

PITTSFIELD VILLAGE COMDOMINIUMS

Structural Alterations to Kitchens 2220 Pittsfield Blvd, Ann Arbor MI 48103

DRAWING INDEX

indicates included sheets ■

■ T-1.0	DRAWING INDEX & SITE PLAN
■ A-1.0	PHOTOS AND PERSPECTIVE VIEWS
■ A-1.1	LOWER AND UPPER FLOOR PLANS
■ A-3.1	EXISTING CROSS SECTIONS
■ A-3.2	NEW STRUCTURAL CROSS SECTIONS

ASSOCIATION CHARGE TO CONSULTANTS

Some owners have modified or sought to modify their kitchens by opening up the existing kitchen walls to provide a more contemporary open kitchen plan. The alterations have been accomplished with varying awareness of the structural implications of removing walls.

The Association has instructed the Consultants to provide a detailed analysis of the structural conditions affecting the kitchen and to provide a uniform method of evaluating which walls can be removed without additional structural modifications and what structural work needs to be accomplished if the load bearing walls are opened up. The drawings are intended to guide homeowners, their builders and the Association management to make the necessary structural modifications if certain walls are removed.

The Association provided the Consultants with the original Charles Nobel Architectural drawings which were photographed and used to draw portions of the existing structure. Several changes made in the field during construction are now noted on our drawings.

One vacant Unit (3425 Edgewood) was inspected and the original drawings were reviewed. A structural analysis of the roof / ceiling system and floor system was conducted. We have shown how walls can be modified or removed to accomplish open kitchen plans. An analysis of the electrical and mechanical system revisions necessary for such wall changes was not a part of our charge. If walls are to be removed, licensed mechanical and electrical trades should be consulted.

SUMMARY OF EXISTING FIRST FLOOR STRUCTURAL SYSTEMS

1. The kitchen living-room floor system is supported by 2"x 8" floor joists 16" on center that bear on the outer longitudinal walls and a center beam consisting of three 2"x 10"s which are supported in the center by a masonry pier.

2. The living room ceiling / roof assembly consists of 2"x 6" rafters 24" on center tied together with 2" x 6" ceiling joists approximately 1/3 the distance up the rafters. This provides a generous 9' 4" ceiling height in the living room but has the potential for introducing structural problems now recognized by present building codes.

3. The dining alcove and kitchen ceiling / roof assembly consists of 2"x 6" rafters 24" on center tied together with 2"x 6" ceiling joists. The joists are approximately 1/3 up the rafters on the dining alcove side and at a lower 8' 0" height on the kitchen ceiling side. The ceiling joists are partially supported by a bearing wall running parallel to the exterior. This hybrid system imposes lower structural stresses on the rafters.



PHOTO ABOVE
One end of a typical four or six unit building. The prominent chimneys divide units. A typical unit consists of a one story living room and kitchen element over a crawl space and one or two bedrooms over a raised basement containing a laundry and mechanical area.

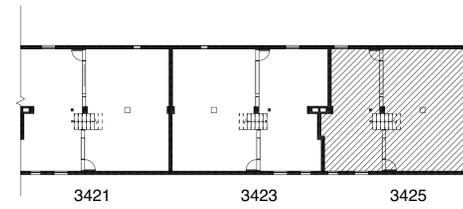
SUMMARY OF STRUCTURAL CONDITIONS

1. The kitchen living-room floor system is structurally sound and shows no indication of failure in the unit studied. If the remainder of the units were built according to the original drawings and as the inspected unit was built, the floor system should be sound.

2. The living room ceiling / roof assembly is another matter. The ceiling has deflected noticeably downward, approximately 3/4", in the unit inspected. Management has indicated that this is typical throughout the complex. This condition also results in the outward tilt of the exterior walls. Our structural analysis has shown the rafters are severely overstressed where the ceiling collar ties are attached.

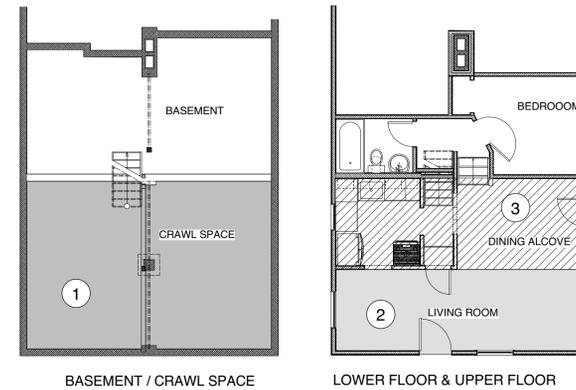
A review of the original drawings shows a necessary attic structural beam was not installed in this unit and possibly not in the remainder of the units. The drawings address this problem and note that further architectural work, not in the Consultant's contract, is necessary.

3. The dining alcove and kitchen area ceiling / roof assembly, partially supported by the kitchen bearing wall does not have the deflection problem. Additional simple structural improvements in this part of the attic should be installed to prevent possible rafter failure and additional outward deflection of the building walls.



1 KEY PLAN OF HALF BUILDING

No Scale, Hatched area indicates unit under study

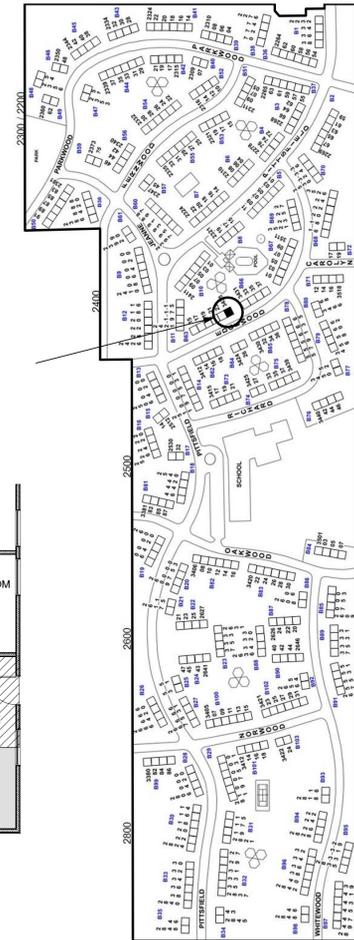


UNIT STUDIED: 3425
EDGEWOOD

SEE A DESCRIPTION OF EACH STRUCTURAL CONDITION AT THE LEFT ON THIS PAGE. (ONLY STRUCTURAL CONDITIONS IN THE SHADED OR HATCHED AREAS WERE INVESTIGATED.)

1 REFERENCE PLANS

Scale: 1/8" = 1'-0" on 24" x 36"
1/16" = 1'-0" on 12" x 18"



MAP OF PITTSFIELD VILLAGE

No Scale, Map from Pittsfield Village Condominiums Web Site

FINAL SUBMISSION: 11 14 18

T-1.0

DRAWING INDEX & SITE PLAN

SHEET TITLE: 09.17.18
REVIEW SET:

PITTSFIELD VILLAGE COMDOMINIUMS
Structural Alterations to Kitchens

RAA : 18-014

2220 Pittsfield Blvd, Ann Arbor, Michigan, 48104
RAA : 18-014

RUETER ASSOCIATES

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1 VIEW OF EXISTING KITCHEN LAYOUT
No Scale

SEE SHEET A3.2 FOR DETAILS

RECOMMENDED: INSTALL BEAM IN ATTIC (END UNIT ONLY) OR BELOW CEILING FRAMING TO STRENGTHEN FAILING ROOF/CEILING ASSEMBLY.

UPPER PART OF THIS WALL ABOVE 7' SHALL REMAIN IN PLACE TO BRACE NEW BEAM AND COLUMN

TO REMOVE WALLS AS SHOWN, INSTALL NEW BEAM AND COLUMNS IN THESE LOCATIONS. (SEE SHT A1.1 DRAWING 1 FOR STRUCTURAL SIZES)

TWO NEW WD COLUMNS AT EACH END OF BEAM

A MINIMUM OF 24" OF THIS WALL SHALL REMAIN TO BRACE EXTERIOR WALL

SEE DETAIL 5 ON SHEET A1.1 FOR SPECIAL BLOCKING REQUIREMENTS IN CRAWL SPACE UNDER NEW COLUMNS



2 VIEW SHOWING WHICH WALLS CAN BE REMOVED
No Scale



3 PHOTO OF EXISTING KITCHEN
No Scale

POSSIBLE WALL MODIFICATIONS

2. THE ILLUSTRATION ABOVE RIGHT SHOWS WHICH WALLS CAN BE REMOVED OR MODIFIED.

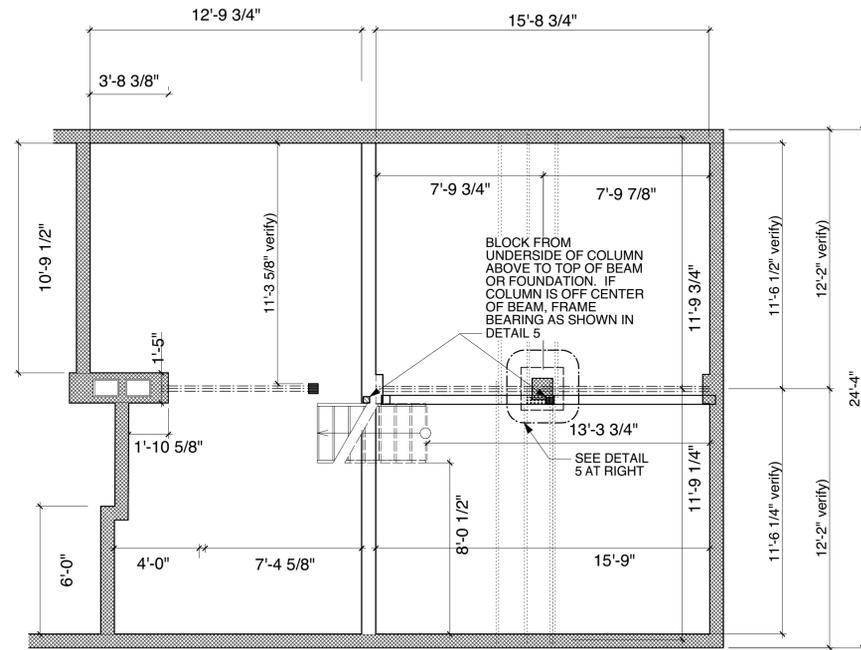
DRAWING #2 ILLUSTRATES THE MAXIMUM OPEN AREA THAT CAN BE ACHIEVED. IT IS NOT EXPECTED THAT ALL HOMEOWNERS SEEKING TO MAKE CHANGES WILL GO TO THIS EXTENT.

QUALIFIED MECHANICAL AND ELECTRICAL CONTRACTORS SHOULD BE CONSULTED TO DETERMINE COSTS AND THE FEASIBILITY OF RELOCATING EXISTING SYSTEMS.

4. DRAWING #4 SHOWS ONE POSSIBLE KITCHEN LAYOUT. MANY OTHER OPTIONS ARE POSSIBLE.



4 VIEW SHOWING POSSIBLE KITCHEN LAYOUT
No Scale

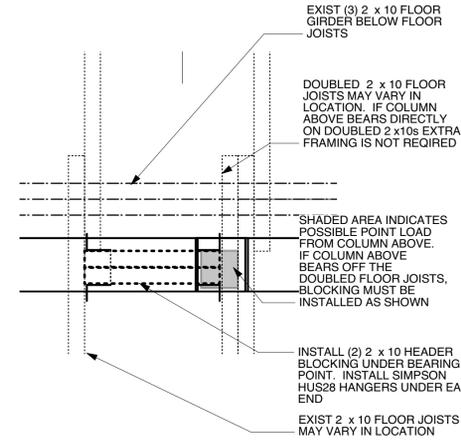


1 PARTIAL BASEMENT PLAN-EXISTING

Scale: 1/4" = 1'-0" on 24" x 36"
3/32" = 1'-0" on 24" x 36"

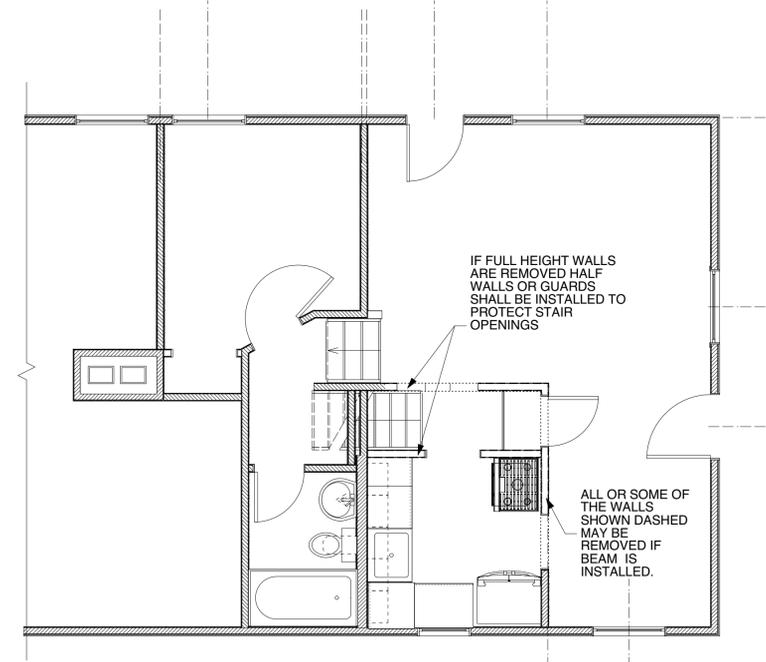
NOTE:
ALL DIMENSIONS IN THIS
DRAWING ARE BASED UPON
ORIGINAL DRAWINGS AND
HAVE NOT BEEN FIELD
VERIFIED

NOTE:
INSPECTION OF ONE UNIT
INDICATES THAT SEVERAL
CONSTRUCTION FIELD
CHANGES WERE MADE FROM
THE ORIGINAL DRAWINGS



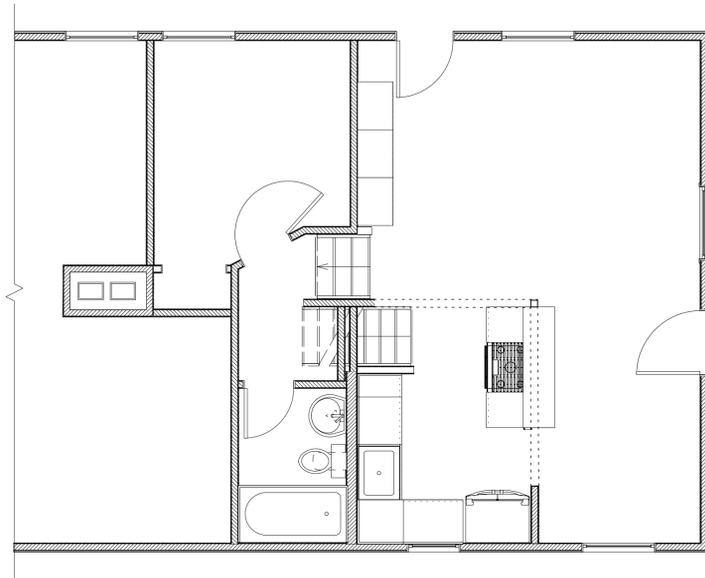
5 DETAIL OF BEARING FRAMING

Scale: 1-1/2" = 1'-0" on 24" x 36"
3/4" = 1'-0" on 12" x 18"



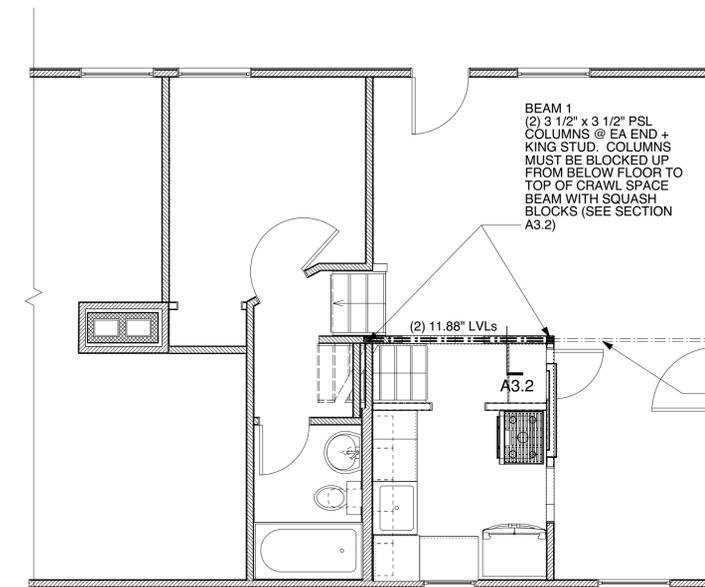
2 PARTIAL FIRST FLOOR PLAN EXISTING

Scale: 3/16" = 1'-0" on 24" x 36"
3/32" = 1'-0" on 24" x 36"



3 PARTIAL FIRST FLOOR PLAN POSSIBLE KITCHEN ARRANGEMENT

Scale: 3/16" = 1'-0" on 24" x 36"
3/32" = 1'-0" on 24" x 36"



4 PARTIAL FIRST FLOOR PLAN PROPOSED STRUCTURAL CHANGE

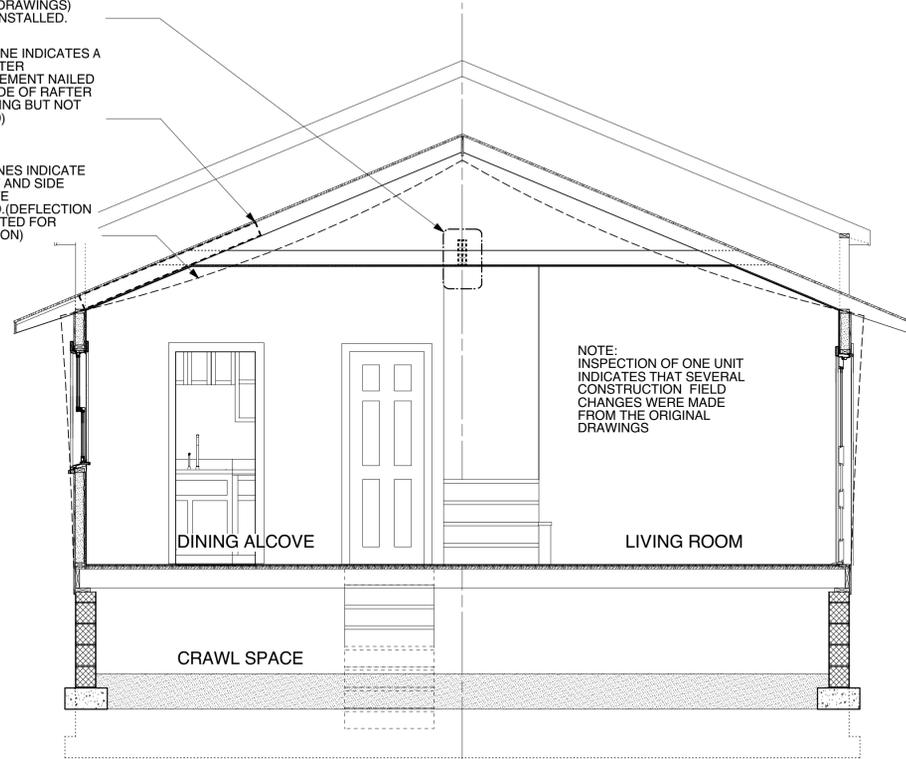
Scale: 3/16" = 1'-0" on 24" x 36"
3/32" = 1'-0" on 24" x 36"

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CEILING BEAM OVER LIVING ROOM (SHOWN IN ORIGINAL DRAWINGS) WAS NOT INSTALLED.

DASHED LINE INDICATES A 1" x 6" RAFTER REINFORCEMENT NAILED TO ONE SIDE OF RAFTER (ON DRAWING BUT NOT INSTALLED)

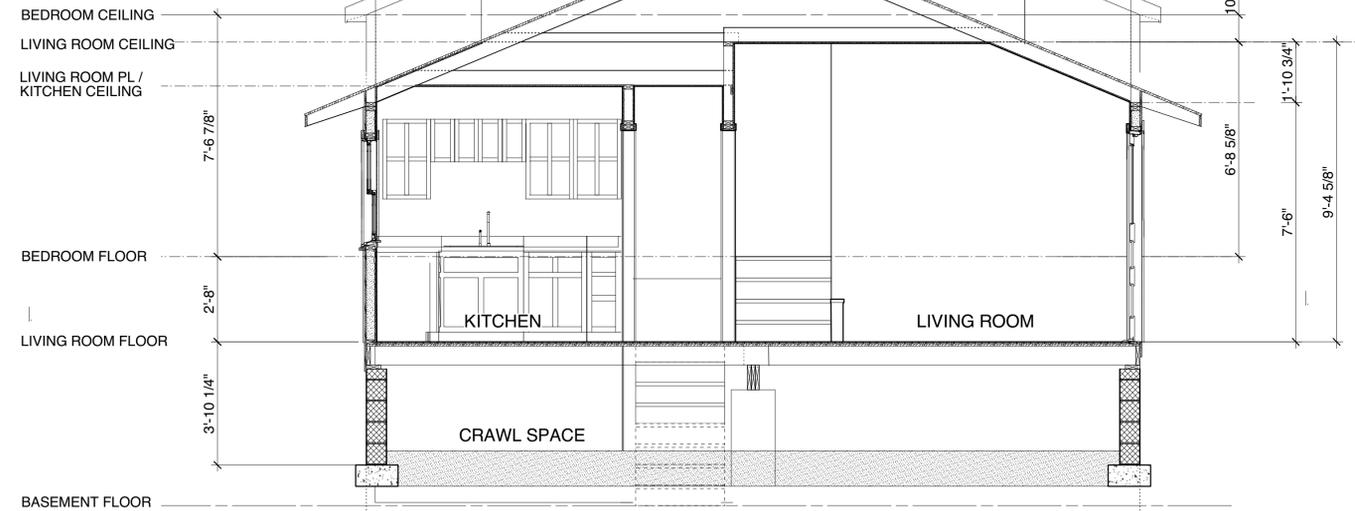
DASHED LINES INDICATE HOW ROOF AND SIDE WALLS HAVE DEFORMED (DEFLECTION EXAGGERATED FOR ILLUSTRATION)



1 EXISTING BUILDING SECTION AT B1-B1

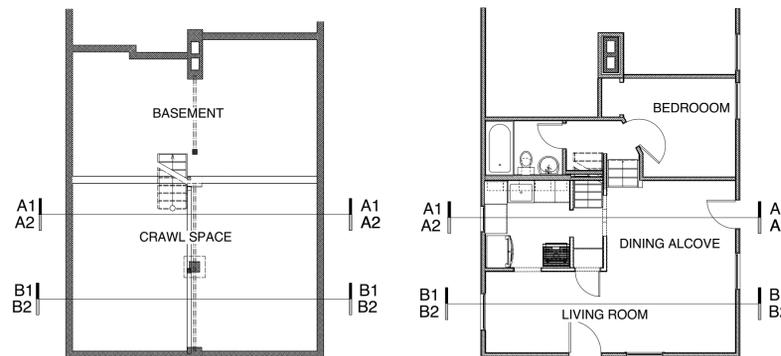
Scale: 3/8" = 1'-0" on 24" x 36"
3/16" = 1'-0" on 12" x 36"

NOTE: ALL DIMENSIONS IN THIS DRAWING ARE BASED UPON ORIGINAL DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED



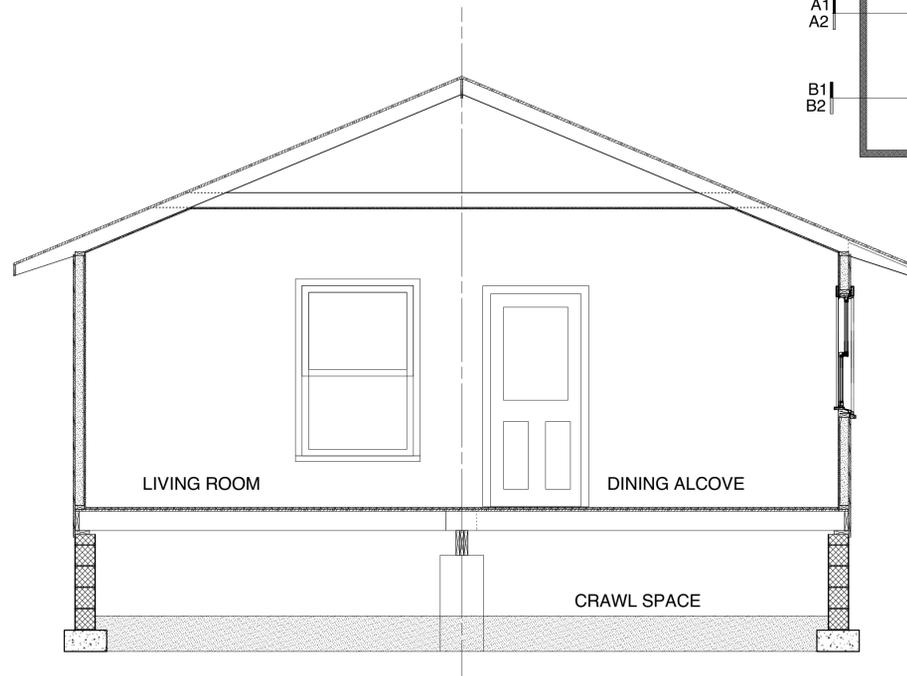
2 EXISTING BUILDING SECTION AT A1-A1

Scale: 3/8" = 1'-0" on 24" x 36"
3/16" = 1'-0" on 12" x 36"



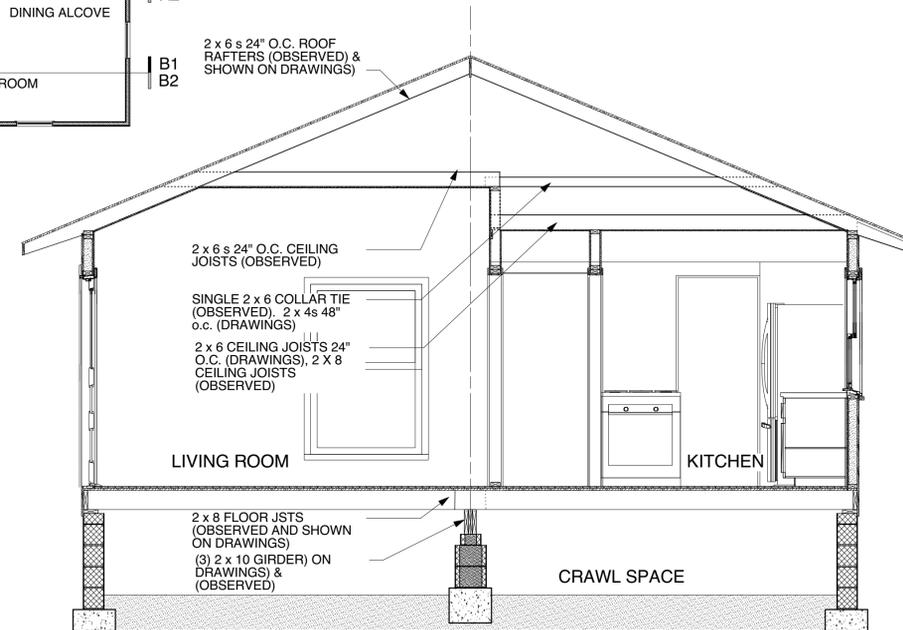
1 REFERENCE PLANS

Scale: 1/8" = 1'-0" on 24" x 36"
1/16" = 1'-0" on 12" x 18"



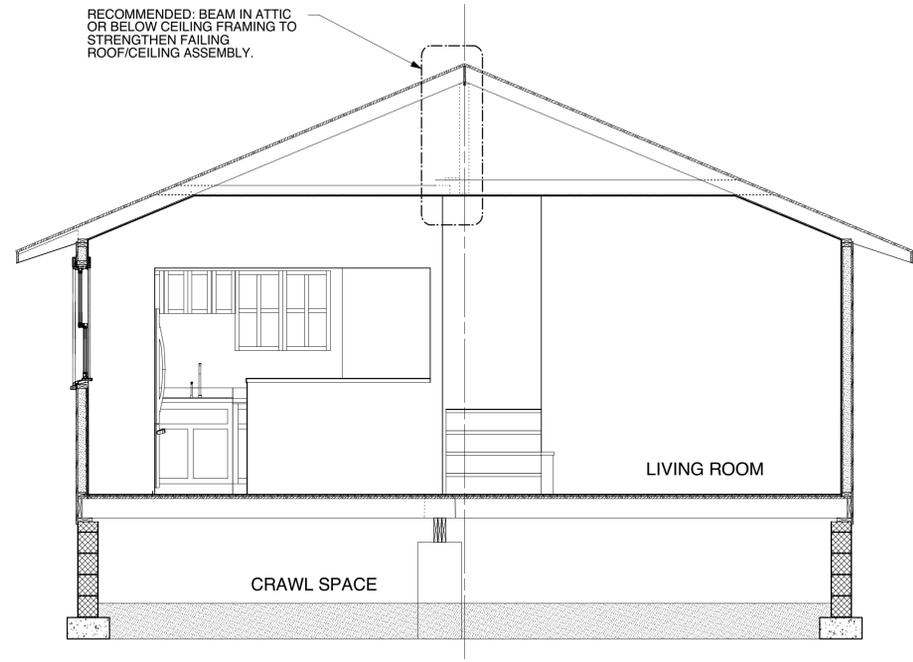
3 EXISTING BUILDING SECTION AT B2-B2

Scale: 3/8" = 1'-0" on 24" x 36"
3/16" = 1'-0" on 12" x 36"

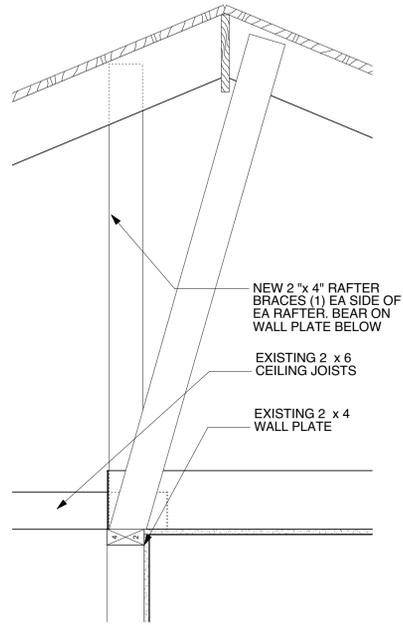


4 EXISTING BUILDING SECTION AT A2-A2

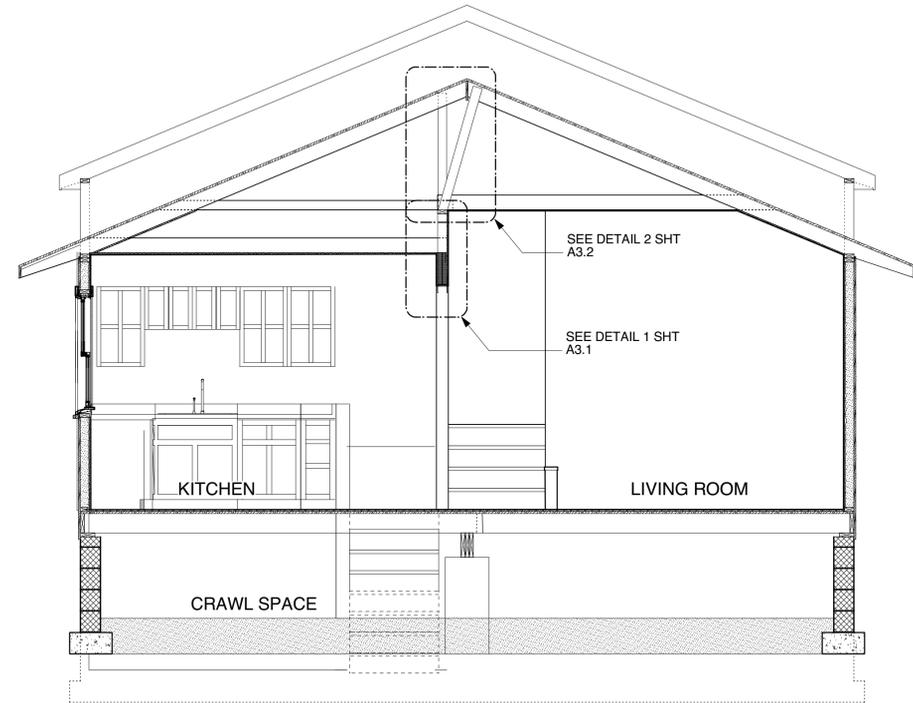
Scale: 3/8" = 1'-0" on 24" x 36"
3/16" = 1'-0" on 12" x 36"



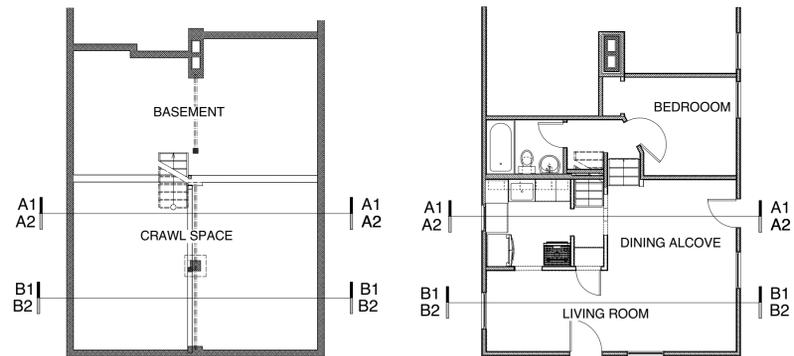
1 BUILDING SECTION (PROPOSED) AT B1-B1
 Scale: 3/8" = 1'-0" on 24" x 36"
 3/16" = 1'-0" on 12" x 36"



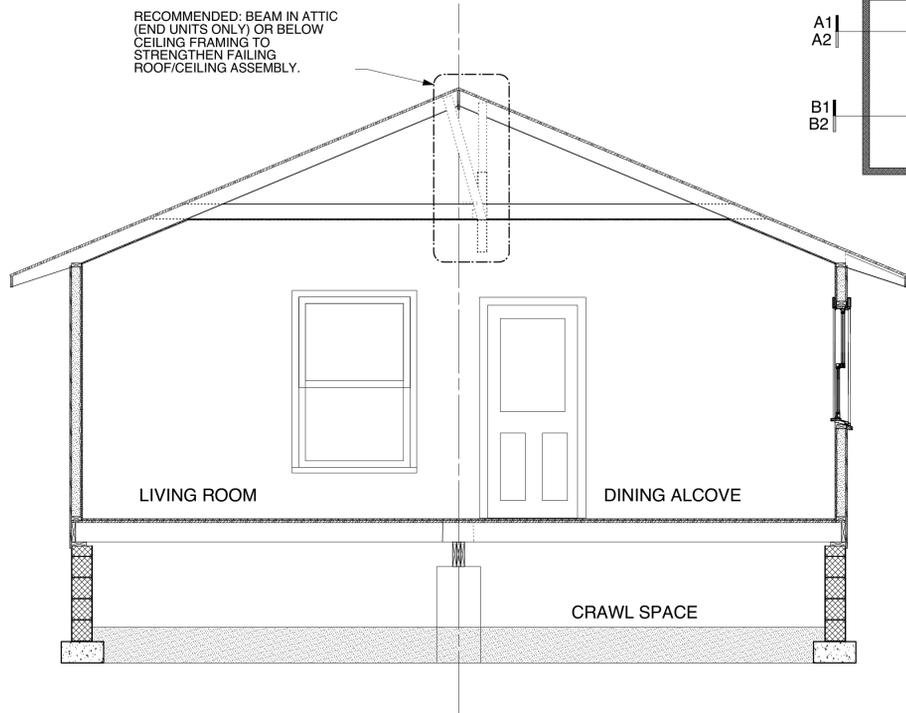
BEAM DETAIL 2
 Scale: 1 1/2" = 1'-0" on 24" x 36"
 3/4" = 1'-0" on 12" x 36"



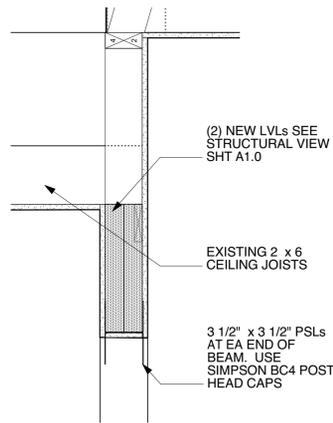
2 BUILDING SECTION (PROPOSED) AT A1-A1
 Scale: 3/8" = 1'-0" on 24" x 36"
 3/16" = 1'-0" on 12" x 36"



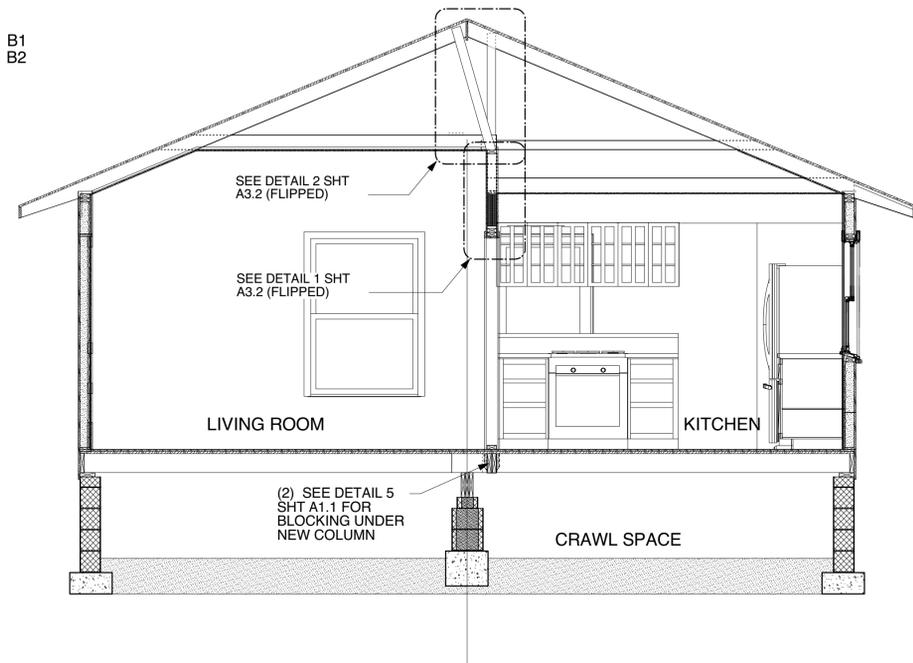
1 REFERENCE PLANS
 Scale: 1/8" = 1'-0" on 24" x 36"
 1/16" = 1'-0" on 12" x 18"



3 BUILDING SECTION (PROPOSED) AT B2-B2
 Scale: 3/8" = 1'-0" on 24" x 36"
 3/16" = 1'-0" on 12" x 36"



BEAM DETAIL 1
 Scale: 1 1/2" = 1'-0" on 24" x 36"
 3/4" = 1'-0" on 12" x 36"



4 BUILDING SECTION (PROPOSED) AT A2-A2
 Scale: 3/8" = 1'-0" on 24" x 36"
 3/16" = 1'-0" on 12" x 36"

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