DIGITIZATION MANAGEMENT PLAN
FOR THE CEDAR KEY HISTORICAL SOCIETY, INC.
and THE FLORIDA DEPARTMENT OF STATE
HISTORICAL RESOURCES

July 27, 2021

DOS Grant Number:
21.H.SM.300.103

The Final Revision Of The Requirements For Executing Contractual Obligations
Set Forth By The Small Matching Grant 21.H.Sm.300.103 For The Project
"Assessing And Communicating Natural Disaster Risk In The Cedar Keys
Historic And Archeological District."

Submitted and Approved

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Grant Manager

Executive Director

Cedar Historical Society

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1.   PROJECT OVERVIEW

1.1 Executive Summary

This project uses digital technologies to accomplish three goals. First, develop a sustainable digitization workflow to preserve the historical record of the Cedar Keys Historic and Archaeological District (e.g., photographs, maps, personal correspondence). Second, use these resources to construct a virtual reality simulation of the project area. Third, use geospatial technologies (i.e., GIS) to conduct threat analysis to model the local impacts of past and future hurricanes and incorporate this into the virtual reconstruction. These goals will support a deeper understanding of natural disasters such as hurricanes, floods, sea level rise, and storm surge as they relate to the Cedar Keys Historic and Archaeological District. Visualizing these threats with virtual technologies also supports ongoing public education efforts. This project represents a novel approach to these issues by representing a much larger portion of Cedar Key than previous efforts, creating an immersive 3D experience instead of static images/visualizations, and simultaneously representing Cedar Key at multiple points in time.

The digitization phase will provide a formal workflow for digitizing the collections held by the Cedar Key Historical Society and Museum. The Cedar Key Historical Society (CKHS) – founded as a non-profit educational organization in 1977 – includes a collection housing thousands of photographs, maps, personal letters, historical newspapers, and other resources chronicling the unique history of the Cedar Keys Historic and Archaeological District. The CKHS will work with experts to review the proper methods for handling, preparing, and digitizing historical resources.

Furthermore, the CKHS is committed to using a portion of their operating budget to purchase and/or seek donations of additional equipment such as cameras, scanners, and computers. A portion of the monies for this phase will include hiring additional part-time staff and working with a consultant to create a long-term plan for preserving the collection (e.g., archival storage solutions, naming conventions, metadata structure, volunteer training resources). This will also support future grant application to state and federal agencies.

The use of virtual technologies offers an innovative and largely underutilized method for sharing digitized archival resources with the public. Since digitizing the CKHS resources is a multi-year endeavor, focusing on the early 20th century-built environment identifies resources for digitization as a part of this project. The steps for creating this virtual reconstruction begins with a base map of the town, which uses Sanborn maps to locate structures and publicly available 3D height data to reconstruct the physical landscape. This portion of the process has been completed by Edward Gonzalez-Tennant of Digital Heritage Interactive, LLC. Next, historic structures are

modeled in 3D, based on the digitized resources above. Finally, programming the user interface and creating the virtual world allow users to explore these resources via museum exhibits and/or personal computers.

The geospatial analysis will model the impacts of past and future storms by using the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model developed by the National Hurricane Center at the National Oceanic and Atmospheric Administration (NOAA). This is a complex geospatial model that incorporates local landforms, tide information, and storm data (e.g., wind speed, direction) to predict the impacts of storms. It is superior to bathtub models, which ignore these local conditions by uniformly raising the sea level across a study area, effectively ignoring how storm surge behaves in the real world. SLOSH analysis provides, among other things, maximum inundation for each point in the project area and helps explain which areas and resources are at greatest risk.

1.2 **Project Leadership**

The following tables show the Names, Titles and Contact information for the Project Leadership Team. The team is composed of the four main areas: The Museum Archival Team, Cedar Key Ambassadors, Cedar Key Museum Director, and The Geospatial Analysis. The team works in concert to provide overall project vision, setting of goals, and management throughout the project lifecycle. These tables are hierarchical and identify the chain of responsibility.

TABLE 1. ARCHIVAL TEAM DIRECTOR	
Name & Title	Anna Hodges, Cedar Key Historical Society Executive Director
Representing	Cedar Key Historical Society Archival Program
Contact	(352) 949.2733

TABLE 2. CEDAR KEY AMBASSADORS	
Name & Title	Lisa Custer, Director Cedar Key Ambassadors
Representing	Cedar Key Historical Society Board and Heritage Education Projects
Contact	Lisa.custer@levyk12.org

TABLE 3. Virtual Reality 3D	
Name & Title	Diana Gonzalez-Tennant, MA
Representing	Digital Heritage Interactive, LLC
Contact	diana@digital-heritage.net

TABLE 4. THE GEOSPATIAL ANALYSIS	
Name & Title	Diana Gonzalez-Tennant, MA
Representing	Digital Heritage Interactive, LLC
Contact	diana@digital-heritage.net

1.3 Business Need

This grant has been approved for the development of a project for "Assessing and Communicating Natural Disaster Risk in the Cedar Keys Historic and Archaeological District." This grant will benefit low-income, minorities, and the disabled people in the Cedar Key area through jobs, education, and awareness.

Perhaps the main challenge for addressing the threats natural disasters pose for cultural resources is communicating these threats to the public before they occur. Static maps and graphics often fail to capture the imagination of the public in meaningful and lasting ways. The use of virtual technologies, and an immersive virtual world that users move through provides a novel and underutilized method for communicating these threats to the public in a way that will leave a lasting impression. The ability to interactively select the impacts of different storms and visualize them in real-time – while comparing historical resources as they existed in the past and present – allows heritage managers to educate the public about the potential loss of cultural heritage before it is too late.

1.4 Scope Statement

The scope of this project is to create a digitization management plan; digitize select archival material; produce a web site for access of archival material, and use digitized material to produce a 3D virtual reality (VR) model of Cedar Key; conduct geospatial analysis to produce a model of the impacts of storms on Cedar Key and incorporate the visualization into the VR environment; grant administration.

1.5. Method Definition

To accomplish the conversion of analog photographs and slides, scanning of pertinent documentation, conduct geospatial analysis and develop a virtual reality tour, the following will be done:
- Develop and implement an archive use policy with supporting documents.
- Identify appropriate equipment for converting analog photographic and slide images into a digital format via scanning
- Identify, hire, and train personnel/resources to scan and digitize archival photos and documents
- Upload scanned materials to the Cedar Key Historical Society Google Drive and employ appropriate backup procedures
- Include local community members to help identify photos and provide as much information pertaining to photos in various themes by taking a laptop with scanned items, to individual senior's homes.
- Develop a web-enabled publishing platform to support long-term storage and offer public access to archival material.
- Use digitized material to produce a 3D virtual reality (VR) model of Cedar Key
- Conduct geospatial analysis to model the impacts of storms on Cedar Key and incorporate the visualization into the VR
- Administer the grant

1.6 Goals and Benefits

The goal of this project is to preserve the selected archival materials donated to the Historic Museum and provide a methodology that continues to preserve historical items as they become available. The archived material will serve as a source for educating future visitors and researchers to continue the development Heritage Education Projects; In addition, the development of a 3D Virtual Reality (VR) model of Cedar Key through geospatial analysis will benefit the community and public by better informing them of the impacts of storms on Cedar Key.

1.7 Staffing Plan

The following table identifies the number of personnel and/or resources needed to perform the tasks as listed. This table also includes status and completion dates.

TABLE 5: STAFFING PLAN			
No. of Resources	Tasks	Status	Completion Date

0	Develop Policies regarding archival use and supporting documentation	Completed	09/30/20
1-2	Identify resources to identify photos and slides to be scanned	Completed	02/15/21
2	Organize Photos and Slides by Themes	Completed	02/15/21
3-4	Scan photos and slides into Google Cloud	Completed	02/15/21
1	Develop Website Page for archival access	Completed	02/15/21
1	Conduct Geospatial Analysis	Completed	01/01/21
1	Develop Virtual Reality	Completed	01/01/21
1	Administer Grant Responsibilities	Completed	01/01/21

2.   PROJECT DELIVERABLE AND TIMELINE

2.1 Deliverable Details

The following table lists the deliverables, status, and dates to be completed.

TABLE 6: DELIVERABLES				
ID	Requirement Name	Requirement Description	Status	Deployment Timeline
001	Credentials to State	Submit one (1) copy of the professional historic preservation consultant's credentials and one (1) copy of the project timeline to the Division for review and approval.	Completed	03/01/21

002	Digitization Parameters	Digitized files will be saved in .JPG formats as these are the most widely used formats ensuring the longevity of the images being formatted. Images will be scanned at 300 dpi.	In Progress	05/30/21
003	File Naming Protocol	File names will be the following format: Theme ID (first 5 characters) followed by a 3-digit series number in sequence based on the archival index. i.e [IMG01] Theme ID [001]	In Progress	05/30/21
004	Metadata Standards	The following metadata will be added per data available: who, what, where, and when as well as dates and name of person scanning each.	In Progress	05/30/21
005	Backup Plan	Digitized files will be backed up following the 3-2-1 rule. Three copies, stored on two different media, with one copy off-site. On-site storage includes the hard drive of a computer connected to the scanner and a thumb drive updated after each scanning session and stored in the Executive Director's office. Off-site storage is currently with the society's Google Drive account.	In Progress	05/30/21
006	Develop Public-Facing Web Platform	Web-publishing platform to be designed to allow access to archival files available to researchers and the public.	In Progress	03//21
007	Geospatial Analysis	Conduct Geospatial Analysis	Completed	10/30/21
008	Reports to State	One (1) draft copy of the digitization management plan; One (1) draft version of the VR model of Cedar Key	In Progress	2/26/21
009	Effects of Digitization on Collections	It is anticipated that many archival materials will be transferred to more permanent and less accessible/exposed storage containers following digitization. Digitized materials will be used for research. If higher quality scans are required later, employees will facilitate this in accordance with policies.	In Progress	05/15/21

010	Virtual Reality	Develop Virtual Reality	In Progress	
011	Live Link to VR Model To State	A live link to the final VR model of Cedar Key, including the results of the geospatial analysis; A Single Audit Form; Final Progress Report	In Progress	6/30/21
012	Grant Administration	Amended Deliverables as stated in Grant 21.h.sm.300.103, will be completed as required, payroll requirements, and other reporting and administration activities as required will be accomplished.	In Progress	On Going till 6/30/21
013	Draft Digitization Management Plan	Complete and submit the draft digitization management plan	Completed	03/01/21
014	Final Digitization Management Plan	Complete and submit the Final digitization management plan; A Single Audit Form; Final Progress Report	In Progress	7/30/21

2.2 Performance Measures

TABLE 7. PERFORMANCE MEASURES				
ID	Requirement Name	Requirement Description	Status	Deployment Completion Date
101	Draft Version of VR Model of Cedar Key	Complete and submit a draft digitization management plan and a draft version of the VR model of Cedar Key to the Division for review and approval.		7/30/21
102	Live Link to the Final VR	A live link to the final VR model of Cedar Key,		7/30/21

	Model of Cedar Key	including the results of the geospatial analysis; A Single Audit Form; Final Progress Report		
103	Final Digitization Management Plan	One (1) final copy of the digitization management plan;		7/30/21

2.3 Training Approach/Strategy

The training approach of the archivers is designed to ensure the small group becomes productive as quickly as possible.

The teams will all be given an overview of the scanning process. Scanning selected photos and documents must be done appropriately, ensuring that the best resolution possible is achieved (300 dpi), that images are scanned in alignment, labeled correctly, and moved to the proper folder by theme.

The strategy will be to separate the team of archivers into three groups to take advantage of existing resource materials and limited scanning equipment. Group A will be responsible for organizing the selected *photos* by theme, preparing them for scanning and labeling them. Group B will review the *slides*, group them by theme and tag them in preparation for scanning.
The third group will be responsible for scanning the photos and slides by theme into the Google Cloud.

Reorganizing of team resources, or cross-leveling may be done as activities by one group are completed and additional resources are needed to support other areas such as scanning, organizing, documenting, or labeling.

3. QUALITY ASSURANCE PLAN

3.1 Purpose
The purpose of the Quality Assurance Plan is to ensure proper capturing, documenting, labeling, and archiving of items. This project employs a work breakdown structure that uses stations to divide the project tasks for better project control.

The Quality Assurance Plan, as a part of the larger Project Management Plan, outlines required tasks at each station, performance standards, method of surveillance, and identifies the responsible party for each station and task for the project.

The Project Manager or Designated Official has overall responsibility for the accuracy of scanned images, public access, and availability of products both for the public and as a backup.

The following table outlines the proper steps to ensure that the project meets grant requirements with an estimated completion date of 31 July 2021.

TABLE 8: QUALITY ASSURANCE PLAN			
Station/Required Task	Performance Standards	Method of Surveillance	Responsible Person
Station A: Slide/Photo Preparation	Take box/boxes of slides or photos for review Place box table Remove the lid from the box Utilize clean white gloves on hands to carefully remove contents of box and place on the table Select one slide or photo at a time to review Evaluate the physical condition and readiness for scanning Prepare slides and photos for further review by using the Canned Air Cleaning Duster (as needed) Review and sort the slides and photos by grant outlines and project plan details Select slides and photos and photos pursuant to the guidelines in the grant Place selected slides and photos in the designated container/s	First Person Inspection; Random Checks, and Verification through digital checks using provided hardware. Naming conventions verified by title, date, or details Products that are deemed unclear, poorly named, or not easily identified will be flagged and the project team working in concert will rectify deficiencies.	Project Scanner and Project Manager

	Return unselected slides and photos to locked storage area		
Station B: Slide View/Scan/Save using HP Scan Jet Pro 2500 F1 Scanner KODAK SCANZA Digital Film & Slide Scanner	Take the selected slide container to the digitization table Place the container on the designated table Place clean white gloves on hands to handle photo and ensure the integrity Place the SD card in the Kodak Scanza for digitization Carefully take one slide at a time and digitize the slides reviewing them on Vizio 32" monitor (provided) for clarity and proper angle (not upside down or reversed) and Photos adjusted for better resolution, if necessary. Images saved as JPEGS at a minimum of 300 dpi on external hard drives. Utilizing the prescribed creating a descriptive index of the slides as prescribed in grant.	First Person Inspection; Random Checks, and Verification through digital checks using provided hardware. Naming conventions verified by title, date, or details Products that are deemed unclear, poorly named, or not easily identified will be flagged and the project team working in concert will rectify deficiencies.	Project Manager or designated official
Station C: Photo Scan and Save using HP scan jet Pro 2500 F1 scanner, Lenovo Laptop Computer USB CARDS	Take the selected photo container to the digitization table Place the container on the designated table Place clean white gloves on hands to handle photo and ensure integrity Place the SD card in the Lenovo Laptop Computer for digitization	First Person Inspection; Random Checks, and Verification through digital checks using provided hardware.	Project Manager or designated official

	Carefully take one photo at a time and scan using the HP ScanJet Pro 2500 F1 Scanner. Review photos on Lenovo Laptop for clarity and proper angle (not upside down or reversed) and Photos adjusted for better resolution, if necessary. Images saved as JPEGS at a minimum of 300 dpi. Utilizing the prescribed creating a descriptive index of the photos as prescribed in the grant.		
Station D: Image Upload and Storage	Verified accuracy of naming conventions in accordance with grant and project plan Slides and photo USB are uploaded to the Cloud. Random selection and inspection (no less than 35%) of images on the Cloud platform to verify accessibility, clarity of images. After upload, verify slides and photos are still accessible on the TWO external hard drives to serve a redundant backup record. External hard drives are properly labeled and relocated and stored in accordance with a project management plan.	First Person Inspection; Random Checks, and Verification through digital checks using provided hardware.	Project Manager or designated official
Station E: File Organization and Captioning	Images in the Cloud platform are organized in albums, numbered, identified, and captioned using	First Person Inspection; Random Checks, and Verification through	Project Manager or

	grant specifications and specifications outlined in Project Management Plan. We have been able to identify many photos with the help of our local senior citizens. Photo details are added to an Excel spreadsheet, separated into Themes as outlined in the project management plan. The total count of images and scans are counted, albums are categorized and labeled. Captions are verified for proper grammar and spell-check.	digital checks using provided hardware. Naming conventions verified by title, date, or details Products that are deemed unclear, poorly named, or not easily identified will be flagged and the project team working in concert will rectify the discrepancies.	designated official
Station F: Website Development	Upon completion of cedarkeymemory.com website. Images will be linked to the Cloud Storage platform to make them available to the public. The estimated completion date is 30 July 2021. Advertisement for launch to be completed in late July.	Verify accessibility of websites from Internet Service Providers. Verify Links to photo and	Project Manager or designated official
Station G: Organizing physical folders	Beginning with each physical box or folder, organize individual photos by identifying and matching the same photo as uploaded to the cedarkeymemory.com website and applying the same website identity/index number to each physical photo.		Project Manager or designated official
Station H: Tasks involved in the Upload of Photos to the Cedar Key	-Original aspect ratio /-50% DPI resolution - .jpeg -Applied watermark by creating vectorized seal, stamp & copyright detail graphics	Verification of the upload of photos and content is done by accessing the website and using the Index to view the images grouped by theme and then	Project Manager or designated official

Memory Website and storage.	-Assigned index number to each image placed -Upload of original files to Host Server(flickr) -Imprint of EXIF data on each image file -Linked WordPress to Cedarkey.org and implemented geotagging. -Created an index using Google sheets to record pertinent information about each archived photo. In total it contains 30 spreadsheets that includes 1 index page and 29 pages of photos by theme. -The Image number follows two formats. (A) is made up of (3 text characters for file type "IMG", 2pos Collection ID, 3pos Location ID); (B) Carousel Slides:(1) is made up of (1 text character "C" for file type Carousel, 2pos Collection ID, 3pos Location ID) -Metadata will be generated to include: File Name, Subject tags, Dimension in pixels, File size, Title, Author/Photographer, Description, Date Created and Copyright information. -EXIF Metadata has been transferred with the photos to include: Image Orientation, x and y resolutions, Positioning, and Bits Per Sample.	numbered by series, image number and description. The database can be searched using the [ctrl]+F (windows shortcut) [command] + F (Mac shortcut). A review of photos, item number and description will be done through spot checking and verifying uploaded images to original photos stored in the archives.	