White Paper Report

for

“The Future is Calling: Developing a Master Preservation and Storage Needs Plan for Ticonderoga’s Collections”

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Introduction

Founded in 1909, Fort Ticonderoga has for over a century been a leader in preserving objects related to military culture from North America in the “long 18th century” (1609-1815). Fort Ticonderoga’s collections are a singular resource in the study of the evolving role of subject, citizen, and soldier in the 18th century—a debate that links past to present and can inform the future. Fort Ticonderoga can explore these relationships through the physical remains of the events that occurred on the site and the expansive collections that document the broader military experience and heritage of our founding era. While there are a number of places in America that present the political, social, and economic aspects of the Atlantic conflicts and America’s fight for independence, Fort Ticonderoga’s collections are distinct in that they comprehensively speak to the changing role of subject, citizen and soldier in society. Fort Ticonderoga’s collections encompass British, European, Indigenous, and African stories that show the complexities of a shared Atlantic history. Through this National Endowment for the Humanities Planning Grant, the next steps were taken to preserve and make more accessible one of the largest and oldest collections of 18th-century military material culture in North America.

Fort Ticonderoga’s collections can be engaged across multiple disciplines, including: social, cultural, political, and military history; art history and decorative arts studies; American studies; public history; museum studies; anthropology; terrestrial and maritime archaeology (both prehistoric and historic); literature; memory studies; agricultural/horticultural history; and material culture. Fort Ticonderoga seeks to provoke an active discussion about the past and its importance to present and future generations. The collections are at the heart of its mission, and a broad array of humanities themes may be explored by using these collections, including:

- Experience of war in the early modern period,
- The interpretation of the past, narratively and physically,
- Development of military institutions in the Atlantic World,
- Evolution of the relationship between citizens, soldiers, and subjects,
- The role of physical objects in expressing and documenting historic events,
- Exploration of the experiences of underrepresented populations and communities in the written and object record.

Project Activities

This NEH planning project builds on the initial assessment provided by the Documentary Heritage and Preservation Services (DHPSNY) for New York’s 2017 preservation survey by directly addressing the museum’s multi-faceted collections and their vulnerabilities and risks, the efficient use of space, and the performance capacity of the Thompson-Pell Research (TPRC) building, its envelope and systems. The final product, “Fort Ticonderoga Thompson-Pell Research Center Existing Conditions and Feasibility Study,” (hereafter referred to as “The Plan”) developed by the project team includes recommended improvements for interior management,
environmental envelope performance, architectural improvements, and an implementation plan including space plans for collections storage. There were multiple challenges the project team needed to address. This NEH planning grant provided the support needed to assess the facility, programming, and collections to recommend necessary updates and renovations to help propel the institution fully into its intended status as a modern, innovative museum.

The DHPSNY survey made several recommendations, as well as short and long-term goals for the TPRC. The Plan included the recommendations identified in the DHPSNY survey and translate them into actionable steps. One formal DHPSNY recommendation included: “The Fort should work with an architect or space planner to develop a comprehensive space utilization plan for its collection storage spaces in advance of, or as part of, any storage plans for the renovate Thompson-Pell Research Center.” Fort Ticonderoga contracted with John G. Waite Associates, Architects, to take into consideration and provide information on the following in The Plan:

- Adequate and appropriate storage space and furniture for all collections materials;
- Space for collections growth in order to minimize shifting of collections;
- Adequate space for processing collections;
- An area where new materials can be safely housed before processing;
- An area that is segregated from the rest of the collections where new collections can be inspected for pests and mold, and where infested collections can be isolated;
- An area or several areas where supplies can be centralized and made easily accessible;
- Adequate space for the retrieval and handling of materials, such as carts with locking wheels, ladders, and stools;
- Appropriate space where exhibition furniture can be stored, and where exhibition preparation can occur, that is separate from collections storage spaces.”

Gwen Spicer, full-time principle of Spicer Art Conservation, LLC, provided three preservation-based reports to include in The Plan, including: 1) recommendations for improvements to storage; 2) a collection preservation plan; and 3) a storage needs plan. Spicer formulated her preservation reports to include long-term plans for protecting the collections against natural and manmade disasters. This project included a two-day on-site assessment, as well as a one-day on-site meeting with staff to collaborate and develop preservation plans for the current and additional objects collections. All documents and work provided was in accordance with the American Institute for Conservation’s Code of Ethics, Guidelines for Practice, and Commentaries.

The project was shared with the public and our stakeholders through a press release. Here is the text from the 10-30-2019 press release (URL for the original release:...
Fort Ticonderoga has been named a recipient of a prestigious grant from the National Endowment for Humanities Sustaining Cultural Heritage Collections grant program in the amount of $40,000. The funds will be utilized to develop a Master Preservation and Storage Needs Plan for the collections of historical artifacts housed in the Thompson-Pell Research Center (TPRC) on Fort Ticonderoga’s 2,000-acre museum campus and historic site.

The grant will be used to assemble an interdisciplinary team of museum staff and professional consultants to address collections preservation issues as the TPRC is converted into a dedicated collections and Ticonderoga Institute facility. The team will provide museum staff with professional guidance and recommendations to create critical new resources for collections and Ticonderoga Institute initiatives, while also upgrading visitor amenities and overall accessibility.

The plan will also include recommendations concerning the storage needs for a new 3,000-object collection that the museum will be acquiring and moving to the TPRC in 2022.

“This planning grant will allow Fort Ticonderoga to position itself as more than just a battlefield or military site, but as a resource to provoke active national discussions on the conflicts that shaped the political and cultural geography of the United States in the 18th century,” said Miranda Peters Fort Ticonderoga Director of Collections and project director for the NEH planning grant. “To accomplish these goals, improvements to the Thompson-Pell Research Center are necessary as the space is redesigned as a collections facility from an administrative one and to ensure the preservation of Fort Ticonderoga’s current and future collections. When completed, the facility will greatly improve access to the museum’s collections, many of which have never been displayed or published before.”

“This project will enable Fort Ticonderoga to move forward to fulfill its mission in transformative ways while also serving as a model for other cultural institutions through the dissemination of a white paper report that discusses the effectiveness of the sustainable preservation strategies used,” said Beth L. Hill Fort Ticonderoga president and CEO. “We are very grateful to have the grant support of the National Endowment for the Humanities to make this important project possible.”
The image accompanying the press release shows the front of the 1930s brick building with green door and window trim. An American flag is perched atop the building. The caption text reads:

“The Thompson-Pell Research Center building was originally a New York Telephone Company building constructed between 1931-32 as the company’s repeater station. Purchased by Fort Ticonderoga and renovated for offices in 1989-92, the building has survived with much of its original architecture intact. Today it is a significant example of an early telephone building that played an important role in the social and business life of the Adirondacks in the twentieth century.”

Accomplishments

Fort Ticonderoga is proud to report that the team accomplished all of our main pre-pandemic goals for this project. This was a major success for all museum staff and contractors involved and certainly reflects the flexibility, communication, creative thinking, and dedication to the project by the whole team. Each schedule of completion activity is outlined below, along with commentary on actual results.

Activity: “Board of Trustees approves updated Collections Management Plan and the Ticonderoga Institute that focuses on long-term preservation plan and commitment to collections accessibility.”

This activity was successfully completed as expected in January 2019 and was again reviewed, and an updated version was approved by the Board of Trustees on August 7, 2021. A copy of the Collections Management Policy is available for review by request.

Activity: “Press release announcing award.”

This activity was successfully completed as expected in October 2019. A link to the original press release is available here: https://www.fortticonderoga.org/news/fort-ticonderoga-receives-prestigious-planning-grant-from-national-endowment-for-humanities/
Activity: “Initial team meetings with our consultants to discuss specific project methods, fund allocation, planning goals, and project schedule.”

This activity was completed with Gwen Spicer before she visited the TPRC in March 2020. The original plan was to bring John G. Waite’s team to the TPRC later in the spring of 2020, but that was postponed due to the pandemic until the fall/winter of 2020. This extra time allowed museum staff to think critically about collections management needs in a post pandemic world in a way that ultimately benefited the project.

Since the whole project team was unable to be in person in the same building at the same time, museum staff had to rethink how we communicated with the consultants on this project. In February 2021, the project team held the first round table Zoom meeting, where John G. Waite’s team members, Kohler Ronin team members, and conservator Gwen Spicer all attended. This marked the true kickoff for the pandemic chapter of the project. An ambitious project like this that involve so many different stakeholders, individuals and consultants is challenging on its own. During the pandemic, communication became even more difficult as virtual communication was essential, either through zoom or through telephone calls, while also balancing the many needs and priorities that different team members had in a state of pandemic-related crisis.

This initial post-pandemic Zoom meeting was an essential part of the project. The whole team needed to get together to make sure that everyone was on the same page and that each activity and stated goal in the project was clearly articulated. It was also imperative that all members understood their responsibilities within the project.

Activity: “Two-day site visit Gwen Spicer at the Thompson-Pell Research Center.”

This activity was completed as expected between March 11-12, 2020. Spicer was able to have multiple meetings with museum staff, tour the TPRC facilities, gather data and photographs needed to begin work on her reports, and think critically about the needs and challenges of the project. March 13, 2020 was the last day at the office for museum staff before New York lockdown began. Conversations continued per the extended timeline in 2021 as we moved forward with the project.
Activity: “February 2021 Two-day site visit with Jack Waite’s team at Thompson-Pell Research Center. Follow-up telephone meetings with consultants as-needed for additional clarification, documentation, or to schedule additional visit. John G. Waite’s team and Spicer Art Conservation, LLC prepare the existing conditions/building reports”

Team members from Waite's team came to the TPRC in February 2021 for an initial walkthrough of the building for this project, to take multiple photos, and to prepare for the next visit. John G. Waite’s team not only had their own areas of the report that they had to complete, but they were also overseeing consultants Kohler Ronan, who were focusing on the structural mechanical and electrical systems at the TPRC. The extensive on-site visit with the John G. Waite and Kohler Ronan team took place in March of 2021. The teams were at the TPRC for the majority of the day doing extensive studies photographing, documenting, and meeting with museum staff.

After the meeting, there was a great deal of follow up, including pulling climate control data from the HVAC system, which involved getting in touch with another contractor, as the system that we had was not generating reports the way that it should have. Ultimately, this is good to know because we are able to make more-informed recommendations for not only our climate control needs, but also our reporting needs going forward. This also prompted museum staff to purchase a series of data loggers to pull environmental data (temperature/relative humidity) for all of our collections storage buildings.

Activity: “Spring 2021 Gwen Spicer’s additional one-day on-site meeting with staff to collaborate and develop preservation plans for current and additional objects collections.”

At the time that we submitted our amended timeline to NEH, we had hoped that by the spring of 2021 we would be able to bring Gwen Spicer in person again to the TPRC. Unfortunately, with rises in COVID-19 cases all around the area, this in-person meeting had to be rescheduled to multiple phone conversations. Thankfully, since Gwen had visited the TPRC in March of 2020, she had taken lots of photos and intimately understood the layout of the building, the layout of collections, and was able to do her portion of the report as scheduled. This did mean that there was more work on the museum staff’s end as museum staff had to provide additional content that could have been gathered if an in-person visit was possible. Ultimately, we were able to make sure that she had all of the information that she needed to fulfill her part of the project. While ultimately multiple telephone calls were safer for all involved, it would have been much easier and taken less time to be able to have had another daylong on-site meeting with Gwen. However, the team made the best that they could have given the situation.
Activity: “April-May 2021 Both consultants submit their final reports to Project Director, Miranda Peters, to incorporate into the Master Building, Preservation, and Storage Needs Plan Report Review: Ticonderoga staff reviews reports and prepares comments and questions for final discussions with consultants; Final project team meetings/conference calls to discuss recommendations and options for preservation and storage needs; Newsletter article discussing the planning phase of the project, and the preservation of our collections – distributed to 2,000 constituents.”

In May 2021, the entire project team held a Zoom meeting to be able to talk about next steps for generating the ultimate survey and report for the TPRC. This was a final chance for the museum staff to articulate their needs for this study and for this report. It also gave the consultants a last chance to ask any clarifying questions that they might have had before putting pen on paper.

Each of the final reports delivered on their original stated goals and included all content we had hoped to include at the beginning of the project. Originally, we planned on all consultant reports to be submitted to Miranda Peters by May 2021. Due to a number of challenges brought on by the pandemic, all team members on the project realized that they needed extra time. The first draft report from the consultants to the museum staff were delivered at the end of the summer 2021, and final reports were submitted in the fall of 2021. Once finalized and approved by Fort Ticonderoga staff, John G. Waite’s team generously offered to consolidate all of the separate reports into one master document with a table of contents. Museum staff continued to make slight refinements to the report into the fall of 2021. Given the extended timeline, a newsletter article discussing the project and outcomes has been postponed to spring 2022 where we will continue to talk about next steps beyond this planning project.

Audiences

This NEH planning project is a foundational step towards serving thousands of audiences in the future. As a dedicated Collections and research facility, the TPRC will provide access to the significant collections for museum staff, teachers, students, scholars, and an international audience. The museum’s collections include roughly 200,000 fine, decorative art, archaeological, and archival objects, and include:

- The largest collection of 18th- and early 19th-century military uniforms in North America
- A comprehensive collection of early modern weaponry spanning the long 18th century,
- The largest collection of 18th-century artillery in the western hemisphere,
- One of the largest collections of 18th-century military archaeology in the country,
• A significant archive of 18th-century manuscripts related to the Northern campaigns of the French and Indian and Revolutionary Wars,

When completed, the facility will greatly improve access to the museum’s collections, many of which have never been displayed or published before. This will allow museum staff greater collections access in support of a range of museum programs.

Due to Fort Ticonderoga’s rural location, providing remote access to our national and internationally significant collection is vital to our mission to serve as an educational resource. In the critical early days of the pandemic, our nimble and creative team adapted quickly to continue our mission-based work virtually and offset the impact from the pandemic. Fort Ticonderoga’s Center for Digital History launched in April 2020 after being identified as a priority in the 2018-2023 strategic plan. Through the support of an NEH CARES Act grant, Fort Ticonderoga developed a virtual classroom studio, created new digital outreach programs that were delivered to 597 students, published 12 free lesson plans to support teachers in grades K-12, and presented professional development webinars that supported 151 teachers across 27 states. Our digital engagement on social media increased dramatically in 2020, as over 250,000 digital guests watched the 163 videos created and shared by museum staff (+186% increase from 2019) and 34,049 digital guests liked, commented, or shared these videos (+153%). 6,249 digital guests (+13%) searched the 8,014 museum objects available on the online collections database, 5,014 of which were made accessible in 2020 (+167%). Since the pandemic began in the middle of this NEH planning grant project, the entire museum team was able to step back and think through how we access and engage with the museum’s collections, and the needs of our many and varied audiences. This directly informed the design and programming of the proposed renovations for the Thompson-Pell Research Center.

Currently, the Fort Ticonderoga collections are utilized by staff members, teachers and students from over 500 affiliate K-12 schools and universities, researchers, and 3.5 million virtual guests. Many of our in-person audiences experience the collections through exhibitions at the main historic campus of Fort Ticonderoga. With a dedicated collections facility that prioritizes access to the collections, Fort Ticonderoga will be able to share more of the collections with a broader audience, including both in-person tours of the facility, as well as digitally through expanded collections access and programming via the Center for Digital History.

Additionally, the collections are heavily utilized by the Edward W. Pell Graduate Fellowship Program and the Fort Ticonderoga Teacher Institute. The summer-long fellowship program introduces emerging museum professionals from across the country to Fort Ticonderoga’s world-class collections as they work on projects to support future programming. The week-long
Teacher Institute provides teachers from across the country the opportunity to examine artifacts from the collection in person and learn how to use material culture as a resource in their classroom. Over the past five years, over 400 teachers have participated in the Teacher Institute and NEH Landmark Teacher Workshop programs. It is anticipated these teachers will impact over 200,000 students over their careers. These audiences will continue to be refined and grow through the work of the Ticonderoga Institute.

**Evaluation**

Ultimately, the formal evaluation of this project revolved around the question “Were the desired project objectives achieved?” To that end, this project was definitely a success. The Plan is a 194-page roadmap for what the priorities in the building are, and what needs to happen in the short, mid-term, and long-term future for the building and collections.

Throughout the project period, there was also informal evaluation. As a collaborative effort with multiple stakeholders and project team members, we had to constantly evaluate what progress was being made to be able to stay on track for completing the deliverables. This was difficult at times, especially surrounding the uncertainty and stress of the pandemic. Institutional priorities at each organization shifted as everyone responded to the immediate needs of their teams during a crisis. By extending the timeline for the grant, that took the pressure off of having to rush. Even with the new timeline, work took longer than expected.

Looking forward, we can ask the question of “What can we do better?” Here are a few pieces of advice: Communication is key. For similar projects, we would recommend a formal calendar with due dates, time for evaluation and feedback in between each due date, and team member obligations and deliverables that are spelled out in complete detail. It is also important to get a clear sense of what each consultant might need from another consultant to be able to complete their own work. That might save miscommunication and delay later on.

**Continuation of the Project and Impact**

As a planning project, the ultimate goal is that this project will continue to implement the recommendations listed by the project team in The Plan. The NEH planning project brought together a team of consultants, who worked collaboratively with each other and with a team of Fort Ticonderoga staff to develop objectives for collections preservation and facilities, and identify the strategies to achieve those objectives. These relationships will continue into the next
phase of this project, as Fort Ticonderoga seeks implementation funding to accomplish the goals outlined in The Plan.

It cannot be emphasized enough how much of an impact this project will have on Fort Ticonderoga and the Thompson Pell Research Center. The Thompson-Pell Research Center building was originally a New York Telephone Company building constructed between 1931-32 as the company’s repeater station. Purchased by Fort Ticonderoga and renovated for offices in 1989-92, the building has survived with much of its original architecture intact. Today it is a significant example of an early telephone building that played an important role in the social and business life of the Adirondacks in the twentieth century. The New York Telephone Company building was designed by Voorhees, Gmelin, and Walker, a firm descended from Cyrus L. W. Eidlitz, son of famed nineteenth-century New York architect Leopold Eidlitz. Cyrus’ firm began a long association with the New York Telephone Company in 1885—a relationship that continued with Voorhees, Gmelin, and Walker when the New York Telephone Company building was constructed in rural Ticonderoga, New York. In 1989, Fort Ticonderoga purchased the building from the New York Telephone Company, and in 1992, the building was renovated to provide administrative offices and museum collections storage. Because of this NEH project, the administration has a clear road map of how to transition the building into a dedicated facility that focuses on preservation, conservation, documentation, and access to collections. When completed, the facility will greatly improve access to the museum’s collections, many of which have never been displayed or published before. This will allow museum staff greater collections access in support of a range of museum programs. The Plan will provide a blueprint for action steps that will support the museum’s mission of preserving our collections, making them accessible, adaptively and sustainably reusing a current structure with significant historical value for generations to come.

Grant Products

“Fort Ticonderoga Thompson-Pell Research Center Existing Conditions and Feasibility Study” (also known as The Plan) is a 194-page planning document that provides Fort Ticonderoga museum staff with professional guidance and recommendations for addressing collections preservation issues within the historic Thompson Pell Research Center building as it is converted into a dedicated Collections and Research Facility. The Plan also includes recommendations concerning the storage needs for a new 3,000-object collection that the museum will be acquiring and moving to the TPRC in 2022.

The Plan was created and co-authored by team members from The Fort Ticonderoga Association, John G. Waite and Associates, Architects, Kohler Ronan Consulting Engineering, and Spicer Art Conservation, LLC. Appendix A includes sample pages from The Plan.
Appendix A

Representative sample pages from *Fort Ticonderoga Thompson-Pell Research Center Existing Conditions and Feasibility Study* (also known as “The Plan” in the White Paper report).
This project was made possible in part by the National Endowment for the Humanities: Democracy demands wisdom.

Any views, findings, conclusions, or recommendations expressed in this report, do not necessarily represent those of the National Endowment for the Humanities.
INTRODUCTION

The Thompson-Pell Research Center in Ticonderoga, NY was designed as an early 20th century telephone repeater station that amplified telephone calls for a large region of the North Country. The building is a significant example of an early telephone building and is eligible for listing in the National Register of Historic Places.

In January of 2019, John G. Waite Associates, Architects was retained with Kohler Ronan Consulting Engineers and Spicer Art Conservation by the Fort Ticonderoga Association to analyze existing conditions and prepare a feasibility study for the adaptive use of the Thompson-Pell Research Center. The proposed new use was to meet modern standards for collections care and facilities preservation of historic architecture.

The existing conditions section of the study is a candid assessment of the building and focuses on the building fabric and the problems of repair while identifying measures that must be taken to make the building weathertight and energy efficient. None of the problems of repair preclude the successful restoration and adaptation of the building. Kohler Ronan surveyed the existing MEP building systems and provided guidance for systems that are appropriate for the new use. The load-bearing masonry building originally had large open spaces containing telephone equipment and is well suited for the proposed adaptive use as a collections care and research facility.

The feasibility section of the report identifies the character-defining features and advises about how to accommodate the change in program while also protecting the features. A program has been developed and different options for the adaptive use are discussed in this report and range from the minimum work required to accommodate the Robert Nittolo Collection to a complete reconfiguration of the first floor.

The recommendation section prioritizes the necessary repairs to the existing building and outlines administrative work that will help secure funding.

This project was funded by the National Endowment for the Humanities. Because of the significance of the Thompson-Pell Research Center, all design work should be carried out in accordance with The Secretary of the Interior’s Standards for the Treatment of Historic Properties. Construction work should occur only after contract documents have been prepared by an architect or engineer experienced in the restoration of historic buildings.
Constructed between 1931 and 1932, the present Thompson-Pell Research Center operated for nearly fifty years as a telephone repeater station for the New York Telephone Company, a subsidiary of the American Telephone and Telegraph Corporation (AT&T). Designed by the architectural firm Voorhees, Gmelin and Walker, this remarkable structure stands as an artifact representing the developments in communication technology and infrastructure in the early twentieth century. It simultaneously serves as a monument reflecting changes in architectural design theory and practice during the same time period.

The telephone was an American innovation without precedent anywhere else in the world, and without an existing infrastructure to support it. As it expanded across the country, each installation was an experiment in providing intelligible communication, at a profitable rate across a broader service area. While progress was made in wire materials, types, and configurations, a limited range persisted at which intelligible conversations could be carried over wires. Telephone repeater stations were introduced to resolve this problem by amplifying, clarifying and retransmitting incoming signals to the next repeater station, on average sixty miles away. This achieved both the establishment of reliable long-line connections across the country, and the introduction of telephone communications to rural communities.

In general, repeater and exchange stations were robust, overengineered structures with the capacity to adapt to unforeseen changes and impending advances in telecommunication technology that would occur during its lifespan. Documentation reveals that some of these buildings were constructed with a fifty-year plan already in place, which included the construction of extensions to the rear and/or second stories over various intervals of time. The intent of these additions was to house more machinery and cable for the extension of long-distance toll lines as service demands increased, but few to none were ever built. Rapid developments in technology brought about the introduction of microwave radio transmission in the 1950s, rendering the traditional hard cable lines obsolete. Even so, the repeater stations remained a vital part of AT&T’s physical infrastructure into the 1980s as a result of their adaptable design. Within New York state a number of these stations were designed by the noted firm Voorhees, Gmelin and Walker.

The predecessor firm of Voorhees, Gmelin and Walker had worked extensively for the American Telephone and Telegraph Corporation since 1885, the year AT&T was founded. The firm was started by Cyrus L. W. Eidlitz, son of renowned architect Leopold Eidlitz, with a commission from Alexander Graham Bell to design the Metropolitan Telephone Building in Manhattan. In 1900 Eidlitz partnered with engineer Andrew C. McKenzie to form the innovative firm of Eidlitz & McKenzie. In an unprecedented manner, this architect-engineer partnership viewed the two professions as equals in the design process, and established a practice of selecting successive partners from within the firm. After 130 years of continuous practice the firm exists today as HLW International, due in part to this tradition. At McKenzie’s death in 1926 this process served them well with the naming of Ralph Walker as a firm partner.
Walker’s position within the firm allowed him to have great influence in shaping the skyline of New York City in the early twentieth century. Throughout the 1920s Walker designed a number of skyscrapers in Manhattan for the New York Telephone Company, such as the Barclay-Vesey Telephone Building, which were the first to make innovative use of New York City’s 1916 zoning law requiring skyscrapers to “step back” to allow sunlight and fresh air to reach the streets below. Today these structures are recognized as icons of Art Deco architecture, but for Walker they were the simple expression of a modern architecture that wrapped efficiency and functionality in a spiritual and sculptural massing.

While projects such as the telephone repeater stations are of a much smaller scale than the skyscrapers of Manhattan, the influence of Walker can be seen in them. Voorhees, Gmelin and Walker offered three design options for these repeater stations scattered across New York: colonial, modern and a combination of the two. The modern design in particular seems to borrow heavily from Walker’s theory of architecture. The plans are simple and allow the building to operate very efficiently, and yet the exterior speaks to the sculptural and ornamental qualities found in Walker’s work. Furthermore, it is distinct in design from other contemporary “modern” or Art Deco repeater stations across the country. Ornamental terracotta, bright polychromatic facades and repetitive vertical expressive pilasters were set aside for simple forms and expressive masonry bonding patterns. It was this unique design option that was selected for construction at Ticonderoga.

As a telephone repeater station, this structure remained in its original configuration until purchased by the Fort Ticonderoga Association in 1989. Over the next three years, the repeater station would be renovated under the direction of Ann Beha Architects to house Fort Ticonderoga’s collection and research center. Many of the building’s historic walls remained intact during the renovation, but the original, expansive interior volume was subdivided with new partitions to create offices and storage spaces. In 1994, the collection and administrative offices moved into the building, which has since operated as the Thompson-Pell Research Center.
Figure 1. Above are two examples of repeater stations from the Midwest, built as contemporaries of the Thompson-Pell Research Center. The 1949 postcard at top is of a repeater station in Goodland, Kansas that is now repurposed as a museum dedicated to telecommunication’s history. The lower image shows a repeater station in Stroud, Oklahoma that now operates as a public library. (Upper image) “United Telephone Building,” National Register of Historic Places Nomination Form (Washington, DC: U.S. Department of the Interior, National Park Service, 1978), October 4, 2017. (Lower image) “Stroud Public Library, Stroud, Oklahoma,” Wikipedia username: kennethaw88, photographer, 2020, CC-BY-4.0.
Figure 2. These two images of repeater stations from the 1930s illustrate the variations in scale and expression present in this building typology. At top is a repeater station in Wright City, Missouri, which after its listing on the National Register of Historic Places was adapted for use as a bank. The lower image is a repeater station in Albany, New York of Voorhees, Gmelin and Walker "modern" design, which has strikingly similar characteristics to the Thompson-Pell Research Building. (Upper image) "Southwestern Bell Repeater Station-Wright City (east side)," Wikipedia username: Nja1985, photographer, 2013, CC BY-SA 3.0. (Lower image) Courtesy of Kathryn Holliday, University of Texas at Arlington.
Figure 3. Constructed throughout New York state, the above repeater stations are representative of Voorhees, Gmelin and Walker’s two additional standard designs for this building typology. The top image is an example of the colonial style repeater station, with this particular station being constructed in Haverstraw, New York. The lower photograph is of a repeater station in Pearl River, New York, and was designed as a combination of the colonial and modern style. Courtesy of Kathryn Holliday, University of Texas at Arlington.
EXISTING CONDITIONS
DESCRIPTION AND PROBLEMS OF REPAIR

The exterior of the building was surveyed from the ground and roof. The interior of the building was analyzed on a room-by-room basis from the basement to the attic. From this examination, the condition of the existing building fabric and the problems of repair were noted.

The circulation patterns, points of access, construction materials, and assemblies have been analyzed. Drawings and specifications were studied from the earlier construction project as well as historic drawings of the repeater station.

EXTERIOR

The following examination of the Thompson-Pell Research Center’s exterior conditions is separated into five (5) sections that analyze the building’s exterior envelope. The site category explains how the building addresses its surroundings. The three basic portions of the building envelope are described in masonry, roof, and wall openings. The miscellaneous category relates to other miscellaneous concerns.

SITE

The straightforward, single-story building has a door and terrace that faces the road and was the original main entrance of the building. In the 1990’s an accessible elevator addition was attached to the rear elevation adjacent to the parking lot and is currently used by the staff and public as the front door to the building. An asphalt driveway bypasses the building on the east and leads to an asphalt parking lot with trees at the periphery. A sloping lawn surrounds the remainder of the building. There are two exterior stairs that descend from the asphalt driveway or parking lot to the basement level below.

- The parking lot extends to the building footprint.
- The asphalt driveway and parking lot are in fair condition, but the driveway is not accessible for large trucks.
- Original lightwells that served basement windows under the terrace have been removed and infilled with topsoil.
- A landscape drawing from the 1991 building rehabilitation shows that existing underground storm water drainage is located around the western portion of the building but does not extend past the modern terrace and elevator addition. Include with recommendations.
The following pages are representative samples pulled from the original document to illustrate the type of work that went into “The Plan.”

If you are interested in learning more about this project, please contact VP of Collections & Digital Production Miranda Peters by emailing mpeterson@fort-ticonderoga.org or calling (518) 585-1015
Main Office - FF 9, Director - FF 13, Closet - FF 14, Office - FF 15,
■ Lay-in 2’x4’ lights and miscellaneous grilles and registers are located within the ceiling grid. There is minor staining at some grilles and registers or on the surrounding acoustic tile.
■ Roof leaks have caused staining on the dropped acoustic tiles. Please see the leak locations noted on the Existing Floor Plans on page 55.

Office Bathroom - FF 10
■ There are water stains on the underside of the ceiling soffit.

Kitchen - FF 11
■ The vinyl composition tile is worn but in good condition with minor cracks in a few tiles.
■ Lay-in 2’x4’ lights and miscellaneous grilles and registers are located within the ceiling grid. There is minor staining at some grilles and registers or on the surrounding acoustic tile.
■ Kitchen appliances include a refrigerator, microwave, and sink.

Back Entryway - FF 16
■ There is blistered and peeling paint, cracks in the drywall, missing sections of drywall, and staining on the walls and ceiling, which indicate water infiltration. Water appears to be entering the room at the ceiling and window and door openings.
■ The interior of the double metal accessible entrance doors have signs of rust and failing paint.

Elevator - FF 17
■ The hydraulic elevator connects the basement and first floor to the Entryway (FF 16) which currently acts as the accessible entrance for the building.

BASEMENT

General
■ The reinforced concrete ceiling slab and columns, mechanical ducts, electrical conduits, and plumbing pipes are generally exposed on the basement level.
■ Fluorescent light fixtures are suspended from, or mounted to, the concrete ceiling slab.
■ All doors are metal. Some are solid and others have glass vision panels. The frames are also metal. The doors, frames, and casing are in good condition.

Museum Store Storage - LL 18
■ Two historic window openings were infilled with concrete block.
■ Historically this room was an engine room and staining on the ceiling and walls indicate that there has been extensive water infiltration in the past. There were no
Figure 4. Drawings from the 1991 rehabilitation project show the original plans and elevations. Some of the masonry work that was noted on this drawing was never completed. Fort Ticonderoga Association.
Figure 5. Thompson–Pell Research Center, north elevation. JGWA, 2021.

Figure 6. Thompson–Pell Research Center and 1990s elevator addition, west elevation. JGWA, 2021.
Figure 21. During rainstorms, water drips onto the brick masonry exterior walls below the brick window sills on the north elevation. There is no overhang or drip at the sill and the bricks below the window are beginning to deteriorate. JGWA, 2021.

Figure 22. There is an open mortar joint below the concrete coping at the base of the brick chimney, JGWA, 2021.
Figure 52. In the basement Vestibule (LL 27), the rubber base is displaced and missing next to the exterior door. During heavy rain storms, water enters the building at this door opening. JGWA, 2021.

Figure 53. In the Mechanical (LL 28) room, the drywall is eroded near the floor and there is staining at the brick walls, indicating that there has been standing water in this room. JGWA, 2021.
The majority of the storage space appears well-organized and appeared to be clean and tidy. Much of this is due to collections being housed in document carton-style or textile boxes. Yet, when looking inside the boxes, artifacts are not well supported (Figure 8 & 9). All of these collections need to be given internal padding or supports. They are all good candidates for drawer or shelf storage.

The aisles of the room were blocked by rolling carts with collections slated for a future exhibition, as well as tables. Some of the tables were positioned on the tracks of the compact units (Figure 7).
VII. General Collections Storage Needs

Any planning or implementation of the recommendations needs to be done with flexibility in mind. Use “best practices” now, and then they can also be transferred and easily implemented in the future. Storage Areas in the Museum

Storage Areas in the Museum

The ideal storage situation is an isolated single-purpose space that is neither in an attic nor basement. Therefore, TPRC selecting this large first floor space is a positive goal. Storage furniture varies throughout multiple spaces. The storage plan for the TPRC groups collections by its collection types and their storage needs. If it were possible to determine the potential volume of each type, it would assist in this allocation. This divides the collections into defined projects, giving a sense of accomplishment, but also allows for possible projects to be funded by grants. The determination of what direction to go can be based on how the different collection types are used, the necessary protection they needed, and the volume of that type of collection. Such storage methods are: boxed, open shelf, and racks for framed items (see Specific Storage Tasks).

Suggested Storage Procedure

- Empty each space, paint and seal the walls or other surfaces.
- Determine box size that best fits shelving; use this as a standardized box size.
- Replace acidic boxes with acid-free ones.
- Determine a collection type for each area. An example is hanging garments in one, folded and boxed textiles in another, and other boxed items in the third. Another would be to separate organic from inorganic materials. And another would be by storage method, i.e. one area for ceramics on open shelves.

Planning for Storage Re-organization or Expansion

Storage projects are always large and overwhelming tasks, so it is best to schedule and complete them in stages. The initial stages should include tasks that can be completed with minimum expenses until adequate funding is obtained.

- Talk with or visit other museums’ storage facilities, both reused buildings, and new construction. Talk with or visit other institutions that have undergone storage renovations and/or additions.
- Begin in-depth facilities and collections analysis as a basis for meeting collection storage needs (this pertains to all storage areas): how much space does the collection require? What sorts of spaces are appropriate for object categories?
- Consult well-respected consultants in HVAC systems and storage environments.
- Research museum storage furniture. There are numerous types of storage furniture available for museums. The critical aspect for choosing storage furniture is ensuring that they are constructed of stable and non-off-gassing materials. It is good to remember that storage equipment is a long-term investment; good quality equipment and supplies should always be purchased. These initial equipment costs are more modest when amortized over a longer time, a quarter-century or more.
- Create a budget for all expected expenses for the new facility. There are potential additional costs on all levels; expenditures could include costs of transportation to the other facility, staffing, utilities, rentals if necessary, supplies, etc. Much of this can possibly be covered by a grant.
- Seek funding. Funding will be needed for the purchase of the storage furniture and supplies for all rooms. A good source is IMLS This funding source is a 50/50 match and can include staff and volunteer time for the project. Another funding source is an NEH Preservation Assistance Grant. There might also
### Example of a Task Chart

#### Flat Paper-based

<table>
<thead>
<tr>
<th>Project</th>
<th># of Obj</th>
<th>Person</th>
<th>Duration / time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Documents and maps, etc in the flat file drawers place into folders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• organized by type and size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Roll oversized document</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Remove all framed items from this storage area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Create additional storage for the photographic materials that</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• are located in other storage areas</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Consolidate all of the photographs together and rehouse as</td>
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<td></td>
</tr>
<tr>
<td>• appropriate to their specific type</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Arrange all document box storage in one location</td>
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</tr>
</tbody>
</table>

#### Books

<table>
<thead>
<tr>
<th>Project</th>
<th># of Obj</th>
<th>Person</th>
<th>Duration / time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consolidate books to one location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Create wrappers for scrapebooks,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adjust shelves for only 2 books maximum</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Create wrappers for leather binding volumes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Create wrappers for volumes with loose covers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Three-dimensional Artifacts

<table>
<thead>
<tr>
<th>Project</th>
<th># of Obj</th>
<th>Person</th>
<th>Duration / time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Artifacts in drawers need handling trays, with or without sides with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• which artifacts are secured to, an option is with twill tape ties.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shelves need a layer of batting if no handling tray is used.</td>
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</tr>
</tbody>
</table>
Attachment 3: Window Coverings

Several options for covering the windows are possible. However, the large window will be more of a challenge due to its size and height. Much of the final choice may be dependent on budgets. I am not a window designer; therefore, there may be other commercial options and manufacture or distributors that I am not aware of. However, the choices are to make the area where the light enters be smaller, to hang curtains or screens, or to apply films. Many of these can be used in combination. For example, curtains and/or films should still be used if the area of the window is made smaller. Again, with all solutions, an ultra-violet filter must be used. Below are descriptions of various options.

- **Roller Shades** are the least expensive and easiest method of controlling natural light levels that enter a building through windows. Such shades are easy to install and are very unobtrusive when rolled up behind curtains if necessary. They can be used to completely block light from entering the building during any time that the museum is closed to the public and to partially block direct sunlight even when the museum is open. It is important to remember that in the summer, the light may begin to enter the building as early as 5:30 AM and continue until 8:30 PM. If the museum is only open from 10:00 AM to 4:00 PM, simply pulling blinds during closed hours would reduce the light exposure from 15 hours to 6 hours a day. The light could be clocked for appreciable amounts of time during the winter when the museum is open for even fewer hours each day. There are problems with using blinds. They must be opened and closed every day and the building will appear different from the outside during closed hours because the windows will appear white. I recommend that blinds be installed and used at least on the windows on the south and east sides of the building so that they can be used to block direct sunlight from entering the building at the appropriate times of the day.

- **UV Blocking Films** work well to reduce the amount of UV entering the building. This surveyor also recommends the installation of UV film or coated Plexiglas to all windows that are used.

- **Light Filtering Curtains** are a thin translucent material that can be used to reduce visible light from entering a room without blocking it out entirely. When combined with UV filters, it creates the best all-round compromise for addressing light problems.

- A passive method would be to use a translucent shading fabric that could be used in the form of draperies, like Sol-R-Veil. They can be stretched on window screens or even attached directly to the glazed surface of the windows. The light filtering properties of this material are rated ‘good’. As mentioned above, curtains are also a viable option because when the curtains were closed, they effectively reduced the light to an acceptable museum level. Like at the Metropolitan, a screen could be secured to all of the windows.

- **Automatic blinds and louvers** are an option but can be expensive and sometimes slow to respond to weather changes. They also need regular maintenance for maximum reliability. This would only be an option if independent funds outside of annual budgetary stipends were allocated so that their up-keep is guaranteed.
SHS’s scrapbooks are associated with events, organizations or art groups. These artifacts are of great archival and historical importance for SHS. Scrapbooks can also be challenging artifacts to preserve as they often have inherent vices due to the mixed media and unstable materials used. See websites for more information: www.sos.mo.gov/archives/localrecs/conservation/notes/scrapbooks.asp and www.loc.gov/preserv/care/scrapbk.html.

Pamphlets
The SHS has a collection of pamphlets. The freestanding publications may be unique with having only a small printing. Many of these pamphlets are made of poor quality paper and have become brittle and fragile. The pamphlets are either scattered among other collections or they have been grouped into smaller collections.

- Pamphlets need to be protected if they are to continue to be inter-shelved. The pamphlets should ideally be stored in four-flap pamphlet folders that are acid-free and buffered. These folders can be made in-house or purchased from archival sources. Another type of folder is an “Academy Folder” made by Archival Products. It is a card stock folder with an internal Mylar protector secured on two sides.
- Pamphlets can also be housed in folders or in sleeves. They can be upright, flat or spine down. One needs to ensure that they are adequately supported inside the box or file folder to avoid damage from tightly packed conditions or warping from slumping. If a pamphlet is in poor condition it should be housed on its own in an acid-free folder within a box for added support. All labeling should be done in pencil.

Photograph storage
- The National Park Service has developed many technical leaflets, called Conserve-O-Grams. A full list can be found at www.nps.gov/museum/publications/conservogram/cons_toc.html. Section 14 has twelve leaflets on photographs.
- Another source is from the Northeast Document Conservation Center. A list of their leaflets can be found at www.nedcc.org/resources/leaflet.list.php. (They also have leaflets on a wide variety of topics that would be useful for SHS.) Section 5 has five leaflets on photographs.
- Photographs can be housed in paper wrappers or inserted into a wide variety of sized plastic sleeves. The enclosures can then be grouped into boxes or notebooks and stored on shelves.
Shoes need to be carefully stuffed inside. It is important not to overstuff. Stuffing material can be any soft, archival material. Examples are acid-free tissue, Reemay or Hollytex, or stockinet stuffed with padding or Mylar (see handouts "Inner Supports for Moccasins: an ingenious solution"). Reemay has the advantage of keeping its shape over time, compared to acid-free tissue that compresses and needs to be replaced.

Boots can be placed on a handling tray of archival board, padded with a thin layer of polyethylene sheeting, and then secured with cotton twill tape. Due to height requirements, boots might be best supported if positioned lying on their sides.

Shoes can be stored in individual boxes (i.e., one pair to a box or grouped by similar type in a larger box). The advantage to individual boxes is that vibration from handling is greatly reduced to the collection. However, a small collection can be housed in a small number of boxes. The method chosen may be determined by shelf space.

For very large collections it might be more economical to store shoes on open shelves. This method allows for visual accessibility, however, it exposes the collection to the environment, especially air borne dirt and debris. A curtain or dust cover is recommended.

**Slip Covers**

A particularly challenging category of textile to store is the slipcover. The three-dimensional quality means that they should be folded along sewing seams while taking their construction design into consideration. They are all extremely creased which makes folding and padding out difficult. Of all the textiles, they are in the most vulnerable configurations.