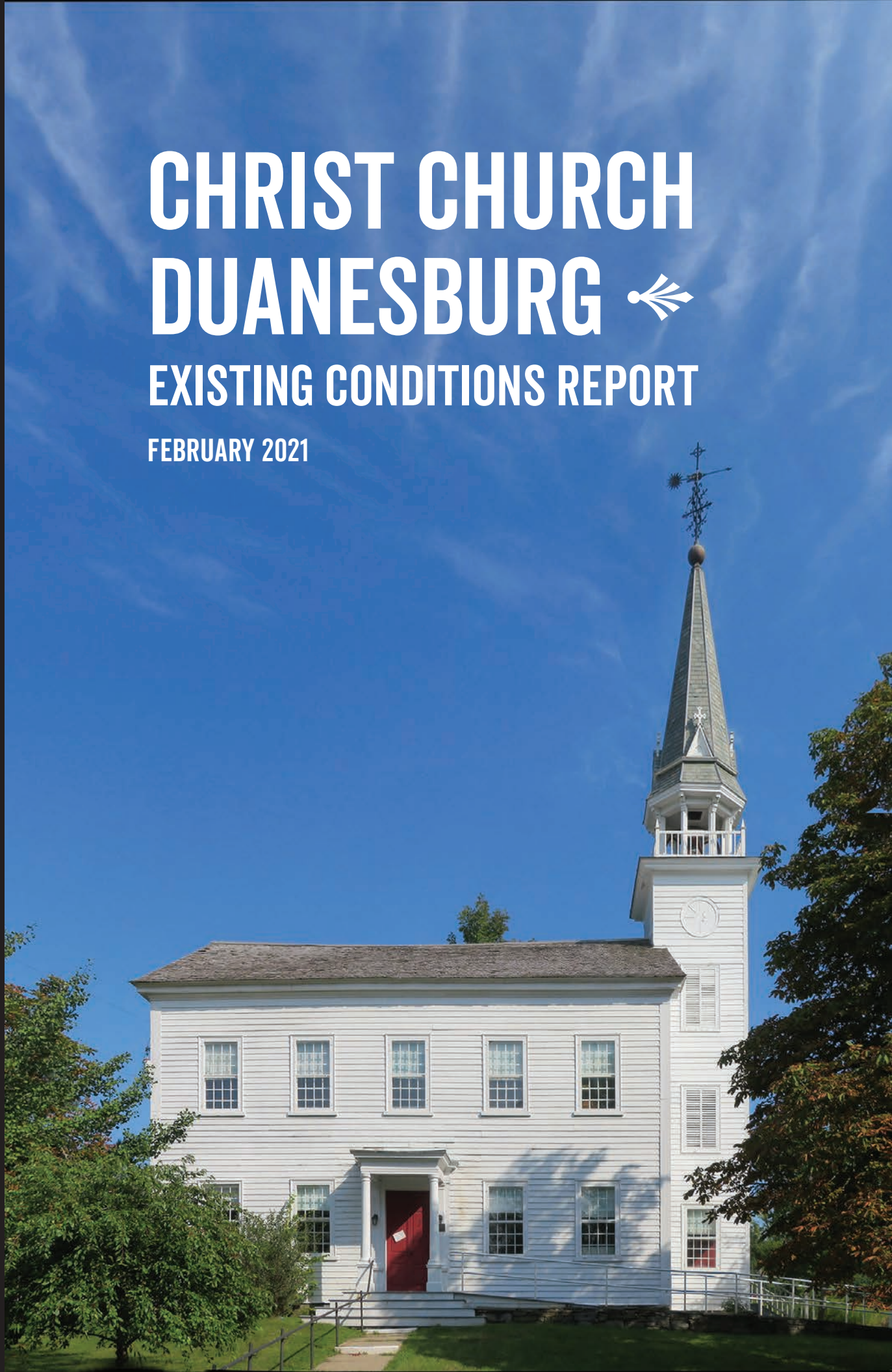
CHRIST CHURCH DUANESBURG

EXISTING CONDITIONS REPORT

FEBRUARY 2021



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INTRODUCTION

In 1792, the foundations were laid for a new Episcopal church on the north side of one of New York State's primary east-west roadways, now Route 20. As completed in 1793, the timber-framed and clapboarded church had the simple, almost domestic appearance of a traditional New England meetinghouse. In both form and layout Christ Church is similar to the Quaker Street Meetinghouse, also in Duanesburg, and was built just a decade-and-a-half later. The Quaker meetinghouse still stands just four miles south west of the Christ Church.

In 1811, the relatively new church was given a more overtly ecclesiastical appearance when a framed tower was added to its east gable-end. This tower acts as a secondary entrance as well as a sacristy. It is not known how the top of the tower was originally terminated, but the current spire dates to the Victorian era, and was added shortly after a fire caused by a lightning strike during the summer of 1878. The entry porch, as it currently exists, does not appear to date to the 1790s, and may have been added at the same time as the tower. Its appearance has been subsequently altered during repairs.

Extensive restoration campaigns were carried out in the 1980s, 1990s and early 2000s, but virtually no modernization or alteration has occurred at Christ Church since the addition of the tower's spire. The exception is a relatively discrete addition of a forced hot air heating system, which required the addition of a furnace room at the northeast corner of the church, at the intersection where the tower and church meet. This work was performed in the 1950s or 60s.

Many of the repairs have focused primarily on structural modifications and the insertion of new structural supports to augment the existing timber frame. That focus has led to less attention being paid to original molding profiles, and the quality of replacement wood for siding and trim. In addition, it appears likely that modifications made may have adversely impacted how moisture vapor transfers through the walls.

In 1984, an extensive campaign of exterior and interior repairs at Christ Church received statewide honors when the congregation was awarded a commendation from the Preservation League of New York State. On April 24, 1987, "Christ Episcopal Church" was listed on the National Register of Historic Places.

In 2020, John G. Waite Associates, Architects, was commissioned by Christ Church, Duanesburg to undertake an existing building assessment of both the 1793 church and the adjacent carriage shed. Detailed site inspections were carried out on March 10th and September 9th of 2020 by William Brandow of JGWA.

The primary emphasis of this report is the exterior conditions of the Church, but several of the problem conditions of the building's exterior envelope are best understood based on their impacts on the interior. The carriage shed was carefully inspected both inside and out during both of the two site visits.

This assessment was undertaken without the aid of a lift or any other device that would allow for first-hand inspection of remote areas, with the exception of a five-foot-tall step ladder that allowed for inspection of the entry porch roof. In addition, hundreds of photographs were taken and magnified for carefully detailed digital inspection.

EXISTING CONDITIONS

THE CHURCH: EXTERIOR

TOWER

Every part of the tower's open belfry and steeple, from the flat-lock roof below the bell level upward, was restored in the summer of 2004. The wood rail surrounding the bell level, as well as both the sheet metal and slate roofs, were fully replaced at that time. All of the existing Victorian-era brackets, trim, and support posts were repainted at that time. Although minor maintenance has been carried out since 2004, such as filling gaps between pieces of wood with caulk, little has been done to maintain the overall condition of the tower. This is, no doubt, in part due to its difficulty to access. Given the sixteen years since the last major repairs were carried out, the tower is in sound condition, but isolated areas of significant deterioration do exist, and are as follows:

- The finial corner posts of the rail around the tower's bell level, and the rail itself, appear to be made of a high quality and rot-resistant wood. The astragal molding applied to these posts is made of white pine, and these have rotted extensively. Some of these moldings have deteriorated to the point where only the nails that fastened them in place remain today.
- Paint loss and biological growth can be seen on the cap rail and other elements of the bell level railing.
- Where the ferrous metal brackets that support the railing penetrate the roof, the caulk is deteriorated, and the metal is rusting.
- The wood housing for the bell rope pulleys is cracked and open joints exist in some areas. The painted surface on the wood has begun to deteriorate.
- Large areas of blistering paint exist in locations where extensive paint buildup have been left in place and recoated. While these areas appear intact from a distance, they are loose and nearing the point of failure.
- There is a gap between each of the eight posts that support the steeple roof above the bell level. These are sleeved into the sheet metal and pass through the flat-locked sheet metal roof. In some areas, the gap has been caulked to prevent water entry, but in others it is open to water infiltration. No counter flashing exists to cover the gap, and rainwater can gain ready access.
- While the five posts on the south side of the belfry level are in good condition, large areas of deteriorated wood exist at the base of the three posts on the north sides. The posts appear to have been extensively repaired in the past, but material failure and loss have left large gaps just above the roof level on all three of these posts.
- Paint is failing on the bell wheel. Caulk has been applied to some open joints within the wood, but these have not been painted, and most of these repairs have failed.
- At least one of the bell wheels spokes has rotted through at the location where the spoke joins the wheel itself.

- From inspection of some of the photographs, which were taken during the 1990s work, it is clear that a mix of woods was used in repairs. Where white pine is protected by an overhang, such as at the eave, the wood remains in sound condition, but in exposed locations it has failed.
- Small areas of moisture-based rot exist at a joint on the inner face of the north railing, in spite of the high quality and rot-resistant wood that was used to build the railing.
- There is extensive paint failure that extends to bare wood on the north side of the northernmost support posts below the Victorian-era steeple.
- One of the slates of the starter course is missing on the southwest facet of the steeple. The underlying slates are exposed, with a hole and gaps between two slates in this location.
- Surface rust can be seen across much of the iron bell carriage. This appears to be having an adverse reaction with the sheet metal roof below, as galvanic corrosion caused by rusted iron particles falling onto the dissimilar metal of the roof below.

ROOFING

Five distinct areas of roofing exist at Christ Church: the spire, the belfry level, the main sanctuary, the entry porch, and the furnace room. Of the five, two are covered in wood shingles, two are clad in flat-lock sheet metal, and one is covered in slate. With the exception of the wood shingle roof on the furnace room, each of these three roofing types reflect the three significant periods of the building's construction and when each of these features was added to the building.

Although all of the roofs (again with the exception of the furnace room) remain in sound, water-tight condition, each does have some problem conditions. The two areas of wood shingle roofing are nearing the end of their service life.

Other problem conditions relating to the roof are as follows:

- The wood shingle roofing on the north-facing slope of the furnace room are cupped and lifted out of position in several locations. Lichen and other biological growth cover much of the surface area. The roof's relatively low pitch, coupled with its northern orientation, have contributed to these problem conditions.
- The hung gutter at the northwest corner of the church was either hung too low to effectively collect roof water, or has shifted out of its intended position. Evidence of roof water runoff and splashback can be seen near ground level. It appears that water runs down the wall during significant rainstorms.
- The bottom several feet of the roof leader on the northwest corner of the building was detached during the first site visit, and had been loosely reattached during the second visit.
- Biological staining (algae) can be seen on the painted wood surfaces below the detached roof leader.
- The underside of the starter course of wood shingles at the eaves shows signs of significant weathering. Cracking of some of these shingles was observed. These shingles are covered by a course of shingles above, but are vulnerable to deterioration due to their exposed locations at the base of the roof.
- The wood shingles of the main roof of the church were installed in the fall of 2011, and are still not yet ten years old. The cedar shingles show varying signs of lifting, warping, cupping, cracking and displacement.

- The sheet metal ridge roll at the apex of the church's wood-shingled roof is fastened, at its lower edges, with nails driven through the face of the sheet metal. Many of these nails have migrated out, leaving a hole where water can enter.
- There is a significant amount of lichen and moss growth on the north-facing slope of the main roof. This growth is most dense close to the eaves.

MASONRY

As a wood-frame building on a shallow foundation with a crawlspace and only a low modern chimney, there are not many exposed masonry surfaces at Christ Church. However, those that do exist exhibit a series of problem conditions as follows:

- The concrete block foundation below the modern furnace room is in poor condition with stepped cracking through mortar joints, deteriorated individual units, and badly displaced units along much of the north wall. In one area, the blocks have shifted inwards by nearly 2 inches. Numerous open mortar joints exist throughout the concrete block wall base.
- The irregular field stone foundation of the church is almost entirely covered on the north elevation by soil, but is quite exposed on the south front, due to the slope of the ground adjacent. Although individual stones tend to be in sound condition, uneven, cracked, and overly-hard modern mortar exists at all of the mortar joints.
- Overspray and paint drips from previous paint jobs exist at several areas of the stone foundation.
- The face of one foundation stone on the western end of the south elevation has broken off. There are numerous open mortar joints in the immediately surrounding area.
- The brick chimney, which services the furnace, is built of two dissimilar bricks. The upper section appears to be of later replacement bricks, newer than those closer to roof level.
- Open mortar joints and mismatched repointing, which appear to have resulted from stepped cracking, can be seen in both the earlier and later brickwork of the chimney.

WALL CLADDING

Areas of the clapboard siding on all four sides of the church show outward signs of deterioration, but some of these areas have been covered over by past repainting campaigns without addressing the underlying deterioration. This work has not only concealed the true condition of the wood in these areas, but has actually sped up deterioration of the wood siding by trapping moisture behind a fresh layer of paint.

It appears that insulation, perhaps installed without a complete and fully functional vapor barrier, has led to reservoirs of trapped moisture, which have accelerated deterioration of the siding, and led to breakdown from both the exterior and interior. The choice of replacement wood also appears to be part of the problem. Pine may have been used to match the original material, but modern plantation-grown pine is of far lower quality than the old growth material that was used originally. It is also likely, given the level of deterioration, that the siding was not properly back-primed to protect it from water-based deterioration from both its exterior and interior faces.

In order to fully understand the extent of the deterioration of the siding, a thorough survey of the walls with the use of an extension ladder (to access all areas of the siding) will need to be

conducted. In conjunction with this work, physical probes should be undertaken into different areas of the siding.

Given the clapboard siding's essential role in protecting the building's underlying wood frame, it is essential that the exterior siding be maintained in a fully watertight condition. Specific problems associates with the siding are as follows:

- Open mitered joints at the plinth blocks below the corner boards exist at the northwest corner of the church.
- Paint failure is more widespread across the surface of the building than is at first apparent, as some areas of paint have become detached from the wood surfaces, but remain in place in several areas. This condition now serves to trap water against the underlying material, rather than serve as protection.
- Areas of wood rot are found on both historic and modern replacement wood. These areas tend to be adjacent to wall openings where open joints have allowed water entry, or at the bottom edge of clapboards. On the north elevation, widespread failure has resulted from poor quality replacement materials.
- Excessive amounts of caulk and wood putty have been used in several areas to mask deteriorated conditions, and to make them "ready" for painting. These are very short-term repairs. Many are clearly visible, because they are poorly executed, or beginning to fail, or both.
- There is an area of loose clapboard and nails next to ramp on the south wall of the building. The clapboards in this location can easily be compressed inward by hand, and likely cover an area of deterioration.
- In numerous locations, original handwrought nails have worked their way out from their original positions and now stand proud of the clapboard surface. In other locations, rust staining can be seen at flush nail heads, evidence of moisture migration.
- There are uneven paint surfaces across much of the building, due to paint buildup and failure over a long period of time.
- Clapboards are in direct contact with the roof along the sloped side of the furnace-room roof and the south entry porch roof. As a result of wicking moisture through the end grain, the clapboards have deteriorated. Cracks, displacement, and loss of paint can all be seen on these clapboards where they adjoin the roofing.
- The end grain of one piece of framing is exposed, and substantially deteriorated, just below the molded profile at the bottom edge of the sill board on the west wall of the church.
- The clapboards adjacent to, and immediately below, the south entry porch roof are deteriorated as a result of water runoff and splash-back. Blistering paint traps water against the siding in these areas.
- Evidence of displacement of the clapboarding can be seen where some, but not all, of the siding that abuts the east pilaster on the south entry porch projects beyond the face of the trim. Some of these clapboards are loose and move freely when pressed.
- A line of staining can be seen on the clapboards below the east eave of the south entry porch roof. This signifies both potential roofing issues and poor management of roof-water runoff.
- There is widespread deterioration of the wood clapboarding adjacent to the entry porch roof. This is caused by water runoff, as well as by splashback from the main roof as it strikes the porch roof.

- A narrow strip of clapboard below the lowest window on the east side of the tower has rotated out of position and appears to be nearly detached.

TRIM AND PORCH

The original wood cornice and the projecting entrance porch, with its two columns and two engaged pilasters, are important architectural components of the building. Like other areas of the church's exterior woodwork, these elements contain significant amounts of both original and modern replacement materials. Problem conditions relating to the trim and porch are as follows:

- The uppermost profiled board within the eaves, immediately below the wood shingle roof, is a modern replacement with open seems adjacent to it in some areas.
- Open joints exist at the stair treads and risers of the front entry porch. Modern aluminum vents have been installed in the risers to aid in ventilation of the space below. These vents are set too low to function effective. They are also incongruous with the historic nature of the building.
- The bottom riser board below the lowest tread of the stair, which wraps three sides of the south entry porch, is at or below grade in most areas. Some resulting deterioration can be seen. Most of the south facing board is covered with soil.
- All of the plinth pieces that clad the bases of the porch posts have opened at their mitered corners.
- The attached block that holds the north end of the pipe railing, where it abuts the porch post, is oddly mounted and unsightly.
- The wooden ADA access ramp is cut into the siding on the north side of the church. This condition will likely allow for moisture ingress behind the siding.
- Both the freestanding and engaged plinths, below the columns/pilasters on the front porch, have been replaced with modern wood.
- A disused and broken piece of modern railing hardware remains at the pilaster adjacent to the front door. The broken hardware is from a now-removed railing system.
- The wooden entry stoop, which leads to the door at the base of the tower, is built of modern dimensional lumber with open risers. The railings do not meet current code as they are too large to be effectively gripped. Although in sound condition, this stoop is not in keeping with the architectural character of the building.
- There are gaps at both sides of the tower stoop because the adjacent siding was cut to accommodate the previous, larger, stoop. The existing stoop is about 4 inches narrower than its predecessor.
- Surface mildew on the underside of the soffits above the columns of the front porch is evidence of ineffective moisture management at the roof level above.
- The surface of the steps, and wooden ramp to the south entry door, are abraded from foot traffic. Bare wood is exposed in some of these locations.
- Some of the tongue-and- groove boards near the top of the ramp have been re-anchored with exposed screws through the top face of the wood.

WALL OPENINGS

The windows and exterior doors at Christ Church are an important collection of original fabric, and represent significant character-defining features of an otherwise simple building. The fine Palladian window on the north side of the building is not only the church's most impressive window, but is also the most dramatic architectural feature of both the interior and exterior of the church. Each of the other windows contains a total of 24 mostly original hand-blown pieces of window glass. This complete set of twelve-over-twelve windows is a remarkable survivor of over 200 years.

Louvered shutters once adorned all of the church's windows. These shutters can be seen in various historic images, but today only those openings where the shutters are closed (such as in the tower), or where shutters disguise a false window (such as on the north wall), retain their shutters.

The following section of the report encompasses all of the building's exterior door and window openings, as well as their various fittings. Problem conditions relating to these are as follows:

- When the Palladian window on the north wall of the building was originally installed, the molding profiles on its interior and exterior faces were identical. Due to deterioration and subsequent replacement, some of the moldings and the bases of the external pilasters no longer match those on the interior. This has adversely impacted the architectural appearance of the window's exterior.
- The storm window on the first-floor window to the west of the south entry door contains a broken pane of glass. The sash has deteriorated and exhibits areas of missing glazing compound. This sash is the only storm window at the church to have glazing compound rather than wood glazing-stops.
- Most of the exterior storm windows at the church use wood stops, rather than glazing compound, to secure the glass and provide a water-tight seal.
- The sheet-aluminum flashing at the base of the Palladian window is surface-mounted to the face of the bottom rail of all three lower window sashes, and the aluminum clad plinth blocks are also surface nailed through the sheet metal.
- The upper moldings below the broken-cornice of the Palladian window are made of modern trim profiles that do not match the original profiles on the interior. The work was likely done with inferior quality modern wood.
- An unsightly aluminum drip edge has been mounted to the meeting rail between the lunette in the Palladian window and the multi-light sash below. This detail would be unnecessary if the adjacent sheet metal was detailed to direct water away from the center of the window.
- The center rails of several of the two-light wooden exterior storm windows do not align properly with the historic windows behind.
- The wooden storm window is missing from the westernmost of the first-floor windows on the south elevation.
- The paint coatings on the front door and on the door at the base of the tower are peeling. This condition is particularly pronounced at the base of the door.
- The modern two-light steel sash windows in the stone base of the church lead to the crawlspace below the building. These two windows are in poor condition. Their glazing putty is failing, and is entirely missing in some areas. The metal frames and sashes are covered in surface rust.

- Continuous cracks exist between the wood window muntin and the glazing compound in some locations on several of the original window sashes. This separation has led to loss of the glazing in some areas.
- Caulking has been applied over some of the old glazing compound of some of the 12-light sash. This has produced a sloppy appearance in some locations. This is only a temporary solution, and will prevent water ingress and further deterioration of the glazing compound for only a short time.
- Wood extensions have been added to the top of some of the window sills. These cover nearly the entire bottom rail of the windows where they are present. It is not clear what purpose they serve, unless it is to cover deteriorated material, and thereby avoid further water ingress.
- The upper and outer edges of some of the original wooden window sills are cracked and damaged as a result of incomplete paint coatings and resulting wood deterioration.
- The projecting drip edge above the furnace room door has cracked, leading to water ingress and significant paint failure below.
- The glazed door to the furnace room, which incorporates a modern ventilation panel, is inappropriate for its uses and incongruous with the architectural character of the building.
- The upper left-hand storm window on the west elevation is so badly deteriorated that it is unlikely to effectively hold the existing window glass much longer.
- There are several warped louvers in the shutters at the south side of tower and north wall of the church.
- There is extensive cracking of the paint finishes, and failure of multiple layers of paint, which extends to bare wood in isolated locations, on both the paired front doors and the door at the base of the tower.

SITE

As mentioned above, the site of Christ Church is of tremendous significance due to the presence of a churchyard burial ground and carriage shed. The grounds are well maintained, but the general north to south slope directs surface water towards the building's north wall. At the southwest corner of the site, it appears that Duanesburg Churches Road may deposit surface runoff onto the church property where the roadside gully flattens out to a continuous unbroken slope. These problem conditions are exacerbated by the grade being high and in contact with the wood sill boards along much of the north elevation. Other problem conditions on the church's site are as follows:

- In an effort to create positive drainage away from the building, the grade adjacent to the north wall appears to have been raised. In some areas, gravel was placed immediately adjacent to the building. A drainage culvert exists approximately three feet north of the building. It is intended to direct water eastward, but there is nowhere for the water to go from that point, as the tower and carriage shed exist in that area.
- The concrete path leading out from the main entrance door has heaved and is currently uneven. It was poured with four incremental steps within its sloped length. The slope and stops make it difficult to navigate.
- The pipe railings, which run along the full length of both the south and east paths to the main south door, are not in keeping with the architectural character of the building.

- The recessed sockets that house the railing collect water and have led to widespread rusting on the base of the railing on both sides of the ramp.
- The poured concrete step adjacent to the front entry porch is positioned too low, and is badly out of level.
- The dry laid retaining walls on either side of the ADA access ramp have both shifted badly, and have collapsed in some areas. Some of the individual stones have deteriorated. Most of the coping stones, which cap the walls, are at least somewhat displaced.
- The bush to the west of the south entry porch is too close to both the wood siding and the stone foundation.
- There is a narrow gap in the location where the concrete ramp directly abuts the south wall of the church. Leaf litter collects in, and water can enter, into this gap. The adjacent mortar joints in the foundation wall are open.

MISCELLANEOUS

The following items are included here because they do not directly relate to any of the above categories. They are as follows:

- In several locations exposed wiring and plastic conduits have been attached to the exterior of the building. These are incongruous with the character of the building.
- Several of the existing exterior light fixtures are not in keeping with the architectural character of the buildings.
- The furnace room is larger than necessary, and thereby detracts somewhat from the character of the building, in spite of its relatively isolated location

THE CHURCH: INTERIOR

Even more remarkable than Christ Church's well-preserved exterior and intact church grounds is the church's virtually unaltered interior. It is a particularly remarkable survival given the myriad changes in liturgical practices and tastes during the intervening two centuries. In spite of its regular use over so many years, the interior of Christ Church is in excellent condition. However, several problem conditions, some of them systemic and recurring, do exist:

- The early exterior door at the base of the tower has been reinforced with a diagonal metal brace on its interior face. Cracks in the panels and openings between the joints in the stile and rail assembly indicate movement caused by loosening of the joints in the door.
- Damaged plaster and efflorescence can be seen at the junction of the ceiling and wall above the exterior door of the tower. This is likely the result of water gaining access at the deteriorated siding above.
- Some of the walls of the box pews are loose where they engage with the walls of the church. In other locations modern brackets have been installed to reinforce the pews. These openings are, in part, a result of movement within the structure.
- Diagonal cracking in the plaster work, which was renewed in the early 1980s, can be seen extending from each corners of the sanctuary, as well as from the corners of some doors and

windows. These brakes in the continuity of the wall are typical locations for such cracking, which results from movement and uneven settlement.

- In several locations, the above referenced cracking has been patched since the 1980s work, and has developed again in the same location.
- A section of the rear of one of the box pews has been removed to accommodate parishioners in wheelchairs. This historic component should be protected from loss. It is currently stored in the gallery. In addition to this item, there are pew doors and an early lunette window casing, currently housed in the tower, that should also be somehow inventoried.
- The floor in the tower entrance and sacristy is made up of two different sizes of vinyl floor tile. The smaller tile is earlier, and may contain asbestos. Gaps between the tiles limit the flooring's waterproof capacity.
- Three areas of wood rot and displacement exist within the tower. All of these appear to be a result of previous water infiltration, and none appears to have had a direct negative impact on the structure of the tower to this point.
  - One of the posts on the north side of the belfry level of the tower, which is deteriorated on the exterior, also exhibits significant deterioration on the interior below the level where the post passes through the sheet metal roofing.
  - The beam between the second and third levels of the tower is rotten across its entire top edge.
  - The tenon of one of the original angled braces in the southwest corner of the tower has deteriorated and the upper edge of the brace has dropped out of its original position. Signs of water ingress and staining can be seen in the location, but appear to date from prior to the 1990s roof work.
- The surface mounted PVC conduit in the gallery is not in keeping with the historic character of the building, but is in a little-visited location and easily reversible. Its installation has done minimal damage to the building's historic fabric.
- Although gaps can be seen where daylight infiltrates the attic space, no additional accommodation has been made to promote passive ventilation of the insulated attic.
- Angles braces and metal brackets have been installed to provide additional support for the alter rails at the north end of the sanctuary.
- Only limited access to the to the crawl space beneath the church is available. Evidence of powder post beetle damage was visible. It is not known if this is active or past damage.
- The floor of the crawl space is strewn with debris. No vapor barrier exists, and no ventilation has been provided.
- The northeast corner of the church's original foundation is exposed within the furnace room. There is a significant area of displacement of the stonework in this location.
- Water enters into the furnace room from leaks around the chimney, as well as, from site water runoff through substantial cracks in the basement. This water pools against the stone foundation, and has led to algae growth.

CARRIAGE SHED

Although it was truncated by as many as six bays since it was built, the carriage shed at Christ Church is a rare survivor of a once-common building form. Its continued presence on the church ground imparts additional significance to an already important historic building by making the church grounds, with its graveyard, an intact historic and architectural whole. In spite of being badly out-of-plumb, and having lost much of its original material during piecemeal repair campaigns, the carriage shed remains in sound condition. Existing problem conditions are as follows:

- The roof of the carriage shed is covered with a relatively new asphalt shingle roof that remains in sound condition.
- Early siding, perhaps reused from the demolished part of the building, is found at the shed's east end, where the removed carriage bays once stood.
- Modern materials, such as concrete block, steel reinforcing bars, and poured concrete, have been used at various times to address movement of the foundation. No comprehensive approach has been initiated to counteract long-term movement within the structure's foundations.
- The masonry below the long north wall is discontinuous, with sections of the masonry shifted unevenly.
- The exposed end of the wood sill, at the east end of the carriage shed, shows evidence of rot where the open end-grain is exposed to roof water runoff and splashback.
- In several locations the sill board and clapboards on the carriage shed are in direct contact with the ground, and have no paint covering at those locations.
- The grade on all three of the enclosed sides of the carriage shed is above the bottom of the sill in some locations.
- Overgrown meadow grasses serve to trap moisture against the siding along the entire north wall of the shed.
- Open joints at transitions between the corner boards and clapboards, at the northeast corner, provide an access point for water. This condition exposes the corner post to deterioration.
- Warped and cracked clapboards exist alongside areas of displaced and missing siding on the long north wall of the carriage shed.
- Modern framing-lumber has been installed in numerous locations to augment scant and lightly framed original studs and rafters. Modern plywood blocking has also been installed in some locations.
- In some locations, the deteriorated ends of the south facing posts have been effectively repaired by the insertion of a horizontal plank, which not only blocks wicking of the posts' end grain, but provides a sacrificial material that can be replaced without need to lose part of the original posts.
- Rather than replace the wood sill along the north wall of the shed, a semi-continuous poured concrete sill has been installed. This poured sill has cracked and now serves to trap water at the base of the wood posts in some locations.
- Split posts, caused by outward thrust at the roof level, have been repaired with iron straps, but the resulting gaps in the posts remain and can be seen along most of the north wall.

- Numerous makeshift framing repairs have been made at various times, with apparently little attention to either the historic significance of the building, or the overall structural capacity of the shed.
- The entire west end-wall was recently reclad in modern store-bought clapboards. This modern material has been primed on both sides and installed with thin staples from a nail gun. New studs were added to support the new, thinner, clapboards, but many of these staples extend through the siding in locations where no framing members exist.
- The wood sill along the west wall rests directly on grade, rather than on a stone base, as it should.
- The original hand-hewn posts around the perimeter of the shed are exposed to deterioration where their end grain rests on poured concrete plinths, along the open south side of the building. In most of these locations the concrete was poured with the posts in place, and, as a result, a slight recess exists. This recess serves to trap water and exacerbate deterioration, which has in turn lead to some of the uneven settlement of the structure.
- There is an unusually sparce number of collar ties within the roof structure of the shed, and those few are placed unusually high in the roof structure.
- In some locations, modern steel cables and turnbuckles have been added to counteract the outward thrust caused by the insufficient collar ties. These cables counteract stresses on the top of the north and south walls, which have resulted in a distinctly outward lean in some locations.
- Some of the original moldings, at the spring of the applied arches above the carriage openings, are missing. In some locations, the cladding on the posts is missing.
- The modern aluminum gutter at the eaves of the north slope of the roof helps to direct water away from the wall below, as do the downspouts that extend to ground level. However, the ground adjacent is nearly level and does not slope away from the building uniformly, so roof water still gains access to the base of the wall.

Today, Christ Church looks much as it did when it was first built in 1793. The tower at the east side of the building was constructed in 1811, and the open belfry and tower was added in the late nineteenth century. One of the most important features of the buildings is the Palladian window over the altar, which can only be seen from the north. A modern furnace room and chimney was added to the north side of the tower in the mid-20th century. JGWA, 2020.

Like the exterior of Christ Church, its interior retains a remarkable amount of historic character. Much of this character is derived from its layout and original box pews, the second-floor gallery, and high arched ceiling. The six-bay wide carriage shed is half of its original length, but is a rare and important survivor of this type of construction. Its conditions are discussed separately from those of the church itself. JGWA, 2020.

The uppermost part of the tower, the open belfry and steeple, was added to the building in the late nineteenth century and is the most recent major addition to the building. Both the belfry and the steeple underwent restoration in 2004. The existing slate roof on the spire was installed during the work, and remains in sound condition, but one slate at the eave level is missing (below). JGWA, 2020.

The applied molding on the four corner posts of the railings at the belfry are of different wood than the rail and posts themselves. The applied molding appears to be pre-milled white pine, while all other components of the rail are custom cut from a more durable wood. The applied moldings have all failed, but the rail is in excellent condition with the exception of the deterioration of the one baluster. JGWA, 2020.

The starter course of slate does not project adequately beyond the edge of the tower's cornice. This has led to paint failure and some minor deterioration of the wood just below the slates. The lack of counter flashing above the base flashings located at the bottom of the eight posts that support the belfry has led to water damage to the posts. Three of the posts show advanced signs of wood rot. JGWA, 2020.

The flat seam metal roof of the tower (left) is in good condition, but is penetrated at four locations to anchor the rail. This connection relies on caulk joints to remain watertight. Some of these joints have begun to fail. The bell rope pulley (below) is deteriorated in some locations. Caulk has been applied to open joints in the past, but expanding rot will lead to greater water ingress and deterioration. JGWA, 2020.

The wood shingle roofing above both the main church and the furnace room show signs of warped and split shingles. While the shingles on the south slope of the roof show greater warping and cupping, those on the north are covered in more biological grown. Where the lower roof engages with the wall of the church, the clapboards are deteriorated. The flashings at the chimney are also a source of water entry into the furnace room. JGWA, 2020.

Roof water, falling from the tower roof to the shingles below, has led to greater deterioration of the wood shingles in those areas (upper image). Both the copper roof of the entry porch and the adjacent clapboard siding shows signs of water splashback from the roof above (lower image). JGWA, 2020.

Paint failure and underlying wood rot and deterioration of wood siding and trim are the most widespread problem conditions at Christ Church. These conditions tend to be the result of uncontrolled water runoff, open joints, or poor repairs, as well as inferior quality materials. Moisture transfer from within the building is also a likely contributing factor. JGWA, 2020.

Uneven paint buildup and isolated areas of paint failure are common issues for a building of Christ Church's age. Areas where large sections of paint are blistering to bare wood, such as adjacent to the entry porch roof (lower image), are more problematic, as they allow water to be trapped behind the paint and indicate high moisture content in the underlying wood.

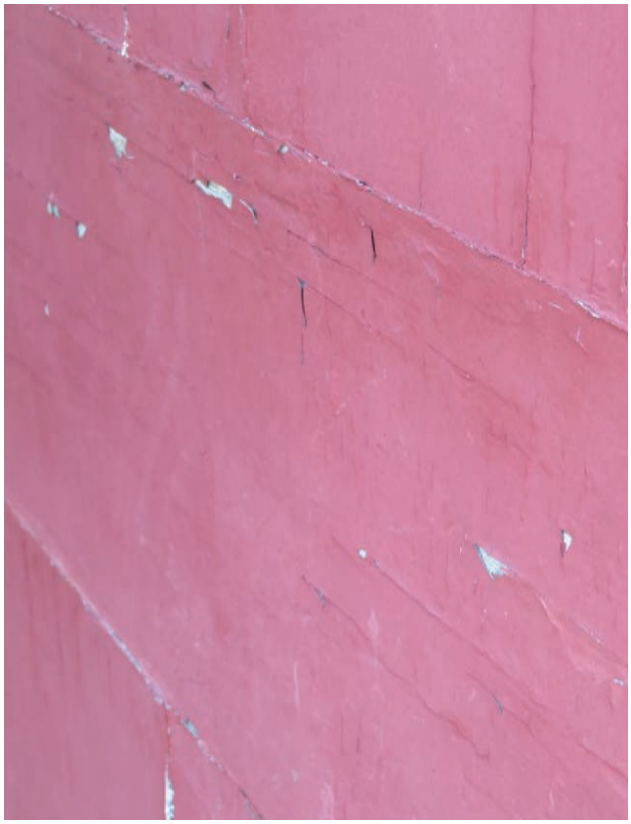
A substantial area of deteriorated wood exists between the three windows shown in the upper image, which is located on the west end of the church's north wall. The full extent of this damage may not be known until removal of the siding, but significant outward signs of deterioration are present. In some locations, intact paint masks areas of rotted wood siding and trim. JGWA, 2020.

While the opening of joints between two pieces of wood is one of the reasons for the widespread deterioration of siding and trim, most of these joints have been patched in the past to mask the poor underlying condition. On the entry porch, visibly open joints have not led to the same deterioration because the wood used is of better quality, and water that enters has been able to get out. Note the rust staining where water has caused deterioration of underlying nails. JGWA, 2020.

The Palladian window on the north face of the church is the most architecturally refined feature on the exterior of the church. Its original design was altered when repairs were made in the recent past. The molding profiles on the exterior of the window originally matched those on the interior. The new plinth blocks, moldings, and aluminum flashings are not in keeping with quality of the original materials or the architectural intent. JGWA, 2020.

The double-hung (12-over-12) sash windows are one of the most important, and historically significant, architectural features at Christ Church. Where they are protected by later wood storm windows, these now 220-year-old twelve light sashes are in sound condition, but are not without problems. Failing and poorly applied glazing compound is the most prominent of these conditions. The window frames are more exposed than the sash and their typical level of deterioration is greater, as can be seen below. JGWA, 2020.

Clapboards, window frames, and exterior storm sash are all directly exposed to weather, and exhibit severe deterioration in some locations. JGWA, 2020.



Although the two early exterior doors have not experienced the type of deterioration shown above, their paint coatings are weathered, chipped and fading. JGWA, 2020.

The church's irregular fieldstone foundation shows evidence of numerous repointing campaigns, as well as open and failed mortar joints. Isolated sections of movement and cracked or deteriorated stones exist in some locations. The church has no basement, only a very shallow crawlspace below the sanctuary. The depth of the footings is not known, but some evidence of cyclical movement does exist within the building. JGWA, 2020.

The furnace room is tucked between the main body of the church and the tower. It is of entirely modern construction that appears to be slab on grade with a single course of concrete block supporting the framed walls above. Along the north wall, the blocks have shifted dramatically out of position (above). Water enters the interior at these cracks because the slab is below the level of the exterior grade. The brick chimney (left) has been repaired and partially rebuilt in the past, but open joints, failed bricks, and mismatched mortar are all present. JGWA, 2020.

The lawn to the north of the church is higher than the sill board along much of that elevation. Although a swale has been created to divert surface water away from the building, it has not been entirely effective. On the south side of the building, the sill is well above grade, but areas of displaced stonework exist. The root system of the overgrown shrub against the south foundation may lead to additional displacement of foundation stones, and the plant holds moisture against the siding. JGWA, 2020.

The detached roof leader pipe and gravel-filled swale on the north of the building (upper mage) are indicative of a broad failure to effectively deal with roof water runoff on the north side of the building. The unevenly settled concrete walkway leading to the front door presents several trip hazards, such as the sunken step shown in the lower image. JGWA, 2020.

During the 1994 work, an ADA (Americans with Disabilities Act) compliant ramp was added to provide access to the main door to the church. The pipe rails are prominent and not in keeping with the character of the building. The abutting dry-laid stone wall has shifted, and subsequently failed in numerous areas. JGWA, 2020.

The interior of the church is used regularly, and is well cared for and maintained, but the impact of moisture and movement within the structure has led to widespread cracking of the plaster in both the walls and ceilings on all sides of the interior. These cracks typically extend from breaks in the wall surface, such as corners and wall openings. All of these cracks post-date the 1982-83 interior restoration. JGWA, 2020.

The interior movement indicated in the plaster can also be seen in the open joints and shifting panels of the box pews and other wood elements of the interior. The out-of-level condition of the gallery rail and flooring also indicate settlement of the structure. JGWA, 2020.

Past water entry has led to three observable areas of significant wood rot and failure within the tower. Both of the upper images show conditions on the north side of the tower that relate to deterioration of the posts supporting the belfry. The lower left image shows a beam on the east wall of the tower that relates to past water entry at or adjacent to the window above. JGWA, 2020.

The crawl space below the church is high enough to accommodate the ducts needed for the hot air heating system, but not much more. There is no vapor barrier at the level of the dirt floor. The sleepers and sills rest on a series of cribbed and shimmed piers, which likely have no below grade footings. The concrete slab below the furnace has shifted, resulting in a low spot adjacent to the church's foundation. JGWA, 2020.

The six-stall carriage shed was originally twice its current length, and is a rare and important surviving example of this building type. Throughout its existence, the shed has been subject to cyclical movement and shifting of its frame, which in places is badly out of plumb. Numerous repairs have been made over time to address and shore up the building. Water based deterioration at the base of the sills and posts are the greatest threat to the structure of the shed. JGWA, 2020.

Exposed end grain of both posts and sills (upper image) pose a significant threat to the long-term preservation of the carriage shed. Adverse site and roofing conditions that do not adequately shed water away from the building can also undermine the long-term care of the building. The lack of an overhanging eave or gutter on the north side of the shed has led to failure of some areas of the siding (lower image). JGWA, 2020.

Movement of the posts along the south wall of the carriage shed has caused the significantly out-of-plumb condition on that elevation. Poured concrete plinths exist below each of these posts, with some of the plinths poured directly around the bottom of the wood post. The resulting recesses can trap water and cause wood rot. The lower image shows one of many instances where the original cladding of the posts is missing. The trim on the side that lacks the original cladding is a later replacement and does not match the original trim that remains on the primary elevation. JGWA, 2020.

Metal cables and turn buckles were installed to counteract the outward thrust of the rafters, because the shed's roof structure lacks collar ties. The resulting forces exerted on the rafter plates led to cracks in some of the posts along both the north and south walls of the shed. In these locations, metal braces were installed to reinforce the connection between the beams and the cracked posts. JGWA, 2020.

Although the roof of the carriage shed has been replaced in recent years, and remains in good condition, there is water damage to the wall cladding on both the north and south walls. This condition is in part because the slight overhang of the eaves offers little protection to the wall below. A gutter exists on the rear wall, and the existing deterioration may predate that. Open joints in the siding, along both elevations, allow for water to access the wood framing behind. JGWA, 2020.

Moisture migration, as a result of capillary action, is a significant threat to the preservation of the carriage shed. In most wood structures, horizontal sills help to protect the posts, as moisture does not travel across grain nearly as freely as it travels along the grain. In the lower image, a thin piece of wood is laid horizontally, interrupting water migration up the end grain of the post. JGWA, 2020.

PRIORITIZED RECOMMENDATIONS

Christ Church is an important, and extremely well preserved, example of simple federal period church architecture in the tradition of a New England meetinghouse. The extent to which it survives in its late eighteenth-century form is remarkable, but so too are the additions to the building in the early and late nineteenth century that show evolution while maintaining a historic continuity. Today Christ Church stands as one of the major landmarks of Schenectady County and the greater capital region. As the oldest largely original church building in the Albany Episcopal Diocese, Christ Church is an ecclesiastic landmark without equal in the region.

The church is well built, and if repaired and maintained appropriately, it will last for centuries and be able to welcome generations of new congregants. The following recommendations are prioritized from most to least urgent. The first priority is to address problem conditions that adversely impact historic church fabric, and which if not addressed in a timely manner will lead to more costly repairs in the future.

Along with urgency of work, the following recommendations have been organized to represent potential phases for future work. Types of work and locations of work have been grouped together in cases where they should be addressed at the same time to integration of work or because of access requirements.

While some adjustments to the sequence of work may be required based on availability of funding, or the wishes of the congregation, some types of work must proceed prior to others in order to avoid accelerated deterioration of the new work. It should be noted that undertaking single items of work may increase costs substantially over time, and performing all like work at one time will likely curb costs. In short, all work should be undertaken in a well-planned and strategic fashion.

Any construction work should be carried out after contract documents (working drawings and specifications) have been prepared by an architect or engineer experienced in the restoration and repair of historic buildings similar to Christ Church. The contract documents should be bid, or negotiated, with at least two qualified restoration contractors., and their work should be closely overseen by the design professional who produced the contract documents.

PRE-CONSTRUCTION

These items of work should be conducted under the direction of the architect or engineer chosen to undertake the construction documents for the work shown in the priorities below. These investigations will help limit additional future expenses caused by unforeseen conditions.

- In early planning stages, two test pits should be dug to determine the depth of the footings below grade. This will allow for better planning for future regrading and foundation repairs.
- An interior moisture and temperature monitoring program should be instituted to inform future repairs, and to assess the necessity of some of the moisture mitigating recommendations that follow.
- Probes should be conducted, and extensive moisture readings taken, to determine the extent of deterioration of the siding and trim. The underlying materials, such as framing and insulation, should be assessed and adverse conditions located.

PRIORITY/PHASE ONE

The following work includes replacement of deteriorated siding and other areas of wood that are damaged to the point where they pose a threat of further deterioration of underlying materials.

Priming and painting should be undertaken by a well-qualified painting contractor, and with high quality materials. All new wood should be fully back-primed prior to installation. Thereafter inspections should be undertaken every five years to carefully renew any areas of failed paint or caulk.

- All deteriorated or moisture-saturated modern siding should be replaced. Historic siding should be retained wherever possible, but badly damaged material will need to be replaced. New siding should be custom milled to match the original material and should be made of a high-quality, rot-resistant, knot-free wood.
- Historic wrought nails that secure the original siding should be salvaged for reuse, as they are visible in the finished work.
- Deteriorated framing, or underlying sheathing, is likely present in some areas where clapboards are deteriorated or displacement. These areas should be repaired prior to reinstalling new or salvaged siding.
- The roof of the front entry porch should be modified to incorporate diverters and drip edges to divert water away from the siding below. The existing clapboard abutting the roof should be modified to eliminate direct contact with the roof surface.
- All loose wood should be re-secured or replaced in order to limit excessive reliance on sealants to make junctions between pieces of wood watertight.
- Following completion of the siding and trim repairs and replacement, extensive paint removal should be undertaken to eliminate uneven paint surfaces during preparation for exterior painting,.
- In conjunction with the siding replacement, new electrical conduit should be incorporated behind the siding to eliminate all external conduit around the exterior of the building.
- All unused and non-historic hardware should be removed from the exterior of the building.
- The top piece of trim in the cornice is ill fitting and should be replaced to better match the original materials.
- The gutter on the north side of the church should be adjusted to more effectively collect roof water so as to not allow water to run down the face of the north wall of the church. In conjunction with this work the loose/detached roof leader should be reattached or replaced.
- The attic should be ventilated with an architecturally and historically appropriate louvered vent in the existing opening at the west gable of the building. Additional ventilation in the tower could serve to draw air through the attic. This should be open and venting all year long, and would allow for additional insulation to be added above the church ceiling.
- The single missing slate at the base of the steeple should be replaced, and the remainder of the slates closely inspected during that work to identify any other potential problems.
- Temporary membrane patches should be installed over the open seams and rotted wood at the bases of the eight posts that support the steeple, in order to eliminate future water entry and advancing deterioration.

PRIORITY/PHASE TWO

The following work includes restoration work to the window and porch. This work could be incorporated with the proceeding phase of work, if funding allows.

Priming and painting should be undertaken by a well-qualified painting contractor, and with high quality materials. All new wood should be fully back-primed prior to installation. Thereafter, inspections should be undertaken every five years to carefully renew any areas of failed paint or caulk.

- The modern moldings that do not match the original profiles should be removed from the Palladian window and replaced with custom-made moldings to exactly match the original profiles still extant on the interior of the church. During this work, the sheet aluminum flashings should be removed. All new moldings should be made with quality rot-resistant wood.
- The porch stairs, decking, and plinths should be removed and elements either salvaged for reinstallation or replaced with higher quality woods. If all materials are replaced, historic photographs should be consulted to more closely match the historic design.
- The existing historic windows should be fully restored. This will require the removal of each sash for paint removal and reglazing. The historic glass should be protected from damage and reused wherever possible.
- The wood window sashes should receive repairs or dutchmen as needed to retain as much original fabric as possible. The added moldings at the base of some of the window sash should be eliminated. The existing storm windows can be used as temporary sash while the historic windows are restored.
- While the window sashes are being restored, the existing historic window frames should be fully restored *in situ*. Areas of advanced deterioration of the window sills and jambs should be replaced with quality wood replacements, or dutchmen.
- The two historic doors should be temporarily removed so that they can be carefully prepared for painting in a shop environment and returned once they are fully repainted. Repairs to, and regluing of, the doors should be undertaken to eliminate the need for modern bracing.
- The existing louvered shutters should be repaired and repainted.

PRIORITY/PHASE THREE

The following work is all located at the belfry level of the tower. This work could be a stand-alone project, or incorporated with the previous wood repair and painting projects, or performed at the same time as the roof replacement. Some minor emergency work relating to this area is listed under priority one.

Priming and painting should be undertaken by a well-qualified painting contractor, and with high quality materials. All new wood should be fully back-primed prior to installation. Thereafter, inspections should be undertaken every five years to carefully renew any areas of failed paint or caulk.

- A new, more historically appropriate stoop should be added to the east side of the tower. This stoop should be made to conform to existing gaps on the side of the existing stairs. The new stair and railing should meet all modern codes.

- All deteriorated wood at the tower level should be replaced or patched with quality rot-resistant wood. The bases of deteriorated original wood posts should be repaired with dutchmen using the same rot-resistant materials.
- New sheet metal counter flashings should be incorporated with the repairs to the bases of the posts that support the steeple. These should be let into the wood in such a way to prohibit future water entry.
- During repairs to the tower, the bell mechanism should be prepared, primed, and repainted. Areas of deteriorated woodwork associated with the bell mechanism should be patched, or replaced.
- After wood replacement and repairs are made at the tower level, the historic and remaining replacement wood should be carefully prepared for repainting. This will require more extensive paint removal than was undertaken during the 1994 work.
- The internal areas of deterioration and displacement within the tower should be corrected by replacing damaged units in part or in full.

PRIORITY/PHASE FOUR

The following work addresses site drainage and foundation-related issues. Access to the front of the building, by way of the ramp and the pathways, are also addressed.

- The grade around the building should be reworked so that no areas of wood are in contact with soil or gravel, and so that there is positive drainage away from the building. This work should be done in conjunction with the repointing of the foundation so that work can be done below the finished grade and then backfilled against newly repointed joints.
- All of the existing Portland cement mortar between the foundation stones should be carefully removed so as to not damage any stones. Previously fractured or spalled stones should be replaced to match the surrounding material. The foundation should be fully repointed using a lime-rich mortar. This work should extend below the existing grade.
- All paint and overspray should be removed from the foundation in conjunction with the final cleaning following this work.
- The pathway and stairs that lead to the main door should be removed and replaced with more appropriate materials. Soil relocated from the rear of the building to the front would make it possible to either eliminate, or limit, the number of steps needed to get to the front door of the church.
- The retaining wall to the south of the access ramp leading to the front door should be replaced, and as much as possible incorporated into new grading around the building to conceal it from view. This change would also allow for the removal of the existing pipe rail and replacement with shorter sections of a less obtrusive, more appropriate railing. The new ramp should be far enough from the building to eliminate contact with the wood siding.
- The existing basement windows should be removed and replaced with historically appropriate grills ,with operable louvers for seasonal ventilation concealed behind.
- The crawlspace below the church should be cleared of miscellaneous debris, and permanent hardwood shims added and foundations repointed as needed to provide adequate support to

the floor framing. A vapor barrier may be needed on the floor, based on conclusions reached after moisture readings are taken.

- Consideration should be given to incorporating site lighting to illuminate the exterior of the building at night for both safety and appearance. This could eliminate the need for inappropriate light fixtures attached to the building.

PRIORITY/PHASE FIVE

The main church roof was replaced in 2011, but due to a variety of conditions discussed elsewhere in this report, is showing signs of accelerated deterioration. The existing roof should be monitored closely for further deterioration while plans are made for its replacement within the next five to ten years.

- The wood shingle roof on the main body of the church should be replaced with either wood shingles, as the building would have had originally, or with slate, as it likely would have had following the construction of the new steeple in the late nineteenth century. In either event, great care should be taken in selection of materials, detailing, and installation. Adequate provisions for attic-level ventilation must be undertaken prior to installation of a new roof, particularly if wood shingles are chosen.

PRIORITY/PHASE SIX: INTERIOR AND HEATING

Work on the exterior of the church should be completed prior to undertaking any major interior repairs, but some of the minor work listed below could be undertaken at any time. This phase includes updating the existing heating system and the addition that houses the furnace.

- Minor repairs should be made to the box pews to secure loose sections of some pews in order to guard against further damage in the future.
- After vapor, ventilation, siding, and foundation issues have been addressed, the cracking of the interior plaster should be repaired and the plaster walls within the church repainted.
- Replacement of the existing forced hot air system should be considered. One possible option would be radiant underfloor heating below the wood flooring. This would require more analysis and planning than is within the scope of this report.
- The existing furnace room should be removed and rebuilt on a smaller footprint. The existing slab, concrete block base, and brick chimney should be removed. A new boiler room could incorporate a direct vent to eliminate the need for a chimney. This redesign would need to incorporate a smaller heating plant, but might incorporate some additional storage or circulation space for the existing sacristy.
- The new foundation of the boiler and sacristy addition should more closely match the adjacent areas of historic foundation.
- The flooring within the sacristy should be replaced, and the walls and ceiling patched and repainted.
- Consideration should be given to replacing the exterior storm sash with interior storm windows in conjunction with the repair work to the interior of the building. Meeting rails should closely align with those of the historic windows. This work will enhance the exterior

appearance of the building while increasing energy efficiency. In the interim, the existing storm windows should remain in place with temporary repairs made to secure glass prior to full replacement.

THE CARRIAGE SHED

- A new perimeter footing should be installed/repaired on the three continuous sides of the shed.
- The grade around the carriage shed should be adjusted to create positive drainage away from the building.
- The meadow should be kept back at least three feet from the sides of the carriage shed by either adding gravel or regular mowing.
- All areas of damaged and missing siding should be replaced with new cedar siding milled to match the dimensions of the original material. The same approach should be taken to sill and corner boards. These areas should not be back primed, due to exposure to view and being well ventilated.
- A single comprehensive campaign should be undertaken to address sills, collar tie, and framing repairs.
- Although availability of funds may require that this work is phased, the overall planning should be done at one time prior to the commencement of any work.
- Framing repairs may necessitate the straightening of some parts of the building, but no attempt should be made to make any part of the building perfectly plumb or level.
- Any additional framing components needed should complement the historic nature and materials of the building. Once repairs are completed, modern makeshift repairs, that are no longer needed, should be removed. Some modern insertions, such as the iron straps on the cracked posts may need to remain in place.
- Replace missing trim boards and moldings surrounding the arches at the front of the carriage shed. These should be custom milled to exactly match the original materials.
- The modern siding on the west end of the building, and the modern framing needed to support that siding, should be removed and replaced with siding as mentioned above.

POTENTIAL FUNDING SOURCES

The renovation and restoration of Christ Church, Duanesburg is expected to be a project eligible for grant funding from several sources. Most of these sources do require that matching funds be raised separately. Below is a list of potential grants programs that may be pursued, divided into categories based on types of work funded, including construction grants and planning grants. A full Historic Structure Report would likely benefit Christ Church's future fundraising efforts.

**** INDICATES GRANT REQUIRES BUILDING TO BE LISTED ON NATIONAL REGISTER OF HISTORIC PLACES. CHRIST CHURCH, DUANESBURG WAS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES IN 1987.**

GRANTS FOR CHURCHES

SACRED SITES FUND GRANTS

- Both planning and construction grants are available through this program.
- Source: New York Landmarks Conservancy
- Website: https://www.nylandmarks.org
- Amount: $1,000 - $50,000
- Matching Requirements: 50% of the total project cost as a cash match.

NATIONAL FUND FOR SACRED PLACES GRANTS

- Both planning and construction grants are available through this program.
- Source: Partners for Sacred Places with the National Trust for Historic Preservation
- Website: https://www.fundforscacredplaces.org
- Amount: $50,000 - $250,000
- Matching Requirements: Grants up to $100,000 must be matched dollar-for-dollar (1:1) from private or public sources. Grants over 100,000 must be matched two-to-one (2:1) from private or public sources.

CONSTRUCTION GRANTS

**SAVE AMERICA'S TREASURES GRANT

- Save America's Treasures grant funds the preservation, rehabilitation, and conservation of nationally significant properties and collections. This grant requires properties to be either currently individually listed as a National Historic Landmark or individually listed in the National Register of Historic Places for national significance. Properties listed for state or local significance are not eligible.

- Source: National Park Service in cooperation with its partners, Institute of Museum and Library Sciences, National Endowment for the Arts, and National Endowment for the Humanities
- Website: https://www.nps.gov/preservation-grants/sat/
- Amount: $125,000 - $500,000
- Matching Requirements: Grants must be matched dollar-for-dollar (1:1) with non-federal cash and/or in-kind contribution.

NEH INFRASTRUCTURE AND CAPACITY BUILDING CHALLENGE GRANT FOR CAPITAL PROJECTS

- The purpose of the Challenge Grants program is to strengthen the institutional base of the humanities by enabling infrastructure development and capacity building. Capital Projects supports the design, purchase, construction, restoration, or renovation of facilities for humanities activities. This includes the purchase and installation for critical building systems, such as electrical, heating ventilation and air condition, security, life safety, lighting, utilities, telecommunications, and energy management.
- Source: National Endowment for the Humanities
- Website: https://www.neh.gov/grants/preservation/infrastructure-and-capacity-building-challenge-grants
- Amount: Up to $750,000
- Matching Requirements: Requests for grants $500,000 or less must be matched at $3 in non-federal gifts for every $1 in federal funds (3:1). Requests for grants exceeding $500,000 and up to $750,000 must be matched at $4 in non-federal gifts for every $1 in federal funds (4:1).

**ENVIRONMENTAL PROTECTION FUND GRANT PROGRAM FOR PARKS, PRESERVATION AND HERITAGE (EPF) – HISTORIC PRESERVATION PROGRAM

- The Historic Preservation program is a matching grant program to improve, protect, preserve, rehabilitate, restore, or acquire properties listed on the State or National Registers of Historic Places.
- Source: New York State Office of Parks, Recreation, and Historic Preservation
- Website: https://parks.ny.gov/grants/consolidated-funding-app.aspx
- Amount: Grant can fund up to 50% of the total eligible project cost; up to 75% if the project is located in a high-poverty area as defined by granting agency. Grant awards are capped at $600,000. If the total project cost is greater than $4 million up to $1 million may be requested.
- Matching Requirements: This grant program is administered on a reimbursement basis. Applicants are expected to raise their share within one year of the award.

PLANNING GRANTS

STRATEGIC PLANNING AND FEASIBILITY STUDIES GRANT

- ESD's Urban and Community Development Program promotes economic development in the State of New York by encouraging economic and employment opportunities and stimulating development of communities and urban areas. Program funding supports feasibility studies for facilities assessment and planning.
- Source: New York State Capital Region Regional Economic Development Council
- Website: http://regionalcouncils.ny.gov/sites/default/files/2019-04/2019ResourcesAvailableGuide_0.pdf
- Amount: Up to $100,000.
- Matching Requirements: Requires a minimum of 50% of total project costs in matching funds, which should include at least 10% of total project costs in the form of cash equity contributed by the Applicant organization.

NATIONAL TRUST PRESERVATION FUNDS GRANT

- Funds are intended to encourage preservation at the local level by supporting on-going preservation work and by providing seed money for preservation projects. Grant covers planning and education components only, including but not limited to, hiring a preservation architect or landscape architect to produce a historic structure report or historic landscape master plan.
- Source: National Trust for Historic Preservation
- Website: https://forum.savingplaces.org/build/funding/grant-seekers/preservation-funds
- Amount: $2,500 to $5,000.
- Matching Requirements: Grants must be matched dollar-for-dollar (1:1) with cash and in-kind donations.

PRESERVE NEW YORK GRANT

- Grant funds historic structure reports, building condition reports, cultural landscape reports and cultural resource surveys in an effort to support identifying, documenting, and preserving New York's cultural and historic buildings, structures, and landscapes.
- Source: Preservation League of New York State and the New York State Council on the Arts (NYSCA)
- Website: https://www.preservenys.org/preserve-new-york
- Amount: Program provides support up to 80% of the project cost. Grants are likely to range between $3,000 and $10,000.
- Matching Requirements: 20% of the total project cost as a cash match

THE BENDER FAMILY FOUNDATION GRANT

- Grant funds arts, culture, history, and environmental projects primarily in the City and County of Albany. Requirements include grantee to qualify under Section 501(c)(3) of the Internal Revenue Code as a non-profit organization or operate under the fiscal sponsorship of an organization that does.
- Website: https://www.cfgcr.org/benderff/application.html
- Amount: $5,000 - $10,000
- Matching Requirements: None

OTHER POTENTIAL GRANTS

THE CYNTHIA WOODS MITCHELL FUND FOR HISTORIC INTERIORS

- Grants are awarded for planning activities and education efforts focused on the preservation of historic interiors. Activities include hiring a preservation architect to create an interior restoration plan and restoration, rehabilitation, stabilization, and preservation of designated historic interiors, including bricks-and-mortar interior construction.
- Source: National Trust of Historic Places
- Website: https://forum.savingplaces.org/build/funding/grant-seekers/specialprograms/cynthia-woods-mitchell-fund
- Amount: $2,500 to $15,000
- Matching Requirements: Grant amount must be matched dollar-for-dollar (1:1) from private or public sources or income earned during fundraising activities.

THE GREEN INNOVATION GRANT PROGRAM (GIGP)

- The Green Innovation Grant Program (GIGP) provides grants on a competitive basis to projects that improve water quality and implement green stormwater infrastructure in New York State. Eligible project scope includes bioretention, stormwater harvesting and reuse, permeable pavement, and stormwater street trees/urban forestry programs.
- Source: New York State Environmental Facilities Corporation
- Website: https://www.efc.ny.gov/GIGP
- Amount: Grants will be available to cover a minimum of 40% up to a maximum of 90% of the eligible project costs as estimated in the application.
- Matching Requirements: A match from state or local sources for the balance is required.