



Renovation of a Warehouse Space for Art Storage to Support Preventative Conservation

Eiteljorg Museum of American Indians and Western Art

Funding provided by National Endowment for the Humanities, Sustaining Cultural Heritage

Land Acknowledgement

The Eiteljorg Museum sits upon the lands of the Myaamiaki/Mihtohseeniaki (Miami), Bodéwadmi (Potawatomi), Lenape (Delaware), Saawanwa (Shawnee), Kiikaapoi (Kickapoo), and Peouaroua (Peoria) peoples. These lands have been a site for trade, gathering, and kinship for all of these Peoples. We are indebted to them for their stewardship of the land, plants and animals over many generations past, present and future. We acknowledge all other Native/Indigenous peoples forced through these lands by the United States government. The lands of the Eiteljorg Museum and Indianapolis, Indiana are, and always will be, Native lands.

Introduction/Executive Summary

In October 2023, the museum embarked on a project to identify preservation and construction needs for renovating internal warehouse space for art storage with support from the National Endowment for the Humanities. The current challenge for art storage in the building is a lack of space for storing collections items, loss of workspace (as we have expanded into our previous work rooms to store collections), and a strained HVAC system. Limited space is the most significant risk for the collection as assessed internally by staff and externally through the Collections Assessment for Preservation (CAP) program. Additionally, the lack of space affects how we maintain good passive controls by reducing airflow, placing stress on improperly stored items, and limiting disaster prevention methods by the loss of workspace.

Renovation of a space for art storage within the footprint of our building will allow us to move artwork from areas never designed for long-term collections storage. Our current and growing collection of contemporary art is increasingly mixed media and presents conservation, storage, and preservation challenges that our current storage is not equipped to handle. We need space for staff to perform collections care functions to meet these challenges. By renovating this space for art storage, we can ensure the collection's security and preservation while returning office space and workspaces to their designated use.

The planning team for this project included internal staff and outside consultants. The outside consultants were the building's architect, Jonathan Hess from Browning Day, and Nicole Grabow, Director of Preventive Conservation at Midwest Art Conservation Center. The goal was to produce construction documents and preventative conservation recommendations that incorporate sustainable preservation strategies, so we can move to the construction stage with the confidence that we have a plan that supports the care of collections and incorporates sustainability.

Background and explanation of the problem

Eiteljorg Renovation of a Warehouse Space

The Eiteljorg Museum collection comprises 1,826 pieces of Western Art, ranging from early 19th century to Modernist paintings, sculptures, and illustrations that convey the process of artists documenting the West, aesthetic responses to the environment and people, and contributions to the fictionalized and romanticized American narrative. The museum's collection of Native American customary (the term preferred over "traditional" or "historic" based on recommendations from our curators of Native American Art and discussions with our Native American advisory board) items is the largest in the institution with 7,256 items. It includes items such as pottery, tools, jewelry, basketry, katsinas, sculpture, weavings, clothing, and ceremonial items dating from the early 19th century to the present. The final collection focus, consisting of 1,100 items, is the contemporary art of the West and Native American art. The Native American contemporary fine art collection is considered by many to be the preeminent collection of contemporary Native art in the country.

“Since 1999 the Eiteljorg Museum has used their Fellowship Program as an opportunity to collect some of the most renowned and exciting work in the field of contemporary Native art. This collection now includes work from many of our most important living artists, both established senior artists and some of the most innovative emerging artists. They have built one of the strongest collections of work by living Native artists, a collection that continues to grow and reflect this remarkable and dynamic field.” (Kathleen Ash-Milby (Navajo), Associate Curator, Portland Art Museum.)

Using historical data from our collection to predict future growth, we estimate that the collection has doubled in size about every 15 years since 1989. In 2003, the collection had more than 5,291 items; in 2022, it had grown to more than 10,100 works, and as of September 2024, it has grown to 10,424. Since the museum's beginning, we have added an average of 301 objects each year. This trend will continue based on future promised gifts, bequests, and purchases. In 2022, we had a bequest of over 1,000 items; while we did not take everything, we kept more than 150 items for the collection. We were notified about another large bequest in 2023 and are evaluating at least two more potential bequests and several planned gifts. The items we are acquiring fill collection gaps and let us tell a more comprehensive story of Native American and Western experiences. We are fortunate to have strong relationships with several museum supporters who have extensive private collections. This population of donors is aging and considering where to place their collections. With our excellent relationships and collections care initiatives, we tend to be at the top of their donation list, which could pose relationship challenges if we must limit or refuse gifts due to storage considerations.

In support of continuously improving our collections management efforts, we applied for and were accepted to the Collections Assessment for Preservation (CAP) program in 2020. Addressing art storage needs is a multi-year goal in the recommendation in our final CAP report. One of the significant goals of the CAP assessment is to "modify existing spaces as needed for expanded collections storage. This may include adding localized humidification/dehumidification and security systems." As we develop our institution-wide master facilities plan with input from our board facilities council, executive leadership, and architectural, engineering, and preservation advisors, additional art storage and collections processing workspace is a high priority. Our new institutional strategic plan is organized around five key goals, one of which is to “maximize our physical and digital space as tools to achieve our mission. Objective A: Expand art storage.”

Current collections storage is in the footprint of the building's original construction in 1989. At the time, architects and museum advisors thought it would accommodate our collection for fifty years. Thirty-three years later, we are out of space to house what we have, much less what we will acquire

in the next several decades. The museum has completed many projects to proactively expand and improve the current collections storage. We acquired new compact movable furniture to increase our storage and upgraded the flooring from carpet to linoleum. The lighting was also upgraded to LEDs with motion sensors to reduce energy usage. While these improvements have ensured good collection conditions for the existing art storage room, space remains an issue. We have had to move pieces into workspaces to ensure that artwork is secure, resulting in a loss of clean workspaces. We work with chemicals, hot glue guns, and other equipment that are fire hazards in spaces that also contain collections. This also limits storage for archival supplies and increases insect hazards in storage areas.

We identified a warehouse space for potential expansion within the footprint of the building. Off-site storage is not a viable option based on limited staffing, security requirements, and transportation needs. We began collecting environmental data in November 2020, and after two years of monitoring, the data showed us this was a relatively stable environment, even without humidification controls, and this space quickly rose to the top of the list to retrofit for additional art storage. In 2022, we hired a new vice president of facility, security, and technology who has worked closely with the director of collections to help prioritize and facilitate the art storage expansion project. Creating a space within our current footprint is an efficient and effective solution for our current capacity issues.

While developing our long-term storage strategy and planning initial stages of the renovation project, we had a few methods at our disposal to create a secure space as a first step in a multi-phase plan while keeping sustainability and collections care as the focus. The first step was to build a temporary wall in a portion of the warehouse space to address our immediate need for space. We used materials from another internal project to build the wall and purchased doors that would be used in the renovation.

The collaborative planning phase, supported by a Sustaining Cultural Heritage grant from the National Endowment for the Humanities, gave us an opportunity to form a planning team comprised of internal and external experts to address the current preservation challenges, provide appropriate planning for future growth, and plan for impacts on the museum staff and visitors. Grant funds paid for the architectural scope and process, contract fees for the preservation expert, and costs associated with convening planning meetings. Additionally, this grant funding allowed us to acquire construction documents and preventative conservation recommendations that incorporate sustainable preservation strategies so we can progress to the project's construction stage.

Proposed solution and recommendations

The project team spent nine months assessing and working on recommendation and construction plans for renovating the warehouse space into art storage. The space under evaluation is an approximately 1,800 square foot space, which would create a 30 percent increase in the square footage of art storage.

Three group meetings and three site visits resulted in a conservation recommendation report and construction documents that were a collaboration of the entire team. The team shared information

through three informational sessions open to museum members throughout the planning process. The following information is the results of the conversations and expert recommendations.

The planning team for this project was comprised of internal staff, including the Director of Collections, Collections Manager, VP of Facility, Safety, Security and Technology, Director of Facilities and Technology, and Curator of Native American Art. Outside consultants engaged in the planning team were the building's original architect, Jonathan Hess from Browning Day, and Nicole Grabow, Director of Preventive Conservation at Midwest Arts Conservation Center.

The project commenced with an online kick-off meeting with the whole team for introductions and review of the grant's goals. The next step was for our consultants to visit our site and review internal warehouse space identified as the best location for climate-controlled art storage. This space is near our current art storage in the museum's basement, adjacent to the collections department's offices, workspaces, museum's security control center, loading dock, and freight elevator. Our preservation consultant, Nicole Grabow, visited our site in December 2023 for two days. She made observations in the space to be renovated and took temperature, relative humidity, light, UV, and air quality readings. On day two of her visit, the entire team, including Browning Day (architect and senior project manager) and an engineering group, Circle Design Group (retained by Browning Day), gathered to discuss the challenges and solutions for the renovated space. Browning Day and Circle Design group both visited the museum twice more to take measurements, photographs, notes on the room, and explore the HVAC system more extensively for plans and reports.

Enclosing the space and finishes

One of the planning team's initial discussions focused on completely enclosing the space. We would like to avoid any new construction in this space, but it is inevitable in order to create a clean space for collections and long-term sustainability. The entire group discussed and decided on these plans.

The entire space is mostly below grade. There are two outside walls, each with a portion above grade with exposed insulation. The other walls enclosing the space are interior walls: one temporary wall is made of drywall, and the other is a cinder block with a 4-foot gap at the top of each side to accommodate pipe and ductwork. The airflow that the space allows due to not being fully enclosed is one of the reasons the space has been more stable. However, the recommendations from both our conservator and architect are to enclose the space to achieve a higher fire rating and meet fire code and architectural standards. The drywall wall will be replaced with cinder block and both open sides will be enclosed. The recommendation is to cover the insulation with low-VOC construction and finishing materials.

There are some old pipes in the space that will be removed. In the evaluation we discussed an insect issue that had been investigated and determined to be pipes that were no longer in use. These pipes would be removed and capped off as part of this process. No other water or sewage pipes are in this space, and none would be added. The ceiling is open, and we will not add a drop ceiling. Instead, we will paint the ceiling with low VOC dryfall paint.

The concrete floor has a vapor barrier beneath it. The recommendation is to polish the concrete, ensuring a smooth surface for carts. Using the existing floor is a more sustainable solution than adding laminate or other material. Since the space is food and drink-free (with the exception of traditional care needs that are always accommodated), there is a low risk of any stains or residue

that will create a dirty floor. The vapor barrier means that we do not need to seal the concrete floor, cutting down on materials and avoiding the off-gassing time.

Lighting

The current lighting fixtures will be modified and additional lighting will be added to the space. LED lights with motion sensors will be used for this space. The lights will be LED will be 3000 Kelvin, this is the color light we use in our galleries and is recommended for artwork. We already had a good case study for the lights, as our current art storage lights had been modified to LED with motion sensors. LED lights and motion sensors are used in our current art storage and already proven to reduce the cost of electricity, eliminates any accidental lights being left on, and limits the area of light while working (i.e. all the lights in the storage space are not on if working in a limited area). However, the issue we encounter is that there is not enough light for examinations.

In the proposed space we wanted to address this amount of light with collections care in mind. The recommendations from our conservator and architect too are to have lights that are adjustable. Grabow noted in her report, "For time when staff is working 250 lux is recommended. If more light is required for research, study, or consultation these should have the capacity to come up to 350 lux for brief periods of time." The architect has incorporated dimmers into the lighting system and the addition of fixtures to ensure the space has enough light for examinations. Each fixture will have a motion sensor and will come on when occupancy is detected, after 15 minutes of inactivity the light fixture will turn off. They will also come back to the previously set points if there is a power outage.

There is an existing emergency light that is always on in the space, the recommendation is to remove this light emergency lighting and to replace it with emergency glow-tape to "reduce the cumulative light exposure to the collection" as noted by Grabow in her report.

Safety and security

The space will be equipped with appropriate safety equipment to ensure that it is up to code as recommended by both consultants including combination audio/visual signaling devices, photoelectronic smoke/heat detectors, thermal detectors, fire extinguishers, pull stations, and a sprinkler system. These devices will protect and preserve the items and human elements.

The proposed space currently has a wet sprinkler system. While the standard used to be Halon and/or pre-actions systems, they are no longer the recommendation for collections care. Halon fire suppression systems have harmful effects on the earth's environment and their manufacture was ultimately banned in the 1990s. Any system that is in existence now has the disadvantage of being a one-time use system. In our analysis, recommendations have been made for either keeping the existing system or installing a hybrid system that is a combination of water and nitrogen to provide protection for the space. There are considerations for both systems, but funding will be a determining factor when a decision is made regarding how to proceed. Both will protect the collections and people. The current water system has the advantage of already being in place and sufficient to cover the space. However, there are some modifications to the current system to ensure full coverage. Using the existing systems will save on the cost and supplies of replacing the system. The other recommendation of the hybrid systems had the advantage of producing little water and being better for collections materials. This has the disadvantage of being more expensive in time, construction, and replacement of the system. However, the current art storage space is protected by a halon system which is not a long-term solution and is a risk to the collection by

having a single-use system in place. There may be a financial advantage to replacing the halon system and installing a new system in the proposed renovated space at the same time with a hybrid system. Discussion is ongoing and quotes are still being acquired to make a final determination.

The security of the space for staff, visitors, and the collections are extremely important. The space will be equipped with infrared cameras, so no emergency lights are used in the space. A dual authentication system and limited access for the space are planned. Any visitors must be accompanied by an authorized staff member, with the exception of a cultural visit that might require staff to step out of the room. We discussed the needs for cultural visits and are making security accommodations based on recommendations from the team. We will also incorporate a space for contemplation and breaks, which will include ADA-compliant and comfortable furniture. While we anticipate more cultural visits in our current art storage, incorporating a space that could be used for reflection and quiet for the tribes' needs is an important detail.

Temperature, humidity, and air quality

Our HVAC system was the longest and most significant discussion of this project. The staff had a lot of questions about operations, efficiency, and long-term sustainability. One of the questions proposed was whether our system could handle the addition of this space to the overall system. While the space has some temperature control, there is no humidity control, which needs to be attached to the system. The recommended setpoints are 70 degrees and 50 percent humidity because of the mixed materials that will be stored in this space.

The answer was yes, we could use the current system; however, in the investigation it was noted that based on how the system was ducted, it was not working efficiently. For example, one air handler was trying to keep the temperature and humidity balanced for both a room below grade with very few visitors and one space above grade with many visitors. While the staff was aware of this existing structure, we could not understand the logic and sustainability of a system with this orientation. Browning Day involved Circle Design Group, an engineering firm, to help evaluate the existing system and propose solutions. The firm proposed partially re-ducting the system to put the art storage and surrounding spaces that are all below grade onto the same air handler, allowing the system to better maintain the recommended setpoints. Air return vents are recommended by both consultants as there are currently none in the space. These vents will promote good air circulation, which is beneficial for the organic materials and staff working in this space. The result of this evaluation by this team of experts will create an efficient and sustainable long-term solution.

We were given some air quality recommendations as well, including the regular use and replacement of air filters every three to six months and encouraging air circulation and air changes in closed spaces. The proximity of a power station reinforced the need for good air filtration. Grabow notes "While positive pressure can also be used to limit pollutants from outdoor sources, the practice can increase energy consumption and is not necessary or advised for the Eiteljorg. Neutral pressure, combined with excellent filtration, is sufficient. Negative pressure should be avoided."

Storage Furniture

Over the last four years, we have gathered recommendations regarding storage furniture from conservators through grants, including an NEH Preservation Assistance grant and this current project. One grant in 2019 was focused on textiles and included the recommendation for oversized

drawers bigger than our current oversize drawers to accommodate items that would benefit significantly from being stored flat. Grabow focused on conservation needs of our contemporary collection, resulting in recommendations for larger span shelving than the pre-existing shelves. This need was noted in our submission for this grant, including a piece by Truman Lowe (Ho-Chunk) that is overhanging shelves and photographs by Wil Wilson's (Diné) that best stored flat but are too big for flat file drawers. In 2023 we acquired two canvas pieces from our Contemporary Art Fellowship by Sean Chandler (Aaniiih (Gros Ventre)) that are intentionally unstretched. Currently rolled for storage, these pieces would benefit from being stored flat. While there is a desire to add more compact shelving to maximize space, there is also a need for large, oversized shelving that is anchored to ensure stability and safety.

Plan for relocation of items during construction

During planning, we developed a strategy to move any items during the implementation/renovation phase of this space to the current art storage or other workspaces. The construction phase will take about six months. We will factor for eight months plus another two months for furniture installation. It will take us approximately one full week uninterrupted to relocate all the items in the proposed space. Due to other work constraints, we will allocate three weeks for this move. The proposed space houses not just artwork, but non-art items, and we will be able to accommodate the artwork back in the main art storage for that period.

Access will be limited to manage the temporarily overcrowded areas. These times will be blocked off on a shared calendar and planned for well in advance. However, we realize that shutting down this space entirely will not be an option, and we will do our best to plan for departmental needs during this time to ensure minimal interruption of museum functions including exhibitions. For moving into the new space once the renovation is done. We will plan for two months to make sure the HVAC is working properly, and any offgassing is complete. This can overlap with the furniture installation since it would be power coated metal coming into the space with little to no offgassing. While this construction is happening, we will create location names and identify the items that will be the first to move into this space. We will plan for three months to move items that are immediately identified for the space and reorganization of the current art storage space. Because the space is designed for expansion the “finish line” for this project is once the space has the first round of artwork is housed in this space. From start to finish this project will take approximately 16-month project.

Conclusion

The process of collaborating with internal staff and external consultants on this project created a plan and documents that support preventative conservation and sustainability. The warehouse space to be renovated will increase our square footage by about 30 percent allowing for large wide space shelving, extremely large drawers to accommodate oversize pieces, increase airflow by reducing overcrowding in both the current art storage and the proposed renovated space. We will create a space that is clean and safe for art storage with sustainability in mind by decreasing materials used, modifying and installing energy efficient LED lighting with motion sensors and dimmers, using a sprinkler system that meets current standards and is environmentally friendly, and adapting and updating our HVAC system to increase efficiency and longevity. The project has not only helped us create a plan to make the proposed warehouse space suitable for artwork and more sustainable but allowed us to make additional plans for our current art storage to increase the

long-term sustainability, like replacing the Halon and the modification to the HVAC system. The project has been an excellent collaboration and generated information that helped us establish and solid plan that will take us onto the next steps of this project, the implementation.

References

Nicole Grabow, (Director of Preventive Conservation, Midwest Art Conservation Center) internal report, "Collections Storage Expansion Planning: Preservation recommendations Eiteljorg Museum of American Indian and Western Art," March 19, 2024.

Nicole Grabow, (Director of Preventive Conservation, Midwest Art Conservation Center) and Steve McQuillin, (The Vermillion Institute) internal report, "General Collections Assessment, Eiteljorg Museum of American Indians and Western Art." October 2, 2020.

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Consultants:

