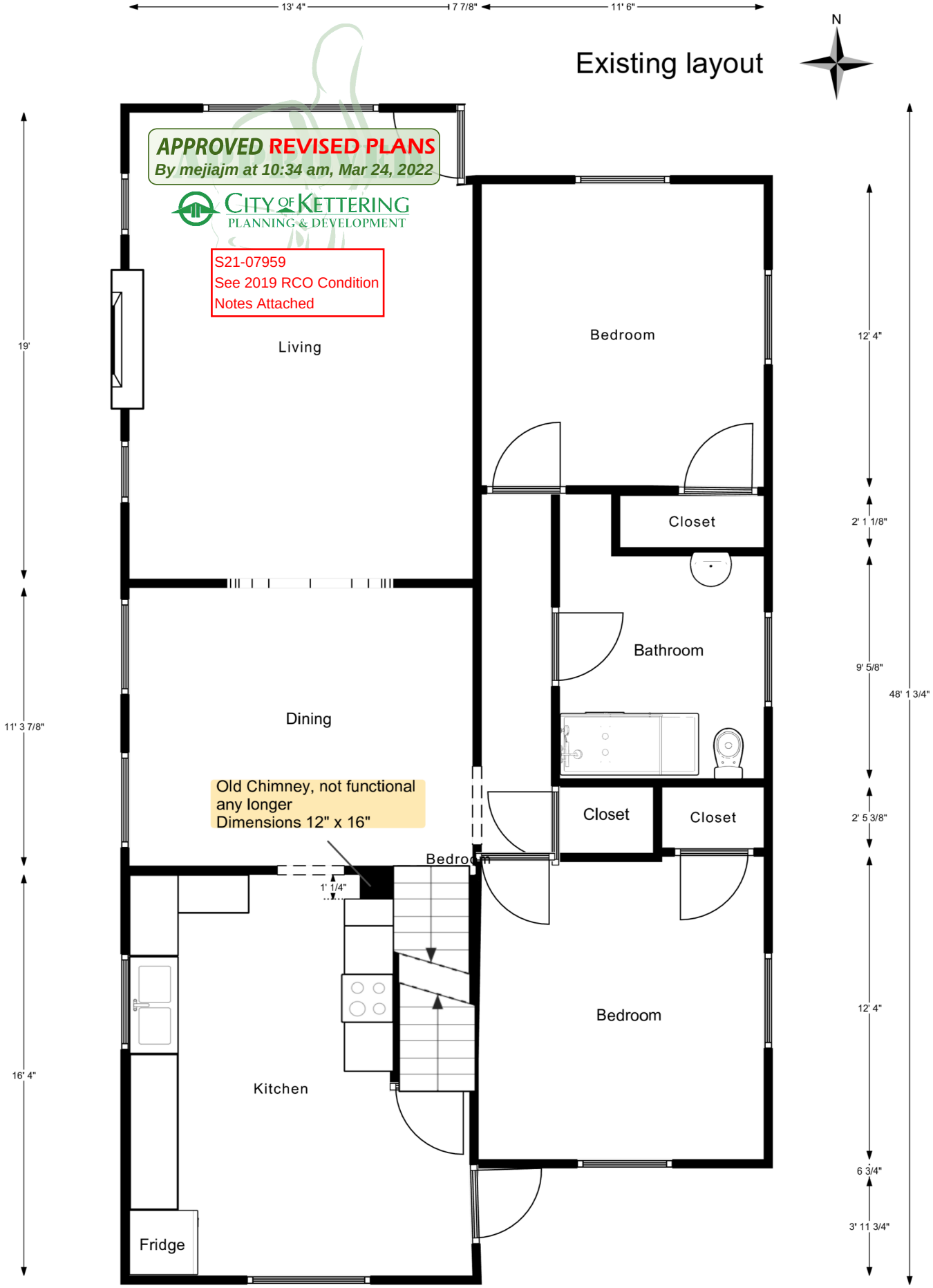
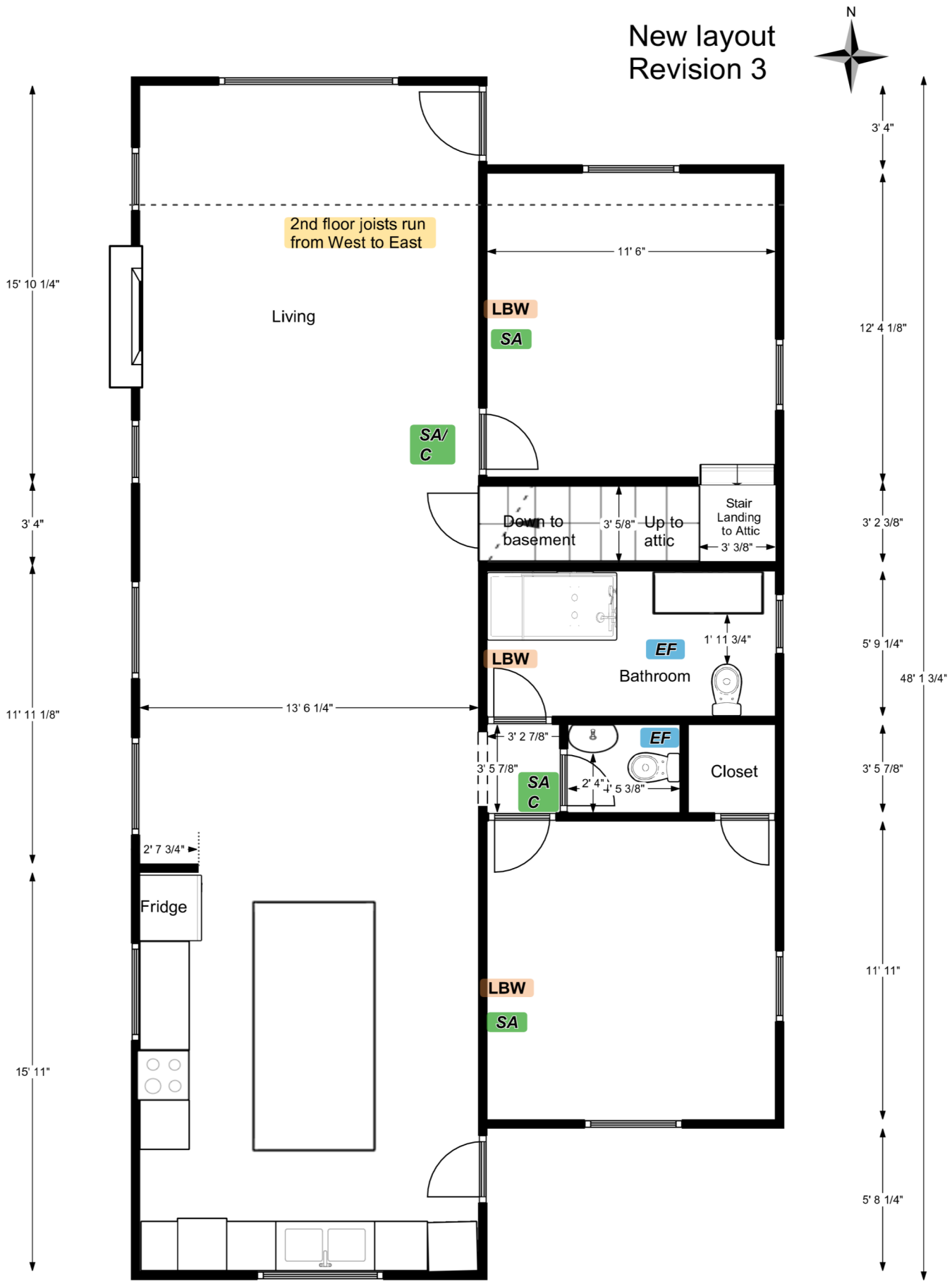
Existing layout




New layout
Revision 3
N
13' 6 1/4"
2nd floor joists run from West to East
Living
11' 6"
LBW
SA
SA/ C
Down to basement
3' 5/8"
Up to attic
Stair Landing to Attic
3' 3/8"
EF
Bathroom
1' 11 3/4"
LBW
13' 6 1/4"
3' 2 7/8"
3' 5 7/8"
SA C
EF
2' 4"
1' 5 3/8"
Closet
2' 7 3/4"
Fridge
LBW
SA
15' 10 1/4"
3' 4"
11' 11 1/8"
15' 11"
3' 4"
12' 4 1/8"
3' 2 3/8"
5' 9 1/4"
48' 1 3/4"
3' 5 7/8"
11' 11"
5' 8 1/4"
13' 6 1/4"
26' 1 5/8"

Note
The house has a full basement with poured concrete walls and floor.
The first floor framing system includes 2” x 10” joists spaced 16” on center spanning from the side walls to a center beam. The center beam is composed of four 2” x 8” members spiked together and supported by the front and rear walls together with intermediate 6” x 8” wood posts spaced 9' 2". The 2nd floor joists run from West to East and consist of 2” x 6” joists spaced 16” on center spanning from the side walls to the central load bearing wall

Relocate staircase
- Create two openings in wall from living room to bedroom.
  First opening to allow access to front room and stairs up to attic.
  Second opening to access stiarcase down to basement.
  Header size 2 2x8 studs plus 1/2" plywood
  Header span 42"
  The bearing studs on either side of the new opening will have support between the first floor and the top of the basement center beam by adding a filler 2” x 6” member to support the transfer of load.
- Open floor and ceiling for staircase span of 36". Add sister floor and ceiling joist at the edges of the staircase. Create staircase as specified on separate drawing. Create walls on left and right of staircase.
  Stud size 2x4, spacing 16"

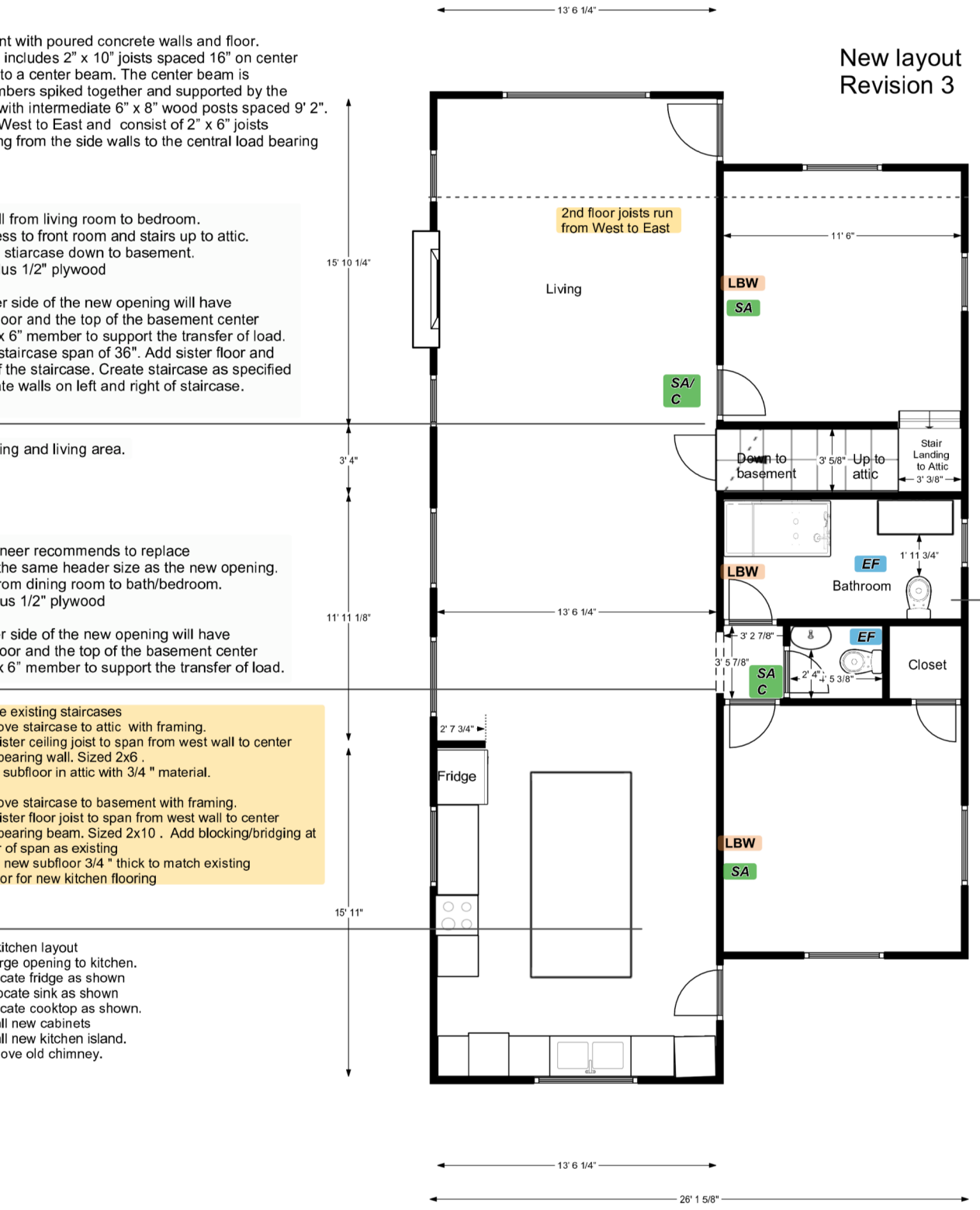
Remove wall separating dining and living area.

Reinforce existing opening
A review by a structural engineer recommends to replace the current 2x4 header with the same header size as the new opening.
- Reinforce opening in wall from dining room to bath/bedroom.
  Header size 2 2x8 studs plus 1/2" plywood
  Header span 42"
  The bearing studs on either side of the new opening will have support between the first floor and the top of the basement center beam by adding a filler 2” x 6” member to support the transfer of load.

Remove existing staircases
- Remove staircase to attic with framing.
- Add sister ceiling joist to span from west wall to center load bearing wall. Sized 2x6 .
- Close subfloor in attic with 3/4 " material.

- Remove staircase to basement with framing.
- Add sister floor joist to span from west wall to center load bearing beam. Sized 2x10 . Add blocking/bridging at center of span as existing
- Install new subfloor 3/4 " thick to match existing subfloor for new kitchen flooring

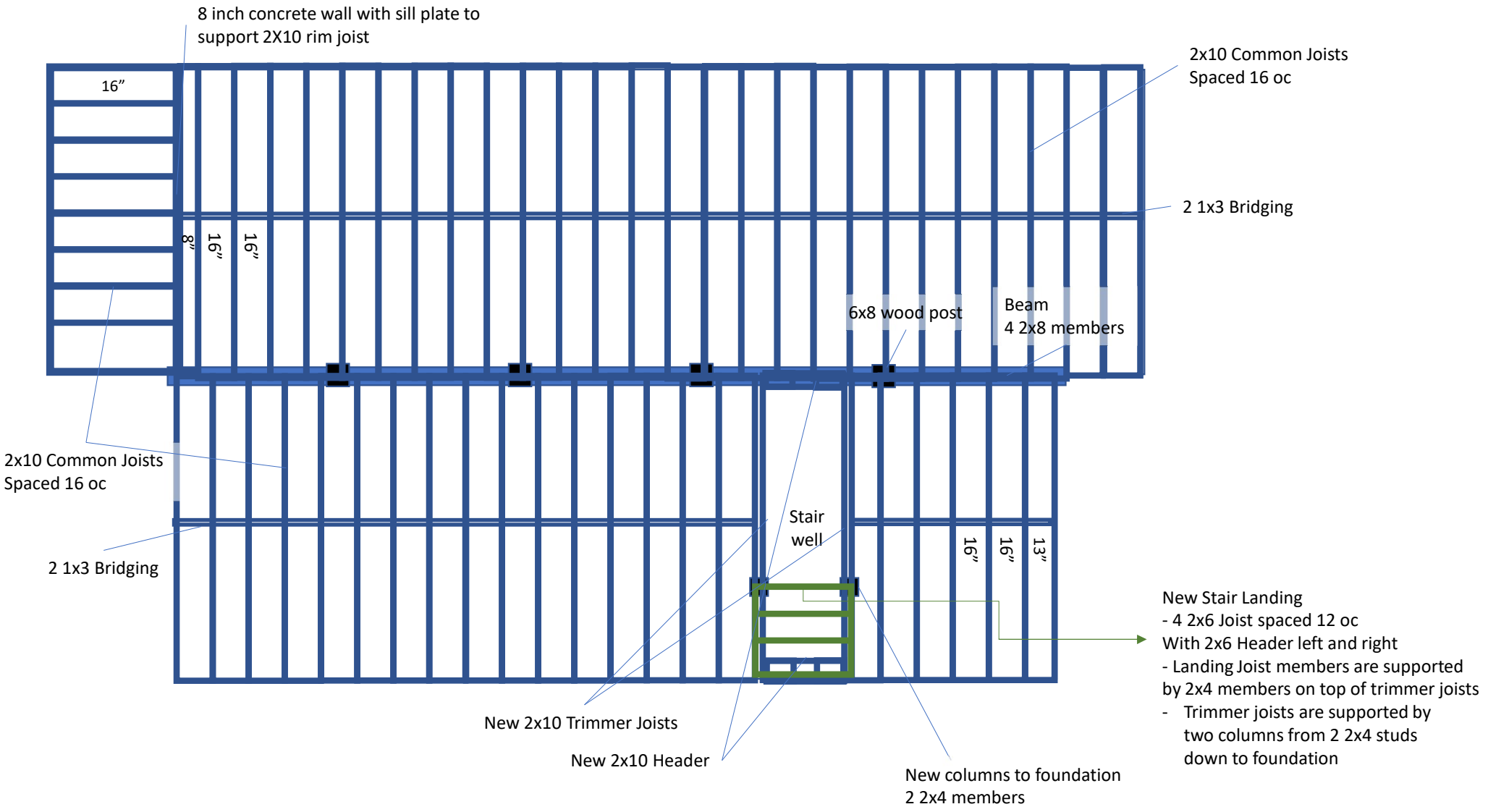
New kitchen layout
- Enlarge opening to kitchen.
- Relocate fridge as shown
- Relocate sink as shown
- Relocate cooktop as shown.
- Install new cabinets
- Install new kitchen island.
- Remove old chimney.

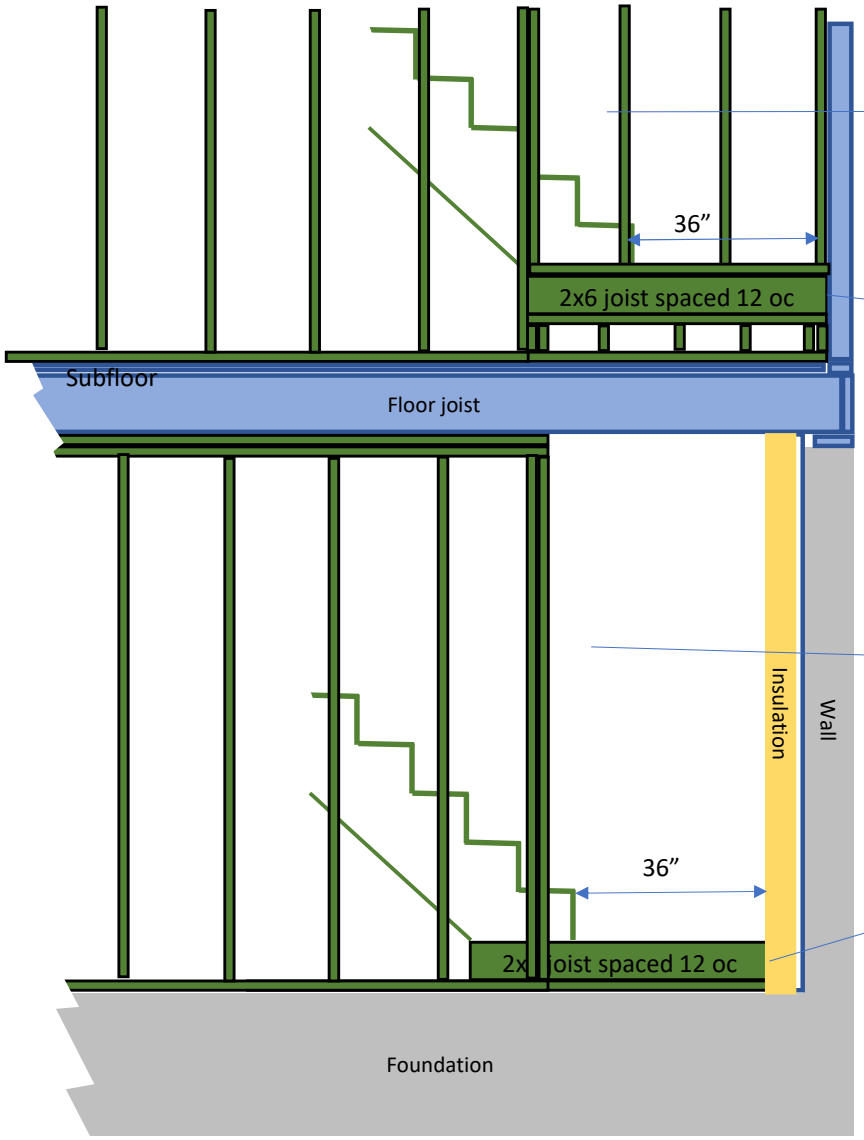


New Staircase landing
- see attached 1st floor floor framing plan

New Staircase
- 4 2x12 stringer as detailed in attached plans

New bathroom layout
- Remove old door and open up bathroom to old hallway.
- Install new bathroom door at the beginning of old hallway.
- Remove sink and install new sink as shown .
- Remove bathtub and install new bathtub as shown.
- Convert closet and install new half bathroom with toilet and sink.


8 inch concrete wall with sill plate to support 2X10 rim joist
2x10 Common Joists Spaced 16 oc
16”
8”
16”
16”
2 1x3 Bridging
6x8 wood post
Beam
4 2x8 members
2x10 Common Joists Spaced 16 oc
2 1x3 Bridging
Stair well
16”
16”
13”
New Stair Landing
- 4 2x6 Joist spaced 12 oc
With 2x6 Header left and right
- Landing Joist members are supported by 2x4 members on top of trimmer joists
- Trimmer joists are supported by two columns from 2 2x4 studs down to foundation
New 2x10 Trimmer Joists
New 2x10 Header
New columns to foundation
2 2x4 members

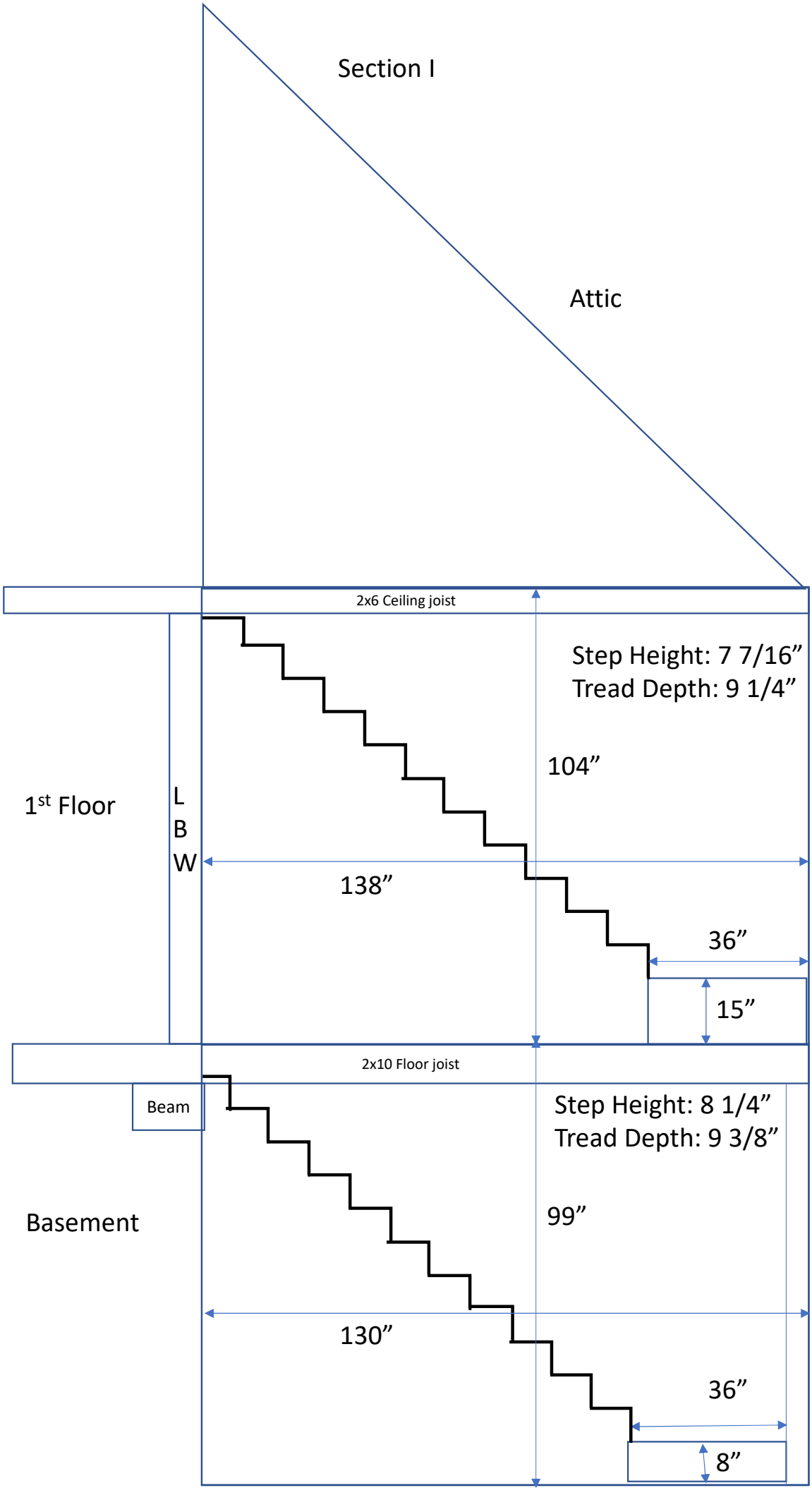


Wall framing for stairwell up to attic
2x4 members for studs and plates

1st floor Stair landing
2x6 joists perpendicular to floor joist
spaced at 12 oc with 2 headers sitting on
2x4 members supported by floor joists

Wall framing for stairwell down to basement
Including Columns to foundation consisting of 2 2x4 members
2x4 members for studs and plates

Basement Stair landing
2x6 joists perpendicular to floor joist
spaced at 12 oc with 2 headers sitting on
2x4 members supported by foundation


Section I
Attic
2x6 Ceiling joist
Step Height: 7 7/16”
Tread Depth: 9 1/4”
104”
1st Floor
L
B
W
138”
36”
15”
2x10 Floor joist
Beam
Step Height: 8 1/4”
Tread Depth: 9 3/8”
99”
Basement
130”
36”
8”

Stairs to Attic

Manual Stair Calculator

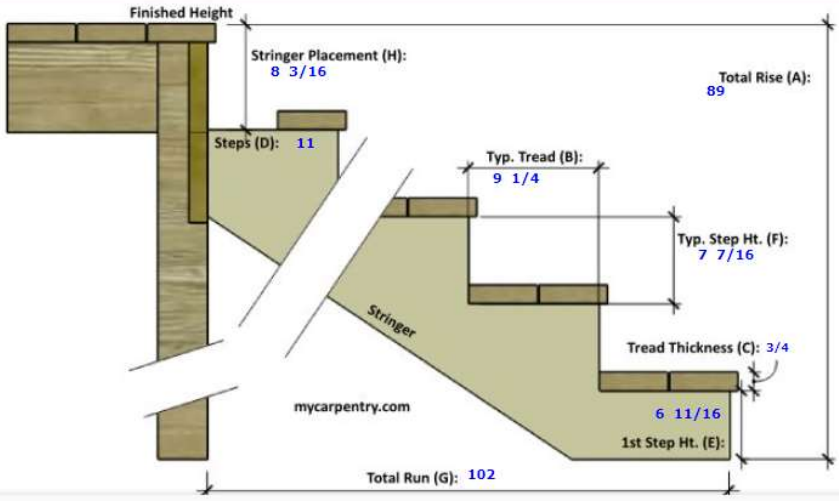
Input:

Total Rise [A] (ex. 56.75)	89	(in)
Total Run [G] (ex. 90.5)	102	(in)
Number of Steps (Risers)	12	
Tread Thickness [C]	.75	(in)

Calculate Clear

Stair Results:	(fraction)		(decimal)
Step Height [F]	7 7/16	(in)	7.42
Tread Depth [B]	9 1/4	(in)	9.27
Steps on Stringer [D]	11		11
Height of First Step [E]	6 11/16	(in)	6.67
Stringer Position [H]	8 3/16	(in)	8.17
Stringer Length	130 1/8	(in)	130.15
Stair/Rail Angle	38.7	(degrees)	

Stringer Mount Type: **[?]** Standard ◉ Flush ○



projects.html

Stairs to Basement

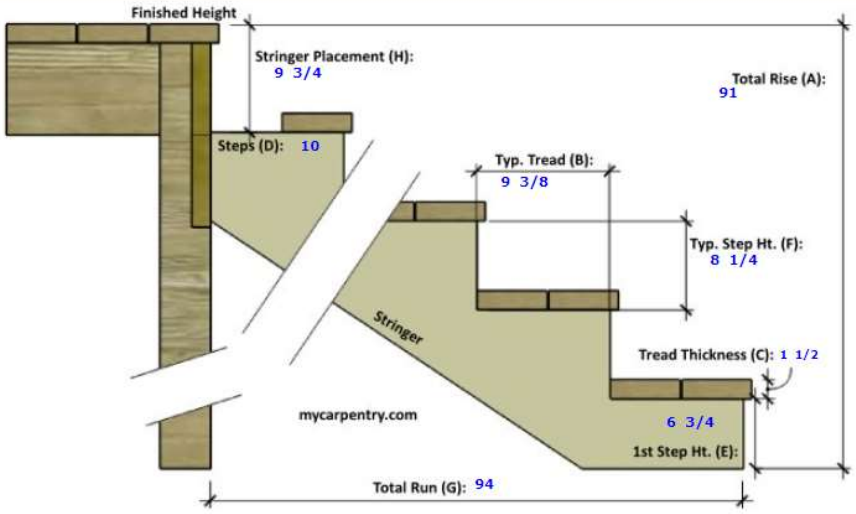
Input:

Total Rise [A] (ex. 56.75)	91	(in)
Total Run [G] (ex. 90.5)	94	(in)
Number of Steps (Risers)	11	
Tread Thickness [C]	1.5	(in)

Calculate Clear

Stair Results:	(fraction)		(decimal)
Step Height [F]	8 1/4	(in)	8.27
Tread Depth [B]	9 3/8	(in)	9.40
Steps on Stringer [D]	10		10
Height of First Step [E]	6 3/4	(in)	6.77
Stringer Position [H]	9 3/4	(in)	9.77
Stringer Length	124 1/4	(in)	124.23
Stair/Rail Angle	41.4	(degrees)	

Stringer Mount Type: **[?]** Standard ◉ Flush ○



INTERIOR ALTERATION
346 Corona Av. Oakwood
252 SF

S21-07959

CITY OF KETTERING
Planning and Development Department
937.296.2441

APPROVED **REVISED PLANS**
By mejiajm at 10:34 am, Mar 24, 2022

REFERENCE: 2019 Residential Code of Ohio (RCO) For One, Two and Three Family Dwellings

CONDITIONS:

1. Inspections will be made based on the approved plans, which shall be available at the jobsite at all times for review by code officials.
2. Submit either with application or at framing inspection required design data/details/calculations for all pre-engineered structural members including, but not limited to trusses, laminated beams, steel beams and lintels.
3. Wall framing shall comply with the Residential Code of Ohio Chapter 6. Minimum headers per Sec 602.7. Studs shall have full bearing on nominal 2-by or larger plate of width at least equal to the width of the studs, Sec 602.3.4. Stud size height and spacing per Sec 602.3.1.
4. Headers per Table 602.7(1) and Table 602.7(2). Headers shall be supported to one or more jack studs per Table 602.7(2) for interior bearing walls and Table 602.7.5 for exterior bearing walls. All supporting loads shall be transferred to grade. Footings shall be of sufficient design to transmit resulting loads to the soil within the limitations of the character of the soil per Sec 403.1.
5. Structural floor members shall not be cut, bored or notched in excess of the limitations specified in Sec 502.8 and Fig 502.8. Notches in solid lumber joists, rafters and beams shall not exceed 1/6 the depth of the member, shall not be longer than 1/3 the depth of the member and shall not be located in the middle 1/3 of the span. Notches at the ends of the member shall not exceed ¼ the depth of the member. The tension side of nominal 4" thick or greater members shall not be notched except at the ends. The diameter of holes shall not exceed 1/3 the depth of the member and shall not be closer than 2" to the top or bottom of the member, or to any other hole or notch in the member, Sec 502.8.
6. Floor framing shall comply with the Residential Code of Ohio Chapter 5. Per Sec502.1.2 structural capacities and design provisions for prefab wood I-joists shall be established and monitored in accordance with ASTM D 5055
7. Ceiling heights per Sec 305.
8. Bathrooms shall have either operable windows or exhaust fans ducted to outside, Sec 303.3 & 1505.2.
9. Bathroom fixture spacing and shower floors and walls shall be installed per Sec 307 and the plumbing code.
10. Safety glazing required in hazardous locations per Sec 308.4. Applied films meeting impact testing in accordance with CPSC 16 CFR 1201 under Sec 308 Glazing are acceptable. An impact test report from an OBBS recognized assessment body is required.
11. Interior and exterior stairways shall meet the following requirements: (Sec 311.7)
    Minimum tread width = 9" Maximum riser height = 8¼"
    Minimum headroom = 6' 8" Minimum stairway width = 3' 0"
    Greatest riser or tread shall not exceed smallest by more than 3/8".
12. Handrails shall be 34" to 38" in height measured vertically from nosing of tread. Handrails are required on at least one side of stairs of 4 or more risers. Handrails shall be “graspable” per Section 311.7.8.5. Handrails may project a maximum of 4½"on either side of the stairway. (Sec 311.7)
13. Guardrails shall be not less than 36" in height for raised surfaces more than 30" above adjacent grade. Vertical members of required guardrails shall not permit passage of a 4" sphere, except on the sides of stair treads, which shall not allow passage of a 4 3/8" sphere. (Sect. 312)
14. Under-stair Protection per Sec 302.7. Enclosed accessible spaces under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with ½” gypsum board.

15. When new or altered bedrooms, or the area immediately outside such rooms, are included in the scope of work, provide smoke alarms utilizing photoelectric and ionization technologies; separate or dual sensing alarms may be used. Alarms shall be listed in accordance with UL 217 and installed in accordance with NFPA 72 and 2019 RCO. Locate alarms inside bedroom and in the immediate vicinity outside of sleeping room as required for new dwellings. Alarms outside of bedrooms must have photoelectric technology. Smoke alarms in new construction or accessible alterations shall be interconnected, receive primary power from building wiring, and be equipped with battery back-up. (Sect. 314). Maintain 36" clearance from diffusers, return air grills, ceiling fan blades, bathrooms and showers
16. Per Sec 315 in existing construction, carbon monoxide alarms shall be provided outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units where fuel fired appliances are used or there is an attached garage if proposed work involves: alterations, repairs and additions of a sleeping room or the area in the immediate vicinity outside of a sleeping room; an addition of or an alteration to an attached garage; an addition, alteration, repair or replacement of a fuel-fired appliance. If new sleeping rooms are created provide carbon monoxide alarms outside and in the immediate vicinity of such rooms.
17. Fireblocking to be provided as required in Sec 302.11 and Sec602.4.
18. Heating and ventilation equipment, as well as water heaters and pre-fabricated fireplaces are required to be installed and vented per manufacturer's installation instructions and per Chapter 12. Provide manufacturer's installation instructions on-site.
19. Fuel-burning appliances shall be supplied with adequate combustion air per Chapter 17.
20. A separate mechanical permit is required for work performed.
21. Plumbers shall be registered with the City of Kettering. Work shall comply with the Ohio Plumbing Code. A separate plumbing permit may be required.
22. Electrical work shall comply with the National Electric Code (N.E.C.). A separate electric permit is required for work performed
    - Receptacles within 6 ft. of edge of sinks shall have G.F.C.I. protection.
    - Bathrooms are required to have G.F.C.I. protected receptacles.
    - All kitchen countertop receptacles require G.F.C.I. protection.
    - Provide ACFI protection in all areas as required in N.E.C. 210.12(A)
    - All AFCI and GFCI devices must be readily accessible per N.E.C. 210.8 and 210.12