



Museums for America

Sample Application MA-30-14-0499-14
Project Category: Collections Stewardship
Funding Level: \$25,001-\$150,000

Denver Museum of Nature and Science

Amount awarded by IMLS:	\$149,940
Amount of cost share:	\$154,461

Attached are the following components excerpted from the original application.

- Abstract
- Narrative
- Schedule of Completion

ABSTRACT

The Denver Museum of Nature & Science (DMNS) requests an IMLS Museums for America Collections Stewardship grant of \$149,940 for a three-year project to improve stewardship through rehousing, curation, and enhanced collections management of the North American Plains Nations Clothing and Accessories Collection containing 1,441 objects. The objects will be rehoused in custom storage mounts using conservation-approved materials and placed within closed cabinets. Additionally, the collection will be reorganized by cultural designation, which will allow the DMNS to align the collections with how Plains Nations communities have indicated that they prefer to view their own material culture when they visit the Museum. Finally, labeling, documentation verification, digital imaging, and inventory update into the KE EMu database will occur. Physical and intellectual collections stewardship, including access, will be improved through curatorial, rehousing, and collections management activities. The project will demonstrate exemplary collections stewardship and the use of digital technology to facilitate discovery of knowledge and cultural heritage. Project goals and objectives are consistent with the DMNS preventive conservation philosophy, and the project ranks as the highest priority in the institution's Long-range Conservation Plan.

Objects in the Plains Nations Collection include coats, shirts, vests, leggings, belts, armbands, necklaces, gloves, and moccasins. This is a significant and extensive collection within the DMNS Native American ethnological holdings, containing an array of beautiful and iconic objects that document the complex cultural histories of our nation's Great Plains. Objects are currently stored in both wood and metal units. The wood units have shallow drawers and the objects are layered four to five deep, resulting in crowded and inaccessible conditions. The drawers drag across the objects when opened or closed, increasing the risk for physical damage. The wood is a source of volatile organic compounds that place the component elements of this Plains Nations Collection at risk from chemical deterioration. Much of the clothing is constructed of heavily adorned, soft, tanned skin materials. These items are currently hanging and there is no support to reduce the stress of the weight on the skin material, seams, previous tears, or adornment. Almost all objects are stored in plastic bags. Current storage best practices call for all of the clothing and accessories to be removed from the plastic bags and either stored flat and padded with customized support or rest in a customized cavity.

Major project activities are: 1) order and install new powder-coated closed cabinets, carriages, and conservation-approved mount making materials; 2) recruit and coordinate scheduling for all volunteers throughout the project; 3) orient personnel to schedules, activities, Plains Nations cultures, mount-making techniques, and safety in a one-day workshop; 4) review cultural designations to determine storage location in new cabinets; 5) track inventory and move objects to the Rocky Mountain Science Collections Center (RMSCC) Anthropology Lab, unpack objects from their plastic bags, and shoot digital images of all objects; 6) move objects into the RMSCC Conservation Lab for mount-making by constructing storage boxes and removable pallets with customized supports using conservation-approved materials and methods; 7) move objects into the new storage cabinets, create labels with accession numbers and digital thumbnail images for the new storage cabinets, and verify final inventory locations; 8) update and enter all collection documentation into the KE EMu database, and for select objects, into Luna Insight, and archive all project records according to DMNS records retention schedule; 9) track expenditures and matching funds; 10) conduct project evaluation; 11) disseminate results. Many project activities occur concurrently.

This project will dramatically improve stewardship conditions for this significant collection of Plains Nations clothing and accessories. The customized boxes and pallets fabricated from conservation-approved materials will provide individualized support and perimeters for each object. The closed cabinets will reduce the risk of volatile organic compounds, light, dust, water, and pests. This comprehensive project will address the long-term physical preservation for these objects, increase access for monitoring and research, increase intellectual control, and create new public outreach and community building opportunities. Databases of digital images of the objects will make the Collection more accessible to researchers and the public.

1. PROJECT JUSTIFICATION

Brief Project Description: Through this project, the DMNS proposes to support exemplary stewardship and advance the use of technology to facilitate discovery of knowledge and cultural heritage. Project activities include rehousing, curation, and enhanced collections management of the DMNS North American Plains Nations Clothing and Accessories Collection (Plains Nations). A customized mount will be fabricated for each of the 1,441 objects. Objects and customized mounts will be placed in new cabinets on compactor carriages. Curatorial activities include the first-time reorganization of the collection into their new cabinets following Plains Nations cultural designations, as opposed to object type. Collections management activities including labeling, documentation verification, digital imaging, and inventory will also occur. The project will result in improved stewardship and access for this iconic and high priority collection.

Description of the North American Plains Nations Clothing and Accessories Collection: Objects in the Plains Nations Collection illustrate the materials, technologies, and designs used by its peoples to produce clothing and accessories. Coats, shirts, robes, vests, leggings, children's clothes, armbands, necklaces, cases, and moccasins comprise the majority of this collection. The objects are composed of skin materials (leather, hide, and fur), cotton, wool, silk, glass beads, porcupine quills, teeth, bone, metal, and dyes. Dozens of items can be linked to historic Plains Nations figures, such as a beaded case belonging to the wife of Chief Powder Face (Arapaho). A few items are regarded as among the most unique from the Great Plains, such as a Sioux vest made of bison hide, beaded front and back, and a fringe decorated with porcupine quills, which is associated with the Elk Dreamer Society and was featured on the cover of *American Indian Art Magazine* (2009).

Why the Plains Nations Collection is the Highest DMNS Collections Stewardship Priority: The Museum's Long-range Conservation Plan (Attachment N) guides implementation of a preventive conservation approach to preservation. The Plan, as recently informed by the DMNS Collections Risk Assessment (Southward et al. 2013; Southward and Thorwald 2010; Waller 2003, 2008a, 2008b), identifies physical damage due to overcrowding as the current highest priority. DMNS routinely addresses overcrowding by storing objects in closed cabinets with necessary drawer spacing, and provides objects with supportive storage mounts that have appropriate perimeter spacing. Due to severe overcrowding, especially in the wooden drawers, the Plains Nations Collection is the next highest priority for these upgrades.

Risks Posed to the Plains Nations Collection by Current Storage Conditions: The clothing and accessories are currently stored in both wood and metal equipment. The wooden units have shallow drawers and the objects are layered four to five deep, resulting in severely crowded and inaccessible conditions. The drawers drag across the objects when opening or closing, increasing the risk for physical damage. The wood is a source of volatile organic compounds that place the objects at risk from chemical deterioration. Much of the clothing is constructed of heavily adorned, soft, tanned skin materials. Objects such as coats hang in metal cases. There is no support to reduce the stress of the weight on the skin material, seams, previous tears, quill or bead panel decorations, or any leather or ermine fringe (Attachment J). The rehousing will lay large and heavy garments flat and provide internal padding to reduce the stress (Bender, Harrison, and Senge 2011). Smaller objects require support and compartmentalization (Ogden 2004). Almost all objects are stored in plastic bags that inhibit access and should not be in direct contact with the objects. While the storage room is monitored as part of the Integrated Pest Management (IPM) program, the overcrowded objects are not easily inspected for pests or overall condition. This situation exposes them to risk from physical, chemical, and biological deterioration (Michalski 1990; Waller 2003). The proposed project addresses these concerns.

Project Beneficiaries: Current and future generations of Plains Nations, scientists, researchers, and museum professionals, as well as diverse regional communities, will benefit from increased preservation and access. The Museum is in compliance with NAGPRA. Plains Nations delegations have remarked positively on previous rehousing methods and materials. Most broadly, the project benefits all Museum audiences by advancing its mission, vision, and strategic plan.

Intended Results: The proposed activities will result in improved physical and intellectual stewardship of the cultural heritage embodied by the Plains Nations Collection. DMNS will rehouse the collection using

conservation-approved methods, and will increase access by updating inventory and documentation information in the KE EMu and Luna Insight databases. The Museum's new collections storage facility currently under construction affords the first opportunity to store the collection following their Plains Nations cultural designations instead of object type. This new arrangement will align the collections with how Plains Nations communities have indicated that they prefer to view their own material culture when they visit the Museum. The DMNS has demonstrated its ability to improve stewardship through its successful completion of similar projects. Previous IMLS grants have supported environmental improvements for katchinas, minerals, oversized mammal skulls and skeletons, rolled textiles, Latin American, Oceanic, and Southeast Asian clothing and accessories, taxidermy bird mounts, and paleobotany specimens. In each project, storage cabinets were purchased to reduce overcrowding, custom storage mounts were fabricated, and documentation was updated.

How the Project Advances the DMNS Strategic Plan: The Strategic Plan (Attachment B) launched a Science & Collections Initiative to rehouse all DMNS collections into a new facility, the Rocky Mountain Science Collections Center (RMSCC). The RMSCC comprises 60,000 square feet in the new addition. It will allow DMNS to fulfill its stewardship responsibility for the collections it holds in the public trust. The facility will have state-of-the-art environmental controls, new collections processing spaces equipped for mount-making, and new cabinets on compactor carriages. Collections will be rehoused from 49 sub-standard storage rooms throughout the existing facility. The RMSCC will open February 2014, and the Plains Nations Collection can move directly into the new facility. The Strategic Plan also articulates a vision to create a community of critical thinkers who understand the lessons of the past and act as responsible stewards of the future. This vision is advanced by tangible objects in the collections. DMNS staff curate, preserve, and manage the real and authentic content of collections for future generations. As a result of this project, the Plains Nations Collection will receive improved stewardship, such that their authentic content is sustained.

Institutional Commitment to Collections Stewardship: The Museum is committed to exemplary stewardship of its collections and devotes significant resources to stewardship projects. Since 1990, the addition of a full-time Conservator and three Collections Managers has strengthened professional resources. The Museum's commitment to conservation activities began with a 1988 General Survey Report (Attachment O) which spurred the institution to commit to improved storage of collections. Additionally, the survey led to a Long-range Conservation Plan which is updated annually by Conservation, Curatorial, and Collections Management staff. From 2008-2010, the Museum updated portions of the General Survey Report by completing an IMLS-funded risk assessment for collections in storage (Southward and Thorwald 2010, see excerpts in Attachment P). This assessment provided the Museum with essential quantitative information to direct its top stewardship priorities prior to the rehousing of all collections into the new facility. DMNS preventive conservation and collections management practices reduce damage from agents of deterioration (Michalski 1990; Waller 2003). For example, collections storage and exhibit areas are monitored monthly for temperature and relative humidity using dataloggers and for pests as part of a building-wide IPM program.

2. PROJECT WORK PLAN

Goals and Objectives: The project's overarching goal is to support exemplary stewardship and advance the use of technology to facilitate discovery of knowledge and cultural heritage. One objective is the rehousing of objects within new closed cabinets on custom storage mounts using conservation-approved materials and methods. A second objective is the reorganization of the collection according to Plains Nations cultural designations. A third objective is to improve collections management and enhance the collections database. Finally, the project will improve both the digital and physical accessibility of the collection for the benefit of Plain Nations, researchers, and the public.

Project Activities: Major project activities are: 1) order and install new powder-coated closed cabinets, carriages, and conservation-approved mount making materials; 2) recruit and coordinate scheduling for all volunteers throughout the project; 3) orient personnel to schedules, activities, Plains Nations cultures, and mount-making techniques and safety in a one-day workshop; 4) review cultural designations to determine storage location in new cabinets; 5) track inventory and move objects to the RMSCC Anthropology Lab,

unpack objects from their polyethylene bags and shoot digital images of all objects; 6) move objects into the RMSCC Conservation Lab for mount-making by constructing storage boxes and removable pallets with customized supports using conservation-approved materials and methods; 7) move objects into the new storage cabinets, create labels with accession numbers and digital thumbnail images for the new storage cabinets, and verify final inventory locations; 8) update and enter all collection documentation into the KE EMu database, and for select objects, into Luna Insight, and archive all project records according to DMNS records retention schedule; 9) track expenditures and matching funds; 10) conduct project evaluation; 11) disseminate results. Many project activities (summarized below) occur concurrently (Attachment C).

Pre-grant activities (Conservator and Anthropology Collections Manager)

- Review and approve construction materials for the RMSCC.
- Monitor environmental conditions and conduct IPM in the commissioned RMSCC.
- Inform cabinet design criteria and evaluate cabinet prototypes.
- Review conservation literature and contact conservators about storage methods and materials.

Post-award preparatory and administrative activities (Conservator, Curator of Anthropology, Anthropology Collections Manager, Volunteer Services Department Assistant, Evaluation Manager, Office Manager, and Volunteers)

- Order and install new storage cabinets, carriages, and mount making materials (Attachment E).
- Develop volunteer training manual; recruit project volunteers and coordinate their scheduling.
- Orient project personnel to schedules and activities, introduce Plains Nations cultures and the collection objects, and train volunteers in workplace safety and mount fabrication.
- Review cultural-typological designation of the objects to determine final location in new cabinets.
- Track grant expenditures, matching funds, and information for IMLS reporting.
- Complete process and outcome evaluations for the project.
- Describe project in the DMNS museum member magazine *Catalyst* and deliver results at the DMNS *Lunchtime Lecture Series*.

Post-award curatorial, rehousing, and collections management activities (Conservator, Curator of Anthropology, Anthropology Collections Manager, Image Archivist, and Volunteers)

1. Move the Plains Nations Collection

- Unpack objects, track inventory, and move objects into the RMSCC Anthropology Lab for curatorial and collections management activities, and then into the Conservation Lab for mount-making, and finally to storage in the new cabinets following the cultural-typological order.
- Curator identifies Plains Nations cultural designations for new storage cabinets.

2. Prepare customized storage mounts using conservation-approved methods and materials

- Construct storage boxes and pallets from acid-free, unbuffered, corrugated board (Attachment K).
- Cut and place acid-free, unbuffered blotting paper on pallet surface; sew support pads or shape foam.
- Attach twill tape accession labels; place objects on mounts; place mounts into new cabinets.

3. Documentation, labels, and project archives

- Shoot digital images of objects and project activities, following IMLS digital image guidelines.
- Write accession number on exterior of custom storage boxes using Pigma[®] Micron[®] pigment pens.
- Create labels for storage cabinet doors using accession numbers and thumbnail images.
- Enter updated inventory, documentation, and digital images into KE EMu and Luna Insight.
- Curate any detached fragments from the objects and any historic documentation.
- Create permanent records of all project reports for the DMNS Archives.

Specific Rehousing and Collections Management Project Methods and Standards: The project activities will support stewardship to safeguard 1,441 Plains Nations Collection objects. Rehousing will use conservation-approved equipment, materials, and methods that are efficient, reliable, and safe (Attachment L). A detailed equipment and supply list is found in Table 1 of the budget justification (Attachment E). Project methods are described below. Collections management activities will include inventorying, verifying object documentation, shooting digital images, and entering all updated collections information into the KE EMu database. Curatorial

activities will organize the collections following their Plains Nations cultural designations, rather than by object type. For example, all Blackfoot objects will be placed in adjacent cabinets. Additionally, Plains Nations objects will be organized geographically, from the Northern Great Plains to the Southern Great Plains. This arrangement will facilitate consultations and research of material culture technology and style.

New closed cabinets, manufactured by Delta Designs Ltd., and installed by Improve Group onto carriages manufactured by Spacesaver[®] (Attachment M) will provide a high level of protection against agents of deterioration. The 44 cabinets and 394 accompanying drawers will be constructed of powder-coated steel. Powder-coating is a recommended finish for storage cabinetry (Hatchfield 2002). The gauge of steel provides the structural strength required for the combined weight of cabinets, drawers, and contents without exceeding floor loading capacities. Each cabinet will have lockable doors and silicone gaskets. The lowest drawers will be at least six inches from the floor to protect against any water emergency. Medium and large objects—which comprise one-third of the collection and include such items as coats and shirts—will be stored one object per drawer. Smaller and medium-sized objects—such as breastplates, moccasins, armbands, chokers, and hair ties—will be stored several to a drawer. Each object will have a perimeter of at least ¾” within the mount box.

The objects will move from their current storage location into the new RMSCC Anthropology Lab where they will be unpacked and digitally photographed following IMLS digital image guidelines (Attachment I). The objects will then be moved to the Conservation Lab where customized storage mounts will be constructed, and finally into the new storage cabinets. The Collections Manager will supervise all moves and inventory updates. Both labs are equipped with temperature and relative humidity control, security controls, pollutant filtration, automatic fire detection and suppression systems, closed cabinets for interim storage, padded work tables, and computers with access to the KE EMu database. Correct handling will be covered during the one-day workshop.

When the objects are first unpacked in the Anthropology Lab, the Conservator will complete an initial visual examination for physical, chemical, and biological deterioration. Any objects requiring immediate stabilization will be treated by the Conservator. If insect activity is noted, the object will be immediately isolated and pest eradication effected by the Conservator following low temperature methods (Strang and Kigawa 2009).

The Conservator will oversee the construction of storage boxes and mounts. The DMNS has previously used shallow boxes and removable pallets to provide a perimeter around objects and promote safe handling. Kilby (1995) recommends the use of unbuffered products to rehouse proteinaceous materials. Talas will produce corrugated board where the two surface layers are unbuffered; manufacturing requires continued use of a buffered core. The boxes and pallets will be fabricated using acid-free, lignin-free, unbuffered corrugated board (Attachments D and K). They will be cut using a wall-mounted mat-cutter; the box corners are secured using four-per-corner high density polyethylene screw-and-post sets. The pallets provide rigid support and have finger cut-outs that facilitate lifting the object out of the box for research and monitoring. The pallets are lined with acid-free, lignin-free, and unbuffered blotting paper. The paper provides a gentle grip to prevent slippage. Heavier objects will have a double-thick unbuffered or polypropylene Coroplast Archival corrugated pallet. Most clothing and accessories in the Plains Nations Collection are heavily adorned. Following Bender, Harrison, and Senge (2011), these objects will be stored flat with internal supports fabricated from Ethafoam[®] polyethylene plank, polyester batting, and polyethylene Tyvek[®] Soft Structure. Small- and medium-sized objects will sit in a custom cavity shaped in the polyethylene plank to prevent shifting. The cavity will be padded with polyester batting and covered with Tyvek[®] that is secured into pressure-fit slits using bone folders (Attachment K). The Tyvek[®] provides a barrier against abrasion and snagging from the batting. Wherever possible, moccasins will be supported with a soft form constructed of Tyvek[®] and polyester batting. As per Bender, Harrison, and Senge (2011), the support will be filled enough to maintain shape, but not so full as to stress the moccasins upon removal. Boots will be supported with two soft forms of polyester batting and Tyvek[®]; one for the foot area and a separate form for the calf. Moccasins or boots with interior painting will be checked by the Conservator for stability prior to padding. Twill tape labels with tan thread accession numbers will be sewn to the customized mounts in a location that does not contact the object. The light color of the mount materials facilitates monitoring for insects, dust, and other deterioration. All mount designs minimize the

use of adhesives, which DMNS has observed can be difficult for all project personnel to apply, yellow, and lose strength. DMNS is aware that corrugated board can provide harborage for insects and monitors routinely.

The Anthropology Curator will determine the location of the objects based on a review of Plains Nations cultural designations. The Collections Manager will oversee placement of the objects and their mounts in the new storage cabinets and complete labeling. Volunteers will use the KE EMu database to enter new inventory locations. The cabinet labels will consist of the accession number and an associated thumbnail image attached to the storage cabinet door in polypropylene enclosures. The materials and equipment budget is based on manufacturer estimates (Attachment M). DMNS has used similar materials and methods successfully, and has discussed them with other conservators (G. Laurin, Personal Communication 2013; J. Fletcher, Personal Communication 2013; and J. Greenfield, Personal Communication 2013).

Staff and volunteer safety is important to the Museum. Staff and volunteers always use nitrile gloves and Tyvek[®] lab coats when working with collections that may have been treated with arsenic. As with past projects, DMNS will divide volunteer roles between those skilled in mount-making and those skilled in data entry. Those making mounts, who will be using a large wall-mounted mat-cutter to cut corrugated board and box-cutters to customize foam, have previous experience with these tools and will receive additional safety training during the one-day workshop. Staff has completed workplace training for lifting heavy or awkward objects.

Key Personnel Project Roles: Conservator Southward (125 hours annually, 6% FTE) will oversee all project activities, including: ordering equipment and materials; teaching volunteers to fabricate customized mounts at the workshop and supervising volunteers in same throughout the project; and co-writing an article with the Curator and Collections Manager. Curator of Anthropology Colwell-Chanthaphonh (104 hours annually, 5% FTE) will teach staff and volunteers about the Plains Nations and the collection at the one-day workshop, will oversee objects' final storage location, curate detached fragments and any historic documentation, and co-write the project article. Anthropology Collections Manager Bechhoefer (125 hours annually, 6% FTE) will supervise volunteers with drawer installation, moving collections, shooting digital images, creating accession labels, and updating collections documentation; and will co-write the project article. Image Archivist Payne (42 hours, 2% FTE in Y1, 1% in Y2 and Y3) will contribute to the volunteer training manual and teach volunteers to shoot digital images at the workshop. In collaboration with project staff, volunteers (720 hours annually) will move collection objects, prepare custom storage mounts, shoot digital images, and link digital images with updated inventory and documentation information into KE EMu. Volunteer Services Department Assistant Shuley (42 hours annually, 2% FTE) will recruit and coordinate scheduling for volunteers. Anthropology Office Manager Laurie Edwards-Ryer (42 hours annually, 2% FTE) will oversee tracking of matching funds. Evaluation Manager Trainer (42 hours, 2% FTE in Y1, 1% in Y2 and Y3) will complete the project's process evaluation.

Key Personnel Qualifications: (see key personnel list and resumes in Attachments F and G)

Jude Southward, Project Director, Conservator/Museum Conservation Department Chair, joined the DMNS as an objects conservator in 1993. She has 23 years of combined conservation experience from the Canadian Conservation Institute, Smithsonian Museum Conservation Institute, American Museum of Natural History, and DMNS. At DMNS, she has worked on 12 IMLS grants to improve stewardship for collections, serving as project director on 10. She was instrumental in informing the preservation design criteria for the RMSCC and in reviewing construction materials. Southward received an M.A. in Art Conservation from Queen's University, Kingston, Ontario, Canada.

Dr. Chip Colwell-Chanthaphonh, Curator of Anthropology, joined DMNS in 2007. He received a B.A. in Anthropology from University of Arizona and a Ph.D. in Anthropology from Indiana University. He has worked in various museum settings, including the Arizona State Museum, Milwaukee Public Museum, and Indiana University's Museum of World Cultures. He has authored or edited many works on Anthropology.

Melissa Bechhoefer, Anthropology Collections Manager, who joined DMNS in 2012, is responsible for the care, maintenance, and facilitation of the anthropology collections. She has 13 years of collections management and registration experience from History Colorado, the National Park Service, and University of Colorado Museum of Natural History. She received a B.A. in Archaeology and Geology from Oberlin College and an M.S. in Museum and Field Studies from the University of Colorado, Boulder.

René Payne, Image Archivist, joined DMNS in 2008. She manages the DMNS image assets, including standards, policies, procedures, and training for image scanning, digital photography, metadata, preservation, and intellectual property related to images. Among other degrees, she holds an MSIS & Certificate of Advanced Study in Preservation Administration from the University of Texas, Austin.

Lauren Trainer, Evaluation Manager, joined the DMNS in 2010. Previously, she was Director of Education at the Autry National Center in Los Angeles and Acting Curator of Education at the Jane Voorhees Zimmerli Art Museum at Rutgers University. She holds an M.S. in Museum and Field Studies from the University of Colorado, Boulder and an M.A. in Art History from the University of Arizona.

Maureen Shuley, Volunteer Services Department Assistant, joined DMNS in 1997. She handles volunteer recruitment, scheduling, and coordination of volunteer events. She received a B.A. from Rowan University and an M.A. from the University of Baltimore.

Laurie Edwards-Ryer, Office Manager, who joined DMNS in 2013, runs departmental administration, financial tracking, and coordination. She received a B.A. in Archaeology from the University of Nottingham and an M.A. in Historical Archaeology from the University of Leicester.

Volunteers. During a recent IMLS-funded project to rehouse Latin American textiles, volunteers contributed 2,946 hours to fabricate custom mounts and to shoot digital photos. Volunteers on the proposed project will be recruited from those already working in the Conservation and Anthropology departments.

Project Sequencing: A three-year project period (Attachment C) beginning on 10/1/14 is proposed. The project is divided into post-award preparation and administration and curatorial, rehousing, and collections management activities. The latter category includes moving the collection, constructing customized mounts, verifying documentation and inventory location, and creating labels. All project documentation, such as the grant application and interim and final reports, will be deposited with the DMNS archives at the end of the project. The project budget, justification, and schedule of completion were developed by the DMNS staff responsible for their implementation, and were reviewed by the Director of Preservation & Documentary Resources; Anthropology Chair; and the Vice Presidents of Development, Finance, and Research & Collections.

Project Resources, Including Museum Contribution: The \$304,401 project cost includes \$149,940 requested of IMLS and \$154,461 in non-federal match (\$28,446 cash; \$125,628 in-kind). The Museum's cash match is for materials; the in-kind contribution is comprised of personnel (salary and fringe) totaling \$53,369, volunteer time valued at \$36,746, and \$35,900 in indirect costs. The funds requested from IMLS are entirely for permanent equipment (including new storage cabinets, drawers, carriages, freight, and installation).

Tracking Progress: Key project staff will meet monthly to review progress against the schedule of completion. This process will facilitate timely adjustments to keep project activities on track. The DMNS quarterly billing cycle provides another natural opportunity to compare actual expenditures to projected budget match.

Communication Plan: The Museum will share the project results with its members and professional colleagues. Staff will submit an article describing the project results to the Museum membership magazine *Catalyst* (delivered to more than 60,000 member households), present results at the DMNS *Lunchtime Lecture Series*, and will take advantage of opportunities for presentations at meetings and conferences.

3. PROJECT RESULTS

Changes in Knowledge, Skills, and Behaviors: The project will improve physical and intellectual stewardship, enhance access to the collection, increase knowledge among staff and volunteers about Plains Nations cultures and collections, improve handling, and raise awareness of conservation techniques. Researchers will have improved access to the collection both physically and digitally via KE EMu. The public will have improved access and greater understanding of the role the Museum plays in collections stewardship through guided small-group tours of the collections and through key images made available through Luna Insight at www.dmns.org.

How Stewardship Care Will Be Improved: This project will dramatically improve preservation and management conditions for this significant collection. Customized boxes, pallets, and supports fabricated from conservation-approved materials will allow for individualized storage mounts for each object. Each mount will

be fabricated so that there is perimeter spacing to protect from physical damage due to overcrowding. The new powder-coated cabinets and drawers will provide protection from volatile organic compounds, as well as light, dust, water, and pests. The project will update the collections database and allow the objects to be easily accessed by staff for condition checks, pest monitoring, and in the event of an emergency.

Tangible Products: Tangible products associated with rehousing and collections management will include mounts, labels on storage mounts and cabinets, digital images, and the updated inventory and documentation in the KE EMu database. Project staff will update the volunteer training manual to this project’s specific activities. Each volunteer will receive the manual for use throughout the project. Interim and final narrative and financial reports will be created and submitted to IMLS. Other tangible products will include an article in the DMNS member magazine, a lecture in the Museum’s *Lunchtime Lecture series*, and professional contributions.

How We Will Measure Success: DMNS will support exemplary stewardship of Museum collections and promote the use of technology to facilitate discovery of knowledge and cultural heritage. The success of the project in meeting this overarching goal will be assessed via a mixed qualitative and quantitative approach. The Evaluation Manager will lead implementation of evaluation strategies and results will be reported to IMLS.

1. Quantitative Outcome Evaluation. A rubric will assess the following objectives and measurable benchmarks:

Objective 1. Rehouse the 1,441 objects in the Plains Nations Clothing and Accessories Collection.	
1.	Number of objects rehoused and for which customized mounts were constructed providing perimeter spacing around each object of 3/4” within the storage box.
Objective 2. Culturally reorganize the Plains Nations Clothing and Accessories Collection.	
1.	Number of objects reorganized according to their correct cultural designation.
2.	Number of participants in behind-the-scenes tours of the culturally reorganized collections.
Objective 3. Improve collections management and enhance collections database.	
1.	Number of objects that are labeled, have documentation verified, are digitally imaged, and inventoried.
2.	Number of new cabinets and drawers labeled with inventory information.
Objective 4. Improve access in order to facilitate discovery of knowledge and cultural heritage.	
1.	Number of images available to researchers and the public via KE EMu and Luna Insight.
2.	Number of professionals, non-professionals or pre-professionals, volunteers, and staff impacted by the project (including number of people trained and number of apprenticeships or mentorships).
3.	Number of products, articles, presentations, and other learning resources produced and/or disseminated.

2. Qualitative Evaluation (Process and Outcome). In addition to these quantitative measures, a questionnaire will be administered to project volunteers and staff annually and at the end of the grant period to capture feedback regarding to what extent the project activities are accomplishing the goals. Descriptive responses will help the project team to gauge changes in knowledge, skills, attitudes, and conditions; lessons learned; project achievements and their value; and broader impacts of the project, both at points throughout the grant period as well as accomplishments at the end of the grant period. Questions will relate to items such as improved physical and intellectual stewardship, reduced risks to the collections, improved access for various audiences to the collection, and increased knowledge about the Plains Nations culture and the importance of conservation. Two previous IMLS-funded projects have included a similar process evaluation, one for a Museum-wide collections risk assessment and one for a paleobotany rehousing project. These evaluations reaffirmed, among other things, that the one-day training workshop and the volunteer training manual are essential project components.

Project Sustainability: Once rehoused into the RMSCC, DMNS can more easily preserve and provide access to its Plains Nations Collection. The new cabinets, drawers, and customized object mounts, along with the curatorial and collections management work resulting from this project, will improve preservation conditions as well as intellectual and physical access. The RMSCC is designed to achieve LEED-Platinum certification from preservation environment for temperature, relative humidity, and particulate filtration.

SCHEDULE OF COMPLETION

Project Year:	Year 1					Year 2					Year 3																											
Calendar Year:	2014		2015			2016					2017																											
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		
POST-AWARD PREPARATION AND PROJECT ADMINISTRATIVE ACTIVITIES																																						
Conservator orders new powder-coated steel closed storage cabinets, drawers, and carriages from Delta Designs Ltd.																																						
Conservator orders conservation-approved materials for custom storage mounts.																																						
Powder-coated storage cabinets are installed.																																						
Volunteer Services recruits and coordinates scheduling for all project volunteers.																																						
Volunteer Training Manual is updated as needed by Conservator, Curator, Collections Manager, Image Archivist, & Volunteer Services.																																						
One-day workshop orients project staff & volunteers: Conservator covers schedules, activities, mount making, and safety; Curator introduces Plains Nations cultures and the collection objects; Image Archivist covers proper shooting of digital images, including lighting and image metadata procedures.																																						
Curator reviews Plains Nations cultural organization to determine storage location of objects in cabinets.																																						
Office Manager tracks grant expenditures, matching funds, and information for IMLS reporting.																																						
Evaluation Manager conducts process evaluations.																																						
Conservator, Curator, and Collections Manager publish project results in the DMNS magazine <i>Catalyst</i> and present results at the DMNS <i>Lunchtime Lecture Series</i> .																																						
PROJECT CURATORIAL, REHOUSING, AND COLLECTIONS MANAGEMENT ACTIVITIES																																						
1. Moving and Curatorial Organization of the Plains Nations Collection																																						
Under Collections Manager's supervision:																																						
Collections Manager and volunteers unpack the collection from their polyethylene bags, photograph objects, track the inventory, and move objects into the Anthropology Lab for curatorial and collections management activities, then into the Conservation Lab for mount-making, and finally into new storage cabinets																																						
Curator identifies organization of Plains Nations Collection in the new storage cabinets.																																						
2. Prepare Customized Storage Mounts Using Conservation-Approved Methods and Materials																																						
Under Conservator's supervision:																																						
Volunteers construct customized storage boxes and pallets from acid-free, unbuffered, corrugated board.																																						
Volunteers cut and place blotting paper on pallets.																																						
Volunteers sew custom support pads or shape foam; add twill tape labels to finished mounts.																																						
3. Labeling, Documentation, Inventory Control, and Archiving Project Records																																						
Under Collections Manager's supervision:																																						
Volunteers shoot digital images of objects.																																						
Volunteers write accession number on exterior of customized storage boxes.																																						
Volunteers create labels with accession numbers and thumbnail images for storage cabinets.																																						
Volunteers link digital images with updated inventory and documentation information directly into the KE EMu collections database.																																						
Select images sent to the Image Archivist for uploading into Luna Insight.																																						
Curator oversees interpretation of any detached fragments of objects or historic documentation.																																						
Conservator, Collections Manager, and Curator finalize permanent records of project reports and images for DMNS Archives.																																						