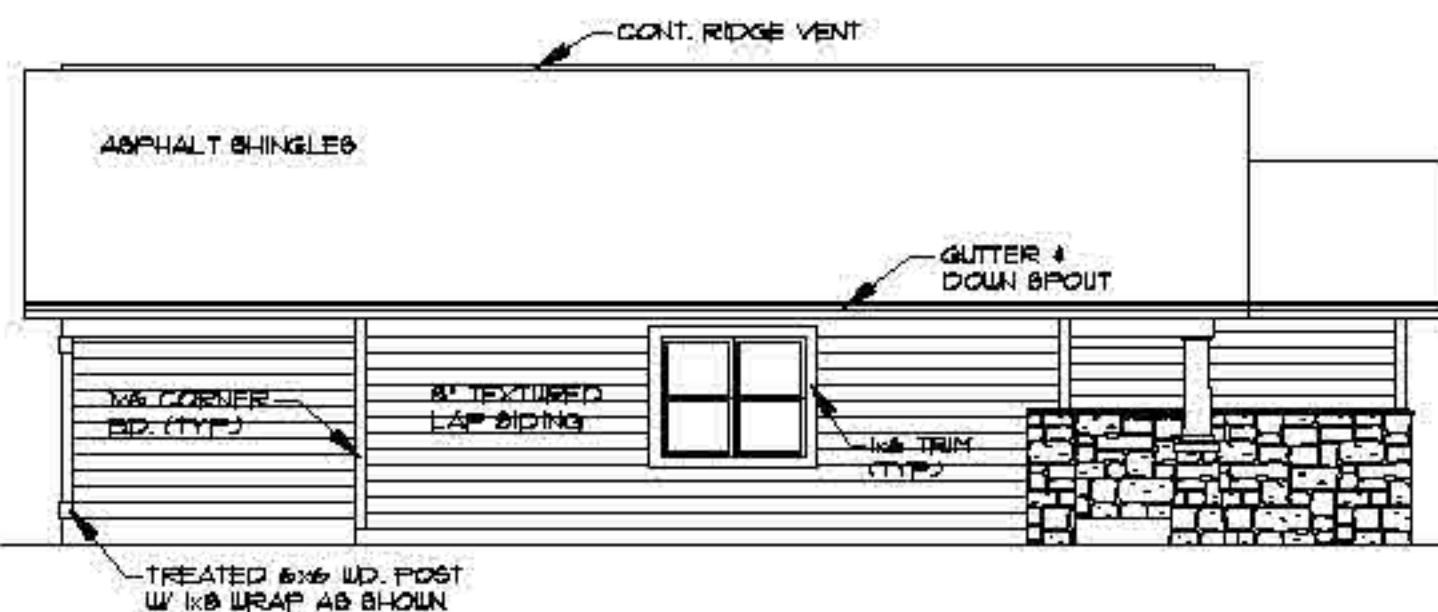
1 FRONT ELEVATION
1/4" = 1'-0"



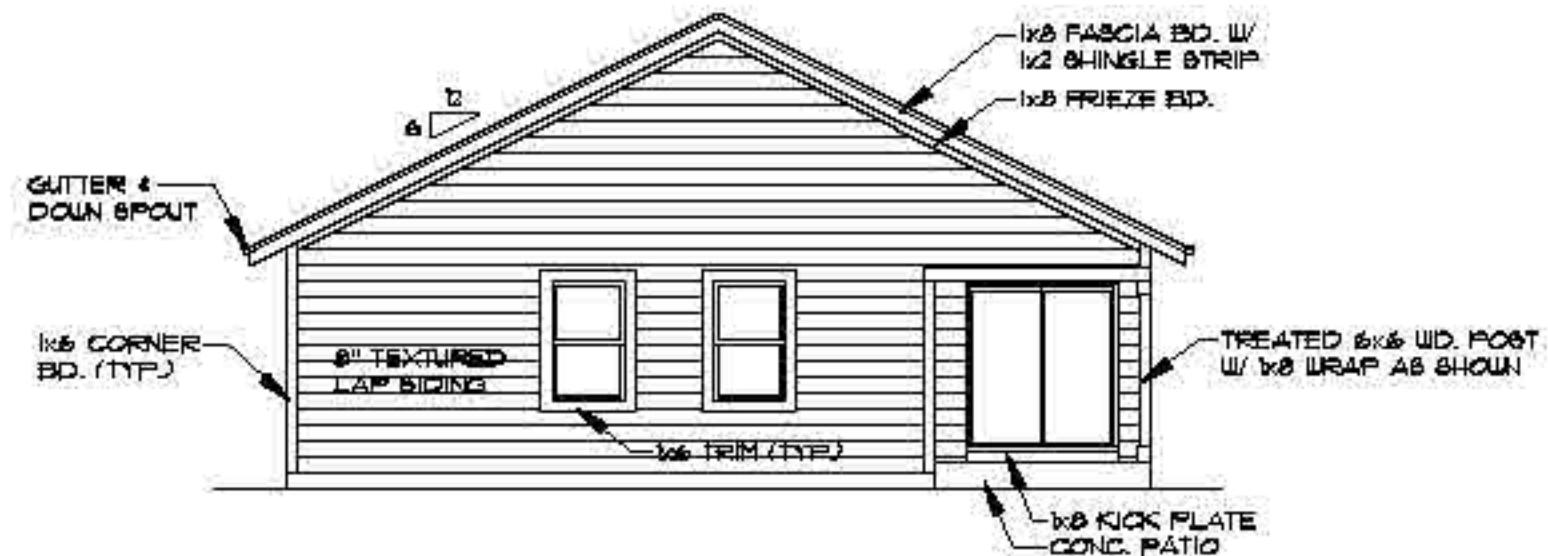
1 BRACKET DETAIL
3/4" = 1'-0"

Model no. [REDACTED]

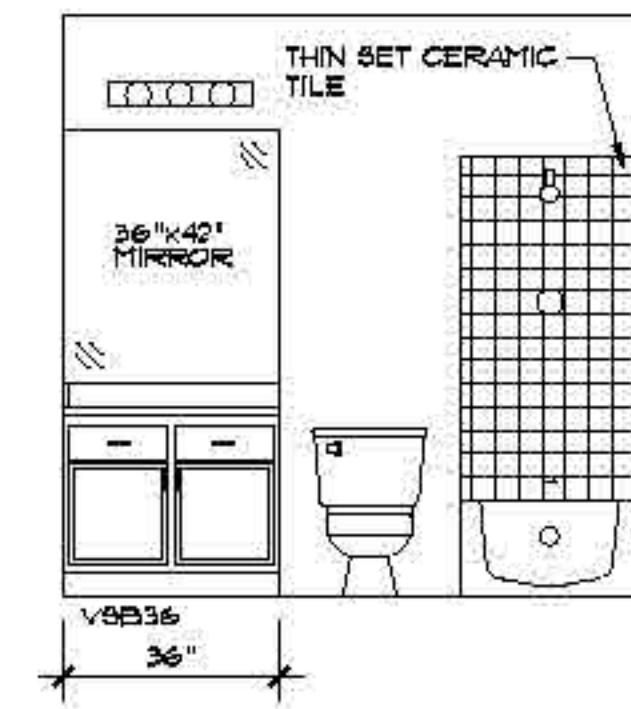
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2 LEFT SIDE ELEVATION
1/8" = 1'-0"

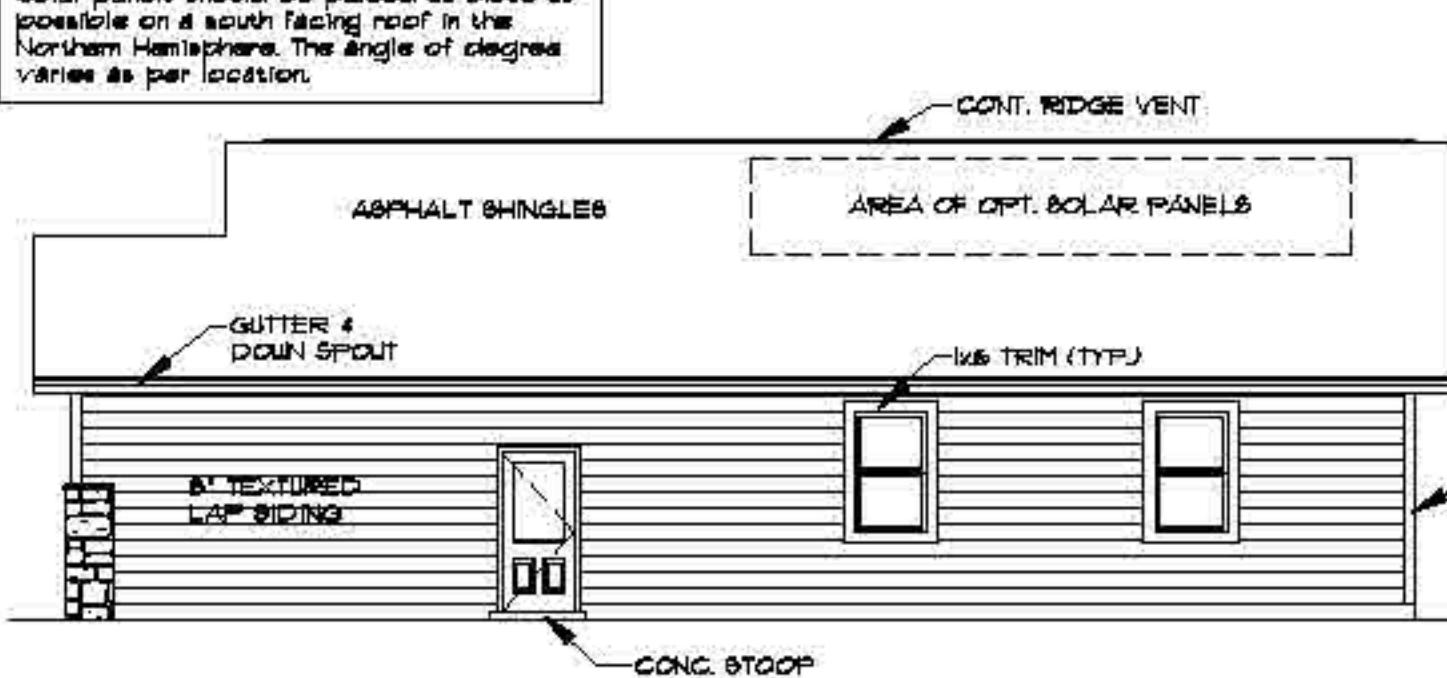


3 REAR ELEVATION
1/8" = 1'-0"

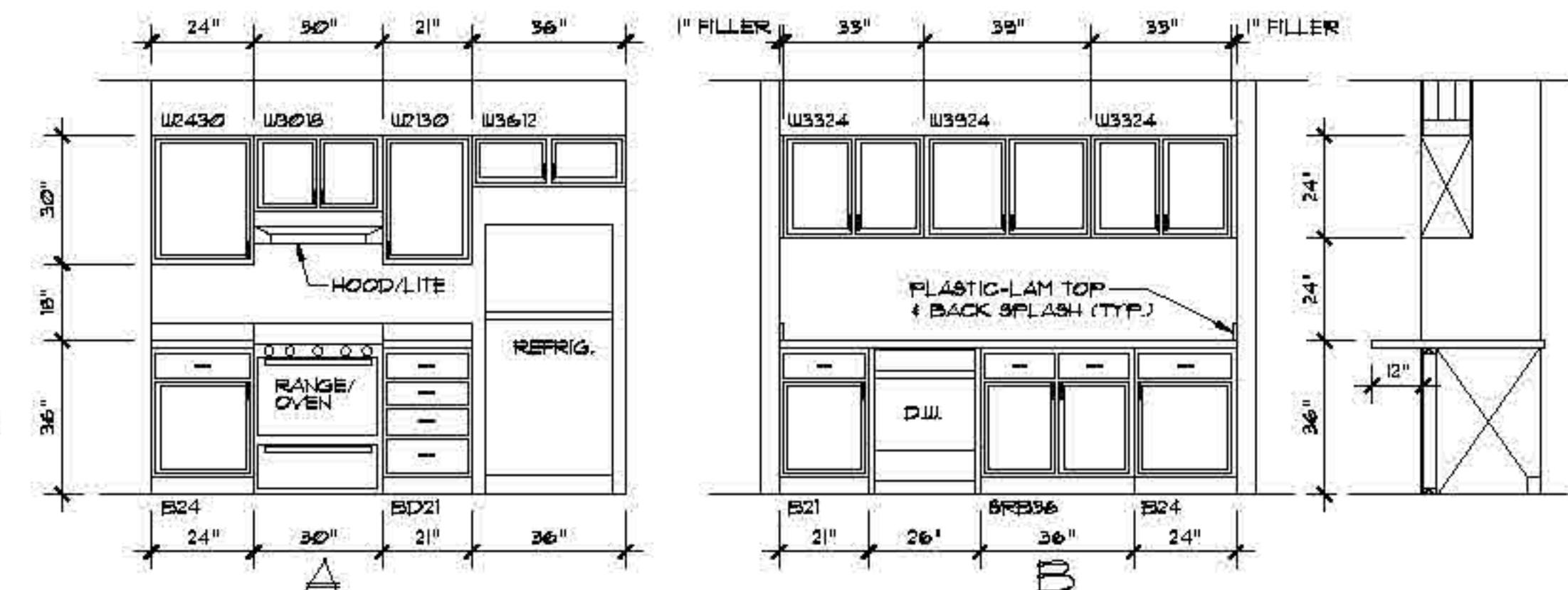


6 TYP. BATH ELEV.
3/8" = 1'-0"

drawn by: [REDACTED]
checked by: [REDACTED]
date: [REDACTED]



4 RIGHT SIDE ELEVATION
1/8" = 1'-0"



5 KITCHEN ELEVATIONS
3/8" = 1'-0"

sheet index:
ELEVATIONS

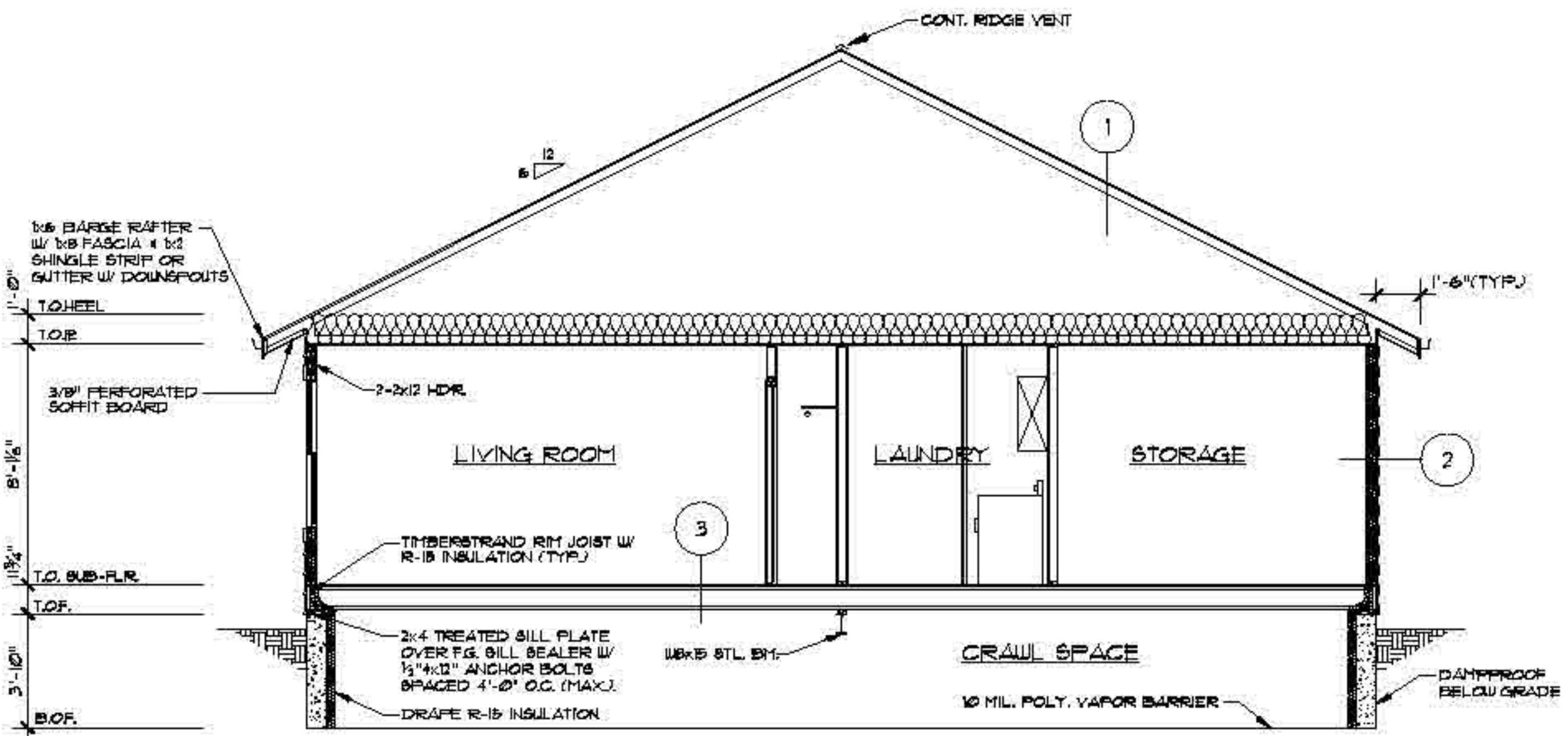
sheet no. [REDACTED]

A4 of 11

1 ROOF SYSTEM:
240# ASPHALT SHINGLES ON 15# FELT UNDERLayment
ON 3/8" EXTERIOR GRADE OSB SHEATHING NAILED
OVER PRE-MANUFACTURED ROOF TRusses • 24" O.C.
OR 2x RAFTERS (SEE ROOF FRAMING) W/R-38 FIBER-
GLASS INSULATION AND 1/2" GYP. BD. TO INTERIOR.

2 EXTERIOR WALL SYSTEM:
8' TEXTURED LAP SIDING OVER WEATHER-RESISTANT
SHEATHING PAPER (PER SECT. R103.2 2021 Irc)
APPLIED OVER 1/16" EXT. GRADE OSB SHEATHING ON
2x4 STUDS • 16" O.C. WDBL TOP & SINGLE BOT. PLATE
W/R-15 BATT INSULATION • 1/2" GYP. BD. TO INTERIOR

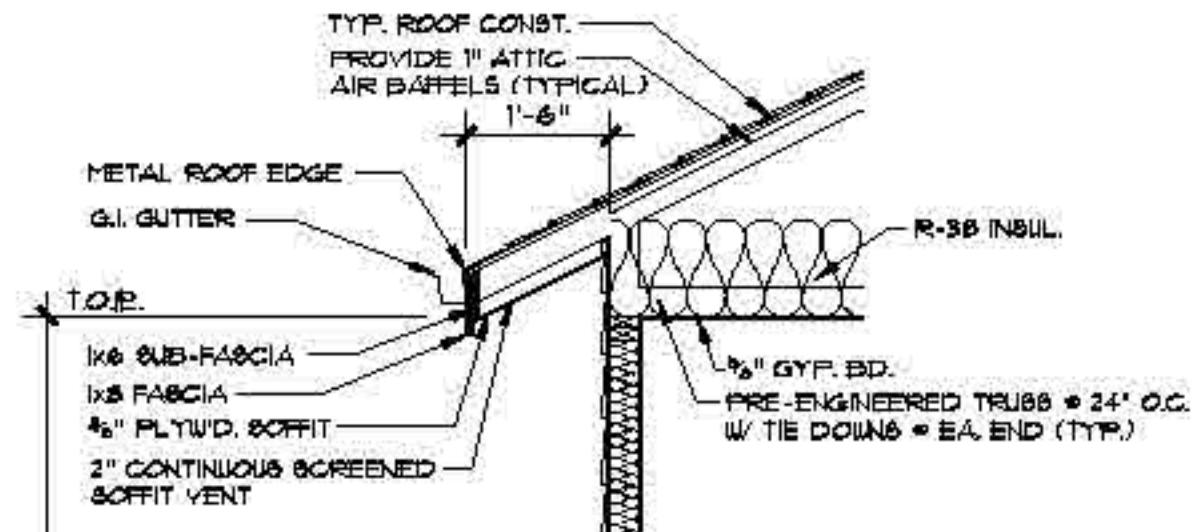
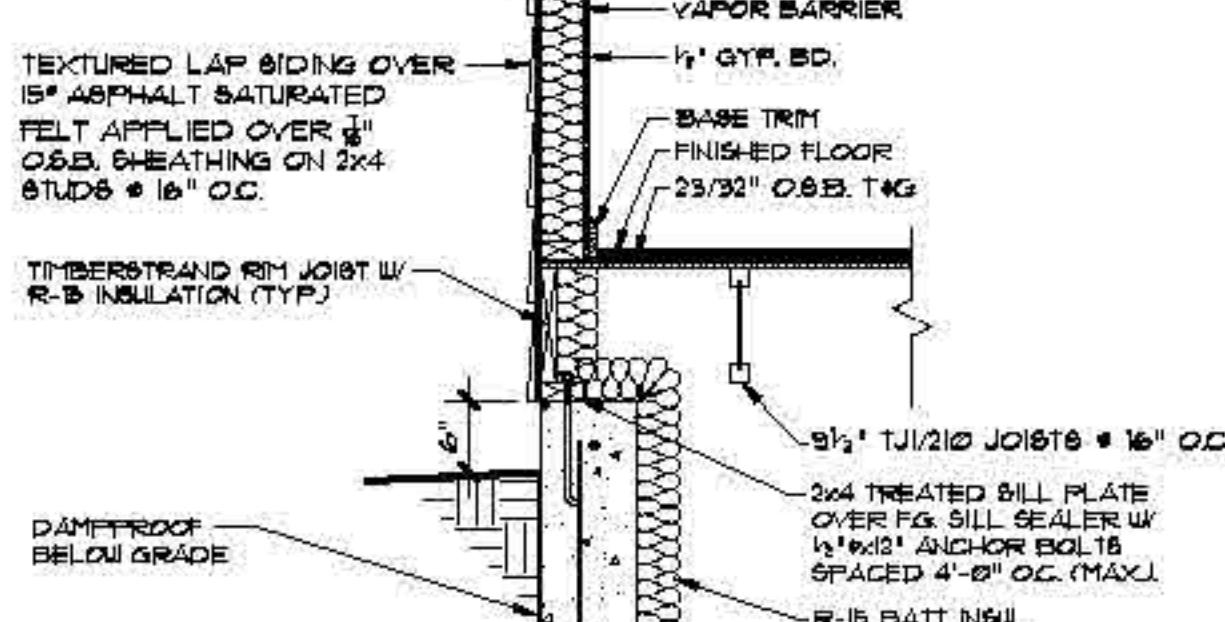
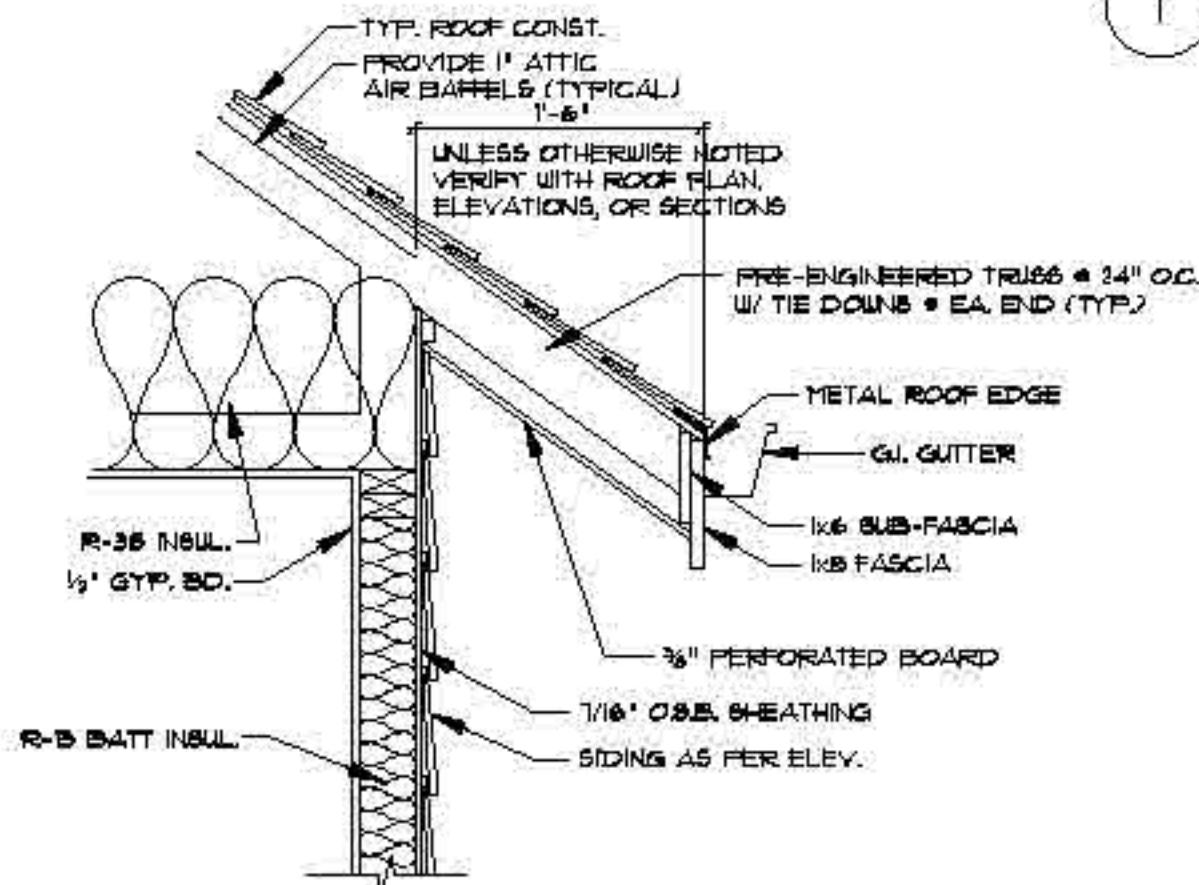
3 FLOOR SYSTEM:
23/32" O.S.B. T&G GLUE AND NAIL OVER
9 1/2" TJI 210 FLOOR JOISTS SPACED 16" O.C.



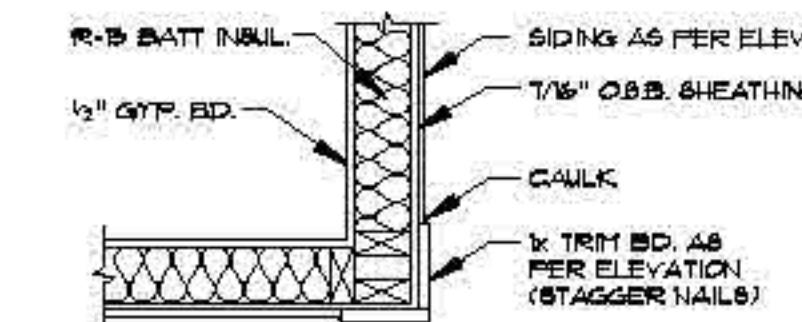
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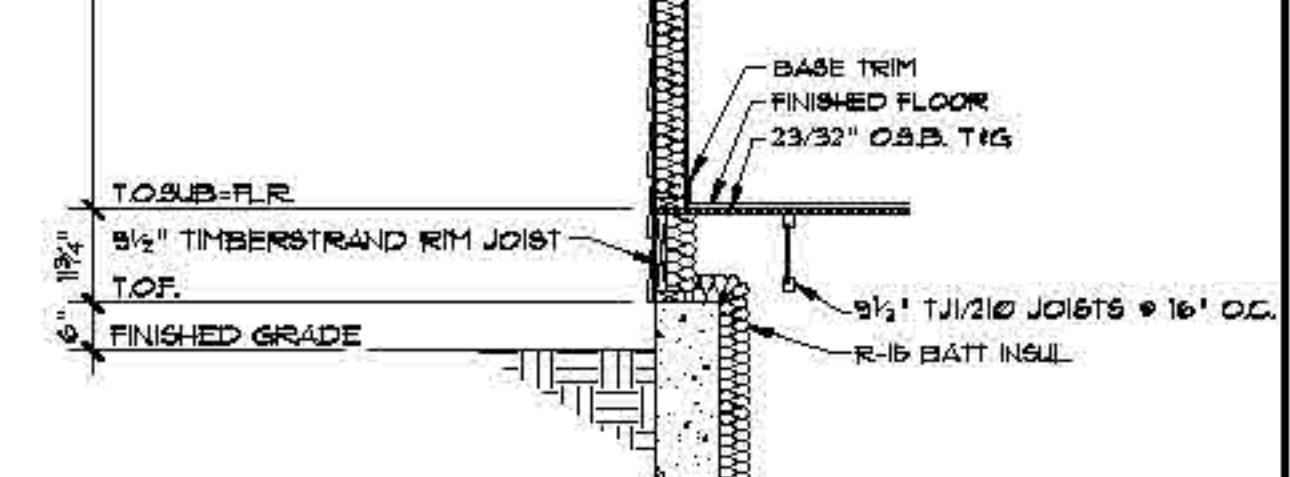
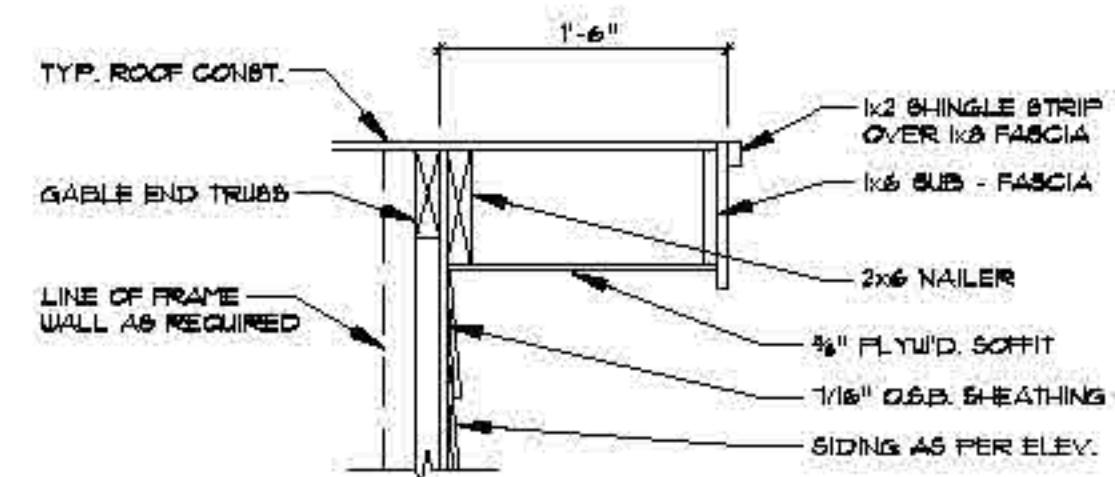
1 CROSS SECTION



2 CORNICE DETAIL



4 EXTERIOR WALL DETAIL



3 CORNER DETAIL

10' - 1'-0"

5 GABLE DETAIL

1' - 1'-0"

6 TYPICAL WALL SECTION

1/2" - 1'-0"

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checked by: [REDACTED]

date: [REDACTED]

revised: [REDACTED]

sheet index:
SECTIONS

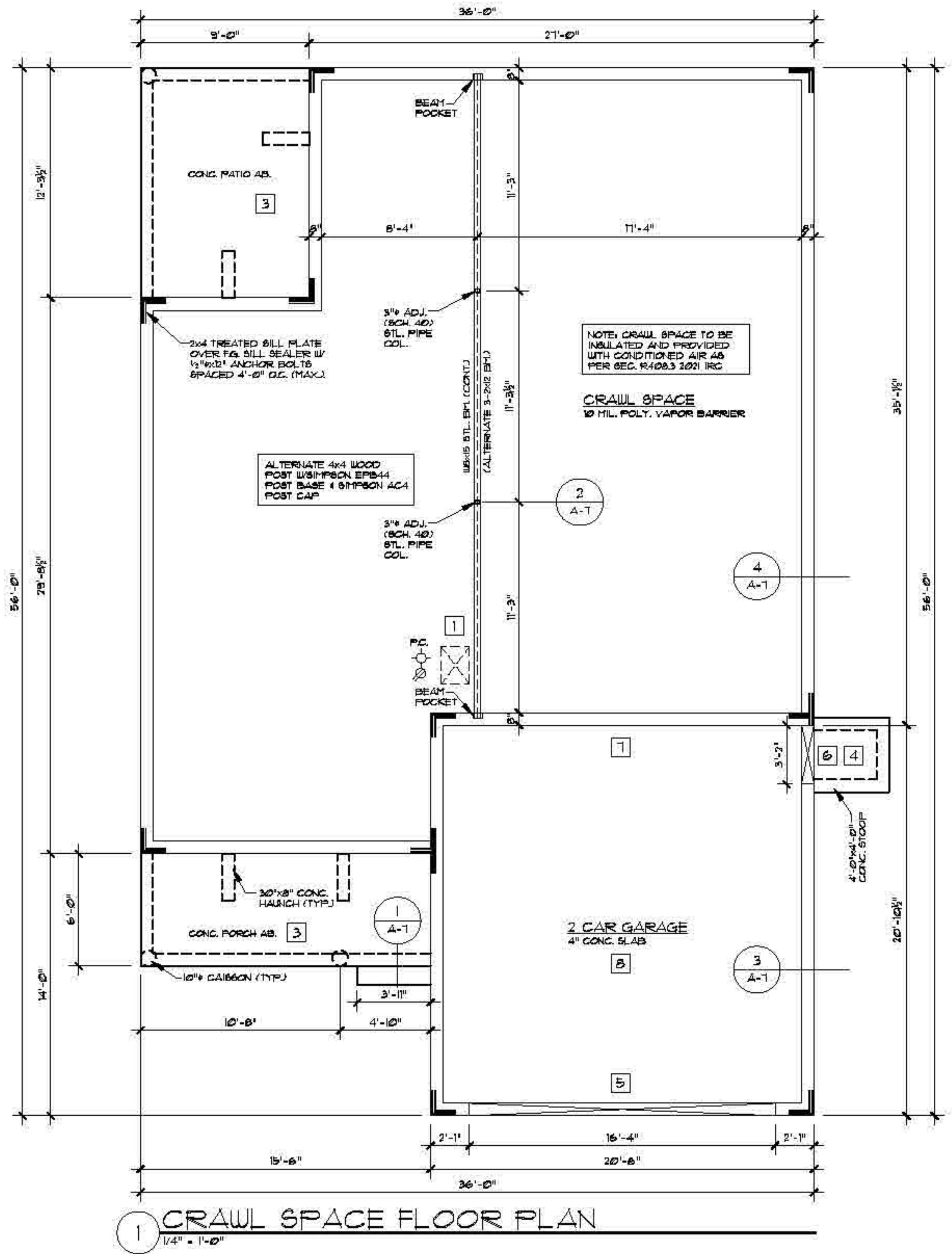
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FOUNDATION LEGEND

- Provide 18"x24" horizontal crawl space access.
- Provide 4" concrete slab, 8" x 12" turndown edges, 8" concrete haunch, steel as specified.
- Provide 4" concrete slab, 8" x 12" turndown edges, caissons, 8" concrete haunch and steel as specified.
- Provide 4" concrete slab, 8" x 12" turndown edge, steel as specified.
- Provide 14" deep blockout for 4" concrete slab and overhead garage door.
- Provide 6" deep blockout for 4" concrete slab and garage service door.
- Start top of 4" concrete garage slab, 2" below top of concrete curb @ rear and slopes 4" down to front foundation wall over blockout (2" min. required by code).
- Provide 4x4 Type "X" 1-hour fire rated drywall = garage walls, ceiling and structural members adjacent to living areas. (drywall to extend to the underside of the highest roof sheathing or be installed to entire ceiling).

Do not scale drawings, use dimensions as specified on drawings.

NOTE: Foundation design shown on these drawings are conceptual only. Actual foundation design by others. Foundation design to be based upon site soil conditions and building code requirements.



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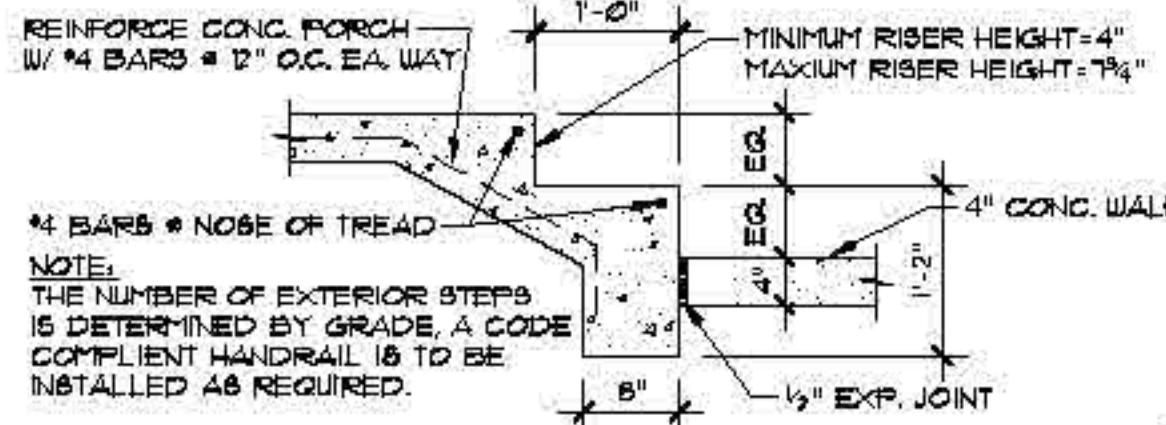
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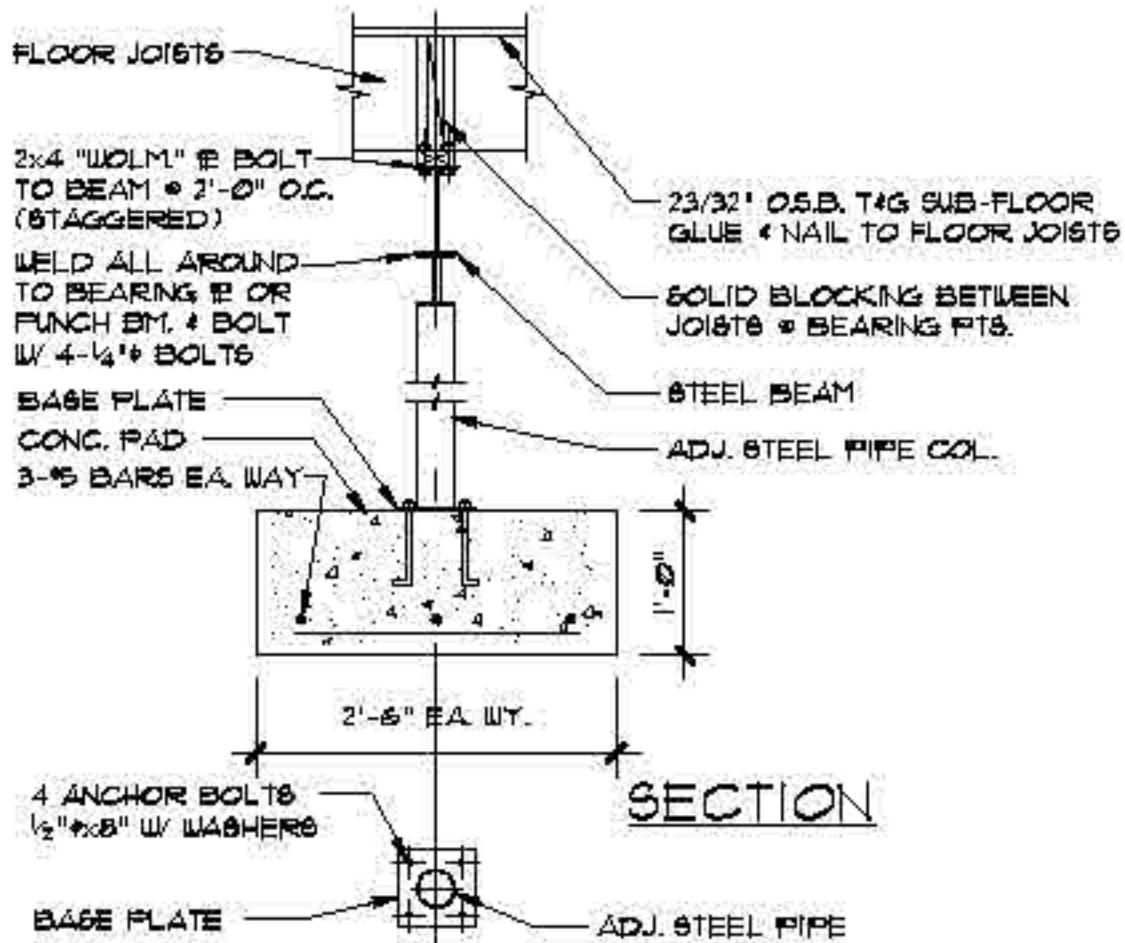
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CRAWL SPACE
FLOOR PLAN

sheet no.

A6 of 11

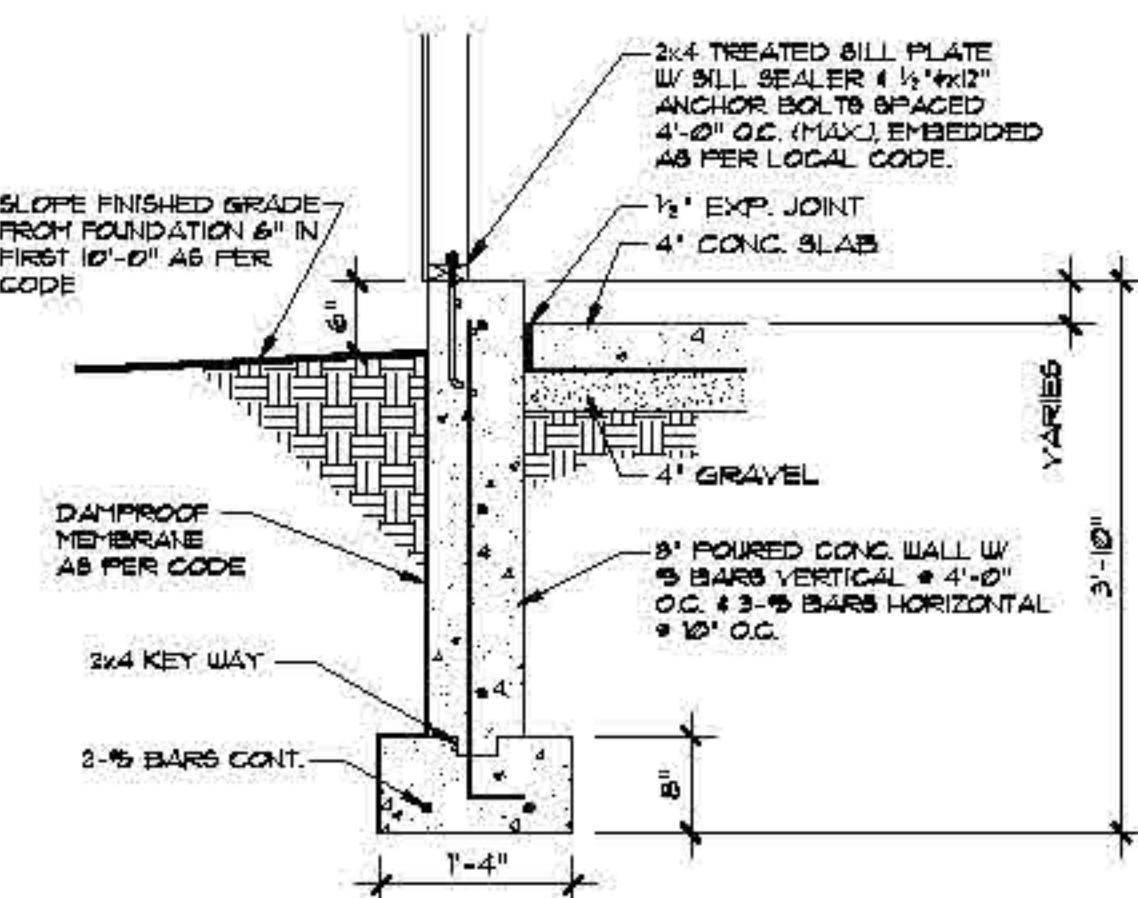


1 CONCRETE STAIR DETAIL



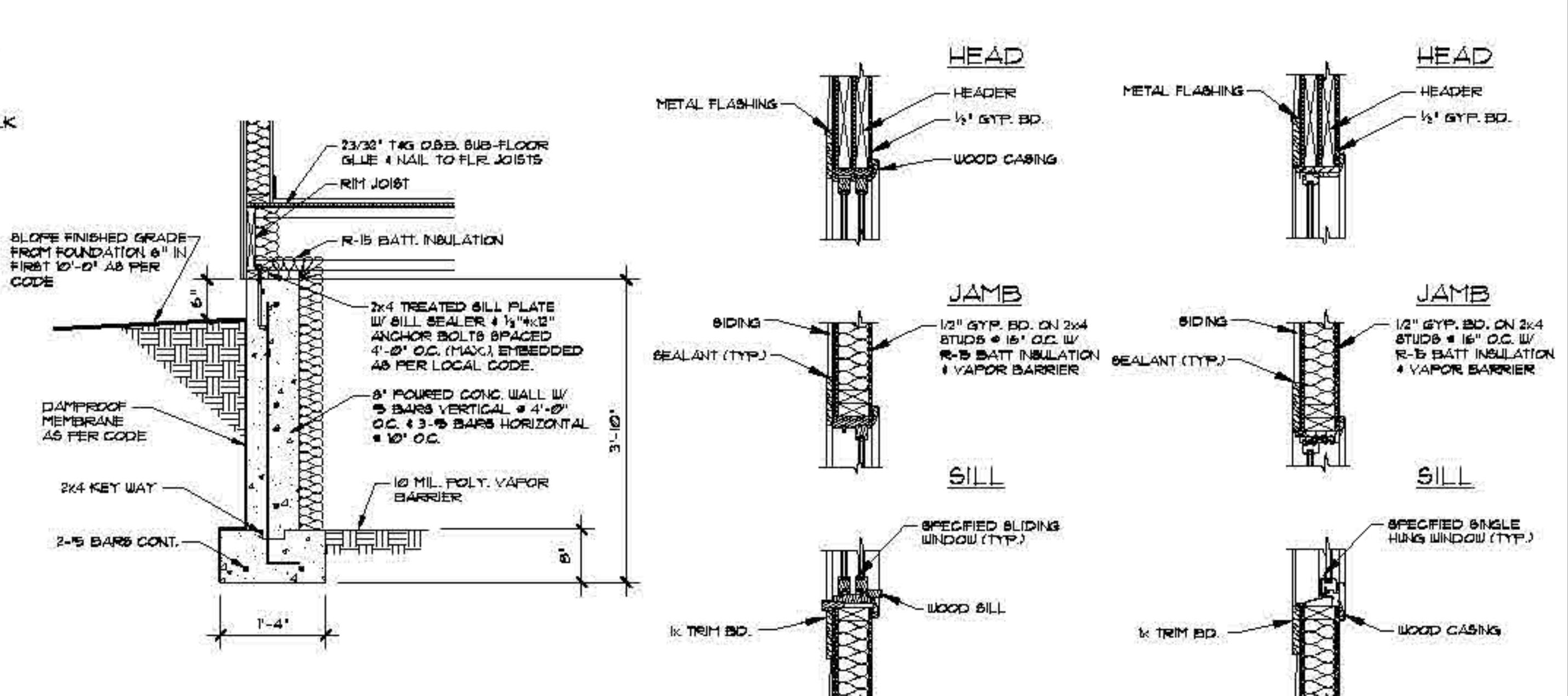
PLAN VIEW

2 COLUMN DETAIL



3 FOUNDATION DETAIL

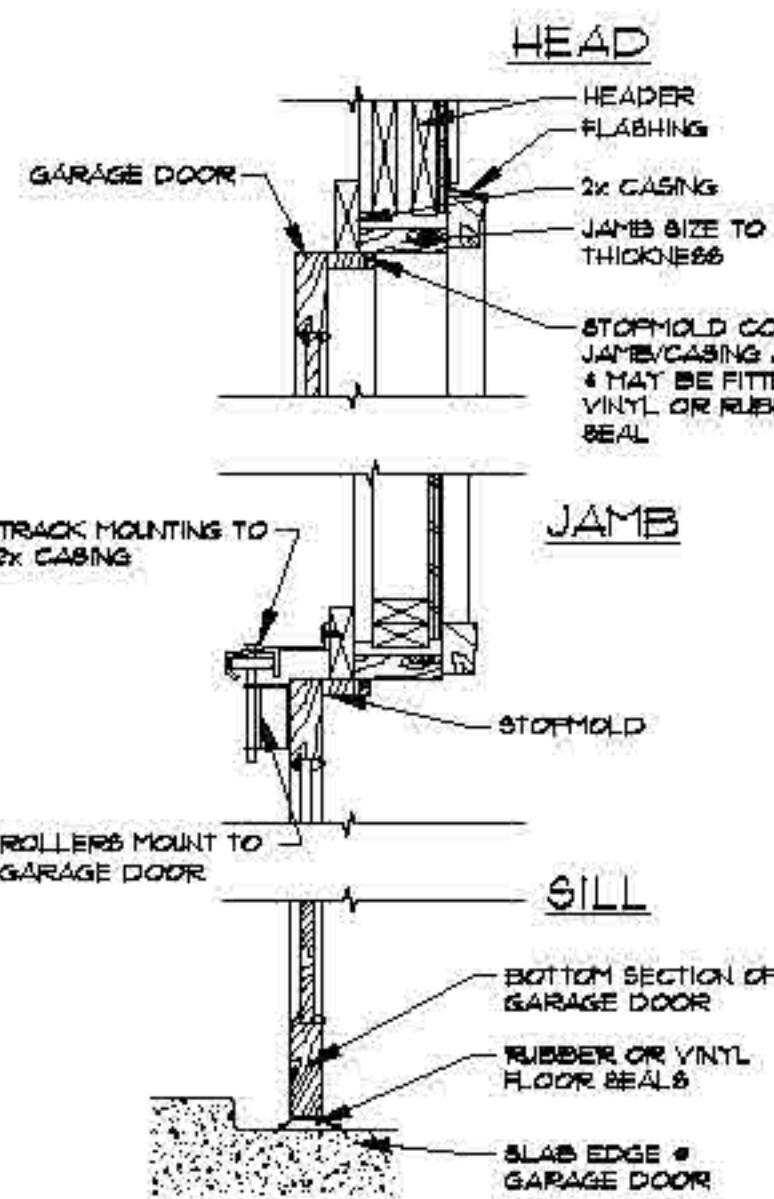
3/4" = 1'-0"



4 FOUNDATION DETAIL

3/4" = 1'-0"

NOTE:
VERIFY SIDE CLEARANCE FOR TRACK

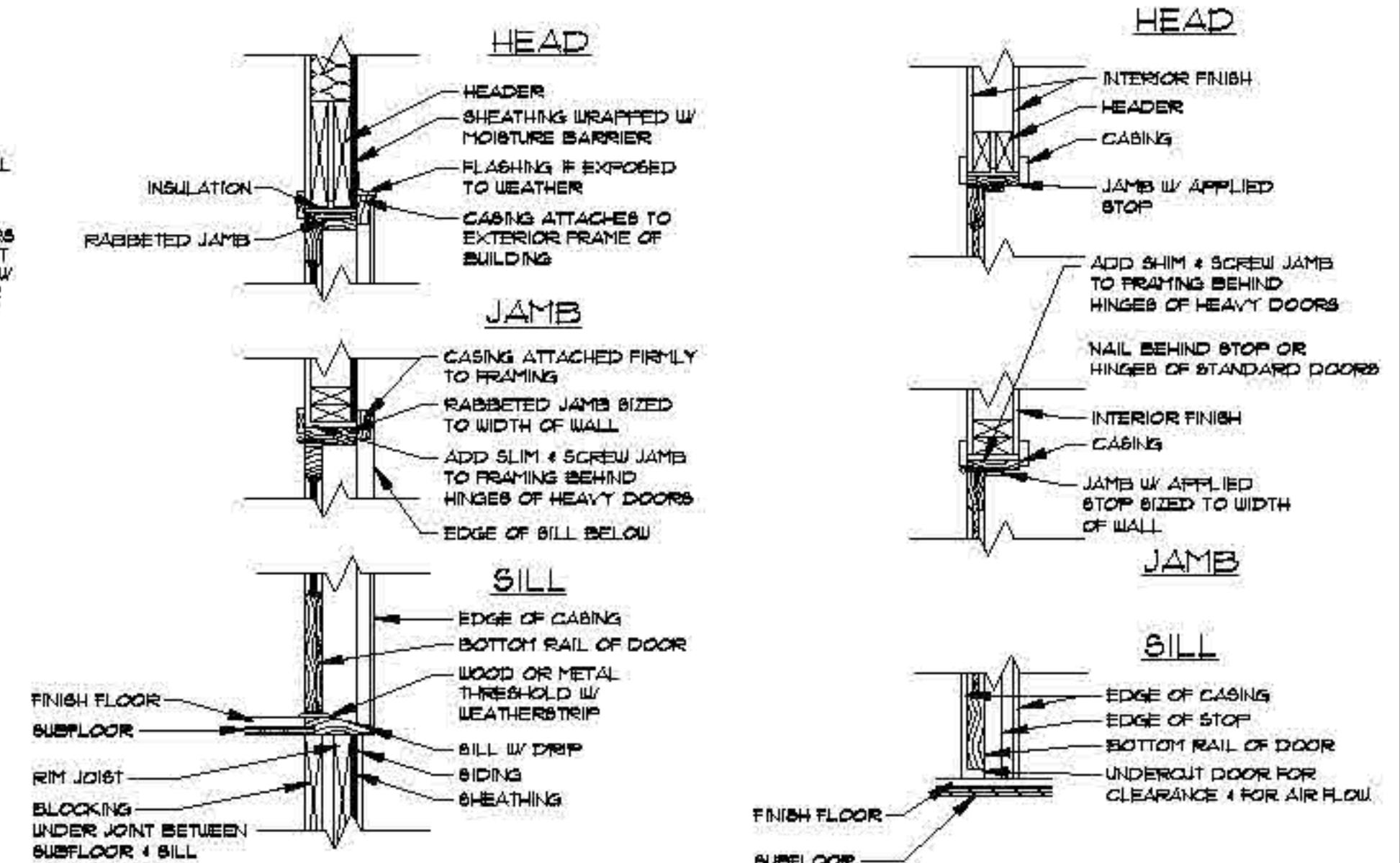


7 GAR. DOOR DETAIL

1"-0" = 1'-0"

8 EXTERIOR DOOR DETAIL

1"-0" = 1'-0"



9 INTERIOR DOOR DETAIL

1"-0" = 1'-0"

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Model no.

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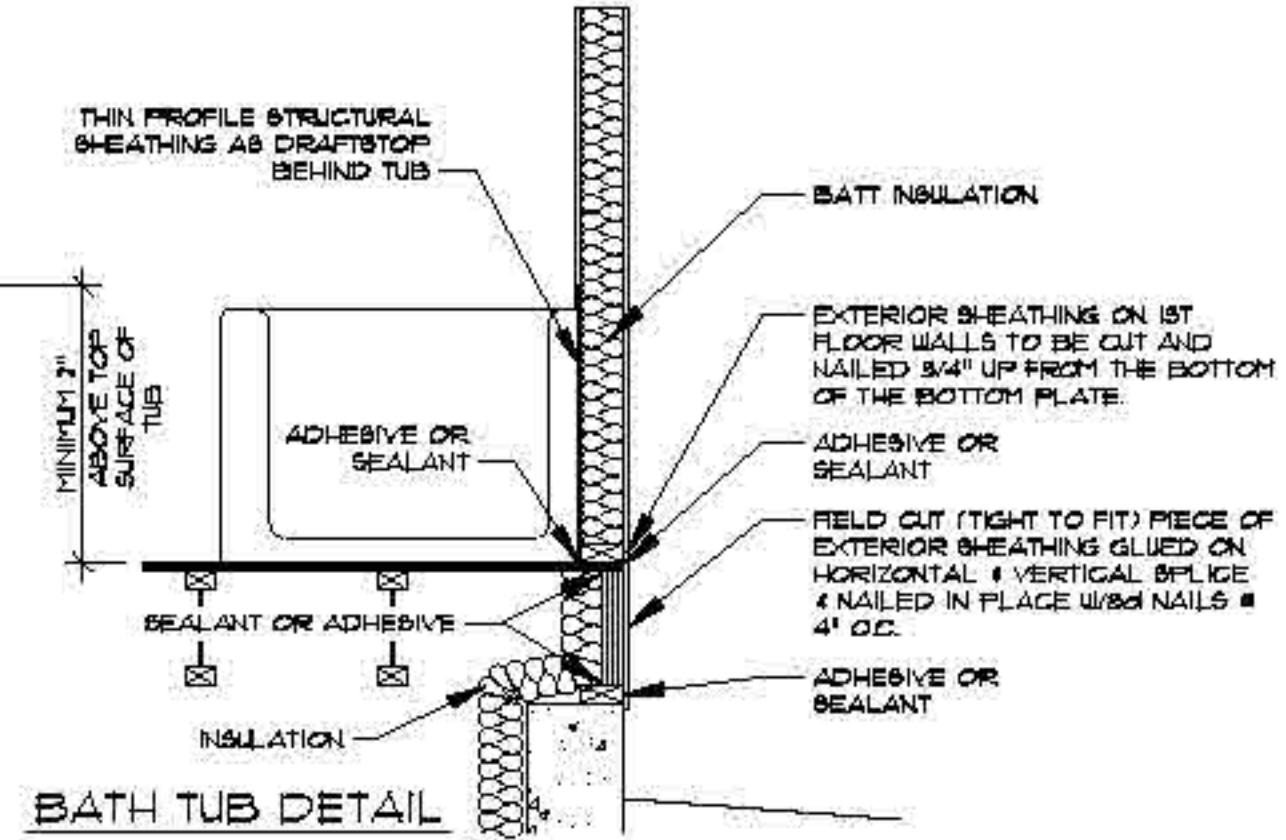
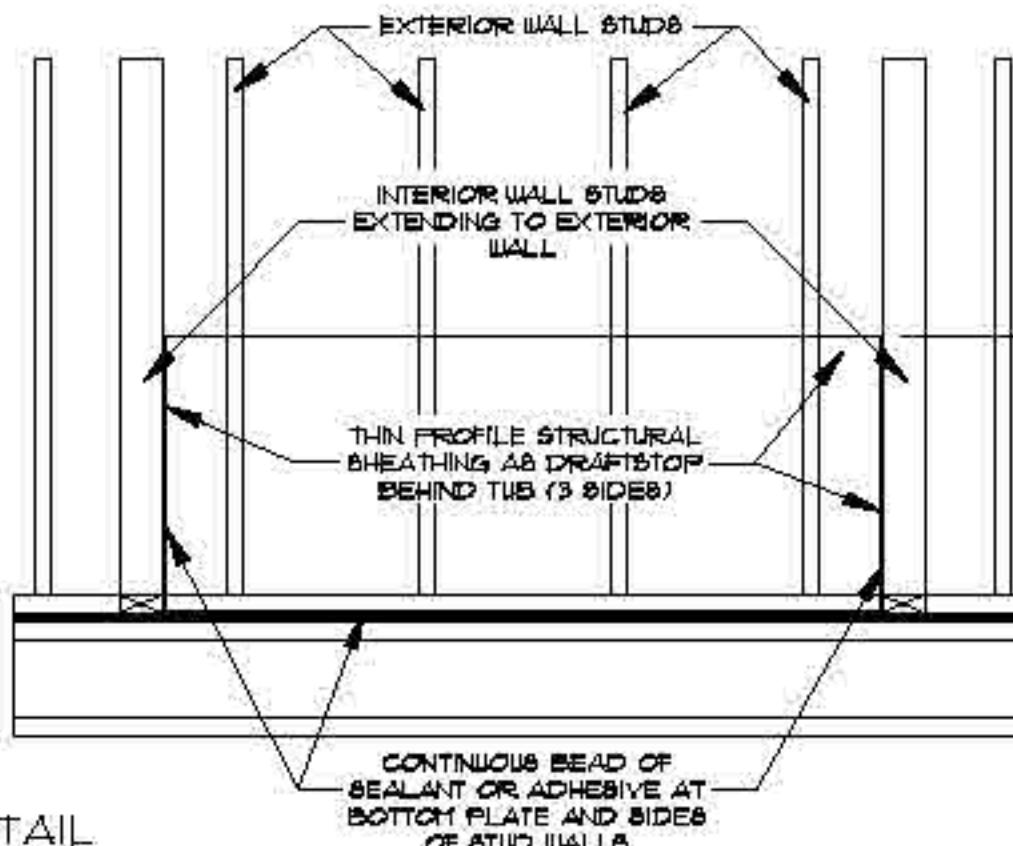
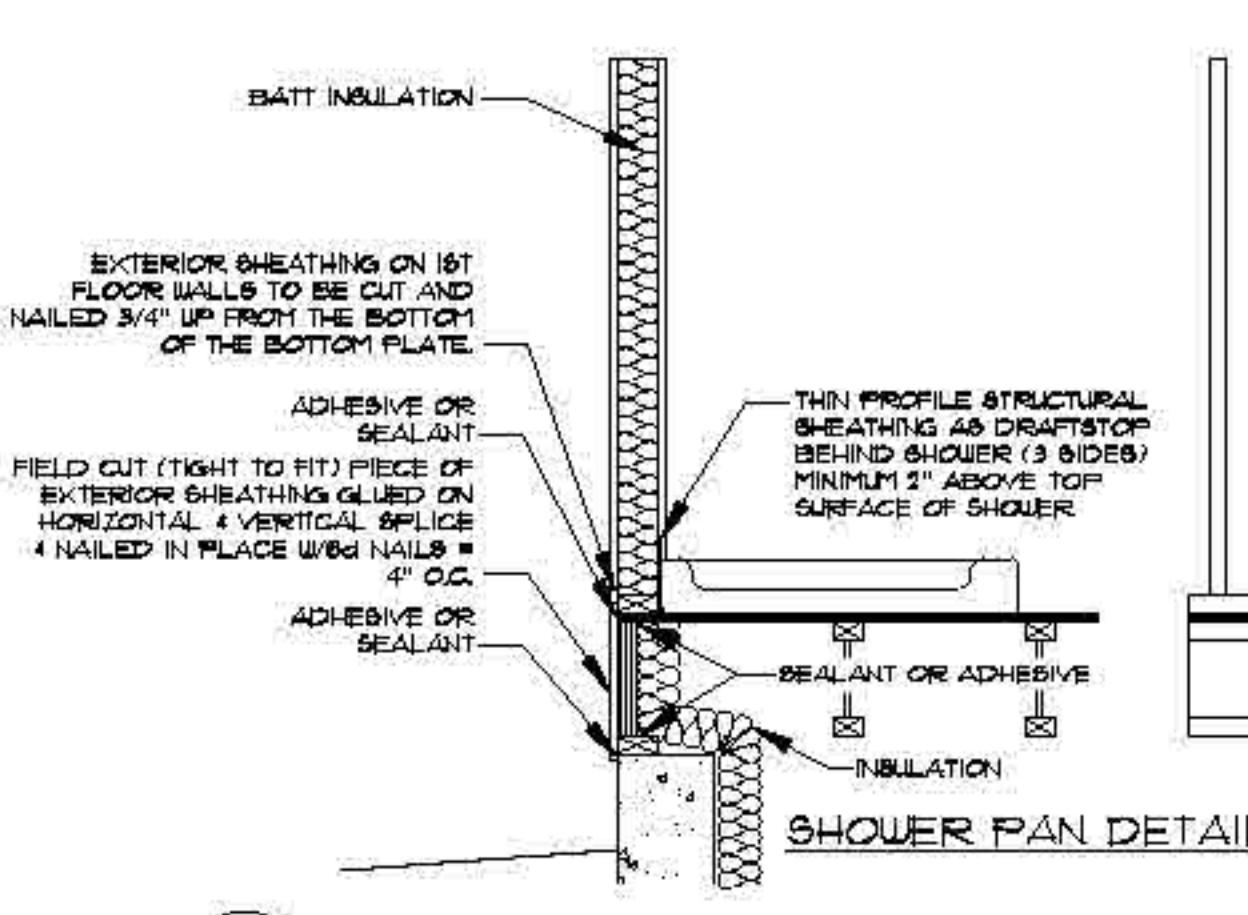
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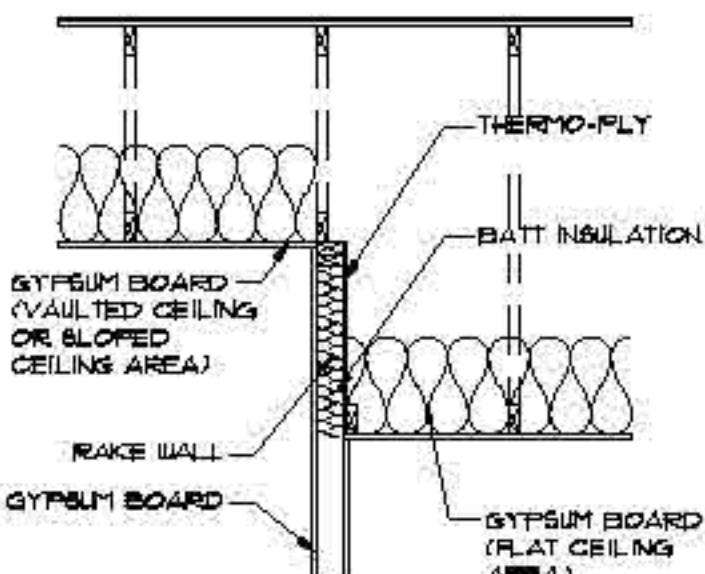
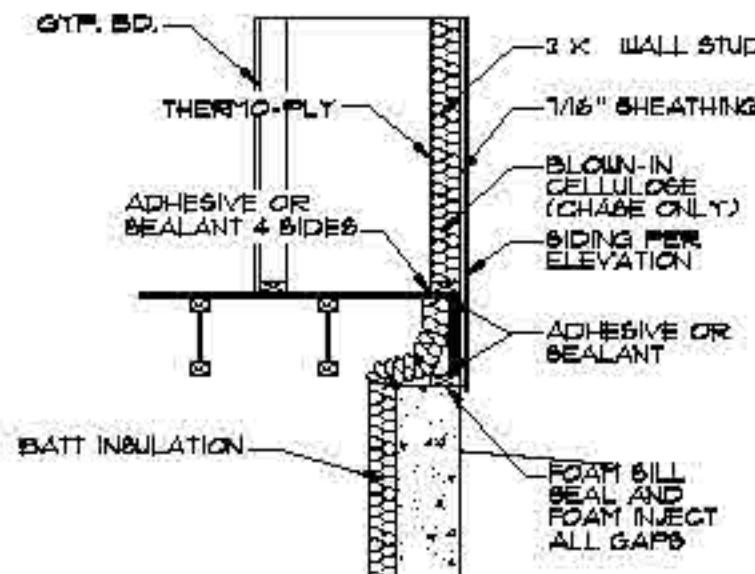
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DETAILS

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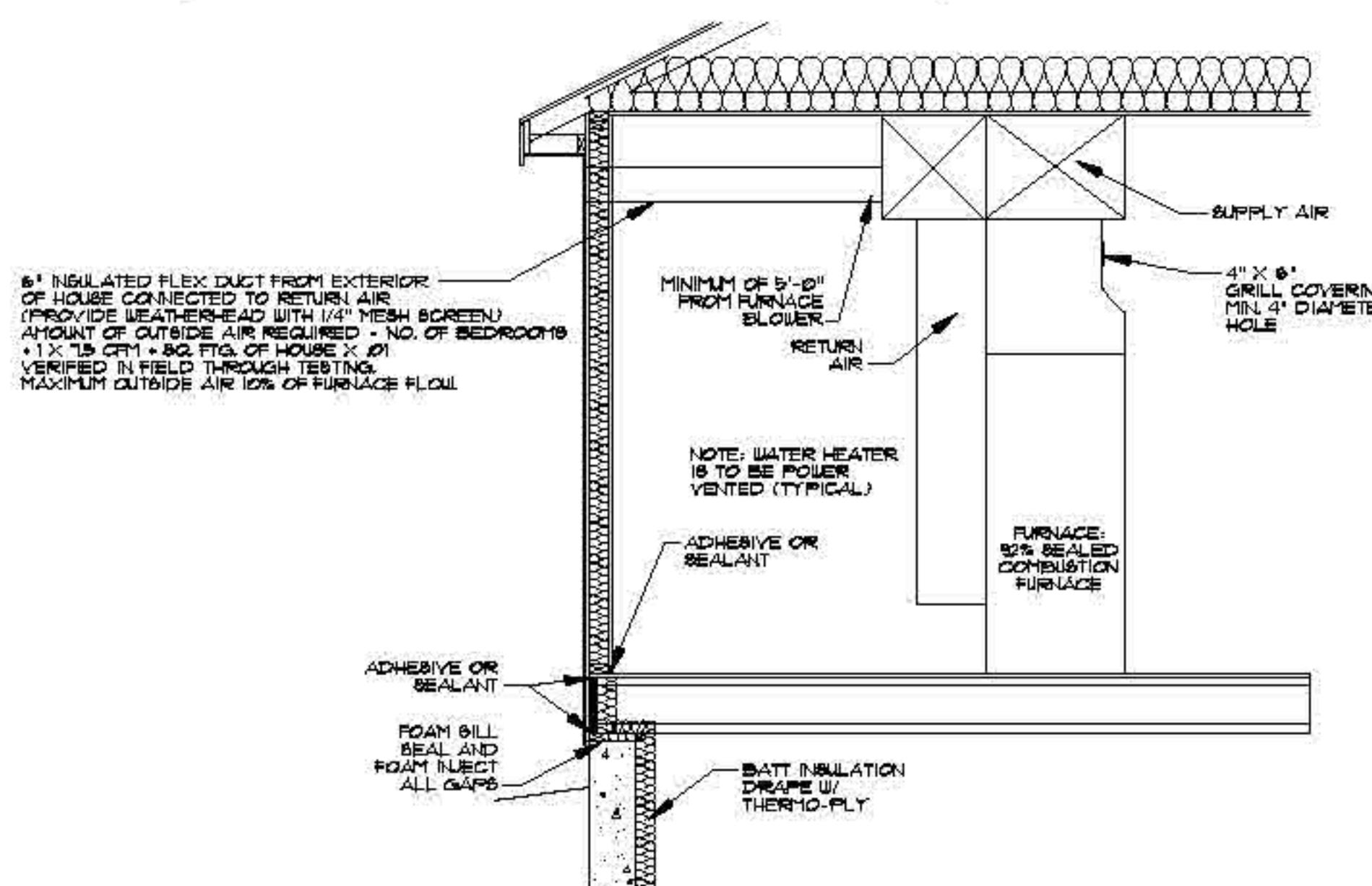


1 PANELIZED WALL DETAIL
 $\frac{3}{4}'' = 1'-0''$

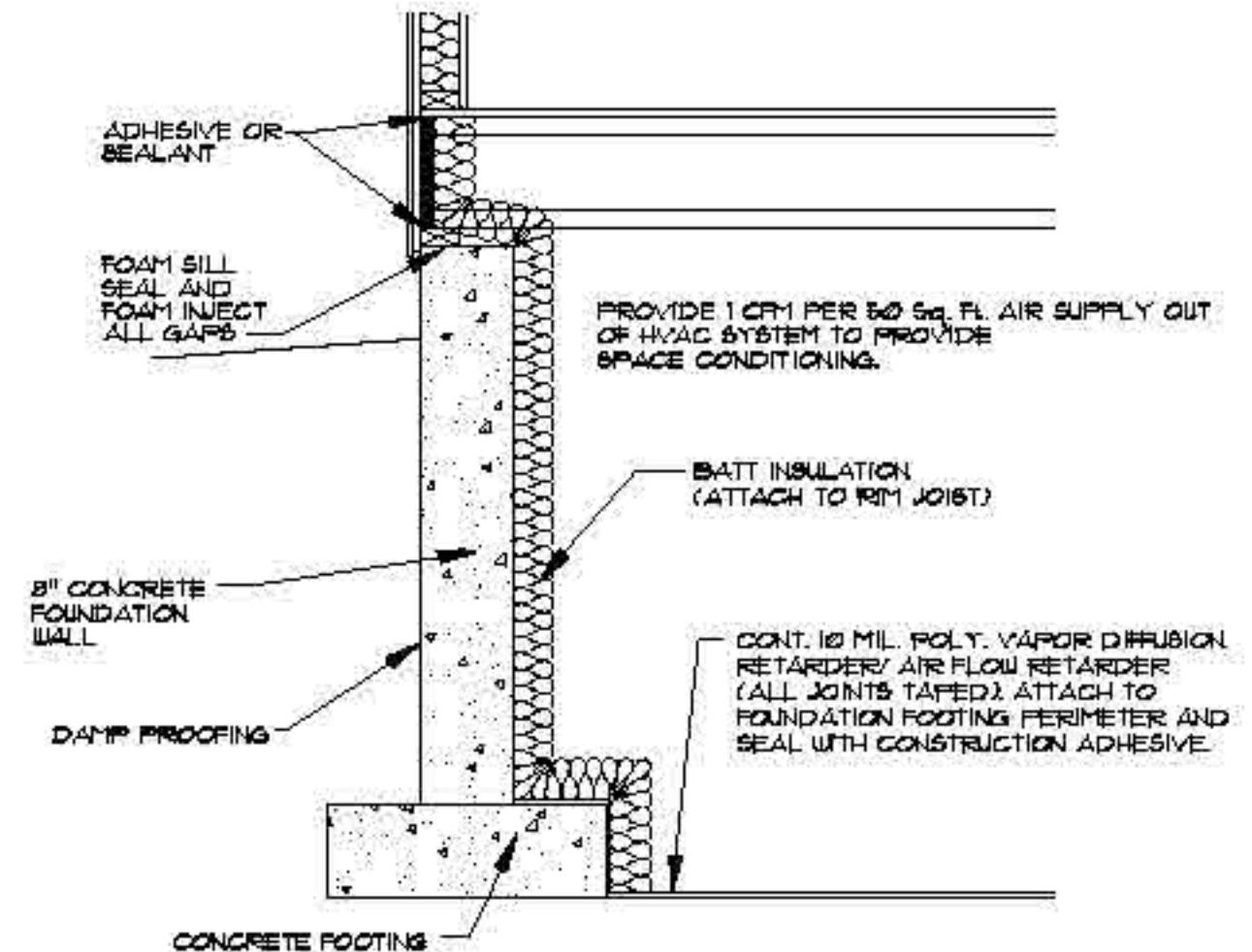


2 FIRST FLOOR DETAIL
 $\frac{1}{2}'' = 1'-0''$

3 $\frac{1}{2}'' = 1'-0''$
RAKE WALL DETAIL



5 $\frac{1}{2}'' = 1'-0''$
FURNACE DETAIL



4 $\frac{1}{2}'' = 1'-0''$
CRAWL WALL DETAIL

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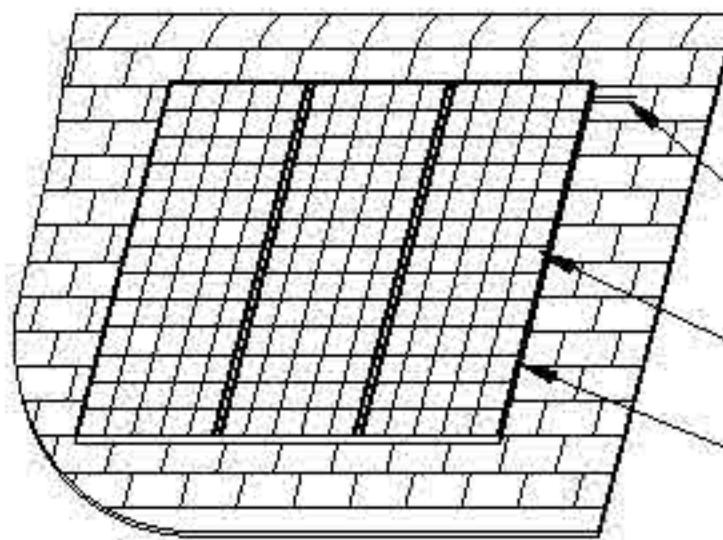
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AIR BARRIER DETAILS

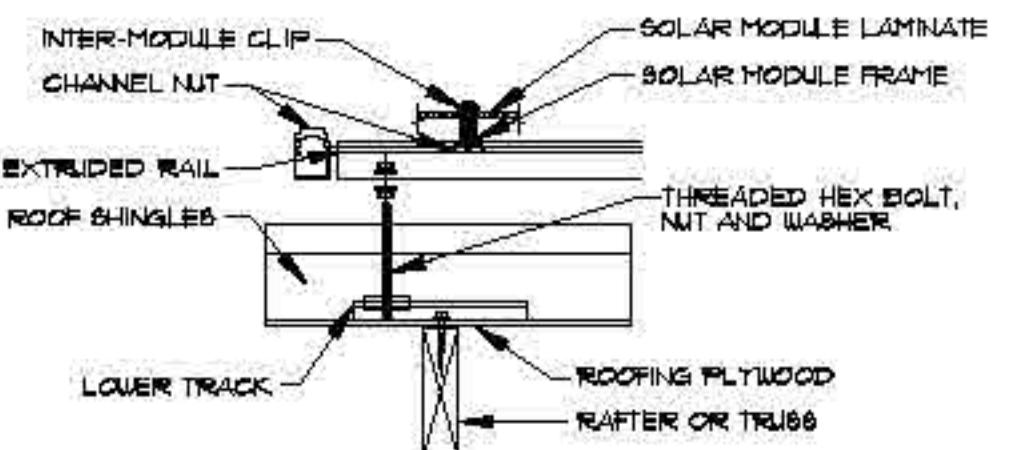
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NOTE: SOLAR ELECTRIC (PV) ROOFING PANELS SHALL BE UL LISTED AND INSTALLED PER MANUFACTURER INSTALLATION INSTRUCTIONS AND COMPLY WITH THE NATIONAL ELECTRIC CODE AND LOCAL UTILITY REQUIREMENTS.



SYSTEM SIZING INFORMATION

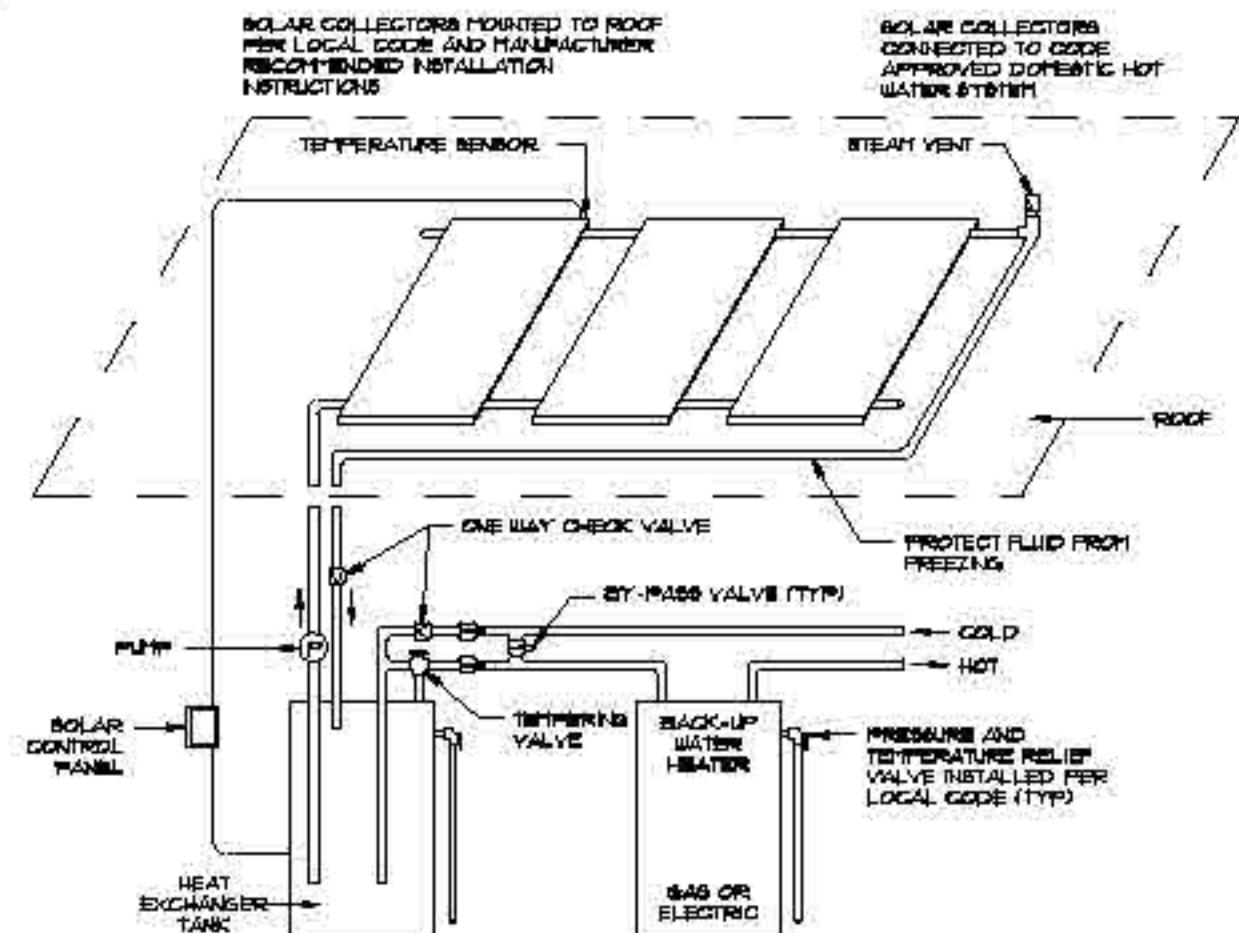
THE SIZE OF A SOLAR ELECTRIC SYSTEM DEPENDS ON THE AMOUNT OF POWER THAT IS REQUIRED (WATTS), THE AMOUNT OF TIME IT IS USED (HOURS) AND THE AMOUNT OF ENERGY AVAILABLE FROM THE SUN IN A PARTICULAR AREA (SUN-HOURS PER DAY). THE USER HAS CONTROL OF THE FIRST TWO OF THESE VARIABLES, WHILE THE THIRD DEPENDS ON THE LOCATION.



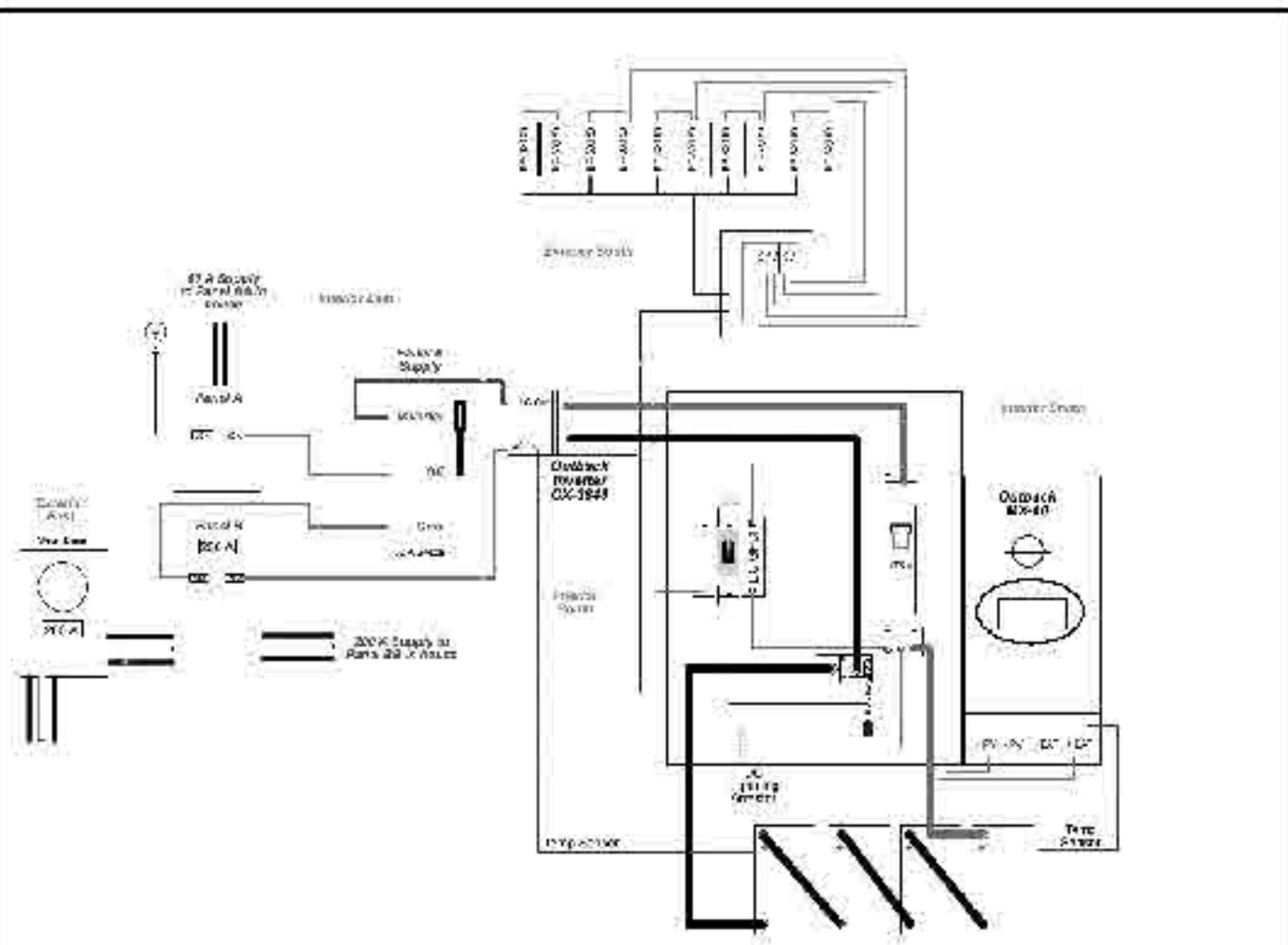
2 PHOTOVOLTAIC PANEL CONNECTION

1 $\frac{1}{2}$ " = 1'-0"

1 PHOTOVOLTAIC PANEL ISOMETRIC



3 SOLAR DOMESTIC WATER HEATER



4 SOLAR ELECTRIC SCHEMATIC DIAGRAM

NTS.

SYSTEM LOADS WORK SHEET

1. LIST ALL AC LOADS, WATTAGE & HRS OF USE PER WEEK IN THE SPACE PROVIDED. MULTIPLY WATTS BY HRS/WEEK TO GET WATT-HRS PER WEEK (WH/WK). ADD UP ALL THE WATT HRS PER WEEK TO DETERMINE AC WATT HRS PER WEEK.

DESCRIPTION OF AC LOADS RUN BY INVERTER	WATTS	X	HOURS/WEEK	=	WATT HOURS/WEEK
TOTAL WATT/HOURS/WEEK					

2. CONVERT TO DC WATT-HRS PER WEEK: MULTIPLY LINE 1 BY 1.5 TO CORRECT FOR INVERTER LOSS.

3. INVERTER DC INPUT VOLTAGE: USUALLY 12, 24 OR 48 VOLTS. THIS IS DC SYSTEM VOLTAGE.

4. DIVIDE LINE 2 BY LINE 3. THIS IS TOTAL DC AMP-HRS PER WEEK USED BY AC LOADS.

5. LIST ALL DC LOADS IN THE SPACE PROVIDED BELOW IF YOU HAVE NO DC LOADS, ENTER "0" IN LINE 1 AND PROCEED TO LINE 8.

DESCRIPTION OF DC LOADS	WATTS	X	HOURS/WEEK	=	WATT HOURS/WEEK
TOTAL WATT/HOURS/WEEK					

6. DC SYSTEM VOLTAGE: USUALLY 12, 24, OR 48 VOLTS.

7. FIND TOTAL AMP-HRS PER WEEK USED BY DC LOADS. DIVIDE LINE 5 BY LINE 6.

8. TOTAL AMP-HRS PER WEEK USED BY AC LOADS FROM LINE 4.

9. ADD LINES 7 AND 8. THIS IS TOTAL AMP-HRS PER WEEK USED BY ALL LOADS.

10. DIVIDE LINE 9 BY 1 DAYS. THIS IS TOTAL AVG AMP-HRS PER DAY THAT NEEDS TO BE SUPPLIED BY THE BATTERY. ENTER THIS NUMBER ON LINE 1 ON THE PHOTOVOLTAIC ARRAY DESIGN WORKSHEET.

SOLAR INSOLATION CHART

STATE	CITY	SUN HRS. PER DAY		
		HIGH	LOW	Avg.
AK	FAIRBANKS	5.87	2.12	3.99
AL	MONTGOMERY	4.69	3.37	4.13
AR	LITTLE ROCK	5.29	3.86	4.09
AZ	PHOENIX	7.13	5.18	5.68
CA	LOS ANGELES	6.14	5.03	5.62
CA	SODA SPRINGS	6.41	4.40	5.60
CO	DENVER	5.12	4.44	4.57
CO	GRAND JUNCTION	6.34	5.23	5.86
DC	WASHINGTON	4.09	3.37	4.29
FL	TAMPA	6.16	5.26	5.61
GA	ATLANTA	5.16	4.09	4.74
HI	HONOLULU	6.11	5.55	5.62
IA	AMES	4.80	3.73	4.40
ID	BOISE	5.83	3.33	4.32
IL	CHICAGO	4.26	3.17	3.4
IN	INDIANAPOLIS	5.02	2.55	4.21
KS	DODGE CITY	6.50	4.20	5.40
KY	LEXINGTON	5.91	3.60	4.54
LA	NEW ORLEANS	5.71	3.63	4.32
MA	BOSTON	4.21	2.99	3.84
MD	SILVER HILL	4.71	3.84	4.41
ME	PORTLAND	5.23	3.56	4.51
MI	EAST LANSING	4.71	2.10	4.00
MN	ST. CLOUD	5.43	3.53	4.53
MO	ST. LOUIS	4.87	3.24	4.58
MS	MERIDIAN	4.86	3.64	4.43
MT	GREAT FALLS	5.70	3.66	4.53
NM	ALBUQUERQUE	7.16	6.21	6.71
NB	LINCOLN	5.40	4.38	4.79
NC	GREENSBORO	5.05	4.00	4.71
ND	BISMARCK	5.48	3.97	5.01
NJ	SEA BROOK	4.76	3.20	4.21
NV	LAS VEGAS	7.13	5.84	6.41
NY	NEW YORK CITY	4.97	3.03	4.08
OH	CLEVELAND	4.79	2.63	3.94
OK	OKLAHOMA CITY	6.26	4.98	5.69
OR	CORVALLIS	5.71	1.92	4.03
PA	PITTSBURGH	4.78	1.45	3.28
RI	NEUPORT	4.89	3.58	4.29
SC	CHARLESTON	5.12	4.23	5.06
SD	RAPID CITY	5.91	4.56	5.28
TN	NASHVILLE	5.20	3.14	4.46
TX	DALLAS	6.00	4.80	5.43
TX	EL PASO	7.42	5.81	6.72
UT	SALT LAKE CITY	6.09	3.76	5.26
VA	RICHMOND	4.80	3.37	4.13
WA	SEATTLE	4.83	1.60	3.57
WA	PROSSE	6.21	3.06	3.93
WI	MADISON	4.85	3.26	4.29
WV	CHARLESTON	4.72	2.14	3.68
WY	LANDER	6.81	5.50	6.08

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SYSTEM LOADS WORK SHEET

1. LIST ALL AC LOADS, WATTAGE & HRS OF USE PER WEEK IN THE SPACE PROVIDED. MULTIPLY WATTS BY HRS/WEEK TO GET WATT-HRS PER WEEK (WH/WK). ADD UP ALL THE WATT HRS PER WEEK TO DETERMINE AC WATT HRS PER WEEK.

DESCRIPTION OF AC LOADS RUN BY INVERTER	WATTS	X	HOURS/WEEK	=	WATT HOURS/WEEK
TOTAL WATT/HOURS/WEEK					

2. CONVERT TO DC WATT-HRS PER WEEK: MULTIPLY LINE 1 BY 1.5 TO CORRECT FOR INVERTER LOSS.

3. INVERTER DC INPUT VOLTAGE: USUALLY 12, 24 OR 48 VOLTS. THIS IS DC SYSTEM VOLTAGE.

4. DIVIDE LINE 2 BY LINE 3. THIS IS TOTAL DC AMP-HRS PER WEEK USED BY AC LOADS.

5. LIST ALL DC LOADS IN THE SPACE PROVIDED BELOW IF YOU HAVE NO DC LOADS, ENTER "0" IN LINE 1 AND PROCEED TO LINE 8.

DESCRIPTION OF DC LOADS	WATTS	X	HOURS/WEEK	=	WATT HOURS/WEEK
TOTAL WATT/HOURS/WEEK					

6. DC SYSTEM VOLTAGE: USUALLY 12, 24, OR 48 VOLTS.

7. FIND TOTAL AMP-HRS PER WEEK USED BY DC LOADS. DIVIDE LINE 5 BY LINE 6.

8. TOTAL AMP-HRS PER WEEK USED BY AC LOADS FROM LINE 4.

9. ADD LINES 7 AND 8. THIS IS TOTAL AMP-HRS PER WEEK USED BY ALL LOADS.

10. DIVIDE LINE 9 BY 1 DAYS. THIS IS TOTAL AVG AMP-HRS PER DAY THAT NEEDS TO BE SUPPLIED BY THE BATTERY. ENTER THIS NUMBER ON LINE 1 ON THE PHOTOVOLTAIC ARRAY DESIGN WORKSHEET.

PHOTOVOLTAIC ARRAY DESIGN WORKSHEET

STEP 1 TOTAL AVERAGE AMP-HOURS PER DAY NEEDED FROM THE SYSTEM LOADS WORKSHEET, LINE 10

STEP 2 MULTIPLY LINE 1 BY 12 TO COMPENSATE FOR LOSS FROM BATTERY CHARGE/DISCHARGE

STEP 3 AVERAGE SUN-HOURS PER DAY IN YOUR AREA (SEE SOLAR INSOLATION CHART)

STEP 4 DIVIDE LINE 2 BY 3. THIS IS THE TOTAL SOLAR ARRAY AMPS REQUIRED.

STEP 5 OPTIMUM OR PEAK AMPS OF SOLAR MODULE USED.

STEP 6 TOTAL NUMBER OF SOLAR MODULES IN PARALLEL REQUIRED. DIVIDE LINE 4 BY 5

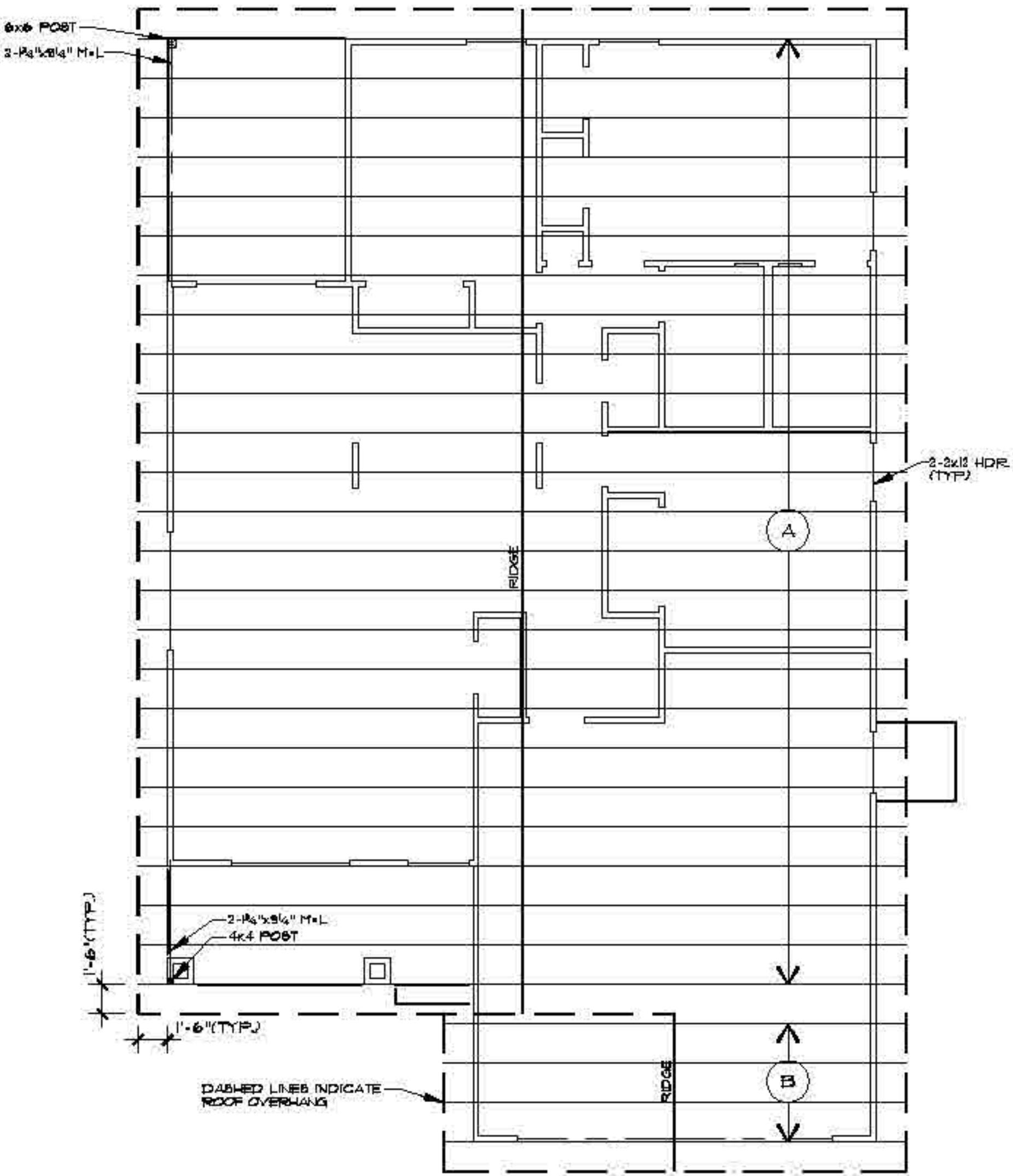
STEP 7 ROUND OFF TO THE NEXT HIGHEST WHOLE NUMBER

STEP 8 NUMBER OF MODULES IN EACH SERIES STRING TO PROVIDE DC BATTERY VOLTAGE (SEE CHART BELOW)

STEP 9 MULTIPLY LINE 1 BY 8 TO GET THE TOTAL NUMBER OF SOLAR MODULES REQUIRED.

NOMINAL SYSTEM VOLTAGE	NUMBER OF SERIES CONNECTED MODULES & PER STRING	
VOLTS	12V MODULE	24V MODULE

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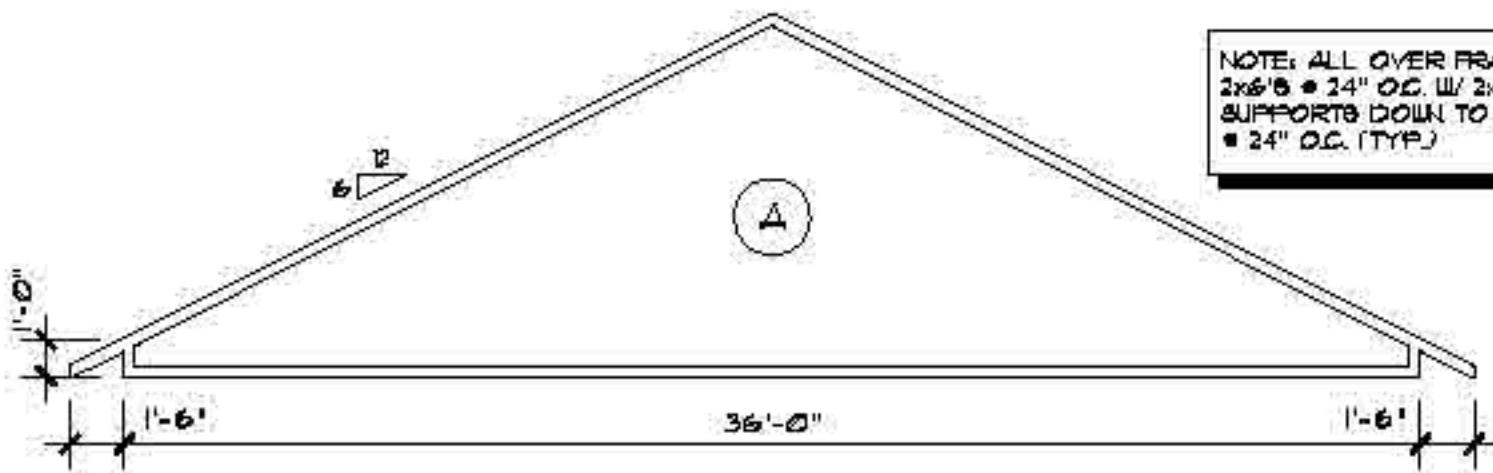


ROOF FRAMING FLOOR PLAN

2 3/16" = 1'-0"

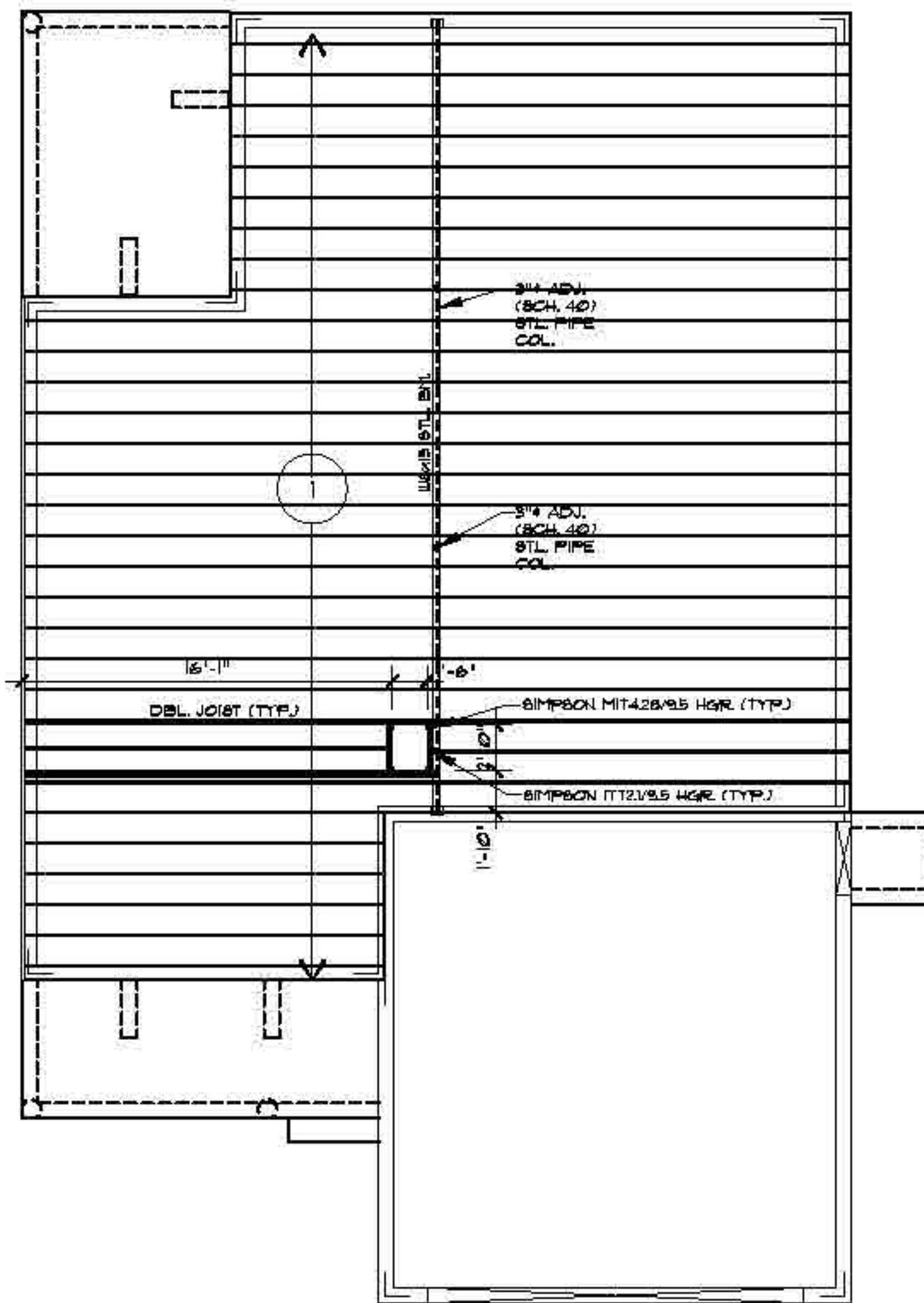
NOTE: ALL TRUSSES TO BE
SPACED 24" O.C. UNLESS
OTHERWISE NOTED.

NOTE: ALL OVER FRAMING TO BE
2x6's 24" O.C. W/ 2x4 VERTICAL
SUPPORTS DOWN TO ROOF TRUSSES
24" O.C. (TYP.)



3 PRE-ENGINEERED TRUSSES

3/16" = 1'-0"



1 FLOOR FRAMING FLOOR PLAN

3/16" = 1'-0"

FRAMING LEGEND

L 9 1/2" TJI 210 FLOOR JOISTS SPACED 9 1/2" O.C.

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A10 of 11

ELECTRICAL KEY

●	SWITCHED DUPLEX RECEPTACLE
○	DUPLEX CONVENIENCE OUTLET
○	GFI DUPLEX OUTLET
○	WEATHERPROOF DUPLEX OUTLET
○	SPECIAL PURPOSE OUTLET
○	DUPLEX OUTLET IN FLOOR
○	220 VOLT OUTLET
+	WALL SWITCH
+	THREE-WAY SWITCH
+	FOUR-WAY SWITCH
+	DIMMER SWITCH
□	PHONE JACK
-	TV JACK
■	POWER PANEL
○ SD	SMOKE/CARBON MONOXIDE DETECTOR
○ J	JUNCTION BOX
○ T	THERMOSTAT
○ D	DOOR BELL
○ C	CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
○ W	WALL MOUNTED INCANDESCENT LIGHT FIXTURE
○ P	CEILING MOUNTED PENDANT INCANDESCENT LIGHT FIXTURE
○ R	RECESSED INCANDESCENT LIGHT FIXTURE
○ E	EXHAUST FAN
○ F	FLUORESCENT LIGHT FIXTURE
○ CF	CEILING FAN w/LIGHT

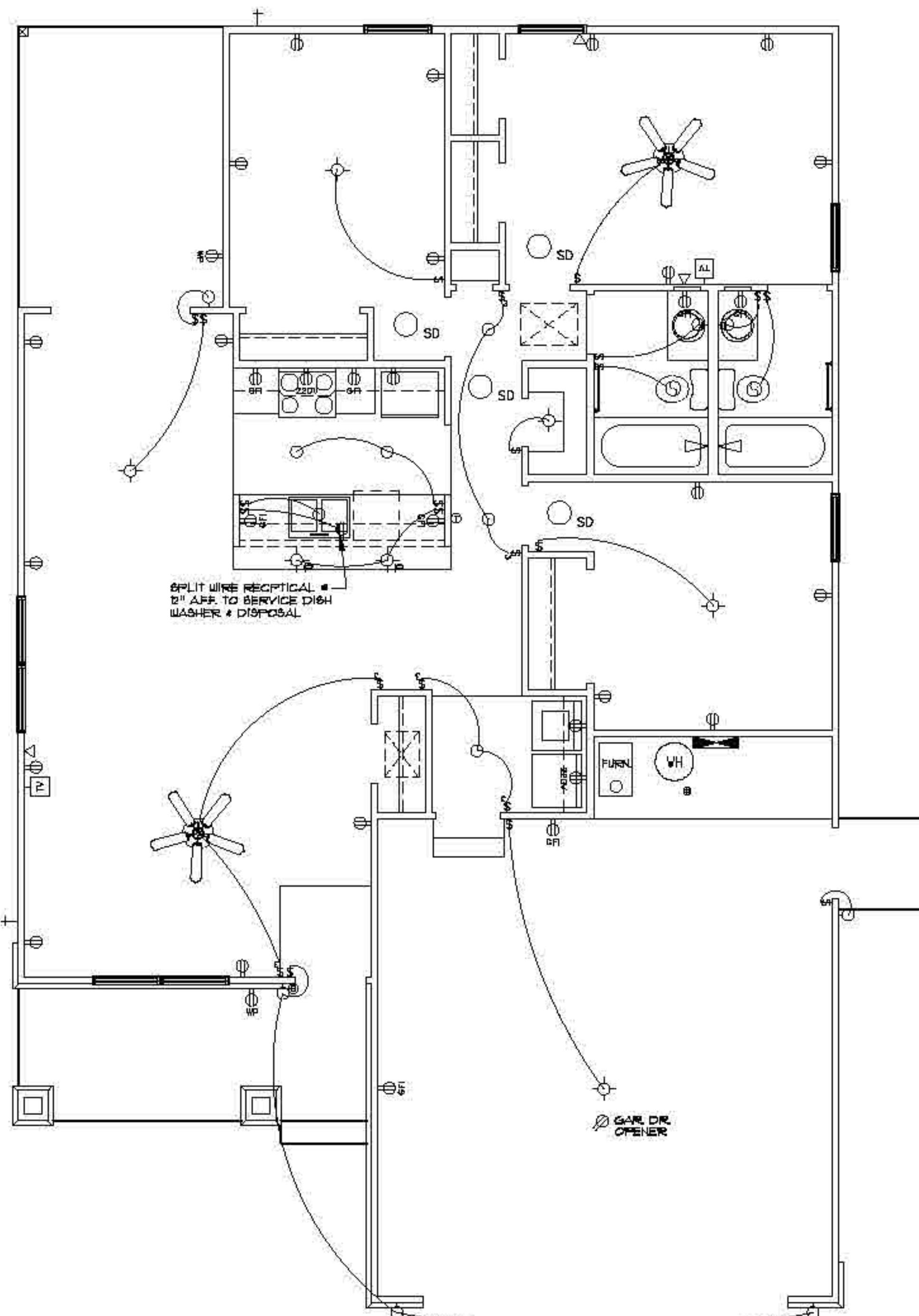
NOTES:

1. PROVIDE AND INSTALL INTO AN UNSWITCHED BRANCH CIRCUIT, SMOKE DETECTORS AS LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) SECTION R314 AND THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NFPA 72. ALL SMOKE DETECTORS SHALL BE INTERCONNECTED SUCH THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS IN THE INDIVIDUAL UNIT.
2. PROVIDE AND INSTALL GROUND FAULT CIRCUIT INTERRUPTERS (G.F.C.I.) PER NATIONAL ELECTRIC CODE OR AS REQUIRED BY GOVERNING LOCAL CODES.
3. ALL BRANCH CIRCUITS TO BE COPPER ONLY.
4. PROVIDE AND INSTALL ARC FAULT CIRCUIT INTERRUPTERS (A.F.C.I.) IN ALL BRANCH CIRCUITS THAT SUPPLY 120 VOLT, SINGLE PHASE, 15 AND 20 AMPERE OUTLETS INSTALLED IN THE Dwellings UNIT PER NATIONAL ELECTRIC CODE OR AS REQUIRED BY GOVERNING LOCAL CODES.
5. PROVIDE AND INSTALL IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) SECTION R205 CARBON MONOXIDE ALARMS OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM(S). THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED. CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH THE UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CODE AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. E39029.8 BOXES AT FAN OUTLETS. OUTLET BOXES AND OUTLET BOX SYSTEMS USED AS THE SOLE SUPPORT OF CEILING-SUSPENDED FANS (PADDLE) SHALL BE MARKED BY THEIR MANUFACTURER AS SUITABLE FOR THIS PURPOSE AND SHALL NOT SUPPORT CEILING-SUSPENDED FANS (PADDLE) THAT WEIGH MORE THAN 10 POUNDS (31.8 kg.). FOR OUTLET BOXES AND OUTLET BOX SYSTEMS DESIGNED TO SUPPORT CEILING-SUSPENDED FANS (PADDLE) THAT WEIGH MORE THAN 35 POUNDS (15.9 kg.), THE REQUIRED MARKING SHALL INCLUDE THE MAXIMUM WEIGHT TO BE SUPPORTED.

WHERE SPARE, SEPARATELY SWITCHED, UNGROUNDED CONDUCTORS ARE PROVIDED TO A CEILING-MOUNTED OUTLET BOX AND SUCH BOX IS IN A LOCATION ACCEPTABLE FOR A CEILING-SUSPENDED (PADDLE) FAN, THE OUTLET BOX OR OUTLET BOX SYSTEM SHALL BE LISTED FOR SOLE SUPPORT OF A CEILING-SUSPENDED (PADDLE) FAN. (314.21(C))

7. RECESSED LIGHTING FIXTURES. WHEN INSTALLED IN THE BUILDING ENVELOPE, RECESSED LIGHTING FIXTURES SHALL MEET ONE OF THE FOLLOWING REQUIREMENTS:

1. TYPE IC RATED, MANUFACTURED WITH NO PENETRATIONS BETWEEN THE INSIDE OF THE RECESSED FIXTURE AND CEILING CAVITY AND SEALED OR GASKETED TO PREVENT AIR LEAKAGE INTO THE UNCONDITIONED SPACE.
2. TYPE IC OR NON-IC RATED, INSTALLED INSIDE A SEALED BOX CONSTRUCTED FROM A MINIMUM 0.6-INCH-THICK GYPSUM WALLBOARD OR CONSTRUCTED FROM PREFORMED POLYMERIC VAPOR BARRIER, OR OTHER AIR-TIGHT ASSEMBLY MANUFACTURED FOR THIS PURPOSE, WHILE MAINTAINING REQUIRED CLEARANCES OF NOT LESS THAN 0.3 INCH FROM COMBUSTIBLE MATERIAL AND NOT LESS THAN 3 INCHES FROM INSULATION MATERIAL.
3. TYPE IC RATED, IN ACCORDANCE WITH ASTM E 283 ADMITTING NO MORE THAN 20 CUBIC FEET PER MINUTE OF AIR MOVEMENT FROM THE CONDITIONED SPACE TO THE CEILING CAVITY. THE LIGHTING FIXTURE SHALL BE TESTED AT 1.51 POUNDS PER SQUARE INCH (PSI) PRESSURE DIFFERENCE AND SHALL BE LABELED.



1
1/4" = 1'-0"

MAIN LEVEL ELECTRICAL PLAN

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ELECTRICAL
FLOOR PLAN

sheet no. [redacted]

A11 of 11