



THE OFFICE OF ALLEN CHARLES HILL, AIA
HISTORIC PRESERVATION AND ARCHITECTURE

December 30, 2005

Wheeler Memorial Chapel Trust
c/o Patricia K. Mellor, Trustee

Re: Report of assessment visit to the Wheeler Memorial Chapel, 590 Daniel Webster Highway, Merrimack

Dear Ms. Mellor,

Following up on my visit to the Chapel on December 20, this letter will constitute the report of my observations and findings. It is based on approximately two hours inspecting the building visually inside and out, assisted by you and David Rogers, and intends to address the conditions noted and concerns we discussed during then. It is clearly not possible to conduct an exhaustive investigation of any building in the time that was available to us, but based on my experience working with old and historic buildings for the past thirty years, I believe that this report summarizes the major concerns affecting the Chapel.

The report is organized in three parts. The first is a brief description of the building. Then comes a list of principal concerns, and finally a discussion of those issues.

To provide more information than would otherwise be possible in a letter report, I am including a copy of my field notes, as well as a CD-ROM containing this report and other material that may prove useful.

Description:

The Chapel is a modest gable-roofed wooden structure dating from 1889, oriented east-west, set back approximately thirty feet from the Daniel Webster Highway on a small rectangular site.

The visible foundation is rock-faced granite blocks except on the west end, where it is fieldstone. Siding is painted wood clapboards. Roofing is elderly black asphalt shingles. Chimneys project through the roof on either side of the ridge about two-fifths of the way from east to west.

A two-story tower is attached to the east front. Large double-hung windows with six-light sash are located in the north, south, and east walls, and in the tower, where there are two courses. The first-story windows all have exterior aluminum storm sash.

The main entrance is located in the east front of the tower, and consists of a two-leaf painted wooden door. A second exit is located at the south end of the west wall, which is blank except for a window in the gable. A wooden ramp provides wheelchair access to

the front door.

Inside the building, a passage the width of the tower leads from the entrance to the principal space at the west end of the building. Two rooms flank the passage. A stair to the attic leads up the north wall of the south space, which has been altered over the years, and now is a kitchen, with a partitioned-off space containing a wheelchair-accessible lavatory, entered from the passage.

At the end of the passage, the principal space of the Chapel is used for meetings and worship. It is lit by three windows on each side, and connects to the spaces to the east through three sets of double doors. A low platform extends across its west end.

Large amounts of early and original woodwork, hardware, and finishes survive throughout the building, giving it a pleasant period appearance.

The Chapel was originally constructed over a crawlspace and was heated by stoves that vented into the two chimneys. A basement was subsequently excavated under the southeast quadrant of the building to accommodate an oil-fired forced warm-air heating system. The building is connected to Town water and sewer.

Concerns:

The most critical issues seem to be these, in order of priority:

- 1a. The roof has outlasted its life expectancy, and is beginning to leak, as is the chimney flashing.
- 1b. Ceilings in the smaller rooms are failing.
- 1c. Part of the floor of the main room has dropped and is limber, suggesting a structural failure.
- 1d. Exterior paint has failed throughout by cross-grain cracking.
- 1e. Storage space is woefully inadequate.

These matters appear to be less critical, but still require attention:

- 2a. Windows are hard to operate, and are of questionable energy efficiency.
- 2b. The front door can not be latched shut.
- 2c. Insulation is falling from beneath the floor.
- 2d. The belfry louvers are in fair to poor condition, with displaced and lost members.
- 2e. The basement is damp in warm weather.
- 2f. Other concerns.

Discussion:

1a. Roofing failure: Nothing compromises a building as quickly and thoroughly as a leaking roof. The roof of the Chapel has outlived its usefulness, and needs to be replaced as soon as possible. A leak over the south kitchen has resulted in part of the ceiling failing and dropping. Further leak evidence is apparent in the ceiling of the main space adjacent to the south chimney.

I understand that the Trustees plan to replace the roof in the near future. I concur in the roofer's recommendation to overlay the existing roof deck with plywood. The original roof appears to have been wood shingles; the sheathing boards were laid with spaces between in order to ventilate the underside of the roofing. These gaps create areas where there is no support for asphalt shingles, making the overlay an important addition.

I was asked about ventilating the roof when this work was done. This makes sense. It should be possible to introduce continuous vents in the overhanging eaves, as well as a

ridge vent, in order to provide balanced ventilation. My concerns would be two: First, that a continuous eaves vent be used, rather than individual vent louvers, and second that spacers be installed to keep insulation from blocking the airways.

At the same time as the roof is replaced, the chimney(s) should be repointed, and re-flashed with lead-coated copper. The question was raised about whether the north (inactive) chimney might appropriately be taken down below the roof as part of the re-roofing project. I do not believe that such action would constitute a significant loss of historical fabric—the chimneys are not visually significant elements. If the chimney is taken down, I recommend that it be removed to a couple of feet above attic floor level, and the top covered with half-inch hardware cloth to allow ventilation of the flue without the risk of objects falling in.

I noted, by the way, that the attic appears to be well insulated (with cellulose): The north pitch of the roof, which is totally shaded from sunlight at this time of year retained a good covering of snow from a storm several days earlier (The south pitch, exposed to sunlight, had lost its snow).

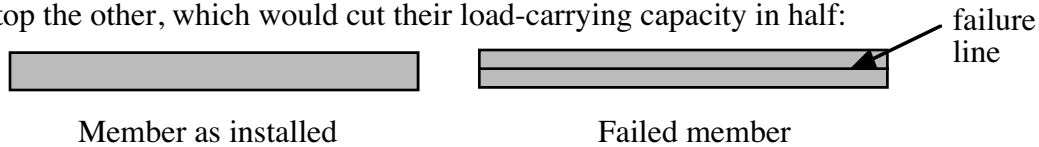
1b. Ceiling failure: In addition to the water-mediated ceiling failure in the southeast room, failure was also apparent in the northeast room, where an area of cracked and displaced plaster is evident in the center of the ceiling. The cause here appears to be a loss of keying, allowing the plaster to detach from the lath.

This plaster *will* fall; the only question is when. The immediate first aid, therefore, is to remove all loose plaster as soon as possible pending more definitive repair.

Definitive repairs, which might cost in the upper hundreds to low thousands, can take either of two forms: Gaps in the existing solidly-adhered sound plaster can be patched with wet plaster, but where the Chapel is a working building rather than a museum, this approach does not appear necessary. It would be sufficient (and visually almost undetectable, given the high ceilings) to strap over the existing ceiling and install a new gypsum wallboard ceiling with a plaster veneer. Ultimately the preferable alternative is the one for which the most competent workmen are available and which costs the less.

1c. Floor failure: The northwest corner of the floor in the main space has sagged west of the principal structural member that runs across the room between the west pairs of windows. In addition to having been displaced, the floor also is limber; I could feel the floor spring as someone walked across it. These conditions are consistent with a structural failure beneath the floor.

When the Chapel was built, the floor structure was supported on a series of short posts bearing on large stones set in the crawlspace. It is possible that one of these supports has slipped and is no longer doing its job. It is also possible that one or more horizontal members have been overloaded and failed by splitting into two shallower joists, one atop the other, which would cut their load-carrying capacity in half:



This problem can probably be remedied by installing additional vertical supports under the affected area, and slowly raising the floor to an approximation of its former elevation. More detailed evaluation and analysis is required, however, than is feasible to provide as part of this report. Consultation with a structural engineer is indicated. Both the Preservation Alliance and the State Division of Historical Resources should be able to assist in locating a practitioner who is sympathetic to the quirks and needs of old buildings.

1d. Exterior paint failure: For many years, the Chapel exterior was painted with oil-

base paints. As this type of paint ages, the oils become brittle. Coupled with a gradual increase in the thickness of the paint film as the building is repainted over and over, it leads to a condition where the paint film cracks across the grain of the wood, all the way from the surface down to the substrate.

Even though the paint may be solidly adhered, it has failed, because it can no longer fulfill its primary function of protecting the wood beneath from water. The network of cracks, in fact, leads water by capillary action right down to and into the wood. Recoating is not a solution. Depending on the situation, the cracks may be expected to work their way through the new paint film in a matter of months to a year or so. The paint must be removed before new paint can be successfully applied.

Almost everywhere I looked on the Chapel exterior, cross-grain cracking was present. Most of the paint appeared solidly adhered (the rake on the west end above the door was an exception; paint was totally missing), suggesting that damage to the surface of the wood below was minimal. At the same time, removing this failed paint and repainting the Chapel must be a high-priority item.

Removing failed existing paint is an unpleasant and expensive proposition. There is no perfect method, although a combination of non-alkaline chemical strippers and heat plates is probably the closest thing to a good one.

Power sanding is very difficult to control, and unless done with consummate skill leaves scars on the wood. Abrasive grit blasting gets my vote for the hands-down worst—it pits the wood, erodes and blurs edges and corners, and fails to get the paint out of inside corners. Heat guns scare me—the space inside the wall is very dry and contains flammable material that the hot-air blast can ignite. Alkaline-based chemical strippers soften and raise the grain of the wood, and if not completely neutralized after use can react with paint and cause premature failure.

Because of the complexity of this work and its probable cost (comparable to or more than that of the re-roofing), I recommend that the Trustees engage the services of an architect or preservation consultant to assist them. Two excellent preservation-savvy New Hampshire architects with whom I am familiar are Richard Monahan, in Peterborough (924 7279), and John Merkle, of TMS Architects in Portsmouth (436 4274).

1e. Inadequate storage space: Faith Church, the present occupant of the Chapel, is bursting at the seams. With no good place in which to store temporarily unused materials and objects, parts of the building are cluttered. Some of these items, such as folding chairs that have been replaced and so are no longer needed, can be disposed of to good advantage. Unfortunately, other items are not so disposable. To complicate the situation further, I understand that the Fire Chief has called for the removal of all stored materials from the attic.

There does not appear to be any readily feasible building solution to this problem. The Chapel has only a minimal basement that is not suited for storage, and the lot on which the building stands is too small to allow physical expansion. Resolving this issue presents a major challenge for both the Trustees and Faith Church.

2a. Windows: Several complaints and concerns were voiced regarding the windows. They are hard to operate and balance cords are broken. In addition, there are questions of energy-efficiency, and whether wholesale removal and replacement would make sense.

Original windows and sash, such as exist throughout the Chapel, are important character-defining elements that should be replaced only for good cause. The first question to ask of old windows is whether the sash are structurally sound. As I walked through the building, I tested the general soundness of windows both in the main story and the tower by pressing on random muntin joints. If the sash is sound there should be little or no no-

ticeable “give.”

On this basis, it appears that the main-story sash are generally sound and appropriate to repair, rather than replace. Attic-level sash were somewhat more limber, but still appeared to be candidates for repair, rather than replacement. Specific areas of limited damage included rodent damage and other minor failures, all of which appear to be eminently repairable by a competent preservation carpentry firm. Costs would depend on the condition of each window, but would be expected to lie on average in the mid to upper hundreds per sash.

Part of the difficulty encountered in operating the sash appears to be related to broken balance cords. It is not unreasonable, however, for hundred-year-old windows to need adjustment and maintenance in order to operate smoothly. This work should be part of an overall window conservation program, which may be undertaken on a window-by-window basis, as funding allows.

Where existing sash are reasonably tight and storm sash are present, as is the case with the Chapel, the additional energy cost saving that may be expected to result from replacing historical windows with new energy-efficient units is typically insufficient to pay back the cost of the windows within any reasonable time, even omitting the cost of the funds required to purchase and install them.

An article in the September/ October 1997 issue of *Home Energy* magazine makes this point (the article is available online at <http://homeenergy.org/archive/hem.dis.anl.gov/eehem/97/970908.html>). A more subjective article on the subject of replacing historic windows can be found on my website at <http://home.att.net/~allen.hill.historic.preservation/observations/observ23.html#windows>

The question was asked about the potential benefits of adding interior storm sash. There would certainly be a reduction in heat loss through the windows. Whether or not it would result in a sufficient reduction in heating costs to amortize the cost of the new sash over a reasonable period is beyond the scope of this report.

If interior storm sash are to be considered, I recommend that they be a permanent installation. The low first cost of thin-film interior storm sash that are taped into place and stretched tight with a heat gun becomes less attractive once it is realized that they are not durable products appropriate for a public building, and that their cost (and the labor of installing and removing them) will be incurred each year in perpetuity.

Since the windows have deep reveals, interior storm sash should be mounted inside the window frames, rather than on the faces of the trim. Further, I would recommend that the sash be made in two parts, both to keep their size within reason and, more important, to allow removing the lower sash for ventilation in warm weather.

2b. Unclosable front door: The two leaves of the front door do not fit their opening, and so cannot be latched shut. This condition represents a serious breach of building security, since it allows an unauthorized person to enter the tower vestibule and then break into the Chapel unseen from the exterior. The problem is compounded by the hiding of a key to the building in a not-too-obscure place inside the vestibule.

The cause of this problem was not readily apparent. I did not notice any cracking in the interior plaster surface that would suggest structural movement. It was suggested that storm runoff dripping from the tower roof and splashing on the stoop might be leaving the door chronically damp, and therefore swollen beneath its paint.

This theory appears credible, suggesting that the root of the problem might be addressed by installing gutters across the front of the tower at the bases of the two roofs. I would recommend running the gutter only across the east front of the tower, with connection to a single downspout running down the south face. Careful thought must be given to

where the water discharges in order to avoid icing the driveway in cold weather; if possible, the discharge should be taken to a drywell located as far from the building as feasible.

Once the root cause of the problem has been addressed, the door should be repaired and rehung by a preservation carpenter. The total cost for this work might lie in the lower thousands.

2c. Falling insulation: The first floor of the Chapel is insulated with glass fiber batts set between the joists. Despite wire clips having been installed to keep it in place, many of the batts are falling out of place, reducing the effectiveness of the insulation and hindering navigation within the crawlspace.

I recommend that the falling insulation be returned to place, and that a durable net, such as galvanized chicken wire or light hardware cloth, be attached to the joist bottoms to keep it there. Some new insulation may be required. This work may advantageously be coordinated with the structural work described in Item 1c, or it may be undertaken as a separate project, even by volunteer labor.

2d. Belfry louvers: The louvered belfry is one of the character-defining elements of the Chapel. Viewed from the ground, the louvers to be failing, with broken, displaced, and missing members apparent. The most appropriate intervention is probably to have a preservation carpenter remove each frame from the tower and make repairs in the shop, saving as much of the original fabric as feasible.

I noted that the louvers have been backed up with plywood. This raises the question of its purpose: Was it done simply to provide support for the weakened louvers, or was it also intended to keep rain off a leaky belfry roof?

I did not enter the belfry during my visit, so I have no first-hand experience of conditions there. It is desirable, as soon as feasible, for a knowledgeable party to inspect the belfry to determine the existing conditions and needed remedial work (that party would logically be the Trustees' preservation consultant or architect).

2e. Basement dampness: Basements tend to be damp in warm weather, and the basement of the Chapel is no exception. Corrosion on unpainted metal objects speaks eloquently to the problem. The problem comes about partly because moisture from the ground can make its way into the basement, but even if the basement were waterproofed like a ship's hull, the problem would still exist.

The reason is easily stated: Much of the time during warm weather, the basement is cooler than the air outdoors and in the building above. Cool air is less able to hold water vapor than warm, with the result that the basement is damp (this concept is discussed at greater length on the CD-ROM appendix to this report). The way to reduce this dampness, then, is twofold: Make the basement warmer, or reduce the amount of water vapor in the basement air.

Heating the basement in warm weather will certainly reduce the relative humidity in it, but except in unusual situations, this alternative presents problems, not the least of which is the very idea of running the heating plant when the outside temperature is in the eighties!

So we find ourselves using the other alternative, reducing the amount of water vapor in the air. When the weather outside is dry and not too hot, circulating outdoor air through the basement (or crawlspace) can have the desired effect, but as the outdoor temperature and relative humidity rise, a point will be reached where ventilating with outside air has exactly the *opposite* effect: Rather than reducing the relative humidity in the basement, it will increase it.

To state this phenomenon in slightly more technical terms, as long as the dew point

(the temperature at which condensation occurs) of the outside air is lower than the temperature of the air in the basement, moisture will be removed from the basement air. If, however, the dew point of the outside air is the same as or greater than the temperature of the basement air, ventilating with outside air will add moisture to the basement air.

Since these outdoor conditions are constantly changing, for ventilation with outside air to consistently reduce basement humidity (or at least never to increase it), intense and continuous monitoring of conditions is required, rendering this approach unfeasible for most situations.

That leaves us, unfortunately, with mechanical dehumidification. Dehumidifiers work by chilling air well below its dew point, which causes some of the moisture to condense out, and then reheating the air to a warmer temperature. They function, in other words, rather like refrigerators running with their doors open, and therein lies their problem: Although they cost in the low hundreds of dollars, they consume significant amounts of electricity, and are expensive to run.

That said, mechanical dehumidification is indicated for the Chapel basement. The unit(s) used should be designed for low-temperature use, in order to allow it to function at temperatures below sixty to sixty-five degrees, at which ice may start forming on the coils. To avoid the necessity of emptying buckets of condensate (which will, after a short time, cease to occur), the machine should be set to drain through a length of hose to the low point in the basement, from which it then can be pumped out.

The basement is unequivocally damp. Whether humidity in the crawlspace also becomes excessive requires further investigation, most simply by leaving a couple of small electronic “high-low” recording thermometer-hygrometers in the crawlspace during warm weather, and logging their readings every few days (these devices are readily available from hardware stores at a cost of thirty to fifty dollars each).

If the crawlspace does get damp, an approach to dehumidifying it might be to open two screened ports in the wall between the basement and the crawlspace and set a fan in one to circulate air between the two areas. These ports would be closed with the advent of cooler weather.

2f. Other matters: I understand that mice and squirrels are an ongoing problem. The regular visits from a pest control firm of which I was told are an essential part of controlling it. Two other parts are building sanitation, and penetration closure.

Particularly in the case of mice, it is critically important to keep the building clean of all spilled materials that might serve as food, and to keep all foodstuffs, including garbage, in rodent-proof containers. This will not stop vermin from coming in from the cold, but neither will it encourage them further.

Closing the penetrations into an old building is a formidable job. Mice can pass through openings scarcely larger than a dime, and squirrels, not much larger (and they will happily enlarge any opening that they think leads somewhere worthwhile). I did not notice any gaps around the edges of the roof in the attic, although two windows did stand somewhat open. In the crawlspace, on the other hand, I noticed numerous chinks and cracks where light (and presumably critters) was able to enter.

I am conflicted about the value of attempting to close these openings. It involves working inside the crawlspace, in cramped and uncomfortable quarters, and must be done with near-fanatical care and thoroughness to succeed—in other words, it is not something that is likely to succeed unless undertaken personally by one of the Chapel’s most devoted stake-holders.

As for concerns about proposed sidewalk and water-line construction, so long as the road is not widened enough to bring the excavations within fifteen feet of the building,

there should not be any cause for concern.

Finally, the question was raised about the desirability of listing the Chapel in the New Hampshire State Register of Historic Places. I would definitely encourage it. Listing in the register constitutes formal affirmation by the State of the Chapel's historic nature, and confers some very specific advantages, high among them is the ability to make decisions about energy conservation and efficiency on the basis of thoughtful consideration rather than the prescriptions of an old building-unfriendly energy code. If you have not already contacted her, Christine Fonda Rankie at the Division of Historical Resources can tell you what is needed.

In sum:

The Wheeler Memorial Chapel presents as a well-preserved example of a late nineteenth-century rural meeting house, retaining its early exterior, and most of its original interior woodwork. While all of the work described in this report is necessary for the preservation of the building, most of it has not yet become urgent, and can be undertaken over the next five to ten years with minimal risk. The exceptions, of course, are the roof, the sagging floor, and loose ceiling plaster, which need immediate attention. Otherwise, the building appears to be in generally good condition overall, and well worth the effort to preserve for continuing community use.

I have enjoyed the opportunity to visit the chapel, and to meet with you and David Rogers. If I can be useful in the future, or if you have questions about this report, please call.

Very truly yours,

Allen C. Hill

WHEELER MEMORIAL CHAPEL, Merrimack NH

Field visit 12-20-05

Met with Patricia Mellor and David Rogers

Exterior

- This is a small vernacular structure oriented east-west, with an applied square tower on the east gable end. The building sets back about thirty feet from the street, with a driveway in front.
- The site is quite small, with no room to expand the building. The south yard and part of the west have been paved for parking. The remainder of the west yard and the north are grassed.
- The tower consists of two stages: A lower shaft that rises above the roof ridge, surmounted by a hipped roof, and a narrower belfry story with louvered rectangular openings on each side, capped with a steep pyramidal roof, at the top of which is a weathered sheet-metal finial and weathervane.
- Belfry louvers appear to be in fair condition, with displaced and missing slats. Plywood has been applied behind them to close the opening.
- Siding is clapboards, in unremarkable condition.
- Paint appears superficially unremarkable, but on close inspection is seen to have failed extensively by cross-grain cracking.
- Roofing is black asphalt shingles. Shingles are cupped and broken, indicating a roof that has outlived its expected lifespan.
- A pair of chimneys protrude from the roof about a third of the way from east to west. They appear to have been properly flashed, although the flashing looks old and liable to leaks. Mortar joints are deeply eroded; repointing is overdue.
- The basement course is rock-faced granite blocks on the North, east, and south, and rubble masonry on the west. On the south side there are two basement windows, one with its east end under the west jamb of the first main window, and the other with its west end under the east jamb of the central main window.
- A fuel-oil filler is located between the second and third windows. A sillcock is located under the first window.
- The north and south walls contain five large double-hung windows each with six-light sash, surmounted by classical cornices. They appear unremarkable. Storm sash are present, as are shutter hinge pintles and dogs. Blinds are missing throughout.
- Windows are located on the front of the main block either side of the tower. Two courses of windows are located on the sides of the tower. On its east front, a two-leaf paneled door in the first story is surmounted by a window in the second. Upper-story windows lack storm sash.
- The front doors do not close and latch, possible due to swelling from water dripping from the roof above and splashing on them. A gutter across the bottom of the roof might help alleviate this problem.
- In front of the tower is a wooden stoop porch, approached by four risers from the driveway. A wheelchair access ramp angles to the northwest and returns to the porch. They appear relatively unremarkable.
- The electrical and telephone entrances are located on the north face of the tower, near the northeast corner.
- When we visited, there was still snow on the north pitch of the roof, although the south pitch was bare. Since the roof is relatively steep, the north pitch does not receive sun at this time of year. The presence of snow there several days after the last story strongly suggests that the attic

is well insulated.

- At the rear of the building, there is a single pressed-steel paneled door in the first story, located at the south west corner, and a typical window in the gable. As with other upper-story windows, no storm sash is present.
- The doorstoop is approached by a flight of four risers from grade.
- A wooden crawlspace access panel is located in the center of the foundation wall.
- Paint on the rakes, particularly the south rake, has failed to bare wood in many places. Above the entrance door are two black areas that look like serious deterioration. A drip edge is present along parts of both rakes.
- Both rakes, by the way, are made of three short pieces, for reasons that are not immediately clear.

Interior — Basement

- The building was originally constructed over a shallow crawlspace, which I did not enter. A partial basement has been excavated under the southeast quadrant of the building.
- Basement walls are poured concrete. Joints in the work suggest that this space may have been enlarged subsequent to its original creation.
- Structural support in the crawlspace consist of posts, mostly supported on large stones.
- There has been some floor settlement at the north end of the building, which probably can be stabilized by installing additional vertical supports. Since this area does not involve walls, it may be possible over a period of months to raise the floor to remove the worst of the sag. Consultation with a structural engineer is advised before taking action.
- The first floor has been insulated with glass-fiber batts, many of which are falling. They need to be reinstalled.
- Basement ventilation is a summertime issue. I recommend mechanical dehumidification, even though it is relatively expensive. Consider seasonal dehumidification of the crawlspace as well, probably by forced circulation of air between the crawlspace and the (dehumidified) basement.
- Constructing a small sump around the existing basement pump would allow dehumidifiers to drain continuously.
- Heat is oil-fired forced warm air.
- The building is connected to the municipal sewer and water systems.

Interior — Main story

- The building is divided roughly one-third, two-thirds, with a large space, used as the worship space for Faith Episcopal Church, occupying the three western bays. Entering through the tower, a passage the width of the tower leads to that space.
- Walls and ceilings are plaster with matched board wainscot throughout. Wood trim appears generally to be natural-finished yellow pine. Floors originally were wood throughout. Much very nice original cast-brass door hardware survives.
- Window sash appear generally to be in good condition. Pressure on muntin joints produced little or no deflection in the sash sampled. I was told that sash are hard to operate, and that sash cords are broken. All of this suggests that money would be better spent having a skilled mechanic recondition the existing sash than in replacing the windows.
- Interior storm sash might be worth considering to improve energy efficiency. Permanent sash probably make more sense than the inexpensive “Saran Wrap” alternative. The lower half of any interior storm should be removable for warm-weather ventilation.

- The present partition separating the tower and the passage appears to have been installed soon after the second world war; it is clad with gypsum wallboard, and the detail and finish of its trim differ subtly from the original work. An arch is visible over the interior face of this partition. A hook at its apex suggests an original hanging light fixture.
- Existing lighting consists of two hanging fixtures.
- As originally constructed, the passage was flanked by a single room on either side, with entrance doors near the east end of the building. Chimneys, originally for heating stoves, rise in the west corners against the central hall.
- The northeast room remains more or less as built, with the addition of a closet to accommodate vestments across most of the west wall. The floor is covered with carpet that is starting to look tired. Illumination is provided by surface-mounted fluorescent fixtures. This space is presently used by the children.
- Part of the ceiling is seriously cracked, with small areas of loose plaster. This damage does not appear to be leak-related; there are no readily apparent water stains, suggesting that the problem is due to the failure of plaster keys. Removal of the loose areas is indicated, to be followed by strapping and installing a new gypsum wallboard ceiling beneath the original.
- The southeast room has been repeatedly modified, first by the addition of a door from the passage at its west end, by conversion into a kitchen, and finally, by the construction of a wheelchair-accessible lavatory, accessible from the hall, in its northeast corner.
- The stair to the attic rises up the north wall of this space, and the stair to the basement drops beneath it from the lavatory.
- The present kitchen appears to date from the nineteen forties or early fifties. The floor is asphalt tile in fair to good condition. Illumination is provided by surface-mounted fluorescent fixtures.
- I understand that it is only used for coffee hour, which suggests that it might be advantageously reconfigured to provide more program space for the church.
- Significant water damage from roof leaks is evident. An area of the ceiling plaster about four feet by six has fallen or been removed, and cracks are apparent.
- Repairs can be made by strapping over the existing plaster and installing a new gypsum board ceiling beneath the old work.
- In the lavatory, a stepstool for kids blocks wheelchair access to the washbasin, and a piece of furniture blocks access to the water closet, compromising its accessibility. The space otherwise appears to be unremarkable.
- The west room is plain, without cornices or ceiling ornamentation. A low platform extends across the west end. The floor is carpeted; the material is starting to show its age.
- There are three pairs of double doors in the east wall, leading to the passage and the two flanking spaces.
- Illumination is a combination of six six-lamp “candle” chandeliers and down lights across the west platform.
- The floor is somewhat limber, particularly in the area west of the principal transverse structural member between the center and north windows; I could feel people walking. This condition requires attention by a structural engineer for diagnosis and specific intervention.
- Water stains in the ceiling by the south chimney suggest a flashing failure.
- This space was repainted within the past four or five years, and appears relatively unremarkable. Hairline cracks in the wall plaster do not appear to be a cause for concern.

Interior—Attic

- The walls of the stair to the attic are lathed, but appear never to have been plastered.
- In the attic, the first bay and part of the second are filled with stored material.
- The attic opens to the tower its full width. The tower was framed after the main house had been erected and sheathed; the west tower posts are laid over the exterior sheathing of the building proper.
- Sash in the tower windows are not in as good condition as those in the main story, but are not in crisis by any means—probably good to fair condition. Storm sash are absent; since this area is outside the heated envelope, the only reason for providing them would be to protect the primary sash.
- Squirrels have been a problem in the attic. One of the tower windows is left slightly open in hopes that any invaders would find their way out before they did further damage by attempting to chew their way out through the sash.
- The roof structure consists of five bays framed with queenpost trusses supporting large intermediate purlins on which the rafters rest. Windbraces rise from the truss chords to the purlins. Rafters butt at the ridge; there is no ridge beam.
- All the timber is sawn, although the larger members are connected with pinned mortise-and-tenon joints.
- Sheathing boards appear somewhat widely spaced, suggesting that the first roof was wood shingles. Asphalt shingles are visible through the spaces between boards.
- Some rafters have been sistered on both sides above the purlins (in the second bay from the rear and in the center bay, where most of the rafters have been sistered).
- The attic floor joists are set about two feet on center. The spaces between them have been filled with cellulose insulation.
- Two chimneys rise through this space. Both have been pargeted, and both show signs of water stains. The south chimney is active. The north stack is not, and the question has been raised about taking it down below the roof.
- I see no problem with that approach—take the chimney down to a couple of feet above the floor and screen its top with 1/2" mesh hardware cloth to prevent things from falling into it, while providing ventilation to minimize internal condensation, and further deterioration.
- The upper sash of the north window is open about an inch; otherwise this window appears unremarkable.
- The attic appears relatively unremarkable.
- I did not enter the belfry.

Miscellaneous

- The church has a serious problem with space, both for storage and program. The small size of the lot precludes physical expansion.
- Mice and squirrels are an ongoing problem. I didn't see significant evidence of the problem, but that is not meaningful. A pest control firm comes regularly.
- All in all, a nice turn-of-the-century building that contains much original work. Definitely get it on the State Register as soon as possible.