Statement on Garage Wall Damage
at 104 Campbell Lane, Deering NH

- This is related to the Garage on the back lot of the property.
- The West Side Wall and Back End Wall of the garage are seriously deteriorated. The wall bottoms are the worst.
- This was caused by the bottom of the walls being on the basement slab at about ground level, where they are regularly exposed to water.
- This has gradually gotten worse over 40 years.
- The entire walls could be replaced, or only the damaged bottom 2/3.
- The sills are rough-cut lumber, and should be replaced with pressure treated wood.
- Any wall replacement should be upgraded from 2 x 4 studs to 2 x 6 studs.
- It would be preferable to replace the bottom wood wall structure with 2 or 3 courses of cinder block.
- This would limit future deterioration and keep water out of the structure.
- A row of 2 x 6 studs were added inside the west wall to directly support the rafters. This was a temporary solution to prevent collapse under winter snow load.
- The west wall has two windows, which could be left, replaced, or eliminated.

- A rough estimate for the repair is:
  - $14,000 to completely rebuild the walls on the slab.
  - $3,000 additional to add 2 courses of cinder blocks under the wall bottoms
- Professional quotes are being sought.

- The front wall of the garage's main section is higher above ground and does not appear to have a similar problem.
  - This wall appears to have cosmetic issues, but no significant structural problems.
- The East Side Wall of the main section is internal, between main section and the attached shed.
- The 3 outer walls of the attached shed were replaced in 2011, with some cinder block at wall bases.
- Until the fall of 2023 there was too much stuff in the garage for this project to be done.
- The project should not be done during the period when heavy snow might accumulate on the roof.

The following is a Project Description which has been provided to contractors interested in this job.

Garage Wall Repair
at 104 Campbell Lane, Deering NH

Preliminary Project Statement of Work

Arthur C Stickney
(Retired Professional Engineer)
104deeringlake.com
104deeringlake@gmail.com
603-344-8249

This property is for sale. The Garage needs repair. Desire to get estimates and contact information for possible contractors to give prospective buyers.

The Left Side Wall and Rear End Wall of the Garage have serious decay at their bottoms, and need partial or full replacement. Two options are being considered.

Existing situation

- The walls are part of the original structure, and were built about 1980.
- The Garage is built on a concrete slab.
- The width (Rear End Wall) is approximately 24 feet.
- The depth (Left Side Wall) is approximately 30 feet.
- The top of the slab is minimally above ground level. At times leaves have piled against the walls, and decayed there. There is a season drainage area against the side wall, and this has occasionally risen against the wall.
- There are no known drainage pipes or crushed rock beds.
- The framing, including the sills, are non-PT rough cut lumber.
- 2" x 4" studs were used.
- It is believed 8' studs were used.
- The exterior sheathing is T1-11.
- The internal sheathing is Oriented Stranded Board (OSB).

- There are two double hung windows on the side wall.
- It is believed there is no insulation, but there may be ½" thick foam under the OSB.
- The Garage has a storage loft with flooring.
- Loft floor joists run front to back, perpendicular to the rafters.
- There is little attachment between the side wall and the loft floor structure.
- The side wall supports the rafters and roof, but none of the loft.
- The end wall supports the rear half of the loft floor and the loft end.
- There is a steel I-beam running between the side walls. This beam is supported on its ends by 6" x 6" PT posts sitting on the slab.
- The loft floor and rafters have been attached together with lengths of steel studs.
- A row to 2" x 6" studs have been installed inside the side walls, between the slab and rafters. This was done to shift roof weight off the damaged wall and prevent wall collapse.
- The wall and end are about 5' from the property lines.
- There is no room near the walls for heavy equipment.
- There are a set of old metal shelf units up against the rear wall.
- The loft is almost empty.
- There are no known electrical cables inside the walls.
- There are 3 to 4 electrical outlets attached to the walls, with cables stapled to the internal sheathing.
- There are some storage racks and brackets against the walls.
- When the Garage was built there were probably no building codes or building inspectors. There was also no Zoning ordnance.

Option A Requirements – Basic wall replacement

- Support the rear of the loft floor structure with temporary beams and jack posts, or equivalent equipment.
- Add additional support for the side wall roof structure, as is deemed appropriate. This could include improvements to the existing support studs.
- Remove interior sheathing, and save if in decent condition to use again.
- Demolish the remainder of the walls and remove all debris.
- Clean the slab where the walls were attached.
- Install appropriate anchors into the slab, per code requirements.
- Install 2x6 PT sills, two boards high.
- Sills to be flush with edge of slab.
- Secure sills to floor slab with anchors.
- Frame the walls with 12x6 studs.
- The height of the walls should not have any significant changes.
- Install T1-11 exterior sheathing, or equivalent sheet material such as SmartSide.
- Install new windows similar to the existing one.
- Install corner or window trim.
- Remove temporary supports.
- Clean work area and remove left over material.

Option B Requirements – Added Protection Against Water

- Same as Option A, except:
- Add a Cinder Block wall at the bottom of the walls.
- Clean slab as needed for mortar adhesion.
- Two courses of 8" x 8"x 16" Cinder Block.
- Mortared into waterproof wall.
- Install flush with edge of Floor Slab.
- Anchor Sills to Floor Slab.

Owner Preparation.

- Leaves and branches will be removed next to the walls.
- Lumber will be removed from against the side wall.
- The area within 5' of the walls will be cleared of stuff.
- There will be clear path through the front garage door to the wall area.

Other

- Work should be done in accordance with applicable building codes.
- It is probable no permit is required for this repair work, but permits should be obtained as required.
- It is not intended to make the garage interior heated space at this time.
- The work could be done for the entire area at the same time, or in sections.

Undetermined

- Reinstalling or replacing interior sheathing.
- Electrical outlets with wiring in the wall.
- Insulation.
- Painting or staining.
- Upgraded windows.
- Wall top and soffit trim.

By Arthur Stickney 4/14/2024