Project Summary

Project Scope

New two-family dwelling and associated site work on newly platted undeveloped lot. Site Data

Street Address: See Plot Plan

Neighborhood: See Plot Plan

Legal Description: See Plot Plan

Zoning: See Plot Plan

Minimum setbacks: See Plot Plan

Maximum height: 2 1/2 stories / 35' Maximum driveway: 3-car garage = 32'

Code Authority:

City of Lee's Summit, MO

Applicable Codes:

2018 IRC, 2018 IECC, 2018 IBC, 2018 Existing Building Code, and local amendments.

Building Code Summary

2018 International Residential Code (IRC)

3 - Building Planning

301 Design Criteria

Wind, Seismic, Snow Loads: See Structural. Live & Dead Loads: See Structural.

302 Fire Resistant Construction

302.1 Exterior Walls > 5': 0 Hours.

302.6 Dwelling/Garage Separation: From residence / attic: 1/2" gyp board From habitable rooms above: 5/8" Type X gyp board Structure supporting separating floor/ceiling: 1/2" gyp board Garages <3' from dwelling unit on same lot: 1/2" gyp board

302.7 Under stair protection: 1/2" gyp board

302.9 Wall and ceiling finishes: Flame spread index < 200; smoke developed index < 450.

302.10 Insulation, vapor retarders: Flame spread index < 25; smoke developed index < 450.

302.11 Fireblocking required between stories and between top story and roof.

302.12 Draftstopping required where concealed space exceeds 1,000 SF. 1/2" gyp board or equivalent.

308 Glazing in doors, showers, railings, transoms, skylights shall be safety glazing per code.

309 Garage floor shall slope to a drain or to the vehicle entrance.

310 Basements, habitable attics and sleeping rooms shall have at least one approved emergency escape and rescue opening. Sill height max 44"; minimum clear opening 5.7 SF; minimum clear opening height 24"; minimum clear opening width 20".

310.2 Window wells: minimum horizontal area 9 SF; minimum projection and width 36"; permanent ladder required if depth > 44".

311 Means of Egress

311.2 At least one doorway side-hinged 32" minimum clear opening, with inside and outside landings minimum 36" in direction of travel. Outdoor landing elevation no more than 7 3/4" below top of threshold.

311.6 Hallways minimum width 36".

311.7 Stairways minimum width 36"; minimum headroom 80"; maximum riser 7 3/4"; minimum tread 10"; nosing minimum 3/4" & maximum 1 1/4"; railing on at least one side; railing height 34 – 38" above nosing.

312 Window fall protection is required at windows where sill is > 72" above grade and < 24" above floor.

314 Smoke alarms required in each sleeping room, outside each group of sleeping rooms, and on each additional story, including basements and habitable attics, but not in uninhabitable attics nor crawl spaces. Smoke alarms shall be hard-wired and interconnected per code.

315 Carbon monoxide alarms required outside each group of sleeping rooms in dwellings with fuel-fired appliances or attached garage.

316 Foam plastics shall comply with R316. Thermal barrier minimum 1/2" gyp board.

317 Wood decay protection required

- In crawl space for joists < 18" above exposed ground and girders < 12" above exposed ground.
- All wood framing in contact with concrete or masonry and < 8" above grade.
- Sills and sleepers on concrete on masonry Wood siding or sheathing < 6" above grade or < 2" above concrete paving Wood framing supporting water-permeable decking

318 Termite protection required per R318.

4 thru 9 – Foundations, Floors, Walls, Roofs

See Structural Notes and Framing Plans for joists, rafters, species & grade.

11 – Energy Efficiency

N1101 Climate Zone 4

N1102 Minimum building envelope:

- Fenestration U = 0.35 Skylight U = 0.55
- SHGC = 0.40
- Ceiling/roof R = 49 Wood framed walls R = 20 cavity (or R13 cavity + R5 continuous)
- Mass walls R = 8 exterior (or R13 interior)
- Floors above unconditioned space R = 19 Basement walls R = 10 continuous (or R13 cavity)
- Slabs (if < 12" below grade) R = 10 extending at least 24" vertically at the slab edge or horizontally under the slab
- Crawl space walls R = 10 continuous (or R13 cavity)

N1102.4Building thermal envelop shall limit air leakage per this section. Provide testing as required by local official.

12 thru 44 – Building Services (MEP)

See MEP drawings by others, who are responsible for code compliance for their portions of the work.

2018 International Building Code (IBC)

302 Occupancy Classification Group R-3 Residential

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601 Construction Type V-B Unsprinklered Fire resistance ratings = 0 hrs

Residential General Notes

- 1. It is the responsibility of the contractor to become fully aware of any and all conditions related to the site and existing conditions that may effect the cost or schedule of construction activities, prior to submitting a bid.
- 2. Contractor shall verify all dimensions and conditions at the job site including soil conditions, and conditions related to the existing utilities and services before commencing work and be responsible for same. All
- discrepancies shall be reported to the owner immediately. 3. Do not scale drawings or details — Use given dimensions. Check details for location of all items not dimensioned on plans. Dimension on plans are to face of framing or center line of columns typically. Door and cased openings without dimensions are to be six (6) inches from face of
- adjacent wall or centered between walls. 4. The drawings indicate general and typical details of construction. Where conditions are not specifically indicated but are of similar character to details shown, similar details of construction shall be used, subject to review and approval by the architect and structural engineer.
- 5. Building systems and components not specifically detailed shall be installed, as per minimum manufacturers recommendations. Notify the architect of any resulting conflicts.
- 6. All work shall conform to applicable building codes and ordinances. In case of any conflict wherein the methods or standards of installation or the materials specified do no equal or exceed the requirements of the laws or ordinances, the laws or ordinances shall govern. 7. Install dust barriers and other protection as required to protect installed
- finishes and facilities. 8. Plumbing, mechanical and electrical drawings, etc. are supplementary to the architectural drawings. It shall be in the responsibility of each
- contractor to check with the architectural drawings before installation of their work. Any discrepancy between the architectural drawings and the consulting engineer(s) or other supplementary drawings shall be brought to the owner's attention in writing.
- 9. This project contains glazing that will be subject to federal and local glazing standards and the glazing subcontractor shall be responsible for adherence to these requirements. If the glazing subcontractor finds anything in the documents not in compliance with the standards, he/she shall bring discrepancies to the attention of the architect before proceeding
- 10. All glazing in hazardous locations, defined by the IRC R308.4, shall by safety glazing, including but not limited to the safety glazing identified in the construction documents.
- 11. There shall be no exposed pipe, conduits, ducts, vents, etc. All such lines shall be concealed or furred and finished, unless noted as exposed construction on drawings. Offset studs where required, so that finished wall surface will be flush.
- 12. Contractor shall provide temporary bracing for the structure and structural components until all final connections have been completed in
- accordance with the plans. 13. Carry all footings to solid, undisturbed original earth. Remove all unsuitable material under footings and slab and replace with concrete or
- with compacted fill as directed by architect. 14. All wood framing details not shown otherwise shall be constructed to the minimum standards of the IRC.
- 15. All wood in direct contact with concrete or exposed to weather shall be pressure treated with an approved preservative unless decay resistant heartwood of cedar or redwood is used. Fasteners for pressure treated wood shall be hot dipped galvanized steel, stainless steel, silicon bronze, or copper
- 16. Nail gypsum wallboard to all studs, top and bottom plates and blocking with drywall nails @ 7 inches o.c. maximum spacing unless shown otherwise. Use 5d for 1/2 wallboard, 6d for 5/8 inch wallboard.
- 17. Provide galvanic separation between dissimilar metals. 18. The contractor is to verify the location of all utilities and services to the
- site prior to beginning any site improvements.
- 19. No materials from the work are to be stock piled on public rights-of-way. All rubbish and debris is to be removed from the site. 20. Adjacent properties, streets and walks are to be protected from damage
- at all times. 21. All downspouts and roof drains to be connected to drywells min 10' from foundation, or surface drainage min 3' from foundation unless noted
- otherwise in construction documents. 22. All dimensions are face of stud wall, centerline of column, or face of concrete unless noted otherwise.
- 23. The contractor shall secure permits required by the fire department prior to building occupation.
- 24. The contractor shall take all necessary precautions to ensure the safety of the occupants and workers at all times during the course of the project.
- 25. Approved plans shall be kept in a plan box and shall not be used by any workmen. All construction sets shall reflect the same information. The contractor shall also maintain in good condition, one complete set of plans with all revisions, addenda and changes orders on the premises at all times. Said plans are to be under the care of the job superintendent.
- 26. The contractor and/or the sub-contractors shall apply for, obtain and pay for all required permits and fees except for the building permit. 27. Construction hours, per jurisdiction, are to be observed for all phases of

Precautionary Notes

the project.

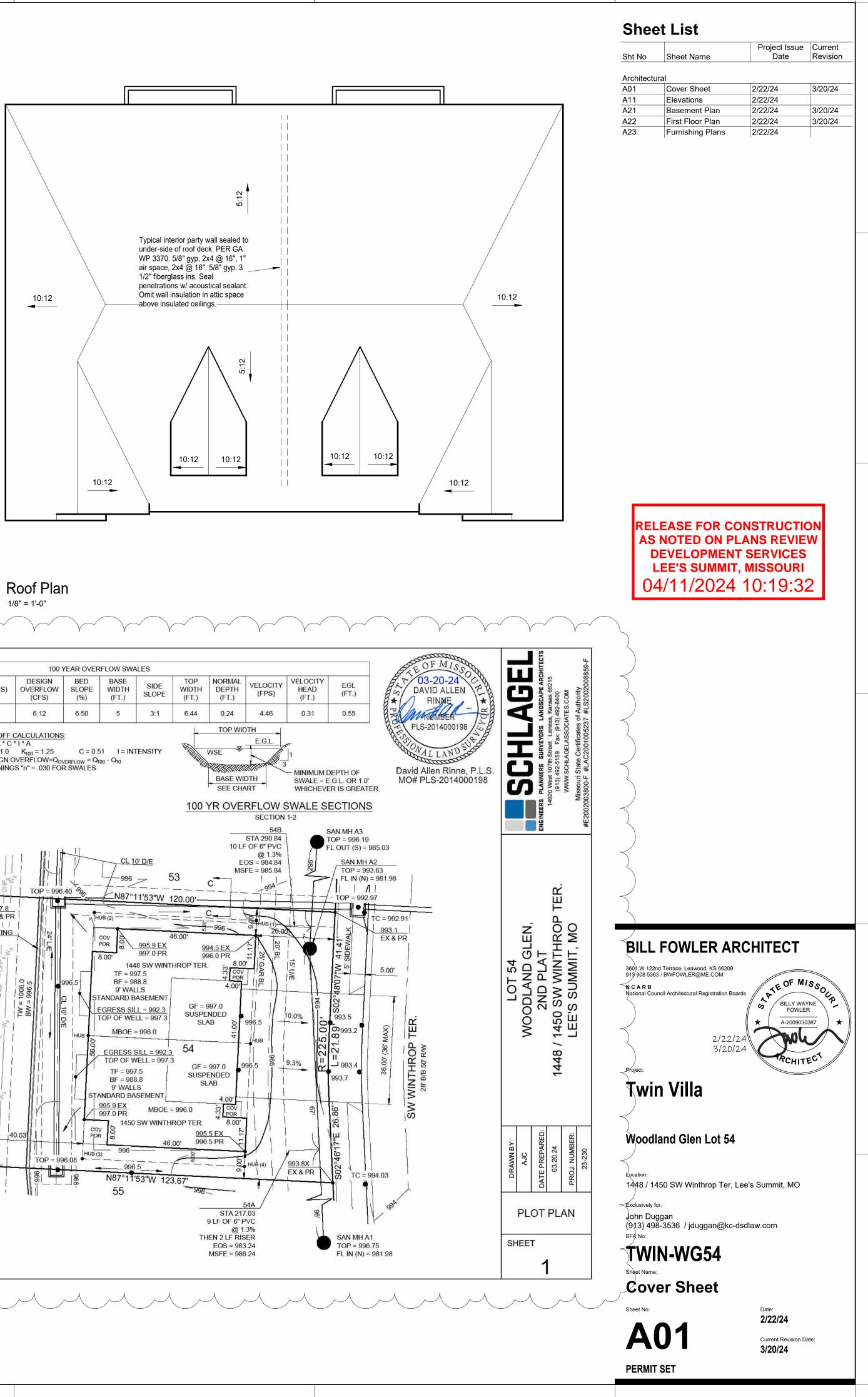
This drawing has been produced by the Architect or prepared under his direct supervision as an instrument of service and is intended for use only on this project. All Drawings, Specifications, ideas and designs, including the overall layout, form, arrangement and composition of spaces and elements portrayed, constitute the original unpublished Work of the Architect. Any reproduction, use or disclosure of the information contained herein without the written consent of the Architect is strictly prohibited.

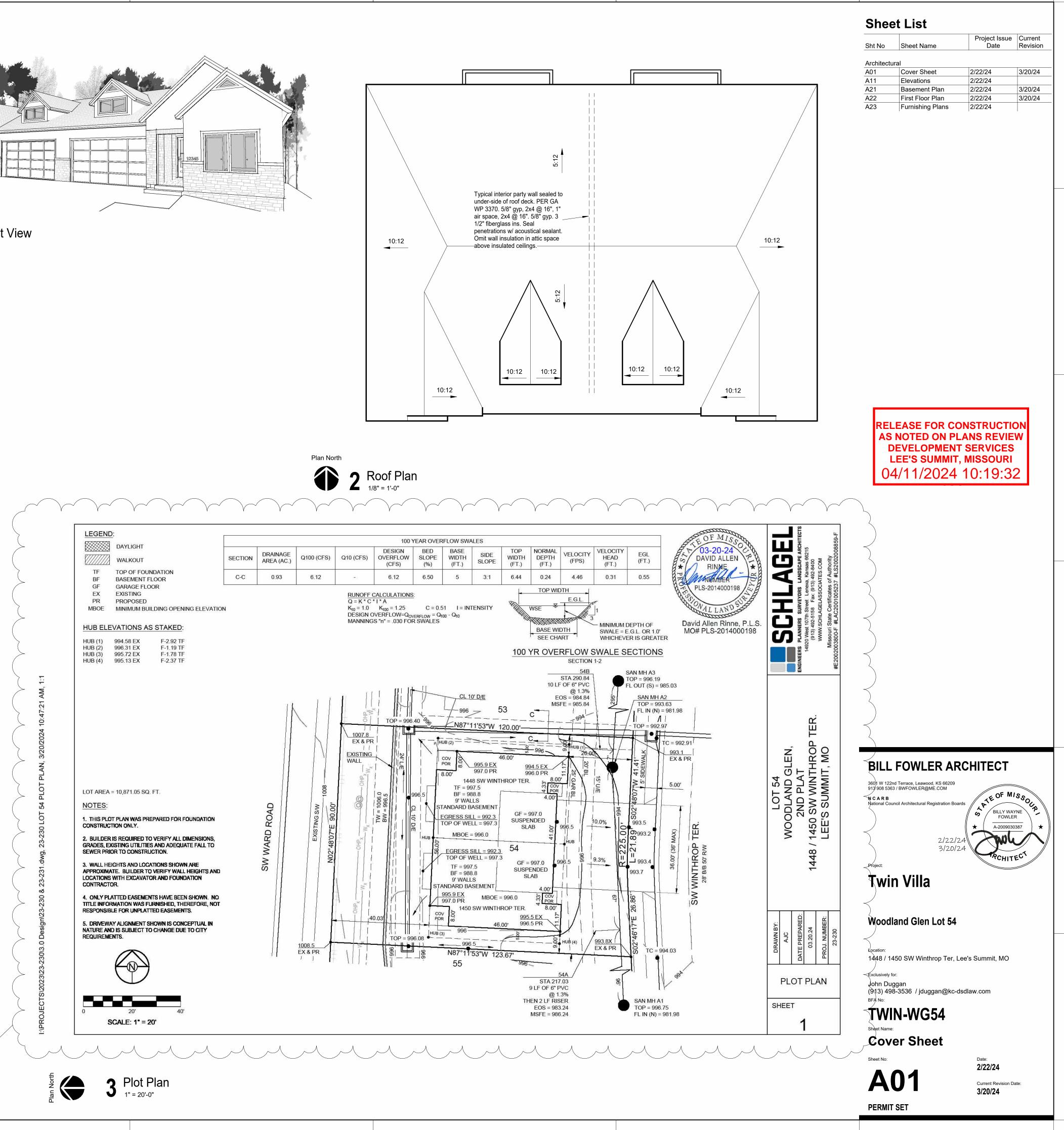
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- 1. Responsibilities. THE ARCHITECT DISCLAIMS responsibility for the existing building structure, site conditions, existing construction elements or any documents, drawings or other instruments used for any part of this Project which do not bear the Architect's seal. The Architect's services are undertaken only in the interest of the Project Owner. The Architect assumes no obligation for the benefit of any other entitv
- 2. Related Documents. This Drawing is a single component of an integrated set of Construction Documents. General and Supplementary Conditions of the Contract, General Requirements, Specifications and other Drawings also affect the Work described. Failure to review and integrate the design intent of the whole of the Construction Documents does not relieve the Contractor from providing a complete Project.
- 3. Codes and Ordinances. COMPLY WITH all laws, codes, ordinances and regulations of authorities having jurisdiction and with requirements of the Landlord, if applicable. Do not start Work until all permits and required approvals are obtained.
- 4. Verifying Conditions. VERIFY ALL CONDITIONS and dimensions prior to construction. Commencement of Work constitutes verification and acceptance of all existing conditions. Application of a material or equipment item to Work installed by others constitutes acceptance of that Work and assumption of responsibility for satisfactory installation.

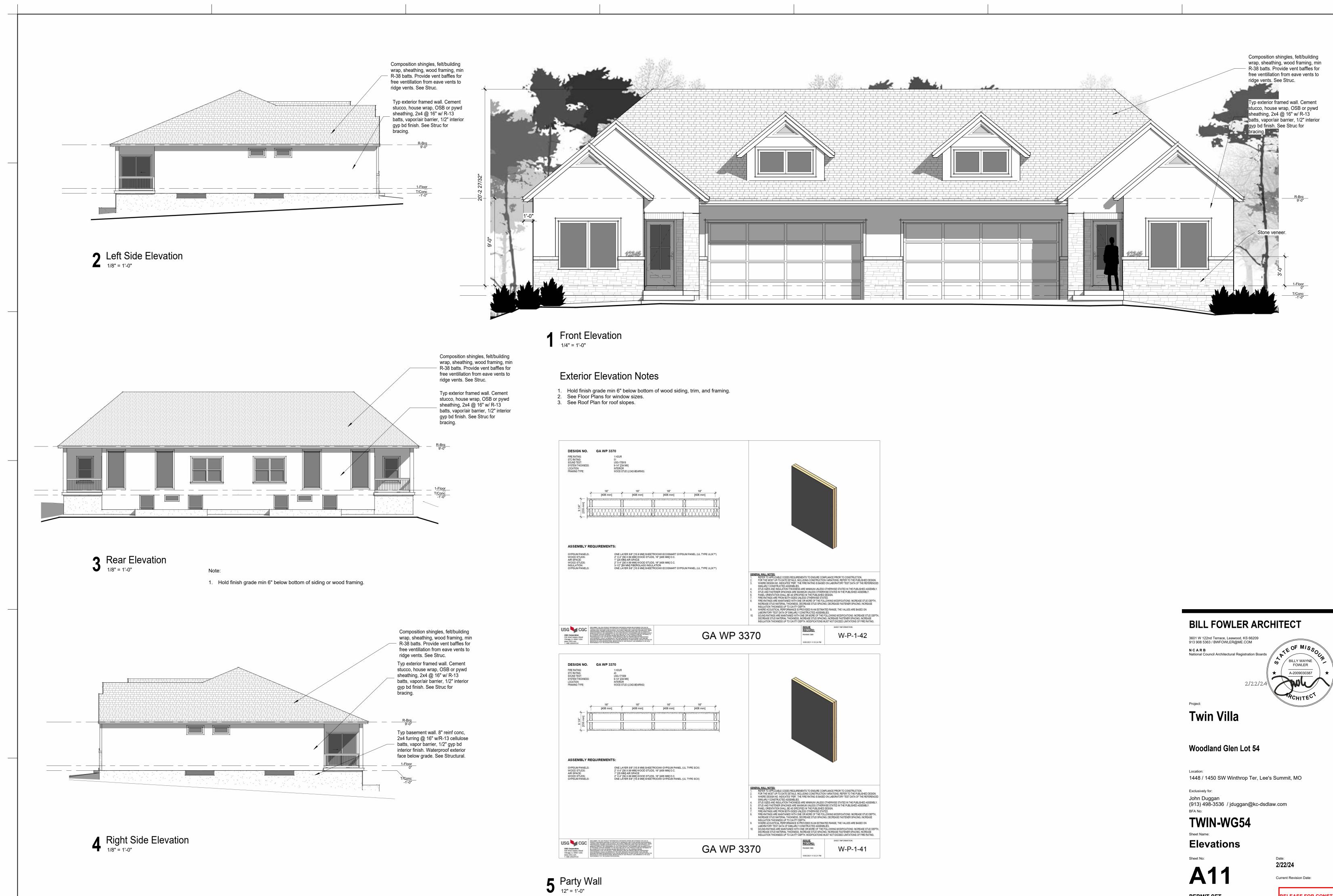


Front View





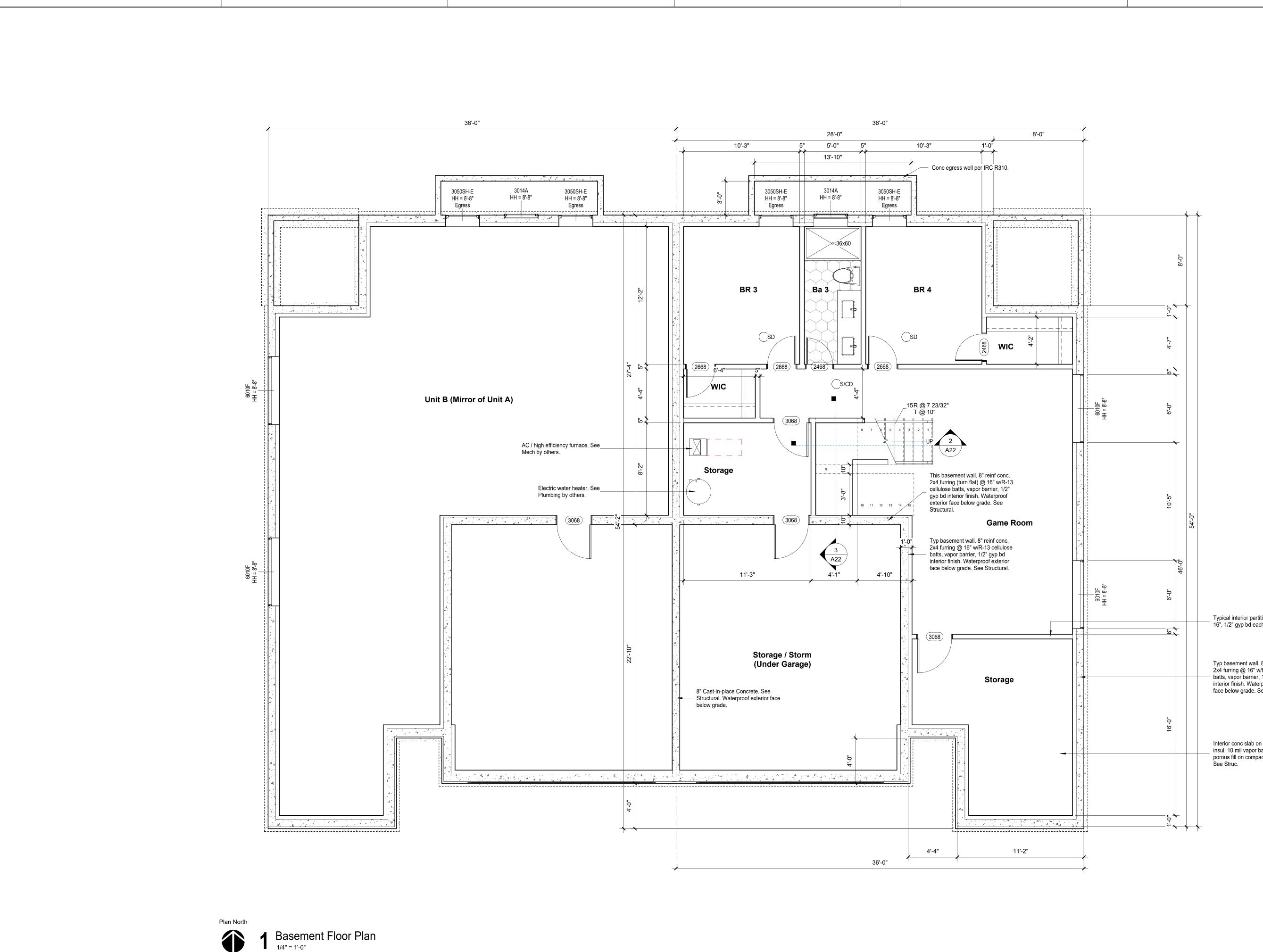
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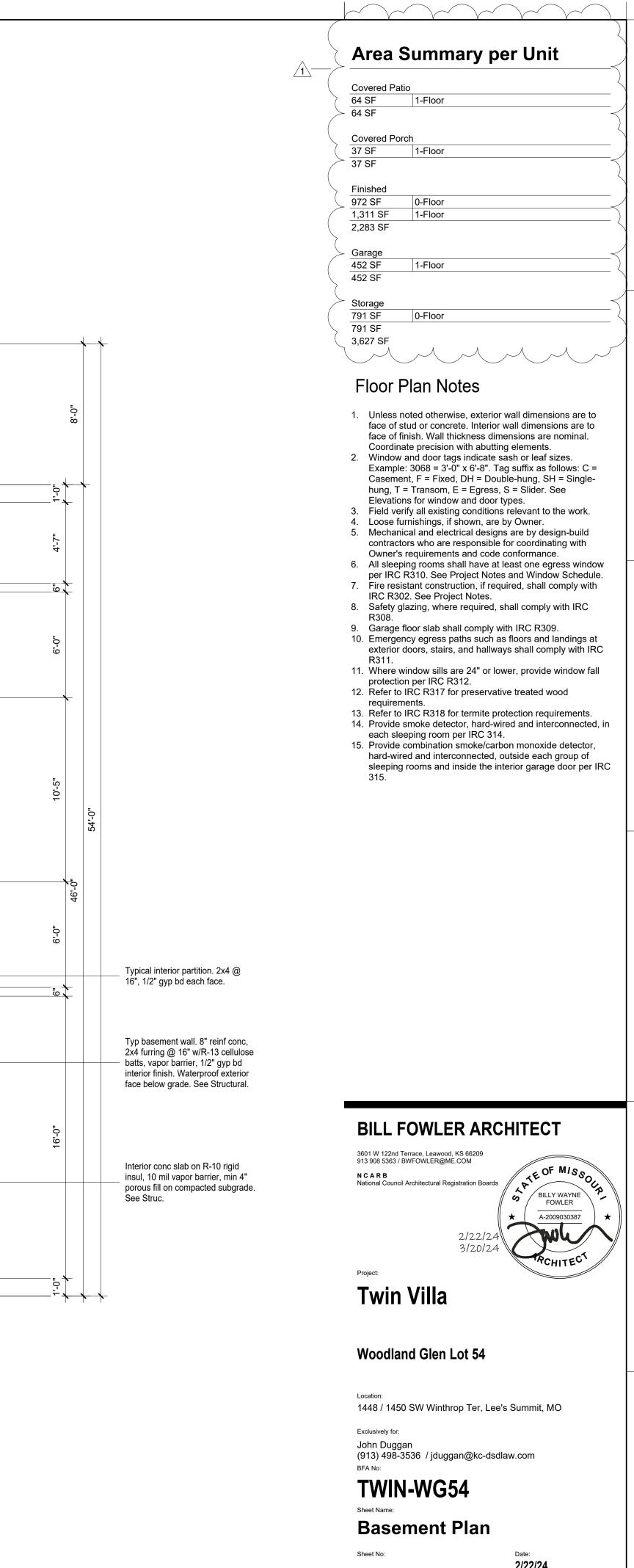
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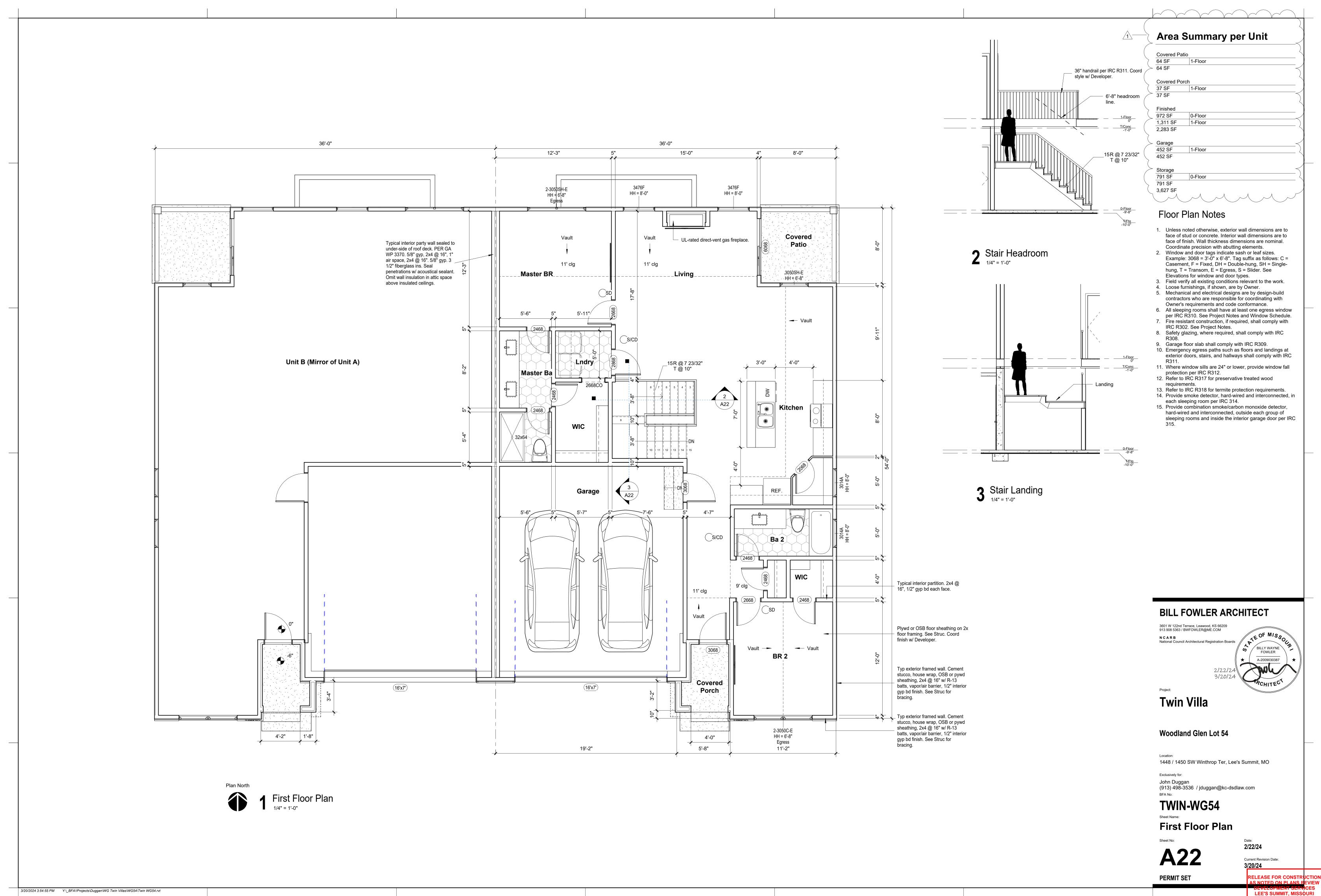
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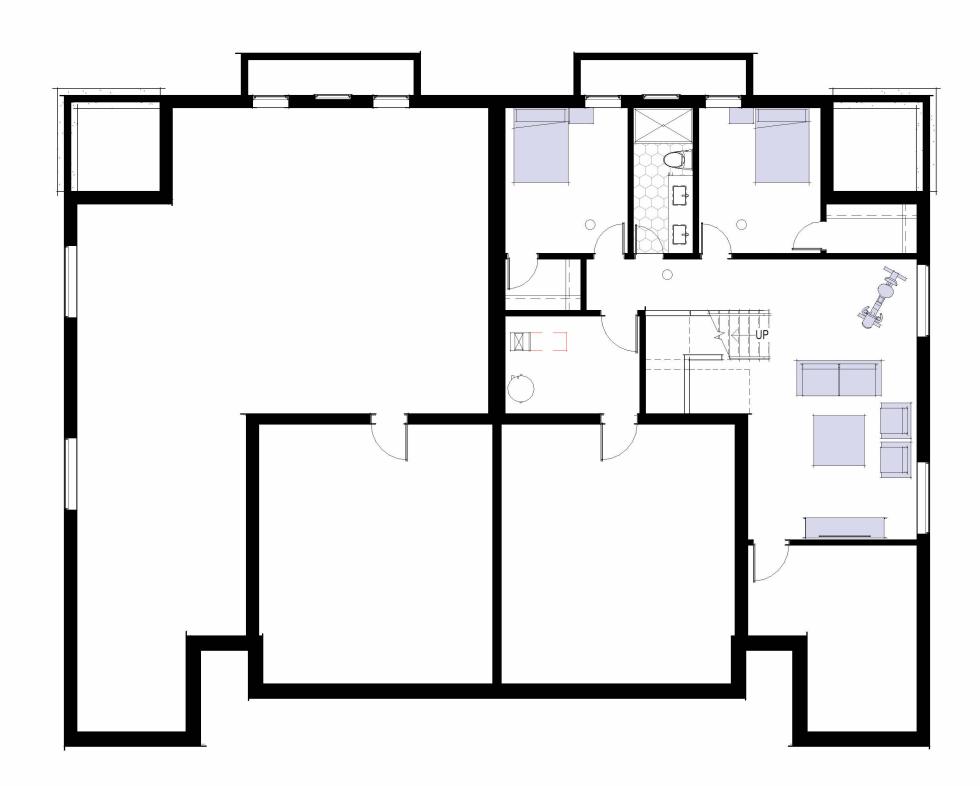
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Plan North

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Basement Floor Plan





2 First Floor Plan

Furnishing Plan Notes

- Loose furnishings are by others not in contract.
 Furnishing layout is preliminary and must be coordinated with Developer.
 Furnishing layout is provided as a suggestion to aid in locating electrical and media outlets.

BILL FOWLER ARCHITECT

3601 W 122nd Terrace, Leawood, KS 66209 913 908 5363 / BWFOWLER@ME.COM TE OF MISS N C A R B National Council Architectural Registration Boards BILLY WAYNE FOWLER Ś A-200903038 2/22/ Project: Twin Villa Woodland Glen Lot 54 Location: 1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for: John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com вFA №: TWIN-WG54 Sheet Name: Furnishing Plans

Sheet No: A23 Date: **2/22/24** Current Revision Date:

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GENERAL NOTES

GOVERNING BUILDING CODE:	2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AND ITS APPROPRIAT SUPPLEMENTS		
DESIGN LOADS:			
ROOF DEAD LOAD:	15 psf		
ROOF LIVE LOAD:	20 psf		
FLOOR DEAD LOAD:	10 psf		
FLOOR LIVE LOAD:			
BEDROOMS:	30 psf		
ALL OTHER LIVING AREAS:	40 psf		
WIND LOADS:	Vasd=115 MPH, EXPOSURE C		
SEISMIC LOADS:	SITE CLASS "B"		
ASSUMED ALLOWABLE SOIL BEAR	RING PRESSURE: 1,500 PSF		

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- FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE DRAWINGS.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS AND FOR COORDINATING ALL DIMENSIONS AND ELEVATIONS SHOWN WITH THE EXISTING CONDITIONS. IF ERRORS OR DISCREPANCIES IN THE DIMENSIONS OCCUR, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING AS REQUIRED DURING CONSTRUCTION TO ENSURE THE SAFETY OF ALL INDIVIDUALS INVOLVED.
- ALL MECHANICAL, ELECTRICAL, AND PLUMBING ELEMENTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND THE LOCAL MUNICIPALITY.
- NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. HAS DESIGNED THE STRUCTURAL FLOOR FRAMING AND WALL BRACING SYSTEM OF THESE PLANS FOR THE CONSTRUCTION OF A RESIDENCE AT THE ADDRESS REFERENCED IN THE PLANS. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. WILL NOT TAKE RESPONSIBILITY FOR ANY RE-USE OF ANY PORTION OF THE DESIGN, PLANS OR SPECIFICATIONS AT ANY OTHER PROPERTY OR ADDRESS WITHOUT OUR PRIOR WRITTEN CONSENT.

BUILDER'S PLANS

THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A THOROUGH UNDERSTANDING OF THE INTERNATIONAL RESIDENTIAL CODE (IRC). THE CONTRACTOR WARRANTS TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C., THAT HE POSSESSES THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES. AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SOPHISTICATION. ALTHOUGH NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. AND OUR CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT FORM, DIMENSION AND QUANTITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THESE PLANS). IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR CONSTRUCTION OF ANY ASPECT OF THE PROJECT, NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OR A QUALIFIED ARCHITECT/ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY US OF THESE NEEDS OR OF CHANGES TO THE PLANS SHALL RELIEVE NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

ARCHITECTURAL NOTES

- WATER RESISTIVE EXTERIOR WALL COVERING, FREE FROM HOLES AND BREAKS, SHALL BE APPLIED TO STUDS OR SHEATHING OF ALL EXTERIOR WALLS. WRAP SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SHALL BE IN COMPLIANCE WITH SECTION R703.2. BUILDING SHALL COMPLY WITH IRC SECTION R802.5.2 FOR RAFTER AND CEILING JOIST
- CONNECTIONS. "UFER" GROUND SHALL BE PROVIDED PER IRC SECTION E3608.1
- GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL

STAIR NOTES

MAXIMUM RISER AT STAIRWAYS IS 7 3/4" AND MINIMUM TREAD IS 10" WITH A MINIMUM 6'-8" HEADROOM, PER IRC SECTION R311.7.

- PLACE HANDRAILS ON ALL STAIRS AND/OR LEVELS THAT EXCEED 30" ABOVE THE FLOOR OR GRADE. RAILINGS TO BE MIN. 36" HIGH AND HAVE INTERMEDIATE RAILS THAT DO NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE AND SHALL COMPLY WITH IRC SECTIONS R311.7.8 & R312.
- ENCLOSE ACCESSIBLE SPACE BENEATH STAIRS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER SECTION R302.7.
- STAIRWAYS CONSISTING OF 3 OR MORE RISERS SHALL HAVE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE STAIR NOSINGS. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR OTHER
- APPROVED GRASPABLE SHAPER PER SECTION R311.7.8.5.
- SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.1

WINDOWS AND SAFETY GLAZING NOTES:

GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS: GLASS IN STORM DOORS; INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR; WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS; GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 9 SQ. FT. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

EMERGENCY EGRESS NOTES:

ALL SLEEPING ROOMS AND BASEMENT SHALL BE PROVIDED WITH PROPER EMERGENCY ESCAPE AND RESCUE OPENINGS PER IRC SECTION R310. PROVIDE (1) WINDOW IN EACH BEDROOM THAT HAS A MINIMUM OPERABLE AREA OF 5.7 SQ. FT. WITH A MINIMUM OPERABLE HEIGHT OF 24" AND WIDTH OF 20".

- PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL FLOOR, INCLUDING BASEMENTS AND STAIRWAYS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM ACTIVATES ALL OTHERS AND BE HARD WIRED WITH A BATTERY BACKUP, PER IRC SECTION R314 AND NFPA 72.
- CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

CONCRETE & REINFORCING NOTES: CONCRETE STRENGTH SHALL MEET THE FOLLOWING MINIMUM 28 DAY STRENGTH REQUIREMENTS (IRC R402.2):

- 1.1. 2,500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED GRADE. 1.2. 3,000 PSI FOR FOOTINGS, FOUNDATION WALLS, AND OTHER VERTICAL CONCRETE.
- 1.3. 3,500 PSI FOR CARPORT AND GARAGE FLOOR SLABS ON UNDISTURBED GRADE.
- 1.4. 3,500 PSI FOR STRUCTURAL FLOOR SLABS. CONCRETE SHALL BE 6%±1% AIR ENTRAINED FOR GARAGE SLABS AND FOR ALL LOCATIONS
- (FOOTINGS, WALLS, FLATWORK, ETC.) EXPOSED TO WEATHER.
- CONCRETE SHALL HAVE A SLUMP OF 4" ± 1". THE SLUMP CAN BE INCREASED THROUGH THE USE OF APPROVED ADDITIVES (NOT WATER). THE REINFORCING STEEL SHALL BE ASTM A615, GRADE 40 MINIMUM UNLESS NOTED OTHERWISE ON
- THE DRAWINGS. ALL BARS SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETERS AND/OR CORNER BARS SHALL BE PROVIDED AT ALL FOOTING AND WALL CORNERS, AND FOOTING STEPS. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS (ACI 318): 5.1. EARTH FORMED - 3"
- 5.2. EXPOSED TO WEATHER 1 1/2" FOR #5 BARS & SMALLER
- 5.3. NOT EXPOSED TO WEATHER 3/4" FOR SLABS.
- NO WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE SITE. ADDITION OF CALCIUM CHLORIDE TO CONCRETE IS NOT PERMITTED
- NO ALUMINUM SHALL BE EMBEDDED/PLACED IN CONCRETE
- CONCRETE PLACED IN COLD WEATHER SHALL COMPLY WITH ACI 306. CONCRETE PLACED IN HOT WEATHER SHALL COMPLY WITH ACI 305.

STRUCTURAL STEEI

- 1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING: STRUCTURAL STEEL
 - MISCELLANEOUS STEEL
 - HOLLOW STRUCTURAL STEEL (HSS)
- STEEL PIPE ASTM A53, GRADE B (SCHED 40 MIN) ALL BEAM CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER UNLESS SPECIFIC CONNECTIONS ARE SHOWN ON THE DRAWINGS. CONNECTIONS SHALL BE DESIGNED TO 50% U.D.L. OR THE REACTION PROVIDED ON THE DRAWINGS, WHICH EVER IS GREATER. CONNECTIONS SHALL BE WELDED OR BOLTED PER AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. BOLTS SHALL BE ASTM A325N.
- ALL COLUMN ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36.
- WELDING SHALL CONFORM TO THE LATEST PUBLICATION OF APPLICABLE CODES SET FORTH BY THE AMERICAN WELDING SOCIETY. NO UNAUTHORIZED WELDS WILL BE ACCEPTED.
- PROVIDE 30# FELT BOND BREAK AROUND ALL STEEL COLUMNS WHERE IN CONTACT WITH SLAB-ON-GRADE
- ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
- 7. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITIVE PRIMER CONFORMING TO SPECIFICATIONS. FIELD TOUCHUP ALL UNPAINTED AREAS AND WELD AREAS. WOOD FRAMING NOTES
- 1. ALL STRUCTURAL LUMBER (RAFTERS, CEILING JOISTS, PURLINS AND HEADERS) SHALL BE DOUGLAS FIR LARCH #2 OR BETTER UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL LOAD BEARING WALL STUDS AND PURLIN STRUTS SHALL BE DOUGLAS FIR STUD GRADE OR BETTER.
- GLUE LAMINATED MEMBERS MARKED "LVL" (LAMINATED VENEER LUMBER) SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS (FB) OF 2950 PSI, A MINIMUM ALLOWABLE SHEAR STRESS (FV) OF 285 PSI, AND A MINIMUM MODULUS OF ELASTICITY (E) OF 2,000 KSI. ALL MANUFACTURER'S
- RECOMMENDATIONS FOR NAILING AND CONNECTIONS SHALL BE FOLLOWED. FLOOR JOISTS: SEE IRC TABLE R502.3.1(1) AND R502.3.1(2) FOR SPAN, SIZE, SPACING, AND GRADE OF
- FLOOR JOISTS. FLOOR JOISTS BELOW PARTITION WALLS RUNNING PARALLEL TO THE JOIST SPAN SHALL BE DOUBLED. ALL DOUBLED MEMBERS SHALL BE NAILED TOGETHER WITH 16d NAILS 16" ON CENTER IN
- TWO ROWS STAGGERED OR PER MANUFACTURER SPECS.
- SOLID BLOCKING BETWEEN FLOOR JOISTS SHALL BE INSTALLED WHERE JOISTS BEAR ON TOP OF BEAMS OR HEADERS AND BELOW POINT LOADS. ALL SOLID BLOCKING AND RIM JOIST MATERIAL SHALL BE THE SAME SIZE AND GRADE AS THE JOISTS.
- ALL FLOOR AND CEILING JOISTS THAT BUTT INTO THE SIDE OF A HEADER OR STEEL BEAM SHALL BE ANCHORED TO THE HEADER OR STEEL BEAM WITH STANDARD JOIST HANGERS.
- ALL SUPPORTS FOR WOOD TRUSSES, RAFTERS AND PURLINS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SHALL BEAR ON LOAD BEARING WALLS (WALLS LOCATED DIRECTLY ABOVE A BEAM LINE OR CONTINUOUS FOOTING)! ALL CONCENTRATED LOADS SHALL BE CARRIED THROUGH THE FLOOR SYSTEM THICKNESS WITH SOLID BLOCKING OR WITH 2x4 STUB COLUMNS (SQUASH BLOCKS) THAT TRANSFER THE LOAD DOWN TO THE SUPPORT WALL OR BEAM BELOW.
- ALL NAILING NOT INDICATED ON THE DRAWINGS SHALL CONFORM TO THE NAILING SCHEDULE OF THE GOVERNING BUILDING CODE. SPACING, END DISTANCES AND EDGE DISTANCES OF NAILS AND SPIKES SHALL BE SUCH AS TO AVOID THE UNUSUAL SPLITTING OF THE WOOD. ALL NON-LOADBEARING STUD WALLS IN THE BASEMENT SHALL BE PROVIDED WITH A 1" MINIMUM
- VERTICAL EXPANSION JOINT TO ALLOW FOR HEAVE IN THE FLOOR SLAB. WALLS SHALL NOT BE TIGHT BETWEEN THE SLAB AND THE FRAMING ABOVE!
- . SHEATHING FOR HORIZONTAL DIAPHRAGMS SHALL BE EXTERIOR GRADE, C/D, STRUCTURAL GROUP II OR BETTER. ROOF AND WALL FRAMING SHALL BE OF DOUGLAS FIR-LARCH OR SOUTHERN PINE. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES UNLESS OTHERWISE NOTED. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
- 11. ALL WOOD STRUCTURAL PANELS SHALL BE IDENTIFIED WITH THE APPROPRIATE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL MEET THE REQUIREMENTS OF PRODUCT STANDARD PS-1.
- 12. WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING
- MEMBERS AND STAGGER END JOINTS 4'-0".
- 13. STANDARD WASHERS SHALL BE USED WITH ALL BOLTS FASTENING WOOD MEMBERS. 14. ALL SAWN LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
- 15. ROOF FRAMING RIDGE BEAMS, VALLEY AND HIP RAFTERS SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 2" AND MINIMUM DEPTH NOT LESS THAN THE END CUT OF THE RAFTERS. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT THE RIDGE BY A 2x6 "TEE" BRACE TO A BEARING PARTITION. WHERE ROOF BRACING IS USED TO PERMIT LONGER RAFTERS SPAN, USE 2x6 "TEE" BRACES AT 4'-0" O.C. WITH CONTINUOUS 2x6 PURLIN UNDER THE RAFTERS. BRACE RAFTERS TO BEARING PARTITIONS.
- 16. PROVIDE CONTINUOUS STRONG BACKS FOR CEILING JOIST SPANS 12'-0" OR GREATER. 17. CEILING JOISTS: SEE IRC TABLE R802.5(1) AND R802.5(2) FOR SPAN, SIZE, SPACING, AND GRADE OF
- CEILING JOISTS 18. ROOF RAFTERS: SEE IRC TABLE R802.4.1(1) THRU R802.4.1(8) FOR SPAN, SIZE, SPACING, AND GRADE
- OF ROOF RAFTERS. 19. BRACE THE COMPRESSION FLANGE OF ALL BEAMS UNLESS NOTED OTHERWISE.
- 20. ALL BEAMS OR HEADERS THAT BEAR ON WOOD FRAMING SHALL BE SUPPORTED BY ANOTHER BEAM OR HEADER OR A BUILT-UP (2) STUD MIN COLUMN THE FULL WIDTH OF THE BEAM CONTINUOUS TO
- THE FOUNDATION OR OTHER STRUCTURAL FRAMING MEMBER, U.N.O. 21. ALL LIGHT GAGE METAL FRAMING ACCESSORIES NOTED SHALL BE AS MANUFACTURED BY "SIMPSON STRONG TIE" OR APPROVED EQUAL, ATTACH FRAMING ACCESSORIES TO WOOD FRAMING IN
- ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. 22. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.
- 23. FLOOR SHEATHING SHALL BE 3/4" TONGUE & GROOVE WOOD STRUCTURAL PANEL. GLUE & NAIL TO FLOOR JOISTS WITH 8d NAILS AT 6" O.C. AT ALL PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE SUPPORTS.
- THE LOADS STIPULATED ON THE DRAWINGS. SHOP DRAWINGS AND CALCULATIONS WITH AN
- FOUNDATION WALLS SHALL BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) 60 PSF. 24. ALL EXTERIOR WOOD WALL FRAMING SHALL BE 2x4 OR 2x6 DOUG-FIR STUD GRADE AT 16"oc, UNO. PROVIDE STEEL SHIMS IN BEAM POCKETS TO LEVEL BEAMS. BEAM POCKETS SHALL BE GROUTED 25. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 OR 2x6 DOUG-FIR STUD GRADE AT 16"oc, UNO. SOLID WITH 4,000 PSI NON-SHRINK GROUT AFTER BEAMS ARE LOADED WITH FRAMING MEMBERS. REINFORCE AROUND BEAM POCKETS BY BENDING TOP CONTINUOUS HORIZONTAL BAR BELOW BEAM 26. WOOD TRUSSES AND THEIR CONNECTIONS SHALL BE DESIGNED BY THE TRUSS MANUFACTURER FOR POCKET OR INSTALL SEPARATE BENT BAR LAPPED AND TIED MINIMUM 24" EACH SIDE. PROVIDE TWO #4 X 4'-0" LONG DIAGONAL BARS AT THE CORNERS OF ALL OPENINGS IN CONCRETE ENGINEER'S SEAL FOR THE STATE OF THE RESIDENCE SHALL BE SUBMITTED FOR REVIEW PRIOR TO WALLS AND AT FOOTING STEPS. ALSO PROVIDE 2 ADDITIONAL #4 ON ALL SIDES OF WALL OPENINGS. FABRICATION. CONNECTION PLATES SHALL MEET THE REQUIREMENTS OF THE GOVERNING BARS SHALL BE 3'-0" LONGER THAN OPEN VERTICAL OR HORIZONTAL DIMENSION. BUILDING CODE. HURRICANE CLIPS, SIMPSON SDWC SCREWS OR SIMILAR SHALL BE USED TO RESIST FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW UPLIFT PER IRC 802.11 GRADE SHALL BE DAMP PROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE WITH A

5.

- 27. TEMPORARY STABILITY OF WOOD TRUSSES DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN CONJUNCTION WITH ALL RECOMMENDATIONS OF THE MANUFACTURER. FOLLOW BCSI GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING OF METAL PLATE CONNECTED WOOD TRUSSES.
- 28. WOOD TRUSSES SHALL NOT BE FIELD CUT.
- 29. MULTIPLE STUD MEMBERS CALLED OUT FOR SUPPORT OF LVL BEAMS AND HEADERS SHALL BE CARRIED DOWN TO TOP OF FOUNDATIONS OR SUPPORT BEAM(S). GARAGE:

GARAGE FLOORS SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.

- 2. DOORS BETWEEN THE GARAGE AND THE DWELLING SHALL BE A MINIMUM 1-3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR A 20 MINUTE FIRE RATED DOOR PER IRC SECTION R302.5.1. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS UNFINISHED ATTIC AREAS BY A MINIMUM 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE UNFINISHED ATTIC AREAS ARE PROVIDED ABOVE THE GARAGE, THE SUPPORTING COLUMNS AND BEAMS SHALL ALSO BE PROTECTED WITH 1/2"GYPSUM BOARD OR EQUIVALENT. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE THE FLOOR/CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM 5/8" TYPE X
- GYPSUM BOARD ON THE GARAGE CEILING, SHALL COMPLY WITH IRC SECTION R309.
- GARAGE DOOR AND FRAME (H-FRAME) FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1 3/4"x0.12" NAILS @ 7"oc STAGGERED WITH (7) 3 1/4"x0.102" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT FOR COUNTER BALANCE SYSTEM.
- 5. BUILDING SHALL COMPLY WITH THE REQUIREMENTS FOR A SELF CLOSING DOOR BETWEEN RESIDENCE AND GARAGE.
- 6. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASMA 115 MPH.

WOOD DECK FRAMING NOTES ALL WOOD DECK FRAMING SHALL COMPLY WITH THE LATEST EDITION OF THE "RESIDENTIAL DECKS -

- PERMIT AND CONSTRUCTION GUIDELINES" AS PUBLISHED BY THE JOHNSON COUNTY CONTRACTOR LICENSING PROGRAM. 2. WOOD FRAMING FOR EXTERIOR DECKS SHALL BE PRESERVATIVE TREATED SOUTHERN PINE #2 OR
- BETTER.

- ASTM A992, Fy = 50 KSI
- ASTM A36 ASTM A500, GRADE B

- FOUNDATION NOTES
- 1. ALL FOUNDATIONS SHALL BEAR ON NATIVE, UNDISTURBED SOIL CAPABLE OF SUPPORTING THE ASSUMED ALLOWABLE SOIL BEARING PRESSURE LISTED UNDER THE DESIGN LOADS ON THIS PAGE. UNLESS NOTED OTHERWISE, WITHOUT UNDUE SETTLEMENT OR HEAVING. NORTON & SCHMIDT IS NOT RESPONSIBLE FOR REVIEW OF THE SOIL CONDITIONS AT THE SITE, THE CONTRACTOR OR EXCAVATOR, IF APPROPRIATELY QUALIFIED AND EXPERIENCED OR A QUALIFIED TESTING LAB (APPROVED BY THE OWNER) SHALL FIELD VERIFY THE ACTUAL SOIL'S SUITABILITY, SOIL BEARING CAPACITY AND OTHER SOIL CONDITIONS (SUCH AS EXPANSIVE SOILS, COMPRESSIBLE SOILS, SHIFTING SOILS OR OTHER QUESTIONABLE SOIL CHARACTERISTICS). REFERENCE IRC R401.
- ALL EXTERIOR FOOTINGS SHALL BEAR A MIN. OF 36" BELOW FINISHED GRADE.
- IF THE EXISTING SITE TOPOGRAPHY OR SOIL CONDITIONS VARY FROM THE CONDITIONS SHOWN ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT/ENGINEER SO THAT A DESIGN THAT IS APPROPRIATE FOR THE SITE CAN BE GENERATED. FOOTINGS SHALL BE POURED CONTINUOUS AT FOOTING STEPS (SOLID JUMPS)
- ANY FILL THAT IS INSTALLED UNDER THE BASEMENT OR GARAGE FLOOR SLABS SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT OF THE FILL MATERIAL. PROPER COMPACTION IS WHERE THE SOIL IS PLACED IN 6" LIFTS AND EACH LIFT IS COMPACTED PRIOR TO INSTALLING MORE SOIL. THIS COMPACTED FILL SHALL THEN BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. AT THE CONTRACTOR'S OPTION, A PROPERLY DESIGNED STRUCTURAL SLAB MAY BE INSTALLED OVER ANY FILL THAT HAS NOT BEEN PROPERLY COMPACTED. ALL EXTERIOR SLABS INSTALLED ADJACENT TO THE FOUNDATION SHALL BE DOWELED INTO THE FOUNDATION WITH #4 BARS AT 12" ON CENTER (GRADE 60 STEEL) DRILLED IN 6" MINIMUM AND EPOXIED.
- CONTROL JOINTS IN THE FLOOR SLABS SHALL BE INSTALLED AS TO MINIMIZE THE AMOUNT OF RANDOM CRACKING (12' INTERVALS MAXIMUM). THESE JOINTS SHALL BE SAWCUT 1-1/4" DEEP WITHIN 8 HOURS OF POURING THE SLAB OR MAY BE TOOLED INTO THE SLAB WHEN POURED. SAWCUTS SHALL BE IN APPROXIMATE SQUARE PATTERN WITH MAXIMUM ASPECT RATIO OF 1-1/2 TO 1.
- THE BUILDER SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE STEPS TO MINIMIZE THE EFFECTS OF EXPANSIVE SOIL ON THE FOUNDATION. SLABS, AND WOOD FRAMED PORTIONS OF THE HOUSE. THIS INCLUDES ISOLATING THE FLOOR SLAB AT ALL COLUMNS, INTERIOR BEARING WALLS, AND AT THE FOUNDATION WALLS WITH TWO LAYERS OF 15# FELT. PARTITION WALLS IN THE BASEMENT SHALL NOT BE CONSTRUCTED TIGHT AGAINST THE FRAMING ABOVE.
- INSTALL CONTINUOUS DRAIN TILE (4" DIAMETER MINIMUM) AROUND THE PERIMETER OF THE ENTIRE 8. LOWER LEVEL AND COVER THE TILE WITH FILTER FABRIC AND COURSE, CLEAN ROCK. INSTALL VERTICAL DRAINS TO PERIMETER DRAIN TILE AT ALL WINDOW WELLS. THE DRAIN TILE SHALL BE CONNECTED TO A 40 GALLON (MINIMUM) SUMP PIT WITH SUFFICIENT DEPTH FOR PROPER SUMP PUMP OPERATION, OR SHALL BE DRAINED BY GRAVITY TO DAYLIGHT AT LEAST 10' FROM THE FOUNDATION. FOUNDATION DRAINAGE SHALL ALSO BE IN ACCORDANCE WITH IRC SECTION R-405.1
- CONCRETE BASEMENT SLABS SHALL BE A MIN. OF 4" THICK OVER A MIN. OF 4" OF 1/2" TO 3/4" CLEAN. GRADED ROCK, U.N.O. OR IF SITE CONDITIONS REQUIRE OTHERWISE. MIN REINFORCING SHALL BE #4'S AT 24"oc OR EQUIVALENT.
- PROVIDE A MIN. 6-MIL POLYETHYLENE MOISTURE BARRIER OVER GRAVEL BASE UNDER BASEMENT FLOOR SLABS (NOT REQUIRED FOR GARAGE SLABS) PER SECTION R405.2.2. LAP JOINTS A MIN. OF 6".
- ALL FOOTING AND SLAB REINFORCEMENT SHALL BE BLOCKED OFF SUBGRADE WITH CHAIRS OR CONCRETE BRICKS.
- RESIDENTIAL BASEMENT WALL NOTES:
- 1. VERTICAL REBAR SPACING FOR CONCRETE FOUNDATION WALLS SHALL BE PER THE TABLE BELOW:

			60 KSI REI	NFORCING		40 KSI REINFORCING		
WALL THICKNESS		LL THICKNESS	8"	10"	12"	8"	10"	
L HEIGHT	11	6' OR LESS	#4 @ 36" O.C.	#4 @ 36" O.C.		#4 @ 36" O.C.	#4 @ 36" O.C	
	5	7'	#4 @ 32" O.C.	#4 @ 36" O.C.		#4 @ 21" O.C.	#4 @ 36" O.C	
	.	8'	#4 @ 24" O.C.	#4 @ 36" O.C.		#4 @ 16" O.C.	#4 @ 36" O.C	
	WALL	9'	#4 @ 16" O.C.	#4 @ 20" O.C.		#4 @ 12" O.C.	#4 @ 16" O.C	
-		10'	#4 @ 12" O.C.	#4 @ 16" O.C.		#4 @ 8" O.C.	#4 @ 12" 0.0	
		12'			#5 @ 12" O.C. EACH FACE			
		14'			#5 @ 8" O.C. EACH FACE			

- a. MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 BARS @
- 36" O.C. (ACI 332) b. VERTICAL BARS SHALL BE CONTINUED TO WITHIN 4" OF THE TOP OF THE WALL
- c. REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL (2" FROM THE INSIDE FACE
- d. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS. e. DESIGN BY A PROFESSIONAL ENGINEER IS REQUIRED FOR WALLS OVER 10' IN HEIGHT.
- f. HORIZONTAL REINFORCING SHALL MATCH THE SIZE OF THE VERTICAL REINFORCING. PROVIDE - BAR WITHIN 12" OF THE TOP OF THE WALL WITH ADDITIONAL BARS SPACED AT 24" O.C. MAX. 2. BARS SHALL LAP A MINIMUM OF 48 BAR DIAMETERS AT ENDS. SPLICES AND AROUND CORNERS.
- UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
- 3. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS WITH 3" CLEARANCE FROM SOIL FOR 8" THICK WALLS, U.N.O. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 24" WIDE AND 12" DEEP WITH (2) #4 BARS CONTINUOUS WITH 3" CLEARANCE FROM SOIL FOR 12" THICK WALLS.
- INSTALL 1/2"Ø x 1'-2" LONG ANCHOR BOLTS (7" EMBEDMENT) AT 2'-0" O.C. AND WITHIN 12" OF THE END OF EACH SILL MEMBER (2-BOLTS MIN PER PLATE SECTION). MINIMUM SILL PLATE TO BE 2x6 PRESSURE TREATED
- THE TOPS OF ALL BASEMENT (LOWER LEVEL) FOUNDATION WALLS SHALL BE CONNECTED TO THE FLOOR JOISTS. NAIL EACH FLOOR JOIST END AND END WALL BLOCKING TO THE WOOD SILL PLATE PER THE IRC NAILING SCHEDULE. WHERE FLOOR JOISTS RUN PARALLEL TO THE FOUNDATION WALLS, PROVIDE BLOCKING IN THE FIRST THREE JOIST SPACES AT 2'-0" O.C. OVER THE ENTIRE LENGTH OF THE FLOOR JOISTS.
- WALLS SHALL BE FULL HEIGHT FROM FOOTING TO FLOOR FRAMING. NO WOOD FRAMED CRIPPLE WALLS EXCEPT AS SPECIFICALLY NOTED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

- BITUMINOUS COATING IN ACCORDANCE WITH SECTION R406.1. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER SECTION N1102.1. ALL SITE RETAINING WALLS GREATER THAN 4'-0" IN HEIGHT SHALL REQUIRE A DESIGN BY A
- PROFESSIONAL ENGINEER. 14. A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE

ENERGY REQUIREMENTS

- THE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH AN AIR BARRIER PER IRC SECTION N1102.
- 2. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.
- PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.3.2.1.
- BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N1103
- BUILDING CAVITIES IN A THERMAL ENVELOPE WALL SHALL NOT BE USED AS RETURN AIR PLENUMS UNLESS THE REQUIRED INSULATION BARRIER IS MAINTAINED PER M1601.1.1. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.1.
- 8. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1505.2. 9. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400
- CFM AS REQUIRED PER M1503.6. 10. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER
- M1601 6 11. MINIMUM MECHANICAL EFFICIENCY RATING FOR AC EQUIPMENT IS 13 SEER AS REQUIRED PER IRC. 12. MINIMUM MECHANICAL EFFICIENCY RATING FOR FORCED AIR FURNACE IS 78% AS REQUIRED PER
- 13. CONTRACTOR SHALL PROVIDE COMPLIANCE REPORT PER N1105.4.2 AND N1105.4.3 TO THE BUILDING OFFICIAL.

AB	ANCHOR BOLT	MECH	MECHANICAL
		-	
ACI	AMERICAN CONCRETE INSTITUTE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MIN	MINIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MISC	MISCELLANEOUS
AISI	AMERICAN IRON AND STEEL INSTITUTE	MTL	METAL
ARCH	ARCHITECTURAL	NO	NUMBER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NS	NEAR SIDE
AWS	AMERICAN WELDING SOCIETY	NTS	NOT TO SCALE
BFF	BELOW FINISH FLOOR	OC	ON CENTER
BFS	BOTTOM OF FOOTING STEP	OH	OPPOSITE HAND
во	BOTTOM OF	PAF	POWDER ACTUATED FASTENERS
BOS	BOTTOM OF STEEL	PCF	POUNDS PER CUBIC FEET
BRG	BEARING	PL	PLATE
BWP	BRACED WALL PANEL	PLF	POUNDS PER LINEAR FOOT
CIP	CAST-IN-PLACE CONCRETE	PSF	POUNDS PER SQUARE FOOT
CJ	CONTROL JOINT (WALL)	PSI	POUNDS PER SQUARE INCH
CL	CENTER LINE	QTY	QUANTITY
	CLEAR	REF	REFERENCE
COL	COLUMN	REINF	REINFORCING
COL	CONCRETE	REQD	REQUIRED
		REQD	
CONST			REVERSE
CONT	CONTINUOUS	RO	ROUGH OPENING
DIA		SIM	SIMILAR
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	T&B	TOP AND BOTTOM
EL	ELEVATION	TFS	TOP OF FOOTING STEP
ELEC	ELECTRICAL	THK	THICK
EQ	EQUAL	то	TOP OF
EW	EACH WAY	TOC	TOP OF CONCRETE
FDN	FOUNDATION	TOF	TOP OF FOOTING
FF	FINISH FLOOR	TOP	TOP OF PAVING
FS	FAR SIDE	TOS	TOP OF STEEL
FTG	FOOTING	TRANS	TRANSVERSE
GA	GAGE	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UNO	UNLESS NOTED OTHERWISE
GYP BD	GYPSUM BOARD	VERT	VERTICAL
HORIZ	HORIZONTAL	W	WIDTH
HSA	HEADED STUD ANCHOR	WBM	WALL BRACE METHOD
INFO	INFORMATION	WP	WORK POINT
JST	JOIST	WS	
JT	JOINT	WWF	WELDED WIRE FABRIC
KSI	KIPS PER SQUARE INCH	****	
LBS	POUNDS		
LONG	LONGITUDINAL		

SYMBOLS LEGEND

MAXIMUM

MAX

	ELEVATI
	CUT SYN
TYPE NO/SHEET	SECTION
TYPE NO/SHEET	ELEVATI
TYPE NO TYPE	BLOWUP
WSP	WOOD S PANEL
(CS-WSP)	CONTINU SHEATHI STRUCT
PFH	PORTAL HOLD-DO
PFG	PORTAL GARAGE

INSULA
REQUIREN THESE VALUES ARE BASED
REFERENCE IRC FOR DIFFE
FENESTRATION

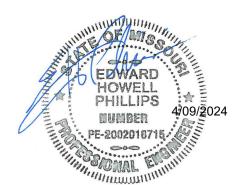
COMPONENT	VALUE		
FENESTRATION	U ≦ 0.32	(b)	
SKYLIGHT		U ≦ 0.55	(b)
GLAZED FENESTRATION SHGC		U ≦ 0.40	(b)(e)
CEILING		R-49	
CEILING WITH ATTIC SPACES (O	/ER 100% OF THE CEILING)	R-38	
CEILING - VAULTED (500 SQ.FT. C CEILING AREA, WHICHEVER IS LE	R-30		
WOOD FRAME WALL		R-20 or R-13 + 5	(h)
MASS WALL		R-8 / R-13	(i)
FLOOR		R-19	
BASEMENT WALL		R-10 / R-13	(c)
SLAB (R VALUE/DEPTH)		R-10 / 2 FT	(d)
CRAWLSPACE WALL	R-10 / R-13	(c)	
DUCTS OUTSIDE OF THE	R-8		
CONDITIONED SPACE	R-6		

- R-VALUE SPECIFIED IN THE TABLE. FENESTRATION.
- SI AB

- THAN AN R-VALUE OF R-19.
- INSULATION.

ELECTRICAL SERVICE PER SECTION E3608.1.

ABBREVIATIONS LEGEND



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REVISIONS

4/09/2024 CONTRACTOR REVISIONS

LEVATION DESIGNATION		REVISION DESIGNATION
UT SYMBOL	(22)	PLAN NOTE SYMBOL
ECTION CUT	1	SLAB JOINT DESIGNATION
LEVATION DETAIL	+ 100'-0"	SPOT ELEVATION
LOWUP DETAIL		CONCRETE WALL
VOOD STRUCTURAL ANEL		WOOD NON-LOAD BEARING STUD WALL
ONTINUOUSLY HEATHED WOOD TRUCTURAL PANEL		BRACED WALL PANEL
ORTAL FRAME WITH OLD-DOWNS		BRACED WALL LINE
ORTAL FRAME AT ARAGE		WOOD STUD BEARING WALL

TION AND FENESTRATION MENTS - IRC TABLE N1102.1.2 D ON CLIMATE ZONE 4 PER IRC FIGURE N1101.7 OR TABLE N1101.7

INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE

b. THE FENESTRATION U - FACTOR EXCLUDES SKYLIGHTS. THE SHGC APPLIES TO ALL GLAZED c. "10/13" MEANS R-10 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE HOME

OR R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL d. R - 5 SHALL BE PROVIDED UNDER THE FULL SLAB AREA OF A HEATED SLAB IN ADDITION TO THE REQUIRED SLAB EDGE INSULATION R-VALUE FOR SLABS, AS INDICATED IN THE TABLE. THE SLAB EDGE INSULATION FOR HEATED SLABS SHALL NOT BE REQUIRED TO EXTEND BELOW THE

e. THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE. f. BASEMENT WALL INSULATION SHALL NOT BE REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE N1101.10.

g. ALTERNATIVELY, INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY PROVIDING NOT LESS h. THE FIRST VALUE IS CAVITY INSULATION, THE SECOND VALUE IS CONTINUOUS INSULATION.

THEREFORE, AS AN EXAMPLE, "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 CONTINUOUS

MASS WALLS SHALL BE IN ACCORDANCE WITH SECTION N1102.2.5. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

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NCARB National Council Architectural Registration Board

Twin Villa

Project:

Woodland Glen Lot 54

1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for:

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TWIN-WG54

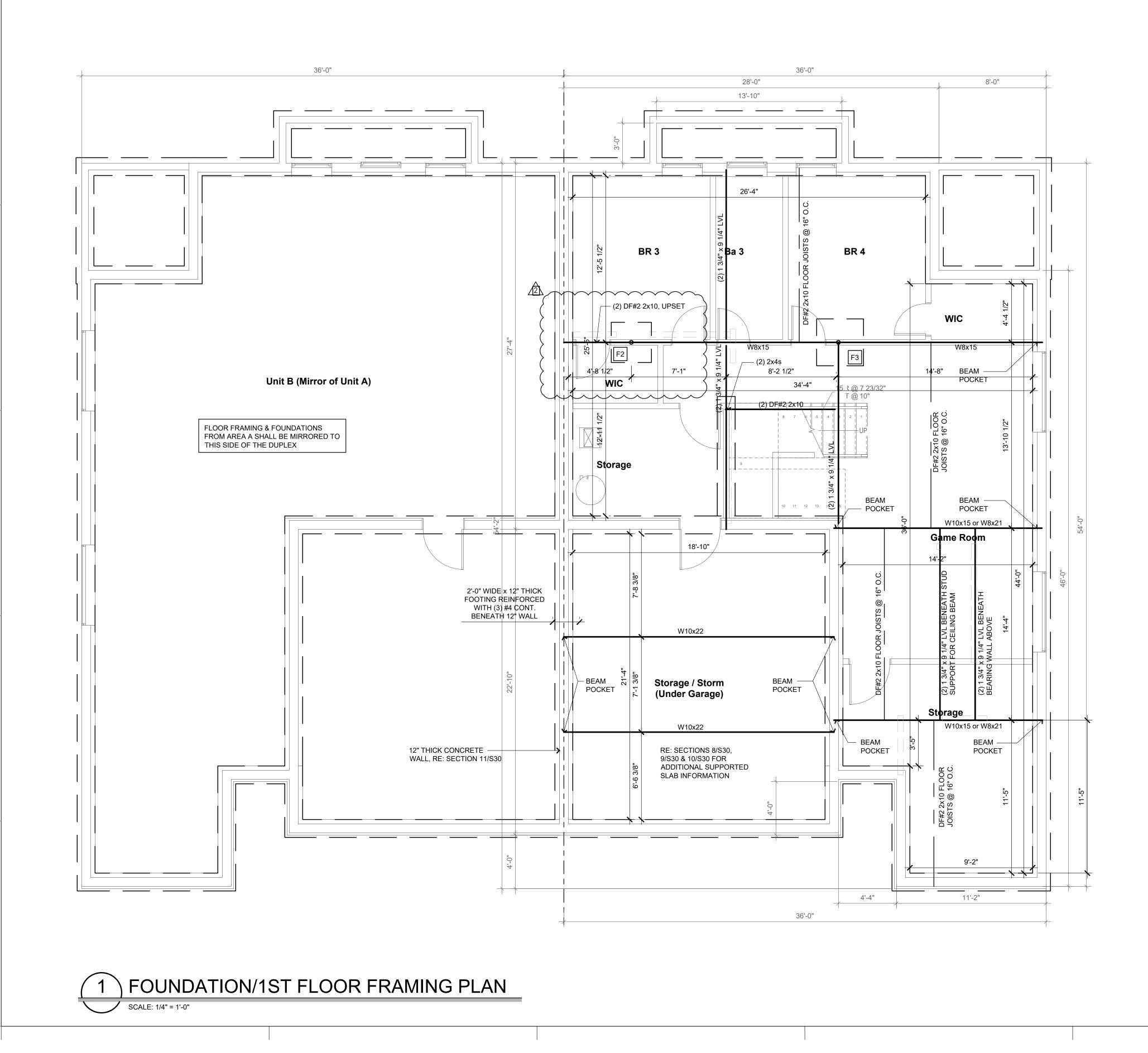
GENERAL NOTES

2/22/24

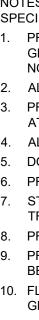
Current Revision Date: 4/09/24

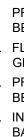
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RELEASE FOR CONSTRUCTION NOTED ON PLANS RE LEE'S SUMMIT, MISSOURI 04/11/2024 10:19:32











FLOOR FRAMING PLAN NOTES

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC LOCATION(S) MARKED ON THE PLAN.

1. PROVIDE 3/4" TONGUE AND GROOVE WOOD STRUCTURAL PANEL SHEATHING FOR SUBFLOOR GLUED AND NAILED TO WOOD JOISTS WITH 8d NAILS AT 6"oc AT PANEL EDGES AND 12"oc AT NON-PANEL EDGES. 2. ALL EXTERIOR WALL FRAMING SHALL BE 2x4 OR 2x6 DOUG-FIR STUD GRADE AT 16"oc.

3. PROVIDE 1/2" EXTERIOR GRADE PLYWOOD SHEATHING NAILED TO WOOD STUDS WITH 8d NAILS AT 6"oc AT PANEL EDGES AND 12"oc AT NON-PANEL EDGES.

4. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 OR 2x6 DOUG-FIR STUD GRADE AT 16"oc. 5. DOUBLE FLOOR JOISTS UNDER ALL PARTITION WALLS RUNNING PARALLEL WITH JOISTS. 6. PROVIDE PROPER WALL INSULATION AS REQUIRED BY GOVERNING BUILDING CODE. 7. STAIRS SHALL HAVE A MAXIMUM RISE OF 7-3/4" AND MINIMUM TREAD OF 10". ALL RISERS AND TREADS TO BE EQUAL BETWEEN FLOORS.

8. PROVIDE WALL BRACING AS SHOWN ON PLAN. 9. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.

10. FLOOR JOISTS: SEE IRC TABLE R502.3.1(1) AND R502.3.1(2) FOR SPAN, SIZE, SPACING, AND GRADE OF FLOOR JOISTS.

11. PROVIDE MIN (2) STUDS FULL WIDTH BEARING UNDER ALL WOOD BEAMS, LVL'S, AND STEEL BEAMS UNLESS NOTED OTHERWISE.

12. INTERIOR FOOTINGS OF LOAD BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.

FOOTING SCHEDULE

MARK	SIZE L x W x THK	REINFORCING (NO) SIZE LOCATION	TOF EL	COLUMN
F1	2'-0" x 2'-0" x 1'-0"	(4) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN
F2	3'-0" x 3'-0" x 1'-0"	(6) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN
F3	3'-6" x 3'-6" x 1'-4"	(8) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN
F4	4'-6" x 4'-6" x 1'-4"	(9) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN

NORTONSCHMIDT Consulting Engineers 311 East 11th Avenue North Kansas City, MO 64116 Phone: (816) 421-4232 www.nortonschmidt.com N&S JOB NUMBER: 2024-0615

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REVISIONS

4/09/2024 CONTRACTOR REVISIONS

BILL FOWLER ARCHITECT

3601 W 122nd Terrace, Leawood, KS 66209 913 908 5363 / BWFOWLER@ME.COM N C A R B National Council Architectural Registration Boards

Project: Twin Villa

Woodland Glen Lot 54

Location: 1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for: John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com

BFA No: TWIN-WG54

FOUNDATION & 1ST FLOOR FRAMING PLAN

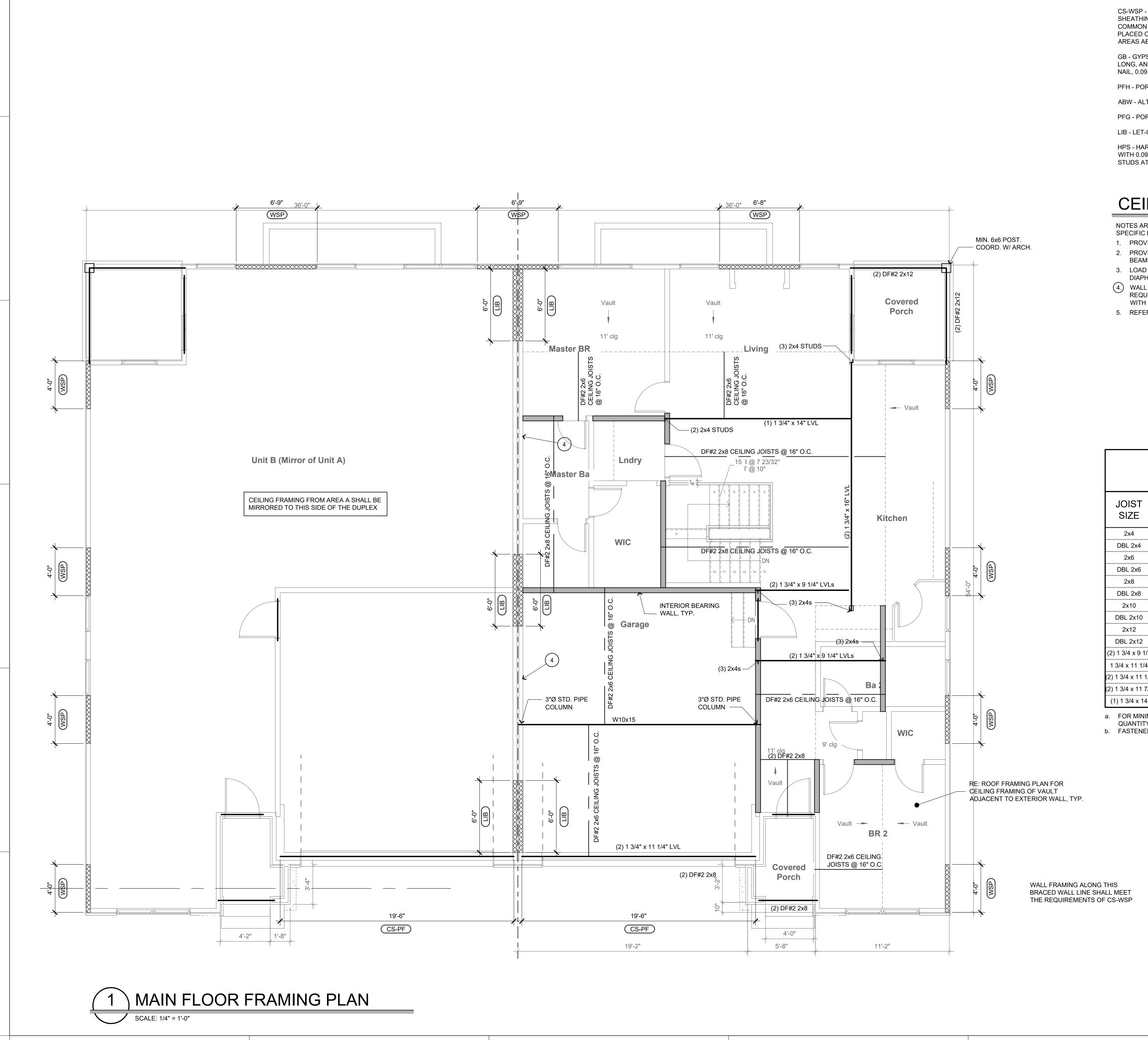


Date: **2/22/24**

Current Revision Date: 4/09/24

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CS-WSP - CONTINOUSLY SHEATHED WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131"Øx2" LONG) AT 6"oc ALONG EDGES AND 12"oc AT INTERMEDIATE SUPPORTS, PLACED ON ALL SHEATHABLE SURFACES ON ONE SIDE OF THE BRACED WALL LINE INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS.

GB - GYPSUM BOARD; 1/2" GYPSUM BOARD WITH 13 GAGE, 1 3/8" LONG, 19/64" HEAD; 0.098" DIA, 1 3/8" LONG, ANNULAR-RINGED; 6d COOLER NAIL, 0.092" DIA, 1 7/8" LONG, 1/4" HEAD; OR GYPSUM BOARD NAIL, 0.0915" DIA, 1 7/8" LONG, 19/64' HEAD; TYPE W OR TYPE S SCREWS; AT 7"oc EDGES & 7"oc FIELD PFH - PORTAL FRAME WITH HOLD-DOWNS; REF PORTAL FRAME WITH HOLD-DOWNS DETAIL

ABW - ALTERNATE BRACED WALL; REF ALTERNATE BRACED WALL DETAIL PFG - PORTAL FRAME AT GARAGE; REF PORTAL FRAME AT GARAGE DETAIL

LIB - LET-IN BRACE; REF LET-IN BRACE DETAIL.

TYPICAL BRACED WALL METHOD

WSP - WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131"Øx2" LONG) AT 6"oc ALONG EDGES AND 12" oc AT INTERMEDIATE SUPPORTS, WHERE SHOWN ON PLANS. UNLESS OTHERWISE NOTED, PANEL WIDTH = 4'-0".

HPS - HARDBOARD PANEL SIDING; HARDBOARD PANEL SIDING WITH A 7/16" THICKNESS. FASTEN WITH 0.092" DIA, 0.225" DIA HEAD NAILS WITH LENGTH TO ACCOMMODATE 1 1/2" PENETRATION INTO STUDS AT 4"oc ALONG EDGES AND 8" AT INTERMEDIATE SUPPORTS.

CEILING FRAMING PLAN NOTES

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC LOCATION(S) MARKED ON THE PLAN.

1. PROVIDE PROPER CEILING INSULATION AS REQUIRED BY GOVERNING BUILDING CODE. 2. PROVIDE MIN (2) STUDS FULL WIDTH BEARING UNDER ALL WOOD BEAMS, LVL'S, AND STEEL BEAMS UNLESS NOTED OTHERWISE.

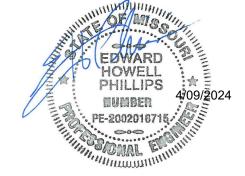
3. LOAD BEARING WALL STUDS SHALL BE CONTINUOUS FROM THE FLOOR TO THE ROOF/CEILING DIAPHRAGM PER IRC 602.3. (4.) WALL SHEATHING SHALL BE CONTINUOUS TO UNDERSIDE OF ROOF SHEATHING PER FIRE WALL

REQUIREMENTS. ATTACH CEILING JOIST ADJACENT TO WALL, THROUGH WALL SHEATHING, WITH (1) SIMPSON SDWS22600DB SCREW AT EACH STUD.

5. REFERENCE ROOF FRAMING PLAN FOR FRAMING IN VAULTED AREAS.



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JOIST HANGER TABLE (BASED ON SIMPSON STRONG-TIE WOOD CONSTRUCTION CONNECTORS 2021 CATALOG) DF/SP ALLOWABLE FASTENERS LOADS (lb.) MODEL NO. FLOOR (100) SNOW (115) HEADER JOIST (4) 0.162 x 3-1/2 (2) 0.148 x 1-1/2 630 LU24 555 (4) 0.162 x 3-1/2 (2) 0.162 x 3-1/2 905 LUS24-2 800 (4) 0.148 x 3 (4) 0.148 x 3 990 LUS26 865 (4) 0.162 x 3-1/2 (4) 0.162 x 3-1/2 1,030 1,170 LUS26-2 (6) 0.148 x 3 (4) 0.148 x 3 1,260 1,100 LUS28 LUS28-2 (6) 0.162 x 3-1/2 (4) 0.162 x 3-1/2 1,315 1,490 (8) 0.148 x 3 (4) 0.148 x 3 1,530 LUS210 1,335 (8) 0.162 x 3-1/2 (6) 0.162 x 3-1/2 1,830 2,075 LUS210-2 1,530 (8) 0.148 x 3 (4) 0.148 x 3 1,335 LUS210 (8) 0.162 x 3-1/2 (6) 0.162 x 3-1/2 2,075 LUS210-2 1,830 HUS410 (8) 0.162 x 3-1/2 (8) 0.162 x 3-1/2 2,125 2,420 (22) 0.162 x 3-1/2 (6) 0.148 x 1-1/2 3,275 3,695 HU11 5,635 6,380 (30) 0.162 x 3-1/2 (10) 0.162 x 3-1/2 HHUS410 (30) 0.162 x 3-1/2 (10) 0.162 x 3-1/2 5,635 6,380 HHUS410 (28) 0.162 x 3-1/2 (8) 0.148 x 1-1/2 4,165 4,420 HU14

FOR MINIMUM NAILING QUANTITY AND LOAD VALUES, FILL ALL ROUND HOLES; FOR MAXIMUM NAILING QUANTITY AND LOAD VALUES, FILL ALL ROUND AND TRIANGULAR HOLES. b. FASTENERS: NAIL DIMENSIONS ARE LISTED DIAMETER BY LENGTH.

BILL FOWLER ARCHITECT 3601 W 122nd Terrace, Leawood, KS 66209 913 908 5363 / BWFOWLER@ME.COM

NCARB National Council Architectural Registration Boards

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Woodland Glen Lot 54

Location: 1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for:

John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com BFA No:

TWIN-WG54

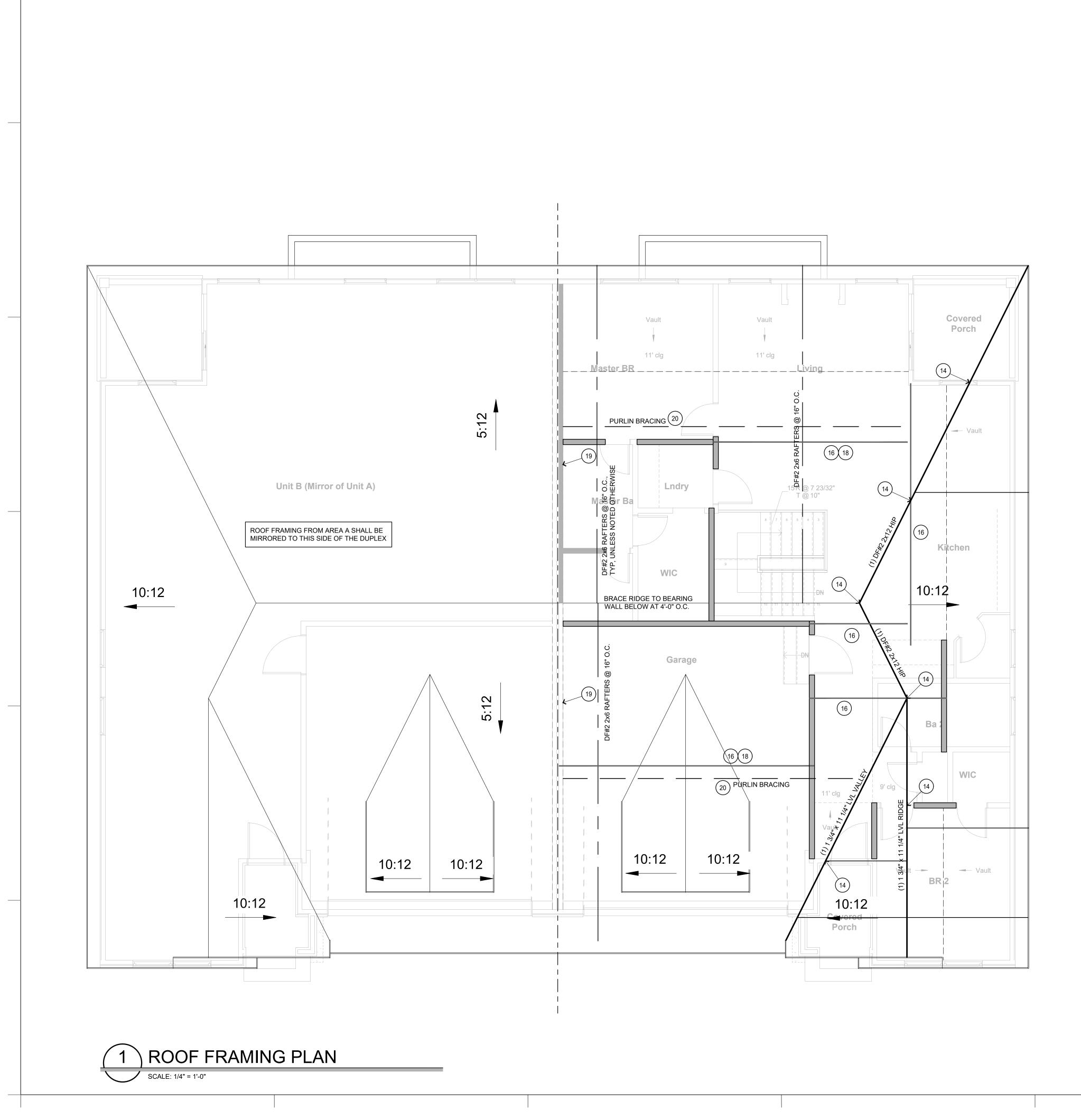
MAIN FLOOR FRAMING PLAN

Sheet No: **S20** Date: **2/22/24**

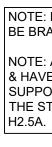
Current Revision Date: 4/09/24

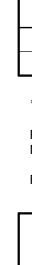
PERMIT SET

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ROOF FRAMING PLAN NOTES

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC LOCATION(S) MARKED ON THE PLAN.

1. PROVIDE 1/2" EXTERIOR GRADE PLYWOOD SHEATHING NAILED TO ROOF RAFTERS WITH 8d NAILS AT 6"oc AT PANEL EDGES AND 12"oc AT NON-PANEL EDGES.

2. PROVIDE ADDITIONAL DEPTH TO JOISTS AS REQUIRED TO PROVIDE 1" AIR GAP TO PREVENT CONDENSATION PLUS 12" INSULATION TO PROVIDE R-38 INSULATION VALUE TO VAULTED CEILING AREA WHERE SHOWN ON PLAN WITH CROSS HATCH.

3. ALL RIDGE, VALLEY, AND HIP MEMBERS SHALL BE 2" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER.

 HIP AND VALLEY MEMBERS SHALL BE SUPPORTED AT THE RIDGE WITH A 2x6 T-BRACE TO A BEARING WALL BELOW.
 PROVIDE SOFFIT, RIDGE, AND GABLE END VENTS AS REQUIRED TO PROVIDE ADEQUATE

VENTILATION FOR ROOF.
6. PROVIDE PROPER FLASHING AND BUILDING PAPER UNDER SHINGLES AS REQUIRED TO PROVIDE WATER TIGHT SEAL AT ALL ROOF PENETRATIONS, RIDGES, VALLEYS, HIPS AND/OR OTHER SLOPE CHANGES.

 GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.
 ALL GABLE END WALL FRAMING SHALL BE 2x4 DOUG-FIR STUD GRADE AT 16"oc.

 PROVIDE PROPER CEILING INSULATION AS REQUIRED BY GOVERNING BUILDING CODE.
 PROVIDE MIN (2) STUDS FULL WIDTH BEARING UNDER ALL WOOD BEAMS, LVL'S, AND STEEL BEAMS UNLESS NOTED OTHERWISE.

11. PROVIDE OVER-BUILD FRAMING AS REQUIRED TO ACHIEVE THE DESIRED ROOF SLOPES/PROFILES.

 LOAD BEARING WALL STUDS SHALL BE CONTINUOUS FROM THE FLOOR TO THE ROOF/CEILING DIAPHRAGM PER IRC 602.3.

13. ROOF RAFTERS DO NOT EXCEED 200 PLF OF UPLIFT. ATTACH ALL MEMBERS PER FASTENING SCHEDULE ON \$33.

(14.) BRACE HIP/RIDGE/VALLEY DOWN TO BEARING WALL OR BEAM BELOW.
15. U.N.O. ALL HIPS/VALLEYS/RIDGES SHALL BE A MIN. OF DF#2 2x10 MEMBERS.

(16.) CEILING BEAM, REFERENCE CEILING FRAMING PLAN.

ALL ROOF RAFTER FRAMING SHALL BE DF#2 2x6 RAFTERS @ 16" O.C., UNLESS NOTED OTHERWISE. INCREASE DEPTH OF RAFTER AS REQUIRED AT VAULTED CEILING AREAS AS REQUIRED TO MEET INSULATION REQUIREMENTS.

(18.) SUPPORT RAFTER FRAMING/PURLIN BRACING ON CEILING BEAM.

(19.) WALL SHEATHING SHALL BE CONTINUOUS TO UNDERSIDE OF ROOF SHEATHING PER FIRE WALL REQUIREMENTS. ATTACH RAFTER ADJACENT TO WALL, THROUGH WALL SHEATHING, WITH (1) SIMPSON SDWS22600DB SCREW AT EACH STUD.

(20.) SUPPORT PURLIN BRACING OFF CEILING BEAMS AND BEARING WALLS BELOW. REFERENCE SHEET S33 FOR ADDITIONAL REQUIREMENTS.

NOTE: ROOF HAS BEEN DESIGNED WITH STRUCTURAL HIPS & VALLEYS. ALL HIPS & VALLEYS TO BE BRACED PER HIP/VALLEY RAFTER TABLE. ALL HIPS & VALLEYS TO BE 2x10 MIN UNO.

NOTE: ALL HIPS, VALLEYS, RIDGES, AND ROOF BEAMS SHALL COMPLY WITH IRC R802.3 & R802.4.3 & HAVE (1) SIMPSON H2.5A AT EACH END TO RESIST UPLIFT. WHERE THE ROOF MEMBER IS SUPPORTED BY A STRUT, IN ADDITION TO THE ROOF MEMBER TO STRUT UPLIFT CONNECTION, THE STRUT SHALL ALSO BE CONNECTED TO A BEARING WALL OR BEAM BELOW WITH A SIMPSON

PURLIN SPAN TABLE

PURLIN (DF #2) *	MAX SPAN				
PORLIN(DI #2)	2x6	2x8	2x10	2x12	
2x6 RAFTERS AT 24"oc	4'-3"	5'-4"	6'-4"	7'-1"	
2x6 RAFTERS AT 16"oc	3'-11"	4'-10"	5'-10"	6'-6"	

* BRACE PURLINS WITH 2x6 "T" BRACES.

FOR BRACE LENGTHS LESS THAN 6'-0", 2x4 "T" BRACES MAY BE USED.

FOR BRACE LENGTHS OVER 20', USE 2x8 "T" BRACES.

HIP/VALLEY RAFTER TABLE

TYPE	MAX UNBRACED SPAN					
ITPE	2x6	2x8	2x10	2x12	1 ³ / ₄ "x9 ¹ / ₄ " LVL	1 ³ / ₄ "x11 ¹ / ₄ " LVL
HIP RAFTERS	9'-6"	11'-2"	12'-9"	14'-1"	15'-8"	18'-2"
VALLEY RAFTERS	7'-7"	8'-10"	10'-1"	11'-2"	13'-2"	15'-3"

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EDWARD HOWELL PHILLIPS 4/09/2024 PE-2002016715

REVISIONS

4/09/2024 CONTRACTOR REVISIONS

Project: Twin Villa

3601 W 122nd Terrace, Leawood, KS 66209 913 908 5363 / BWFOWLER@ME.COM

N C A R B National Council Architectural Registration Boards

Woodland Glen Lot 54

Location: 1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for: John Duggan

BILL FOWLER ARCHITECT

John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com ^{BFA No:}

TWIN-WG54 Sheet Name:

ROOF FRAMING PLAN

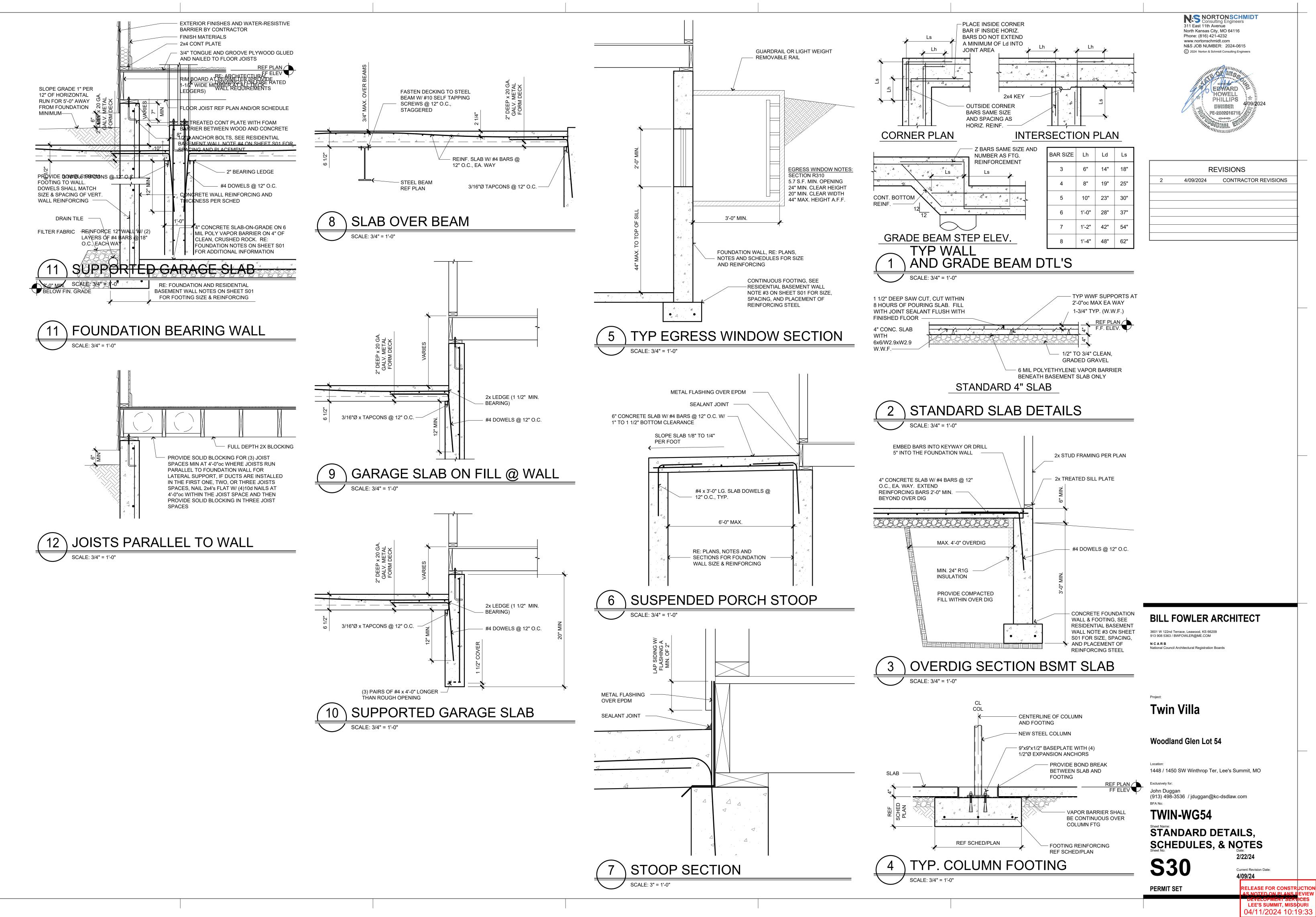
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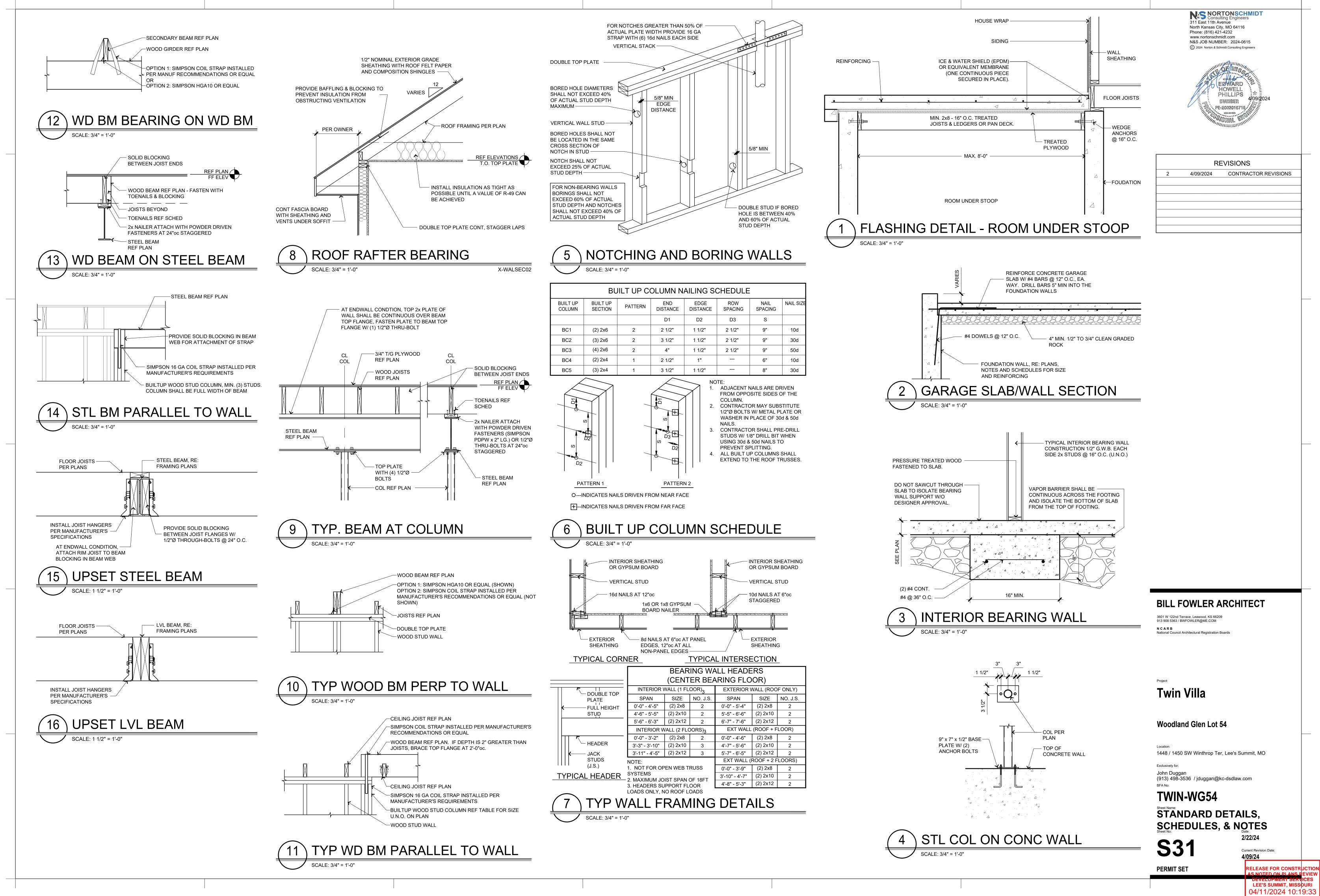
^{Date:} 2/22/24

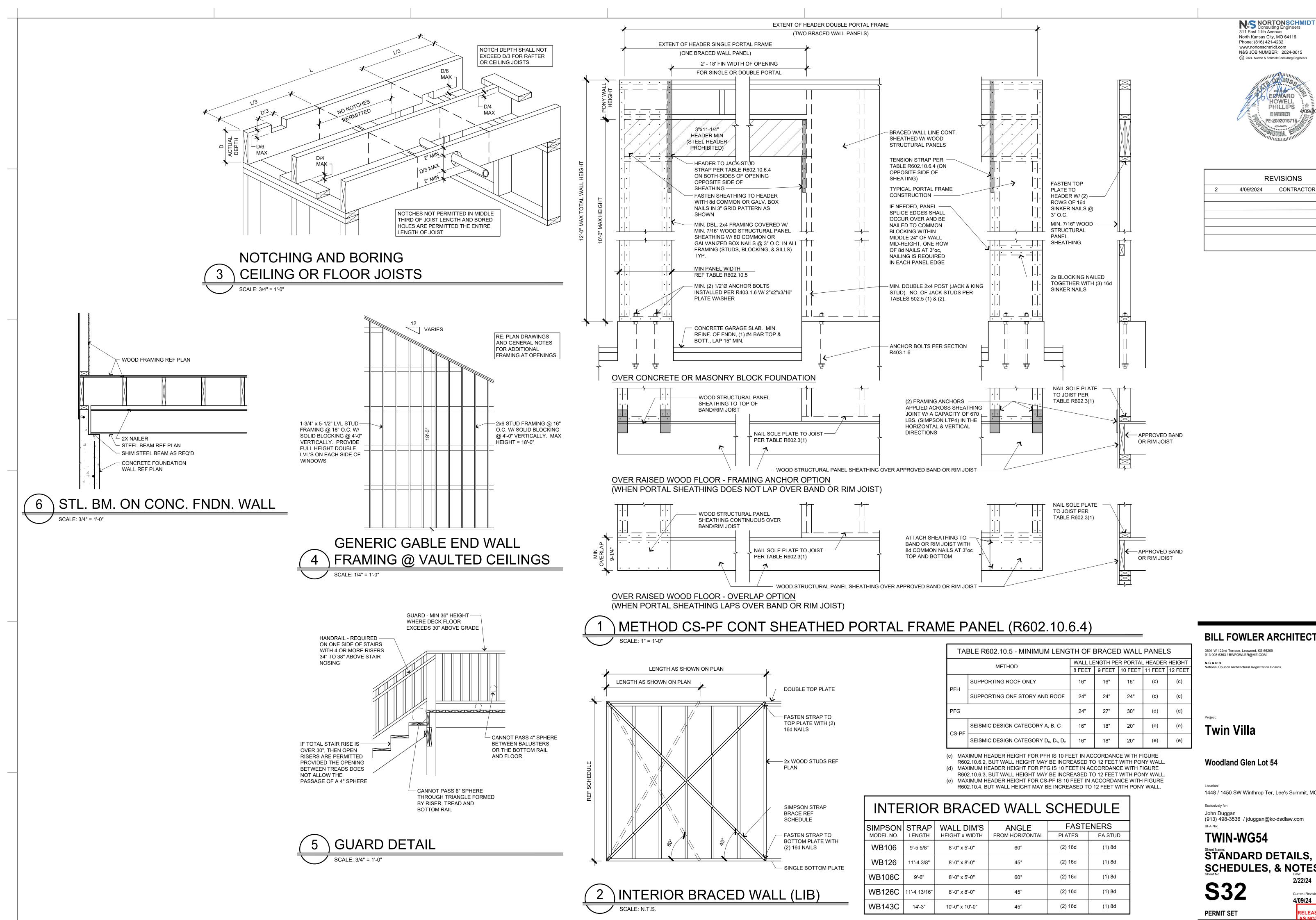
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TA	TABLE R602.10.5 - MINIMUM LENGTH OF BRACED WALL PANELS							
	METHOD	WALL LE	NGTH PE	R PORTAL	HEADER	HEIGHT		
	METHOD	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET		
DELL	SUPPORTING ROOF ONLY	16"	16"	16"	(c)	(c)		
PFH	SUPPORTING ONE STORY AND ROOF		24"	24"	(c)	(c)		
PFG		24"	27"	30"	(d)	(d)		
CS-PF	SEISMIC DESIGN CATEGORY A, B, C	16"	18"	20"	(e)	(e)		
C3-PF	SEISMIC DESIGN CATEGORY D ₀ , D ₁ , D ₂	16"	18"	20"	(e)	(e)		

WALL DIM'S	L DIM'S ANGLE		NERS
HEIGHT x WIDTH	FROM HORIZONTAL	PLATES	EA STUD
8'-0" x 5'-0"	60°	(2) 16d	(1) 8d
8'-0" x 8'-0"	45°	(2) 16d	(1) 8d
8'-0" x 5'-0"	60°	(2) 16d	(1) 8d
8'-0" x 8'-0"	45°	(2) 16d	(1) 8d
10'-0" x 10'-0" 45°		(2) 16d	(1) 8d

BILL FOWLER ARCHITECT

EDWARD HOWELL

PHILLIPS

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CONTRACTOR REVISIONS

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Woodland Glen Lot 54

1448 / 1450 SW Winthrop Ter, Lee's Summit, MO John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com

TWIN-WG54 STANDARD DETAILS, **SCHEDULES, & NOTES**

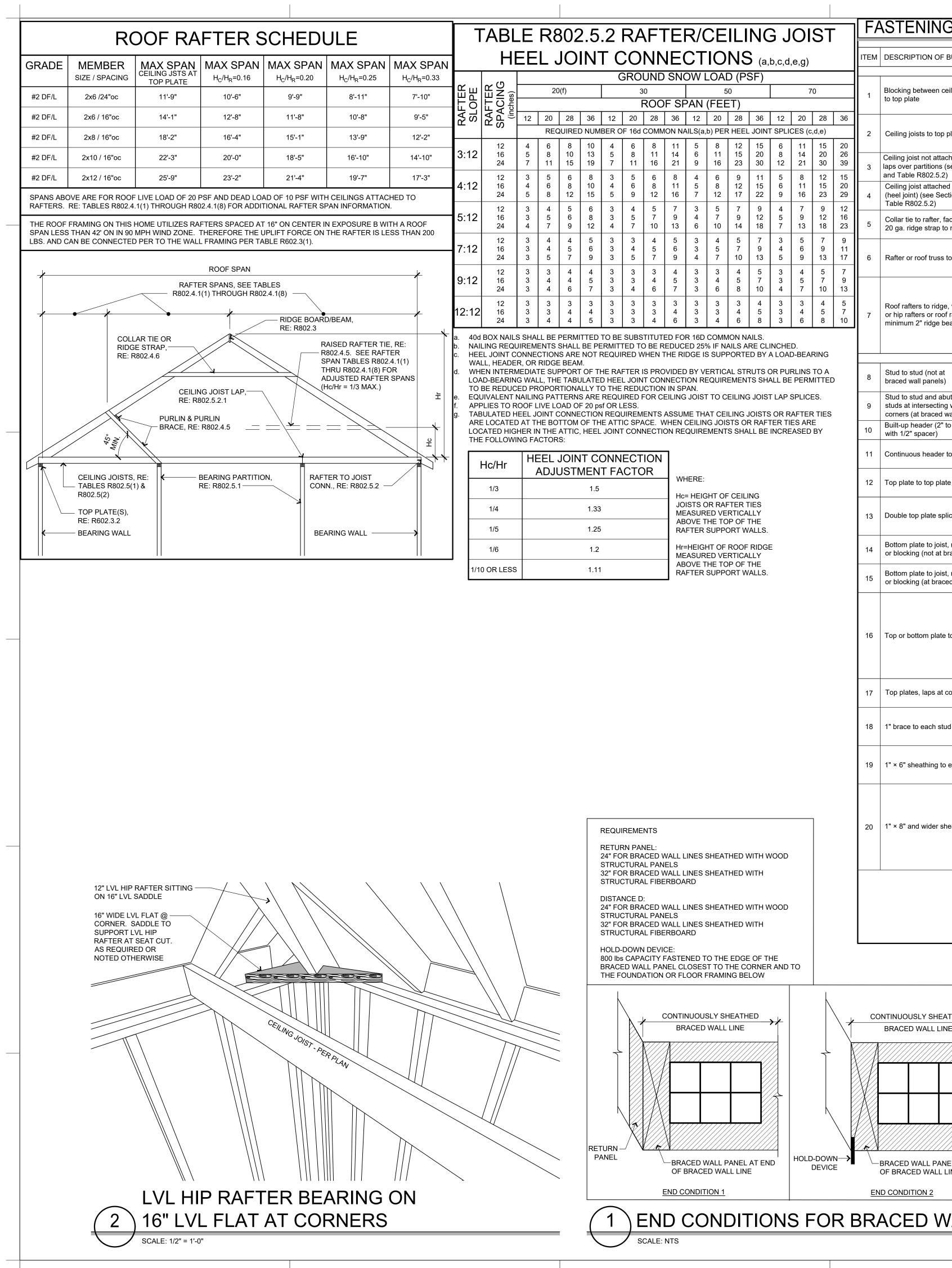
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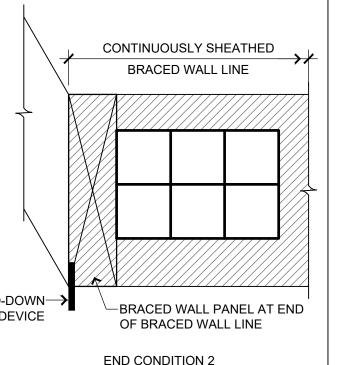


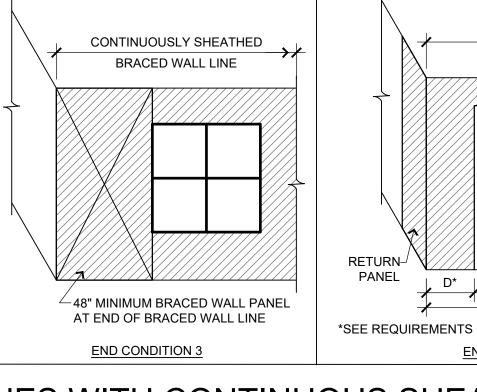
GROU	ND	CNIC								
	GROUND SNOW LOAD (PSF)									
30	50				70					
ROOF SPAN (FEET)										
2 20	28	36	12	20	28	36	12	20	28	36
R OF 16d COMMON NAILS(a,b) PER HEEL JOINT SPLICES (c,d,e)										
4 6	8	11	5	8	12	15	6	11	15	20
5 8	11	14	6	11	15	20	8	14	20	26
7 11	16	21	9	16	23	30	12	21	30	39
3 5	6	8	4	6	9	11	5	8	12	15
4 6	8	11	5	8	12	15	6	11	15	20
5 9	12	16	7	12	17	22	9	16	23	29
3 4	5	7	3	5	7	9	4	7	9	12
3 5	7	9	4	7	9	12	5	9	12	16
4 7	10	13	6	10	14	18	7	13	18	23
3 3	4	5	3	4	5	7	3	5	7	9
3 4	5	6	3	5	7	9	4	6	9	11
3 5	7	9	4	7	10	13	5	9	13	17
3 3	3	4	3	3	4	5	3	4	5	7
3 3	4	5	3	4	5	7	3	5	7	9
3 4	6	7	3	6	8	10	4	7	10	13
3 3	3	3	3	3	3	4	3	3	4	5
3 3	3	4	3	3	4	5	3	4	5	7
3 3	4	6	3	4	6	8	3	6	8	10

NECTION	
FACTOR	
	WHERE:
	Hc= HEIGHT OF CEILING
	JOISTS OR RAFTER TIES MEASURED VERTICALLY
	ABOVE THE TOP OF THE
	RAFTER SUPPORT WALLS.
	Hr=HEIGHT OF ROOF RIDGE
	MEASURED VERTICALLY ABOVE THE TOP OF THE
	RAFTER SUPPORT WALLS.

FASIENING SCHEDULE IRC 2018 TABLE R602.3(1)							
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER (a)(b)(c)					
		Roof					
		4-8d box (2-1/2" × 0.113") or	I				

FA	STENING SCHEDU	E IRC 2018 TABLE R602.3(1)		ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER (a)(b)(c)	SPACING A	ND LOCATION		
ITEM	DESCRIPTION OF BUILDING ELEMENTS		SPACING AND LOCATION			Floor 4-8d box (2-1/2" × 0.113"); or				
		FASTENER (a)(b)(c) Roof 4-8d box (2-1/2" × 0.113") or		21	Joist to sill, top plate or girder	3-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail			
1	Blocking between ceiling joists or rafters to top plate3-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails4-8d box (2-1/2" × 0.113"); or		Toe nail	22	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2-1/2" × 0.113") 8d common (2-1/2" × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	4" o.c. toe nail 6" o.c. toe nail			
2	Ceiling joists to top plate Ceiling joist not attached to parallel rafter,	3-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail		1" × 6" subfloor or less to each joist	3-8d box (2-1/2" × 0.113"); or 2-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1-3/4" long	Face nail			
3	laps over partitions (see Section R802.5.2 and Table R802.5.2)	4-10d box (3" × 0.128"); or 3-16d common (3-1/2" × 0.162"); or 4-3" × 0.131" nails	Face nail	24	2" subfloor to joist or girder	3-16d box (3-1/2" × 0.135"); or 2-16d common (3-1/2" × 0.162")	-	nd face nail		
4	Ceiling joist attached to parallel rafter (heel joint) (see Section R802.5.2 and	Table R802.5.2	Face nail	25	2" planks (plank & beam—floor & roof)	3-16d box (3-1/2" × 0.135"); or 2-16d common (3-1/2" × 0.162")	At each bearing, face nail			
5	Table R802.5.2) Collar tie to rafter, face nail or 11/4" × 20 ga. ridge strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter	26	Band or rim joist to joist	3-16d common (3-1/2" × 0.162") 4-10 box (3" × 0.128"), or 4-3" × 0.131" nails; or 4-3" × 14 ga. staples, 7/16" crown	End nail			
6	Rafter or roof truss to plate	3-16d box nails (3-1/2" × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss(i)			20d common (4" × 0.192"); or	Nail each layer as follows: 32" o.c. at top and bottom and staggered. 24" o.c. face nail at top			
		4-16d (3-1/2" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or	Toe nail		Built-up girders and beams, 2-inch lumber layers			staggered on		
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-3" × 0.131" nails 3-16d box (3-1/2" × 0.135"); or 2-16d common (3-1/2" × 0.162"); or	End nail			2-20d common (4" × 0.192"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails				
		3-10d box (3" × 0.128"); or 3-3" × 0.131" nails Wall 16d common (3-1/2" × 0.162")	24" o.c. face nail	28	Ledger strip supporting joists or rafters	4-16d box (3-1/2" × 0.135"); or 3-16d common (3-1/2" × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	At each joist or rafter, face nail			
8	Stud to stud (not at braced wall panels) Stud to stud and abutting	10d box (3" × 0.128"); or 3" × 0.131" nails 16d box (3-1/2" × 0.135"); or	16" o.c. face nail	29	Bridging or blocking to joist	2-10d box (3" × 0.128"), or 2-8d common (2-1/2" × 0.131"); or 2-3" × 0.131") nails		Each end, toe nail		
9	studs at intersecting wall corners (at braced wall panels)	3" × 0.131" nails 16d common (3-1/2" × 0.162")	12" o.c. face nail 16" o.c. face nail		DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF		F FASTENERS		
10	Built-up header (2" to 2" header with 1/2" spacer)	16d common (3-1/2" × 0.162") 16d box (3-1/2" × 0.135")	16" o.c. each edge face nail 12" o.c. each edge face nail			FASTENER (a)(b)(c)	Edges (inches)(h)	supports(c)(e) (inches)		
11	Continuous header to stud	5-8d box (2-1/2" × 0.113"); or 4-8d common (2-1/2" × 0.131"); or 4-10d box (3" × 0.128")	Toe nail	Woo	Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathin [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing]					
12	Top plate to top plate	16d common (3-1/2" × 0.162") 10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail 12" o.c. face nail	30	3/8" – 1/2"	6d common (2" × 0.113") nail (subfloor, wall)(i) 8d common (2-1/2" × 0.131") nail (roof); or RSRS-01 (2-3/8" × 0.113") nail (roof)(j)	6	12(f)		
13	Double top plate splice	8-16d common (3-1/2" × 0.162"); or 12-16d box (3-1/2" × 0.135"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)	31	19/32" – 1"	8d common nail (21/2" × 0.131"); or RSRS-01; (2-3/8" × 0.113") nail (roof)(j)	6	12(f)		
14	Bottom plate to joist, rim joist, band joist	16d common (3-1/2" × 0.162") 16d box (3-1/2" × 0.135"); or	16" o.c. face nail	32	1-1/8" – 1-1/4"	10d common (3" × 0.148") nail; or 8d (21/2" × 0.131") deformed nail Other wall sheathing(g)	6	12		
15	or blocking (not at braced wall panels) Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	3" × 0.131" nails 3-16d box (3-1/2" × 0.135"); or 2-16d common (3-1/2" × 0.162"); or	12" o.c. face nail 3 each 16" o.c. face nail 2 each 16" o.c. face nail	33	1/2" structural cellulosic fiberboard sheathing	1-1/2" galvanized roofing nail, 7/16" head diameter, or 1-1/4" long 16 ga. staple with 7/16" or 1" crown	3	6		
		4-3" × 0.131" nails 4-8d box (2-1/2" × 0.113"); or 3-16d box (3-1/2" × 0.135"); or	4 each 16" o.c. face nail	34	25/32" structural cellulosic fiberboard sheathing	1-3/4" galvanized roofing nail, 7/16" head diameter, or 1-1/2" long 16 ga. staple with 7/16" or 1" crown	3	6		
16	Top or bottom plate to stud	4-8d common (2-1/2" × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail	35	1/2" gypsum sheathing(d)	1-1/2" galvanized roofing nail; staple galvanized, 1-1/2" long; 1-1/4" screws, Type W or S	7	7		
		3-16d box (3-1/2" × 0.135"); or 2-16d common (3-1/2" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail		5/8" gypsum sheathing(d)	1-3/4" galvanized roofing nail; staple galvanized, 1-5/8" long; 1-5/8" screws, Type W or S combination subfloor underlayment to fran	7	7		
17	Top plates, laps at corners and intersections	3-10d box (3" × 0.128"); or 2-16d common (3-1/2" × 0.162"); or	Face nail	37	3/4" and less	6d deformed (2" × 0.120") nail; or 8d common (2-1/2" × 0.131") nail	6	12		
		3-3" × 0.131" nails 3-8d box (2-1/2" × 0.113"); or		38	7/8" – 1"	8d common (2-1/2" × 0.131") nail; or 8d deformed (2-1/2" × 0.120") nail	6	12		
18	1" brace to each stud and plate	2-8d common (2-1/2" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples 1-3/4"	Face nail	39	1-1/8" – 1-1/4"	10d common (3" × 0.148") nail; or 8d deformed (2-1/2" × 0.120") nail	6	12		
19	1" × 6" sheathing to each bearing	2 staples 1-3/4" 3-8d box (2-1/2" × 0.113"); or 2-8d common (2-1/2" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1-3/4" long	Face nail	s (1 b. \$		verage bending yield strengths as shown: hk diameters larger than 0.142 inch but not ess. m 7/16-inch on diameter crown width.	80 ksi for shar larger than 0.	nk diameter of 177 inch, and		
20	1" × 8" and wider sheathing to each bearing	3-8d box (2-1/2" × 0.113"); or 3-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1-3/4" long Wider than 1" × 8" 4-8d box (2-1/2" × 0.113"); or 3-8d common (2-1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1-3/4" long (continued)	Face nail	C. I d. F e. S f. F J g. G S h. S F F I	 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). For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 6 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph. 					

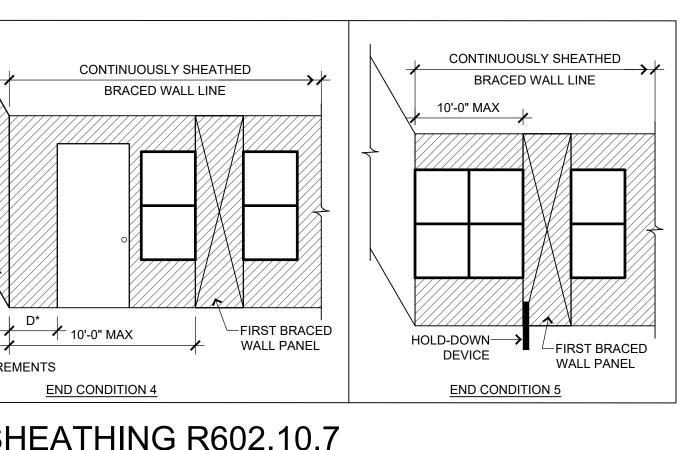




END CONDITIONS FOR BRACED WALL LINES WITH CONTINUOUS SHEATHING R602.10.7

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.

RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.



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REVISIONS

4/09/2024 CONTRACTOR REVISIONS

BILL FOWLER ARCHITECT

3601 W 122nd Terrace, Leawood, KS 66209 913 908 5363 / BWFOWLER@ME.COM

N C A R B National Council Architectural Registration Boards

Twin Villa

Project:

Woodland Glen Lot 54

1448 / 1450 SW Winthrop Ter, Lee's Summit, MO Exclusively for: John Duggan (913) 498-3536 / jduggan@kc-dsdlaw.com

BFA No: TWIN-WG54

STANDARD DETAILS, SCHEDULES, & NOTES 2/22/24

> Current Revision Date: 4/09/24

> > RELEASE FOR CONSTRUCTION

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