Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 10/06/17

CIVIL CONSULTANTS

Engineers
Planners
Surveyors
P.O. Box 100
293 Main Street
South Berwick
Maine
03908
207-384-2550

September 19, 2017

Nate Poissant, President
CasaPro Builders
PO Box 425
Biddeford, ME 04007

Re: Beam Sizing
41 Stevens Avenue, Portland, ME

Mr. Poissant:

Per your request, an analysis has been performed to determine the support beam needed to allow the removal of an existing wall at the above referenced property, per the requirements of the 2009 International Residential Code.

All information used in this evaluation was obtained through the floor plan drawings prepared by Noteworthy Designs, provided by your office via e-mail on August 15th, 2017. No site visit was made by representatives from this office. Any assumed dimensions described below shall be verified prior to starting work, with any discrepancies resolved to the satisfaction of the engineer and homeowner.

It is proposed that a 12'-0" section existing wall of the one story portion of the house be removed and replaced with an engineered lumber beam to allow for an open concept kitchen/dining area. It is assumed that the supported area will be used as attic storage (20 psf) on existing ceiling joists. These joists are assumed to be adequate to tie the bearing ends of the roof rafters and maintain the stability of the structure as it exists. Capacities of the joists have not been evaluated as part of this evaluation as no change in loading or support is proposed. If the framing varies in any way from a simple roof rafter and ceiling joist system, beam sizing indicated in the following paragraphs shall be re-evaluated along with any new framing that may be required to support the proposed modifications.

It is assumed that all roof loading will be supported by the exterior walls and no loads will be directed to the beam in question.

In order to support the second floor live loads and associated dead loads, a header consisting of two 1¾"x9 ½" Versa-Lam 2.0 3100 engineered lumber members is required. Each member of the built-up beam is assumed to be continuous. The header is to be installed below the existing ceiling joists so as to not require cutting into the existing framing. The manufacturer's requirements are to be followed with regard to connecting the separate beam plies. Simpson H2.5A ties are to be installed connecting the header to the joists at a maximum spacing of 24" on center.

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Bearing members below the beam shall consist of SPF studs providing full bearing to the supporting basement framing. It is assumed that these studs will be blocked solid to the foundation below. No evaluation of the floor framing or foundation has been performed as part of this review. If required, posts and foundation elements shall be sized to safely support 3,000 lbs at both beam bearing locations.

Existing framing shall be adequately supported during construction with temporary bearing walls on either side of the proposed opening until the new header is installed and all connectors have been installed.

No other aspect of building framing beyond the header in question has been evaluated as a part of this review. No review with regard to Life Safety or building envelope items has been performed.

Please do not hesitate to call if you have questions.

Sincerely,
CIVIL CONSULTANTS

Neil J. Rapoza, P.E.
Structural Engineer

STATE OF MAINE
Neil
J.
Rapoza
12169
LICENSED
PROFESSIONAL ENGINEER
9-19-2017

Enclosed: Reference floor plans, beam in question is "BEAM SIZED BY OTHERS" indicated on sheet 2 of 2

cc: OUT, file

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