Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201
More Contact Info (http://www.portlandoregon.gov//bds/article/519984)

APPEAL SUMMARY

Status: No Appeal Required

Appeal ID: 16052	**Project Address:** 4322 SE 28th Pl
Hearing Date: 11/1/17	**Appellant Name:** Robert Saladoff
Case No.: B-007	**Appellant Phone:** 5416019031
Appeal Type: Building	**Plans Examiner/Inspector:** Preliminary
Project Type: residential	**Stories:** 2 **Occupancy:** R **Construction Type:** V-NS
Building/Business Name: Johnson Remodel	**Fire Sprinklers:** No
Appeal Involves: Alteration of an existing structure	**LUR or Permit Application No.:**
Plan Submitted Option: pdf [File 1] [File 2] [File 3]	**Proposed use:** living space

APPEAL INFORMATION SHEET

Appeal item 1

Code Section	2011 ORSC: R302.3 & BDS Program Guide: ADU - Section V.B.4a
Requires	2011 Oregon Residential Speciallty Code: R302.3 Two-Family Dwellings "Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1 hour fire resistance rating..." BDS Program Guide: Accessory Dwelling Units. Section V.B.4a: Separation Between Units Existing Conditions. b)Floor/Ceilings. A single wood floor with a ceiling of either wood lath and plaster or 1/2 inch gypsum wallboard, in sound condition, is acceptable. Construction of a new wall or floor ceiling. Where a new wall or floor/ceiling is constructed to create a separation between the units, such new wall of floor/ceiling shall be constructed to the one-hour fire resistive standards...
Proposed Design	The proposed project consists of a basement renovation in the existing house to provide additional living space. However, the owners would like to design and complete the renovation in a manner that allows for a possible ADU conversion and designation at a later time. To do so, they would like to provide the necessary one-hour fire separation between the future ADU and other living spaces- namely internal partition walls and ceiling above. This appeal deals only with the separation vertically between the basement and upper first floor. The existing first floor assembly will be used to provide the required separation between the existing dwelling and any potential new ADU in the basement. The existing floor assembly consists of 2x8 wood joists spaced at 16 inches on center with a 1/2 x 4 subfloor and 1x tongue and groove solid wood flooring on top. To provide adequate fire separation it is proposed that the existing floor

assembly be upgraded by adding additional materials to the underside and between the joists so the resulting assembly closely matches the 1-hour assembly provided Gypsum Association File No. FC 5120, without replacing the existing floor system. The proposed system includes one layer of 5/8" type "x" gypsum board, resilient furring channels 24" o.c., and 3 1/2 inches of glass fiber insulating batts installed in each joist cavity.

Reason for alternative

In areas of the basement with exposed ceilings (see plans), the existing floor assembly does not meet the exact minimum code per BDS/ADU Program Guide which requires a minimum of 1/2" gypsum board applied to the underside of the floor system. Removing the existing and constructing a new floor assembly is not structurally or financially feasible and it is proposed that the existing floor system be upgraded to meet acceptable code standards.

All tested 1-hour fire rated ceiling assemblies in new construction would require 2x10 or large wood floor joists as no tested assemblies allow 2x8 wood floor joists. It is therefore proposed, that the existing floor assembly be upgraded to approximate GA FC 5120, but goes beyond the minimum gypsum board requirements using 5/8" type "x" gypsum board instead of 1/2". The proposed assembly approximates the tested FC 5120 assembly and exceed the performance set by BDS/ADU Program Guide.

See the attached plan, building section and proposed floor/ceiling assembly for more information.

Appeal item 2

Code Section

2011 ORSC: Appendix K & BDS Program Guide: ADU's, Section V.B 4a

Requires

2011 Oregon Residential Specialty Code: Appendix K Sound Transmission

Floor-ceiling assemblies separating dwelling units shall provide both airborne and impact sound insulation for floor-ceiling assemblies. Sound Transmission Class (STC): 45 and Impact Insulation Class (IIC): 45.

Bureau of Development Services Program Guide: Accessory Dwelling Units. Section V.B 4.1: Separation between units.

Existing conditions: c) Sound Insulation. A sound separation is not required construction of a new wall or floor ceiling assembly. Where a new wall of floor/ceiling is constructed to create the separation between the units, such new wall of floor/ceiling shall be constructed to the ... sound insulation requirements for unit separations in new buildings.

Proposed Design

The proposed project consists of a basement renovation in the existing house to provide additional living space.

However, the owners would like to design and complete the renovation in a manner that allows for a possible ADU conversion and designation at a later time. To do so, they would like to provide the necessary sound separation between the future ADU and other living spaces- namely internal partition walls and ceiling above. This appeal deals only with the separation vertically between the basement and upper first floor.

The existing first floor assembly will be used to provide the required sound separation between the existing dwelling and any potential new ADU in the basement. The existing floor assembly consists of 2x8 wood joists spaced at 16 inches on center with a 1/2 x 4 subfloor and 1x tongue and groove solid wood flooring on top. To provide adequate sound separation it is proposed that the existing floor assembly be upgraded by adding additional materials to the underside and between the joists so the resulting assembly closely matches the sound insulation provided Gypsum Association File No. FC 5120, without replacing the existing floor system. The proposed system includes one layer

of 5/8" type "x" gypsum board, resilient furring channels 24" o.c., and 3 1/2 inches of glass fiber insulating batts installed in each joist cavity.

Reason for alternative Section V.B.4.a for Separation Between Dwelling Units in the BDS ADU Program Guide indicates that it is not required to provide sound separation in existing buildings especially when the separation assemblies are existing and achieving sound separation in older homes is often physically and financially impractical. In addition, there is not a current sound tested assembly when using only 2 x 8 floor joists.

In areas of the basement with exposed ceilings (see plans), the proposed assembly should provide additional sound insulation and impact rating beyond what now exists. Removing the existing and constructing a new floor assembly is not structurally or financially feasible and it is proposed that the existing floor system be upgraded to meet acceptable code standards.

Also, all tested sound rated ceiling assemblies in new construction would require 2x10 or large wood floor joists as no tested assemblies allow 2x8 wood floor joists. It is therefore proposed, that the existing floor assembly be upgraded to approximate GA FC 5120, but go beyond the minimum gypsum board requirements using 5/8" type "x" gypsum board instead of 1/2". The proposed assembly approximates the tested FC 5120 assembly with an STC rating of 50 and IIC rating of 45 and exceed the performance set by BDS/ADU Program Guide.

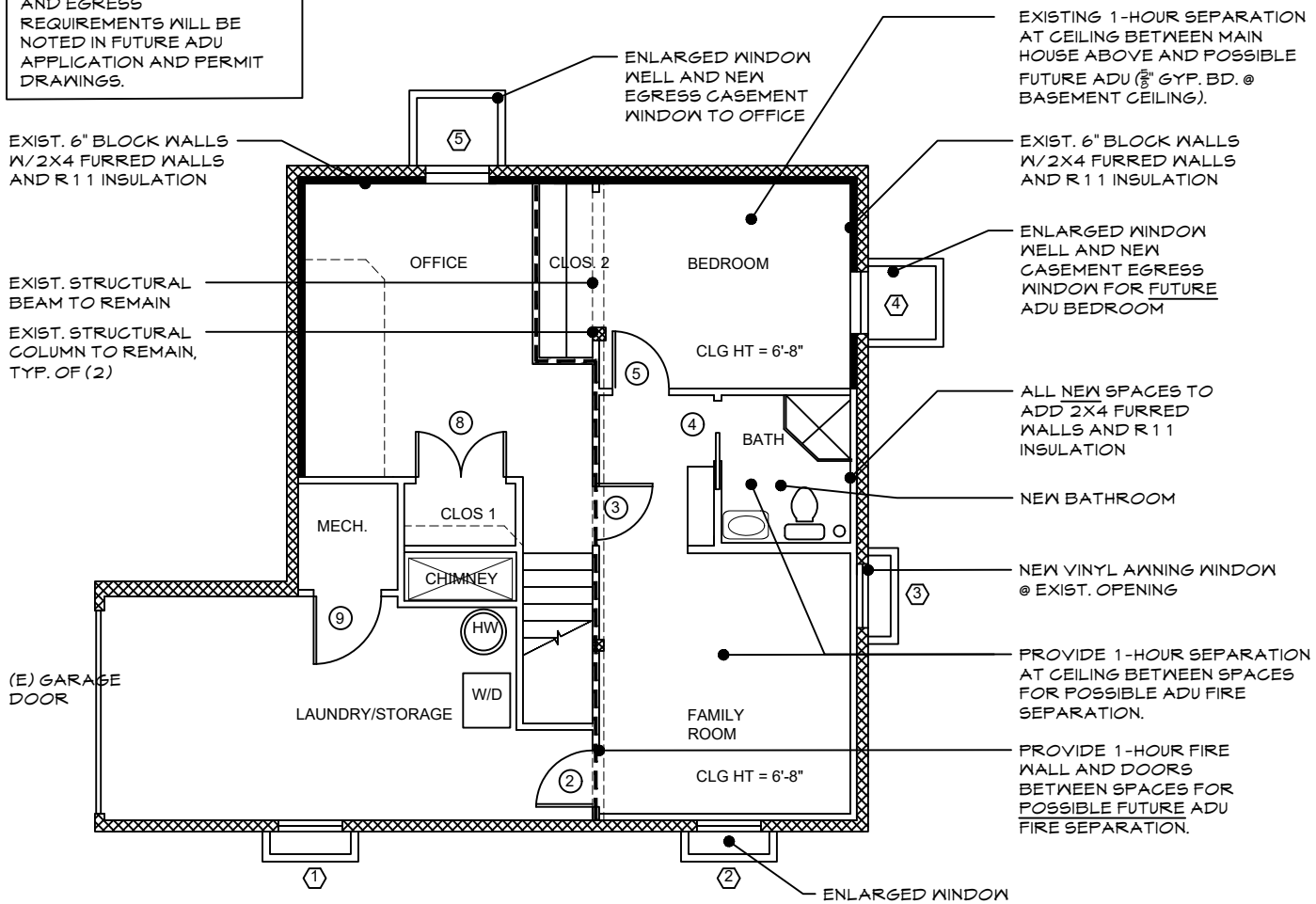
See the attached plan, building section and proposed floor/ceiling assembly for more information.

APPEAL DECISION

1. Alternate one hour assembly based on GA FC 5120 for horizontal separation between ADU and primary unit: No appeal required.

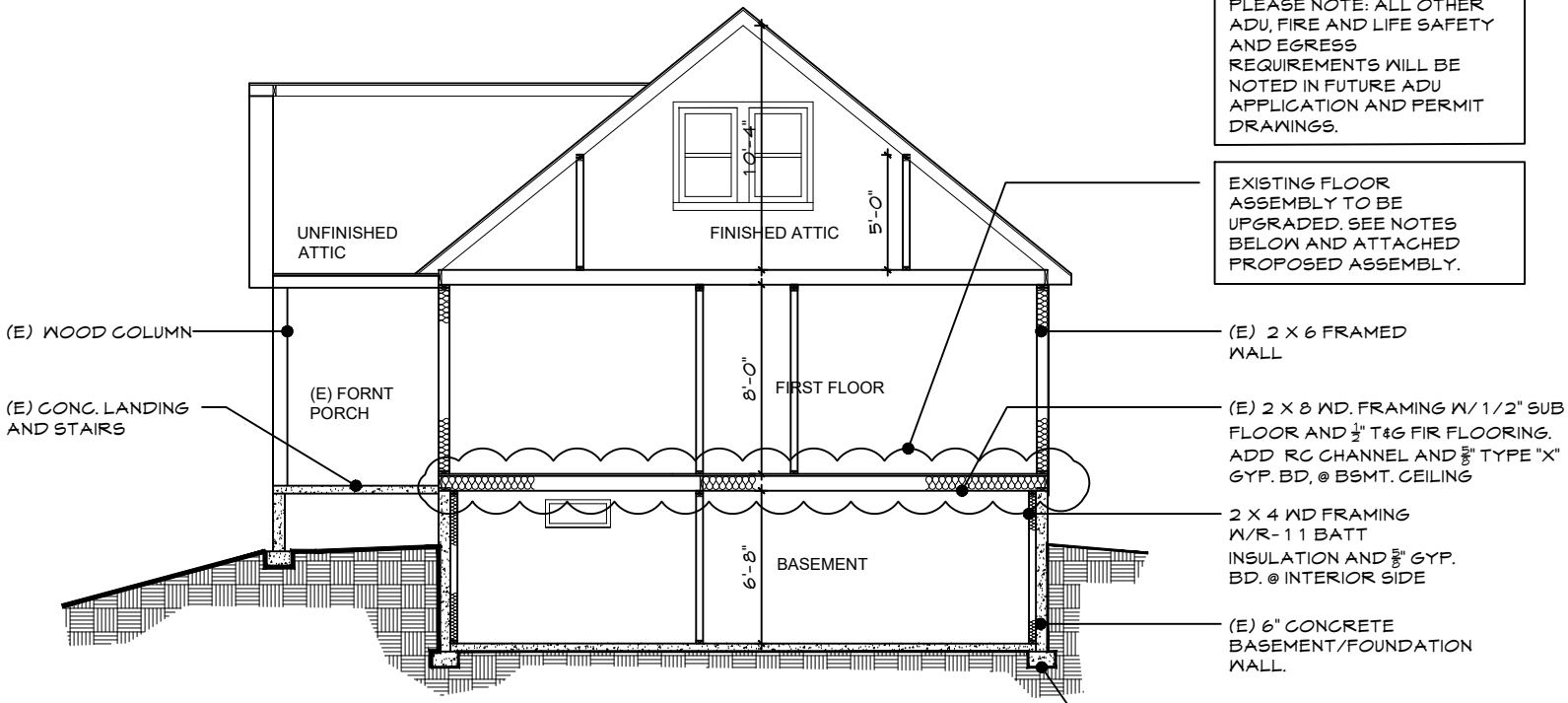
2. Alternate STC / IIC sound assembly based on GA FC 5120 for horizontal separation between ADU and primary unit: No appeal required.

PLEASE NOTE: ALL OTHER ADU, FIRE AND LIFE SAFETY AND EGRESS REQUIREMENTS WILL BE NOTED IN FUTURE ADU APPLICATION AND PERMIT DRAWINGS.



1 BASEMENT FLOOR PLAN

SCALE : 1/8= 1'-0"

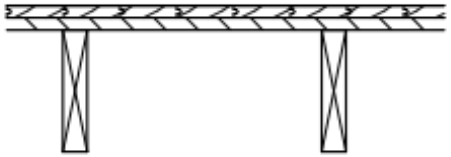


1 BUILDING SECTION

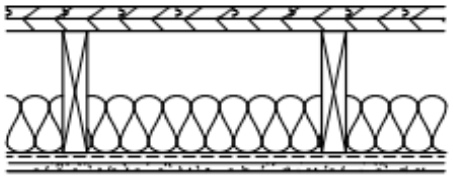
SCALE : 1/8= 1'-0"

ROBERT SALADOFF
ARCHITECT

FIRE RESISTANCE RATING : NONE
STC RATING ?

A	EXISTING FLOOR ASSEMBLY		EXISTING T&G DOUG. FIR FLOORING EXISTING 1x4 SUBFLOOR EXISTING 2x8 FLOOR JOISTS SPACED 16" O.C.

FIRE RESISTANCE RATING : UNKNOWN (APPROX. 1 HR.)
STC RATING : UNKNOWN (APPROX. 50)

B	PROPOSED UPGRADED FLOOR ASSEMBLY		EXISTING T&G DOUG. FIR FLOORING TO REMAIN EXISTING 1x4 SUBFLOOR TO REMAIN EXISTING 2x8 FLOOR JOISTS SPACED 16" O.C. TO REMAIN NEW 3 1/2" GLASS FIBER BATT INSULATION 1/2" RESILIENT CHANNEL (RC-1) 5/8" TYPE "X" PAINTED GYP. BD.

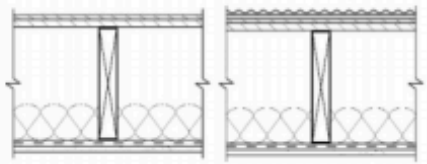
FIRE RESISTANCE RATING : 1 HR.
STC RATING : 50

GA FILE NO. FC 5120	GENERIC	1 HOUR FIRE	50 to 54 STC SOUND

WOOD JOISTS, GYPSUM WALLBOARD, RESILIENT CHANNELS, GLASS FIBER INSULATION

One layer 1/2" type X gypsum wallboard or gypsum veneer base applied at right angles to resilient furring channels 24" o.c. with 1" Type S drywall screws 8" o.c. at ends and 12" o.c. at intermediate furring channels. Gypsum board end joints located midway between continuous channels and attached to additional pieces of channel 64" long with screws 8" o.c. Resilient furring channels applied at right angles to 2 x 10 wood joists 16" o.c. with 6d coated nails, 1 7/8" long, 0.085" shank, 1/4" heads, two per joist. Wood joists supporting 5/8" interior plywood with exterior glue subfloor and 3/8" particle board, 1.5 psf. 3 1/2" glass fiber insulation batts, 0.7 pcf, friction fit in joist cavities supported alternately every 12" by wire rods and resilient furring channels.

Sound tested with carpet and pad and with insulation stapled to joists.



Approx. Ceiling Weight:	2 psf
Fire Test:	FM FC-181, 8-31-72
Sound Test:	G&H OC-3MT, 10-13-71
IIC & Test:	(73 C & P) G&H OC-3MT, 10-13-71