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First Congregational Church November 1, 2015

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Inspection Report

October 30, 2105
First Congregational Church
School Street,
Shoreham, Vermont

Following is a report of an inspection performed at the request of the Client. The Client is advised to carefully read the report in its entirety and to contact the inspector with any questions.

Scope of the inspection The primary objective of this inspection is to identify and quantify any significant or existential defects in this 1840s church building that would threaten its viability as a functional structure. Ancillary appurtenances such as heating systems, bathroom and kitchen fixtures and appliances, stained glass panels, bell and clock assemblies are not included as integral parts of this inspection.

Executive Summary The goal of inspecting this structure was to detect any defects or flaw which, if uncorrected, might lead to serious failure of building systems or integrity. The three areas I found that are of the most concern are the slate roofing maintenance, window unit deterioration, and the lower level floor settlement. The first two items are the result of improper or deferred maintenance. As I could not access the crawlspace beneath the lower floor, I was unable to determine the cause of the settlement.

I did not find any evidence that would lead to a concern for structural failure such as significant movement of the foundation, cracking or collapse of major framing members, etc. Normally, indications of serious deterioration would include things like cracks in window glass or plaster walls, doors shifted out of plumbing in their jambs, widespread failure of ceiling plaster adhesion, and cracks with displacement in foundation walls.

The basic roof, wall and foundation structure of the church appears to be sound. The most serious structural item is the subsided floor in the lower level which will require reinforcement or, possibly, reconstruction.

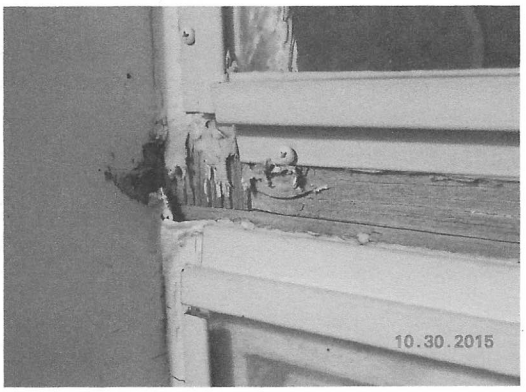
Major concerns

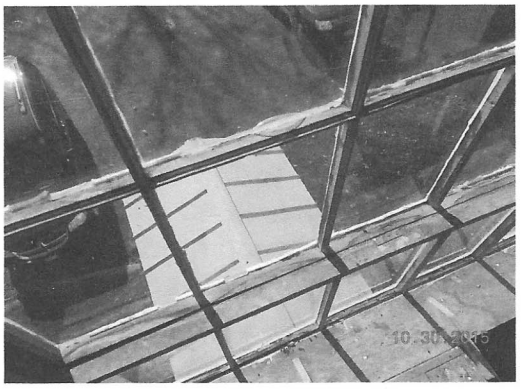
Windows: Most of the windows have deteriorated paint and window putty, but they can be rehabilitated. They have clearly suffered from deferred maintenance. Most of the sills have some checking or cracking that allows rain to penetrate the wood. In some cases the failed paint layer has detached from the sills so rain water can get behind the paint and be held against the wood members. In both these examples, decay is the eventual result.

I checked the exterior of all the windows (with the exception of the sash in the clock tower). In particular, I checked the sills for decay and found them in reparable condition. The most advanced decay is along the bottom of the south narthex or vestibule window. It should be dry when painted. (It may be possible to accelerate drying by applying isopropyl alcohol to the damp areas. The evaporation of the alcohol will facilitate the evaporation of the moisture in the wood.)

The windows need normal maintenance including repairing missing or deteriorated putty. The wood elements should be scraped as needed, spot primed and painted. The exterior sills are of particular concern. Any checks or cracks in the sills should be caulked or otherwise filled before painting. Any voids between the wood members or brick should be caulked as well.

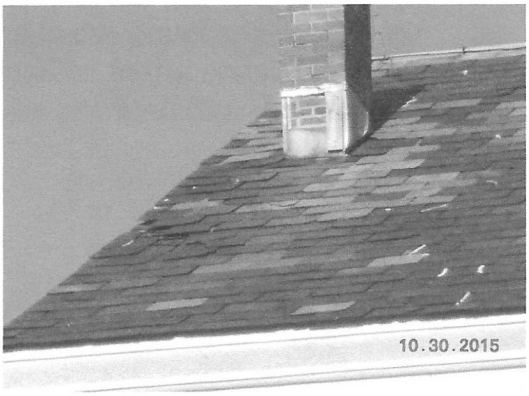
With proper and on-going maintenance, I feel that the windows can be saved. However, it would be worthwhile to explore the cost of low-maintenance replacement windows for the lower level and the narthex area for their ease of use and longevity.





Roofing: There are quite a few missing, cracked or incomplete slates visible on the south exposure of the roof. There is a cluster of missing slate and therefore bare roof at the west rake edge of the roof. (I was unable to see the north side of the roof because of the slope of the ground to the north of the church.) There should be a regular inspection of the roof and contracted repair every two or three years or as needed.

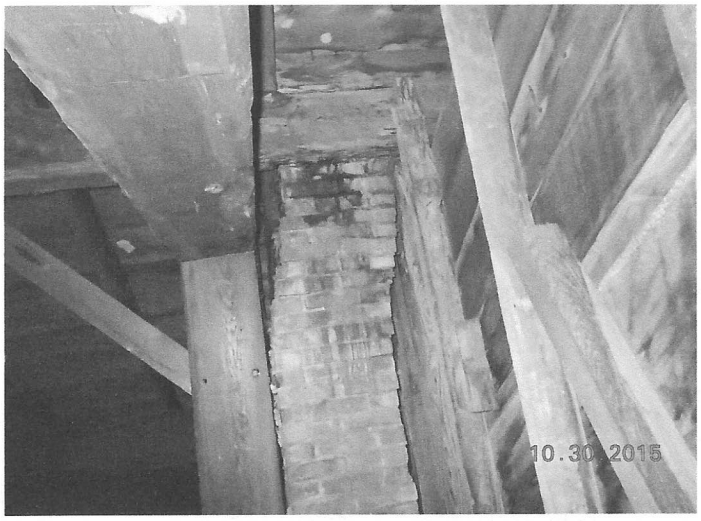
The slate roof maintenance procedures performed in the past did not met the best practices standards,



particularly for a building on the Historic Register. The slates are mismatched and what appears to be white caulk used on cracked slates. Replacement slates should be compatible with the originals and secured with slate hooks. Cracked slates can be reinforced by a piece of copper flashing inserted beneath them and extending to above the overlap of the upper slate. Caulk, roofing cement and the like should not be used as a part of the slate repair process.

It is important to verify that a repair firm has experience and expertise on slate roofs and a sensitivity to historic preservation. The Vermont Division of Historic Preservation may be able to offer suggestions about firms with which they have worked. Elsa Gilbertson, who works at Chimney Point Site Historic Museum, oversees three Addison County historic sites and may also have local recommendations.

The chimney flashing on the southwest chimney has been damaged and needs replacement or repair. The attic portion of the chimney shows water and creosote stains as is shown in the image to the right.



Lower level floor: The lower floor has settled more than two inches away from the wall baseboards in some areas on the east and west walls. There are two possible causes that come to mind. Either the framing has been exposed to a high moisture environment and is decaying or the support post system for the floor is settling in the soil beneath them. The initial cause is the most likely as any settlement should have ended decades ago.

Though there is no ready access to beneath this floor, I understand that there is about a 3' high crawlspace. I recommend constructing a permanent hatch or trap door so that the situation beneath the floor can be thoroughly investigated. It may be possible to reinforce or sister the floor joists with pressure-treated lumber and jack them back into position. Otherwise it may be necessary to do a more complete reconstruction.

Regardless of what remediation is contemplated, it is important to create a dryer environment in the crawlspace if decay is the problem. Wood-eating organisms such as the fungus that cause rot do not thrive in dry conditions. (Dry rot is essentially a misnomer.) At minimum, a 6 ml. poly vapor retarder should be applied to the floor once the renovations are complete to keep any soil moisture from affecting the conditions in the crawl space. It may also be necessary to install a good quality, programable dehumidifier in the crawlspace that is piped to a condensate pump so that the collected water can be pumped to a drain pipe.

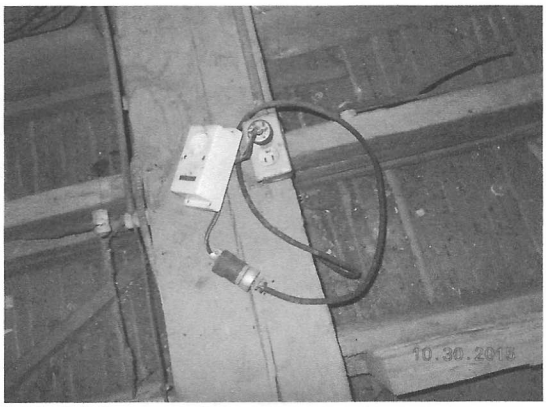
General Comments and Observations

Insulation and weatherization: There is no insulation in the attic. I also could not find any in the exterior walls where I was able to access them.

Pipe in the former balcony: There is a section of 3/4" pipe extending down from ceiling in the balcony from the attic. It is uncapped and unconnected in the attic and so could be removed if desirable.

Electrical wiring: All the knob and tube wiring I encountered in the attic had been disconnected and was not energized.

The sanctuary ceiling fans appear to be connected to the outlets by short extension cords. Generally the National Electric Code does not allow long-term use of extension cord connections.



Spalled bricks: Some minor spalling has taken place on the north exterior brick wall between the narthex window and the lower level window. Monitor this area for any further deterioration.

Ceiling plaster damage: The ceiling in the balcony area north of the clock enclosure has an area where the plaster has fallen from the lath. This appears to be an outlier as most of the ceiling surfaces in the church appear to be in acceptable condition. The damaged area is near an area where extensive renovations and reconstruction have taken place in the attic.

Attic conditions: I inspected all of the attic that I could safely access. The undersides of the roof sheathing boards were all dry and showed no signs of chronic leaking or decay except for minor decay and staining near the southwest chimney.

There was some frass, the debris left by wood-eating insects such as carpenter ants or powder post beetles, in a few areas, but I did not see any current activity. So there is no way to be sure when in the past the frass was deposited. I suggest cleaning up the debris where found and monitoring the area annually for insect activity. If activity is located in the future, the area could be treated with a borate solution which will both has both insecticidal and fungcidal properties. Another option would be do consult an exterminator.

Recommendations and minor repairs and maintenance

Safety: Combustible gas detector/alarms are available at most hardware stores and should be installed in structures where propane or natural gas is being used.

Lead paint: Given the age of the structure, it is best to assume that any paint, interior or exterior, may contain lead. If the lead paint layer is encapsulated by an intact layer of non-lead paint, then there is no health hazard. However, if the paint is cracking or flaking, or if sanding, scraping, or otherwise disturbing the paint surface is necessary, then proper precautions should be taken including using an appropriate respirator and cleaning interior surfaces with a HEPA filter vacuum.

More information about lead paint concerns is available from the Vermont Department of Health.

Kitchen counter and bath electrical outlets: These areas are protected by GFCI (ground fault circuit interrupter) electrical outlets. GFCI outlets should be tested monthly with a tester or by using the test button on the outlet (with something plugged in.) When they fail, they normally fail in an energized condition so that they operate properly as an outlet but do not provide any safety protection.

I suggest purchasing a GFCI electrical outlet tester and keeping it plugged into a convenient, unused GFCI outlet such as one above the kitchen counter, so that it is readily available for periodic testing. They cost about $12 or so and are available at most hardware stores.

Heating systems: The east furnace appears to be overdue for normal service and safety checks.

Weatherization: Adding weather strip and sweeps to the doors leading to the lower level would increase comfort and lower heating energy costs.

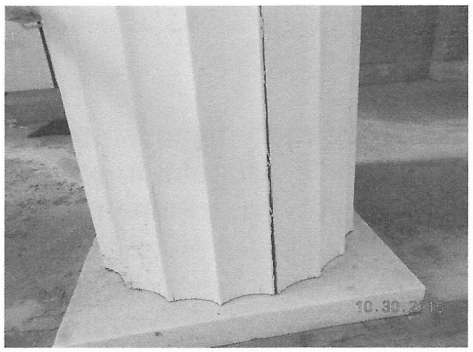
Misc. repairs or maintenance:

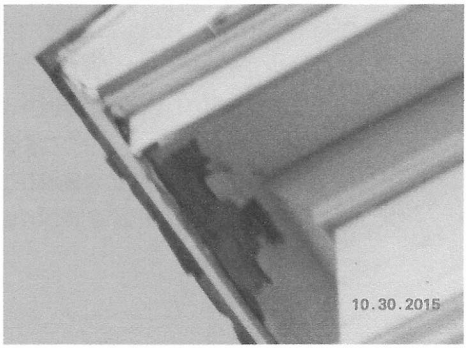
The mortar joints at the top of the southwest chimney are due for repointing as are areas of the east basement wall. (Most of the basement walls are not visible.) The chimney flashing should be repaired at the same time.

The cracks in the entry columns should be repaired and caulked.

There is a damaged area of eaves at the northwest corner of the roof.

The gutters should be cleaned when practicable.





All four of the above maintenance or repair items could be mostly effectively and safely accomplished with the use of a lift. Areas not currently visible from the ground such as the north roof, base of the clock tower and the northwest chimney should be inspected as well when a lift is available.