



NATIONAL
ENDOWMENT
FOR THE
HUMANITIES

DIVISION OF PRESERVATION AND ACCESS

Narrative Section of a Successful Application

The attached document contains the grant narrative of a previously funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the NEH Division of Preservation and Access application guidelines at <http://www.neh.gov/divisions/preservation> for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Preservation and Access staff well before a grant deadline.

Note: The attachment only contains the grant narrative, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Planning for the Sustainable Preservation of At-Risk Film in the Center for Creative Photography Archives

Institution: University of Arizona

Project Director: Alexis Peregoy

Grant Program: Sustaining Cultural Heritage Collections

NARRATIVE

INTRODUCTION

Project overview. The Center for Creative Photography (CCP) at the University of Arizona (UA) seeks a \$40,000 grant to plan for the sustainable preservation of at-risk film-based materials found within the archive collections. The film-based materials include cellulose nitrate and acetate negatives, slides, transparencies, and film reels from the late 19th century through the 20th century. Produced by several of the world’s most celebrated photographers, the irreplaceable film objects document photographic, political, social, environmental, and technological histories as well as the working processes of photographers, resulting in a valuable and irreplaceable collection of contemporary visual culture.

Through the creation of an interdisciplinary team, the goals of the planning project are to assess the building and identify viable locations for cold storage; examine existing mechanical, electrical, and fire suppression systems; and evaluate the environment where collections are or could be stored to provide sustainable preservation solutions while considering the least possible use of energy. The collaborative team is comprised of essential CCP staff: Alexis Peregoy (Associate Archivist and Project Director), Dana Hemmenway (Senior Conservator), and Steve Llewellyn (Assistant Director for Facilities Management and Planning). Consultants include Charlie Lynn, Project Manager and Engineer from the University of Arizona Planning, Design, and Construction (UA PDC) department, as well as Christopher Cameron and Kelly Krish, two Preservation Environment Specialists from the Image Permanence Institute (IPI). Collectively, the core team represents expertise in archives and collections management, preservation and conservation, facilities and building systems, and sustainability. UA’s Risk Management and Facilities Management will participate in planning as necessary. Through collaborative work focusing on the building’s mechanical systems and environment, as well as planning for cold storage to ensure the long-term preservation of film-based materials, the team will address sustainable preventive conservation strategies and recommend cold storage solutions while maximizing energy efficiency potential.

In addition to assessing the building’s facilities and monitoring the collection storage environment, other planning activities will include site observation of peer institutions with recently implemented sustainable cold storage for film collections to provide valuable insight on project planning and implementation challenges and outcomes. The CCP team also plans to collaborate with the Arizona State Museum (ASM) on shared sustainable cold storage strategies that benefit both cultural institutions. Moreover, with the assistance of two paid interns, members of the project team will closely monitor the environment using preventive conservation tools to conduct film condition reports to document current stages of deterioration in preparation of cold storage.

Since 2012, an endowed CCP conservation program has spearheaded collections care and helped ensure the collection’s preservation for future generations. The conservation department features a 1,000 square foot laboratory equipped to support the highest standards of conservation examination, documentation, and treatment. As part of this conservation program, CCP has implemented a building-wide environmental monitoring program, supported research activities by scholars and scientists, established a mentoring program for conservation interns, and created an institutional Collection Emergency Response Group (CERG). CCP also hosted a professional symposium and workshop, *Plastics Associated with Photographic Materials*, for photographic conservators from around the globe in 2016.

In 2016 UA leadership tasked CCP with achieving the following four objectives created by the CCP’s Roadmap Working Group: realize interdisciplinary potential, maximize campus identity, assert the relevance of the collection, and ensure collection longevity (*see Appendix C*). As part of its commitment to preservation, the conservation and archives departments have dedicated considerable time in surveying, isolating, and conditioning CCP’s film-based materials. Over the past 18 months, staff and interns have surveyed 185 collections, isolating 25 collections containing cellulose nitrate negatives to be assessed for deterioration and prepared for cold storage. Staff have also been monitoring the level of deterioration in cellulose acetate film materials that are suffering from “vinegar syndrome,” a strong vinegar-like odor and common sign of deterioration in acetate film. Overall, the initial work completed has resulted in evidence of higher levels of deterioration, especially among the acetate materials, demonstrating the critical need to implement sustainable preservation solutions to ensure the prolonged existence of CCP collections.

CCP is aware of the NEH planning grant received by the Arizona State Museum (ASM) on the University of Arizona campus in 2014, which focused on needs for sustainable preservation of ASM’s photographic collections. Although CCP and ASM have distinct and disparate collection materials and serve different areas within humanities, the two institutions have been collaborating on feasible ways to employ sustainable cold storage more efficiently. Although ASM is several years ahead of CCP in planning and intends to submit an NEH SCHC implementation grant proposal for FY2018, both parties can benefit from the exploration of collective short-term and long-term solutions. In short, ASM could provide temporary cold storage of CCP high-risk film materials while CCP completes planning and implementation of sustainable cold storage. In return, CCP will provide long-term storage to ASM’s small but important collection of nitrate film once sustainable cold storage specifically designed to house nitrate materials is implemented.

Organizational Profile. CCP was created in 1975 after a collaboration developed between former University President John Schaefer and distinguished photographer Ansel Adams. Since its inception, CCP has been unique in its acquisition of photographic archives, creating an unparalleled research collection of North American photography. Primary to the CCP’s collecting practice has been the interest in and concern for the photographic object and the physical materials of photography. The CCP collection started with the archives of five master photographers – Ansel Adams, Wynn Bullock, Harry Callahan, Aaron Siskind and Frederick Sommer. These legacy collections include a wide variety of archival materials; for instance, personal papers, correspondence, memorabilia, biographical materials, publications, artwork, audiovisual and photographic materials, including film-based negatives, slides, and transparencies. Over the past 42 years, the CCP collection has grown to include 260 archival collections containing more than 6 million archival objects. These archives include some of the most recognizable names in 20th century North American photography: W. Eugene Smith, Lola Alvarez Bravo, Edward Weston and Garry Winogrand, to name a few. In addition to the archive collections, CCP actively acquires fine print photographs, books, journals, catalogs, rare publications, and oral histories. This grant solely focuses on the preservation of film materials in the archives.

A premiere collection of North American fine art and photographic archives, CCP promotes creative inquiry, dialogue and appreciation of photography’s enduring cultural influence. To realize this mission, CCP acquires photographic archives and fine prints; preserves collections in accordance with recognized standards and best practices; educates, enriches, and inspires diverse audiences through exhibitions, programs, publications, and teaching about photography and the photographic process; facilitates research and scholarship utilizing photography and its history for creative expression and academic inquiry; cultivates transdisciplinary connections between photography and the other arts, humanities, and science disciplines; and engages in debate about photography and its role in modern society. CCP’s vision is to be a world-renowned leader in preservation, teaching, learning, scholarship, and the appreciation of archival material and works of art by North America’s greatest photographers.

Located on the main campus of the University of Arizona (UA), CCP provides direct access to the campus community. With new construction beginning in 1986, CCP’s 53,000 square foot building opened in 1989. The building houses a public exhibition space, study center, digital imaging lab, conservation lab, three vaults, oversize storage, and other work spaces spanning three floors. While it is not an historic building, many of its facilities are outdated and need to be brought up to date to support collection growth as well as efficient use of building space and systems.

In addition to the gallery and study center, CCP maintains an active program of loans to exhibitions world-wide, making its holdings accessible to faculty, students, visiting scholars of all disciplines, and the general public. Further access is provided through publications, a series of public programs, the distribution of images and granting of copyright permission, and through partnerships like its innovative collaboration with the Phoenix Art Museum.

The Center for Creative Photography currently employs 14 full-time staff, 5 part-time staff, 16 student workers, 5 unpaid interns, and 3 volunteers, with an annual operating budget of \$1,914,298. It is expected that four more positions will be filled within the next year, including a curatorial program coordinator, imaging specialist, licensing specialist and a temporary project archivist. CCP has the additional support of an external relations team through UA’s Research Discovery and Innovation (RDI) department, which oversees CCP. Most recently, CCP selected a new Director, Anne Breckenridge Barrett, who will begin

her appointment January 2018 (*see Appendix F for Letter of Commitment*). With more than twenty years of museum experience, Anne comes to CCP from the Museum of Contemporary Art Chicago (MCA). Her goal is to expand CCP’s impact as a premier institution of American photography and provide creative programming to increase the visibility and use of CCP’s collections.

Two archivists and one librarian staff the Volkerding Study Center, both mentoring and relying on the support of 8 student workers, volunteers, and interns. The Study Center oversees intellectual control and management of the archive collections, provides access to CCP collections, and coordinates preservation projects with the conservation department. In FY2016, the Study Center accommodated 51 researchers and 220 research requests, in addition to coordinating ten UA undergraduate and graduate level class visits with a total of 193 students. A total of 1,458 research hours were logged with 922 boxes pulled and 2,148 photographs shown to researchers. As a pivotal site for research into the history of photography, CCP has long hosted scholars from a variety of disciplines. Examples include museum curators, gallerists, publishers, filmmakers, as well as numerous faculty and graduate students in Language and Literature, Media and Culture Studies, Archival Studies and Film History, Art and Art History, History, and other humanities-based studies.

CCP also has a strong curatorial program, which interprets the collection for CCP audiences through exhibitions, generates scholarship about the collection, and guides fine-print acquisitions. In FY2016, CCP featured two exhibitions: *Pure Products of America Go Crazy* attracted 2,433 attendees, and *The Lives of Pictures* logged 6,162 attendees. CCP also hosted five lectures/ public events with 550 attendees total, and provided exhibition tours for 751 UA students, 299 non-UA students, and 151 members of the public. Through the Phoenix Art Museum partnership, CCP held two exhibitions in addition to public lectures and events.

CCP collection development and management is guided by the 2016 Collections Management Policy (CMP). The CMP, reviewed and updated annually by CCP collections management staff, details acquisitions, deaccessions, loans, risk management, access and use, and collection care. Within collection care, the CMP addresses general principles, documentation, inventories, handling, conservation treatment, collection security, and disaster preparedness. It is CCP’s legal, ethical and fiduciary responsibility to provide a safe and appropriate environment, with effective security and environmental control, for all objects in its custody. This means controlling light exposure, temperature and relative humidity, and pollutants in accordance with professionally accepted standards. Furthermore, all conservation measures shall respect the integrity of the item, shall always use materials and techniques that are reversible, and shall comply with ethical standards established by the American Institute for Conservation of Historical and Artistic Works.

CCP’s archive collection is certainly its greatest strength, and its preservation for posterity is essential. The internal work of collection care, preservation and access is ongoing. CCP has the potential to serve as a model for the preservation of and enduring access to photographic materials. Most notably is the depth and breadth of the collection, which allows for discoverability of unlimited research opportunities.

SIGNIFICANCE OF COLLECTIONS

The collections that are the focus of the project include any archive that contains cellulose nitrate or acetate film. These materials include negatives, transparencies, slides, and film-to-film reels in both black-and-white and color and a variety of sizes and formats. CCP holdings include nearly 153 cubic feet of nitrate film and more than 1,000 cubic feet of acetate film currently at risk of deterioration. The bulk of the film materials date between 1900 and 1990; however, there are small amounts of film found in the archives that date as far back as 1890 as well as more contemporary acetate film that is still made today.

Photography has captured humanity since the late 1800s, and film plays an important role in documenting photographic history in addition to the history of social, ecological, economic, racial, and other humanistic developments. Negatives are at the heart of this early photographic process; the negative is the primary source from which photographs are derived. Often times, the film negative is the only source in existence or can contain subtle nuances that do not always translate into the printed image. Recently, a visiting scholar studied the Edward Weston negatives, and through unprinted negatives found visual evidence of previously undiscovered insight into Weston’s working process. Film-based materials provide evidence of the photographic process, including how photographers edit their work, moving from contact sheets and proof prints before making their final print. This is evident in Ansel Adams’ work, as he would sometimes

modify the print by removing unwanted content, while leaving the original negative untouched. CCP will continue to acquire film in noteworthy archives, as film’s role in the photographic process is significant.

The CCP film collections are extremely diverse and encompass a wide range of subject matter: commercial portraiture, fashion, landscape, city streets, wars, and social justice movements, to list a few. Several CCP collections that contain at-risk film-based materials also focus on a wide range of topics related to CCP’s borderland location, the Sonoran Desert and Southwest landscape, Native American culture, Chicano culture and identity, and Mexican architecture. Photography is not only used for artistic intent and to make a living, but to document history and create cultural and social memory. For instance, CCP holds the archive of Brian Weil, a contemporary photographer who founded the first needle exchange program in New York City and was known for his AIDS Project photographs. Additionally, several of the CCP archive photographers, including Aaron Siskind and W. Eugene Smith were members of the Photo League, a progressive cooperative of documentary photographers active from 1936 to 1951, who captured on film the lives and struggles of Americans, including the *Harlem Document* project. CCP archive collections are holistic and multi-dimensional, providing rich research opportunities which serve a variety of disciplines in the arts and humanities.

Marion Palfi was a social documentary photographer who produced a photo essay on Jim Crow laws and lynching entitled “There is no more time,” published in 1949. She also photographed the “Great American Artists of Minority Groups” and “Democracy at Work” project between 1944 and 1945. Palfi’s projects explored problems in post-war America: race relations, discrimination in rural towns and urban cities, child neglect and juvenile delinquency, the treatment of the elderly, the condition of Native Americans on reservations and in urban ghettos, and elements of the criminal justice system. The collection’s nitrate and acetate negatives provide priceless visual documentation of using photography to influence social change.

The works of photojournalist W. Eugene Smith span a wide range of subjects documenting the human condition. Smith is known for his photo essays in *LIFE* and haunting images of World War II. Smith is celebrated for his time in Japan, where he publicized the effects of Minamata disease and was physically assaulted by company employees trying to cover up the disease. Between 1957 and 1965, Smith also photographed and recorded jazz musicians like Thelonious Monk in a New York City loft, producing over 40,000 photographs and 1,740 reel-to-reel tapes. The loft images capture famous visitors like Salvador Dalí and Diane Arbus. The Center for Documentary Studies at Duke University created the Jazz Loft Project and produced a documentary film using materials from CCP’s Smith archive, which contains over 75 cubic feet of both nitrate and acetate negatives and transparencies from the 1930s to the 1970s.

The Edward Weston archive is one of the most significant and frequently researched CCP collections. Within this collection, there are 11,000 nitrate and acetate negatives from Weston’s commercial portraiture business in addition to other artistic endeavors and projects between 1923 and 1958. The CCP is also currently collaborating with the UA Art History department on a digital humanities project surrounding Weston’s daybooks, generating further interest into the collection.

Presently, researchers are working on two different book projects surrounding the photography of Garry Winogrand and his archive held at the CCP. Winogrand is one of the most significant photographers of the 20th century, known for his street photography and portrayal of American culture between 1947 and 1984. While much of his black-and-white photography is well-known, his color work has rarely been seen. Both book projects will feature images from CCP’s collection of 45,000 color slides of rare images with supporting scholarly essays. While CCP is digitizing the color slides and will provide online access to these materials, the proposed NEH project will ensure the original slides are preserved in cold storage along with 100,000 acetate negatives from this collection.

The avenues to engage the CCP collection in humanities-related research opportunities are as numerous and diverse as the collection itself. CCP’s Volkerding Study Center attracts a variety of audiences, including faculty, students, and scholars with backgrounds in art, history, writing, literature, journalism, architecture, and both the social and physical sciences, to name a few. CCP offers several fellowship opportunities, including the Gary Metz Fellowship, awarded to an individual engaged in researching and writing about photographic theory relating to the imagery and its impact on societies; and/or the human

relationship to images and the reasons that drive their creation. CCP also holds public print viewing sessions throughout the year, which consistently includes archival objects. The CCP gallery space is a popular destination for the UA campus, local communities, visiting scholars, and the general public with several drawers dedicated to archival materials that always get favorable feedback from visitors.

Two repositories with collections that relate to CCP’s archives include the George Eastman Museum in Rochester, New York and the Harry Ransom Center at University of Texas at Austin. The George Eastman Museum collects and preserves photography and motion picture film, and is a leader in film preservation and photographic conservation. The George Eastman Museum has collections that complement several CCP archive artists, such as Edward Weston, Harry Callahan and Nancy Newhall, and is also the main repository for Aaron Siskind’s *Harlem Document* images. The Harry Ransom Center is a humanities research library that focuses on writers and artists, including photographers related to CCP archives, such as Carl Chiarenza, Magnum Photos, Edward Steichen, and George Tice. While each of these institutions relate to and support the research of photography, CCP focuses exclusively on photography and the photographic process.

CURRENT CONDITIONS AND PRESERVATION CHALLENGES

Present Condition. The archive collections have been acquired and processed since the early 1980s, and have been stored together in a dedicated archives vault since 1989 (nearly 30 years). The 4,028 square foot vault is supported by an outdated Halon fire suppression system and holds all 260 archive collections (*see images in Appendix A*). The space is at capacity with virtually no remaining room for collection growth unless additional storage locations or compact shelving solutions are implemented. Another preservation challenge is the amount of mixed materials found within the boxes of many processed collections. For example, it is common to find film-based materials like negatives stored together with paper-based contact sheets or work prints. This method of storage is not suitable for the sustainable preservation of film materials, especially when coupled with the low humidity and extreme heat found in a desert climate.

While CCP has mechanical systems and four air handler units to control the building’s temperature and humidity, the vault temperature readings regularly produce an average temperature of 65-70 degrees and 40-45% relative humidity despite the recommendations being set at 60-65 degrees and 35-45% humidity. During the summer monsoon months, outside temperatures reach 100-110 degrees regularly, which requires facilities to service the HVAC system to chill the current supply air as cold as possible. CCP’s four air handler units currently have pneumatic controls on them with the original coils still in use. In 2015, CCP experienced a few HVAC-related issues in the public exhibition space, which included leaking vents during heavy rains, creating high humidity coupled with faulty humidistats and valves in the mechanical room; all of which were serviced and replaced by UA Facilities Management Services. However, as there are no digital controls, alarms, or the possibility to remotely monitor temperature and humidity in the building, staff are not immediately aware of developing issues.

Both nitrate and acetate film supports have been identified frequently in the surveyed collections, with 25 collections containing cellulose nitrate film and more than half of the collections containing acetate film. While the vast majority of the nitrate film appears in stable condition (typically only yellowing and/or mirroring), there are occasional instances of film reaching higher levels of deterioration, such as curling, brittleness, stickiness, and even base or image decomposition (*see images in Appendix A*).

While the nitrate film is largely stable, higher levels of deterioration have been discovered more regularly when observing the acetate film. Much of the acetate film is experiencing “vinegar syndrome,” and staff have occasionally placed A-D strips purchased from the Image Permanence Institute to detect and measure the severity of acetate deterioration. Recorded levels have come back regularly between 0.5 - 1.5, with occasional spikes in levels reaching 2 - 2.5. However, CCP has not recorded enough data to provide a clear overview of film conditions within the entire collection. There have been several cases of deteriorated acetate film negatives that have become brittle, warped, crystallized, and delaminated.

CCP currently has a walk-in freezer that holds 220 cubic feet of materials (*see images in Appendix A*). Since 2006, four archives containing nitrate film, including Ansel Adams, have been stored in the freezer. These collections hold negatives in envelopes and archival metal-edge boxes. The boxes are stored inside of cabinets that provide a tight seal, providing an extra barrier of protection from the outside environment. The

current housing of these materials is less than ideal as the envelopes holding the negatives are sealed on all four sides, making access difficult. The majority of materials within these four collections have not been accessed for over ten years, therefore, CCP staff will need to open and replace the enclosures to conduct new condition reports.

The current freezer is less than ideal for sustainable preservation. The freezer does not meet the National Fire Protection Association standard regarding the storage and handling of nitrate (NFPA 40), which states that nitrate film requires special safety precautions due to its extreme flammability risk. While the freezer has temperature control, it cannot control relative humidity and there is no fire suppression system within the freezer. Consequently, sealed cabinets were installed inside of the walk-in freezer to provide an additional barrier between the archival boxes and the outside air. There is also no separate area for film to acclimate to the environment when removed from the freezer; therefore, film materials must be placed into a cooler for 24 hours before being served to researchers. The freezer is currently set at 60 degrees, but was previously set at 35 degrees over 18 months ago. Unbeknownst to staff, the freezer stopped working sometime between January and March of 2016. While UA Facilities Management was able to resolve the issue, staff have taken the opportunity to load the freezer with newly conditioned nitrate film before incrementally lowering the temperature back down to 35 degrees.

While the current freezer presents inadequacies in sustainable preservation, the 4,895 square foot room that houses the walk-in freezer shows unlimited potential for state-of-the-art storage, preservation, and sustainability initiatives (*see images in Appendix A*). In addition to the freezer, this room currently acts as an exhibition prep space and storage for shipping crates, frame stock, and archives supplies. This unfinished space, which is an empty shell with no drywall, HVAC system, flooring or ceiling, has continually been included in long-range planning discussions. The space will be assessed and reviewed as a viable option for cold storage, and. Not only does this space show great potential for cold storage installation, but it also allows for future implementation of compact shelving and storage for other collection materials as the CCP continues to grow.

Preventive Conservation Practices and Policies. The conservation and archives staff have implemented several preventive conservation practices and policies over the past five years to ensure the collection’s longevity. The conservation department uses data loggers and eClimateNotebook for environmental management and data analysis. This data is reviewed quarterly to check for temperature and relative humidity fluctuations in the building, especially within collection areas. The conservation department also leads CCP’s Collection Emergency Response Group (CERG) to ensure preparation in the event of disasters, pests, thefts, and other collection-related emergencies. CERG is also drafting a comprehensive preparedness and response plan to guide staff in the event of an emergency.

CCP archives staff are responsible for preventive conservation practices of the archive collections. The archives processing manual includes thorough guidelines and best practices for preservation and storage. There are detailed directives for format-specific materials, including film-based materials like slides and negatives. When collections are processed or handled, assessments are made regarding the collection’s storage and staff must ensure the collections are safely and securely housed. Materials requiring treatment beyond basic preservation measures are evaluated by conservation staff.

Administrative and Intellectual Control. CCP archives are managed by a team of two archivists and one librarian. CCP committees for both acquisition and deaccessioning practices provide administrative control over the collections. All records related to the collections, including provenance, legal contracts, and correspondence, are kept by the CCP collection management team in physical control files as well as the CCP server. The conservation department is responsible for saving all condition reports, environmental data analysis, and other assessments relating to CCP collections. These records are also stored on the server and are accessible to all CCP staff.

In regards to intellectual control, all processed collections are described with a finding aid that meets archival best standards and practices, and includes information on access and use restrictions. For example, if there are materials that are unsafe to handle and cannot be served to patrons, it is noted in the finding aid.

Collection finding aids can be accessed on CCP’s website and Arizona Archives Online. Additionally, collection-level MARC records can be found in the UA Library Catalog.

Location tracking is crucial in managing CCP collections and the film preservation project. As the film is surveyed, it is isolated from the other materials in the archives. Currently, there are three locations within CCP that store film-based materials. Many of these materials are requested by researchers, therefore, access is essential. A location spreadsheet was created to track the collection movement and is updated regularly by archives staff. CCP also is currently assessing implementation of an archives-specific collection management system which will have the ability to track material location down to the item level.

HISTORY OF THE PROJECT

The first assessment of film-based materials took place from 1984 to 1986 as a two-year nitrate negative processing project funded by the Institute of Museum Services grant. Upon completion, over 45,000 nitrate negatives from five collections (Ernest Bloch, Johan Hagemeyer, Sonya Noskowiak, Marion Palfi, and Edward Weston) were organized, contact printed, and frozen. Although this project included the Edward Weston nitrate negatives, they were not frozen as the materials were on loan to the CCP, and the Center did not have appropriate permission at the time. While this project ensured the safety and long-term preservation of nitrate from the designated five collections, other collections containing nitrate and acetate film materials were not assessed. Additionally, more than 30 years has passed since the initial 1984-1986 assessment; therefore, the materials will need to be surveyed again to evaluate the current condition of nitrate, in addition to isolating, conditioning, and freezing the acetate film materials from the collections.

The previous CCP Senior Conservator, Jae Gutierrez, observed inadequacies with the storage of film-based materials shortly after establishing the conservation department in 2012. Problems identified included the lack of a cold storage environment, little preservation monitoring, and noticeable odors. In 2015, CCP staff met with UA PDC to assess the building’s environment and storage concerns, which included basic assessments of the Halon fire suppression system, the HVAC system and environmental controls, the current capacity for collection storage, compact shelving options, and cold storage solutions constructed in unused or underutilized areas of the building. While very preliminary designs and cost approximations were discussed in 2015, more research and work on the collections needed to be conducted before attempting to plan and implement any large-scale project.

Throughout 2016 CCP conservation examined the nitrate negatives from the Edward Weston collections, as they had not been previously placed in cold storage. A total of 35 Edward Weston nitrate negatives were documented for advanced active decomposition. These negatives were ultimately deemed unsafe by the previous CCP conservator, and were deaccessioned and destroyed in early 2017.

In May, 2016, the archives department began surveying collections to guide staff in prioritizing issues surrounding intellectual and physical control, as well as preservation needs. Within the first few months of the survey, it was clear that many film-based materials were deteriorating at various levels. In addition to “vinegar syndrome”, selected acetate negatives found in some of the collections have reached advanced stages of deterioration in which the film support shrinks and begins to separate from the emulsion layer. In July, 2016, staff began to first isolate all collections that contained nitrate film. As the oldest film format, nitrate was manufactured between 1889 and the early 1950s, therefore, any CCP archive containing film within those dates has the potential to contain nitrate. Since May, 2016, 185 collections have been surveyed, with 75 remaining. Ultimately, a total of 25 collections comprising an estimated 153 cubic feet of nitrate film were isolated from the archives vault.

The isolated collections were placed into a transient storage room next to CCP’s conservation lab (*see images in Appendix A*). This 270 square foot holding space provides a temporary solution as-is, but is not adequate to store both nitrate and acetate film materials. Two exterior walls in the room often absorb the extreme desert heat, and the space currently contains a Halon fire suppression system. During the summer monsoon season, the data logger shows an average of 69-70 degrees in the room with 50% humidity, slightly warmer than the archives vault. However, the space has potential to be transformed into future sustainable cold storage for nitrate film, which will be assessed during the planning phase.

While the nitrate film materials are stored in the above temporary location, archives and conservation staff (as well as unpaid interns and student workers) have been actively conducting condition reports, documenting characteristics and levels of deterioration found. While not every negative or slide is being assessed, the process is slow, as one box alone can contain 500 film-based negatives which are often combined with other materials. Once conditioned, the materials can be rehoused upon recommendation and prepared for cold storage.

Over the past year, CCP staff have conditioned nine collections containing nitrate, including Lola Alvarez Bravo, and moved them into the current walk-in freezer, which now holds thirteen collections utilizing 137 cubic feet. The freezer was purchased using a “Save America’s Treasures” grant in 2006 to house 40,000 acetate and nitrate film negatives from the Ansel Adams archive as well as the four other archives that had previously been frozen in a standalone freezer since the late 1980s project. Knowing the limitations of the freezer, CCP understands this is a temporary storage solution for the nitrate collection as it does not meet best practices and standards for sustainable preservation or NFPA 40 guidelines. However, it will delay deterioration by keeping the vulnerable film in a more controlled environment until CCP is able to execute planning and complete the implementation of up-to-date sustainable cold storage. The current freezer is also not a sustainable solution for the acetate film materials as 220 cubic feet is not nearly enough space to store the extent of acetate in the archives. However, the freezer will be considered for other preservation purposes.

Staff are still assessing the condition of the remaining nitrate collections that were isolated to temporary storage. One major difficulty with conditioning the materials and preparing them for cold storage is the collections of mixed materials. For examples, the Lola Alvarez Bravo collection was processed by project, and there is often nitrate and acetate combined in one box. Some collections also contain paper materials, like contact sheets or work prints, mixed in with the film. Every collection must be evaluated to determine the level of changes necessary to ensure appropriate storage while keeping intellectual control.

During the two-year planning stage, staff and support will continue to survey, isolate, and condition the remaining acetate materials in addition to several other actions to ensure CCP is ready to move forward with the implementation of cold storage, detailed below in the *Methods and Standards* section. Additionally, this project is certain to reveal potential issues and solutions regarding mechanical system improvements, the building’s fire suppression systems, the construction and renovation of unused or underutilized rooms, and the installation of compact shelving in the vaults. Overall, this work will not only prepare CCP for implementing a sustainable cold storage environment for the archival film materials, but will also provide data regarding future architectural assessments and projects.

METHODS AND STANDARDS

The overall goal of the project is to ensure the longevity and sustainable preservation of at-risk film-based materials in CCP archives. By creating an interdisciplinary team with backgrounds in collections management, preservation and conservation, facilities management, engineering, design, and energy conservation, the project team is well prepared to explore sustainable preservation strategies. The team, comprised of staff members from CCP and consultants from UA PDC and IPI, will assess the current building operations and identify suitable locations for cold storage. This will include the evaluation of the mechanical, electrical, and fire safety systems in the building and also the project’s energy efficiency potential.

Alexis Peregoy will continue to lead archives interns in surveying the remaining collections containing acetate film, which will include isolating the acetate from other collection materials and assessing the condition of the film. Many of these remaining collections are some of the largest repositories of acetate film; therefore, this will be an ongoing project throughout the duration of the planning phase. Early acetate counts reveal an estimated 1,000 cubic feet, but is expected to exceed that number.

Prior to official planning activities, Alexis Peregoy will visit University of Arlington Special Collections and UT Austin’s Harry Ransom Center while attending the Society of Southwest Archivists annual conference, held in San Antonio in May, 2018. These two institutions were selected to be reviewed by the project team as aspirational facilities, as they have implemented similar cold storage solutions that focus on the standards and best practices regarding sustainable preservation. By conducting site visits and meeting with other professionals in the field facing the same preservation and access issues, the project team will be

able to learn first-hand the advantages of sustainable cold storage solutions as well as the challenges and outcomes faced by the peer institutions.

As sustainable preservation specialists, IPI will provide project consultation by reviewing the building’s facilities and systems, current environment and monitoring practices, as well as sustainability potential in energy efficiency and preventive conservation techniques. With the assistance of CCP project members, two IPI consultants, Christopher Cameron and Kelly Krish, will assess the building, mechanical systems, storage, and condition of collections over a two-day visit to CCP within the first month of the project. As developers of environmental tools specific to sustainable preservation, including eClimateNotebook and A-D Strips, IPI will assist CCP staff in utilizing these tools to their full potential in a more methodological approach. IPI will then deliver a final report with short-term and long-term recommendations in addition to reviewing documentation and recommendations provided by UA PDC and the project team as designs are conceived.

Using the above information and the recommendations provided by IPI, Charlie Lynn from UA PDC will assess necessary and/or desired improvements and possible short- and long-term solutions. Lynn will also produce cold storage designs and cost estimates for the implementation phase of the project. The team will bring in personnel from UA Facilities Management when assessing the building’s mechanical, electrical, and fire suppression systems. Energy conservation will be carefully considered to meet maximum potential as planning occurs. Representatives from UA Risk Management Services will also be consulted to ensure safety of the campus community, CCP staff, and the collection materials, with a particular focus on NFPA 40 standards surrounding nitrate film.

Utilizing data loggers and eClimateNotebook to their maximum ability, the team will record and analyze the environment by monitoring temperature and relative humidity in potential cold storage locations within CCP, as well as the archives vault, temporary storage, and current freezer throughout the two year planning period. This data will be reviewed quarterly, with special attention to the summer monsoon months when humidity increases. By completing the remaining 75 collection surveys within the first year of the project, the team will have identified and measured the cellulose acetate film (in addition to the already identified nitrate film). The team will continue to isolate all film-based materials from other collection materials, and complete reports regarding the deterioration characteristics found when conditioning the materials. This includes the placement of 25,000 strategically placed A-D strips and recording the results (*see Appendix H for User Guide*). A-D strips are placed in enclosures holding acetate film, which will detect the amount of acetic gas present (“vinegar syndrome”) to determine the level of deterioration. If rehousing is deemed necessary, the team will work to rehouse the materials into archival enclosures which pass the Photographic Activity Test (PAT) and are deemed appropriate for cold storage and ensure the finding aid is updated to reflect the new arrangement. The CCP associate archivist will also ensure intellectual and physical control over the collections is updated as materials are moved.

Alexis Peregoy and Dana Hemmenway will be responsible for the supervision and mentorship of two preventive conservation interns. The paid internship opportunities will be open to graduate degree-seeking students working towards a career in conservation, archives, or related field. Interns hired to work on the project will be exposed to all aspects of the project allowing hands-on experience employing preventive conservation practices (*see Appendix E for internship job description*). Interns will create condition reports for photographic film-based materials; record levels of deterioration in acetate film using A-D Strips; compile reports on environmental monitoring data loggers; isolate and rehouse film-based materials from other collection materials; and assist with other grant-specific tasks as deemed necessary.

CCP has collaborated with the Arizona State Museum (ASM) to provide short-term storage to CCP once ASM has completed their cold storage implementation project. CCP acetate materials will temporarily reside in ASM’s cold storage space that is allotted for future collection growth while CCP continues to plan, fund raise, and implement sustainable cold storage solutions. ASM and CCP are both located on the UA main campus, and are very close in proximity, ensuring that access to materials is still possible.

Likewise, CCP will evaluate the feasibility to provide long-term storage of ASM’s essential collection of nitrate film in CCP’s future cold storage facility once implemented. CCP will employ sustainable cold

Design cold storage space								
Cost estimates provided by UA PDC								
<i>Dissemination (Alexis Peregoy, Dana Hemmenway, Interns)</i>								
Professional conferences (TBD)								
Final report and white paper								

PROJECT TEAM

Key project team members are detailed in **Table 1**. **Figure 1** depicts the collaborative relationship Center for Creative Photography (CCP), University of Arizona Planning, Design, and Construction (UA PDC), and Image Permanence Institute (IPI). The figure illustrates the collaborative relationship between team members and entities, with all key units, collaborators and staff working together in the planning process.

Table 1: Key Project Team Members

<i>Center for Creative Photography (CCP) Staff</i>
Alexis Peregoy , Associate Archivist. Responsible for the management and care of the archive collections. She will contribute 10-15% of her time as Project Director. Alexis will work directly with all members of the project team. Her responsibilities include the organization, training and supervision of the collection surveys, A-D strip test monitoring, and film conditioning projects. She will coordinate project communications, schedules, and meetings with consultants and team members. She will also attend site visits to peer institutions prior to the official start of the planning grant project. <i>(See resumes in Appendix D).</i>
Dana Hemmenway , Arthur J. Bell Senior Conservator, is responsible for the preservation and conservation of all collections held within CCP. She will contribute 5-10% of her time on the project, working with CCP’s Steve Llewellyn, as well as both consultants from IPI and Charlie Lynn from UA PDC. She will also work with and mentor the graduate interns in collecting and analyzing recorded environmental data and conditioning film materials.
Steve Llewellyn , Assistant Director for Facilities Management and Planning, will contribute 1-2% of his time assisting with information surrounding CCP’s building facilities and systems, working closely with Charlie Lynn from UA PDC and Christopher Cameron from IPI. He serves as the liaison between CCP and UA facilities representatives, maintains security, and provides access to the building and its facilities.
<i>University of Arizona Planning, Design, and Construction (UA PDC) Consultant</i>
Charlie Lynn , Mechanical Engineer, Project Manager, University of Arizona Planning, Design, and Construction. Lynn has worked as a consultant with CCP in the past, having toured and assessed the building for potential renovations and/or construction projects. He will lead the project in designing cold storage and assessing the building’s mechanical, electrical, and fire safety systems, working closely with CCP’s Dana Hemmenway and Steve Llewellyn and IPI’s Christopher Cameron. He will produce cost estimates and designs for the project implementation phase. Charlie will also participate in meetings and assessments with the University of Arizona’s Facilities Management and Risk Management departments when addressing the buildings mechanical, electrical, and fire safety systems.
<i>Image Permanence Institute (IPI) Consultants</i>
Christopher Cameron , Sustainable Preservation Specialist, and Kelly Krish , Preventive Conservation Specialist, will participate on the project as advisors to CCP project staff and Charlie Lynn from UA PDC regarding the management and operation of mechanical systems to provide sustainable preservation of photographic collections with the least possible use of energy and the best practices surrounding the preservation of film-based materials. IPI is a world-renowned leader in the development and implementation of sustainable preservation practices surrounding photographic materials. While Christopher will focus his assessment on the building’s facilities and environment, Kelly will concentrate on the collections, both providing sustainable preservation strategies.

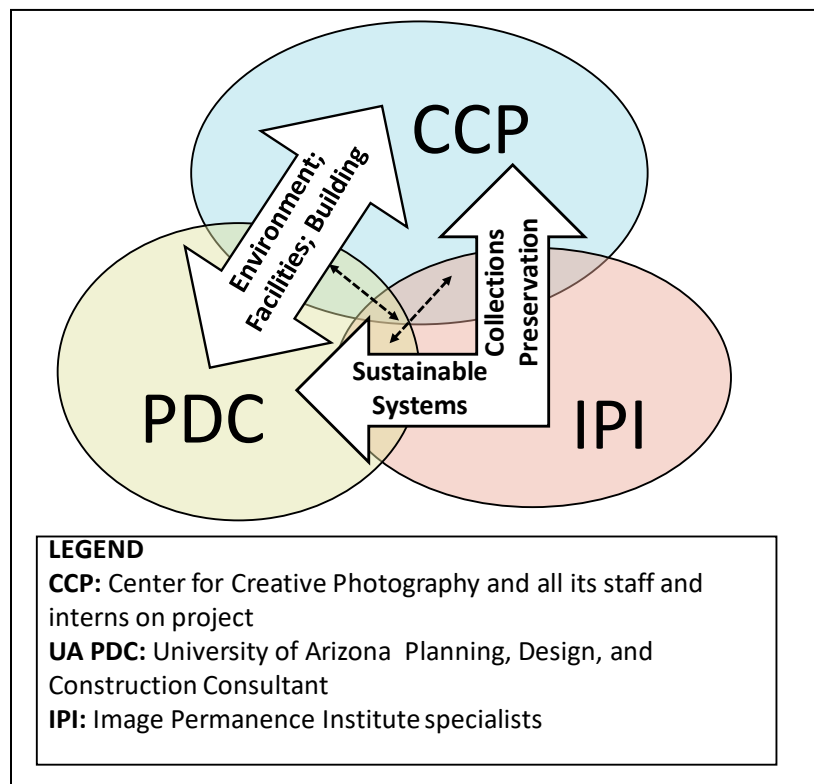


Figure 1. Collaborative Process

PROJECT RESULTS AND DISSEMINATION

Project Results. The project results will deliver the data and designs necessary to proceed with the implementation of cold storage at CCP. The future location of cold storage for both nitrate and acetate film materials will have been identified and conceptualized to meet best practices and standards for sustainable preservation initiatives. Consultation provided by IPI in addition to the recorded environmental data gathered will provide insight into existing and potential problems, as well as indicate potential short-term and long-term solutions. Furthermore, all film-based materials within the archives will have been identified, isolated, conditioned, rehoused, and ready to be moved into cold storage. Detailed documentation will be maintained to provide valuable information for future

preservation projects and assessments. CCP will also develop digitization workflow practices to create access copies for selected film-based materials. Ultimately, these materials will have more effective and efficient storage environments to significantly slow deterioration, ensuring access for hundreds of years. The project results will directly aid in the subsequent steps toward implementation, including grant writing and fundraising initiatives.

Dissemination. CCP staff will create a final report and white paper to be publicly shared as part of the NEH Sustaining Cultural Heritage Institutions grant requirements. The report will include: data recorded from environmental monitoring practices (i.e. data loggers and A-D strips); collection survey results; condition report summaries; building and energy assessments, recommendations, designs, and cost estimates for future implementation; information regarding best practices and standards for cold storage and the sustainable preservation of film; internship reports regarding the interns' project experiences; and overall lessons learned. CCP project staff will disseminate project results and experiences through publications and sessions with professional organizations, including but not limited to, the Society of Southwest Archivists (SSA), the Society of American Archivists (SAA), and the American Institute for Conservation of Historic and Artistic Works (AIC). Furthermore, updates surrounding the cold storage project will be shared with the wider campus and photographic communities, in CCP's membership newsletter, and CCP social media.