

PROVIDATION A MINIMUM OF 6" WITHIN
FIRST 10' PER SEC. R401.3



COTTAGE

A 3D architectural rendering of a bungalow house. The house features a light-colored exterior with a stone base, a brown tiled roof, and a covered porch supported by wooden pillars. The word "BUNGALOW" is written in bold black letters on a white background in the bottom right corner.

RANCH

1. Prior to commencement of any work the contractor shall visit the project to compare the scope of work shown on the Drawings and other contract Documents with existing conditions. Promptly report any errors, omissions, inconsistencies or other detrimental conditions. the Drafting Firm if the contractor fails to perform this obligation. the contractor will be responsible for all costs and damages associated with actions required to correct unreported conditions that otherwise could have been avoided.
2. The Contractor shall secure and pay for the Building Permit and other permits and Governmental fees, licenses and inspections necessary for proper execution and completion of the work. Scheduling of approvals and inspections by authorities having jurisdiction over the work is the responsibility of the contractor. unless otherwise specified on contract between Builder and Owner.
3. Unless otherwise stipulated in the contract documents, the contractor shall provide and pay for all labor, materials, taxes, equipment, tools, construction equipment, machinery, transportation and other facilities necessary for proper execution and completion of the work.
4. The Contractor warrants to the owner that materials and equipment furnished under the contract will be new and of good quality unless otherwise permitted by the contract documents. the work will be free of defects and will be completed in neat and workman like manner acceptable to the owner.
5. Contractor shall provide the owner with a written warranty covering all work performed under the contract. warranty shall be for a period of one year commencing on the date of substantial completion.
6. The Contractor shall promptly correct. at no cost to the owner and without change in contract time, all nonconforming or defective work whether discovered before or after substantial completion.
7. In the event that discrepancies are found between drawings and drawing and specifications the contractor shall request a clarification from the Drafting Firm in writing.
8. The contract documents convey design intent and the contractor shall furnish all necessary labor and materials to complete the work even though all materials may not be specified called out or detailed on the drawings.
9. All manufactured articles, materials, and equipment shall be applied, installed connected, erected, used, cleaned, and conditioned in accordance with the manufacture's written specifications and instruction unless specified herein to the contrary.
10. Wiring and conduit is to be concealed in both new and existing partitions with all outlets, switches and similar devices mounted in recessed junction boxes with flush cover plates. surface mounted conduit, wire mold, outlets, etc. will not be permitted unless allowed by building department.
11. Furnish and install all necessary components to provide a fully operational fire protection system that complies with applicable codes and the requirements of Authorities having jurisdiction. integrate the operation of this system with the shell building fire protection system.
12. Electrical and Telephone outlets are to be at 18" above finish floor unless otherwise noted on the drawings.
13. The contractor shall verify all mechanical, plumbing, and electrical requirements prior to commencement of the job.

1. Dimensions take precedence over scale on the construction drawings. notify the Drafting Firm of discrepancies between drawing dimensions and field conditions.
2. Dimensions are given to face of walls unless otherwise noted.
3. Partitions thickness is derived from description of the partition construction and or designated detail.

1. Cover Page
2. General Notes
3. Floor Plan
4. Foundation Plan
5. Wall Bracing
6. Cottage Elevation
7. Cottage Roof Framing
8. Bungalow Elev / Framing
9. Ranch Elev / Framing
10. Plumbing notes
11. Electrical 1
12. Electrical 2
13. HVAC PLAN

[illegible]

PLAN # 900

DATE:

SCALE:

SHEET:

1

Codes:
• 2018 International Building Code. • 2018 International Residential Code. • 2018 International Mechanical Code • 2018 International Plumbing Code • 2018 International Fire Code • 2017 National Electrical Code • 2018 International Energy Conservation Code

Structural Design Criteria:
• Basic Wind Speed; 90 mph (3 second gust) • Wind Exposure Category; C • Seismic Design Category; B • Roof live load; 20 lbs Minimum

Foundation:
1. Foundation design is base on minimal soil bearing values as per current Building Codes. 2. All footings to bear minimum 12" below native soil, or an engineered pad. When building Pad please provide certificate of compaction, to building department. 3. Place concrete only on clean and firm soil. 4. Allowable soil bearing pressure as follows: a. 1000 PSF @ 18" Below Natural Grade (for dead loads). b. 1500 PSF @ 18" Below Natural Grade (for Dead and Live Loads). c. Allow 1/3 increase in allowable stresses for toe pressures on eccentrically loaded foundation or foundations subject to overturning loads. 5. Bottom of all footing shall bear on undisturbed soil 12" below natural grade; R403.1.4 or as required by sec R403.1.4.1 and R403.1.4.2. 6. Top surface of footings shall be level; the bottom surface shall not have a slope exceeding one unit vertical in 10 units horizontal, 10%.

Termite Control:
R318.1. Subterranean termite control methods, in areas subject to damage from termites as indicated by Table R301.2 (1), methods of protection shall be one of the following methods or a combination of these methods: R318.2 Chemical termiticide treatment. Chemical termiticide treatment shall include soil treatment and/or field applied wood treatment. The concentration, rate of application and method of treatment of the chemical termiticide shall be in strict accordance with the termiticide label. R318.3 Barriers. Approved physical barriers, such as metal or plastic sheeting or collars specifically designed for termite prevention, shall be installed in a manner to prevent termites from entering the structure. Shields placed on top of an exterior foundation wall are permitted to be used only if in combination with another method of protection. R318.4 Foam plastic protection. In areas where the probability of termite infestation is "very heavy" as indicated in Figure R301.2(6), extruded and expanded polystyrene, polyisocyanurate and other foam plastics shall not be installed on the exterior face or under interior or exterior foundation walls or slab foundations located below grade. The clearance between foam plastics installed above grade and exposed earth shall be at least 6 inches (152 mm).

Mechanical:
R303.9 required heating. 1. When the winter design temperature in Table R301.2 (1) is below 60°F (16°C), every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section. M1401.2 Access. 2. Heating and cooling equipment and appliances shall be located with respect to building construction and other equipment and appliances to permit maintenance, servicing and replacement. Clearances shall be maintained to permit cleaning of heating and cooling surfaces; replacement of filters, blowers, motors, controls and vent connections; lubrication of moving parts; and adjustments. M1401.3 Sizing. 3. Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

Lumber:
1. R602.1 Identification. Load-bearing dimension lumber for studs, plates and headers shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certification of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted. 2. R602.2 Grade. Studs shall be a minimum No. 3, standard or stud grade lumber. 3. Drilling and notching of studs. Drilling and notching of studs shall be in accordance with the following: a. 1. Notching. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width. b. 2. Drilling. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no more than 60 percent of the stud width, the edge of the hole is no more than 5/8 inch (16 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall also be doubled with no more than two successive doubled studs bored. See Figures R602.6 (1) and R602.6 (2). Of 2018 IRC.

Structural Sawn Lumber
1. Joist, Beams and Ledgers, shall be Minimum Douglas Fir #2 or better. 2. Plates and Blocking, Hem Fir stud grade or better. 3. Column and Post. Douglas Fir #2 or better. 4. GLU LAM BEAMS: a. West Coast douth fb=2400 PSI, E=1.6X10-6 PSI. b. Fabrication and handling shall comply with latest AITC standards, each beam shall bear AITC stamp indicating species and stress grade. 5. Roof Sheathing: a. ½" OSB OR 5-ply CDX. With 8d nails 6" O.C. at supported edges (unblocked) and 12" in the field, staples may be used, provide the meet IRC Requirements, or as per local building department. 6. Wall Sheathing: a. 3/8" OSB with 8d nails 6" O.C. at edges, and 12" in field

Pre-Manufactured Trusses:
1. All Trusses shall be designed by an Arizona registered engineer. Truss fabrication shall be done by an approved licensed manufacture. 2. Engineered drawings shall be submitted to the local building department, and copies shall be available at job site for framing inspections.

Flashing:
1. Metal flashing to be 26 gauge.

Plumbing:
P2903.1 Water supply system design criteria. 1. The water service and water distribution systems shall be designed and pipe sizes shall be selected such that under conditions of peak demand, the capacities at the point of outlet discharge shall not be less than shown in Table P2903.1. P2903.2 Maximum flow and water consumption. 2. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table P2903.2. P2903.3 Minimum pressure. 3. The static water pressure (as determined by the local water authority) at the building entrance for either public or private water service shall be not less than 40 psi (276 kPa). P2903.7 Size of water-service mains, branch mains and risers. 4. The size of the water service pipe shall be not less than 3/4 inch (19 mm) diameter. The size of water service mains, branch mains and risers shall be determined according to water supply demand [gpm (L/m)], available water pressure [psi (kPa)] and friction loss caused by the water meter and developed length of pipe [feet (m)], including equivalent length of fittings. The size of each water distribution system shall be determined according to design methods conforming to acceptable engineering practice, such as those methods in Appendix P and shall be approved by the code official.

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENERa, b, c	SPACING OF FASTENERS
Roof			
1	Blocking between joists or rafters to top plate, toe nail	3-8d (2-1/2" × 0.113")	
2	Ceiling joists to plate, toe nail	3-8d (2-1/2" × 0.113")	
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	
4	Collar tie to rafter, face nail or 1-1/4" × 20 gage ridge strap	3-10d (3" × 0.128")	
5	Rafter or roof truss to plate, toe nail	3-16d box nails (3-1/2" × 0.135") or 3-10d common nails (3" × 0.148")	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d (31/2? × 0.135?) 3-16d (3-1/2" × 0.135")	
Wall			
7	Built-up studs-face nail	10d (3" × 0.128")	24" o.c.
8	Abutting studs at intersecting wall corners, face nail	16d (3-1/2" × 0.135")	12" o.c.
9	Built-up header, two pieces with 1/2" spacer	16d (3-1/2" × 0.135")	16" o.c. along each edge
10	Continued header, two pieces	16d (3-1/2" × 0.135")	16" o.c. along each edge
11	Continuous header to stud, toe nail	4-8d (2-1/2" × 0.113")	
12	Double studs, face nail	10d (3" × 0.128")	24" o.c.
13	Double top plates, face nail	10d (3" × 0.128")	24" o.c.
14	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d (3-1/2" × 0.135")	
15	Sole plate to joist or blocking, face nail	16d (3-1/2" × 0.135")	16" o.c.
16	Sole plate to joist or blocking at braced wall panels	3-16d (3-1/2" × 0.135")	16" o.c.
17	Stud to sole plate, toe nail	3-8d (2-1/2" × 0.113") or 2-16d (3-1/2" × 0.135")	
18	Top or sole plate to stud, end nail	2-16d (3-1/2" × 0.135")	
19	Top plates, laps at corners and intersections, face nail	2-10d (3" × 0.128")	
20	1" brace to each stud and plate, face nail	2-8d (2-1/2" × 0.113") 2 staples 1- 3/4" ×	
21	1" × 6" sheathing to each bearing, face nail	2-8d (2-1/2" × 0.113") 2 staples 1 -3/4?	
22	1" × 8" sheathing to each bearing, face nail	2-8d (2-1/2" × 0.113") 3 staples 1- 3/ 4	
23	Wider than 1" × 8" sheathing to each bearing, face nail	3-8d (2-1/2" × 0.113") 4 staples 1-3/4"	
Floor			
24	Joist to sill or girder, toe nail	3-8d (2-1/2" × 0.113")	
25	Rim joist to top plate, toe nail (roof applications also)	8d (2-1/2" × 0.113")	6" o.c.
26	Rim joist or blocking to sill plate, toe nail	8d (2-1/2" × 0.113")	6" o.c.
27	1" × 6" subfloor or less to each joist, face nail	2-8d (2-1/2" × 0.113") 2 staples 13/4?	
28	2" subfloor to joist or girder, blind and face nail	2-16d (3-1/2" × 0.135")	
29	2" planks (plank & beam - floor & roof)	2-16d (3-1/2" × 0.135")	at each bearing
30	Built-up girders and beams, 2-inch lumber layers	10d (3" × 0.128")	Nail each layer as follows: 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice.
31	Ledger strip supporting joists or rafters	3-16d (3-1/2" × 0.135")	At each joist or rafter

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 Ksi = 6.895 MPa.
a. All 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: 80 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. For regions having basic wind speed of 110 mph or greater, 8d deformed (21/2? × 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 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.
h. 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.
i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all 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.
j. 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.

SUPPLEMENTARY NOTES:
1. Verify all dimensions and conditions prior to starting work. Notify Designer of any discrepancies or inconsistencies. 2. Verify in the field all existing conditions shown on drawings. 3. Establish and verify all openings and inserts for Mechanical, Electrical, and Plumbing with appropriate trades and construction documents. 4. Provide all necessary temporary shoring, guying and other means to avoided excessive stresses and to hold structural elements in place during construction. 5. Options are for the General Contractors convenience. And She/he shall be responsible that any changes are within regulations of the current codes, and will submit for any require permits. 6. Any engineering design provided and submitted for review shall bear the seal and signature of an Arizona Registrant. Designer shall not be held responsible for any and all cost expenses, damages or other liability of any nature arising out of in connection with, or in any way related to the plans drawn by the designer

<i>(continued)</i>					
ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENERb, c, e	SPACING OF FASTENERS	Edges (inches)i	Intermediate supportsc, e (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing	32	3/8" - 1/2"	6d common (2" × 0.113") nail (subfloor wall)j 8d common (2-1/2" × 0.131") nail (roof)f	6	12g
	33	19/32" - 1"	8d common nail (2-1/2" × 0.131")	6	12g
	34	11/8" - 11/4"	10d common (3" × 0.148") nail or 8d (2-1/2" × 0.131") deformed nail	6	12
Other wall sheathingh	35	1/2" structural cellulose fiberboard sheathing	1-1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1-1/4" long	3	6
	36	25/32" structural cellulose fiberboard sheathing	1-3/4" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1-1/2" long	3	6
	37	1/2" gypsum sheathing	1-1/2" galvanized roofing nail; staple galvanized, 11/2" long; 11/4 screws, Type W or S	7	7
Å	Wood structural panels, combination subfloor underlayment to framing				
38	5/8" gypsum sheathing		1-3/4" galvanized roofing nail; staple galvanized, 1-5/8" long; 1-5/8" screws, Type W or S	7	7
39	3/4" and less		6d deformed (2" × 0.120") nail or 8d common (2-1/2" × 0.131") nail	6	12
40	7/8" - 1"		8d common (2-1/2" × 0.131") nail or 8d deformed (2-1/2" × 0.120") nail	6	12
41	1-1/8" - 11/4"		10d common (3" × 0.148") nail or 8d deformed (2-1/2" × 0.120") nail	6	12

To the best of my knowledge these plans are drawn to comply with owner's and/or building specifications and any changes made on them after prints are made will be done at the owner's expense. I am not responsible for any errors or omissions. The contractor shall verify all dimensions and conditions before construction. I am not liable for errors or omissions in the preparation of this plan to avoid mistakes. The maker can not guarantee against human error. The contractor of the job must check all dimensions and other details prior to construction and be fully responsible therefor.

DATE	DESCRIPTION

REVIEWED FOR CODE COMPLIANCE BY: WILLIAM ENGINEERING
Approval of these plans by a professional shall not be construed to be a permit for, or an approval of any condition of any Federal, State, County or City laws, regulations, codes and all approved plans must be kept on the job until completion.

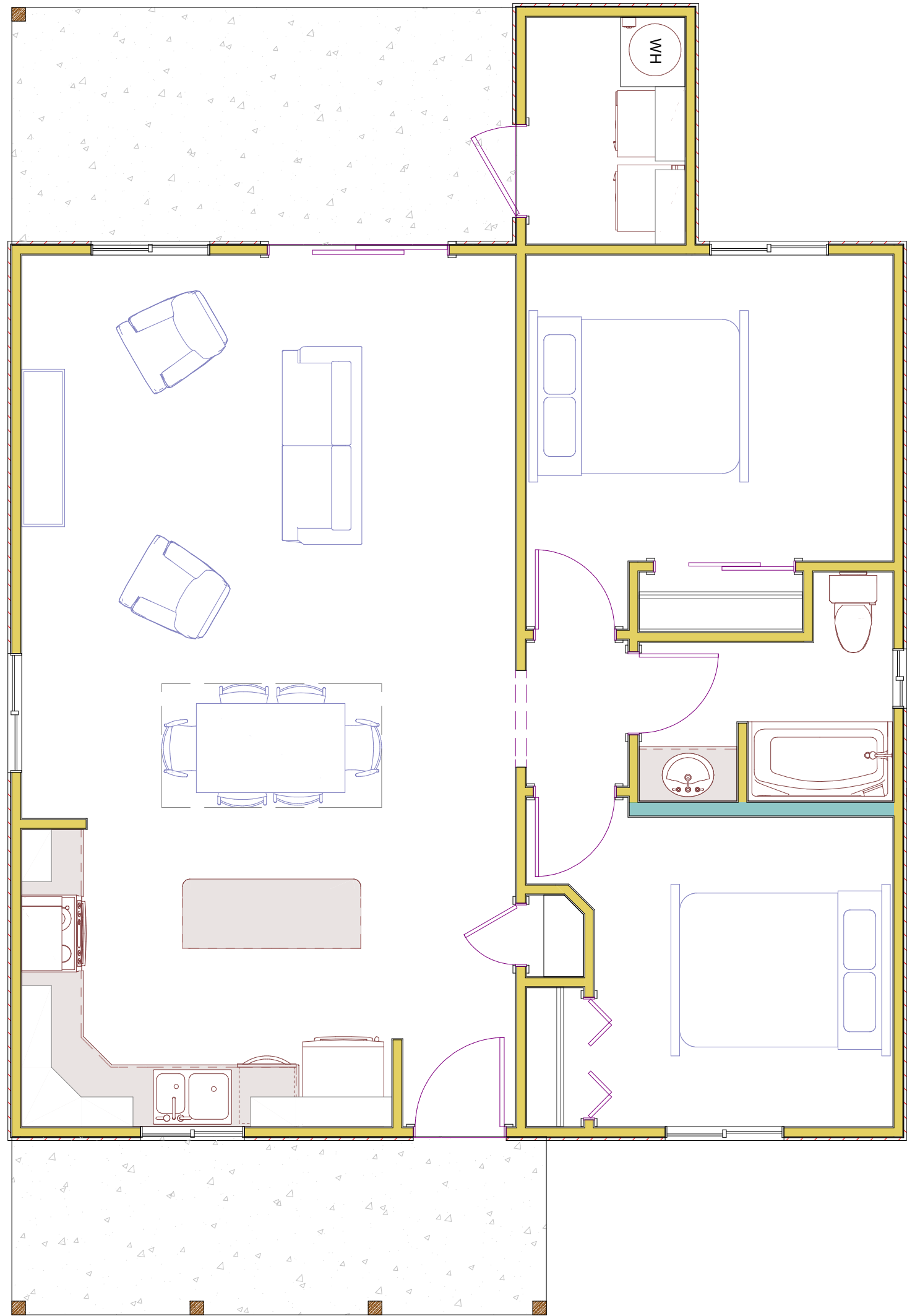
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PROJECT DESCRIPTION:	PLAN # 900
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BUILDING AREA	900
LIVABLE	136
PATIO	108
PORCH	
TOTAL	1144

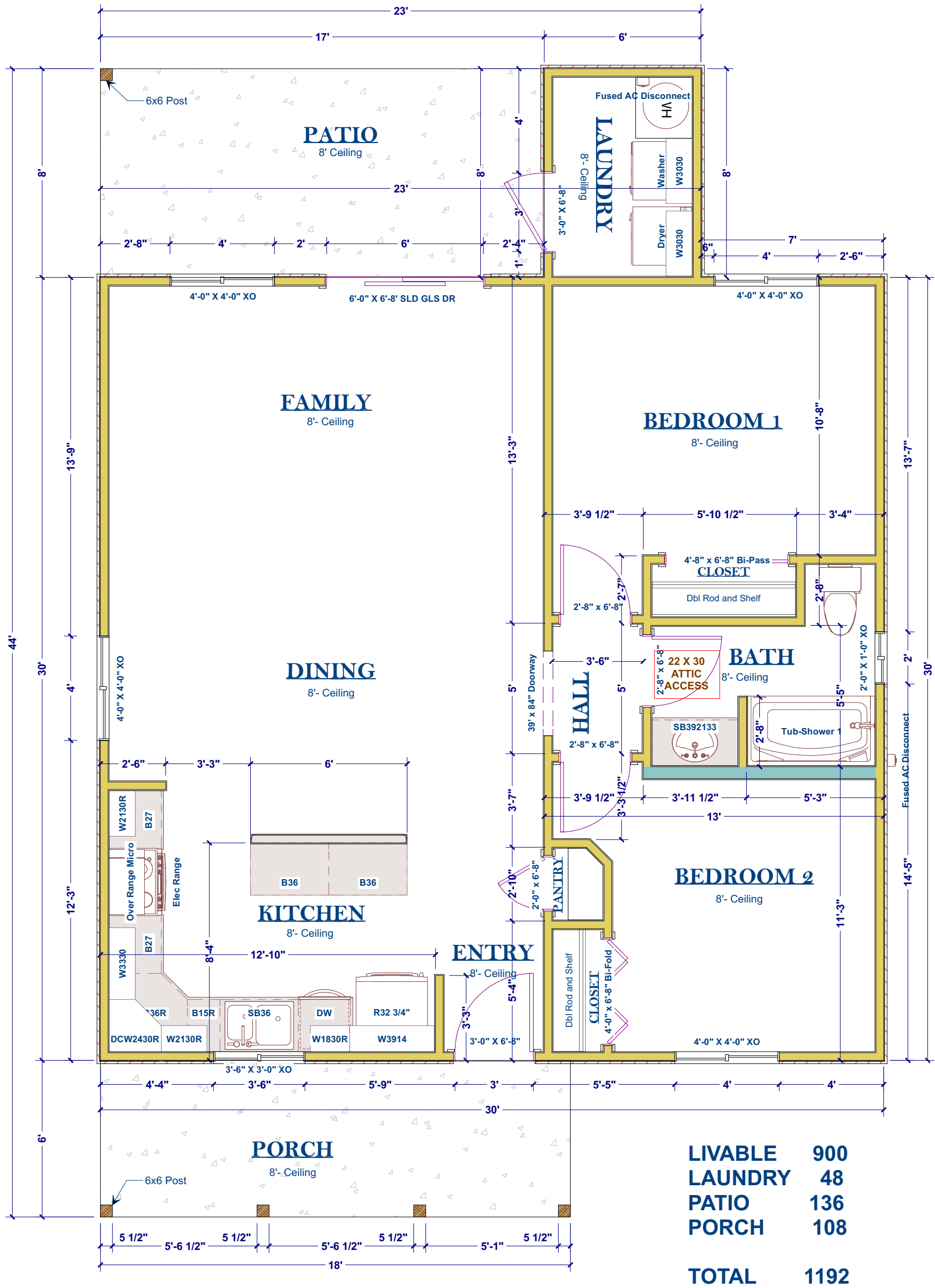
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3/11/2024
SCALE:
1/4" = 1'
SHEET:
2

FURNITURE----- PLAN



NOTES

1. The Contractor shall verify all Dimensions and Conditions before construction begins, and shall report any errors or discrepancies to the designer in writing before proceeding
2. Do not scale Dimensions. use written dimensions or where no dimensions are given, builder shall consult the designer for clarifications before proceeding with work. Dimensions at out side wall are to face of stem walls and edge of studs.
3. All flooring, appliances, Cabinets, fixtures, finishes, etc are to be selected by others and verified and approved by Home Owner or Contractor
4. Exterior Wall- 2x4 Hem Fir 16" O.C. Stud Grade or Better.
Optional- 2 x 6 Hem Fir 16" O.C. Stud Grade or Better.
5. Interior Wall- 2X4 Hem Fir 24" O.C. Stud Grade, use 2x6 at plumbing walls when possible,
6. All Exterior and Interior Wall Plates to be pressure treated materials, Redwood and Cedar. R317.1.2.
7. R310.2.1 Minimum opening area.
Emergency escape and rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m2). The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. The net clear height of the opening shall be not less than 24 inches (610 mm) and the net clear width shall be not less than 20 Inches (508 mm).
Exception: Grade floor openings or below-grade openings shall have a net clear opening area of not less than 5 square feet (0.465 m2).
8. R310.2.2 Window sill height.
Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches (1118 mm) above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3.
9. R311.3 Floors and landings at exterior doors.
There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Landings shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed 1/4 unit vertical in 12 units horizontal (2 percent).
10. R311.6 Hallways.
The width of a hallway shall be not less than 3 feet (914 mm) after finish materials
11. R302.11 Fireblocking.
In combustible construction, fireblocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top story and the roof space.
12. R407.1 Attic access.
Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that have a vertical height of 30 inches (762 mm) or greater over an area of not less than 30 square feet (2.8 m2). The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough-framed opening shall be not less than 22 inches by 30 inches (559 mm by 762 mm) and shall be located in a hallway or other location with ready access.
13. Appliances and Fixtures.
Installations instructions shall be made available to building department building inspectors, when requested during building inspections.
14. Cloth Dryer Note:
General. Dryer exhaust systems shall be independent of all other systems, shall convey the moisture to the outdoors, and shall terminate on the outside of the building.
M1502.4 Length limitation
The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 feet (762 mm) for each 45-degree (0.79 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.
504.6.5 Length identification.
Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.
Exceptions:
1. Where a clothes dryer booster fan is installed and listed and labeled for the application, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the booster fan manufacturer's installation instructions. Where a clothes dryer booster fan is installed and not readily accessible from the room in which the dryer is located, a permanent identifying label shall be placed adjacent to where the exhaust duct enters the wall. The label shall bear the words "This dryer exhaust system is equipped with a remotely located booster fan."
2. Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the building official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions.
15. Shower Wall Finish:
Ceramic or Stone Tile, attached with approve adhesive, over 1/2" Concrete Board. over approved molstier paper barrier, over 2x wall framing.
- R702.4.1 General.
Ceramic tile surfaces shall be installed in accordance with ANSI A108.1, A108.4, A108.5, A108.6, A108.11, A118.1, A118.3, A136.1 and A137.1.



DATE	
DESCRIPTION	
NO.	

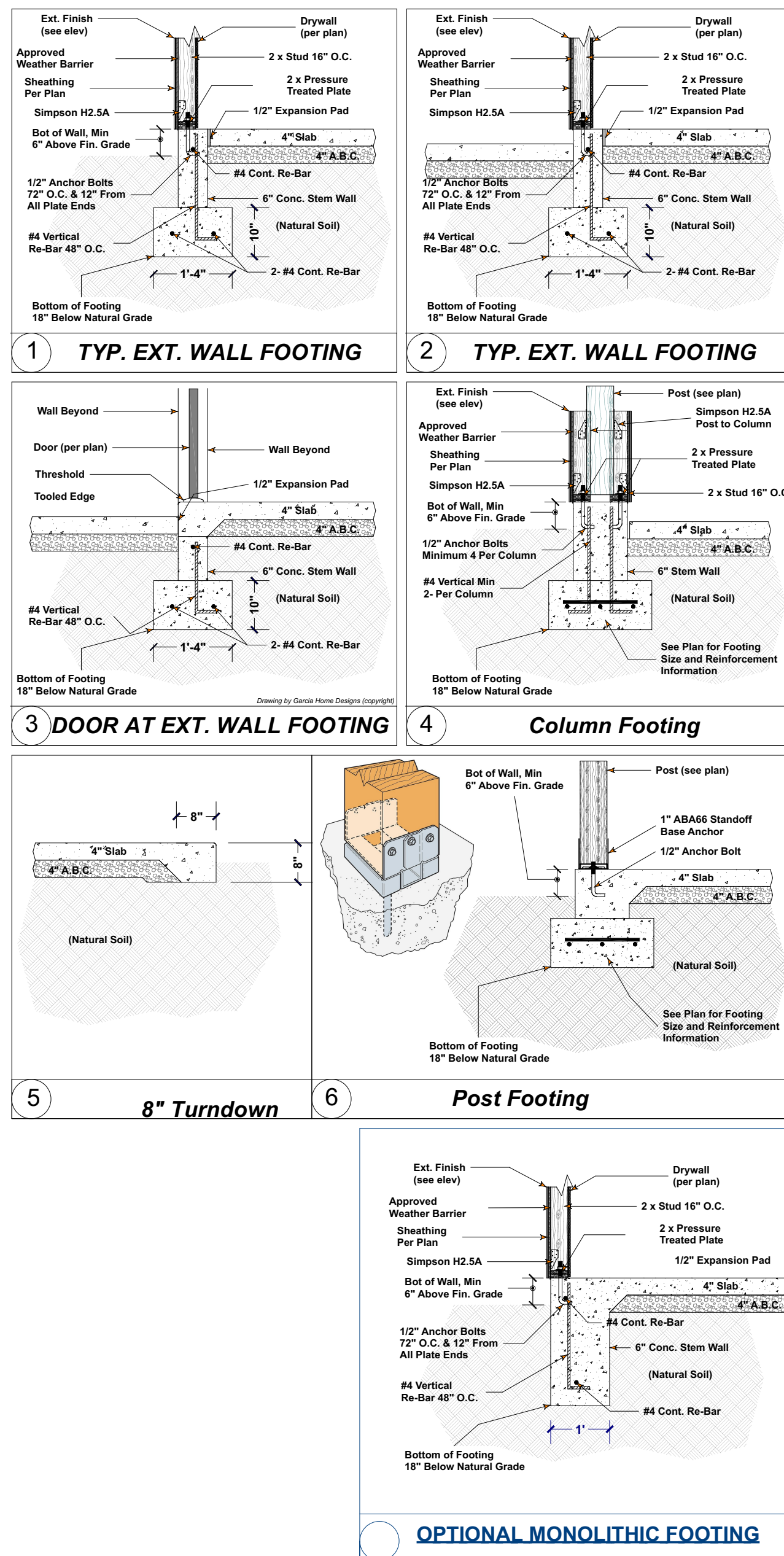
REVIEWED FOR CODE COMPLIANCE BY:
WILLDAN ENGINEERING
Approval of these plans & specifications shall not be construed to be a permit for, or an approval of any violation of any Federal, State, County or City laws or ordinances. One set of approved plans must be kept on the job until completion.
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PROJECT DESCRIPTION:

PLAN # 900

BUILDING AREA	900
LIVABLE	136
PATIO	108
TOTAL	1144

DATE:	3/11/2024
SCALE:	1/4" = 1'
SHEET:	3



1. R403.1.6 Foundation anchorage.

Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of *braced wall panels* at building interiors on monolithic slabs and all wood sill plates shall be anchored to the foundation with minimum 1/2-inch-diameter (12.7 mm) anchor bolts spaced not greater than 6 feet (1824 mm) on center or *approved anchors* or anchor straps spaced as required to provide equivalent anchorage to 1/2-inch-diameter (12.7 mm) anchor bolts. Bolts shall extend not less than 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. The bolts shall be located in the middle third of the width of the plate. A nut and washer shall be tightened on each anchor bolt. There shall be not fewer than two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a *braced wall panel* shall be positively anchored with *approved fasteners*. Sill plates and sole plates shall be protected against decay and termites where required by Sections R317 and R318.

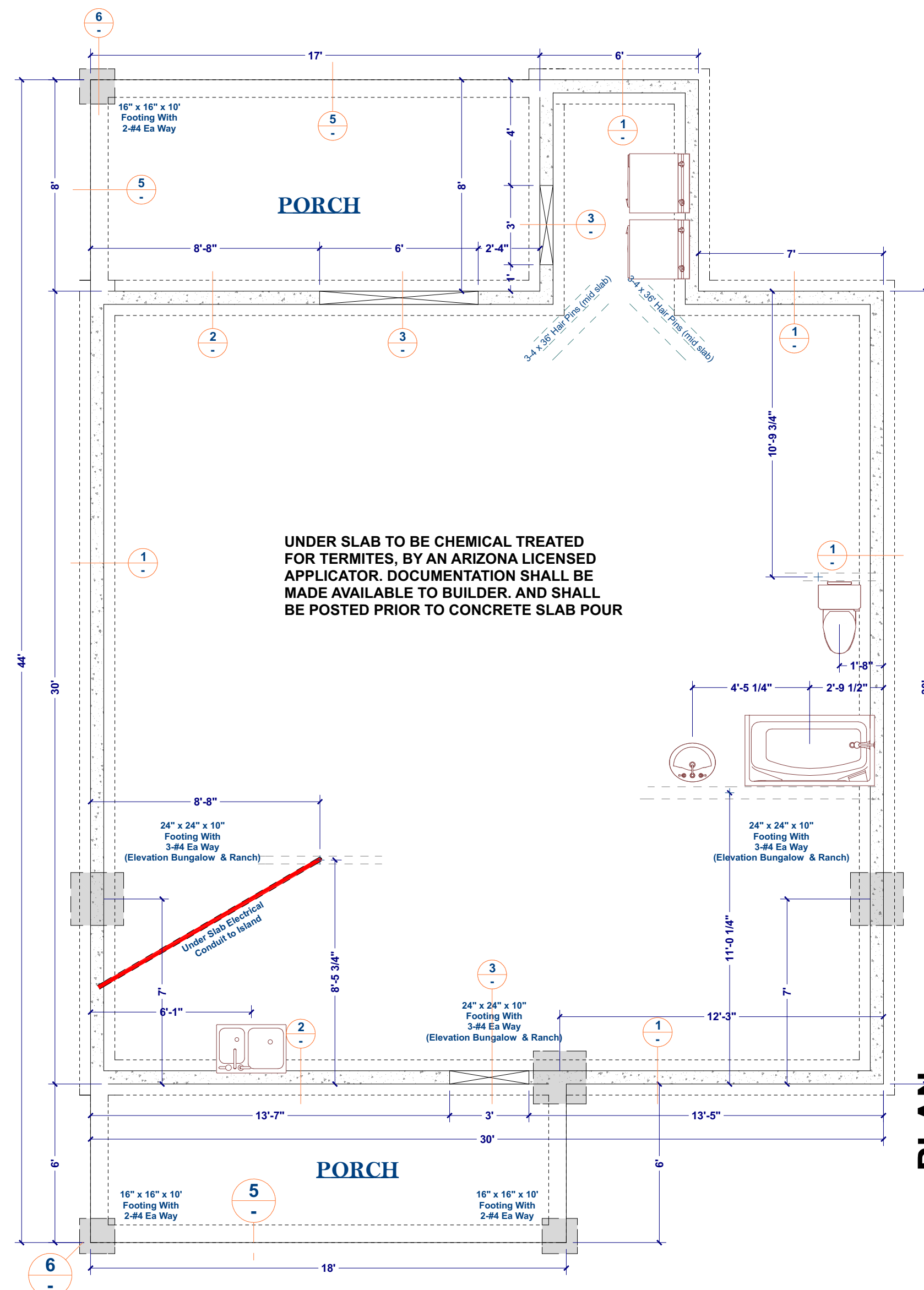
2. R403.1.7.3 Foundation

elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device not less than 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the *building official*, provided that it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

3. R401.3 Drainage. Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection that does not create a hazard. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall not fewer than 6 inches (152 mm) within the first 10 feet (3048 mm).

4. FOOTING BEARING ALL FOOTINGS TO REST ON CLEAN, FIRM UNDISTURBED SOIL. STEP FOOTINGS A REQUIRED TO MAINTAIN REQUIRED DEPTH BELOW FINISH GRADES

5. **CONCRETE STRENGTH,** 3,000 PSI AT 28 DAYS FOR ALL SLABS. (FOUNDATION DESIGN BASED ON 2,500 PSI), 3,000 PSI AT 28 DAYS FOR ALL OTHER CONDITION. MAXIMUM SLUMP, 4"
6. **REBAR.** USE ASTM A-615 GRADE 60 DEFORMED REINFORCING BARS UNLESS NOTED OTHERWISE
7. **EXPANSION BOLTS.** CONCRETE EXPANSION ANCHORS SHALL BE SIMPSON WEDGE-ALL STUD ANCHORS OR EQUAL (REDHEAD). REFER TO LOCAL BUILDING DEPARTMENT FOR SPECIAL INSPECTION REQUIREMENTS.



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completion.

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RIPTION:

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AREA
900
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RCH	

DATE:

3/11/2024

SCALE:

1/4" = 1'

SHEET:

4

REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES^{a, b, c}

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inches)	MAXIMUM WALL STUD SPACING (inches)	PANEL NAIL SPACING		ULTIMATE DESIGN WIND SPEED V_{uit} (mph)		
Size	Penetration (inches)				Edges (inches o.c.)	Field (inches o.c.)	Wind exposure category		
							B	C	D
6d Common (2.0" × 0.113")	1.5	24/0	$\frac{3}{8}$	16	6	12	140	115	110
8d Common (2.5" × 0.131")	1.75	24/16	$\frac{7}{16}$	16	6	12	170	140	135
				24	6	12	140	115	110

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

- a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
- b. Table is based on wind pressures acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10.
- c. Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated 16 o.c. or 24 o.c. shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood siding 16 o.c. shall be used with studs spaced not more than 16 inches on center.

R602.10 Wall bracing.

Buildings shall be braced in accordance with this section or, when applicable, Section R602.12. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with Section R301.1.

R602.10.2 Braced wall panels.

Braced wall panels shall be full-height sections of wall that shall have no vertical or horizontal offsets. **Braced wall panels** shall be constructed and placed along a **braced wall line** in accordance with this section and the bracing methods specified in Section R602.10.4.

R602.10.2.2 Locations of braced wall panels.

A *braced wall panel* shall begin within 10 feet (3810 mm) from each end of a *braced wall line* as determined in Section R602.10.1.1. The distance between adjacent edges of *braced wall panels* along a *braced wall line* shall be no greater than 20 feet (6096 mm) as shown in Figure R602.10.2.2.

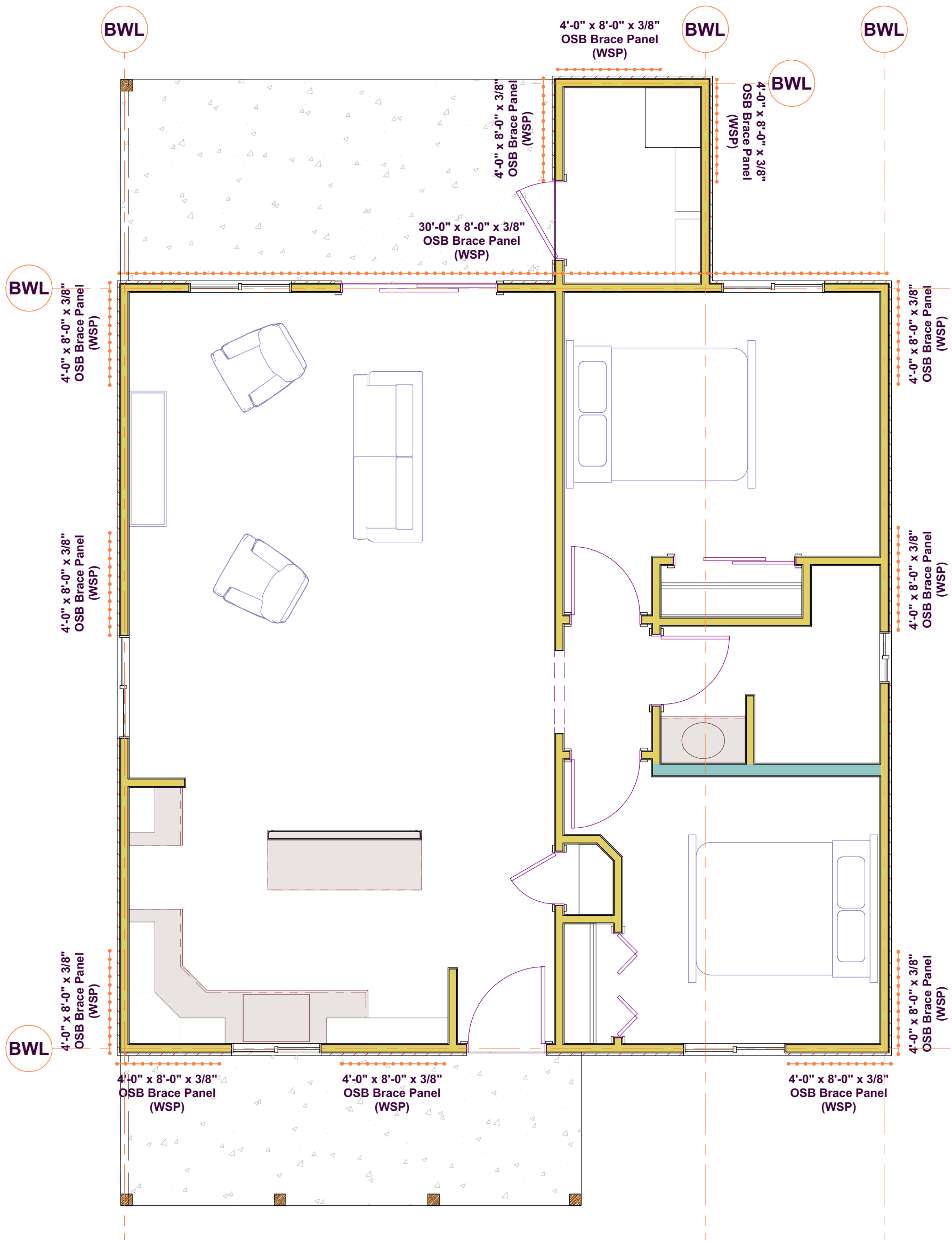
R602.10.2.3 Minimum number of braced wall panels.

Braced wall lines with a length of 16 feet (4877A mm) or less shall have a minimum of two braced wall panels of any length or one braced wall panel equal to 48 inches (1219 mm) or more. Braced wall lines greater than 16 feet (4877 mm) shall have a minimum of two braced wall panels.

R602.10.8.2 Connections to roof framing.

Top plates of exterior *braced wall panels* shall be attached to rafters or roof trusses above in accordance with Table R602.3(1) and this section. Where required by this section, blocking between rafters or roof trusses shall be attached to top plates of *braced wall panels* and to rafters and roof trusses in accordance with Table R602.3(1). A continuous band, rim, or header joist or roof truss parallel to the *braced wall panels* shall be permitted to replace the blocking required by this section. Blocking shall not be required over openings in continuously-sheathed *braced wall lines*. In addition to the requirements of this section, lateral support shall be provided for rafters and ceiling joists in accordance with [Section R802.8](#) and for trusses in accordance with [Section R802.10.3](#). Roof ventilation shall be provided in accordance with [Section R806.1](#).

1. For Seismic Design Categories A, B and C and wind speeds less than 100 mph (45 m/s) where the distance from the top of the *braced wall panel* to the top of the rafters or roof trusses above is 91/4 inches (235 mm) or less, blocking between rafters or roof trusses shall not be required. Where the distance from the top of the *braced wall panel* to the top of the rafters or roof trusses above is between 91/4 inches (235 mm) and 151/4 inches (387 mm), blocking between rafters or roof trusses shall be provided above the *braced wall panel* in accordance with Figure R602.10.8.2(1).



WALL BRACING ----- PLAN

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3:37:55 PM Mar 12, 2024

PROJECT DESCRIPTION:

DESCRIPTION: **PLAN # 900**

<u>BUILDING AREA</u>	
LIVABLE	900
PATIO	136
PORCH	108
TOTAL	1144

DATE:

3/11/2024

SCALE:

1/4" = 1'

SHEET:

5



CLIMATE ZONE	FENESTRATION <i>U</i> -FACTOR ^b	SKYLIGHT ^b <i>U</i> -FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING <i>R</i> -VALUE	WOOD FRAME WALL <i>R</i> -VALUE	MASS WALL <i>R</i> -VALUE ⁱ	FLOOR <i>R</i> -VALUE	BASEMENT ^c WALL <i>R</i> -VALUE	SLAB ^d <i>R</i> -VALUE & DEPTH	CRAWL SPACE ^c WALL <i>R</i> -VALUE
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0



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THESE DRAWINGS ARE THE PROPRIETARY WORK PRODUCT AND PROPERTY OF(CITY OF MARICOPA), DEVELOPED FOR THE EXCLUSIVE USE OF(THE CITY OF MARICOPA). USE OF THESE DRAWINGS AND CONCEPTS CONTAINED THEREIN WITHOUT THE WRITTEN PERMISSION OF(CITY OF MARICOPA) IS PROHIBITED AND MAY SUBJECT YOU TO A CLAIM FOR DAMAGES.



Architectural elevation drawing of a building exterior. The roof is gabled and covered with asphalt shingles. A label on the roof reads: "ASPHALT SHINGLES ROOF ICC ESR # 3537 (INSTALLED PER MANUFACTURE SPECIFICATION) OVER 1/2" OSB SHEATHING". The main wall is stucco. A label on the wall reads: "STUCCO SYSTEM (ICC ER #4644) OVER 1" FOAM AND WIRE OVER APPROVED MOISTER BARRIER AND GALV. WEEP SCREED". A small, double-hung window is centered on the wall. A label above the window reads: "2X6 FASCIA". The building is shown on a green base representing the ground.

A 3D architectural rendering of a small, single-story house. The house has a gabled roof with dark brown fascia and rafters. The exterior walls are a light beige color. The front facade features a central entrance with a white-framed double door. On either side of the door are windows with white frames, each divided into two vertical panes. A label "2X6 FASCIA" is positioned on the right side of the roofline. The house is set on a dark green lawn.

Architectural elevation drawing of a house. The drawing includes the following annotations:

- 2X6 FASCIA**: Two labels pointing to the horizontal trim along the eaves of the roofline.
- WINDOW TRIM PER BUILDER SPECS**: A label with a leader line pointing to the trim around a window.

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SCALE:

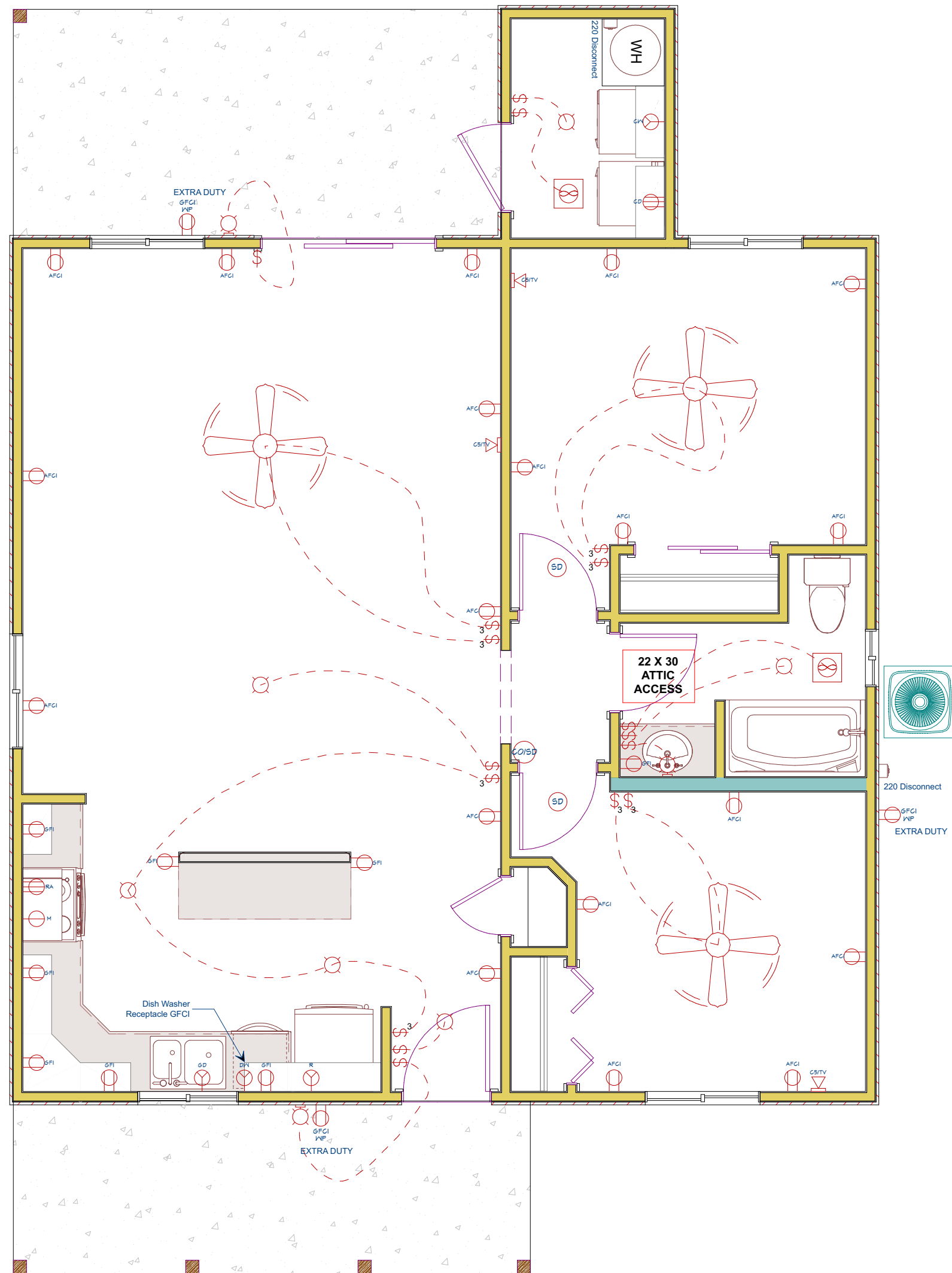
$$1/4" = 1'$$

SHEET:

8

		CO/Smoke Detector
Duplex (split wired)		
		Smoke Detector
Exhaust		
		C5/TV
		CAT5 w/ TV
		Arch Fault Circuit
Ceiling Fan		
		Ground Fault Circuit
Exterior Wall Mount		
		GFCI (weatherproof)
Wall Mount Fixture		
		Automatic Garage Door Opener
Pendant Light		
		A.G.D.O.
		Door Chime
		Doorbell
		Two Way Switch
		Three Way Switch
		Single Receptacle
		220V
Hanging Chandelier		
		CD
		Clothes Dryer
Mini Can Lite		
		Clothes Washer, HW
Recessed Vapor Light		
		Dishwasher, HW
		Electric Range
Recessed Light 6"		
		Gas Cooktop 110
Ceiling Mount Lite		
		Hood w/ Vent
220 Disconnect		
		Refrigerator, HW

E3903.4 Storage or equipment spaces.
In attics, under-floor spaces, utility rooms and basements, at least one lighting outlet shall be installed where these spaces are used for storage or contain equipment requiring servicing. Such lighting outlet shall be controlled by a wall switch or shall have an integral switch. At least one point of control shall be at the usual point of entry to these spaces. The lighting outlet shall be provided at or near the equipment requiring servicing.



NO.	DESCRIPTION	DATE

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ELECTRICAL ----- PLAN

2018 IRC ELECTRICAL NOTES:

E3404.1.1 EQUIPMENT IDENTIFICATION – 1. The manufacturer's name, trademark or other descriptive marking by which the organization responsible for the product can be identified shall be placed on all electric equipment. Other markings shall be provided that indicate voltage, current, wattage or other ratings as specified elsewhere in Chapters 34 through 49. The marking shall have the durability to withstand the environment involved. [110.21(A)(1)]

2. Reconditioned equipment shall be marked with the names, or trademark, or other descriptive marking by which the organization responsible for reconditioning the electrical equipment can be identified, along with the date of the reconditioning. [110.21(A)(2)]

E3406.2 CONDUCTOR MATERIAL – Conductors used to conduct current shall be of copper or aluminum except as otherwise provided in Chapters 34 through 43. Where the conductor material is not specified, the material and the sizes given in these chapters shall apply to copper conductors. Where other materials are used, the conductor sizes shall be changed accordingly. (110.5)

E3406.3 MINIMUM SIZE OF CONDUCTOR – he minimum size of conductors for feeders and branch circuits shall be 14 AWG copper and 12 AWG aluminum. The minimum size of service conductors shall be as specified in Chapter 36. The minimum size of Class 2 remote control, signaling and power-limited circuits conductors shall be as specified in Chapter 43. [310.105(A)]

E3600.1 GROUNDING ELECTRODE SYSTEM – AAI electrodes specified in Sections E3600.1.1, E3600.1.2, E3600.1.3, E3600.1.4 E3600.1.5 and E3600.1.6 that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these electrodes are present, one or more of the electrodes specified in Sections E3600.1.3, E3600.1.4, E3600.1.5 and E3600.1.6 shall be installed and used. (250.50)

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete. (250.50 Exception)

E3102.3 FIFTEEN AND TWENTY AMPERE BRANCH CIRCUITS – A 15- or 20-ampere branch circuit shall be permitted to supply lighting units, or other utilization equipment, or a combination of both. The rating of any one cord-and-plug-connected utilization equipment not fastened in place shall not exceed 90 percent of the branch-circuit ampere rating. The total rating of utilization equipment fastened in place, other than luminaires, shall not exceed 50 percent of the branch-circuit ampere rating where lighting units, cord-and-plug-connected utilization equipment not fastened in place, or both, are also supplied. [210.23(A)(1) and (2)]

E3102.12 BRANCH CIRCUITS SERVING ROOM AIR CONDITIONERS – A room air conditioner shall be considered as a single motor unit in determining its branch-circuit requirements where all the following conditions are met: 1. It is cord- and attachment plug-connected. 2. The rating is not more than 40 amperes and 250 volts; single phase. 3. Total rated-load current is shown on the room air-conditioner nameplate rather than individual motor currents. 4. The rating of the branch-circuit short-circuit and ground-fault protective device does not exceed the ampacity of the branch-circuit conductors, or the rating of the branch-circuit conductors, or the rating of the receptacle, whichever is less. [440.62(A)]

E3103.2 KITCHEN AND DINING AREA RECEPTACLES – A minimum of two 20-ampere-rated branch circuits shall be provided to serve all wall and floor receptacle outlets located in the kitchen, pantry, breakfast area, dining area or similar area of a dwelling. The kitchen countertop receptacles shall be served by a minimum of two 20-ampere-rated branch circuits, either or both of which shall also be permitted to supply other receptacle outlets in the same kitchen, pantry, breakfast and dining area including receptacle outlets for refrigeration appliances. [210.11(C)(1) and 210.52(B)(1) and (B)(2)]

Exception: The receptacle outlet for refrigeration appliances shall be permitted to be supplied from an individual branch circuit rated 15 amperes or greater. [210.52(B)(1) Exception No. 2.]

E3103.3 LAUNDRY CIRCUITS – A minimum of one 20-ampere-rated branch circuit shall be provided for receptacles located in the laundry area and shall serve only receptacle outlets located in the laundry area. [210.11(C)(2)]

E3103.4 BATHROOM BRANCH CIRCUITS – A minimum of one 20-ampere branch circuit shall be provided to supply bathroom receptacle outlet(s). Such circuits shall have no other outlets. [210.11(C)(3)]

Exception: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with Section E3102. [210.11(C)(3) Exception]

E3103.5 GARAGE BRANCH CIRCUITS- In addition to the number of branch circuits required by other parts of this section, not less than one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets in attached garages and in detached garages with electric power. This circuit shall not have other outlets. Exception: This circuit shall be permitted to supply readily accessible outdoor receptacle outlets.

E3103.6 NUMBER OF BRANCH CIRCUITS – The minimum number of branch circuits shall be determined from the total calculated load and the size or rating of the circuits used. The number of circuits shall be sufficient to supply the load served. In no case shall the load on any circuit exceed the maximum specified by Section E3102. [210.11(A)]

E3103.7 BRANCH CIRCUIT LOAD PROPORTIONING – Where the branch-circuit load is calculated on a volt-amperes-per-square-foot (m2) basis, the wiring system, up to and including the branch-circuit panelboard(s), shall have the capacity to serve not less than the calculated load. This load shall be evenly proportioned among multioutlet branch circuits within the panelboard(s). Branch-circuit overcurrent devices and circuits shall only be required to be installed to serve the connected load. [210.11(B)]

E3401.2 GENERAL PURPOSE RECEPTACLE DISTRIBUTION – In every kitchen, family room, dining room, living room, parlor, library, den, sun room, bedroom, recreation room, or similar room or area of dwelling units, receptacle outlets shall be installed in accordance with the general provisions specified in Sections E3401.2.1 through E3401.2.3 (see Figure E3401.2).

E3401.2.1 SPACING – Receptacles shall be installed so that no point measured horizontally along the floor line of any wall space is more than 6 feet (1824 mm), from a receptacle outlet. [210.52(A)(1)]

E3401.2.2 WALL SPACE – Receptacles shall be installed so that no point measured horizontally along the floor line of any wall space is more than 6 feet (1824 mm), from a receptacle outlet. [210.52(A)(1)]

E3401.3 SMALL APPLIANCE RECEPTACLES – In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by Section E3103.2 shall serve all wall and floor receptacle outlets covered by Sections E3401.2 and E3401.4 and those receptacle outlets provided for refrigeration appliances. [210.52(B)(1)]

Exceptions: 1. In addition to the required receptacles specified by Sections E3401.1 and E3401.2, additional receptacles shall be provided in general-purpose branch circuit as defined in Section E3403.2. Exception 1 shall be permitted. [210.52(B)(1) Exception No. 1] 2. In addition to the required receptacles specified by Section E3401.2, a receptacle outlet to serve a specific appliance shall be permitted to be supplied from an individual branch circuit rated at 15 amperes or greater. [210.52(B)(1) Exception No. 2]

E3401.4 COUNTERTOP AND WORK SURFACE RECEPTACLES – In kitchens pantries, breakfast rooms, dining rooms and similar areas of dwelling units, receptacle outlets for countertop and work surfaces shall be installed in accordance with Sections E3401.4.1 through E3401.4.5 (see Figure E3401.4). [210.52(C)]

E3401.4.1 WALL COUNTERTOP SPACE – A receptacle outlet shall be installed at each wall countertop and work surface that is 12 inches (305 mm) or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24 inches (610 mm), measured horizontally, from a receptacle outlet in that space. [210.52(C)(1)]

Exception: Receptacle outlets shall not be required on a wall directly behind a range, counter-mounted cooking unit or sink in the installation described in Figure E3401.4.1. [210.52(C)(1) Exception]

E3401.4.2 ISLAND COUNTER SPACES – At least one receptacle outlet shall be installed at each island countertop space with a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. [210.52(C)(2)]

E3401.4.3 PENINSULAR COUNTERTOP SPACE -Not less than one receptacle outlet shall be installed at each peninsular countertop long dimension space having a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. A peninsular countertop is measured from the connected perpendicular wall. [210.52(C)(3)]

E3401.5 APPLIANCE RECEPTACLE OUTLET – Appliance receptacle outlets installed for specific appliances, such as laundry equipment, shall be installed within 6 feet (1824 mm) of the intended location of the appliance. (210.50(C))

E3401.6 BATHROOM – At least one receptacle outlet shall be installed in bathrooms and such outlet shall be located within 36 inches (914 mm) of the outside edge of each lavatory basin. The receptacle outlet shall be located on a wall or partition that is adjacent to the lavatory basin location, located on the countertop, or installed on the side or face of the basin cabinet. The receptacle shall be located not more than 12 inches (305 mm) below the top of the basin or basin countertop. Receptacle outlet assemblies installed in countertops shall be listed for the application. [210.52(D)]

E3401.7 OUTDOOR OUTLETS – Not less than one receptacle outlet that is readily accessible from ground level and located not more than 6 feet, 6 inches (1981 mm) above grade, shall be installed outdoors at the front and back of each dwelling unit having direct access to grade level. Balconies, decks, and porches that are accessible from inside of the dwelling unit shall have at least one receptacle outlet installed within the perimeter of the balcony, deck, or porch. The receptacle shall be located not more than 6 feet, 6 inches (1981 mm) above the balcony, deck, or porch surface. [210.52(E)]

E3401.8 LAUNDRY AREAS – Not less than one receptacle outlet shall be installed in areas designated for the installation of laundry equipment.

E3401.9 – BASEMENT GARAGE AND ACCESSORY BUILDING – Not less than one receptacle outlet, in addition to any provided for specific equipment, shall be installed in each unfinished portion of a basement; in each vehicle bay not more than 5.5 feet (1676 mm) above the floor in attached garages; in each vehicle bay not more than 5.5 feet (1676 mm) above the floor in detached garages that are provided with electric power and in accessory buildings that are provided with electric power. [210.52(G)(1), (2), and (3)]

E3401.10 HALLWAYS – Hallways of 10 feet (3048 mm) or more in length shall have at least one receptacle outlet. The hall length shall be considered the length measured along the centerline of the hall without passing through a doorway. [210.52(H)]

3401.11 Foyers. Foyers that are not part of a hallway in accordance with Section E3401.10 and that have an area that is greater than 60 square feet (5.57 m2) shall have a receptacle(s) located in each wall space that is 3 feet (914 mm) or more in width. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered as wall space. [210.52(H)]

E3401.12 HVAC OUTLET – A 125-volt, single-phase, 15- or 20-ampere-rated receptacle outlet shall be installed at an accessible location for the servicing of heating, air-conditioning and refrigeration equipment. The receptacle shall be located on the same level and within 25 feet (7620 mm) of the heating, air-conditioning and refrigeration equipment. The receptacle outlet shall not be connected to the load side of the HVAC equipment disconnecting means. (210.63) Exception: A receptacle outlet shall not be required for the servicing of evaporative coolers. (210.63 Exception)

E3402.1 BATHROOM RECEPTACLES – 125-volt, single-phase, 15- and 20-ampere receptacles installed in bathrooms shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(1)]

E3402.2 GARAGE ACCESSORY BUILDING RECEPTACLES – 125-volt, single-phase, 15- or 20-ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(2)]

E3402.3 OUTDOOR RECEPTACLES – 125-volt, single-phase, 15- and 20-ampere receptacles installed outdoors shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(3)]

Exception: Receptacles as covered in Section E4101.7. [210.8(A)(3) Exception]

E3402.6 KITCHEN RECEPTACLES – 125-volt, single-phase, 15- and 20-ampere receptacles that serve countertop surfaces shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(6)]

E3402.7 SINK RECEPTACLES – 125-volt, single-phase, 15- and 20-ampere receptacles that are located within 6 feet (1824 mm) of the top inside edge of the bowl of the sink shall have ground-fault circuit-interrupter protection for personnel. [210.8(A)(7)]

E3402.16 ARC-FAULT PROTECTION OUTLETS – Branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas and similar rooms or areas shall be protected by any of the following: [210.12(A)]

1. A listed combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit. [210.12(A)(1)]

2. A listed branchfeeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit. [210.12(A)(2)]

3. A listed supplemental arc-protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met: 3.1. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter. 3.2. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors. 3.3. The first outlet box on the branch circuit shall be marked to indicate that it is the first outlet on the circuit. [210.12(A)(3)]

4. A listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met: 4.1. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter. 4.2. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors. 4.3. The first outlet box on the branch circuit shall be marked to indicate that it is the first outlet on the circuit. 4.4. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be listed as such. [210.12(A)(4)]

5. Where metal outlet boxes and junction boxes and RMC, IMC, EMT, Type MC or steel-encased Type AC cables meeting the requirements of Section E3408.8, metal wireways or metal auxiliary gutters are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit. [210.12(A)(5)]

6. Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 2 inches (50.8 mm) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit-type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit. [210.12(A)(6)]

Exception: AFCI protection is not required for an individual branch circuit supplying only a fire alarm system where the branch circuit is wired with metal outlet and junction boxes and RMC, IMC, EMT or steel-sheathed armored cable Type AC or Type MC meeting the requirements of Section E3408.8.

E3403.2 Habitable rooms. At least one wall switch-controlled lighting outlet shall be installed in every habitable room, kitchen and bathroom. [210.70(A)(1)]

Exception: 1. In other than kitchens and bathrooms, one or more receptacles controlled by a wall switch shall be considered equivalent to the required lighting outlet. [210.70(A)(1) Exception No. 1] 2. Lighting outlets shall be permitted to be controlled by occupancy sensors that are in addition to wall switches, or that are located at a customary wall switch location and equipped with a manual override that will allow the sensor to function as a wall switch. [210.70(A)(1) Exception No. 2]

E3403.5 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 70 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. [314.27(C)]

E3403.11 DAMP OR WET LOCATION – In damp or wet locations, boxes, conduit bodies and fittings shall be placed or equipped so as to prevent moisture from entering or accumulating within the box, conduit body or fitting. Boxes, conduit bodies and fittings installed in wet locations shall be listed for use in wet locations. Where drainage openings are installed in the field in boxes or conduit bodies listed for use in damp or wet locations, such openings shall be approved, not smaller than 1/8 inch (3 mm) and not larger than 1/4 inch (6.4 mm). For listed drain fittings, larger openings are permitted where installed in the field in accordance with the manufacturer's instructions. (314.15)

E3400.4 EFFECTIVE GROUND-FAULT CURRENT PATH – Electrical equipment and wiring and other electrically conductive material likely to become energized shall be installed in a manner that creates a low-impedance circuit facilitating the operation of the overcurrent device or ground detector for high-impedance grounded systems. Such circuit shall be capable of safely carrying the maximum ground-fault current likely to be imposed on it from any point on the wiring system where a ground fault might occur to the electrical supply source. [250.4(A)(5)]

E3400.5 EARTH AS A GROUND FAULT CURRENT PATH. The earth shall not be considered as an effective ground-fault current path. [250.4(A)(5)]

E4001.6 ACCESS- Switches and circuit breakers used as switches shall be located to allow operation from a readily accessible location. Such devices shall be installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than 6 feet 7 inches (2007 mm) above the floor or working platform. (404.8(A))

Exception: This section shall not apply to switches and circuit breakers that are accessible by portable means and are installed adjacent to the motors, appliances and other equipment that they supply. [404.8(A) Exception]

E4001.7 DAM AND WET LOCATIONS- A surface mounted switch or circuit breaker located in a damp or wet location or outside of a building shall be enclosed in a weatherproof enclosure or cabinet. A flush-mounted switch or circuit breaker in a damp or wet location shall be equipped with a weatherproof cover. Switches shall not be installed within wet locations in tub or shower spaces unless installed as part of a listed tub or shower assembly. [404.4(A), (B), and (C)]

E4002.4 Fifteen- and 20-ampere receptacles in wet locations. Where installed in a wet location, 15- and 20-ampere, 125- and 250-volt receptacles shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted. An outlet box hood installed for this purpose shall be listed and identified as "extra-duty."

E4002.14 TAMPER RESISTANT RECEPTACLES- In areas specified in Section E3401.1, 15- and 20-ampere, 125- and 250-volt nonlocking-type receptacles shall be listed tamper-resistant receptacles. [406.12(A)]

Exception: Receptacles in the following locations shall not be required to be tamper resistant: 1. Receptacles located more than 5.5 feet (1676 mm) above the floor. 2. Receptacles that are part of a luminaire or appliance. 3. A single receptacle for a single appliance or a duplex receptacle for two appliances where such receptacles are located in spaces dedicated for the appliances served and under conditions of normal use, the appliances are not easily moved from one place to another. The appliances shall be cord-and-plug-connected to such receptacles in accordance with Section E3409.4. [406.12(A) Exception]

E4003.4 WET OR DAMP LOCATIONS-Luminaires installed in wet or damp locations shall be installed so that water cannot enter or accumulate in wiring compartments, lampholders or other electrical parts. All luminaires installed in wet locations shall be marked "SUITABLE FOR WET LOCATIONS." All luminaires installed in damp locations shall be marked "SUITABLE FOR WET LOCATIONS" or "SUITABLE FOR DAMP LOCATIONS." (410.10)

E4101.5 DISCONNECTING MEANS – Each appliance shall be provided with a means to disconnect all ungrounded supply conductors. For fixed electric space-heating equipment, means shall be provided to disconnect the heater and any motor controller(s) and supplementary overcurrent-protective devices. Switches and circuit breakers used as a disconnecting means shall be of the indicating type. Disconnecting means shall be as set forth in Table E4101.5. (422.50, 422.55, and 424.14)

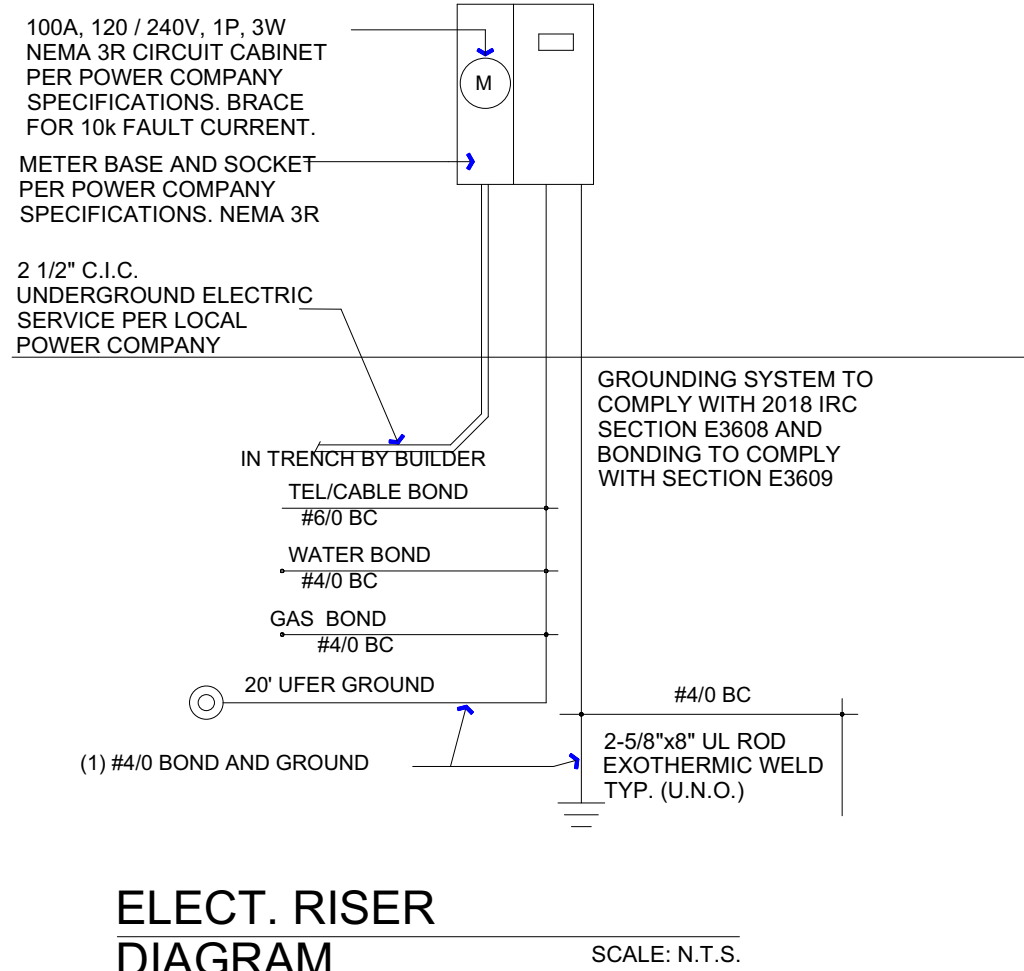
E4203.1.4 GFCI (POOL AND SPA) PROTECTION – All 15- and 20-ampere, single phase, 125-volt receptacles located within 20 feet (6046 mm) of the inside walls of pools and outdoor spas and hot tubs shall be protected by a ground-fault circuit interrupter. Outlets supplying pool pump motors supplied from branch circuits rated at 120 volts through 240 volts, single phase, whether by receptacle or direct connection, shall be provided with ground-fault circuit-interrupter protection for personnel. [680.21(C) and 680.22(A)(4)]

E4203.4.6 GFCI PROTECTION IN ADJACENT AREAS – Luminaires, lighting outlets and ceiling-suspended paddle fans that are installed in the area extending between 5 feet (1524 mm) and 10 feet (3048 mm) from the inside walls of pools and outdoor spas and hot tubs shall be protected by ground-fault circuit interrupters except where such luminaires, lighting outlets and ceiling-suspended paddle fans are installed not less than 5 feet (1524 mm) above the maximum water level and are rigidly attached to the structure. [680.22(B)(4)]

E4203.7 UNDERGROUND WIRING - Underground wiring shall not be installed under the pool except where this wiring is necessary to supply pool equipment permitted by this chapter. Underground wiring shall be installed in rigid metal conduit, intermediate metal conduit, rigid polyvinyl chloride conduit, reinforced thermosetting resin conduit or Type MC cable, suitable for the conditions subject to that location. The minimum cover depth shall be in accordance with Table E3003.1. (680.11)

E4204.2 (HYDRO MESSAGE BATHTUBS) Hydromassage bathtubs and their associated electrical components shall be supplied by an individual branch circuit(s) and protected by a readily accessible ground-fault circuit interrupter. All 125-volt, single-phase receptacles not exceeding 30 amperes and located within 6 feet (1824 mm) measured horizontally of the inside walls of a hydromassage tub shall be protected by a ground-fault circuit interrupter(s). (680.71)

Electrical load Calculations			
Single family Dwelling Elec. Worksheet			
Existing Square Feet of living space	900	x 3 watts each =	2700
Small Appliances Min 2	2	x 1500 watts each =	3000
220V Dryer Circuits	1	x 5000 watts each =	5000
220V Range/Oven Circuits (Guest)	1	x 2000 watts each =	2000
Garage Circuit	0	x 1500 watts each =	0
220V Water heater Circuits	1	x 5000 watts each =	5000
110V Refrigerator Circuits	1	x 3000 watts each =	3000
220 Double Oven	0	x 5000 watts each =	0
110V Built in Microwave Circuits	1	x 1630 watts each =	1630
Bath Circuit	2	x 1500 watts each =	3000
110V Laundry Circuits min. 1	1	x 1500 watts each =	1500
110V Garbage Disposal Circuits	1	x 1500 watts each =	1500
Out Door Circuit	1	x 2000 watts each =	2000
Pool (non heated) (Future)	0	x 3600 watts each =	0
Spa Circuits (Future)	0	x 7200 watts each =	0
		SUB TOTAL WATTS	30330
1st 10000 wats @ 100%	A.	10000	
Remaining wats @ 40%	B.	8132	
tons of A/C x 1750 per ton	C.	3500	
		Total Watts of A,B,C.	21632
		Total watts / 240 Volts	90.13333333
		Service Panel Size	100



ELECT. RISER DIAGRAM

SCALE: N.T.S.

THIS DRAWING IS THE PROPERTY OF THE CITY OF MARICOPA. IT IS TO BE USED ONLY FOR THE PROJECT AND LOCATION SPECIFICALLY IDENTIFIED HEREON. ANY REUSE, REPRODUCTION, OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF THE CITY OF MARICOPA IS PROHIBITED. THE CITY OF MARICOPA ACCEPTS NO LIABILITY FOR ANY ERRORS OR OMISSIONS IN THIS DRAWING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL UTILITIES AND STRUCTURES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONNEL AND THE PUBLIC AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT PROPERTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ADJACENT STRUCTURES.

DATE	DESCRIPTION	NO.			

REVIEWED FOR CODE COMPLIANCE BY: WILLIAM ENGINEERING
This drawing is intended to be used for the project and location specifically identified hereon. It is not to be construed to be a permit for, or an approval of any condition of any Federal, State, County or City law or regulation. One set of approved plans must be kept on the job until completion.

3/37/27 PM Mar 12, 2024

BUILDING AREA		PROJECT DESCRIPTION:	
LIVABLE	900		
PATIO	136		
PORCH	108		
TOTAL	1144		

DATE:	3/11/2024
SCALE:	1/4" = 1'
SHEET:	12

R401.3 Certificate (Mandatory)
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, crawlspace wall and 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.

R402.2.3 Eave Baffle For air-permeable insulations in vented attics, a baffle shall be installed adjacent to soffit and eave vents. Baffles shall maintain an opening equal or greater than the size of the vent. The baffle shall extend over the top of the attic insulation. The baffle shall be permitted to be any solid material.

R402.4 Air Leakage (Mandatory)
The *building thermal envelope* shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.4. (Maximum 5 Air Changes per hour)

R402.4.1.2 Testing The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding 5 air changes per hour. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the *code official*, testing shall be conducted by an *approved* party. The following parties shall be approved to conduct testing: Parties certified by BPI or RESNET, or licensed contractors who have completed training provided by Blower Door Test equipment manufacturers or other comparable training. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

R402.4.5 Recessed Lighting Recessed luminaires installed in the *building thermal envelope* shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and *labeled* as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.

R403.1 Controls (Mandatory)
At least one thermostat shall be provided for each separate heating and cooling system.
R403.1.1 Programmable Thermostat The thermostat controlling the primary heating or cooling system of the dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule to maintain different temperature set points at different times of the day. This thermostat shall include the capability to set back or temporarily operate the system to maintain *zone* temperatures down to 55°F (13°C) or up to 85°F (29°C). The thermostat shall initially be programmed by the manufacturer with a heating temperature set point no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C).

R403.3 Ducts
Ducts and air handlers shall be in accordance with Sections R403.3.1 through R403.3.5.
R403.3.1 Insulation (Prescriptive)
Supply and return ducts in attics shall be insulated to a minimum of R-8 where 3 inches (76 mm) in diameter and greater and R-6 where less than 3 inches (76 mm) in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 where 3 inches (76 mm) in diameter or greater and R-4.2 where less than 3 inches (76 mm) in diameter. **Exception:** Ducts or portions thereof located completely inside the *building thermal envelope*. **R403.3.2 Sealing (Mandatory)** Ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or *International Residential Code*, as applicable.

R403.3.3 Duct Testing (Mandatory) Ducts shall be pressure tested to determine air leakage by one of the following methods:
1 Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
2 Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

R403.4 Mechanical System Piping Insulation (Mandatory) Mechanical system piping capable of carrying fluids above 105°F (41°C) or below 55°F (13°C) shall be insulated to a minimum of R-3.

R403.7 Equipment Sizing and Efficiency Rating (Mandatory) Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

R404.1 Lighting Equipment (Mandatory) Not less than 90 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

M1411.3.1 Auxiliary and Secondary Drain Systems In addition to the requirements of Section M1411.3, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the *equipment* drain pan or stoppage in the condensate drain piping. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Drain piping shall be a minimum of 3/4-inch (19 mm) nominal pipe size. One of the following methods shall be used

M1411.8 Locking Access Port Caps Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps or shall be otherwise secured to prevent unauthorized access.

2/25/24, 9:29 AM

Design Indoor Cooling Temp.: 75 °F
Design Outdoor Cooling Temp.: 108 °F
Temp. Difference Cooling: 33°F
Indoor Humidity: 50 Grains difference: -14

960 PLAN
CITY OF MARICOPA
Area: Phoenix
Front Door Orientation: North
Design Indoor Heating Temp.: 70 °F
Design Outdoor Heating Temp.: 37 °F
Temp. Difference Heating: 33°F
Block Load

Whole House Block Load

TD Cool:33°F Heat:33°F	Sq. ft. -types 1 and 2	shading	Sq. ft.-types 1 and 2	shading	Sq. ft.-types 1 and 2	Sq. ft.
Outside Wall: North	1: 270 2:	Windows →	1: 27 2:	Glass Doors x	1: 2 2:	Doors 21
Outside Wall: South	1: 270 2:	Windows ↓	1: 32 2:	Glass Doors ↓	1: 42 2:	Doors
Outside Wall: E & W	1: 684 2:	Windows ↓	1: 18 2:	Glass Doors ↓	1: 2 2:	Doors 21
Outside Wall: NE & NW	1: 2: 2:	Windows →	1: 2 2:	Glass Doors x	1: 2 2:	Doors
Outside Wall: SE & SW	1: 2: 2:	Windows ↓	1: 2 2:	Glass Doors ↓	1: 2 2:	Doors
Floor - (linear ft. if slab)	1: 120 2:	Ceiling	1: 900 2:	Appliances 3	Fireplaces 0	
Sky Lights	N: S:	E-W: NE-NW: SE-SW:				
Number of People	5	Conditioned Sq. ft.	900	Cubic Ft.	8100	

Basement	Above grade:	Walls	Cubic Ft.	Below grade:	walls	Floor	sq. ft. width 23ft. or below: 2 ft.
Fresh air recommended: 70cfm → 80 CFM				Construction: good			
Calculate Load				Total Btu's Cooling	Sensible Load	Latent Load	Total Btu's Heating
				20746	19746	1000	19337

Btu breakdown			
	Sensible	Latent	Heating
walls	3337		3192
windows	2453		2211
ceilings	914		861
doors	639		541
floors	0		5378
appliances	3600		
people	1150	1000	
glass doors	2262		1566
skylights	0		0
basement walls	0		0
basement floor	0		0
infiltration	1046	0	1949
fresh air	2817	0	2817
duct load	1529	0	823
Totals	19746	1000	19337

Structure types

Outside Walls 1: Siding or Stucco R13 insulation
Outside Walls 2:
Windows 1: double pane - blinds
Windows 2:
Glass Doors 1: single pane glass door
Glass Doors 2:
Floors 1: Concrete slab no edge insulation
Floor 2:
Ceiling 1: Ceiling under roof joists R-38
Ceiling 2:
Doors: Wood solid core
Skylights:
Basement Walls:
Basement Floor:
Win ht.: 6' 8" Overhang: 1.5' Top to overhang: 1.5'

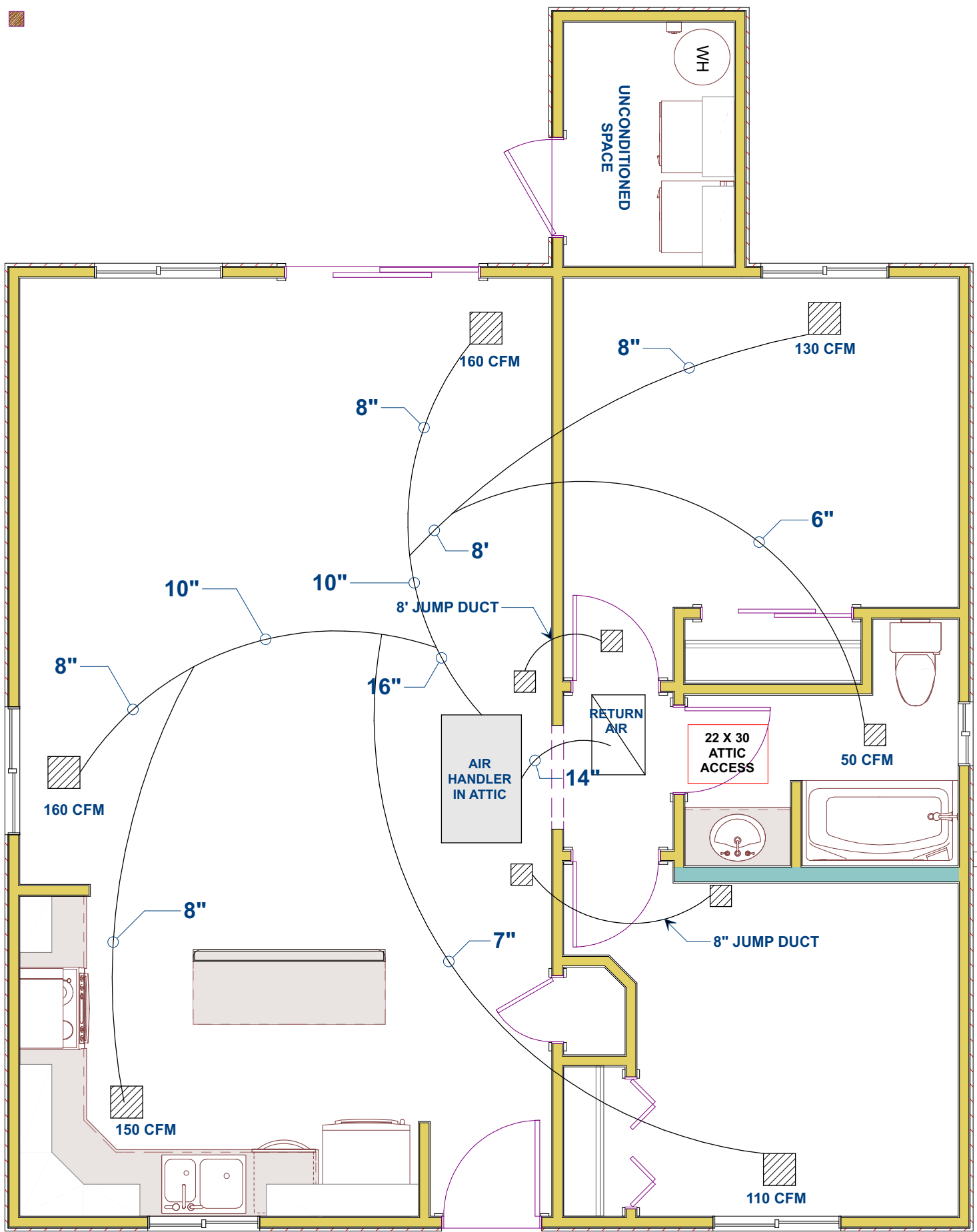
2/25/24, 9:38 AM

manual_s

Sizing Calculator based on Manual S

System Type: Heat Pump air to air	Climate: Heating & Cooling	Elevation: 1930 ft.
Load Calculation Data	Sizing Results	System Performance at Design Temp
Cooling - Sensible: 19746 btu/s	* Cooling - Minimum: 20746 btu/s	Cooling - Sensible: 18600 btu/s
Cooling - Latent: 1000 btu/s	Cooling - Maximum: 23858 btu/s	Cooling - Latent: 3100 btu/s
Cooling - Total: 20746 btu/s	Emergency - Minimum: 15615 btu/s	Heat Pump - Output: 21050 btu/s
Heating - Total: 19337 btu/s	Emergency - Maximum: 28764 btu/s	↓ Totals After Altitude Correction ↓
Sensible Heat Ratio 0.95	Auxiliary Heat Minimum: -0.34 kw	Sensible: 18172 Latent: 3029 btu/s
Calculate	Auxiliary Heat Maximum: -0.63 kw	Heat: 20565.85 Cooling: 21201 btu/s
Heat Pump air to air		
Manufacturer's CFM rating at sea level: 870 CFM required to maintain mass flow rate for elevation: 908		
Is system within specs: YES		

GSZ140241L* + ARUF25B14** + TXV				
Conditions: 80 °F IBD, 67 °F IWB @ 870 CFM				
OUTDOOR TEM. ° F	TOTAL BTU/H	SENSIBLE BTU/H	LATENT BTU/H	TOTAL WATTS
75	24,700	19,350	5,350	1,525
80	24,450	19,500	4,950	1,640
85	24,050	19,550	4,500	1,760
90	23,600	19,400	4,200	1,885
95	23,000	19,150	3,850	2,020
100	22,350	18,850	3,500	2,160
105	21,700	18,600	3,100	2,310
110	21,050	18,500	2,550	2,470
115	20,500	18,750	1,750	2,645
TVA CONDITIONS @ 95° OD DB, 75° ID DB 63° ID WB				
95°	22,150	18,700	3,450	2,020



HVAC PLAN IS FOR ILLUSTRATION PURPOSES ONLY, HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALL OF AN EFFICIENT HEATING AND COOLING SYSTEM, ANY PER CURRENT BUILDING CODES.

To the best of my knowledge these plans are drawn to comply with all applicable codes and regulations. Any changes made on them after prints are made will be done at the contractor's risk. The contractor shall verify all dimensions and conditions before construction. Drawing Firm is not liable for errors or omissions in the preparation of this plan to avoid mistakes. The maker can not guarantee against human error. The contractor of the job must take all dimensions and other details prior to construction and verify responsibility. Requirements.

DATE	DESCRIPTION

REVIEWED FOR CODE COMPLIANCE BY:
WILLIAM ENGINEERING
Approval of these plans by a professional shall not be construed to be a permit for, or an approval of any violation of any Federal, State, County or City laws or regulations. Drawings and approved plans must be kept on the job until completion.

3:37:57 PM Mar 12, 2024

PROJECT DESCRIPTION:

BUILDING AREA	900
LIVABLE	136
PATIO	108
PORCH	1144
TOTAL	

DATE:
3/11/2024

SCALE:
1/4" = 1'

SHEET:
13