NOTES:
All building code section references are from the North Carolina State Building Code: Residential Code 2018 Edition. For construction in other states please consult your local building code.

1. **EXTERIOR WALLS**
-Exterior walls with a fire separation distance less than 3ft. Shall have not less than a one hour fire resistive rating with exposure from both sides. Projections shall not extend to a point closer than 2ft. from the line used to determine the fire separation distance.
-Openings shall not be permitted in exterior walls of dwellings with a fire separation distance of less than 3ft. from the property line, measured perpendicular to the vertical plane of the wall.

2. **GLAZING FOR HAZARDOUS LOCATIONS**
-Tempered glass shall be permanently identified with a non-removable label visible when the unit is glazed. Heat strengthened and tempered spandrel glasses are exempt from permanent labeling but shall be labeled with a removable paper label by the manufacturer.
-All glazing for hazardous areas shall pass the test requirements of CPSC 16 – CFR, Part 1201. See section 308.3 for exceptions.
-The following areas are considered hazardous locations for the purposes of glazing:
1. Glazing in side hinged doors except jalousies.
2. Glazing in fixed and sliding panels of sliding door assemblies and panels in sliding and bi-fold closet door assemblies.
3. Glazing in storm doors.
4. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface.
5. Glazing, in an individual fixed or operable panel within the same plane as a door where the nearest vertical edge is within a 24 inch arc of the door in a closed position and the bottom edge is less than 60 inches above the floor or walking surface.
6. Glazing in an individual fixed or operable panel, other than those locations described in items 4 and 5 above, that meets all of the following conditions:
-Exposed area of an individual pane greater than 9 square feet.
-Bottom edge less than 18 inches above the floor. -Top edge greater than 36 inches above the floor.
-One or more walking surfaces within 36 inches horizontally of the glazing.
7. All glazing in railings regardless of an area or height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.
8. Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where the bottom edge of the pool or spa side is less than 60 inches above a walking surface and within 60 inches horizontally of the water's edge. This shall apply to single glazing and all panes in multiple glazing.
9. Glazing in walls enclosing stairway landings or within 60 inches of the top and bottom stairways in the direction of travel within 60 inches above the walking surface.

See section 308.4 for exceptions.

3. ATTACHED GARAGES
-Openings and penetrations through the walls or ceilings separating the dwelling from the garage shall be in accordance with Sections R302.5.1 through R302.5.3
-Openings from a private garage directly into a room used for sleeping purposes shall not be permitted.
-Other openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches thick or 20 minute fire-rated doors.
-The garage shall be separated as required by table R302.6. Openings in garage walls shall comply with section R302.5. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

Table R302.6
Dwelling/Garage Separation

Separation	Material
From the residence and attics	Not less than ½-inch gypsum board or equivalent applied to the garage side
From all habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting assemblies used for separation required by this section	Not less than ½-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than ½-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

-The area of the floor used for parking of vehicles shall be sloped toward the main vehicle entry doorway or to a drain for the movement of liquids.

4. UNDER STAIR PROTECTION
-Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with ½ inch gypsum board.

5. HANDRAILS
-Min. height: 34 inches. Max. height: 38 inches
-Handrails to be provided on at least one side of stairways of four or more risers. Handrails shall be continuous the full length of stairs. (See section R311.7.8.2 2018 NCRC for exceptions)
-Spiral stairs to have handrails on outside radius.

6. GUARDRAILS
-Porches, balconies or raised floor surfaces located more than 30 inches above the floor or finished grade below shall have guardrails not less than 36 inches in height.
-Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guardrails not less than 30 inches in height measured vertically from the nosing of the treads.
-Required guardrails shall have intermediate rails or ornamental closures that do not allow passage of an object 4 inches or more in diameter.
-Horizontal spacing between the vertical members in required guardrails shall be a maximum of 4 inches between members.

7. SMOKE DETECTORS
-Smoke detectors shall be installed in accordance with Section R314

8. CARBON MONOXIDE ALARMS
-Carbon monoxide alarms shall be installed in accordance with Section R315

9. FOUNDATIONS
-Provide a crawl space access of minimum 22in height x 30in width, located at best place due to grade.
-The surface area adjacent to the foundation should provide adequate drainage to drain surface water from foundation walls.
-Foundation walls should be drained and damp proofed in accordance with Sections 405 and 406
-A minimum 6-mil (0 15 mm) polyethylene vapor retarder or equivalent shall be installed to nominally cover all exposed earth in the crawl space with joints lapped not less than 12 inches (305 mm). Where there is no evidence that the ground water table can rise to within 6 inches (152 mm) of the floor of the crawl space it is acceptable to puncture the ground vapor retarder at low spots to prevent water puddles from forming on top of the vapor retarder due to condensation. Install a drain to daylight or sump pump at each low spot. Crawl space drains shall be kept separate from roof gutter drain systems and foundation perimeter drains.
-Foundation Anchorage: In all cases at minimum, the wood sole plate at exterior walls on monolithic slabs and wood sill plates shall be anchored to the foundation with 1/2" anchor bolts at 6'-0" O.C. max. and within 12" of the ends of each plate section. Minimum embedment is 7".

10. HEADERS
-Refer to table R602.7(1) and (2) for header sizes not specified on plan.

11. FLASHING
-Approved corrosive resistant flashing shall be provided in the following areas:
- At the top of all exterior window and door openings.
- At the intersection of masonry construction with frame or stucco walls.
- Under and at the ends of masonry, wood or metal copings and sills
- Continuously above all projecting wood trim
- Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood frame construction
- Under built in gutters
- At junction of chimneys and roofs.
- In all roof valleys and around all roof openings.

12. ROOF DRAINAGE
-All gutters and downspouts shall discharge at least 6 feet away from foundation walls or into an approved drainage system.

13. ROOF FRAMING
-Rafters shall be nailed to ceiling joists where joists are parallel to rafters.
-When joists are perpendicular to rafters, provide a rafter tie located as near the plate as possible, spaced not more than 48" O.C.
-Rafters shall be framed to ridge board or to each other with a gusset plate as a tie. Ridge board shall be at least 1-inch (25.4 mm) nominal thickness and not less in depth than the cut end of the rafter. Opposing rafters at the ridge must align within the thickness of the ridge member. Regularly spaced hip and valley rafters need not align. At all valleys and hips there shall be a valley or hip rafter not less than 2-inch (51 mm) nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than three units vertical in 12 units horizontal (25-percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.
-If using roof trusses, truss design, layout and engineering to be supplied by truss manufacturer.

14. ATTIC ACCESS
-Minimum 22" X 30" attic access to be provided to any attic with a clear height over 30".
-Exceptions: concealed areas not located over main structure including porches, knee walls less than 5ft. In height, dormers, bay windows, etc.

15. ENERGY CONSERVATION REQUIREMENTS
-Refer to Chapter 11 of the NC Residential Building Code for all energy conservation requirements.

16. WALL AND ROOF CLADDING
-Wall cladding to be designed for a 25lb per sq. ft. or greater positive or negative pressure for houses with a mean roof height of 35ft. or less.

17. HIGH WIND ZONES and WIND BORNE DEBRIS REGIONS
-Unless noted otherwise, this plan is not designed for construction in High Wind Zone or Wind Borne Debris regions. Please consult applicable building codes for additional structural requirements for building in High Wind Zones and Wind Borne Debris regions.

18. ROOF SLOPES FROM 2:12 – 4:12
-Install 2 layers of 15# felt paper.

19. RETAINING WALL
-An engineered design is required for retaining walls that are subject to hydrostatic pressure from ground water, and that support more than 48" of unbalanced backfill and do not have permanent lateral support at the top and bottom.

20. MANUFACTURED FIREPLACES
-Refer to manufacturer's specifications and details for installation.

It is the sole responsibility of the contractor and or builder to determine whether these plans conform to all standards, provisions, requirements, methods of construction, and structures provided by applicable building codes, any other local agencies, and in accordance with good engineering and construction practice. The contractor and or builder must check all dimensions and other details prior to construction and be solely responsible thereafter.

SHEET INDEX	
G-1	GENERAL NOTES
A-1	AS-BUILT & DEMOLITION PLANS
A-2	REMODEL PLAN
S-1	STRUCTURAL PLAN

This plan conforms to North Carolina State Building Code: Residential Code, 2018 Edition

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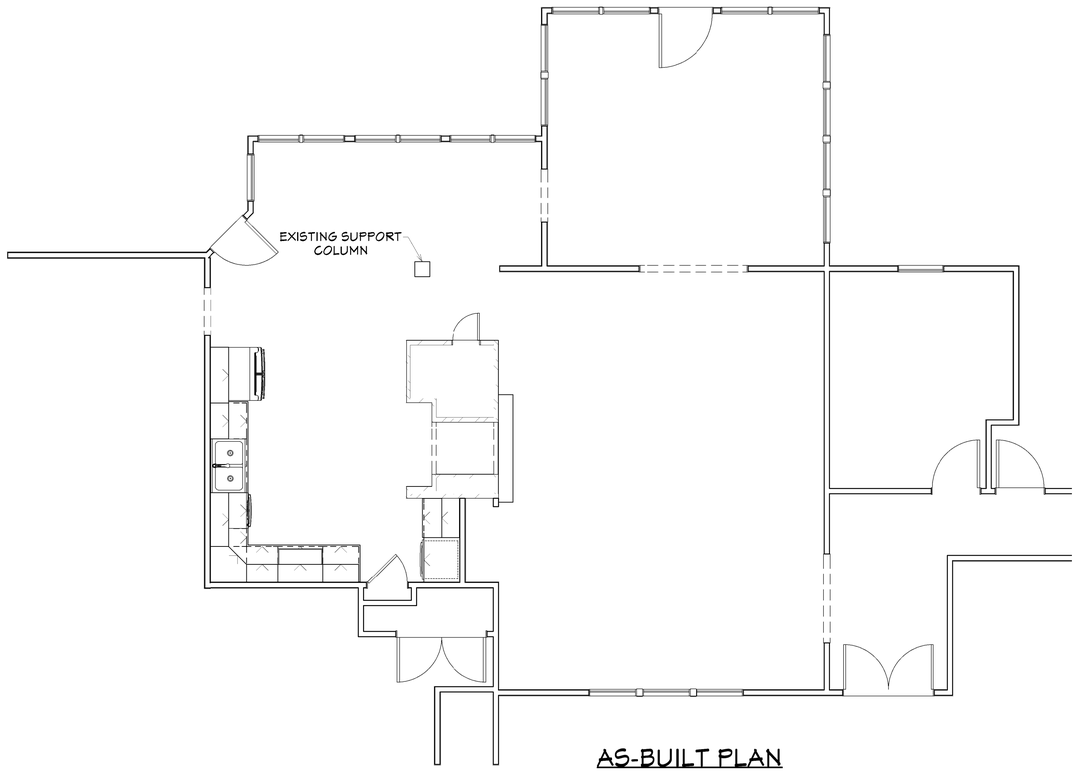
Remodel Plans for
Freeman Residence

DATE:
7/21/2020

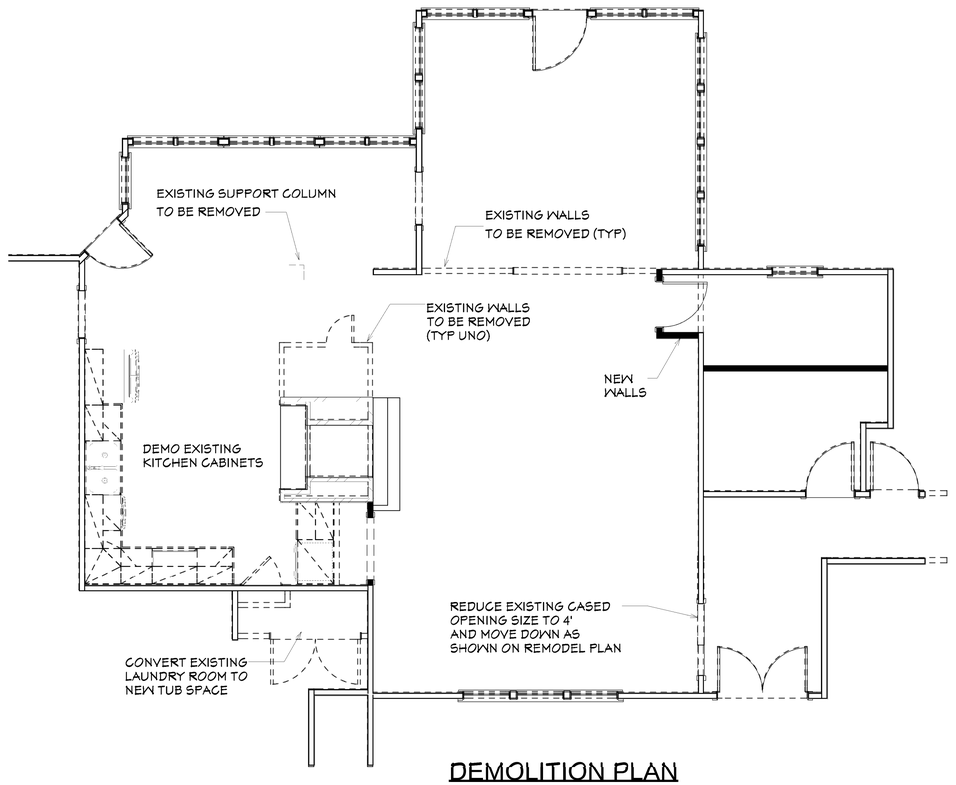
SHEET:
G-1

GENERAL NOTES



AS-BUILT PLAN

1/4" = 1'-0"



DEMOLITION PLAN

1/4" = 1'-0"

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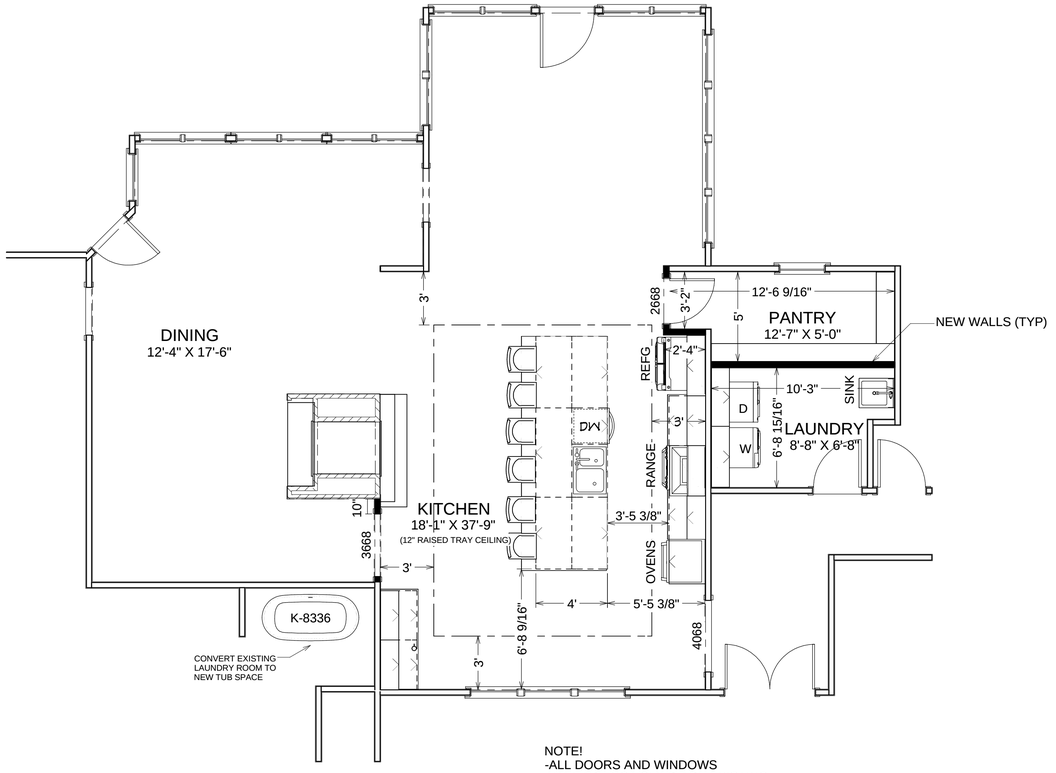
7/21/2020

SHEET:
A-1

AS-BUILT & DEMOLITION PLANS



NOTE!
-ALL DOORS AND WINDOWS
THAT ARE NOT SIZED ARE EXISTING
-VERIFY ALL DIMENSIONS IN FIELD
PRIOR TO CONSTRUCTION

REMODEL PLAN

1/4" = 1'-0"

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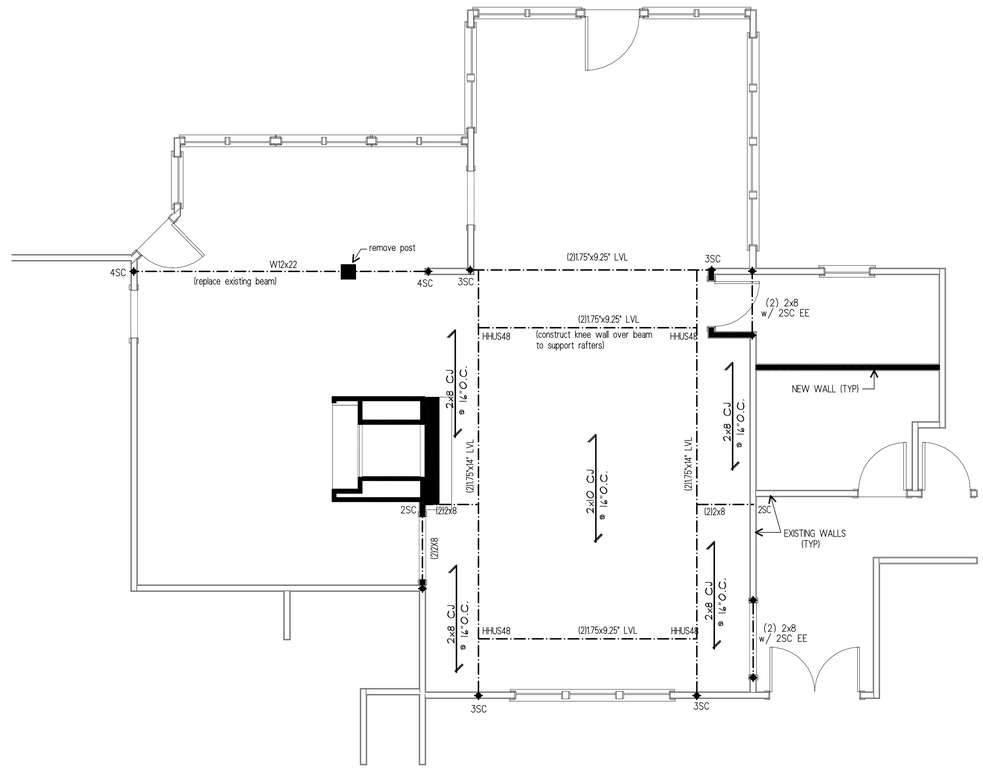
7/21/2020

SHEET:
A-2

REMODEL PLAN



STRUCTURAL PLAN

1/4" = 1'-0"

WISE ENGINEERING
3915 OLD FAIRGROUND RD.
ANGIER, NC 27501
(919) 894-2203

NORTH CAROLINA PROFESSIONAL SEAL 19860 ENGINEER RANDY K. WISE
3-15-2021

ENGINEERS SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, OR SAFETY PRECAUTION.

ANY DEVIATIONS OR DISCREPANCIES ON THE PLANS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY. FAILURE TO DO SO WILL VOID ALL ENGINEERING LIABILITY.

STRUCTURAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. ENGINEER DOES NOT ASSUME RESPONSIBILITY FOR DISCREPANCIES OF PLAN ONCE CONSTRUCTION HAS BEGUN.
2. ALL LUMBER TO BE #2 SPF U.N.O. ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND FB=2600 PSI, E=1.9M PSI
3. ALL LOAD BEARING EXTERIOR WINDOW HEADERS WITH MAXIMUM SPAN OF 5'-6" SHOULD BE A (2) 2x10 w/ (1) 2x4 KING STUD AND (1) 2x4 JACK STUD NAILED TOGETHER w/ (2) 10d @ 8" O.C. PROVIDED THE TOP OF WINDOW HEIGHT IS 6'-8", MINIMUM BOTTOM OF WINDOW HEIGHT IS 1'-6". OTHERWISE REFER TO 2018 NC RESIDENTIAL BUILDING CODE TABLE R502.3(1) & (2)
4. ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2X10 UNO. REFER TO TABLE R502.5(1) & (2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS UNLESS NOTED ON PLAN.
5. REFER TO 2018 NC BUILDING CODE SECTION R602 FOR CONSTRUCTION OF ALL WALLS OVER 10'-0" IN HEIGHT.
6. ALL STEEL SHALL BE ASTM A50 FY=50 KSI MIN.
7. ALL EXTERIOR LUMBER TO BE #2 SYP PT
8. ALL CONCRETE, FC = 3000 PSI MIN
9. PRESUMPTIVE BEARING CAPACITY = 2000 PSF
10. PROVIDE WALL BRACING
11. PROVIDE 1/2" ANCHOR BOLTS AT 6'-0" CENTERS WITH A MIN. 7" EMBEDMENT. PLACE ANCHOR BOLTS 12" FROM EACH PLATE END SECTION.
12. ALL SPECIFIED ENGINEERED LUMBER PRODUCTS ARE DESIGNED IN ACCORDANCE WITH THE PRODUCTS SUPPLIED FROM THE FOLLOWING APPROVED MANUFACTURERS:WEYERHAUSER(iLevel); LOUSIANA-PACIFIC (LP); BOISE CASCADE; GEORGIA PACIFIC (GP); OR OTHERS, PROVIDED THE PRODUCTS HAVE, AT MINIMUM: FB: =2600 psi AND E = 1.9M

APPROPRIATE SIZED METAL HANGERS SHOULD BE MANUFACTURED BY EITHER SIMPSON STRONG TIE OR UNITED STEEL PRODUCTS (USP)

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STRUCTURAL PLAN