



November 10th, 2020

Town Manager
Town of Bowdoinham
13 School Street,
Bowdoinham, ME 04008

RE: Current State of Bowdoinham Recycling Building

To whom it may concern,

Calderwood Engineering has reviewed the reports developed in 2008 and 2013 and is providing this letter to discuss the current capacity of the Recycling building. This does not include the roof repairs or sheathing of the exterior wall repairs that were recommended in 2013 and 2020. This letter provides the existing capacity of the 2nd and 3rd floor.

The allowable live loads on the 2nd and 3rd floor (in pounds per square foot (psf))

- Above the trussed section, the allowable floor load is 32psf
- On areas on the 2nd and 3rd floor where the center bay of the building is undecked the allowable floor load is 27.5psf
- On areas of the 2nd and 3rd floor where the center bay of the building is decked, the allowable floor load is 16psf. These areas were improved per the 2008 report to include an additional 2x8 girder to the (3) existing 2x8's. In any location in the building where this repair was not done, the allowable floor load is 11psf

If these live loads are not exceeded, then the building may remain in use. The Town and Landlord would be required to weigh any items that are to be placed on the upper floors and ensure that the floor load does not exceed these limits. This also assumes that the flooring, either ½" sheathing or 1" boards are in good condition. Any flooring found to not be in serviceable condition should be replaced throughout the building in walkways or anywhere that the Town operates.

Calderwood Engineering has also developed a temporary repair procedure, to allow the building to remain in use until the 2013 repairs have been completed.

The repairs required for the roof truss assume a design depth of snow. In order to wait to modify the existing roof, the owner may instead keep the roof clear of snow, with a maximum depth of snow allowed on the roof of 5". On the wall with no exterior sheathing, 2x6 timbers shall be installed halfway between each floor, the entire length of the wall, connected to each stud with nails as shown in the attached details.



These repairs are temporary, and are not meant to bring the building up to its required strength. The permanent repairs recommended in the 2013 and 2020 reports should be performed at the earliest possible convenience. These repairs are not meant to be permanent, and should not be put off for more than one year.

The floor beneath the apartment also needs to be strengthened. Calderwood Engineering has developed an alternate repair procedure for these floors, where the required live load is 40psf as opposed to the 125psf that the rest of the building was designed for. As opposed to the Versa-Lam beams, an additional 2x8 may be sistered to each 2x8 joist. And instead of the 5x5 kickers, 4x4 kickers may be used, placed 3ft from the center of the columns as opposed to 4ft. See attached details. These repairs are required at every column and joist supporting the floor of the apartment. Calderwood Engineering should inspect the construction to ensure that all members are strengthened appropriately.

Should you have any further questions please feel free to contact us directly.

Respectfully Submitted

Thad D. Chamberlain, EI