

GENERAL NOTES

Division #1 - GENERAL REQUIREMENTS
DO NOT SCALE DRAWINGS. Follow written dimensions only. Superintendent shall check and verify all written dimensions prior to commencing construction.

These architectural drawings convey design concept. The Superintendent remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly and for performing the work in a safe manner.

Prior to beginning work, the Superintendent shall review all plans and details, elevation restrictions and site conditions at the jobsite and notify the Architect of any drawing errors or inconsistencies.

01400 - QUALITY CONTROL

All construction work shall meet the requirements of the 2012 International Residential Code as adopted by the governing municipality.

02500 - SITE WORK

02600 - SITE DRAINAGE

- Downspouts, basement area drains or foundation drain tiles shall not be connected to the sanitary sewer.
- All grades shown on drawings are assumed. Site surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection so as to not create a hazard. Lots shall be graded so as to drain surface water away from foundation walls. The grade adjacent to foundation walls shall fall a minimum of 6 inches within the first 10 feet. Impervious surfaces within 10' of the building foundation shall be sloped a minimum of 2% away from building. Where lot lines, walls, sidewalks or other physical barriers prohibit 6 inches of fall within the first 10 feet, drains or swales shall be provided to ensure drainage away from the structure. Finished grade shall be 8" minimum below top of foundation. All areas shall be sloped to lower elevations or drainage structures on or near the site. Superintendent shall make on-site lot inspections & check all grades and contact Architect prior to making necessary adjustments.
- Provide splash blocks at all downspouts. Downspouts shall direct water away from the foundation so as to prevent soil erosion.
- It is the responsibility of the Superintendent or their subcontractors to determine the subsurface characteristics at the building site. Soils must provide a minimum bearing pressure of 2000 pounds per square foot. When in doubt, the Superintendent will employ a soils engineer to determine soil characteristics and provide a soils report to the Architect.
- Indicated existing slopes and drainage (after rough grading) and finish grading per Code.

02610 - CAST-IN-PLACE CONCRETE

- All concrete footings & piers shall extend a minimum of 36" into undisturbed soil. Extend footing below elevation shown only as needed to obtain adequate bearing into undisturbed soil. Extend the footing below elevation shown only as needed to obtain bearing into undisturbed soil. It shall be the Superintendent's responsibility to confirm soil bearing pressure of the site.
- Concrete-encased electrode. An electrode encased by at least 2" of concrete, located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth, consisting of at least 20' of one or more bare zinc-galvanized or other electrically conductive coated steel reinforcing bars or rods of not less than 1/2" dia., or consisting of at least 20' of bare copper conductor not smaller than No. 4, shall be considered as a grounding electrode. Reinforcing bars shall be permitted to be bonded together by the usual tie wires or other effective means.
- Concrete minimum compressive strength shall be 3000 PSI at 28 days in vertical walls that are not exposed to the weather (excluding the top 8" of the wall which may be exposed).
- Concrete minimum compressive strength shall be 3500 PSI at 28 days in all exposed flatwork surfaces, including garage floor slab.
- All concrete work shall be air-entrained as per the most stringent Code.
- Concrete floor slabs supported directly on the ground shall be a minimum of 4" thick. Interior slabs (including garage slabs) shall be placed over a minimum 4" thick base of gravel or crushed stone. A 6 mil polyethylene barrier with joints lapped a minimum of 6" shall be placed between the concrete floor slab and the base course.
- All voids under garage, porch or exterior stairs & stoops shall be filled with granular fill.
- All piers shall be at least 14" diameter and extend a minimum of 36" below finished grade and at least 24" into undisturbed soil.

3400 - CONCRETE FOOTINGS & FOUNDATIONS

- The frost wall shall be set in the middle of the footing. The footing thickness shall be a minimum of 6" but not less than the distance the footing extends horizontally past the face of the frost wall.
- The bottom of all footings must be a minimum of 36" below finished grade and bear directly on undisturbed soil or soil prepared under the supervision of a licensed Soils Engineer.

Division #5 - METALS

05100 - STRUCTURAL METAL FRAMING

- All steel beams & columns shall be prime-painted.
- All beam pockets shall be grouted solid.
- Steel beam splices shall be welded or bolted together.

Division #6 - WOOD AND PLASTICS

05100 - ROUGH CARPENTRY

- All framing lumber shall be at least #2 yellow pine KD 19 unless noted otherwise.
- Use (3) 9d or (2) 18d nails per joist into plates, joists spliced over beams shall be nailed together with (3)-16d nails.
- All framing lumber and sheathing shall be nailed in place in accordance with the fastening schedule found in Table R602.3 of the 2012 International Residential Code.
- All unsupported struts stringers shall have metal stringer straps.
- All gird trusses shall be supported by minimum triple studs and solid blocking to foundation.
- Provide treated structural framing members within 8" of grade.
- General Contractor shall lay out all stairs in field prior to framing the floor to ensure proper fit and clearance.
- All headers shall be (2) 2x10's @F=1050 psi, #2 grade southern pine unless noted otherwise. All partitions shall be spruce/pine 2x4 studs @16"o.c. unless noted otherwise.
- All floor joists shall be per U-Exempt layout.
- All framing shall be in conformance with the National Forest Products Manual for house framing.
- Join and install Microlambs and Parallams per manufacturer's instructions.
- All nailing shall comply with the 2012 IRC.
- Cutting, notching and/or boring holes in wood beams, joists, rafters or studs shall not exceed the limitations of the 2012 IRC.
- Provide dropped soffits over all wall-hung cabinets.
- Firestop all stud walls at top and bottom of wall. Firestop all stud walls over 8'-0" tall and the basement.
- All soffits and dropped ceilings shall be firestopped as per code.
- Truss design shall be provided by the truss fabricator. Trusses shall comply with NfPA-951-NDS-91 and TP-65 and the 2012 IRC.
- All roof framing shall be designed to support the following minimums:
 - Top chord - live load 20 lb per sq ft
 - Bottom chord - dead load 10 lb per sq ft and 20 lb when the area above the horizontal (not vaulted) bottom chord has a clear height of 42" or more and the area is accessible by a pull down stair.
- Truss manufacturer shall verify knee heights and roof configuration and shall notify the Architect of any inconsistencies prior to fabrication.

tie down anchors shall be used on all roof trusses where they meet bearing walls. All floor framing members shall be designed to support the following minimums:

- Floor areas other than sleeping rooms shall be designed for a live load of 40lb/sqft
- Sleeping rooms shall be designed for a live load of 30lb/sqft

- Trusses shall be nailed to the top plate of the wall w/ 16d nails, toe nailed without spilling the end of the truss.
- Minimum size exterior entry door shall be 36" in width.
- Keyed locks are not permitted on the inside of exterior doors. Locks with thumb turns on the inside are permitted.
- Minimum clear opening of an interior egress door lead for bedrooms and habitable spaces (spaces used for living, sleeping, eating or cooking) is 28" unless specified differently in local ordinances.
- Minimum clear width of doors to and from stairways within the dwelling is 29.34" unless specified differently in local ordinances
- Minimum clear (drywall face to drywall face) width of stairway is 36"
- Minimum clear headroom in stairways is 6'-8" measured vertically from the tread nosing and from the floor surface of a landing or platform
- Note number and size of stair stringers (2x12's minimum) and material used for treads. Stairs shall be designed for 400lb live load or 300 lb concentrated load on 4 inches at mid span of a tread, whichever produces the greater stress and deflection.
- Risers must be solid.
- Stair must have one continuous handrail mounted at 34" to 38" above nosing for stairs with 1 or more risers. The handrail ends must return to the wall. Handrails must be grooved into the required stair width more than 4/12". Stair handrails must have a circular cross section with a minimum diameter of 1 1/4" but no larger than 2" diameter, or else be an approved shape having a maximum allowable horizontal width of 2 1/4". Maximum grasable perimeter dimension of 6 1/4"
- All minimum grasable perimeter dimension of 4"
- Guards along stair openings shall be solid or have intermediate vertical balusters no more than 4" apart and be a minimum height of 36" above the finish floor
- All exterior stairways shall have a maximum riser height of 7.34" and a minimum tread depth of 11".
- Spaces between solid floor joists and suspended ceilings in finished basements shall be on each side staggered at 500 square foot intervals parallel to joists.
- Use (2) 8d nail driven at an angle 1.5" from end of joist into bearing plates, one on each side of flange per joist into plates, joists spliced over beams shall be buttered together and blocked.
- Firestop all gaps as required by the 2012 IRC, including all dropped soffits, ceiling areas and at floor & roof levels within fireplace flue chases.
- Stairways shall be installed per 2012 IRC code Section R317.1.
- Building corners shall be laterally reinforced for 4'-0", minimum, in each direction with 1/2" plywood or OSB sheathing or with equivalent APA-norwac brand w/ per APA's "Whole House Wall Bracing" publication.
- See sheet 5 for number of full height studs next to exterior openings per 2012 IRC code Table 602.5.2

05110 - PREFABRICATED STRUCTURAL WOOD

Onsite noted directly on these plans, engineered lumber shall not be cut or notched without prior approval from Trus-Joist MacMillan field representative, and the Architect/ Structural Engineer of record.

06200 - FINISH CARPENTRY

All exposed materials for porches, gables, soffits, overhangs, trim etc. shall be of approved exterior grade materials.

06400 - ARCHITECTURAL WOODWORK

- Guardrails (where occurring) shall be installed at 36" high, minimum above finished floor per 2012 International Residential Code.
- Stair handrails (where occurring) shall be installed per 2012 International Residential Code. Handrail cross section shall not exceed 2 1/4" or 8 1/4" circumference. Mount handrail 34" above stair nosing.
- All open stairways and guardrails (where occurring) shall have balusters or intermediate spindles spaced such that no opening exceeds 4".
- All stairs shall have at least one continuous handrail running the full length of the stair run. The required handrail CANNOT dead-end into a wall, ceiling, newel post or any other object. A stair is defined as having four or more risers. The required minimum stair width is 36" with no projections into that width not greater than 4/12" on each side at or below handrail height.

07100 - THERMAL & MOISTURE PROTECTION

- All required underlayments shall be a minimum of Type 1 per ASTM D226-95 AND 2012 IRC
- Corrosion resistant metal flashing shall be used at all roof intersections, roof and wall intersections, etc. Rolled roofing or two layers of Type 14 asphalt saturated felt or adhesive ice and water shield may be substituted for flashing at roof valleys provided the shingles are interlaced
- 15# roofing felts are required under all asphalt roof shingles.
- Caulking and Sealants: Exterior joints around windows and door frames, between wall and foundation, between wall and roof, between wall panels at penetrations of utility services through floors, walls and roofs and all other openings in the exterior envelope shall be sealed in an approved manner.
- An ice shield of two layers of underlayment cemented together or a waterproof membrane shall be provided from the eave and extend to a point at least 24" inside the exterior wall line and/or where roof pitch is less than 4/12".

07200 - WATERPROOFING & DAMPPROOFING

- Wall or portions thereof that retain earth and enclose interior spaces and floors below grade shall be waterproofed or dampproofed depending on the presence or absence of groundwater.
- An evaluation of the soil for the presence or absence of groundwater is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.
- No Ground water present - Provide drain tile, perforated pipe, or other approved foundation drainage system around the perimeter of the outside of the foundation or inside the foundation.
- Wall or portions thereof that retain earth and enclose interior spaces and floors below grade shall be waterproofed or dampproofed depending on the presence or absence of groundwater.
- Approved filter membrane shall be placed over the top of the joints/pie perforations. The tile/pie shall be placed on 2" minimum gravel or crushed stone and have 6" minimum cover. Drainage system shall discharge by gravity to daylight or be connected an approved sump (18"dia x 24" deep with fitted cover). A sump pump shall be provided if basement is finished or partially finished with pump discharge by an approved method. Provide Dampproofing of floor slab with a 6 mil polyethylene film below slab, with joints in membrane lapped a minimum of 6". Walls shall be dampproofed with a bituminous material, 3lb/sq ft of acrylic modified cement, or 6 mil polyethylene. Joints shall be sealed per manufacturers written installation instructions. Waterproofing shall be applied from the top of the footing to the finished grade.
- Downsoutp discharge shall be directed away from a storm drain or to an approved water course. Sump pump discharge shall be piped to a storm drain or to an approved water course. Discharging to or within 10' of a sidewalk, driveway, street or to create a nuisance to adjoining properties is prohibited

07800 - FLASHING AND SHEET METAL

Corrosion resistant flashing is required at the top and sides of all exterior window & door openings and at the intersection of concrete, masonry and frame walls. Flashing is not required where approved water-resistant sheathing & caulking is used at the top & sides of openings so as to be leak-proof.

07200 - ROOFING

- All underlayment shall be a minimum of Type I per ASTM D 226-06 or Type I per ASTM D4865-05e01 (Type I is commonly called No. 15 asphalt felt).
- Indicate corrosion-resistant flashing at all wall and roof intersections, changes in roof slope or direction, around all roof openings, etc. Valley flashing shall be installed.
- Underlayment for asphalt shingles - for slopes equal to or exceeding 4/12 shall be protected with one layer of underlayment. Underlayment shall be applied single flange, parallel to and starting from the eave and lapped 2", fastened sufficiently to hold in place. End laps shall be offset 6".

07300 - INSULATION

1. Batt and blanket insulation, including facings such as vapor retarders or other vapor permeable membranes are left exposed (in areas like unfinished basements), the material shall have a flame spread rating of 25 or less. Limitations do not apply to facings that are installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.

07400 - ENERGY CONSERVATION

- Energy compliance path - Projects shall comply with one of the 3 following methods:
 - A. Section N1101.1.4 through N1104 as amended.
 - B. Section N1105 and the provisions of Sections N1101.1.4 through N1104 labeled "Mandatory."
 - C. An energy rating index (ERI) approach in Section N1105.
- Certificate (Mandatory) Unless otherwise presented to the home owner and building official in writing, a permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawl space, wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.
- Insulation and fenestration requirements by component - The minimum insulation R-value with attics to be R-38 using an average computation method. The average computation method (for example) will allow lighter attic spaces near the truss heel to have R30 and other open areas with R-40 to provide and overall average of R-38 throughout the attic. Exterior wall insulation R-value shall remain at R-13 although will now require a significantly increased caulking and sealing program to tighten the perimeter thermal envelope. Low expansive foam shall be used around doors and windows. Foam shall be applied around all exterior wall penetrations and electrical boxes, and caulking shall be applied at the top and bottom of wall plates. Unfinished basements may have up to a maximum of 20 percent of the total basement wall area exposed above the outside finished/grade/ground level as uninsulated concrete foundation walls. The foundation wall area above the outside finished/grade/ground level that may be uninsulated is determined by the formula [120 times the basement wall height of all walls (including insulated exterior frame walls for walkout basements and walls common to both basement and attached garages) times the perimeter of these basement walls]. In unfinished areas, the basement foundation wall insulation shall extend down to the basement floor slab or to a minimum of 24 inches below outside finished grade when the grade is above the floor slab elevation. Basement insulation blankets will be required only to depth of the first line. Exhaust systems shall be installed in the home and designed to have the capacity to exhaust a minimum air flow rate of 50 cfm intermittent or 20 cfm continuous to help provide outside air through typical home use and passive air infiltration.
- Recessed Lighting - Recessed luminaires penetrating the building thermal envelope shall be sealed with a gasket or caulking to limit air leakage.
- All windows shall be wood clad, double glazed with 1/2" thick insulated glass (overall thickness) Energy Conservation and a thermal break. Window maximum U-factor of 0.56
- Makeup air required - Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.
- Joints, seams and connections - Joints of duct systems shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems.
- Window and door U-values shall be determined in accordance with NFRC 100-2004 and labelled or certified by the manufacturer or shall be assigned the U-values listed in the Code.
- Typical building sections through the building are provided indicating the R-value and R-value of insulating materials and the U-values of windows and doors. R-values shown indicate only the insulation material used, not the total assembly.
- The following represent the minimum insulation to be used:
 - Roof/Ceiling - minimum R38 insulation
 - Wood frame walls and band joists/bands minimum R13
 - Concrete/masonry Basement Foundation walls for finished basement area - minimum R-13 (full height)
 - Concrete/masonry Basement Foundation walls for unfinished basement area - minimum R-5 (height)
- All doors except overhead garage doors shall have a maximum U-factor of 0.40

07500 - FIREBLOCKING

- Top and bottom of all conventional, double studied, furred spaces and staggered stud frame walls shall be fireblocked vertically at the ceiling and floor levels and horizontally at intervals not exceeding 10'.
- Fireblocking required at all soffits and dropped ceilings
- Fireblocking required between stairway stringers at the top and bottom of the run. Enclosed accessible spaces under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 1/2" drywall
- Fireblocking required around vent, pipe and duct penetrations of ceilings and floors.

07600 - FLASHING AND SHEET METAL

Corrosion resistant flashing is required at the top and sides of all exterior window & door openings and at the intersection of concrete, masonry and frame walls. Flashing is not required where approved water-resistant sheathing & caulking is used at the top & sides of openings so as to be leak-proof.

07900 - SEALANTS

Exterior joints around window & door frames, between wall cavities & door frames, between wall & foundation, between wall & roof, between wall panels, at all penetrations & utility services through walls, floors & roofs, and all other openings in the exterior envelope shall be sealed with caulking and/or sealant in an approved, workmanlike manner.

08100 - ACCESS

- A 22x24" 30" minimum access opening is required for attic areas which exceed 30 sq ft and have a clear height of over 30". The access shall be installed in a hallway or other accessible location.
- 30" minimum headroom is required at some point vertically above the access opening. Access doors in draft stopping shall be self-closing and made of approved materials.

08400 - GLAZING

- Glazing in exterior doors, sidelights, windows within 24" of doors, windows greater than 9 square feet in area and less than 18" above the adjacent floor, and all glazing in tile & shower enclosures shall be tempered.
- General Contractor & window manufacturer representative shall verify the size, fit and proper installation requirements of all windows and sliding glass doors prior to manufacture and notify the Architect in writing of any drawing errors or inconsistencies.
- Glass area in habitable and occupiable rooms shall not be less than 8% of the floor area being served. One half of this amount must be operable for unobstructed ventilation with screens included.
- All basements and each bedroom must have one window for emergency escape meeting the following minimum requirements:
 - Maximum height to bottom of clear opening - 44"
 - Minimum clear opening width - 20"
 - Minimum net clear opening height - 24"
 - Minimum net clear opening area - 5.7 sq ft (the net clear opening dimension shall be obtained by the normal operation of the window from the inside). Exception: Grade floor windows are permitted to have a minimum net clear area of 5.0 sq ft.
- Attic and enclosed rafter space ventilation (net free area) is to be at least 1/150 of the area served. Two remote vents are required for each attic space (minimum). Exception: required ventilation area may be reduced to 1/300 if a vapor retarder having a transmission rate not exceeding 1 perm is provided on the conditioned side on the insulation, or if the gable or ridge vents are located in the upper third of the attic or enclosed rafter space and provide 50% to 80% of the required vent area with the balance of the required area being supplied by eave vents.
- All basements and each bedroom must have one window for emergency escape meeting the following minimum requirements:
 - Maximum height to bottom of clear opening - 44"
 - Minimum clear opening width - 20"
 - Minimum net clear opening height - 24"
 - Minimum net clear opening area - 5.7 sq ft (the net clear opening dimension shall be obtained by the normal operation of the window from the inside). Exception: Grade floor windows are permitted to have a minimum net clear area of 5.0 sq ft.
- Attic and enclosed rafter space ventilation (net free area) is to be at least 1/150 of the area served. Two remote vents are required for each attic space (minimum). Exception: required ventilation area may be reduced to 1/300 if a vapor retarder having a transmission rate not exceeding 1 perm is provided on the conditioned side on the insulation, or if the gable or ridge vents are located in the upper third of the attic or enclosed rafter space and provide 50% to 80% of the required vent area with the balance of the required area being supplied by eave vents.
- Unfinished basements and utility rooms require natural ventilation (net openable area) at the ratio of 1% of the square footage floor area served. Mechanical ventilation with outdoor area (not recirculated air) in accordance with the 2012 IRC may be substituted at a rate of .05 cfm/sq ft of area.
- Foundation crawl spaces shall have a minimum height of 18" and shall be provided with vent opening located within 3' of each corner. The total vent area shall be at least 1/150 of the area served. Exception: when an approved vapor barrier is provided over the surface of the ground the required vent area may be reduced 10% of the above and the vents may have operable louvers.
- Clear heights may be reduced when preservative-treated or naturally durable wood is used for framing and subfloor.
- Unfinished basements and utility rooms require natural ventilation (net openable area) at the ratio of 1% of the square footage floor area served. Mechanical ventilation with outdoor area (not recirculated air) in accordance with the 2012 IRC may be substituted at a rate of .05 cfm/sq ft of area.

Division #9 - FINISHES

Minimum flame-spread rating on all interior finish materials shall be 200 or less. Exposed insulation shall have a flame-spread not greater than 25 and a smoke-developing rating of 450 or less.

09250 - GYPSUM WALLBOARD

- Gypsum wallboard shall be installed in accordance with the Gypsum Association's recommended practice as to thickness (walls minimum 1/2" thick, ceilings minimum 5/8" thick with nails should be spaced at most 12" o.c. and screws should be spaced at no greater than 16"o.c.), screwed & taped over framing at specified spacing. All fire-rated gypsum wallboard assemblies shall be installed in accordance with the specifications of the approved fire-rated assembly.
- Green board gypsum wallboard shall be used behind one-piece tub/shower & shower enclosures.
- Mold-resistant gypsum wallboard shall be used behind multi-piece tub/shower & shower enclosures.
- Duracore or approved equivalent shall be used beneath all tile wall & floors.

Division #15 - MECHANICAL

15000 - GENERAL PROVISIONS

All mechanical work shall meet the requirements of the 2014 International Mechanical Code.

15100 - HEATING VENTILATING AND AIR CONDITIONING

- Heating and air conditioning contractor shall furnish plans shall indicating furnace location, type, source of combustion air, flue sizes, duct layout, diffuser locations and at least one programmable thermostat. A section detail shall be provided showing all gas appliances, flue sizes, gas piping, heights and clearances dimensions. Supply ductwork outside of building envelope shall be insulated to a minimum of R-6.
- Approved vent systems for appliances shall be sized, installed and terminated per manufacturers written installation instructions. Unvented appliances that require an open window are prohibited.
- Metal flues shall extend above the roof that they penetrate at least a minimum of 36". Flue outlets shall be at least 24" higher than any portion of the building within a radius of 10'-0" horizontally.
- Gas appliances located in rooms or spaces whose volume is less than 50 cubic feet/100BTU/hour input rating shall have combustion and dilution air provided in accordance with the following:
 - Openings shall not be less than 100 sq in of free area, no common duct combustion air. Openings shall not be less than 100 sq in of free area. One opening shall be provided within 12" of the ceiling and one within 12" of the floor, no provided ducts permitted. Combustion air may not be obtained from bedrooms.
 - Using outside air: One opening shall be provided within 12" of the ceiling with a net free area of 1 sq in for each 100BTU/hour total input rating of all appliances located in the entire room.
- Appliances shall not be installed in a bedroom, bathroom or storage closet. Exceptions: A. The appliance is a direct vent unit obtaining all combustion air directly from the outdoors. B. The appliance is installed in a closet used solely for the appliance, the closet door is self closing, solid, and weather striped, and combustion air is provided from the outdoors.
- Minimum appliance clearance from appliances is 18", unless the listed manufacturers written installation instructions allow for an alternate clearance. A minimum of 30" of clearance is required at the front of the appliance for servicing.
- Each gas appliance shall have a gas shut-off valve located in the same room and within 6' of the appliance, and a ground union joint. A sediment trap is required downstream at the appliance shut-off valve and each appliance.
- Household cooking appliances shall be listed and labelled and shall be installed in accordance with manufacturers written installation instructions. An anti-tip device shall be installed if required by the manufacturers written installation instructions.
- Gas piping shall be labelled at intervals of no more than 5'. Exception: Black iron gas piping does not need to be labelled.
- Gas piping shall not be installed such that it is independent of all other systems and exhaust through smooth ductwork to the exterior. All dryer exhaust systems shall meet Section M1501 of the 2012 IRC.
- Provide duct runs & termination per the plans. The maximum developed length of the duct run shall be 25' from the clothes dryer to the wall or roof termination (calculated by adding 5' for each 90 degree elbow and 2.5' for each 45 degree bend to the overall length of the straight runs).
- Screens shall not be installed at the duct termination.
- Bedrooms and toilet rooms shall exhaust 5cfm/min to the exterior.
- Each bedroom shall have heating and cooling shall be capable of being set from 55 degrees F to 85 degrees F and shall be capable of operating the systems heating and cooling sequence.
- HVAC equipment and ductwork shall comply with 2012 IRC
- Clothes dryer shall be independent of other systems and vented to the exterior.
- HVAC contractor shall size heating and cooling units.
- Gas heating shall be used for furnace and cooling units, unless noted otherwise.
- Condensed gas piping shall be identified every 25' minimum and every 50' when exposed.
- Vent exhaust shall be to the exterior. (50 cfm in bedrooms, 100 cfm for kitchen vent hood)
- Gas vents shall extend above the roof that they penetrate at least a minimum of 36" and be at least 24" higher than any portion of the building within a radius of 10'-0" horizontally. Exception: U.L. listed vents may be installed in accordance with their listing).
50. Metal flues shall not be visible from main street or road on which the building is located and shall be painted or treated in such a manner as to match the adjacent roof color as closely as possible.
- Ducts exposed to non-conditioned spaces shall be insulated flex duct, limited to a maximum duct run of 14' and free of deformities.
22. Kitchen range hood shall have a listed duct with a 1/2 inch lighting controls (3 way switches) at each floor level. Switches must be operable from the top and bottom of the stairway without traversing any step of the stairway.
- Discharge range hood installed in accordance with the manufacturers written installation instructions (if exterior wall filtration system for grease removing and odor control) is not required to discharge outdoors.
23. Makeup air shall be provided during the operation of the kitchen exhaust system when exceeding 600cfm exhaust flow. See code for further requirements and controls.
24. Gas water heater tanks shall be strapped securely to solid walls.
25. Return air ducts shall be sealed with foam sealing tape meeting burn test requirements of the 2012 International Residential Code.

15400 - PLUMBING

- All plumbing work shall meet the requirements of the 2012 International Plumbing Code.
- No lead "lead-free" solder is required on all copper water supply piping.
- Plumbing contractor shall install pressure-balance valves, individual mixing temperature control valves on all showerheads set at 120 degrees Fahrenheit, maximum.
- Exterior & garage hose bibbs shall be the freeze-proof type with the vacuum breakers.
- Install expansion tank on all water heaters (even tankless water heaters if required by manufacturer).
- Recessed Lighting - Recessed luminaires penetrating the building thermal envelope shall be sealed with a gasket or caulking to limit air leakage.
- All windows shall be wood clad, double glazed with 1/2" thick insulated glass (overall thickness) Energy Conservation and a thermal break. Window maximum U-factor of 0.56
- Makeup air required - Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.
- Joints, seams and connections - Joints of duct systems shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems.
- Window and door U-values shall be determined in accordance with NFRC 100-2004 and labelled or certified by the manufacturer or shall be assigned the U-values listed in the Code.
- Typical building sections through the building are provided indicating the R-value and R-value of insulating materials and the U-values of windows and doors. R-values shown indicate only the insulation material used, not the total assembly.
- The following represent the minimum insulation to be used:
 - Roof/Ceiling - minimum R38 insulation
 - Wood frame walls and band joists/bands minimum R13
 - Concrete/masonry Basement Foundation walls for finished basement area - minimum R-13 (full height)
 - Concrete/masonry Basement Foundation walls for unfinished basement area - minimum R-5 (height)
- All doors except overhead garage doors shall have a maximum U-factor of 0.40

15400 - PLUMBING

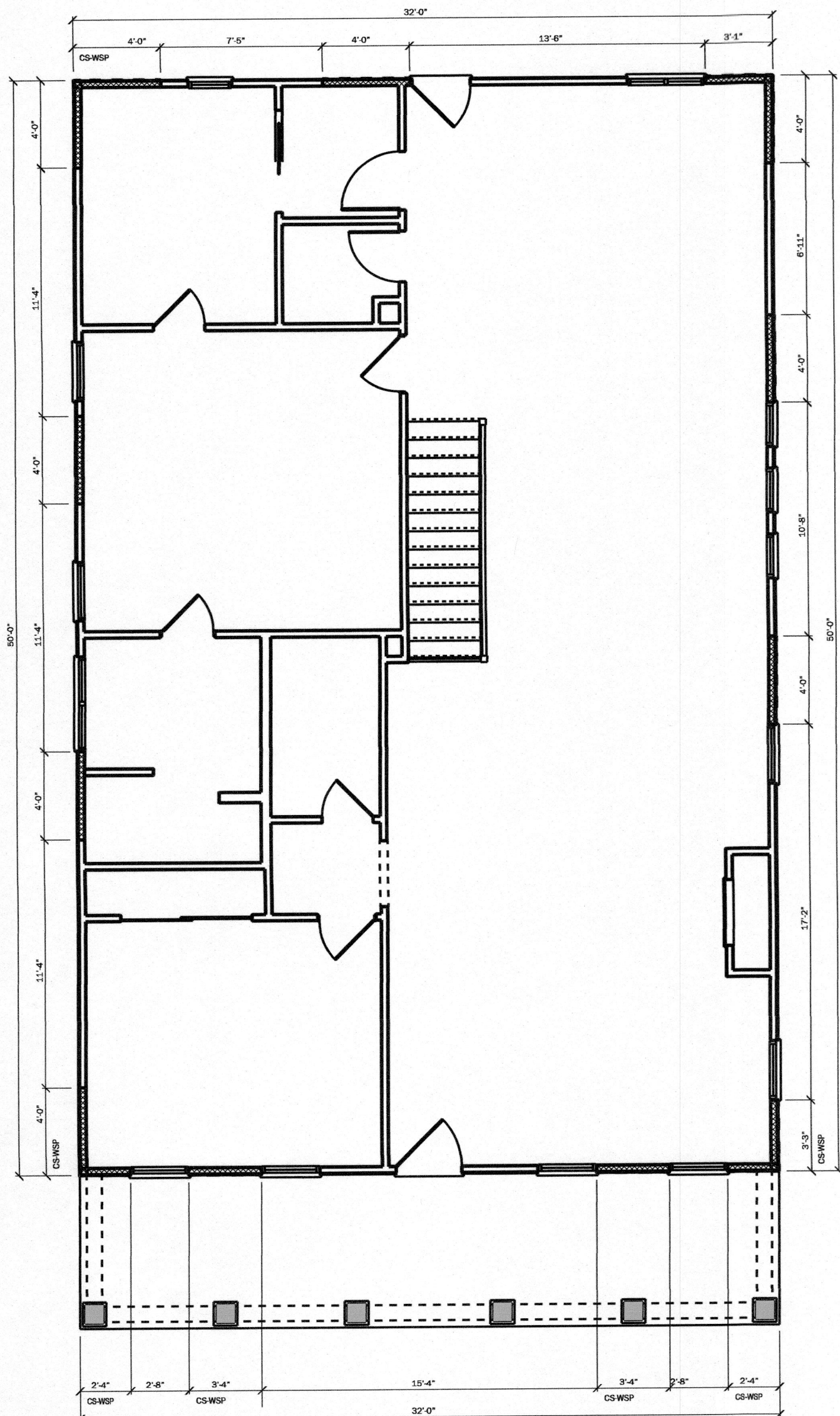
- All plumbing work shall meet the requirements of the 2012 International Plumbing Code.
- No lead "lead-free" solder is required on all copper water supply piping.
- Plumbing contractor shall install pressure-balance valves, individual mixing temperature control valves on all showerheads set at 120 degrees Fahrenheit, maximum.
- Exterior & garage hose bibbs shall be the freeze-proof type with the vacuum breakers.
- Install expansion tank on all water heaters (even tankless water heaters if required by manufacturer).
- Recessed Lighting - Recessed luminaires penetrating the building thermal envelope shall be sealed with a gasket or caulking to limit air leakage.
- All windows shall be wood clad, double glazed with 1/2" thick insulated glass (overall thickness) Energy Conservation and a thermal break. Window maximum U-factor of 0.56
- Makeup air required - Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.
- Joints, seams and connections - Joints of duct systems shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems.
- Window and door U-values shall be determined in accordance with NFRC 100-2004 and labelled or certified by the manufacturer or shall be assigned the U-values listed in the Code.
- Typical building sections through the building are provided indicating the R-value and R-value of insulating materials and the U-values of windows and doors. R-values shown indicate only the insulation material used, not the total assembly.
- The following represent the minimum insulation to be used:
 - Roof/Ceiling - minimum R38 insulation
 - Wood frame walls and band joists/bands minimum R13
 - Concrete/masonry Basement Foundation walls for finished basement area - minimum R-13 (full height)
 - Concrete/masonry Basement Foundation walls for unfinished basement area - minimum R-5 (height)
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- All



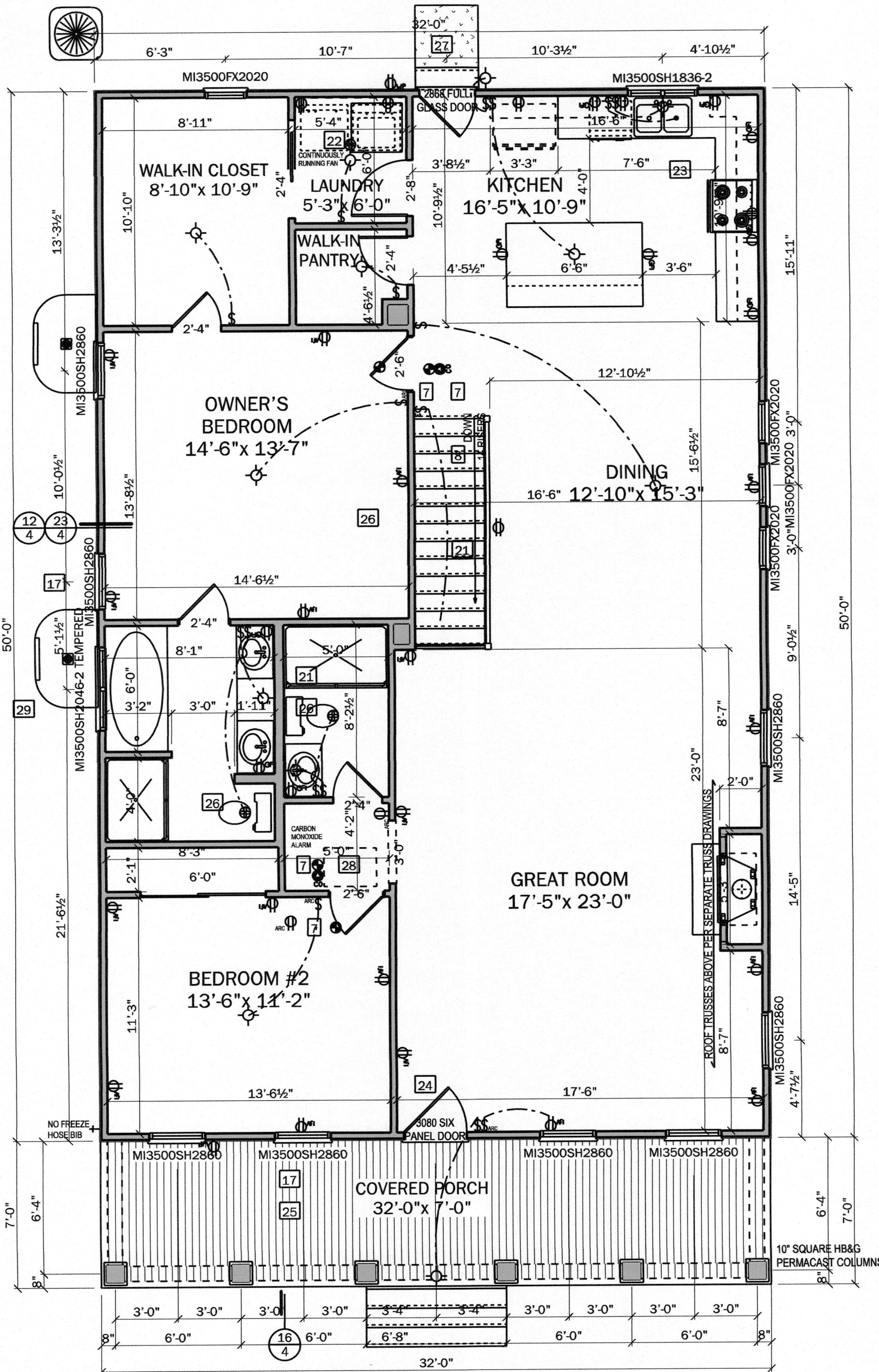
FIRST FLOOR BRACED WALL PLAN

STD. 9'-1 1/8" TALL FIRST FLOOR WALLS
CLAMP A CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL (SHEATHING 6 INCHES EDGES, 12 INCHES FIELD) PER 2015 IRC TABLE R602.3D.5

MINIMUM LENGTH OF BRACED WALL PANELS

| ADJACENT CLEAR OPENING HEIGHT | MINIMUM WALL PANEL LENGTH |
|-------------------------------|---------------------------|
| 64 INCHES OR LESS | 27 INCHES |
| 66 INCHES | 27 INCHES |
| 72 INCHES | 27 INCHES |
| 84 INCHES | 30 INCHES |
| 96 INCHES | 41 INCHES |

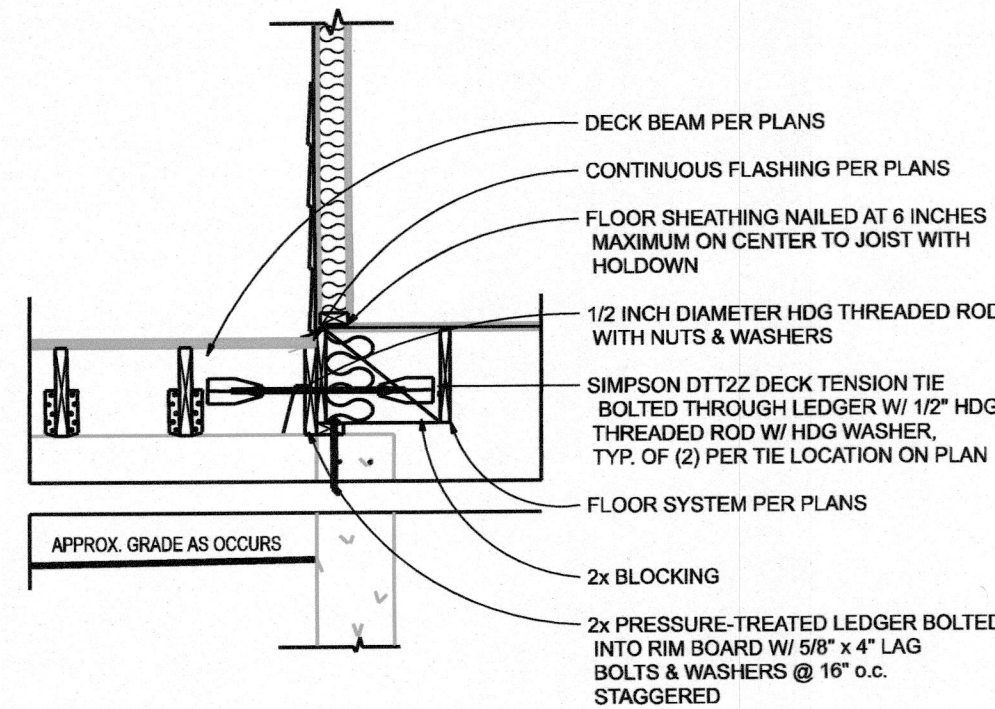
WALL BRACING NOTES
1. WALL BRACING SHALL MEET 2015 IRC CODE SECTION R619
2. MAXIMUM SPACING OF BRACED WALL UNITS IS 12'-0"
3. TWO STUDS SHALL BE USED TO BRACE EACH STUD WALL
4. CONTINUOUSLY SHEATHED AND SIZED WITH 1/2" MINIMUM THICKNESS
5. STRUCTURAL PRESSURE-TREATED LVL OR LVL WITH 1/2" MINIMUM THICKNESS
6. SEE IRC CODE SECTION R602.3D.5
7. WALL BRACING SHALL BE INSTALLED TO WALL BRACING WITH NO COMMON
8. WALLS WITH 1/2" MINIMUM THICKNESS SHALL BE 1/2" MINIMUM THICKNESS



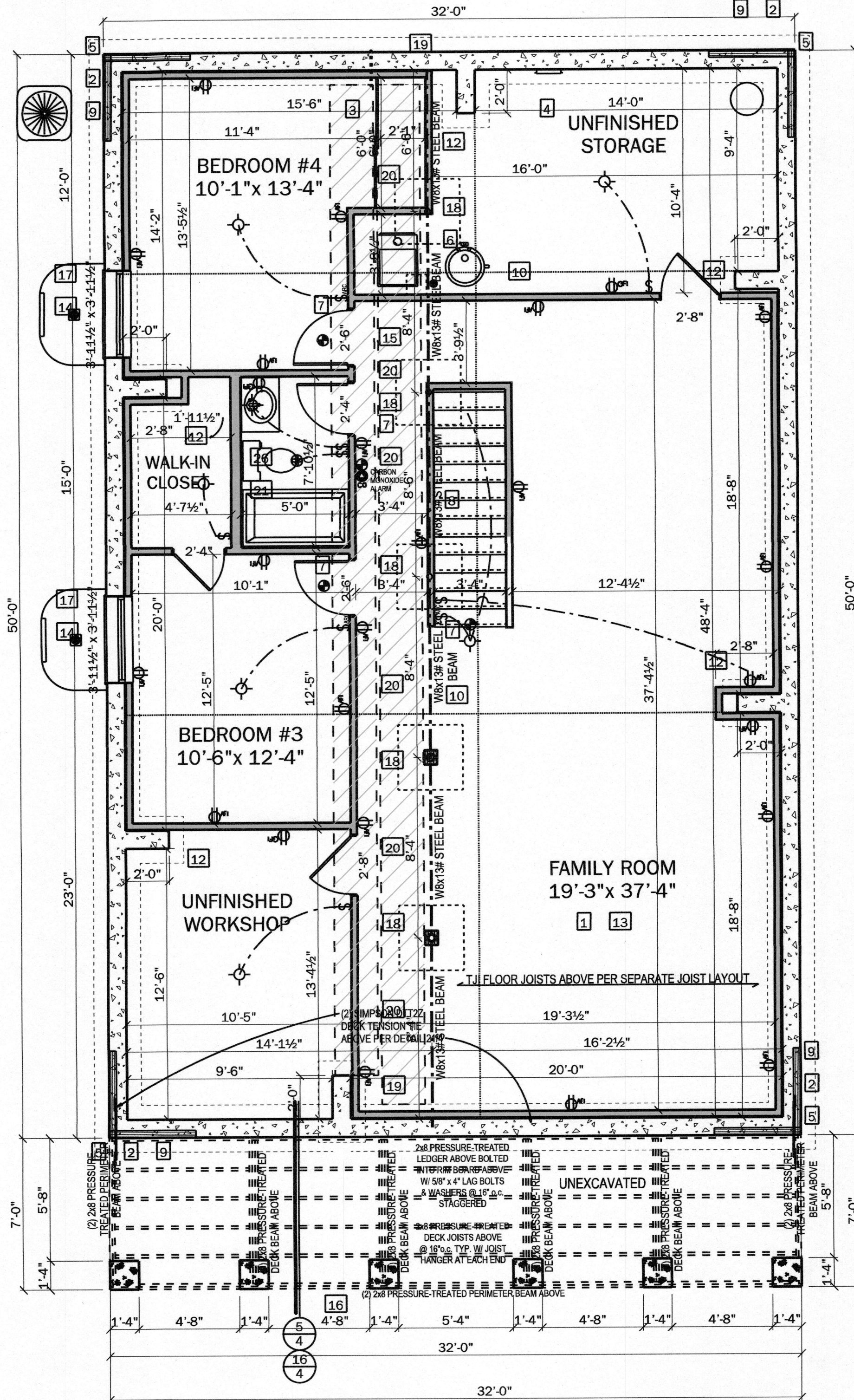
FIRST FLOOR PLAN

STD. 9'-1 1/8" HIGH FIRST FLOOR WALLS

- GENERAL FLOOR PLAN NOTES
A. STD. 9'-1" HIGH FIRST FLOOR WALLS
B. ALL LOAD-BEARING HEADERS SHALL BE 3.1/2" x 9.1/4" x 1.7E TIMBERSTRAND LVL WITH (2) 2x4 JACK STUDS WITH (2) 2x4 JACKS STUDS ON EACH SIDE UNLESS NOTED ON THE EXTERIOR ELEVATIONS
C. ALL INTERIOR WALLS TO BE 3.1/2" (2x4 STUDS) UNLESS NOTED OTHERWISE
D. INTERIOR DIMENSIONS ARE TO ROUGH FRAMING, EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING
E. NO SUPPLY WATER PIPING SHALL BE LOCATED IN EXTERIOR WALL OR CANTILEVERED FLOOR CAVITIES
F. MAXIMUM RISER HEIGHT IS 7.3/4". MINIMUM RISER HEIGHT IS 4"
G. SEE EXTERIOR ELEVATIONS FOR EXTERIOR DOORS NOT NOTED ON PLAN
H. SEE EXTERIOR ELEVATIONS FOR WINDOW SIZED & HEAD HEIGHT
I. PROVIDE FIRE BLOCKING WHERE REQUIRED BY CODE OR LOCAL JURISDICTIONS
J. WINDOWS SHOWN ARE MI WINDOWS SERIES 3500 VINYL WINDOWS WITHOUT GRILLES



DDT2Z DECK TENSION TIE



BASEMENT PLAN

1146 square feet of finished living area

- FOUNDATION GENERAL NOTES:
A. STD. 7'-10" HIGH CONCRETE FOUNDATION WALLS (ALL FOUNDATION WALL HEIGHTS ARE APPROXIMATE)
B. BOTTOM OF FOOTINGS SHALL BE MINIMUM OF 36" BELOW FINISH GRADE ON UNDISTURBED SOIL
C. ALL METAL FASTENERS, HANGERS, ANCHOR BOLTS, ETC. IN CONTACT WITH TREATED LUMBER SHALL BE STAINLESS STEEL OR TRIPLE DIPPED GALVANIZED
D. ALL STEEL SHALL BE ASTM A615 GRADE 60
E. PROVIDE 1/2" DIAMETER FOUNDATION ANCHOR BOLTS @ 4'-0" o.c. WITH NUTS AND WASHERS SET A MINIMUM OF 8" INTO CONCRETE. PROVIDE MINIMUM OF (2) ANCHORS PER PLATE AND MAXIMUM DISTANCE OF 12" FROM ENDS. SEE FIRST FLOOR PLAN FOR PORTAL FRAMES AND SHEAR WALLS WHICH REQUIRE ADDITIONAL CAST IN PLACE ANCHORS.
F. NO-FREEZE HOSE BIBB TO BE LOCATED AT WATER SERVICE ENTRY TO STRUCTURE

- KEYED PLAN NOTES
1. 4" CONCRETE SLAB WITH 6x6, 10/10 WELDED WIRE FABRIC OVER 6 MIL MOISTURE BARRIER AND 4" OF COMPACTED FILL
2. 10" WIDE CONCRETE FOUNDATION WALL WITH 10"x 24" CONCRETE FOOTING
3. PROVIDE SOLID PIPE FROM OUTSIDE DIRECTLY TO RETURN AIR DUCT TO SUPPLY MAKEUP AIR FOR CONTINUOUS RUNNING FAN
4. 200 AMP ELECTRICAL SERVICE - LOCATION OF PANEL DEPENDENT ON LOCATION OF SUPPLY
5. 2 - #4 REBARS 48" LONG VERTICALLY @ 12" o.c., LAPPED & TIED AT ALL CORNERS, TYPICAL
6. MECHANICAL SYSTEMS AREA - 40 GALLON MIN. WATER HEATER, FLOOR DRAIN & GAS FORCED AIR FURNACE
7. SMOKE DETECTOR - 120V INTERWIRED WITH BATTERY BACKUP
8. WOOD STAIR W/ HANDRAIL AT 36" ABOVE NOSING - CARPET ENTIRE TREAD. HALF WALL OR SPINDLE & GUARDRAIL REQUIRED AT EXPOSED STAIR 36" MINIMUM ABOVE FLOOR & RISERS
9. LINE OF 2x4 PRESSURE-TREATED SILL PLATE ABOVE
10. CONCRETE CONTROL JOINT - 20'-0" MAXIMUM ON CENTER SPACING, EACH WAY
11. 18" DIA. SUMP PIT W/ FITTED CAP W/ PUMP PIPED TO EXTERIOR AND SINGLE, DEDICATED OUTLET
12. BUTTRESS WALL - RETURN 10" FOUNDATION WALL & FOOTING 24" ABOVE
13. 11.7/8" TIMBERSTRAND FLOOR JOISTS AND 3/4" T&G PLYWOOD SUBFLOOR ABOVE
14. 48" WIDE x 48" TALL VINYL UNIT (16 S.F.) W/ GALVANIZED STEEL EGRESS WELL W/ BAKED ON ENAMEL FINISH ON FACE, EGRESS LADDER, AND SAFETY GRATE - DRAIN TO INTERIOR DRAIN TILE TO SUMP
15. HVAC MAIN TRUNK LINE
16. 16" SQUARE CONCRETE PORCH PIER OVER A 32"x 21'-0" x 8" DEEP FOOTING. SET BOTTOM OF FOOTING AT LEAST 24" INTO UNDISTURBED SOIL & AT LEAST 36" BELOW ADJACENT GRADE. REDUCE PIER TO 12" SQUARE IF CULTURED STONE PIER IS OPTIONED
17. WINDOW MEETS EGRESS REQUIREMENTS
18. 3" DIAMETER, 11GA, PRIME PAINTED STEEL TELEPOST SET DIRECTLY ON A 36"x 36"x 12" DEEP CONCRETE FOOTING W/ (3) #5 BARS EACH WAY AT BOTTOM
19. BEAM POCKET - STEEL BEAM SHALL BE SHIMMED & SOLIDLY GROUTED INTO BEAM POCKET WITH CEMENT
20. STEEL BEAM PER PLAN - PRIME PAINTED & ALL JOINTS SHALL BE BOLTED OR WELDED TOGETHER
21. 2x6 WALL FRAMING
22. WASHER & DRYER - 120V ELECTRICAL SERVICE SUPPLY, HOT & COLD WATER, 2" ROUND LAUNDRY DRAIN, 220V ELECTRICAL SERVICE SUPPLY, VENTED ROUTE TO EXTERIOR THROUGH BANDBOARD ABOVE, NOT TO EXCEED 25'-0". PROVIDE SHEET METAL OR FIBERGLASS PAN WITH DRAIN BELOW WASHER
23. UPPER & LOWER CABINETS
24. 36" INSULATED STEEL OR FIBERGLASS THERMATRU DOOR UNIT
25. EXTERIOR GRADE HBG BEAD BOARD PORCH CEILING
26. EXHAUST FAN - MINIMUM 50 C.F.M. VENTED TO EXTERIOR
27. MAX. 2 RISERS FROM FINISHED FLOOR TO CONCRETE PATIO SLAB. IF MORE THAN 2 RISERS, LANDING SHALL BE REQUIRED 7.3/4" MAX. BELOW THRESHOLD OF DOOR
28. 22"x 30" SCUTTLE - PLACE SCUTTLE TO PROVIDE 36" HEADROOM ABOVE
29. 4" CONCRETE SLAB FOR AIR CONDITIONING CONDENSER

Proposed residence, 1600-32 model
Permit #
Lot #5, 504 NW Main Street
Lee's Summit, Jackson County, Missouri 64063
for Walker Custom Homes LLC

STUDIO ARCHAEO S

433 BLUFF STREET, ALTON, IL 62002 314-280-3855
MISSOURI STATE CERTIFICATE OF AUTHORITY #2011021199

| | | | | |
|-------|-----|-------|-----------------------------|-----------|
| Drawn | By | Check | Issued for | Date |
| | Tim | | building permit application | 5/22/2020 |

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CERTIFICATE OF AUTHORITY #2011021199

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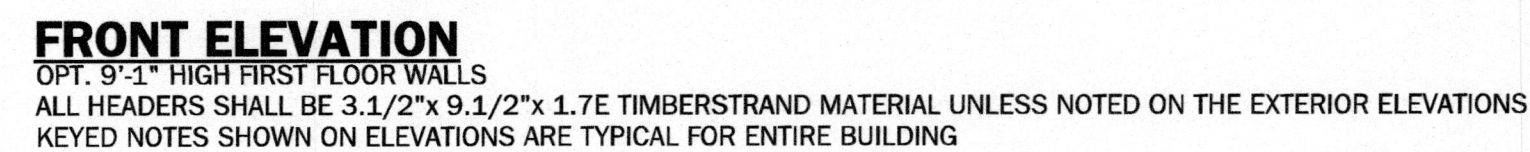
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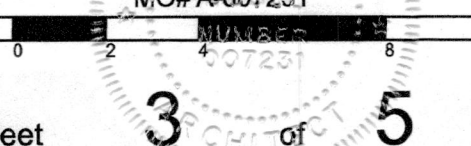
Timothy Louis Buehler
MO# A-007231

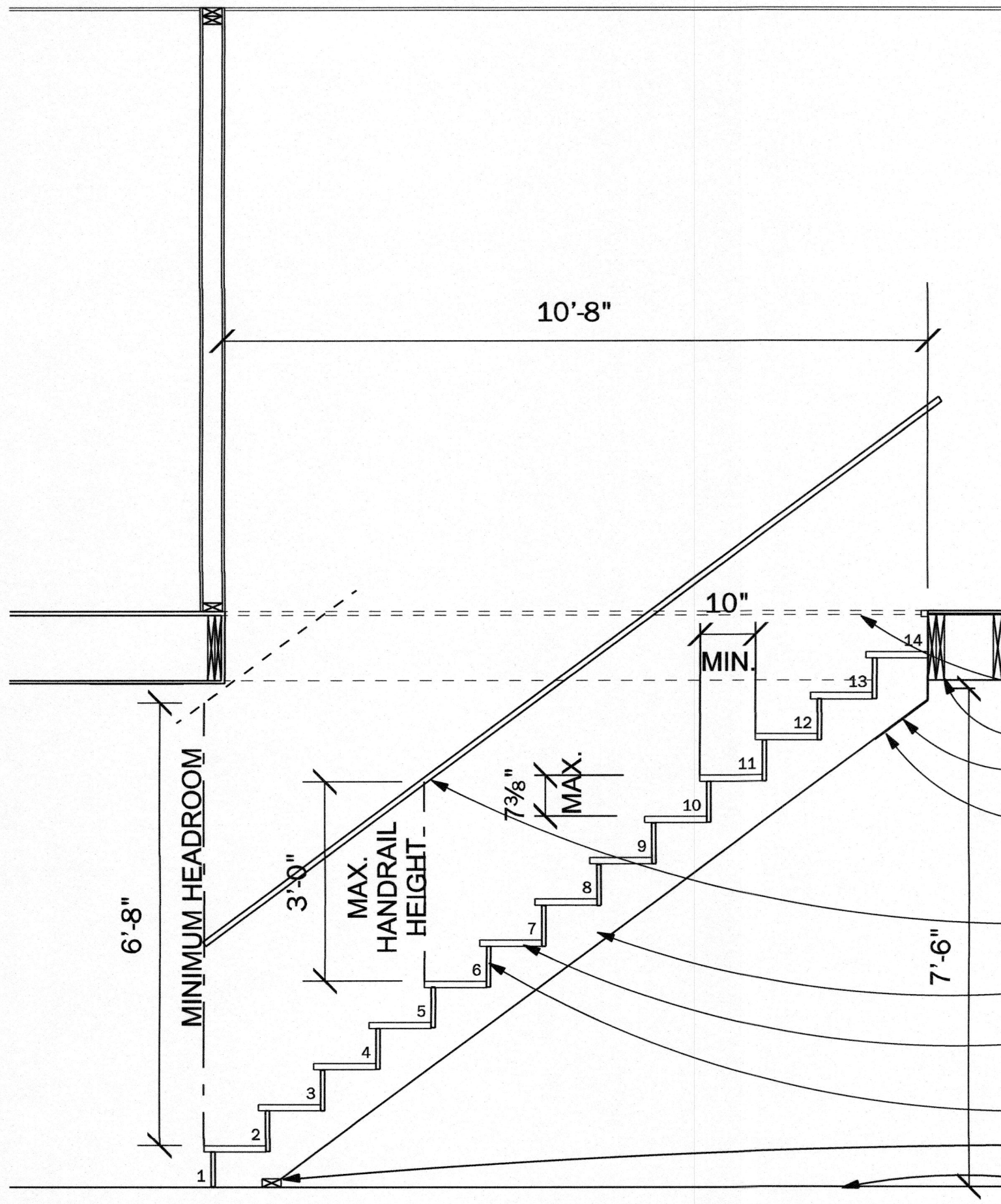
sheet 2 of 5
Friday, May 22, 2020 02:37 PM



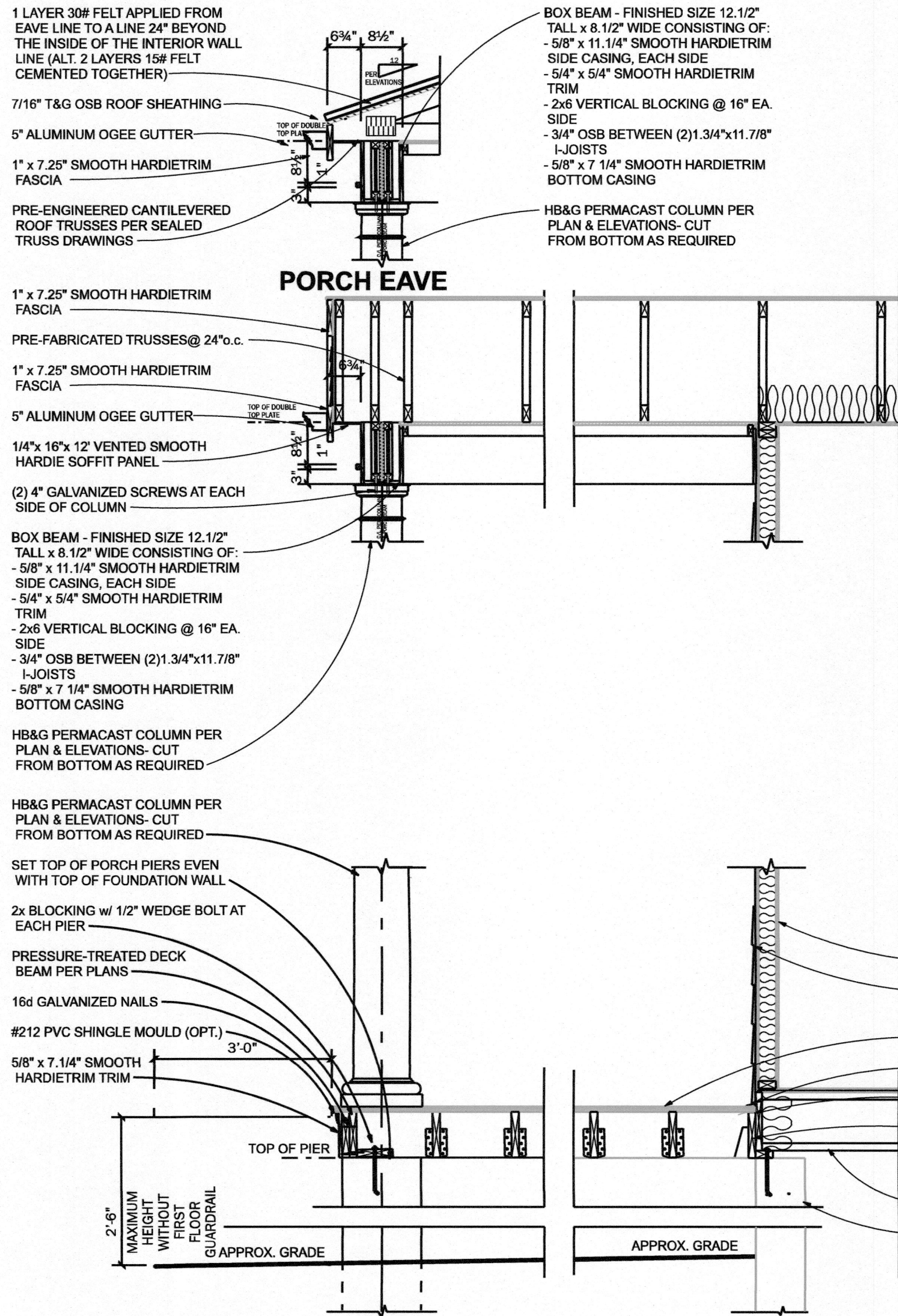
- KEYED ELEVATION NOTES
1. APPROXIMATE FINISH GRADE - SLOPE AWAY FROM HOUSE AT 1" PER FOOT FOR 10'-0"
2. 220# FIBERGLASS SHINGLES WITH SEAL DOWN TABS, INTERLACE SHINGLES AT VALLEYS, TYPICAL - INSTALL PER MANUFACTURERS SPECIFICATIONS
3. 8" 1/4" LP SMARTSIDE SIDING, EXPOSURE
4. 10" SQUARE HSBG PERMACAST COLUMLA
5. CONTINUOUS RIDGE VENT FOR CONCEALED ATTIC SPACES
6. S-400 STRIP COR-A-VENT IN EAVE
7. MI WINDOWS 3500 SERIES VINYL WINDOW UNIT, TYP.
8. PREFINISHED ALUMINUM "OGEE" STYLE GUTTER & DOWNSPOUT
9. 1x8 HARDIETRIM BANDBOARD WITH 1.5/8"x 11/16" TALL DRIP CAP
10. 5/4"x 4" HARDIETRIM CORNERS
11. CONCRETE STEPS TO PATIO SLAB, NUMBER OF STEPS IS DETERMINED IN FIELD BY ACTUAL DISTANCE FROM GRADE TO FINISHED FLOOR - PROVIDE HANDRAIL ON STAIRS WITH MORE THAN 3 RISERS
12. DOOR TRIM - 5/4" x 4" HARDIETRIM (1" THICK)
13. 1.5/8" DRIP CAP ON TOP OF PORCH DECKING AT SIDING, INSTALL 5/4"x 6" HARDIETRIM KICK BOARD UNDER DOOR
14. MAIN HOUSE FASCIA BOARD - 5/4" x 8" HARDIETRIM (1" THICK)
15. WINDOW MEETS EGRESS REQUIREMENTS. PROVIDE MANUFACTURERS SAFETY LOCK WHEN WINDOW SILL IS LESS THAN 24" ABOVE FINISH FLOOR
16. SPLASH BLOCK
17. PREFINISHED SINGLE STYLE FIBER CEMENT SIDING PAINTED TO MATCH TRIM
18. WINDOW TRIM - 5/4" x 4" NOMINAL HARDIETRIM AT HEAD AND JAMBS OF MI WINDOWS, TYPICAL
19. WINDOW SILL TRIM - 5/4" x 1.1/2" NOMINAL HARDIETRIM AT SILL OF MI WINDOWS, TYPICAL
20. WRAP PORCH BEAM WITH 5/8"x 7.1/4" HARDIETRIM TRIM
21. FREEZE BOARD - 5/4" x 6" HARDIETRIM (1" THICK)
22. PLASTIC DRIP EDGE AT ALL EAVES & RAKES
23. DRYER VENT COVER
24. INACTIVE DORMER, TYP. OF (3) - PAINT INSIDE OF WINDOW GLAZING WITH OPAQUE BLACK PAINT
25. 5/4"x 5.5" HARDIETRIM DORMER FACE
26. 6"x 1" FLASHING AT ALL ROOF/WALL INTERSECTIONS
27. PROVIDE ICE & WATER SHEED BELOW ALL ROOF SHINGLES SET AT LESS THAN 4/12 ROOF SLOPES, TYP.
28. 1.5/8" x 11/16" TALL DRIP CAP

Proposed residence, 1600-32 model
Permit #
Lot #5, 504 NW Main Street
Lee's Summit, Jackson County, Missouri 64063
for Walker Custom Homes LLC

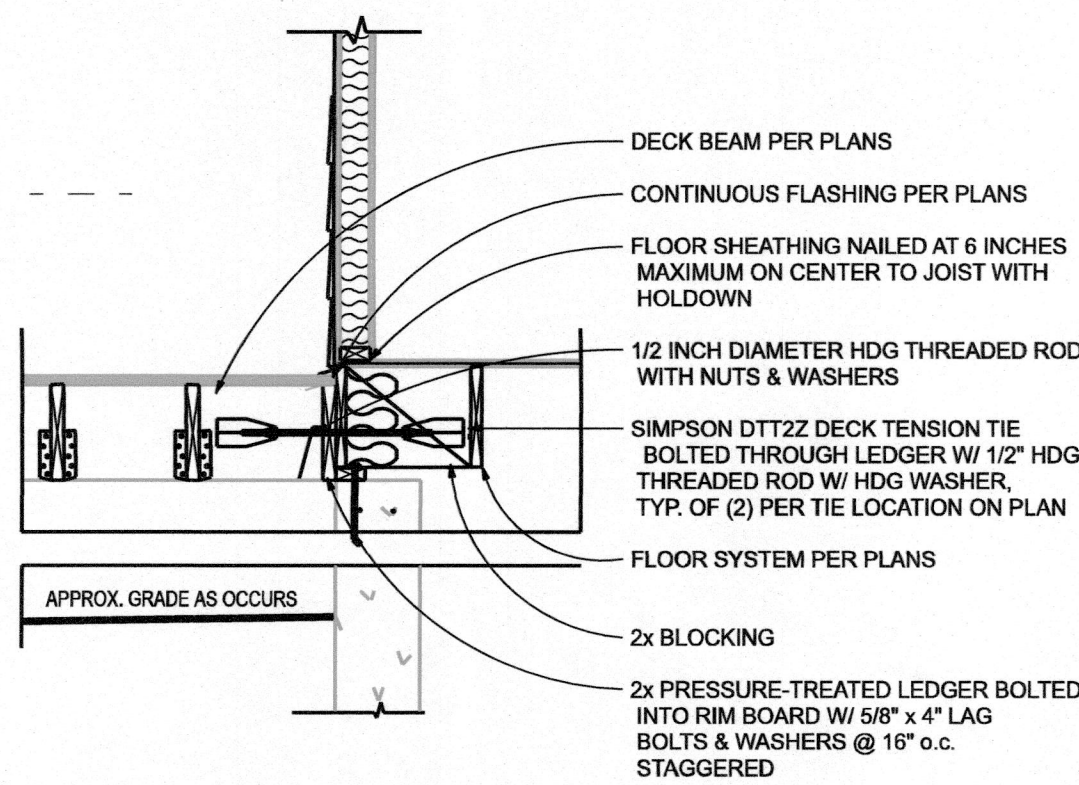
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| <h1 style="text-align: center;">STU OARCHA EOS</h1> <p style="text-align: center;">433 BLUFF STREET, ALTON, IL 62002 314-280-3555 MISSOURI STATE CERTIFICATE OF AUTHORITY #2011021199</p> | | | |
| revised | by | dated for | date |
| | item | building permit application | 5/22/2020 |
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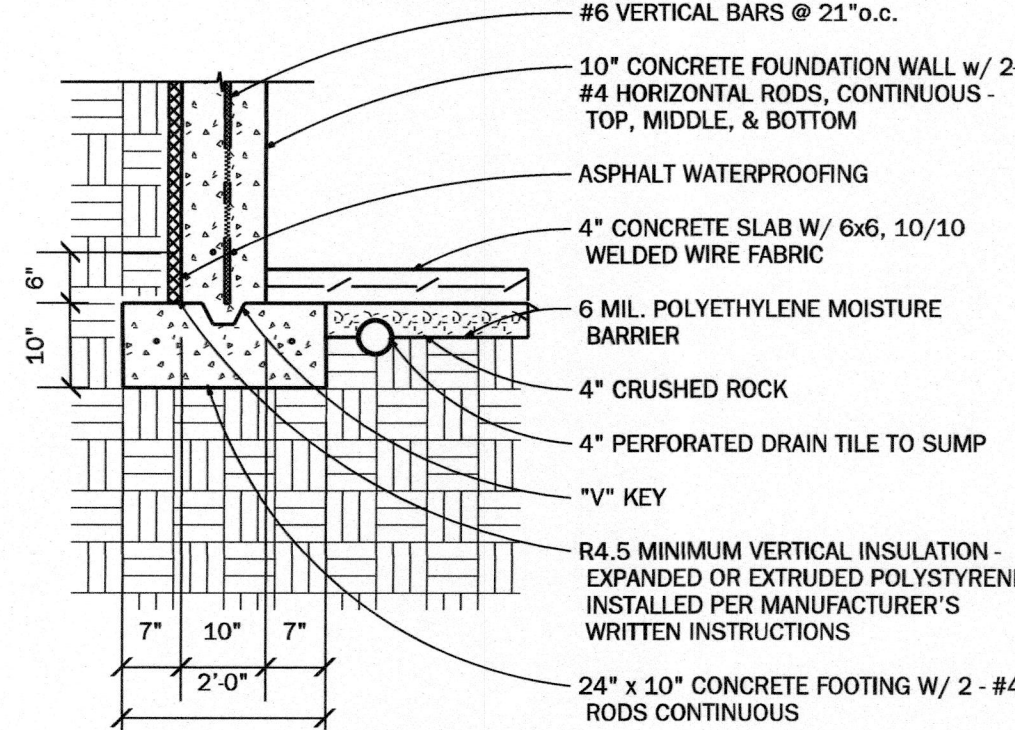
STAIR SECTION



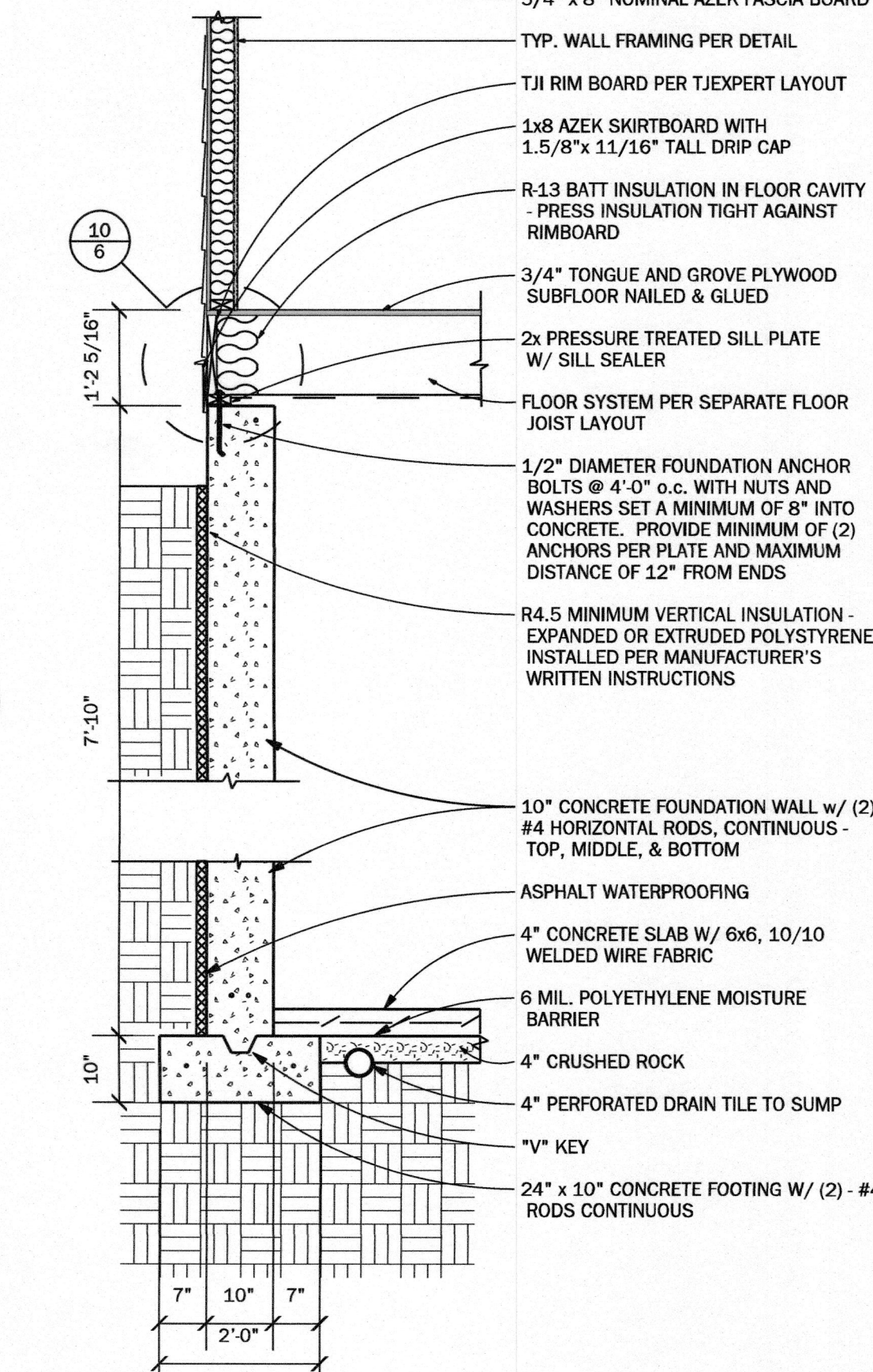
PORCH DETAILS



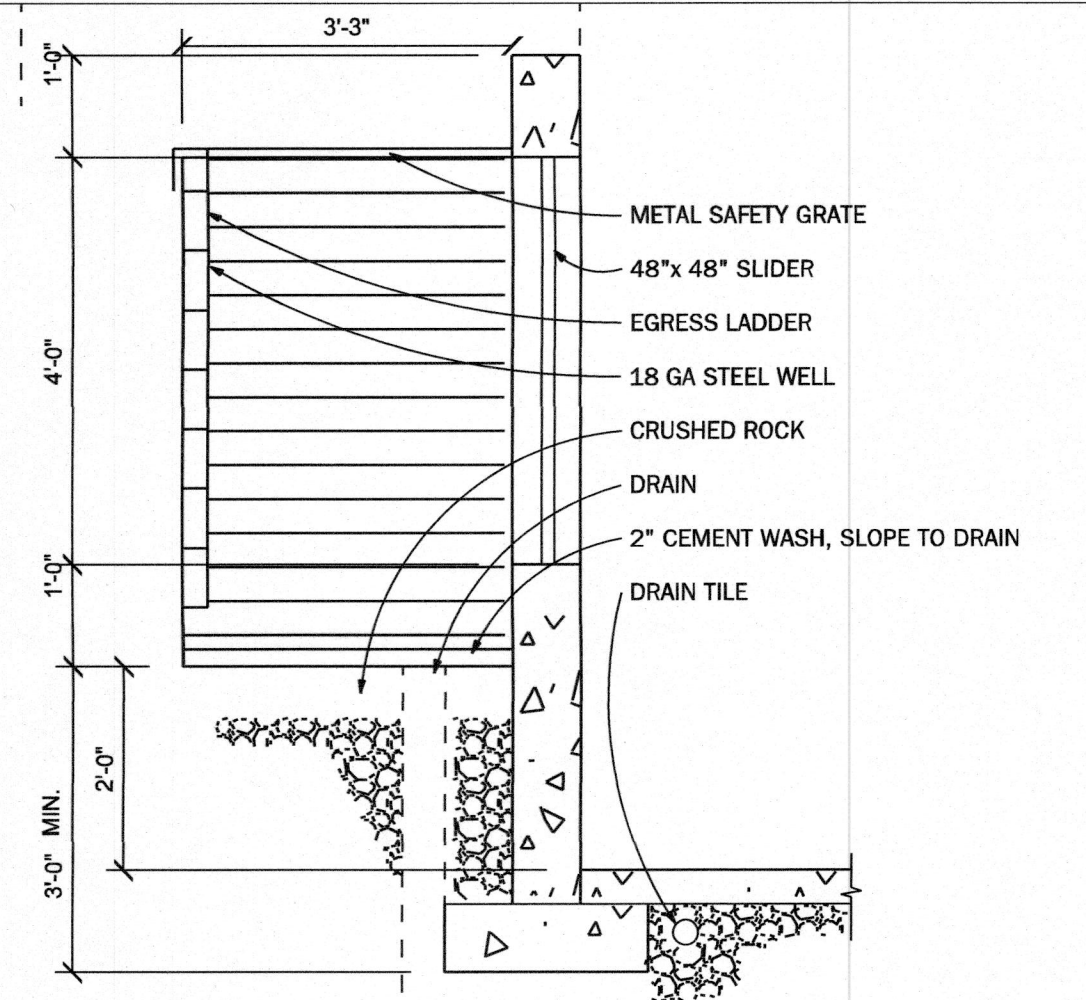
DDTZ2 DECK TENSION TIE



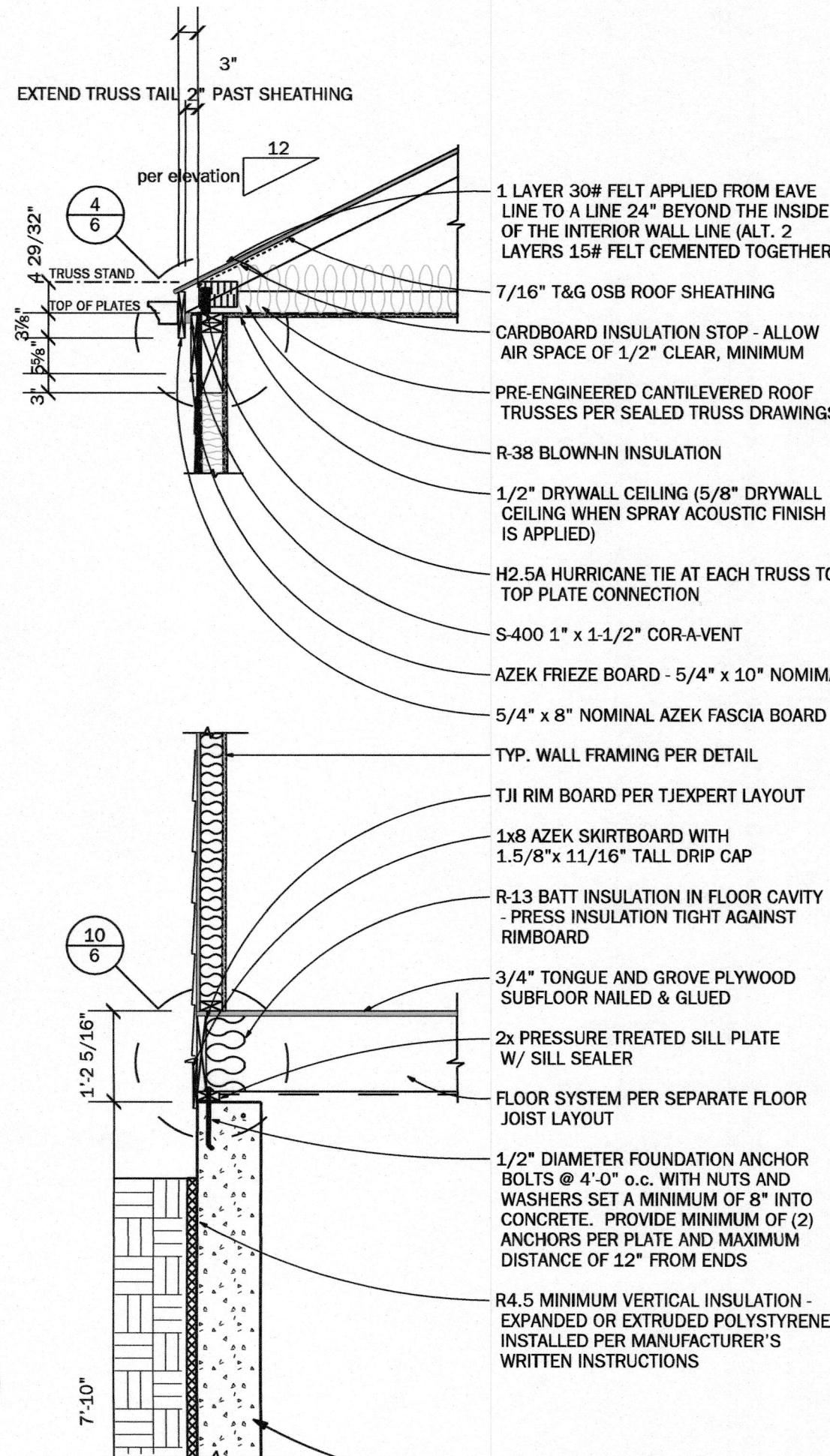
FOOTING - OPTIONAL 10'-0" POUR



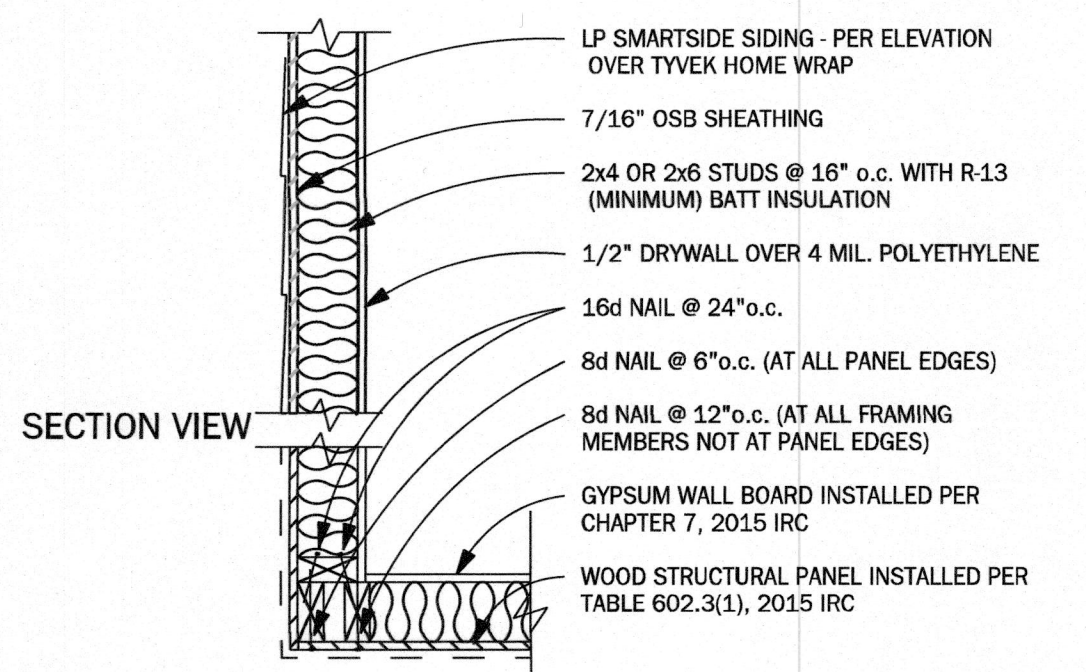
WALL SECTION - STANDARD 7'-10" POUR



EGRESS WINDOW WELL



TYP. CONTINUOUS STRUCTURAL PANEL SHEATHING @ EXTERIOR FRAME WALL



OUTSIDE CORNER DETAIL PLAN VIEW

Proposed residence, 1600-32
Permit #
Lot #5, 504 NW Main Street
Lee's Summit, Jackson County, Missouri 64063
for Walker Custom Homes LLC

| | | | |
|--|----|------|-----------------------------|
| STUDIO ARCHAEO S | | | |
| 433 BLUFF STREET, ALTON, IL 62002 314-280-3855 MISSOURI STATE CERTIFICATE OF AUTHORITY #2011021199 | | | |
| revised | by | chkd | issued for |
| | | | building permit application |
| | | | date |
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| Timothy L. Rousse - Architect MO#A-007231 0 2 4 6 8 10 sheet 4 of 5 6/5/2020 | | | |

EXCERPTS FROM IRC FASTENING SCHEDULE

| DESCRIPTION OF BUILDING ELEMENTS | NUMBER & TYPE OF FASTENER | SPACING OF FASTENERS |
|--|---|--|
| ROOF | | |
| 6 Roof truss to plate | 3-16d box nails (31/2" x 0.135"); or 3-10d common nails (3" x 0.148"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails | 2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss |
| WALL | | |
| 8 Stud to stud (not at braced wall panels) | 10d box (3" x 0.128"); or 3" x 0.131" nails | 16" o.c. face nail |
| 9 Stud to stud and abutting studs at intersecting wall corners (at braced wall panels) | 16d box (31/2" x 0.135"); or 3" x 0.131" nails | 12" o.c. face nail |
| 10 Built-up header (2,c to 2,c header with 1/2,c/rnspace) | 16d box (31/2" x 0.135") | 12" o.c. each edge face nail |
| 11 Continuous header to stud | 5-8d box (21/2" x 0.113"); or 4-8d common (21/2" x 0.131"); or 4-10d box (3" x 0.128") | Toe nail |
| 12 Top plate to top plate | 10d box (3" x 0.128"); or 3" x 0.131" nails | 12" o.c. face nail |
| 13 Double top plate splice for SDCs A-D2 with seismic braced wall line spacing < 25,S | 8-16d common (31/2" x 0.162"); or 12-16d box (31/2" x 0.135"); or 12-10d box (3" x 0.128"); or 12-3" x 0.131" nails | Face nail on each side of end joint (minimum 24" lap splice length each side of end joint) |
| 14 Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels) | 16d box (31/2" x 0.135"); or 3" x 0.131" nails | 12" o.c. face nail |
| 15 Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel) | 3-16d box (31/2" x 0.135"); or 2-16d common (31/2" x 0.162"); or 4-3" x 0.131" nails | 3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail |
| 16 Top or bottom plate to stud | 4-8d box (21/2" x 0.113"); or 3-16d box (31/2" x 0.135"); or 4-8d common (21/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails | Toe nail |
| 16 Top or bottom plate to stud | 3-16d box (31/2" x 0.135"); or 2-16d common (31/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails | End nail |
| 17 Top plates, laps at corners and intersections | 3-10d box (3" x 0.128"); or 2-16d common (31/2" x 0.162"); or 3-3" x 0.131" nails | Face nail |
| FLOOR | | |
| 21 Joist to sill, top plate or girder | 4-8d box (21/2" x 0.113"); or 3-8d common (21/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails | Toe nail |
| 22 Rim joist, band joist or blocking to sill or top plate (roof applications also) | 8d common (21/2" x 0.131"); or 10d box (3" x 0.128"); or 3" x 0.131" nails | 6" o.c. toe nail |
| 23 1" x 6" subfloor or less to each joist | 3-8d box (21/2" x 0.113"); or 2-8d common (21/2" x 0.131"); or 3-10d box (3" x 0.128"); or 2 staples, 1" crown, 16 ga., 13/4" long | Face nail |
| 26 Band or rim joist to joist | 3-16d common (31/2" x 0.162") 4-10 box (3" x 0.128"), or 4-3" x 0.131" nails; or 4-3" x 14 ga. staples, 7/16" crown | End nail |
| 27 Built-up girders and beams, 2-inch lumber layers | 20d common (4" x 0.192"); or | Nail each layer as follows: 32" o.c. at top and bottom and staggered. |
| 27 Built-up girders and beams, 2-inch lumber layers | 10d box (3" x 0.128"); or 3" x 0.131" nails | 24" o.c. face nail at top and bottom staggered on opposite sides |
| 27 Built-up girders and beams, 2-inch lumber layers | And: 2-20d common (4" x 0.192"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails | Face nail at ends and at each splice |
| 28 Ledger strip supporting joists or rafters | 4-16d box (31/2" x 0.135"); or 3-16d common (31/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails | At each joist or rafter, face nail |
| Wood structural panels, subfloor, roof and interior wall sheathing to framing [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing] | | |
| 30 3/8" - 1/2" | 6d common (2" x 0.113") nail (subfloor, wall) 8d common (21/2" x 0.131") nail (roof) | 6 inch at edge, 12 inch at intermediate supports |
| 31 19/32" - 1" | 8d common nail (21/2" x 0.131") | 6 inch at edge, 12 inch at intermediate supports |
| Wood structural panels, combination subfloor underlayment to framing | | |
| 37 3/4" and less | 6d deformed (2" x 0.120") nail; or 8d common (21/2" x 0.131") nail | 6 inch at edge, 12 inch at intermediate supports |

FASTENING SCHEDULE

a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 90 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.

b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.

c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.

d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.

e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).

f. Where the ultimate design wind speed is 130 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. Where the ultimate design wind speed is greater than 130 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.

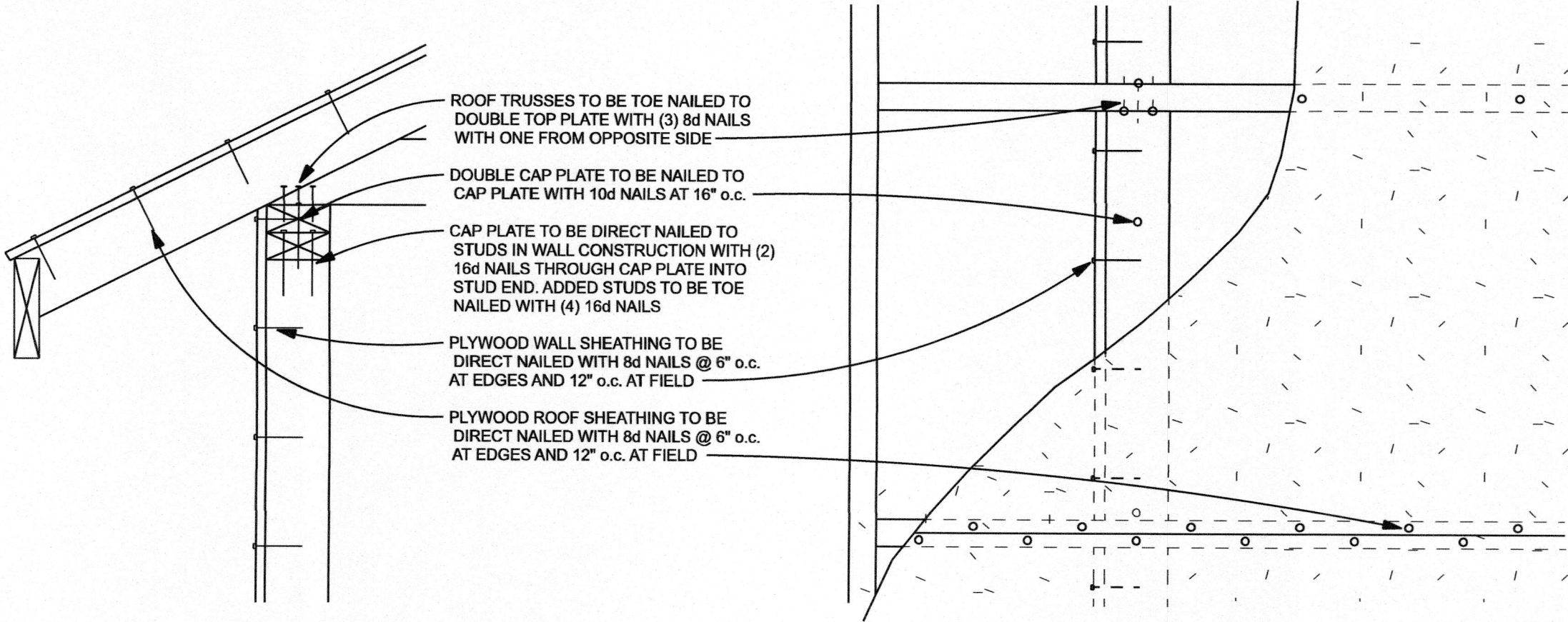
g. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.

h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

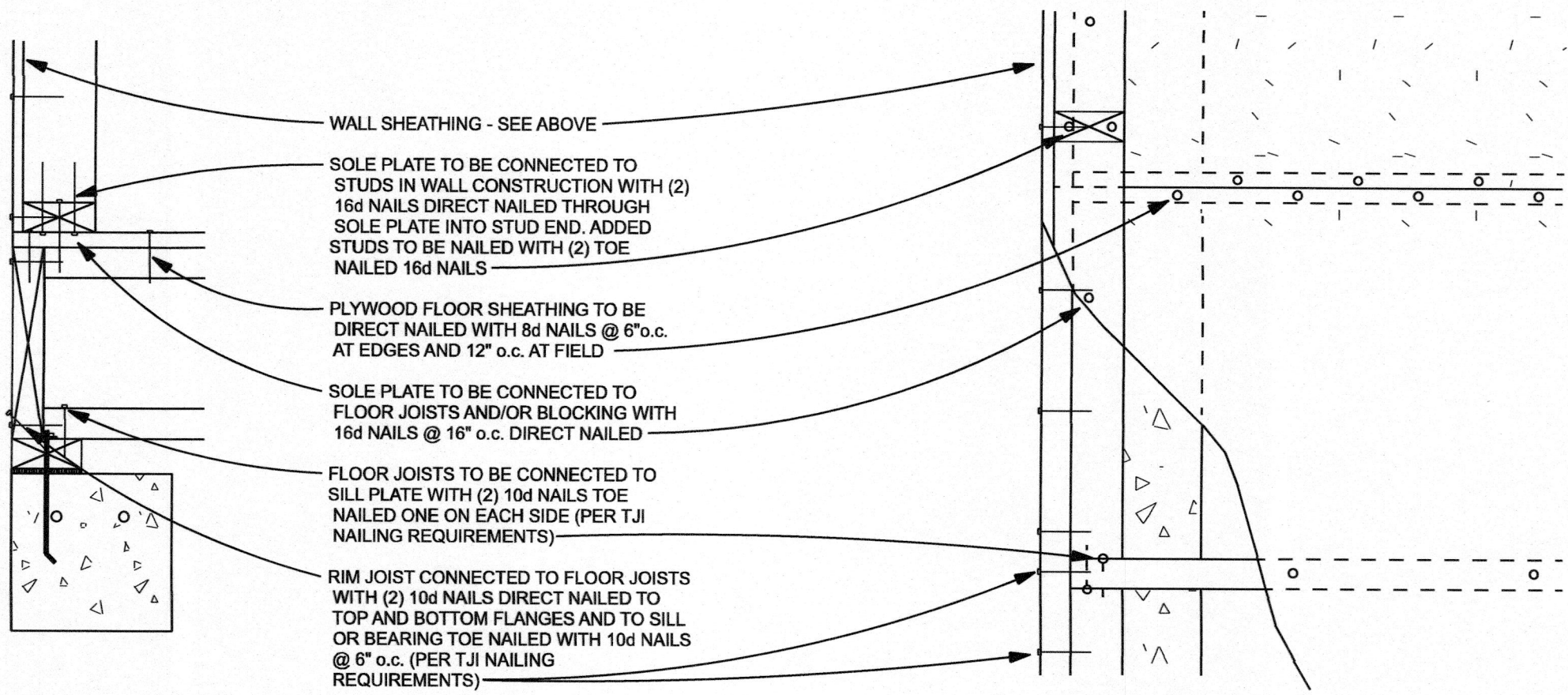
i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.

Silent Floor System Nailing Requirements for TJI/Pro 120TS Joists
Per Trus Joist MacMillan publication JM0399/30M - re-order # 2027
TJI Joists at bearing: (2) 10d or 12d box nails, 1 1/2" min. from end, one each side.
Blocking panels, rim joists or rim board to bearing plate:
TJI blocking panels or rim joists: 10d box nails @ 6" o.c.
Timberstrand LSL rim board: Toe nail 10d box nails @ 6" o.c., or 16d box nails @ 12" o.c.
Shear transfer: Connections equivalent to decking nail schedule
Rim board, rim joist or closure to TJI joist: 1 3/4" width or less: (2) 10d box nails, one each @ top & bottom flange
2x4 minimum squash blocks: (2) 10d box nails, one each @ top and bottom flange
TJI/Pro 120TS rim joist: (2) 10d box nails, one each @ top and bottom flange

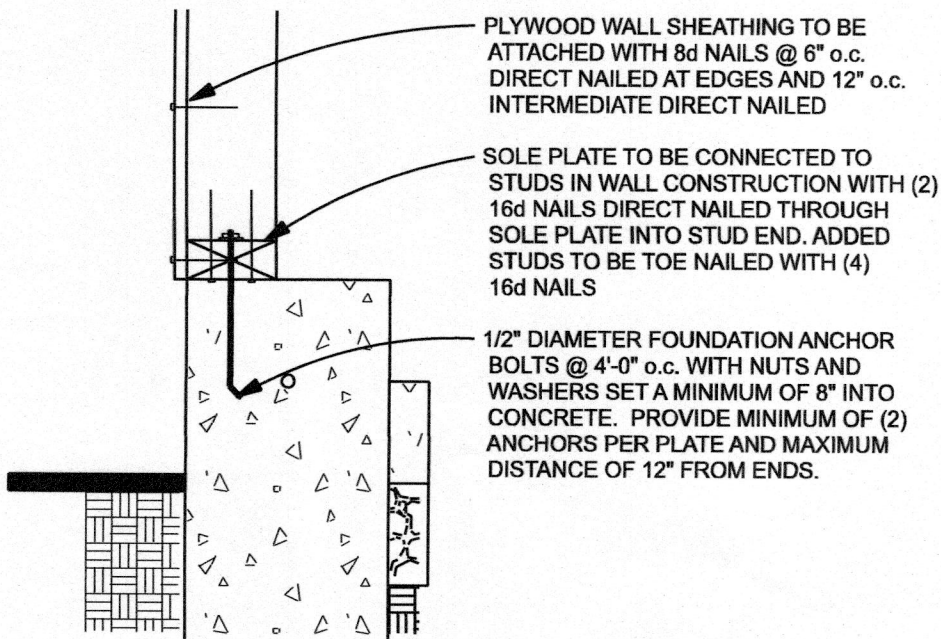
Silent Floor System Nailing Requirements for TJI/Pro 150, 250, 350 & 550 Joists
Per Trus Joist MacMillan publication NV0798/30M - re-order # 2025
TJI Joists at bearing: (2) 10d or 12d box nails, 1 1/2" min. from end, one each side
Blocking panels, rim joists or rim board to bearing plate:
TJI blocking panels or rim joists: 10d box nails @ 6" o.c.
Timberstrand LSL or Microlam LVL rim board: Toe nail 10d box nails @ 6" o.c., or 16d box nails @ 12" o.c.
Shear transfer: Connections equivalent to decking nail schedule
Rim board, rim joist or closure to TJI joist:
1 3/4" width or less: (2) 10d box nails, one each @ top and bottom flange
TJI/Pro 350 rim joist: (2) 16d box nails, one each @ top and bottom flange
TJI/Pro 550 rim joist: Toe nail joist to rim joist with (1) 10d box nail on each side of top flange
2x4 minimum squash blocks: (2) 10d box nails, one each @ top and bottom flange



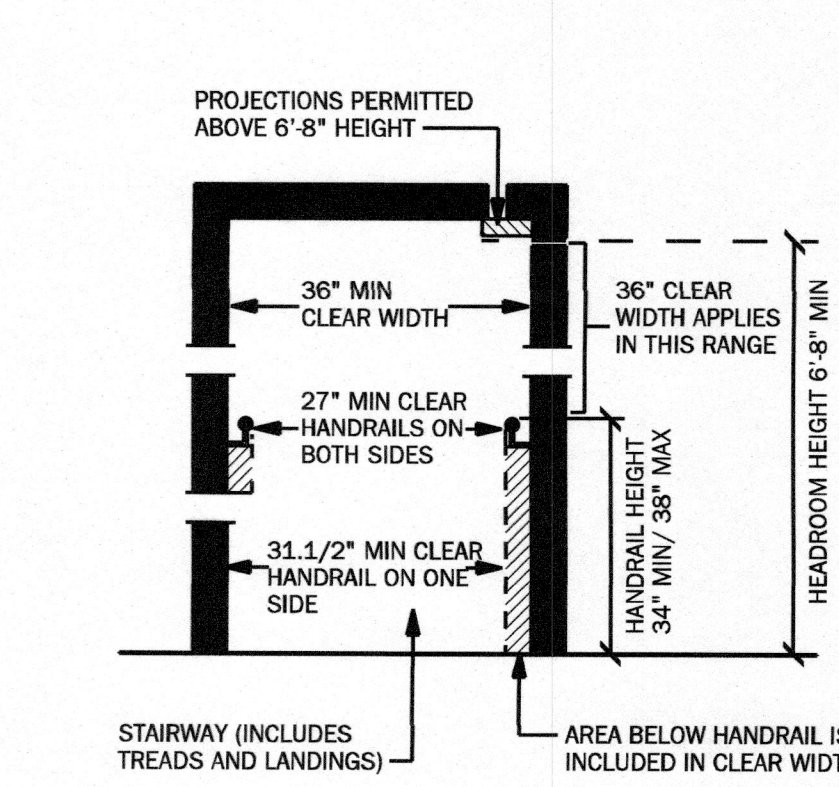
NAILING @ ROOF AND TOP PLATES



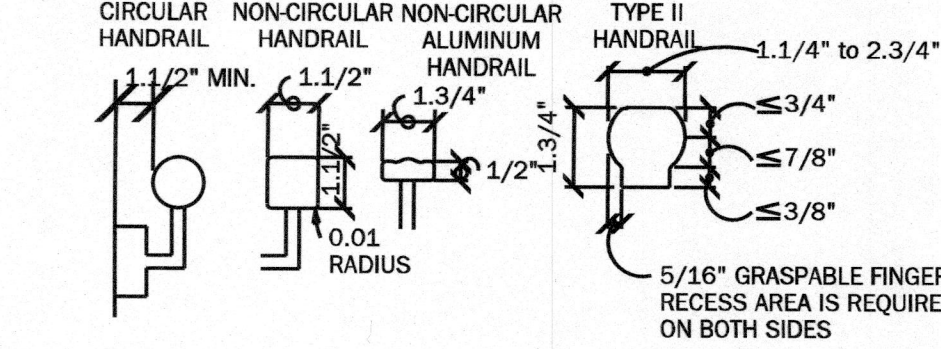
NAILING @ JOISTS OVER CONCRETE



NAILING @ FRAMING OVER FROST WALL



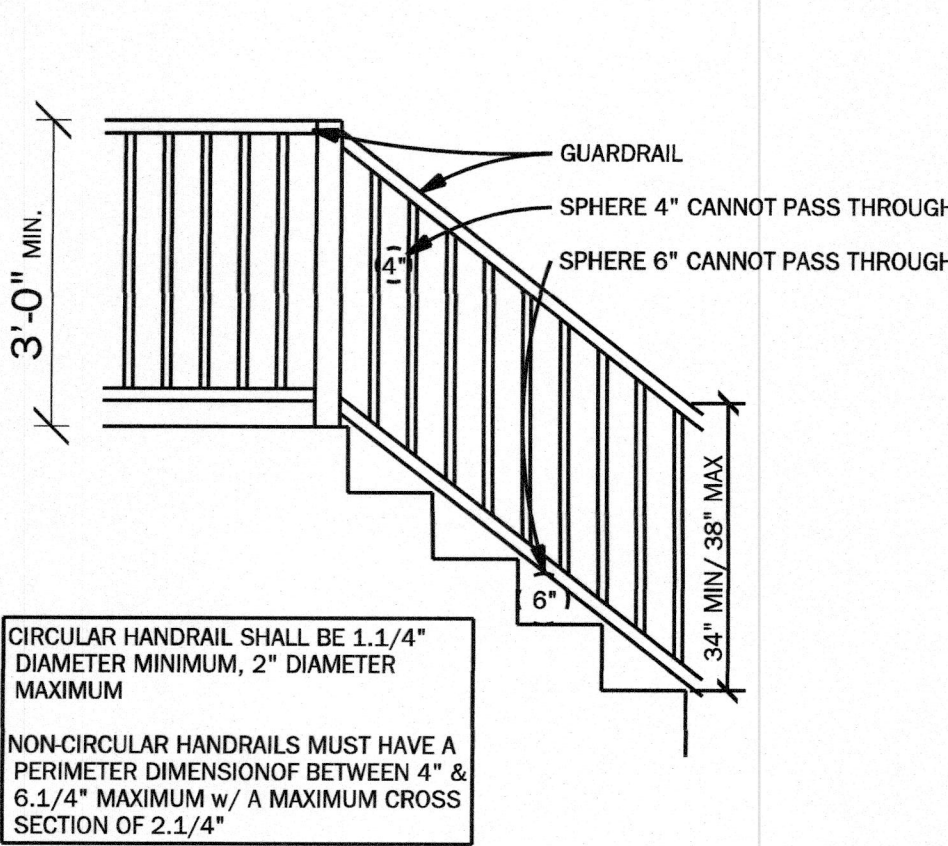
STAIRWAY CROSS SECTIONAL CLEARANCES



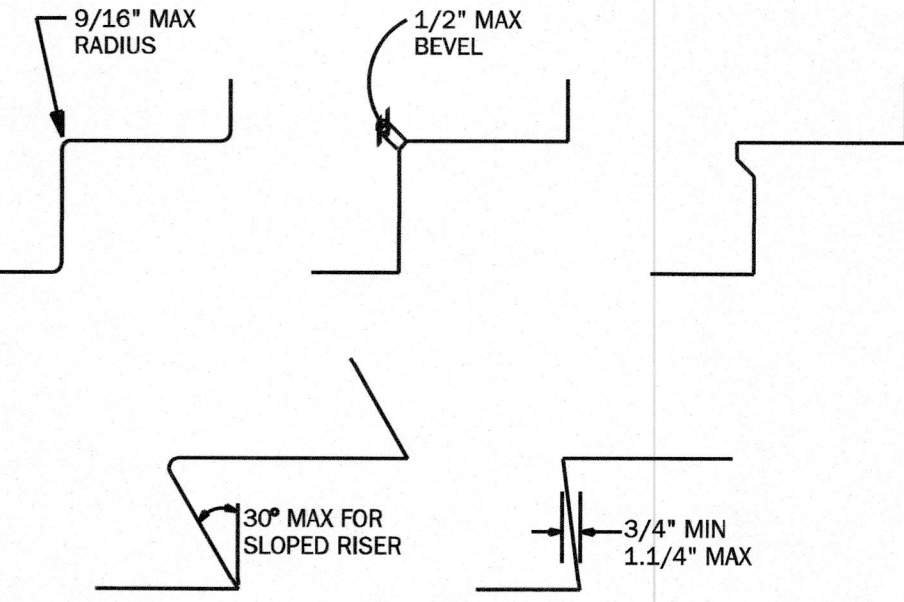
HANDRAIL TERMINATION - PLAN VIEWS

MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS (IRC TABLE R602.7.5)

| HEADER SPAN | 16 INCHES MAXIMUM STUD SPACING | 24 INCHES MAXIMUM STUD SPACING |
|-------------------|-----------------------------------|-----------------------------------|
| 3 FEET OR LESS | 1 | 1 |
| 4 FEET | 2 | 1 |
| 8 FEET | 3 | 2 |
| 12 FEET | 5 | 3 |
| 16 FEET | 6 | 4 |



GUARDRAIL REQUIREMENTS



TREAD PROFILES

Proposed residence, 1600-32 model
Permit #
Lot #5, 504 NW Main Street
Lee's Summit, Jackson County, Missouri 64063
for Walker Custom Homes LLC

STUDIO ARCHAEO S

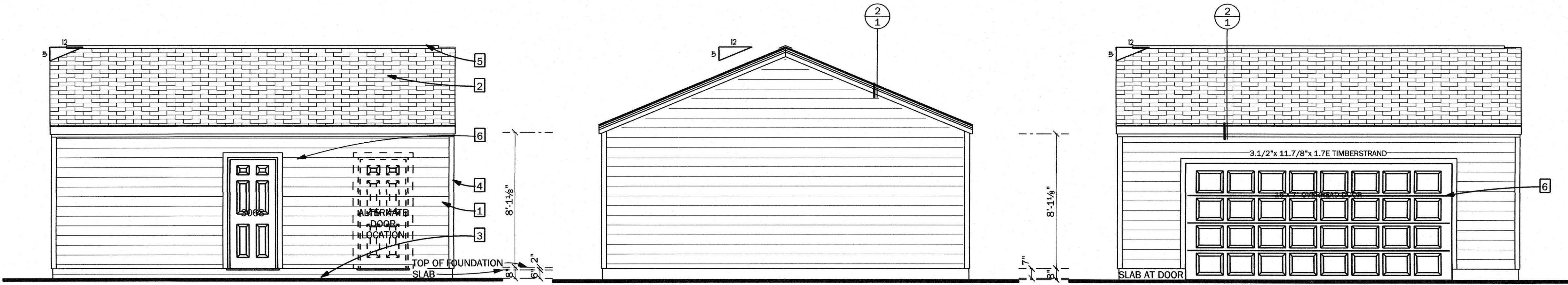
433 BLUFF STREET, ALTON, IL 62002 314.280.3855
MISSOURI STATE CERTIFICATE OF AUTHORITY #2011021199

| | | | | |
|---------|-----|-------|-----------------------------|-----------|
| revised | by | dated | issued for | date |
| | Tim | | building permit application | 5/22/2020 |

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Timothy Louis Gisse - Architect
MO#3507234

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6/5/2020

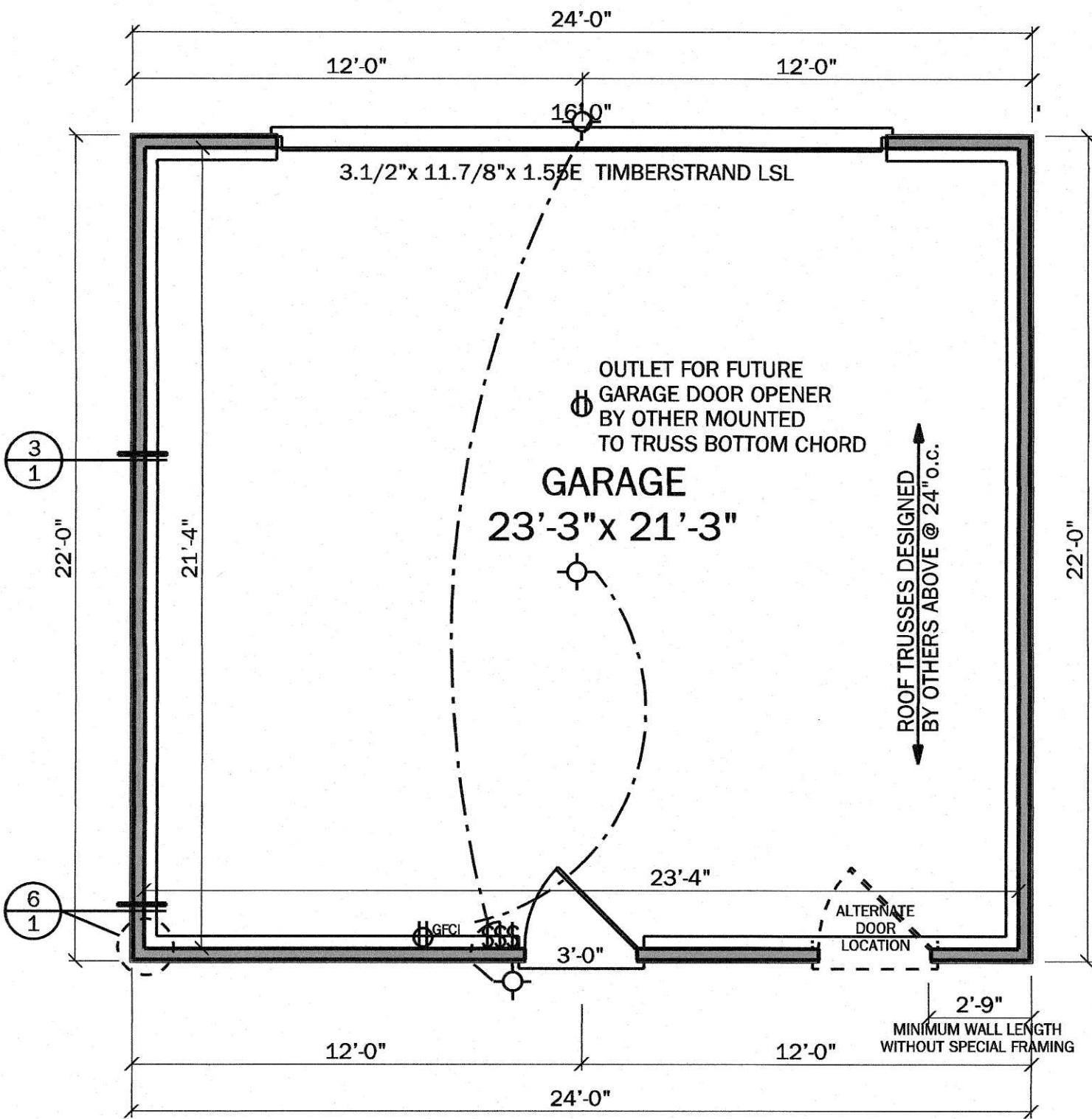


FRONT ELEVATION
STANDARD 8'-1" HIGH WALLS,
ALL HEADERS SHALL BE (2) 2X10 #2 KDYP UNLESS NOTED ON PLAN OR ELEVATIONS

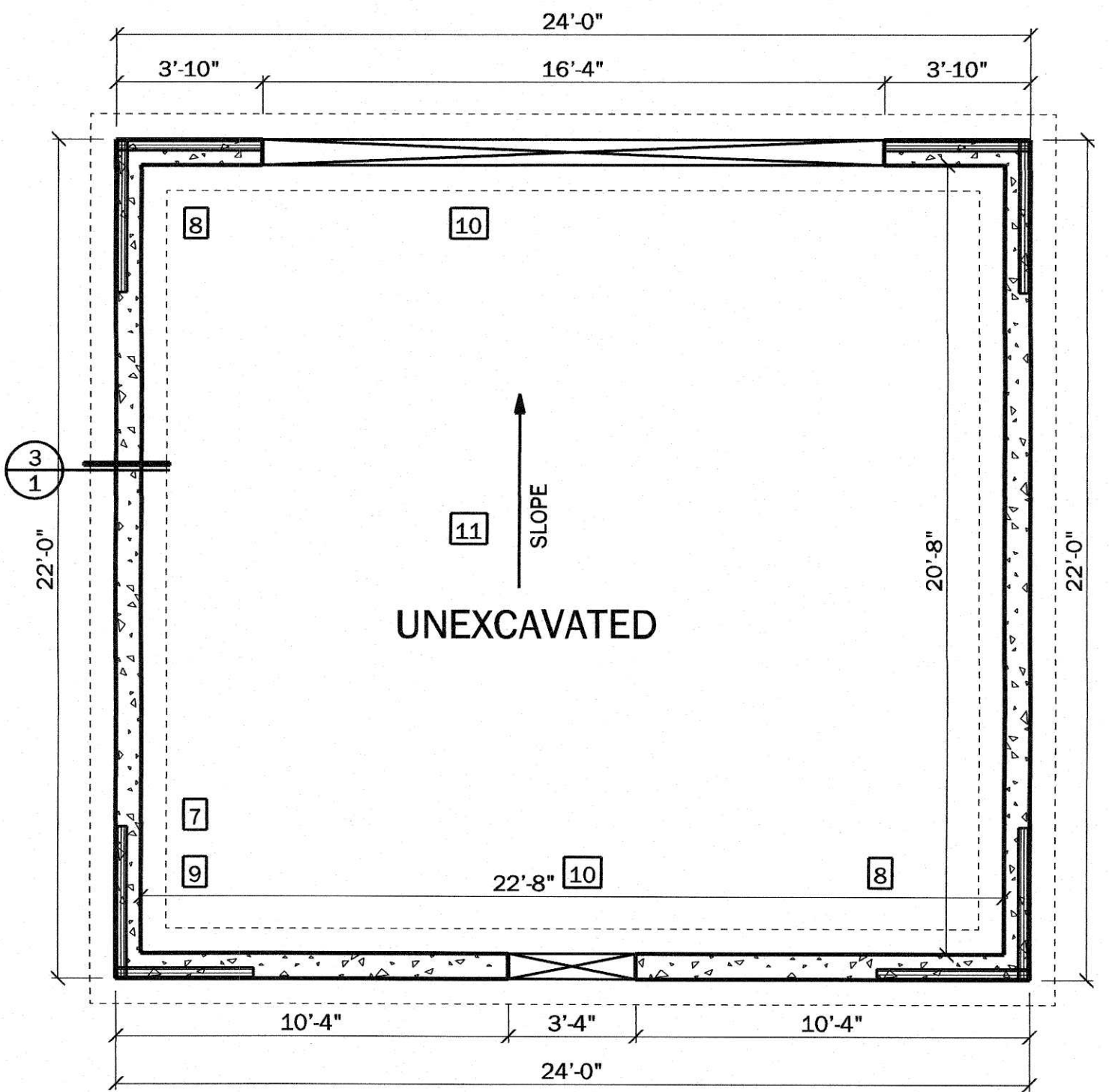
SIDE ELEVATION (TYPICAL)

REAR ELEVATION (ALLEY)

- KEYED GARAGE NOTES
1. 8.25" PRE-PREFINISHED HARDIEPLANK FIBER CEMENT SIDING, 7" EXPOSURE
 2. LAMINATED ASPHALT SELF SEALING SHINGLES TO MATCH HOUSE - INSTALL PER MANUFACTURERS SPECIFICATIONS
 3. APPROXIMATE FINISH GRADE - THE GRADE ADJACENT TO FOUNDATION WALLS SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET. IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM BUILDING. WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES OF FALL WITHIN THE FIRST 10 FEET, DRAINS OR SWALES SHALL BE PROVIDED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. FINISHED GRADE SHALL BE 8" MINIMUM BELOW TOP OF FOUNDATION. ALL AREAS SHALL BE SLOPED TO LOWER ELEVATIONS OR DRAINAGE STRUCTURES ON OR NEAR THE SITE.
 4. CORNER BOARD - 3-1/2" WIDE 5/4 SMOOTH HARDIETRIM (1" THICK)
 5. CONTINUOUS RIDGE VENT
 6. DOOR TRIM - 3-1/2" WIDE 5/4" SMOOTH HARDIETRIM (1" THICK) AT HEAD & JAMBS, TYPICAL
 7. SILL PLATE LINE ABOVE
 8. 8" WIDE CONCRETE FROST WALL - EXTEND 8"x24" WIDE CONCRETE FOOTING 30" BELOW GRADE, TYPICAL
 9. 2-#4 REBARS 48" LONG VERTICALLY @ 12" o.c. LAPPED & TIED AT ALL CORNERS, TYPICAL
 10. HOLD DOWN WALL FOR SLAB THRU DOOR ABOVE
 11. GARAGE SLAB; 4" CONCRETE SLAB OVER COMPACTED FILL - SLOPE AT 1/4" PER FOOT MINIMUM TOWARD GARAGE DOORS. 4" CONCRETE SLAB WITH 6X6, 10/10 WELDED WIRE FABRIC OVER 6 MIL MOISTURE BARRIER AND 4" OF COMPACTED FILL - REINFORCEMENT SHALL BE SUPPORTED TO REMAIN IN PLACE FROM THE CENTER TO UPPER 1/3 OF THE SLAB FOR THE DURATION OF CONCRETE PLACEMENT



FLOOR PLAN
528 SQUARE FEET (unfinished, uninsulated garage)
STANDARD 8'-1" HIGH FIRST FLOOR WALLS
ALL HEADERS SHALL BE (2) 2X10 #2 KDYP UNLESS NOTED ON PLAN OR ELEVATIONS
WHEN TWO OR MORE CIRCUITS ARE RUN, SUB-PANEL IN GARAGE IS REQUIRED



FROST WALL PLAN

Proposed 24'x 22' garage
Permit #
Lots #2 & 5, 514 NW Main Street
Lee's Summit, Jackson County, Missouri 64063
for Walker Custom Homes LLC

STUDIO ARCHAEO S

3213 SOUTH MESTER STREET, ST. CHARLES, MO 63301 314-280-3855
MISSOURI STATE CERTIFICATE OF AUTHORITY #2011021199

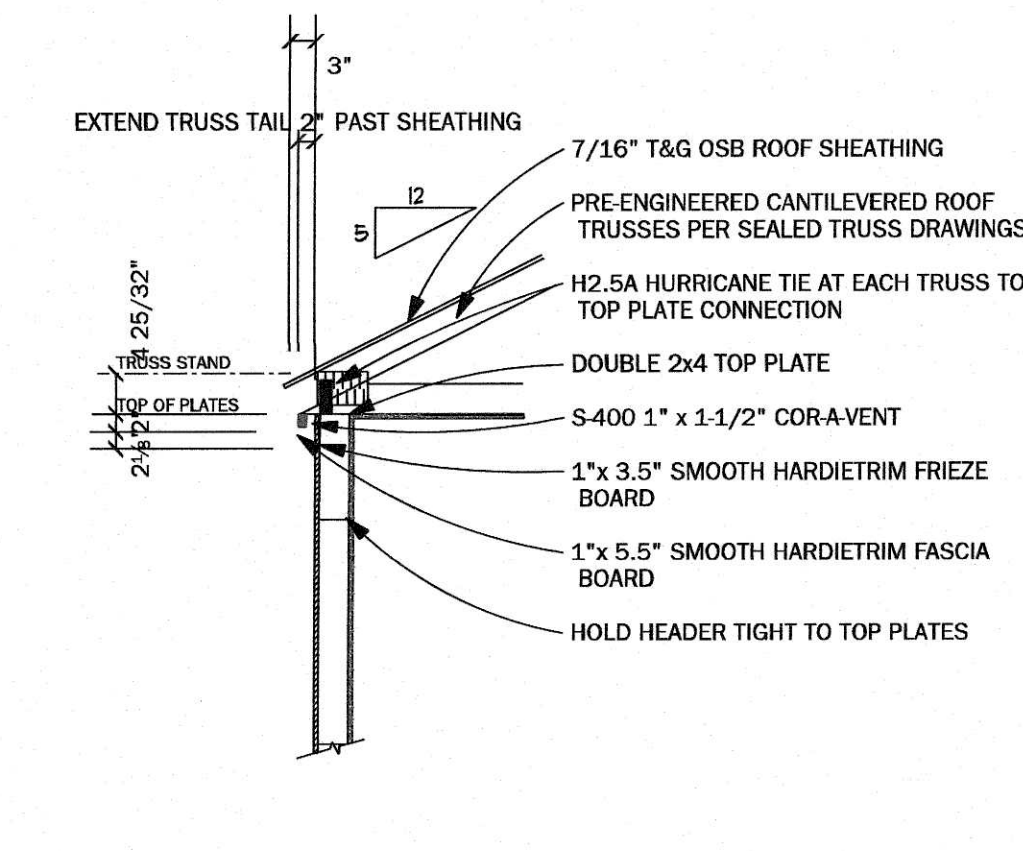
| Revised | By | Checked | Issued for | Date |
|---------|-----|---------|-------------------------------|-----------|
| | Tim | | building department submittal | 5/22/2020 |

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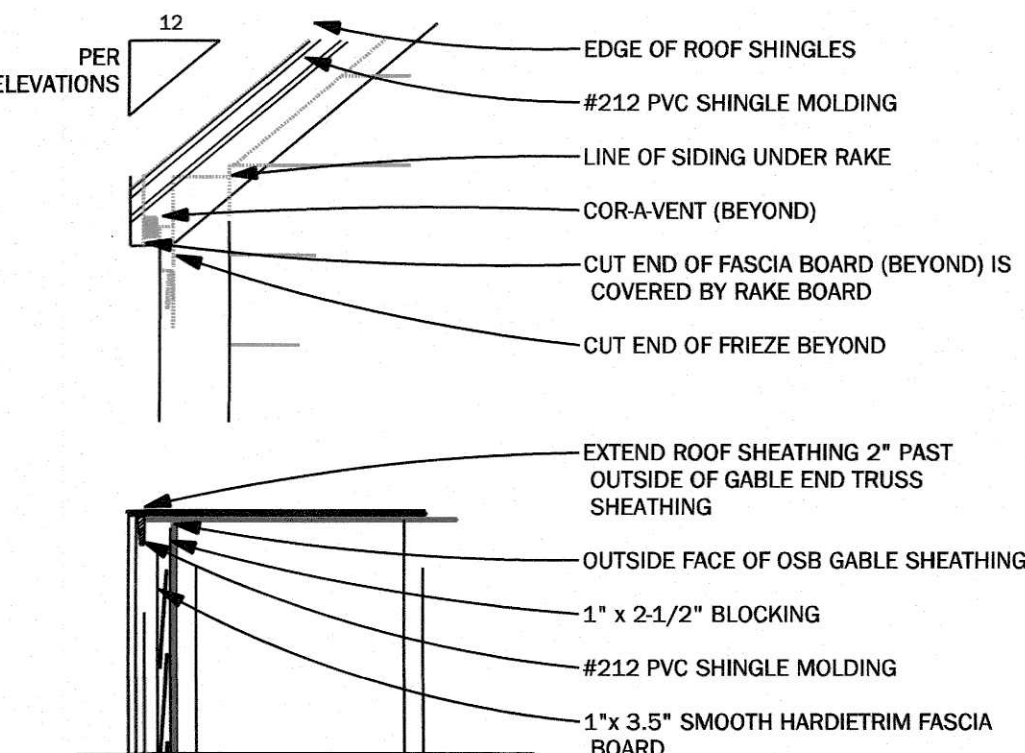
Timothy Louis Busse - Architect
MO# A-007231

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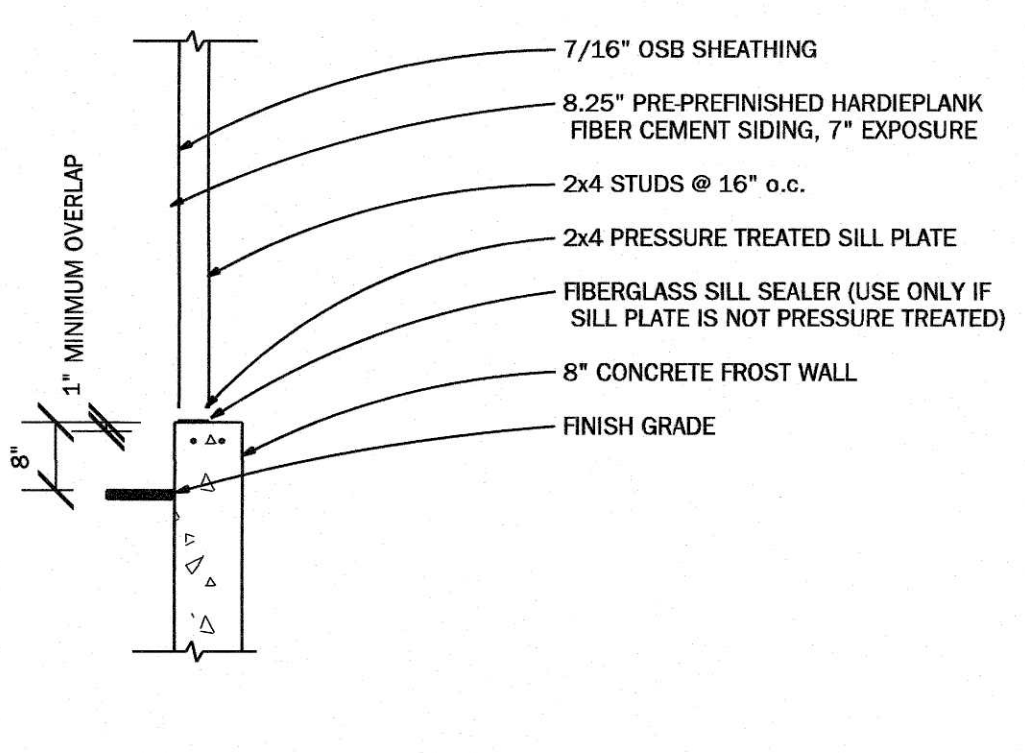
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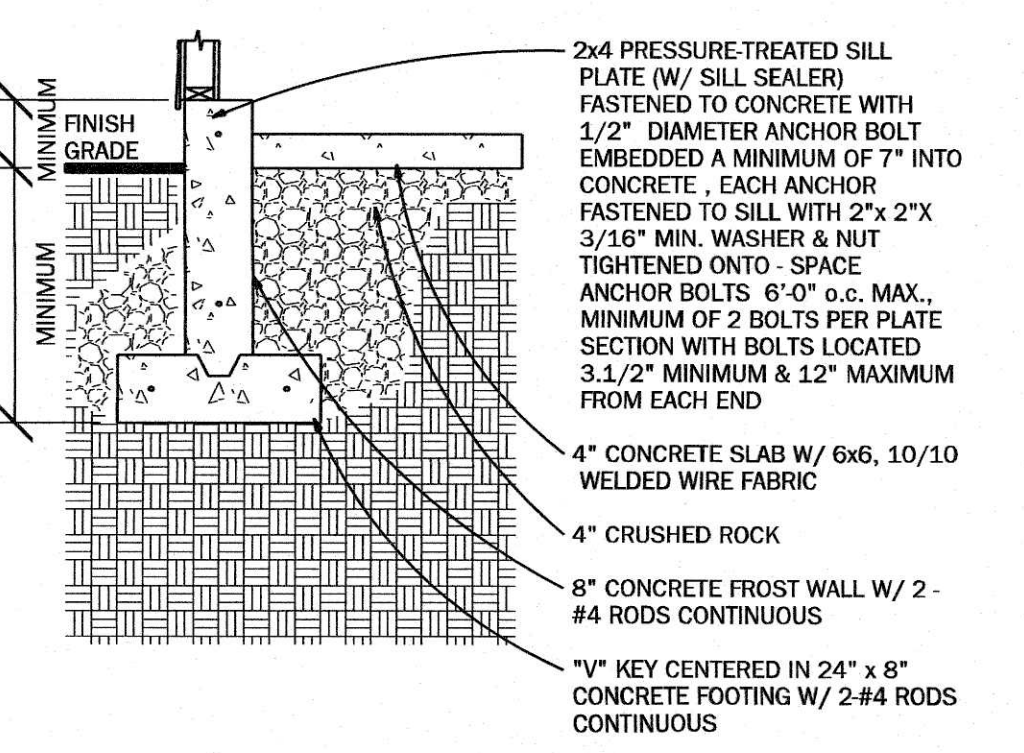
TYPICAL EAVE - 2" OVERHANG



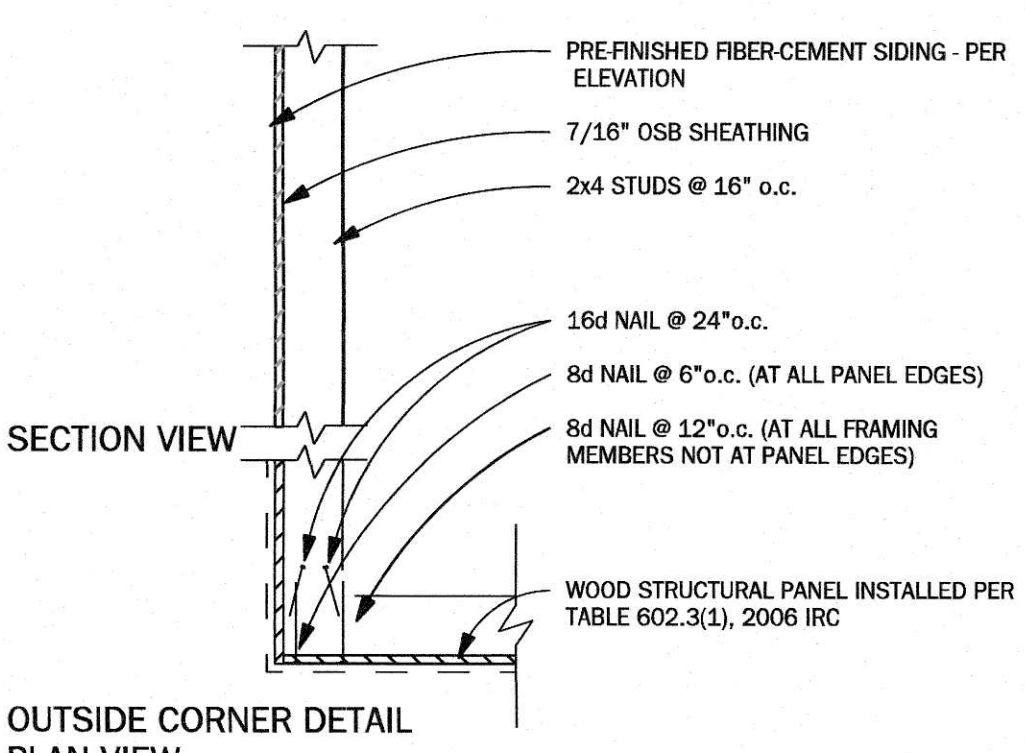
STANDARD RAKE AT GABLE END



TYPICAL WALL SECTION OVER CONCRETE



FROST WALL AT GARAGE



SECTION VIEW
OUTSIDE CORNER DETAIL
PLAN VIEW
TYP. CONTINUOUS STRUCTURAL PANEL
SHEATHING @ EXTERIOR FRAME WALL