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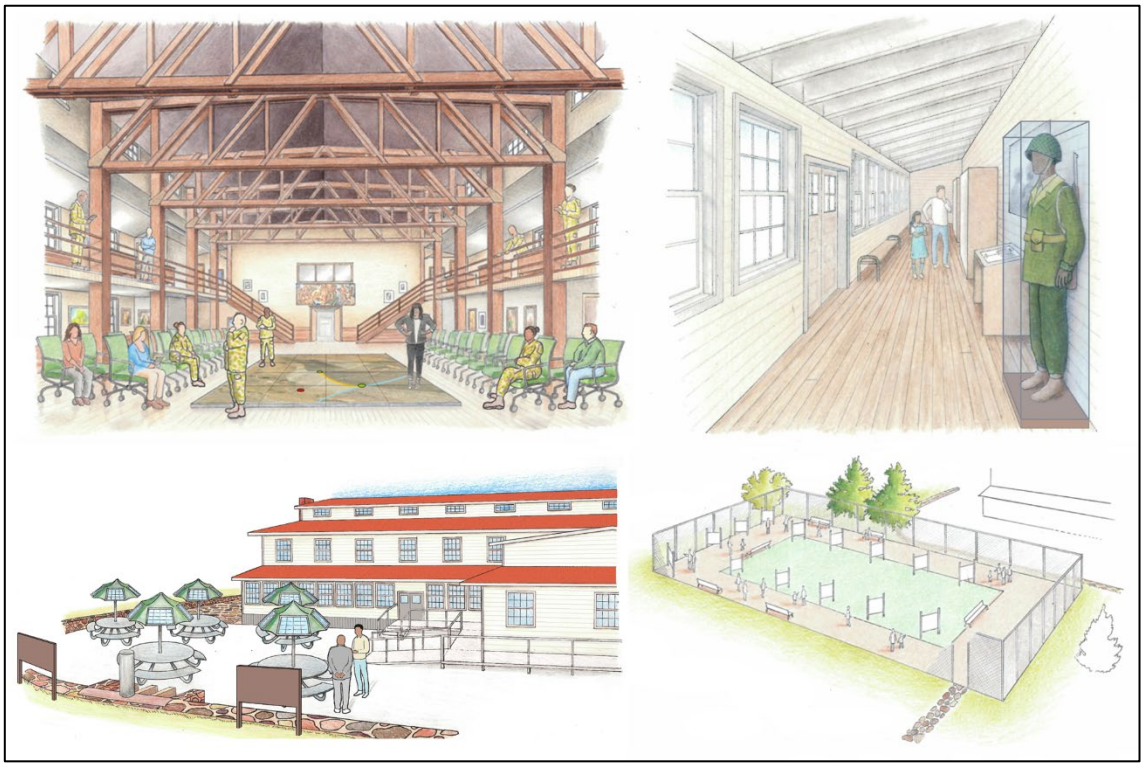
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The Black Experience at Fort Huachuca during WWII

An Interpretation and Exhibit Plan for the Mountain View Officers' Club

Madison L. Story, Kayley R. Schacht, Aaron R. Schmidt, Karlee E. Feinen, Madelyn G. McCoy, Anthony L. White, and Adam D. Smith

December 2023



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US Army Engineer Research and Development Center (ERDC)
Construction Engineering Research Laboratory (CERL)
2902 Newmark Drive
Champaign, IL 61824

Final Report

Distribution Statement A. Approved for public release: distribution is unlimited.

Prepared for Fort Huachuca–Environmental and Natural Resources Division
Directorate of Public Works
US Army Garrison
3040 Butler Road, Building 22526
Fort Huachuca, AZ 85613

Under Project 473343, MIPR 11746711, "Huachuca African American WWII Experience Exhibit Plan."

Abstract

This technical report serves as a contextual planning document for an interpretive exhibit within and surrounding the Mountain View Officers' Club, Building 66050, at Fort Huachuca, Arizona. During World War II (WWII), the Mountain View Officers' Club served as the installation's Black officers' club. It served as various other uses until circa 1998, at which point it became vacant. Today, Fort Huachuca is planning to rehabilitate the building into a mission use space with an indoor-outdoor exhibit space for visitor use within the rehabilitation plan footprint, an 8.15 acre Area of Potential Effect (APE) including the WWII building and associated adjacent features. This report provides numerous potential Courses of Action regarding methods of exhibiting and interpreting historic materials and information in the public spaces within the APE.

The Courses of Action chosen during a future Design-Build phase will be based on factors currently unknown, such as funding and staffing; thus, this document serves as a Phase I concept plan for ideas that will be further developed and finalized during the Phase II Design-Build phase. This report also provides guidance for course of action implementation pending factors currently unknown. Fort Huachuca will keep this report in both digital and analog format in perpetuity. ERDC-CERL will also publish it online and make it available to the public free of cost.

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Preface

This study was conducted for Fort Huachuca–Environmental and Natural Resources Division under Project 473343, MIPR 11746711, "Huachuca African American WWII Experience Exhibit Plan." The technical monitor was Ms. Stanislava Romih, Cultural Resources Manager, Fort Huachuca, Arizona.

The work was performed by the Training Lands and Heritage Branch of the Operational Science and Engineering Division of the Engineer Research and Development Center, Construction Engineering Research Laboratory (ERDC–CERL). At the time of publication, Ms. Angela Rhodes was branch chief, Dr. George Calfas was division chief, and Mr. Jim Allen was the technical director for Environmental Quality and Installations. The deputy director of ERDC-CERL was Ms. Michelle J. Hanson, and the director was Dr. Andrew J. Nelson.

COL Christian Patterson was commander of ERDC, and Dr. David W. Pittman was the director.

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1 Introduction

As of Fiscal Year 2023, the Army requested funds to rehabilitate the former Mountain View Officers' Club (MVOC), Building 66050, for military reuse at Fort Huachuca, Arizona. Part of the anticipated updates include rehabilitating the MVOC's interior for military use with a separate interpretive space. Part of the interior will feature reproductions of the art displayed at the MVOC during World War II (WWII). The National Trust for Historic Preservation (National Trust), from their African American Cultural Heritage Action Fund, granted The Dunbar Coalition, based in Tucson, Arizona, funding for MVOC exhibit research. The Dunbar Coalition in turn gifted those funds to the Army in 2021. Fort Huachuca then transferred the funds to the US Army Engineer Research Development Center–Construction Engineering Research Laboratory (ERDC-CERL). This technical report presents a conceptual exhibit plan for the MVOC, as well as potential courses of action (COAs) for the implementation of this plan. This report considers and builds on the ERDC-CERL report *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946* (Schacht et al. 2023).[1]

The plan focuses on the 8.15 acre Area of Potential Effect (APE) parcel considered during the US Army Corps of Engineers (USACE) Planning Charrette for the MVOC rehabilitation.[2] It provides interpretive concepts and media that can be further developed and implemented when funding becomes available for the Design-Build phase of exhibit space development. The plan also provides interpretive concepts for two other WWII sites and features within the Soldier Creek floodplain but outside the rehabilitation plan footprint.

In this report, the terms "Black" and "White" are capitalized when used in a racial, ethnic, or cultural sense. In addition, these terms are capitalized when used as a modifier in instances such as "Black Americans," "White artist," or "Black history." This decision is in accord

1. Schacht, K. R., D. C. Gonçalves, A. R. Schmidt, and A. D. Smith, *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946* (Champaign, IL: ERDC-CERL, 2023). http://dx.doi.org/10.21079/11681/47184.

2. US Army Corps of Engineers, "SRM Planning Charette Report: Renovate Historic Building 66050 for Range Control Operations," Fort Huachuca, AZ, Project No. HUAC HI021001-1J (unpublished report, November 17, 2021, typescript).

with recent guidance from the Chicago Manual of Style, which ERDC-CERL uses for its technical reports. The guidance recommends capitalizing both terms for editorial consistency.[3]

1.1 Background

Fort Huachuca is located on the eastern slope of the Huachuca Mountains north and east of Sierra Vista, Arizona (Figure 1). The historic heart of the fort's Cantonment is the Fort Huachuca Historic District (commonly called the Old Post), which overlooks the San Pedro River valley. The Army established Camp Huachuca in 1877, but it did not become a permanent Army post until 1882. Most of the buildings within the Old Post area date to the late 1880s. Units within the 9th Cavalry and the 24th Infantry, both Black divisions, were intermittently stationed in the Old Post between 1892 and 1912. Larger Black units absorbed both divisions during WWII.[4] The post expanded to accommodate more troops in the 1910s, prior to WWI. From 1913 to 1931, the 10th Cavalry Black "Buffalo Soldiers" were stationed at Fort Huachuca. The Army changed the post from a cavalry to an infantry orientation in 1931, and the Black 25th Infantry Regiment took the place of the 10th Cavalry in 1933.[5]

In 1941 and 1942, the international border outpost underwent a massive development program designed to house and support the requirements of a full-strength combat division. The Army constructed a full-size city in that time, complete with housing, logistical, utility, administration, education, recreation, and religious facilities.[6] In 1942, the 93rd Infantry Division incorporated the 25th Infantry. Fort Huachuca was home to the 92nd and 93rd Infantry Divisions, from 1942 to 1945.[7] These divisions were composed of Black troops, making Fort Huachuca the largest training facility for Black Soldiers during WWII.[8]

3. Chicago Manual of Style, "Black and White: A Matter of Capitalization," CMOS Shop Talk, June 22, 2020, https://cmosshoptalk.com/2020/06/22/black-and-white-a-matter-of-capitalization/.

4. Smith, C. C., Jr., *Fort Huachuca: the Story of a Frontier Post,* (Washington, DC: Department of the Army, 1981), 197–198, Internet Archive, https://archive.org/details/forthuachucathes00wash/page/n1/mode/2up.

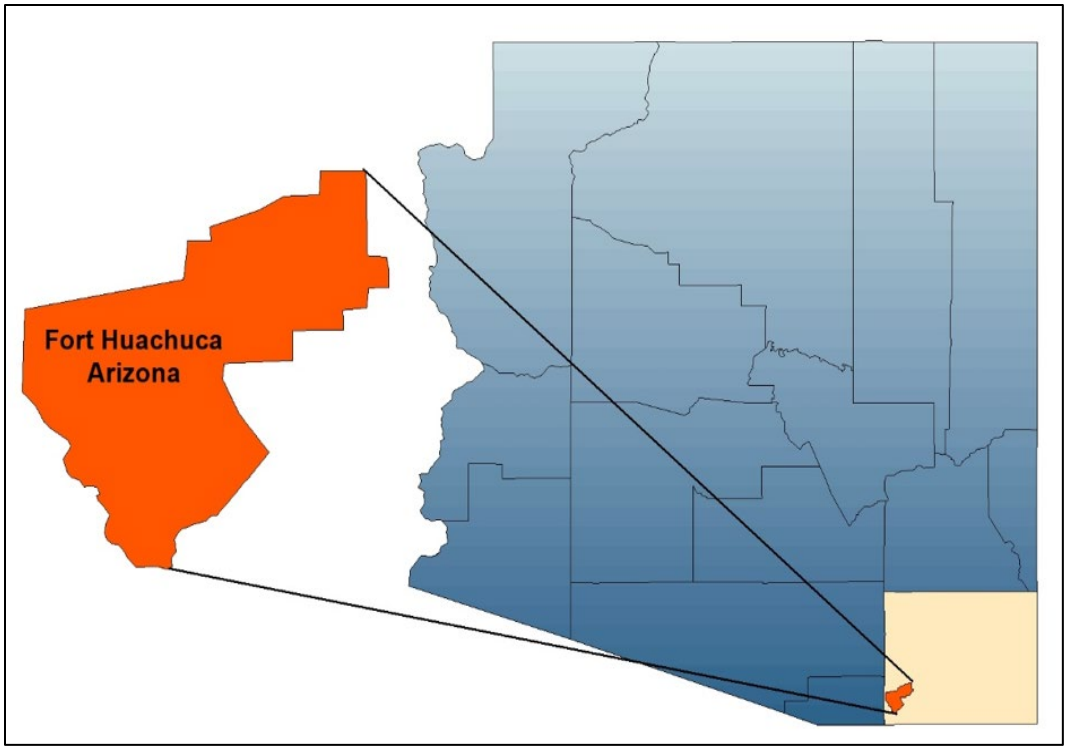
5. Smith, A. D., S. I. Enscore, and S. L. Hunter, *Analysis of the Mountain View Officers' Club*, ERDC/CERL TR-12-14 (Champaign, IL: ERDC-CERL, 2012).

6. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 8.

7. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 1.

8. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 8.

Figure 1. Location of Fort Huachuca. (Image by US Army Engineer Research and Development Center–Construction Engineering Research Laboratory [ERDC-CERL], 2022. Public domain.).



Fort Huachuca has used the MVOC for many different functions since its construction in 1942. First, it was an officers' club for the 93rd and then the 92nd Divisions' Black officers. Part of the installation's WWII "New Cantonment," the MVOC provided an off-duty social outlet for the member officers. Primarily a facility for dining and parties, the club also hosted organized entertainment activities and cultural events.[9] Today, the MVOC is one of the only buildings remaining at Fort Huachuca from the WWII New Cantonment. It is also one of the only surviving buildings on active US Army installations that can communicate the Black military experience during WWII. For more information about the history of Fort Huachuca and the MVOC, see Chapter 2.

1.2 Objectives

This technical report is one of three deliverables for Fort Huachuca's "Black WWII Experience Exhibit Plan–FH 2022-02" project sent to ERDC-CERL The previously published document, *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca*

9. This paragraph taken in part from Smith et al., *Analysis of the Mountain View Officers' Club*, p. 8.

Mountain View Officers' Club, 1943–1946 contextualizes the 1943 MVOC art exhibit opening and the arts' display until 1946 (hereafter referred to as the 1943 Art Exhibit), and its participants was the first deliverable.[10] ERDC-CERL also submitted to Fort Huachuca a third deliverable of an outline of themes for the future Black experience at Fort Huachuca during WWII exhibit, a 319 page PowerPoint file that contained the themes and examples of archival material to populate the future exhibit, a list of names of Soldiers and personnel that were in archival photograph captions, and high resolution files of all archival materials gathered to submit to the chosen contractor to be used in creating the future exhibit (see Appendix D).

The purpose of this exhibit plan technical report is to provide recommendations for displaying interpretive material within the MVOC and the surrounding landscape. This report presents a brief history of Fort Huachuca, a history of the MVOC, and an overview of preservation efforts that have taken place since 1998, when Statistical Research, Inc., first recommended the MVOC eligible for listing on the National Register of Historic Places (NRHP). This information is meant to contextualize and guide the exhibit plan, presented in this report, for the MVOC. The interpretation and exhibit plan identifies interpretive themes, visitor experience objectives, and a spatialization of these themes in the context of the MVOC and surrounding landscape. Finally, this document provides potential COAs for the implementation of this exhibit plan. Given that the purpose of this project was to develop an exhibit concept plan, Fort Huachuca did not include new historical research in the scope of work. The information presented here therefore relies on previously gathered historical information. Contemporary interpretive examples gathered by ERDC-CERL researchers are used in this report to present a variety of methods for how and where to display historical information in the future when funding is available.

This report also provides a noncomprehensive overview of resources regarding guidelines, standards, and requirements for accessibility, graphic design, interpretive planning, and historical object exhibition. Future researchers must consider this information when developing and finalizing the chosen COA for implementation; as such, it is provided in Appendix A.

10. Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946.

1.3 Approach

To develop the exhibit plan, the ERDC-CERL research team roughly followed steps four through seven for interpretive planning outlined by the Chesapeake Bay Office of the National Park Service's publication *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*.[11] These steps include the following:

1. Creating the team
2. Identifying significance and mission or vision statements and overall management and program goals
3. Public engagement
4. Developing interpretive themes
5. Developing interpretive services based the needs of existing and potential audiences
6. Developing visitor experience objectives that include measurable outcomes
7. Creating an implementation plan that involves mapping themes and developing methods for communicating themes
8. Implementing, evaluating, and adjusting as needed[12]

The Cultural Resources Management (CRM) staff at Fort Huachuca largely executed steps one through three as part of the project *Renovate Historic Building 66050 for Range Control Operations*.[13] Fort Huachuca enlisted ERDC-CERL during team creation for interpretive planning and development. The team hired to implement the Design-Build phase will complete step eight, incorporating the concepts provided in this report.

The ERDC-CERL, based in Champaign, Illinois, conducted this project. The research team included Madison L. Story, Master of Science in Historic Preservation; Aaron R. Schmidt, Master of Public History; Kayley R. Schacht, Bachelor of Arts in History; preservation student trainee Karlee E. Feinen, and architecture intern Madelyn G. McCoy. Anthony L. White, a 3D scan and modeling technician with experience in video game design, provided technical expertise and review regarding

11. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas*, *Historic Trails, and Gateways* (Washington, DC: National Parks Service, 2010) https://www.nps.gov/subjects/heritageareas/upload/Interp-Planning-Toolkit-for-Heritage-Areas-Historic-Trails-and-Gateways-2.pdf.

12. Chesapeake Bay Office, Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways, pp. 14–44.

13. US Army Corps of Engineers, "SRM Planning Charette Report"; Directorate of Public Works project # HUAC HI021001-1J.

virtual reality (VR), alternate reality (AR), and other computer-based exhibition methodologies. Adam D. Smith, Master of Architecture, was the project manager and reviewer.

The ERDC-CERL team then compiled existing and concurrent research on Fort Huachuca and the MVOC, including the ERDC-CERL publications *Analysis of the Mountain View Officers' Club* (2012), *Fort Huachuca History of Development* (2021), and *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946* (2023), to identify overarching themes in the MVOC's history that could be connected to the tangible heritage of the site.[14] The team conducted multiple site visits in November 2021, December 2021, and September 2022 to evaluate potential exhibition space-planning COAs and understand the tangible heritage of the site. The team also visited the National Archives and Records Administration (NARA) to gather historical information in March 2022.

After identifying interpretive themes, the ERDC-CERL research team sought to find data regarding military museum visitation demographics; this research was intended to allow researchers to evaluate visitor interests and develop visitor experience objectives and to aid this effort's compliance with the Society for History in the Federal Government and American Historical Association's *Standards for Museum Exhibits Dealing with Historical Subjects*.[15] The ERDC-CERL team was unable to obtain quantitative data on this topic.[16] Consequently, the ERDC-CERL research team, along with consultation with Fort Huachuca's CRM staff, proceeded with visitor experience objective development with an understanding of the museum industry's shift towards highlighting and

14. Smith et al., Analysis of the Mountain View Officers' Club; Morrison, D. A. and A. D. Smith, Fort Huachuca history of development, ERDC/CERL TR-21-2 (Champaign, IL: ERDC-CERL, 2021); Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946.

15. American Historical Association, "Standards for Museum Exhibits Dealing with Historical Subjects (updated 2017)," 2023, https://www.historians.org/jobs-and-professional-development/statements-standards-and-guidelines-of-the-discipline/standards-for-museum-exhibits-dealing-with-historical-subjects; Society for History in the Federal Government, "Museum Exhibit Standards," accessed May 8, 2023, https://shfg.wildapricot.org/Museum-Exhibit-Standards.

16. In addition to research conducted in the process of writing the literature review, ERDC-CERL researchers also reached out to the Fort Huachuca Museum and Annex and the U.S. Army Center of Military History.

uplifting diverse communities.[17] Based on the visitor experience objectives and the space-planning COAs, the ERDC-CERL research team mapped the interpretive themes and evaluated the available tangible heritage to create numerous COAs for the MVOC exhibit space, including guidance regarding interaction and communication methods.

17. Janofsky, M., "Museums Look Locally for Growth and, Sometimes, Survival," *New York Times*, April 25, 2023, https://www.nytimes.com/2023/04/25/arts/design/museums-local-growth.html.

2 History of the Mountain View Officers' Club (MVOC)

This chapter provides a summary of the history of the MVOC. For more in-depth information, see *Analysis of the Mountain View Officers' Club* (2012); *Fort Huachuca History of Development* (2021); and the NRHP Nomination for Fort Huachuca's Old Post by George R. Adams (1976); and the NRHP Nomination for the MVOC by William Collins and Jennifer Levstik (2016).[18]

2.1 Brief History of Fort Huachuca

The US Army established nearly 70 military posts in what is now the State of Arizona between 1849 and 1886.[19] They created one of these posts, Camp Huachuca, in 1877 with the intention to protect settlers within the Arizona Territory and to prevent Indigenous peoples from passing through the Mexican border.[20] Today, Fort Huachuca remains the only still-active military installation established in Arizona between 1846–1886.[21]

Camp Huachuca became a permanent Army post in 1882; its mission to protect Arizona Territory settlers remained the same and continued into the 1890s. In 1886, Fort Huachuca served as the base for Captain Henry W. Lawton's expedition into Mexico to capture the Apache chief Geronimo.[22] Lawton's expedition resulted in Fort Huachuca's involvement with the string of raids and retaliation between the US Army and tribes of the Apache culture that became known as the Apache Wars.[23]

Following the end of the Apache Wars, Fort Huachuca's proximity to the US-Mexican border made it a strategic location for the Army's ongoing

18. Smith et al., *Analysis of the Mountain View Officers' Club*; Morrison and Smith, *Fort Huachuca history of development*; Adams, G. R., "Fort Huachuca," National Register of Historic Places Nomination Form (Washington, DC: US Department of the Interior, National Park Service, 1976); Collins, W., and J. Levstik, "Mountain View Officers' Club," National Register of Historic Places Nomination Form (Washington, DC: US Department of the Interior, National Park Service, 2016).

19. Adams, "Fort Huachuca," Section 8.

20. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 1; Adams, "Fort Huachuca," Section 8.

21. Adams, "Fort Huachuca," Section 8.

22. Utley, R. M., Frontier Regulars; The United States Army and the Indian, 1866-1891 (New York, NY: Bison Books, 1973), n.p.

23. Morrison and Smith, Fort Huachuca history of development, pp. 41–42.

border protection actions and lead to the installation's expansion in 1913. That year, Fort Huachuca also began hosting the all-Black 10th Cavalry Regiment, whose members were known as Buffalo Soldiers. The 10th Cavalry Regiment was one of two cavalry regiments—along with the 9th Cavalry—primarily composed of Black Soldiers. During the 10th Cavalry's 18-year tenure at Fort Huachuca, the Buffalo Soldiers primarily participated in border patrol activities.[24]

Throughout the WWI era (1914–1919), Fort Huachuca served as a training ground for trench warfare, as well as gas mask and hand grenade use. The 10th Cavalry, still stationed at the fort, never deployed for the WWI effort; however, during this period, tensions between Mexican nationals and the US Army continued to rise. On 27 August 1918, Mexican Nationals entered the United States, triggering the Battle of Ambos Nogales. By evening, the Mexican commander requested a formal end to the battle after a mixture of 10th Cavalry Soldiers and others overtook the Mexican forces. The battle ceased following a meeting between the US and Mexican Commanders. The one-day battle resulted in one US death and many injuries.[25]

The 10th Cavalry remained stationed at Fort Huachuca until 1931, when the Army transitioned the post's mission from cavalry training to infantry training.[26] From 1928 to 1931, the fort's mission of patrolling the US-Mexico border was also supported by the all-Black 25th Infantry and Fort Apache Indian Scout detachments.[27] Around the time that the installation's mission transitioned, New Deal works projects, including the Civil Conservation Corps, Works Progress Administration, and Civil Works Administration, also worked to modernize the fort. Construction of a New Cantonment and the laying of sewer lines transformed Fort Huachuca into training grounds, later used during WWII (1939–1945).[28] Following construction, Fort Huachuca became home to the largest number of Black Soldiers of any military installation in the United States. The 92nd and 93rd Divisions were the largest units stationed at Fort Huachuca during WWII and trained for deployment in the European theater.[29] Fort Huachuca also hosted the all-Black 32nd and 33rd

24. Smith et al., Analysis of the Mountain View Officers' Club, p. 1.
25. Morrison and Smith, Fort Huachuca history of development, p. 69–70.
26. Smith et al., Analysis of the Mountain View Officers' Club, p. 1.
27. Morrison and Smith, Fort Huachuca history of development, pp. 1–2.
28. Morrison and Smith, Fort Huachuca history of development, p. 106.
29. Morrison and Smith, *Fort Huachuca history of development*, pp. 110–111.

Women's Army Auxiliary Corps (WAAC) and Women's Army Corps (WAC) divisions during WWII.[30] WAACs managed noncombative duties of the installation. They were also assigned to the Special Service Division and hosted entertainment programs for the Soldiers.[31] Fort Huachuca hosted many Black women of the Army Nurse Corps. In July 1942, the Army Nurse Corps admitted 60 Black women and assigned them to Fort Huachuca.[32] They worked at Station Hospital No. 1, which served the fort's Black Soldiers.[33]

In 1947, the War Department declared Fort Huachuca as surplus and closed the installation; however, it reopened in 1952 during the Korean War. During the period of closure, the Arizona National Guard and the Arizona Game and Fish Department used the fort.[34] Once reopened, the 419th Air Force brigade, whose mission aligned with the 6th Army, used the fort. This transitioned the fort from Army ground warfare to aviation, allowing for the construction of an airfield that made Fort Huachuca the only active Army installation that was also an Air Force Base. The Army closed the fort again at the end of the Korean War in 1953.[35]

Fort Huachuca again reopened in 1954 due to advancing research and development in military technology.[36] Once opened, Fort Huachuca served as the Electronic Proving Ground (EPG) site, which allowed testing of electronic military systems and devices without interference.[37] The EPG spurred growth at the installation during the 1950s and 1960s, and Fort Huachuca became the premier electronic warfare research and development

30. The Army established the WAAC in 1941 as a service option for women separate from the Army Nurse Corps (ANC); however, it was not a part of the Regular Army. In 1943, the WAAC was converted to be part of the Regular Army and the name was subsequently changed to WAC; Bellafaire, J. A., *The Women's Army Corps: A Commemoration of World War II Service*, CMH Publication 72-15 (Washington, DC: Center for Military History, 2005), https://history.army.mil/brochures/wac/wac.htm.

31. Smith et al., Analysis of the Mountain View Officers' Club, p. 53.

32. Hughes, L., "Ft. Huachuca Hospital One of Nation's Finest," *Chicago Defender*, May 20, 1944, Fort Huachuca archive, Fort Huachuca, AZ.

33. Huachuca.army.mil, "Women in the Army Nurse Corps – Fort Huachuca – U.S. Army," Yumpu, November 30, 2014, https://www.yumpu.com/en/document/view/31702617/women-in-the-army-nurse-corps-fort-huachuca-us-army.

34. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 92; Martyn Tagg, personal communication with the author, June 23, 2023.

35. Smith et al., Analysis of the Mountain View Officers' Club, p. 92.

36. Smith et al., Analysis of the Mountain View Officers' Club p. 92.

37. Smith et al., *Analysis of the Mountain View Officers' Club*, p. 92; ArmyBases.org, "Electronic Proving Ground, AZ (ARIZONA)," US Army Bases, accessed December 13, 2022, https://armybases.org/electronic-proving-ground-az-arizona/.

center for the US Army. In the 1960s and 1970s, it was also headquarters for the US Army Strategic Communications and US Army Intelligence Center and School (now the US Army Intelligence Center of Excellence [USAICoE]). Since then, hosting strategic communications and intelligence programs has remained the primary function of the installation. The Army listed the Fort Huachuca Historic District as a National Historic Landmark in 1977. The historic district comprised 110 acres and 48 buildings and structures from the 1880s to the 1930s.[38] In 2023, the Army added eight buildings as contributors within the existing boundary.[39]

2.2 MVOC

The US military has used clubs on installations through its history to build morale by providing an informal environment for relaxation for both officers and enlisted Soldiers. Officers' clubs were membership-based and run by an appointed officer. Because of the exclusive nature of these clubs, as well as ongoing codified racial segregation, Black officers often could not access officers' clubs during the early 20th century. By WWII, US Army policy required Black officers to have the same training, schooling, and standards as their White counterparts. Installations created segregated Black officers' clubs, with some installations converting existing buildings into the clubs while others constructed new buildings.[40]

It is not known who approved the construction of the MVOC, what type of function (officers' club or service club) the facility was originally approved as, or when construction work began.[41] Regardless, it is known the Army constructed two clubs that eventually became officers' clubs—the Lakeside and Mountain View Officers' Clubs—were constructed roughly contemporaneously in 1942. The Lakeside Officers' Club was for White officers, while the MVOC was for Black officers.[42] Delbert (Del) Webb supervised the MVOC construction and it opened on Labor Day weekend

38. Morrison and Smith, Fort Huachuca history of development, p. 1.

39. Nelson, R. J., 2023, Letter to Colonel John Ives, Fort Huachuca Garrison Commander, regarding Amendment #1 Residential Communities Initiative Programmatic Agreement, 10 March 2023, Fort Huachuca ENRD Office, Fort Huachuca, AZ.

40. Smith et al., Analysis of the Mountain View Officers' Club, pp. 59–60.

41. Smith et al., Analysis of the Mountain View Officers' Club, p. 62.

42. Smith et al., Analysis of the Mountain View Officers' Club, p. 65.

in 1942.[43] The MVOC's structure follows standard plan SC-3, but is flipped (i.e., reversed) to allow better views of the surrounding landscape from public areas in the club.[44] SC-3 was a plan for service clubs created as part of the Army's first standardized plans for military cantonments during WWII, called 700 series plans. The Army created these to accommodate an increase in troops in preparation for WWII. By the time the United States officially entered the war, the Army built 20 new cantonments across the country using the standardized plans.[45]

Despite the US Army's "separate but equal" policies at the time of the MVOC and Lakeside Officers' Club's construction, construction of the Lakeside Officers' Club cost $173,220 more than that of the MVOC. While both clubs had tennis courts, the remainder of the clubs' facilities were also noticeably different, with Lakeside Officers' Club featuring a well-stocked fishing pond and five guest rooms while the MVOC had neither (although it did have a guest house located to its east). Black Soldiers took offense to the lack of guest accommodations within the club and the MVOC's location and furnishings, which Black officers viewed as inferior to those of the Lakeside Officers' Club at the time.[46]

Even with these discrepancies, the MVOC became a gathering place for both Black officers, including WAACs and WACs, and Black members of the ANC.[47] Reports indicate that Soldiers used the club for dining, concerts, weddings, dances, and art exhibits.[48] During these events, WAACs served as hostesses and ran the guest houses.[49] The 93rd Infantry hosted the club's first large social event, a dance, in 1942. Later events included performances by Etta Moten—eventually the first Black woman to perform at the White House—in 1942, and Mercedes Jordan—a WAAC and former Cotton Club performer—in February 1943. Other notable musicians who performed at Fort Huachuca included Lena Horne, Dinah

43. Haack, H., "Places of 'Temporary' Buildings: WWII's 700 and 800 Series Buildings (US National Park Service)." National Parks Service. US Department of the Interior. Accessed November 2022. https://www.nps.gov/articles/000/places-of-temporary-buildings-wwii-s-700-and-800-series-buildings.htm; Tucson Historic Preservation Foundation, "Mountain View Black Officers Club," accessed January 24, 2023, https://preservetucson.org/stories/mountain-view-black-officers-club/.

44. Smith et al., Analysis of the Mountain View Officers' Club, p. 63–70.

45. Haack, "Places of 'Temporary' Buildings."

46. Smith et al., Analysis of the Mountain View Officers' Club, pp. 79-80, 160.

47. Smith et al., Analysis of the Mountain View Officers' Club, pp. 77–80.

48. Adams, "Fort Huachuca," Section 8.

49. Smith et al., Analysis of the Mountain View Officers' Club, p. 84.

Shore, Duke Ellington, Count Basie, and Pearl Bailey, though it is unclear if all these individuals performed at the MVOC, at other facilities within Fort Huachuca, or at the United Service Organizations (USO) center located outside the gate in Fry.[50] Also in 1943, Soldiers stationed at Fort Huachuca began hosting boxing matches at a ring southeast of the MVOC. These matches garnered crowds of up to 14,000 people; however, there is no documentary evidence of boxing champion Joe Louis, visiting Fort Huachuca as a sergeant at the time, using the boxing ring.[51]

The MVOC also hosted an art exhibit featuring the work of 36 Black and White artists between 1943 and 1946.[52] Holger Cahill, the national director of the Works Progress Administration's Federal Art Project, selected the art for display, and Sergeant Lew Davis arranged the displayed art. The MVOC hosted the exhibit's opening gala on 16 May 1943 with guests including the 92nd Division. The exhibit traveled to Service Club No. 1 from 23 to 29 May and to Service Club No. 2 from 30 May to June 5 before returning to the MVOC for the remainder of its time at Fort Huachuca. By September 1944, leadership at Fort Huachuca became concerned about the long-term housing and care of the artwork, so Colonel Bousfield—the Commanding Officer of the Medical Corps at Fort Huachuca and governor of the MVOC—contacted Howard University about taking possession of the collection. The exhibit, which included 38 oil paintings, 44 prints, 1 mural, and 3 sculptures, moved to Howard University in 1947, and some of the works remain on display at the University today.[53]

Over the course of Fort Huachuca's closures and reopenings, the MVOC underwent several renovations and changes in use. While it served as the Black Officers' Club throughout the mid-1940s, its use in the early 1950s is unclear. It may have served as a Noncommissioned Officers' (NCO) Club. In 1953, aviation engineers used it as a service club. In accordance with this use, the engineers added a 1,177.5 sq ft hobby shop with a shed roof and concrete floor to the northwest corner of the building.[54] In the mid-

50. Tucson Historic Preservation Foundation, "Mountain View Black Officers Club."

51. Smith et al., Analysis of the Mountain View Officers' Club, pp. 44–45.

52. While the exhibit was titled Exhibition of the Work of 37 Negro Artists, it featured only 36 artists, some of whom were White; Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946, p. 35.

53. Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946, Appendix A.

54. Smith et al., Analysis of the Mountain View Officers' Club, pp. 92–93.

1950s, the EPG used it as a general service club. The Army used it as an NCO Club and NCO Open Mess in 1959, and this use continued until 1966.[55] In accordance with this use, the Army constructed a patio in May 1960 and a dance floor on the patio in June 1960. In 1966, the MVOC became an Enlisted Men's Service Club named the Rocker Club. This use continued until 1971, when the Army renovated it to a Special Service Entertainment Workshop. In 1991, the Army converted it into a general administration building for use by the Army Career and Alumni Program and Job Assistance Center. Fort Huachuca Real Property records indicate the MVOC was vacant as of 26 October 2004; however, other records from the time state that it had been vacant since 1998, when the Army placed it on a demolition list.[56]

Today, the MVOC is one of two known surviving segregated Black officers' clubs from the WWII-era in the United States. The other extant club is located at Fort Leonard Wood, Missouri. The Army did not construct it using the same plan as the MVOC. Instead, they created the Fort Leonard Wood Black officers' club through the adaptation of an existing administration building by adding a dance hall with a fireplace. By contrast, the Army designated the MVOC as the Black officers' club at the time of dedication. Officers of the 92nd and 93rd Divisions, the only completely Black divisions during WWII, used the MVOC.[57]

2.3 Preservation Efforts Since 1998

With neither a use for, nor funding to maintain the MVOC in the late 1990s, Fort Huachuca considered demolishing it and proceeded with National Historic Preservation Act Section 106 consultation and review as required for such an action.[58] In 1998, Statistical Research, Inc., completed a determination of eligibility for the MVOC and recommended it eligible for the NRHP.[59] To preserve the building, Fort Huachuca leased it in 2006 as a private or organizational club to the Southwest Association

55. Smith et al., Analysis of the Mountain View Officers' Club, p. 93.

56. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4; Black Cultural Heritage Action Fund, "Mountain View Officers' Club at Fort Huachuca," National Trust for Historic Preservation, accessed October 27, 2022, https://savingplaces.org/places/mountain-view-officers-club-at-fort-huachuca.

57. Smith et al., Analysis of the Mountain View Officers' Club, p. 93.

58. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4; Black Cultural Heritage Action Fund, "Mountain View Officers' Club at Fort Huachuca."

59. Bischoff, M., Determination of Eligibility and Historic Documentation for Building 66050, Performing Arts Theater, Fort Huachuca, Arizona, Tucson, AZ: Statistical Research Inc., 1998.

of Buffalo Soldiers (SWABS), an Arizona nonprofit dedicated to preserving the history of Black Soldiers prior to integration.[60] SWABS began to restore the building but was unable to complete the restoration before the lease expired on 30 September 2011 and the Army did not renew it.[61]

In 2012, Fort Huachuca sent funding to ERDC-CERL to complete a structural and historical assessment of the building due to increased outside interest in the building after the Army did not renew the SWABS lease. In 2013, the National Trust listed the MVOC as one of America's 11 Most Endangered Historic Places. In the same year, the Army initiated formal Section 106 consultation to determine future disposition of the building, which resulted in a Programmatic Agreement executed in 2016. In part due to the media attention gained from this, the Keeper of the National Register of Historic Places formally listed the MVOC on the NRHP in 2017.[62] Consequently, Fort Huachuca began looking for an alternate use of the building.[63]

In 2017, Fort Huachuca conditionally accepted a rehabilitation and reuse plan for the MVOC presented by the National Trust.[64] Per this plan, the MVOC would become a multiuse event, restaurant, and recreational space for use by the Fort Huachuca and Sierra Vista communities.[65] In 2018, the US Department of the Interior and National Park Service (NPS) awarded the Arizona State Historic Preservation Office (SHPO) a grant for the MVOC from its 2018 Black Civil Rights Grants program. The SHPO received $500,000 "to restore the building's exterior and key elements of

60. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4; SWABS, "About Us," Southwest Association of Buffalo Soldiers, accessed October 27, 2022, https://swabuffalosoldiers.org/about/.

61. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4.

62. The Keeper of the National Register of Historic Places, less formally referred to as the "Keeper of the Register" or simply the "Keeper", is "the individual who has been delegated the authority by the NPS to list properties and determine their eligibility for the National Register." In other words, the Keeper is the official at the NPS who is responsible for listing properties on the NRHP; CFR 60 §§ 59.5–59.6; US Army Corps of Engineers, "SRM Planning Charette Report," p. 4; Collins and Levstik, "Mountain View Officers' Club," Section 8.

63. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4; Martyn Tagg, personal communication with the author, June 23, 2023.

64. Guerra, J., "US Army supports reuse plan! New Public-private coalition gets conditional approval of revitalization option for the Mountain View Officers' Club," National Trust for Historic Preservation, November 8, 2017, https://savingplaces.org/places/mountain-view-officers-club-at-fort-huachuca/updates/us-army-moves-position-new-public-private-coalition-gets-conditional-approval-to-pursue-reuse-plan-for-the-mountain-view-officers-club.

65. Morris, C., "Mountain View Officers' Club" (unpublished presentation, n.d., PDF), https://nthp-savingplaces.s3.amazonaws.com/2017/11/07/15/49/39/399/MVOC%20Reuse%20Proposal%20-%20Condensed%20Version.pdf.

the Dance Hall inside to their 1942 appearance," in support of the existing rehabilitation and reuse plan.[66] At the time, consulting parties sought a non-Army investor to take on the effort, and the SHPO would be able to name that party a subgrantee. The NPS later pulled back this grant funding when the Army determined a military use for the building, because the money could not augment another government agency's budget requirements.[67]

Fort Huachuca cultural resources personnel completed three archaeological projects around and related to the MVOC per Section 106 of the National Historic Preservation Act to document potential significant cultural resources in the area (Figure 2). The first project was a reconnaissance survey of 22 acres around the MVOC to document and evaluate extant features so the Army could consider this acreage as part of a lease package.[68] In addition to the MVOC, the archaeological team documented seven facilities and three landscape features. The facilities included the baseball field and associated features (Williams Field, Facilities 66044, 66045, 66047, and 66048), the tennis court (Williams Tennis Court and Facility 66051), a playground (Facility 66049), and an unnumbered baseball practice field. The landscape features include a stone patio wall, a stone pillar, and a stone barbeque associated with the stone wall. The archaeological team also documented the remains of a WWII-era bleacher foundation outside the 22 acres, as well as the western half of a 1990s Physical Activity, Running (PAR) course.

Also in 2014, Fort Huachuca completed a second reconnaissance survey within the Soldier Creek floodplain prior to a prescribed burn that would remove dense fuel load and reduce potential damage to the MVOC from a wildfire.[69] The archaeological team recorded a WWII training area approximately 0.25 mi southeast of the MVOC and gave it an Arizona State Museum archaeological site number (AZ EE:7:410[ASM]). The site includes a vaulting wall, two features with trenches, and a barbed wire feature. The archaeological team also documented the remainder of the

66. J. Guerra, "National Park Service announces $500,000 in support of Mountain View Officers' Club restoration," National Trust for Historic Preservation, March 14, 2018, https://savingplaces.org/places/mountain-view-officers-club-at-fort-huachuca/updates/national-park-service-announces-grant-in-support-of-mountain-view-officers-club-restoration.

67. Stanislava Romih, personal communication with the author, July 21, 2023.

68. Tagg, M., "Facility 66050 Parcel Cultural Resources Assessment," Fort Huachuca Cultural Resources Report FH-14-1, September 29, 2014.

69. Tagg, M., "2014 Prescribed Burns Cultural Resources Assessment" (draft), Fort Huachuca Cultural Resources Report FH-14-7, April 2, 2014.

PAR course that began on the bajada west of the MVOC, descended into the floodplain, bisected the archaeological site, and went to Irwin Road to the east before looping back to the west and running adjacent to the WWII-era bleacher foundation (Figure 2).

In 2018, Fort Huachuca conducted an archaeological assessment of 31.5 acres of vacant land north and south of the MVOC in support of the National Trust's proposal for potential sports fields to the north, which included rehabilitating the existing baseball field located near the MVOC, and a potential amphitheater to the south (Figure 2).[70] This parcel overlapped portions of the 2014 reconnaissance survey areas and included the MVOC and associated facilities and features, the baseball field and associated features, a segment of the 1990s PAR course, and two isolated features of unknown age and use (a concrete pad and a depression).

In June 2019, Ralph Appelbaum Associates, a firm with nearly 50 years of experience in the planning and design of exhibit spaces and narrative environments, developed an interpretive concept document for the MVOC in collaboration with the National Trust.[71] This document presented an interpretive plan for the entirety of the interior and exterior of the MVOC as a living piece of history. The plan included layouts and uses for the interior and exterior of the building, opportunities and ideas for historical displays and interpretation, opportunities for and examples of branding, and the use of AR.[72] The ideas presented in this plan were not put in place because no private developers responded to the Army's Request for Proposals for leasing and rehabilitating the building.[73]

Around 2020, Fort Huachuca's leadership and Directorate of Public Works (DPW) identified a new purpose for the structure that would support the military mission, and the consultation process shifted from demolition or lease or sale to a private organization to Army rehabilitation.[74] Subsequently, the Fort Huachuca DPW and USACE, Sacramento District, agreed for the USACE to conduct the validation process for the project

70. Negrete, E. Gonzalez, and M. Tagg, "Facility 66050 Land Parcel Cultural Resources Assessment," Fort Huachuca Cultural Resources Report FH-18-3, May 16, 2018.

71. Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona: Interpretive Concept Document" (unpublished manuscript, New York, NY, 2019); Ralph Appelbaum Associates, "Studio," About, 2023, https://raai.com/about/.

72. Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona," pp. 11–46.

73. Victoria Myers, personal communication with the author, June 22, 2023.

74. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4.

Renovate Historic Building 66050 for Range Control Operations. The purpose of this effort was to define and confirm project requirements, scope, cost, and criteria for the newly identified use of the building.[75]

As a part of this effort, the design team met at Fort Huachuca to participate in a planning charette from 26 to 30 July 2021. The design team consisted of USACE and Fort Huachuca personnel and included a project engineer, design lead, architectural historian, historical architect, interior designer, cultural resources manager, civil engineer, mechanical engineer, electrical engineer, economist, cybersecurity engineer, cost engineer, and structural engineer. The purpose of the charette was to identify COAs for the former MVOC's future use, allow Fort Huachuca to select a preferred COA, and ensure the preservation of character defining features during rehabilitation in accordance with the *Secretary of the Interior's Standards for Rehabilitation*.[76] A detailed description of the charette and resultant decisions is available in *SRM [Sustainment, Restoration and Modernization] Planning Charette Report: Renovate Historic Building 66050 for Range Control Operations*.[77]

To mitigate potential changes to the design of the building to accommodate its new purpose, Fort Huachuca dedicated a portion of the building and its surrounding landscape as interpretive space. The interpretive space will allow communication of the site's significance without affecting the mission-supporting activities occurring elsewhere in the building and on the site.[78]

The rehabilitated MVOC will become Fort Huachuca's first Range Synchronization Center if approved and funded. As part of the USAICoE efforts to prepare of a virtual tactical training environment for use by the Range Synchronization Center, University of Arizona Center for Digital Humanities researchers created an exterior and interior 3D virtual model of the MVOC Exhibit Plan.[79]

75. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4.

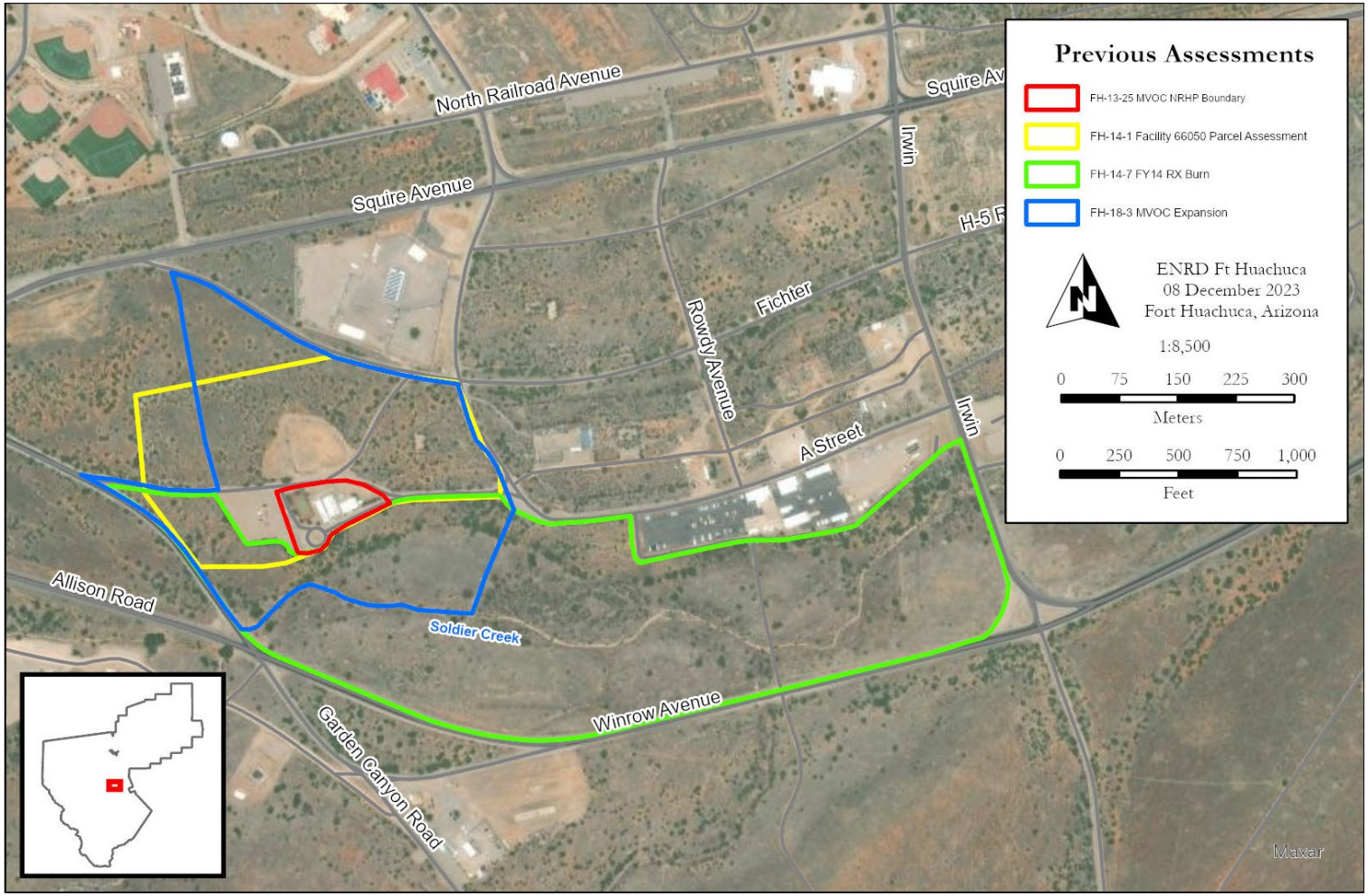
76. The COAs discussed here are not the same as those presented by this report; US Army Corps of Engineers, "SRM Planning Charette Report," Appendix N.

77. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4.

78. US Army Corps of Engineers, "SRM Planning Charette Report," p. 4.

79. Personal communication, Stanislava (Sasha) Romih, 9 November 2023.

Figure 2. Previous Cultural Resources Assessments and the Mountain View Officers' Club (MVOC) National Register of Historic Places (NRHP) property boundary. (Image courtesy of Fort Huachuca Environmental and Natural Resources Division, 2023. Public domain.)



2.4 Site Description

The objective of this conceptual exhibit plan is to develop methodologies for presenting the WWII history at Fort Huachuca, focusing on the Black military experience, for both military users and the general public.[80] Currently, Fort Huachuca hosts two museums; the Fort Huachuca Museum and Annex and the Military Intelligence Soldier Heritage Learning Center—also referred to as the Army Intelligence Museum and the Military Intelligence Museum.[81] The Fort Huachuca Museum and Annex interprets the history of the fort with a focus on Fort Huachuca's early years, Buffalo Soldiers, and the Indian Wars.[82] The Military Intelligence Soldier Heritage Learning Center interprets the history of intelligence organizations at Fort Huachuca.[83] Neither museum focuses on the interpretation of the fort during WWII or the experience of the Black Soldier despite the fact that Fort Huachuca was the largest training facility for Black Soldiers during WWII.[84] The exhibit spaces of the rehabilitated and reused MVOC, and the immediate vicinity of the MVOC, will seek to fill this interpretive gap.

For the purposes of project planning and design, the site encompassing and surrounding the MVOC is broken into two phases: the primary focus area (Phase 1) and the future opportunity area (potential Phase 2) (Figure 3). The primary focus area for the exhibit plan presented in this document is the 8.15 acre APE (Figure 4). The MVOC and its related resources as described in the NRHP nomination is shown in Figure 4. The potential Phase 2 future opportunity area falls primarily within the Soldier Creek floodplain south of the MVOC. It consists of the 1990s PAR course trail and the two WWII cultural resources Fort Huachuca recorded in 2014—the boxing ring foundation and the remnants of the training area.

80. Ives, J.M., Leonard, K., and Nelson, R., Programmatic Agreement Among the U.S. Army Garrison Fort Huachuca, the Arizona State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Rehabilitation of Building 66050 at Fort Huachuca, Arizona (Fort Huachuca, AZ: 2023), pp. 6–7.

81. US Army Center of Military History, "Fort Huachuca Museum and Annex," accessed August 10, 2023, https://history.army.mil/museums/TRADOC/fortHuachuca/index.html; US Army Center of Military History, "Military Intelligence Soldier Heritage Learning Center," accessed August 10, 2023, https://history.army.mil/museums/TRADOC/fortHuachuca_MI/index.html.

82. US Army Center of Military History, "Fort Huachuca Museum and Annex."

83. US Army Center of Military History, "Military Intelligence Soldier Heritage Learning Center."

84. Smith et al., Analysis of the Mountain View Officers' Club, p. 8.

Figure 3. Map showing the area of potential effect (APE) and the Phase 1 and Phase 2 areas discussed in this report. (Image courtesy of Fort Huachuca Environmental and Natural Resources Division, 2023. Public domain).

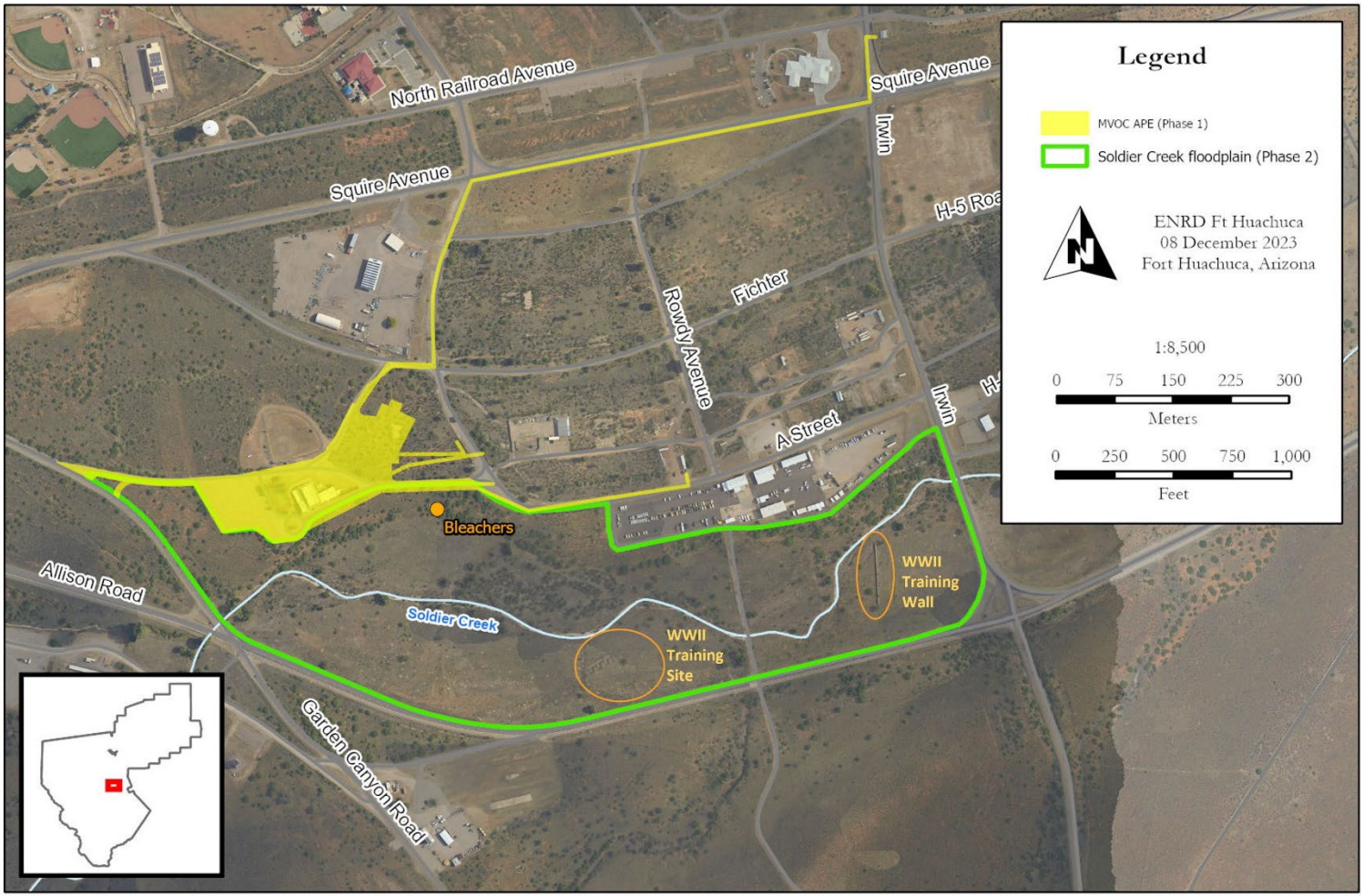
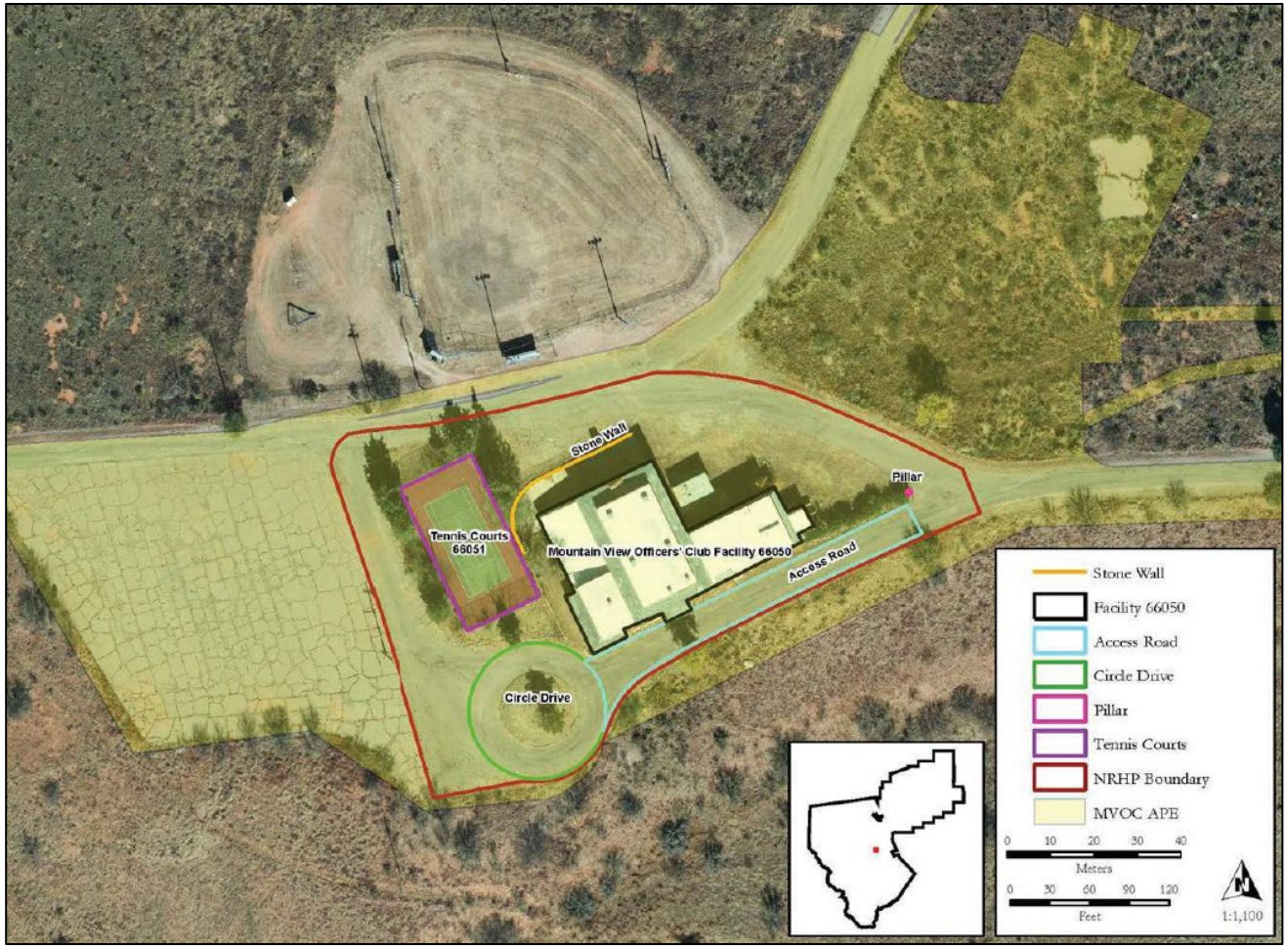


Figure 4. MVOC and related historic features encompassed by the NRHP boundary (Image reproduced from Fort Huachuca, *Programmatic Agreement*. Public domain).



2.4.1 Primary Focus Area (Phase 1)

The MVOC is located at the western edge of the southwestern-most area of the WWII temporary New Cantonment at Fort Huachuca, Arizona (Figure 5). An extant WWII-era tennis court, Facility 66051, is west of the club. Historically, a series of bachelor officers' quarters and a guest house for visitors to the officers' club were located adjacent to the club to the east (Figure 6 and Figure 7). The Army demolished all the bachelor officers' quarters at an unknown date. The remainder of the WWII New Cantonment, containing more than 550 temporary buildings, was located further north and east. The MVOC is one of the few buildings remaining from this cantonment, to represent Fort Huachuca's WWII history.

An access road on the south side of the club allowed access to the front entrance and terminated in a circular drive (Figure 8, Figure 9, and Figure 10). Per antiterrorism and force protection requirements, the access road and circular drive must be restricted to access by vehicles other than fire trucks. maintenance, and other required military vehicles. The Design-Build team will determine the method for blocking general vehicular access.[85] The MVOC historically featured a wood deck on the southwest corner of the building accessible from the interior by a single door. The deck wrapped around the west side of the club, leading to an open area and the tennis court; it is not known when the deck was removed.[86] Currently, on the north side of the club is a concrete and stone patio (Figure 11, Figure 12, and Figure 13).[87] There is also a stone barbeque on the west side of the officers' club between the patio and the tennis court (Figure 14 and Figure 15).[88]

85. US Army Corps of Engineers, "SRM Planning Charette Report," p. 7.

86. Smith et al., Analysis of the Mountain View Officers' Club, p. 160.

87. Smith et al., Analysis of the Mountain View Officers' Club, pp. 160, 176.

88. Smith et al., Analysis of the Mountain View Officers' Club, p. 160.

Figure 5. WWII New Cantonment in 1946 and 2011, depicting the changing setting of the MVOC following the demolition of temporary buildings. (Image reproduced from Smith et al. 2012. Public domain.)

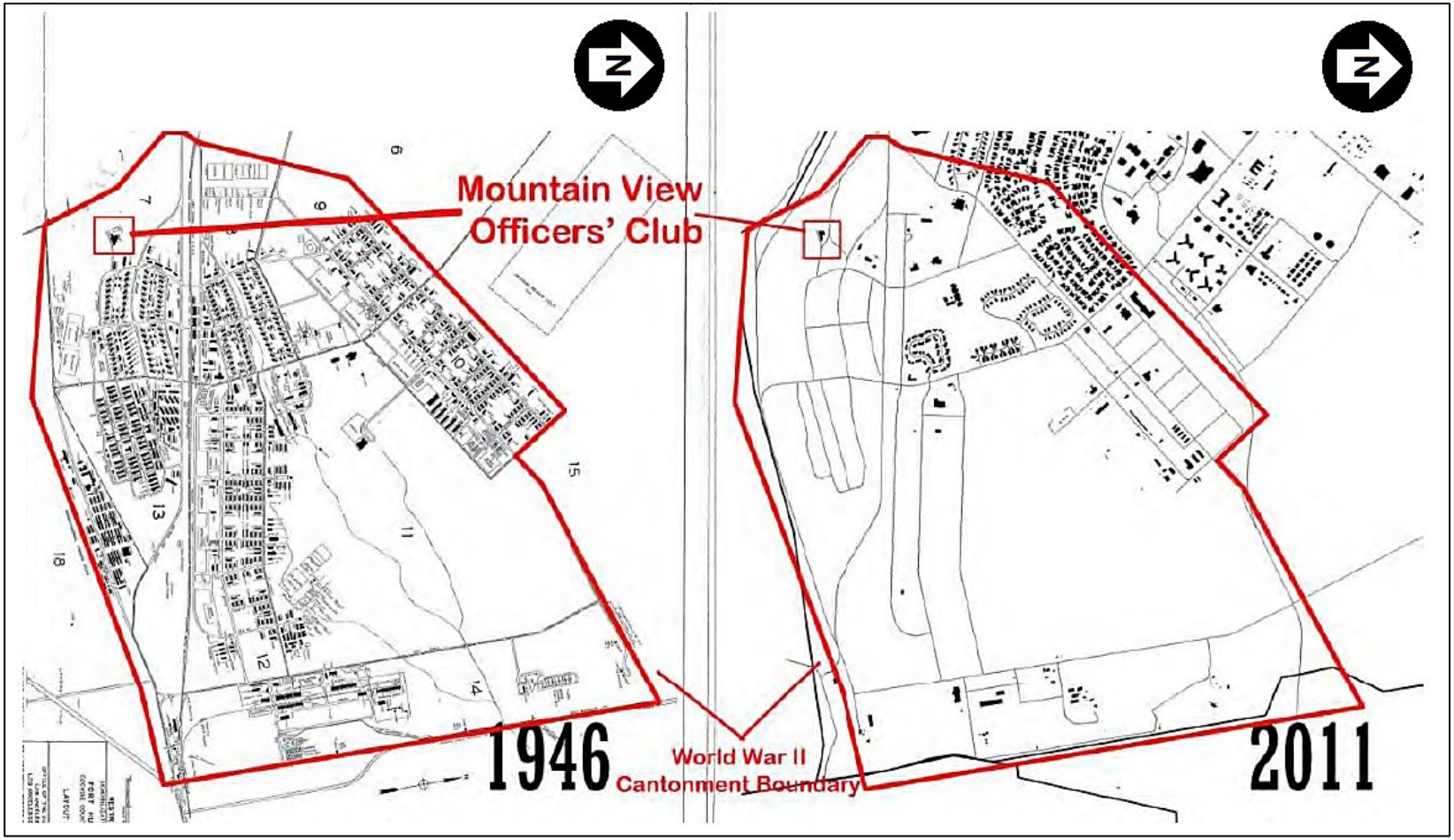


Figure 6. WWII New Cantonment with the location of the MVOC highlighted by the *red box*, WWII era. (Image reproduced from Smith et al. 2012. Public domain.)

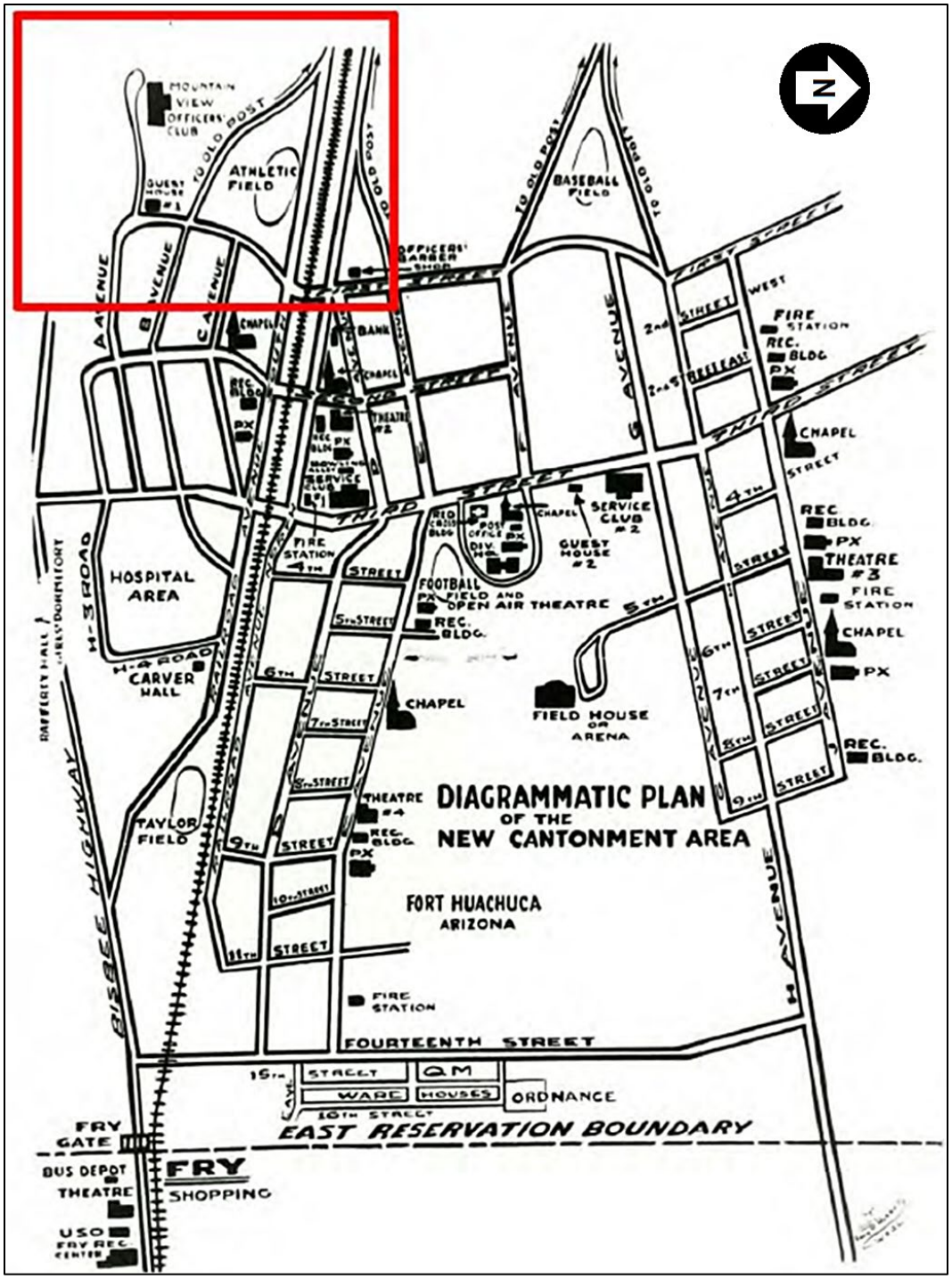


Figure 7. Aerial photo of the MVOC and surrounding area looking north-northeast. The MVOC, no longer extant guest houses, and part of the floodplain including the boxing ring are highlighted by the *red box*, 1956. (Image reproduced from Smith et al. 2012. Public domain.)



Figure 8. Looking northeast at the MVOC from the landscaped circular drive, 1944. (Image from Fort Huachuca Museum. Public domain.)



Figure 9. Looking northeast at the MVOC from the landscaped circular drive in 2022. (Permission to use by Fort Huachuca Environmental and Natural Resources Division [ENRD], 2023.)



Figure 10. MVOC access road with one remaining stone column at the entrance, looking west, 2011. (Image reproduced from Smith et al. 2012. Public domain.)



Figure 11. North concrete and stone patio, 2022. (Image by ERDC-CERL researchers, 2022.)



Figure 12. Close-up of north stone patio, 2022. (Image by ERDC-CERL researchers, 2022.)



Figure 13. Close-up of north stone patio, 2011. (Image reproduced from Smith et al. 2012. Public domain.)



Figure 14. West patio, barbeque, and tennis court, 2011. (Image reproduced from Smith et al. 2012. Public domain.)



Figure 15. Close-up of the stone barbeque, 2022. (Image by ERDC-CERL researchers, 2022.)



Visitors' experience of the interpretive space will begin when they park their vehicles on the west visitor's parking lot and are able to view the Huachuca Mountains to the south and southwest (Figure 16). As visitors walk to the building via the driveway, they will pass the historic tennis court, retaining wall, and patio (Figure 17, Figure 18, and Figure 19). The tennis court, per the 2021 planning charette, will feature a ramada for protection from the elements. Visitors will enter and experience the outdoor spaces, which will provide opportunities for social gathering and interpretation. Past these outdoor spaces, visitors will either enter the interior exhibit space or continue exploring outdoor aspects of the MVOC.[89]

If visitors choose to enter the interior exhibit space, they will use the only entrance on the west side of the building from the concrete patio. The interior space will be a long rectangular room along the west portion of the building (Figure 20). If visitors continue to explore outdoor aspects of the MVOC, they can walk down the few steps to the concrete patio and view the west elevation. From here, they can walk around the flagstone patio or down an access road to view the north elevation. Alternatively, they could continue along the driveway to view the building's south elevation, including its historic main entrance and landscape features such as mature oleander bushes and a WWII-era stone column.[90]

89. US Army Corps of Engineers, "SRM Planning Charette Report," p. 14.

90. US Army Corps of Engineers, "SRM Planning Charette Report," p. 14.

Figure 16. Site plan for MVOC. The visitor-accessible driveway is highlighted with a *blue–yellow gradient*. (Image reproduced from USACE Sacramento District 2022. Public domain.)

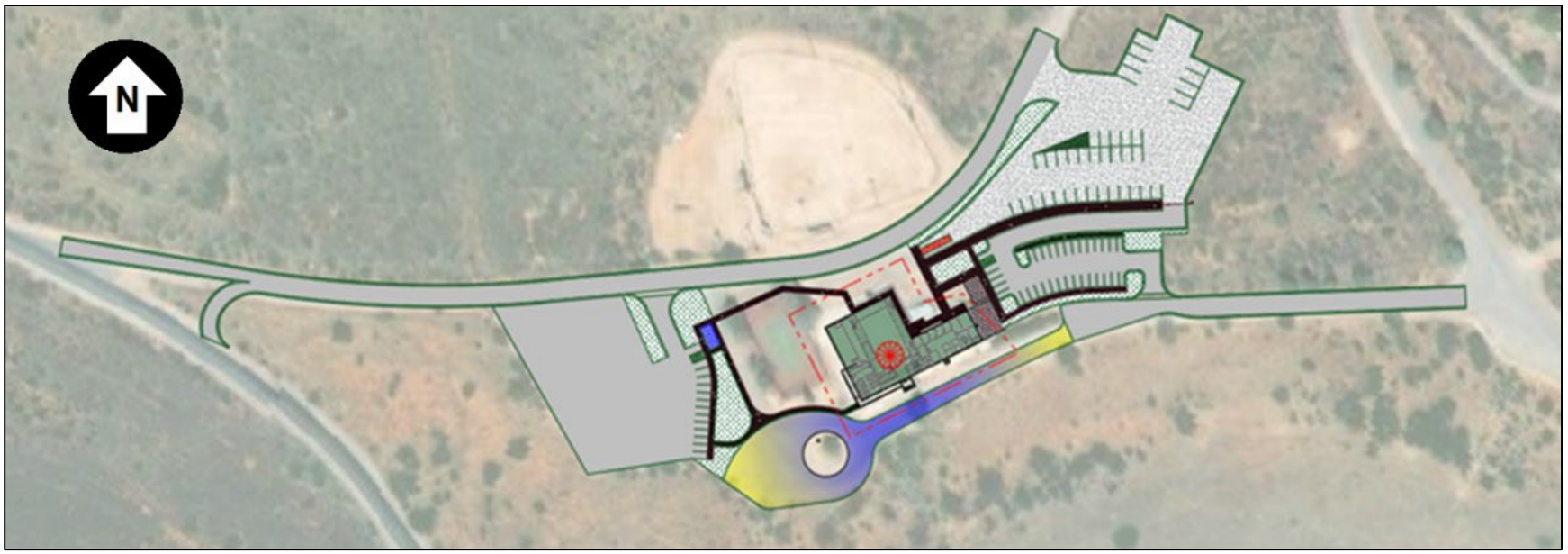


Figure 17. Rendering of the tennis court with ramada and approach to the MVOC following rehabilitation. (Rendering by ERDC-CERL researcher, 2023.)

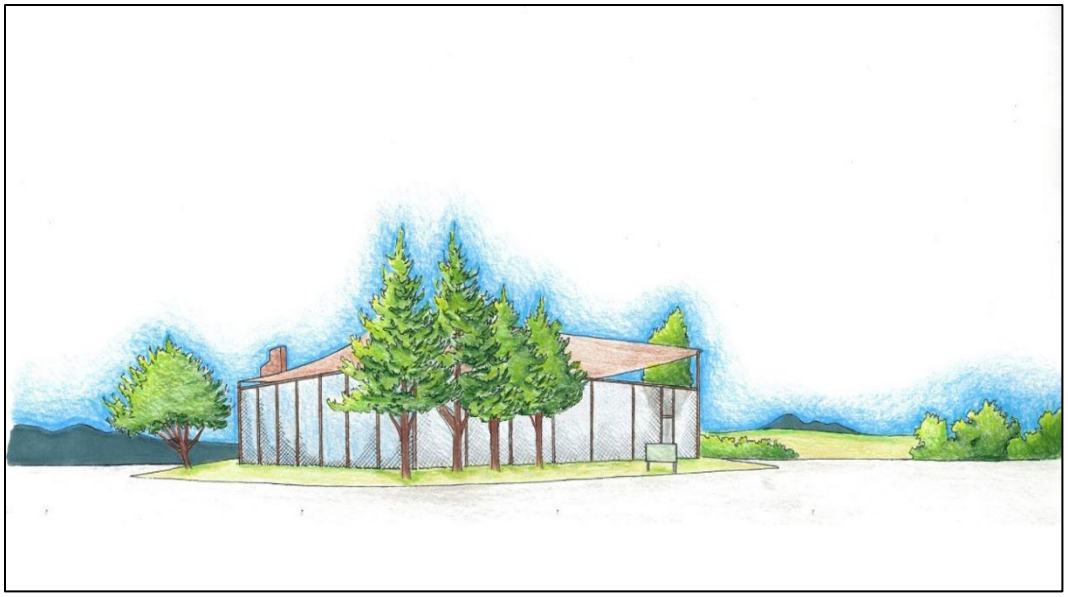


Figure 18. Rendering of the entrance to the MVOC following rehabilitation. This rendering features concrete barricades as a potential option for restricting vehicular access to the access road and circular drive. (Rendering by ERDC-CERL researcher, 2022.)



Figure 19. Plan view of the historic tennis court (ramada not shown), retaining wall, patio, and MVOC following rehabilitation. (Rendering by ERDC-CERL researcher, 2022.)

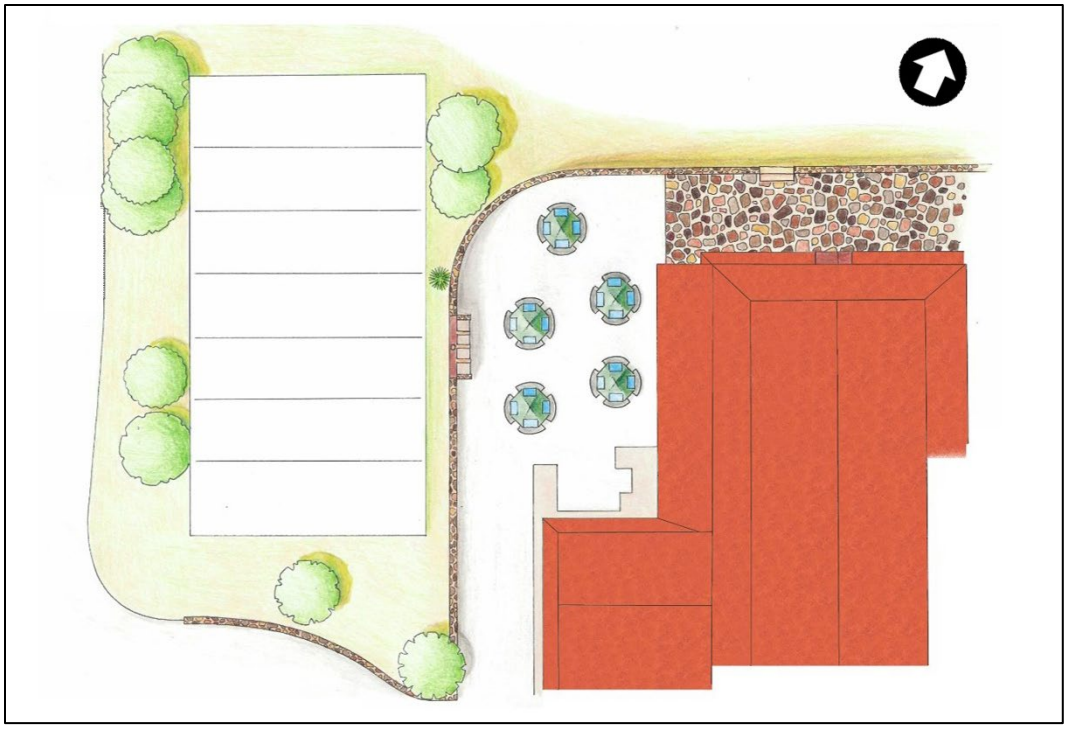
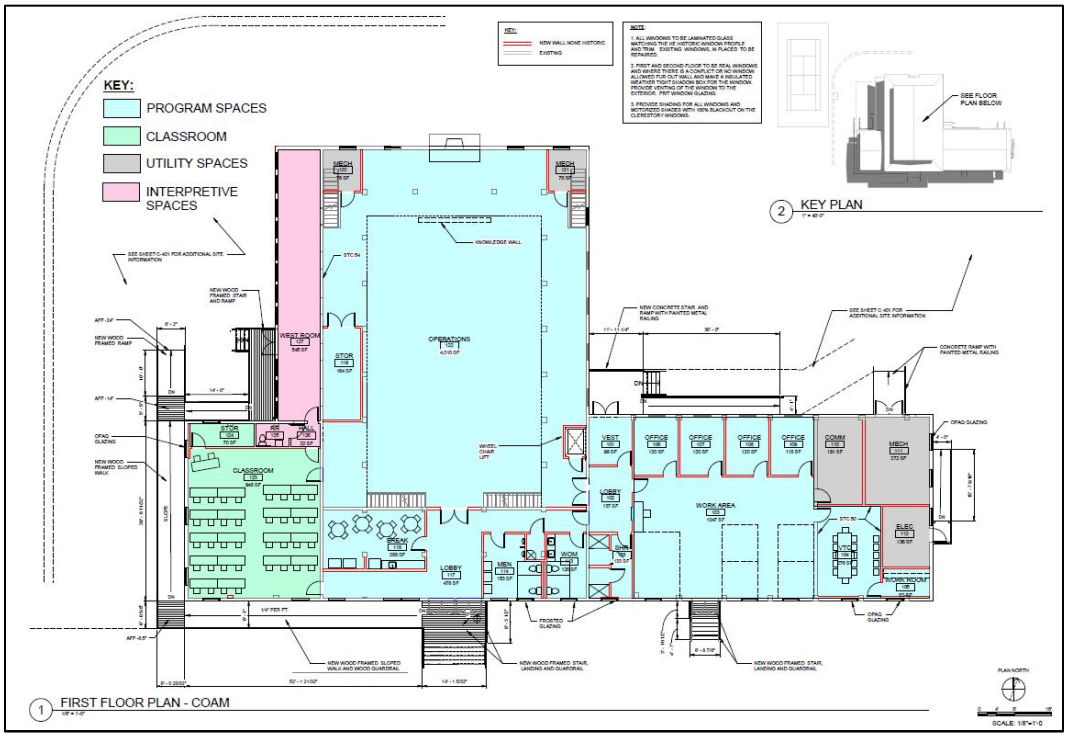


Figure 20. Plan of first floor of the MVOC, showing exhibit space in *pink*. (Image reproduced from USACE Sacramento District 2022 [public domain]; edited by ERDC-CERL researchers, 2023.)



2.4.2 Future Opportunity Area (Potential Phase 2)

In 2014 and 2018, Fort Huachuca completed cultural resources projects on three parcels surrounding the MVOC including the flat bajada to the north and the Soldier Creek floodplain to the south (see Figure 2). These parcels contain several WWII features presenting future opportunities for interpretation, including the foundation of bleachers overlooking no longer extant boxing rings and military training features within the Soldier Creek floodplain. These features are connected by a 1990s PAR course that begins just west of the MVOC tennis court (Figure 21 and Figure 22).[91] There are no documented WWII features beyond the APE on the bajada, so this area is not discussed for Phase II. Consulting parties could consider this area for future interpretation because portions of these areas contained WWII-era buildings, including the guest quarters that once stood immediately east of the MVOC.

The closest features to the MVOC during WWII were multiple boxing rings and affiliated bleachers (Figure 22 and Figure 23). The boxing rings were in the floodplain at the base of the bajada, and the bleachers were set on the south-facing slope overlooking the bleachers. The construction of these features was not associated with the MVOC, and the Army has since demolished them. The bleachers' foundation remains extant and is adjacent to the 1990s PAR course.[92] Remnants of the meandering PAR course are within this landscape; however, in its unimproved condition, most of the trail is not readily visible (or accessible) due to vegetation, erosion, and missing rock lining (Figure 24 and Figure 25).[93]

91. Fort Huachuca, Programmatic Agreement Among the U.S. Army Garrison Fort Huachuca, the Arizona State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Rehabilitation of Building 66050 at Fort Huachuca, Arizona, p. 1.

92. Smith et al., Analysis of the Mountain View Officers' Club, p. 160.

93. US Army Corps of Engineers, "SRM Planning Charette Report," p. 14.

Figure 21. Historic view looking south, showing rear of the MVOC and the baseball field, 1954. (Image reproduced from Smith et al. 2012. Public domain.)



Figure 22. Close-up aerial photo of boxing rings and associated bleachers located southeast of the MVOC and below the WWII guest quarters, 1956. (Image reproduced from Smith et al. 2012. Public domain.)

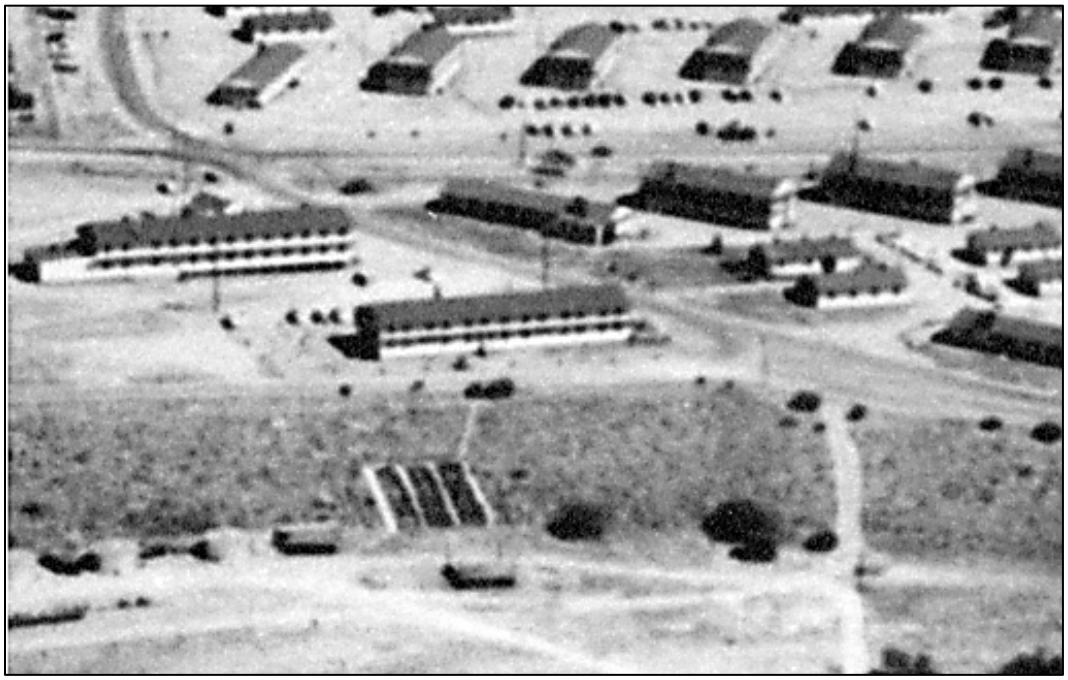


Figure 23. Aerial image of former WWII training area southeast of the MVOC, showing extant trenches encompassed by a *red box* and wall at the far right. (Map data: Google, Maxar Technologies, 2023; edited by ERDC-CERL researchers.)



Figure 24. Map of the existing—unimproved—PAR course south of the MVOC, depicting segments where the path is visible. (Image courtesy of Fort Huachuca Environmental and Natural Resources Division, 2021. Public domain.)

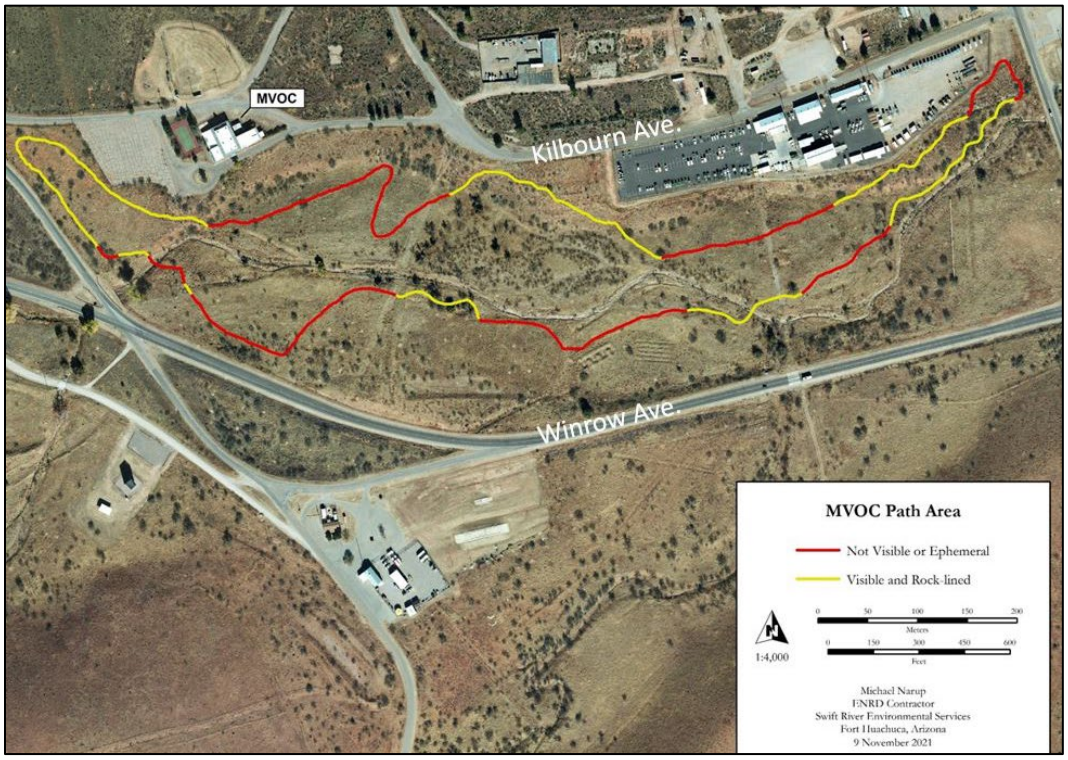


Figure 25. Portion of the 1990s PAR course on the bajada slope, featuring loose rocks and uneven ground, 2022 (Image by ERDC-CERL researchers, 2022).



The WWII military training area is one of three locations used for military training in the New Cantonment. It is 0.25 miles southeast of the MVOC. The PAR course, which followed a loop trail, bisected the training area in the 1990s. The elongated, semiarid landscape of the training area is characterized by a latitudinal-oriented arroyo basin. A continuous bajada borders the area to the north, and Winrow Avenue borders it to the south. During WWII, the training area consisted of an obstacle course, bayonet course, crater court, vertical court, trench court, and angle court (Figure 23).[94] Extant features include trenches associated with the vertical and trench courts, a vaulting wall associated with the obstacles course, and some low barbed wire lines from some type of training (they are in the location of the Vertical Court, used for grenade throwing training).

2.5 Interpretation Plan

The intent of this exhibit plan is to interpret the WWII history of Fort Huachuca, focusing on the Black military experience, because this part of the installation's history is not a focus at either of the two Fort Huachuca

94. Office of the District Engineer, *Demobilization Study: Layout Plan* [map], 1:500, Los Angeles, CA: Los Angeles District, 1945.

museums.[95] The academic and theoretical basis for this plan, as well as applied examples of successful interpretation, is available in Appendix B.

The ideas presented in this plan are merely conceptual and will be further developed and finalized during a future Design-Build phase with consideration for factors currently unknown, such as funding and staffing. Ideas presented here include interpretive concepts and ideas expressed by Consulting Parties and others for this project. These parties will decide on subjects to be interpreted, as well as locations and formats for interpretation, during the Design-Build phase.

2.5.1 Interpretive Themes

Based on the history of the MVOC, specifically the 1943 Art Exhibit and the 2019 Interpretive Concept Document for the MVOC, the ERDC-CERL research team developed three themes for the MVOC's exhibit space.[96] These themes seek to convey the significance of the MVOC, create insights into the history of the site, and foster opportunities to think critically about the stories and issues associated with the MVOC. Each theme is tied to multiple concepts, ideas, or approaches which are communicated via topics and stories. The themes, concepts, ideas, approaches, and topics and stories for the MVOC exhibit are presented in Table 1. Note that many of the topics and stories presented in Table 1 may be paired with multiple interpretive themes, demonstrating the interdependency and confluence of issues and events represented by the MVOC. This interdependence should be emphasized to contextualize Fort Huachuca with respect to broader American military and cultural sentiment. To ensure a comprehensive view of history at the fort, this conceptual breadth must be completed with stories of specific individuals. This specificity works to humanize the Black service members at Fort Huachuca and provides space to explore a range of ideas and experiences to avoid presenting the subject as a monolith (see sections B.2 and B.3).

95. US Army Center of Military History, "Fort Huachuca Museum and Annex;" US Army Center of Military History, "Military Intelligence Soldier Heritage Learning Center."

96. Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona: Interpretive Concept Document," p. 7.

Table 1. MVOC Interpretive Theme Matrix.

Title and Interpretive Theme Statement	Concepts, Ideas, and Approaches	Topics and Stories
Space and Place: The Army chose Fort Huachuca as the station for various segregated regiments due, in part, to its location. Segregationist policies and the presence of Black Soldiers transformed the post., Their affect is represented in part by the 1943 Art Exhibit at the MVOC.[97]	Including but not limited to: Describe the military history and historical role of Fort Huachuca. Elucidate the history of segregation in the US military. Illustrate the of Black Soldiers on Fort Huachuca's landscape, and of Fort Huachuca's landscape on Black Soldiers.	Including but not limited to: History of Fort Huachuca Architecture and rehabilitation of the MVOC Development of Fry Lakeside Officers' Club Fort Huachuca's now-demolished WWII New Cantonment
Diversity and Segregation: Fort Huachuca housed a diverse cadre of Soldiers, WAACs, nurses, volunteers, entertainers, and others whose recreational experiences were impacted by segregationist policies.	Including but not limited to: Tell the stories of military officers, enlisted Soldiers, nurses, WAACs, and other relevant individuals. Discuss segregated recreational activities of Black Soldiers at Fort Huachuca. Discuss the of segregationist policies on Black Soldiers and others at Fort Huachuca during WWII.	Including but not limited to: Truman Gibson, the Chief Civilian Advisor to the Secretary of War who fought to end segregation in the War Department "Bisbee brawl" 1943 Art Exhibit Lew Davis USO Women in the MVOC Black women in WWII Descendants of Black service members Athletics
Military Mission: The needs of the military mission on the United States' entrance into WWII shaped the presence, time, and activities of soldiers stationed at Fort Huachuca.	Including but not limited to: Describe the training activities of Black soldiers at Fort Huachuca. Describe the effect of segregated training on Soldiers during WWII. Describe the roles of nurses and WAACs at Fort Huachuca.	Including but not limited to: WWII training ranges and courses. Screen printing and posters Hospitals and nurses, WAAC activities and roles Enlistment and military experience of descendants of Black Soldiers who served during WWII

Each interpretive theme and subsequent approaches should create the most authentic and meaningful visitor experience. They must be presented in ways that are physically, visually, auditorily, and cognitively accessible to comply with Federal accessibility guidelines for interpretive media.[98] Additional information regarding how to create meaningful and accessible experiences is available in Appendix A and Appendix B.

97. Smith, S. D., *The Black Soldier at Fort Huachuca, Arizona, 1892–1946* (Seattle, WA: Center of Expertise for Preservation of Historic Structures & Buildings, 2001), pp. 1–5.

98. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*.

2.5.2 Visitor Experience Objectives

Per the Chesapeake Bay Office of the National Park Service's publication *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*, "visitor experience objectives describe opportunities that will enable people to fully enjoy, understand, and appreciate" the site being interpreted.[99] These objectives should "define desired end results, not the means for attaining those results."[100] Considering this definition of visitor experience objectives, and the objectives developed in the 2019 Interpretive Concept Document for the MVOC, the ERDC-CERL interpretive planning team developed the following visitor experience objectives:

- Understand that the MVOC is a significant historic resource.
- Understand and highlight the contributions of Black men and women who served in the military during WWII.
- Understand and acknowledge the experiences and challenges faced by diverse people who served in the US Army during WWII.
- Understand the role that art played in the Black experience at Fort Huachuca during WWII.
- Develop intellectual and emotional connections to the people and places associated with the MVOC and the WWII New Cantonment at Fort Huachuca.[101]

2.5.3 Theme Spatialization

Each topic and story listed in Table 1 can be placed at a corresponding location on a historic map of the MVOC and surrounding area (Figure 26 and Figure 27).[102] The resultant map illustrates topical clusters and proximity to available venues for interpretation (Figure 28 and Table 2), provide spatialized guidance regarding the locations of "tangible assets where each theme and story can be presented" and the goals for each space.[103]

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99. Chesapeake Bay Office, Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways, p. 35.

100. Chesapeake Bay Office, Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways, p. 35.

101. Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona: Interpretive Concept Document."

102. An in-depth explanation of where each topic and story are mapped and why, based on the historic context for each topic and story, is not discussed here.

103. Chesapeake Bay Office, Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways, 3.

Figure 26. Modern aerial image of MVOC with themes presented in Table 1 mapped to locations as *orange dots*. (Map data: Google, Maxar Technologies, 2023. Edited by ERDC-CERL.)



Figure 27. Modern aerial image showing WWII-era training area with themes presented in Table 1 mapped to locations as *orange dots*. (Map data: Google, Maxar Technologies, 2023. Edited by ERDC-CERL.)



Figure 28. Modern aerial image showing MVOC combined with the WWII-era training areas with themes presented in Table 1 mapped to locations as *orange dots* and topical areas outlined in *blue circles*. (Map data: Google, Maxar Technologies, 2023. Edited by ERDC-CERL.)

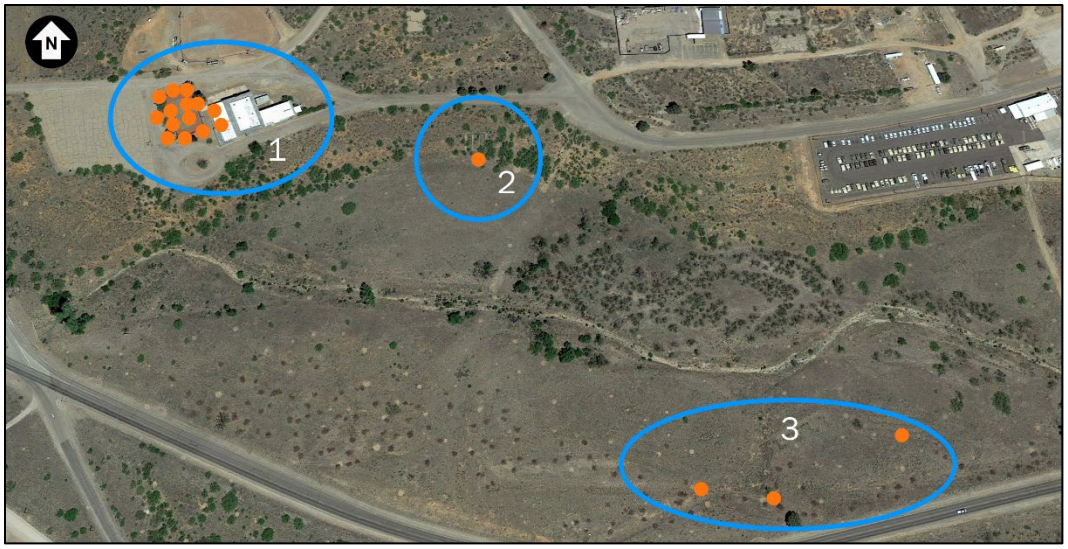


Table 2. Spatialized guidance for interpretation. This table corresponds with Figure 28.

Potential Interpretive Area	Guidance
1	Learn about the History of Fort Huachuca and the MVOC, the 1943 Art Exhibit, and the recreational activities of Black Soldiers at Fort Huachuca during WWII.
2	View recreational facilities and learn about recreational athletics of Black Soldiers at Fort Huachuca during WWII.
3	View training facilities and learn about training of Black Soldiers at Fort Huachuca during WWII.

3 Courses of Action (COAs) for Implementation Plan

The MVOC exhibit plan considers the following five tangible assets: the interior of the MVOC, the patio, the tennis court, the circular drive and access road leading to the MVOC, and the Soldier Creek floodplain (Figure 29 and Figure 30).[104] The exhibit plan considers a primary focus area (Phase 1, APE), encompassing the interior of the MVOC, the patio, the tennis court, and the circular drive and access road, and a future opportunity area (Phase 2), encompassing the Soldier Creek floodplain. Because of the indoor-outdoor nature of the site and the incorporation of the adjacent road as illustrated in the site description, the MVOC's exhibit space will serve as a park / exhibit space hybrid. Further, visitors will not always be able to access the interior portion of the exhibit space due to security and staffing needs, which have yet to be determined. If the exhibit space is unstaffed, it will only be open during regular business hours since military users of the building will open and close it. If funding is available to pay for staff, or an outside organization provides staff, then the hours of operation will be dependent on staff availability. Therefore, for the purposes of this report, the interior of the building and the tennis court will be treated as inherently separate exhibit spaces, while the surrounding outdoor areas will be treated as a trail. Finally, given that both visitors and military users of the building will use the patio, interpretation in and around that space may focus on benefitting both groups.

The planning, design, and fabrication of all interpretive media for the chosen COAs should follow the National Park Service Harpers Ferry Center's *Exhibit Planning, Design, and Fabrication Specifications* (2019).[105] Interpretive media must follow accessibility guidelines, standards, and responsibilities as set forth by the National Park Service Harpers Ferry Center's *Programmatic Accessibility Guidelines for*

104. This list of assets does not account for or include ephemera, clothing, or other historic items that may be placed on display in the museum. Rather, these five tangible assets are historic buildings, structures, and sites related to the MVOC.

105. National Park Service, Harpers Ferry Center, *Exhibit Planning, Design, and Fabrication Specifications* (Harpers Ferry, WV: Department of the Interior, National Park Center, 2019).

National Park Service Interpretive Media (2012).[106] Finally, the exhibition, storage, and display of all historical objects must abide by Army Regulation 870-20, *Army Museum Enterprise and Army Artifact Collection*.[107] For more information regarding these guidelines, standards, and regulations, as well as guidance and tools for their implementation, see Appendix A.

For clarity, this chapter is organized by interpretive space, each of which has one or more potential COAs. Notably, multiple options regarding signage and interaction are presented in each COA. Thus, while the COAs may be integrated in a variety of combinations to create a total of 120 unique experiences, this chapter presents options that may be combined to form an exponentially larger number of unique visitor experiences.

106. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media* (Harpers Ferry, WV: National Park Service, 2012), http://npshistory.com/publications/interpretation/accessibility-guide-v2.1.pdf.

107. US Department of the Army, Army Museum Enterprise and Army Artifact Collection, p. 13.

Figure 29. Tangible assets for MVOC exhibit plan Phase I shown on site plan (image by ERDC-CERL researcher, 2023).

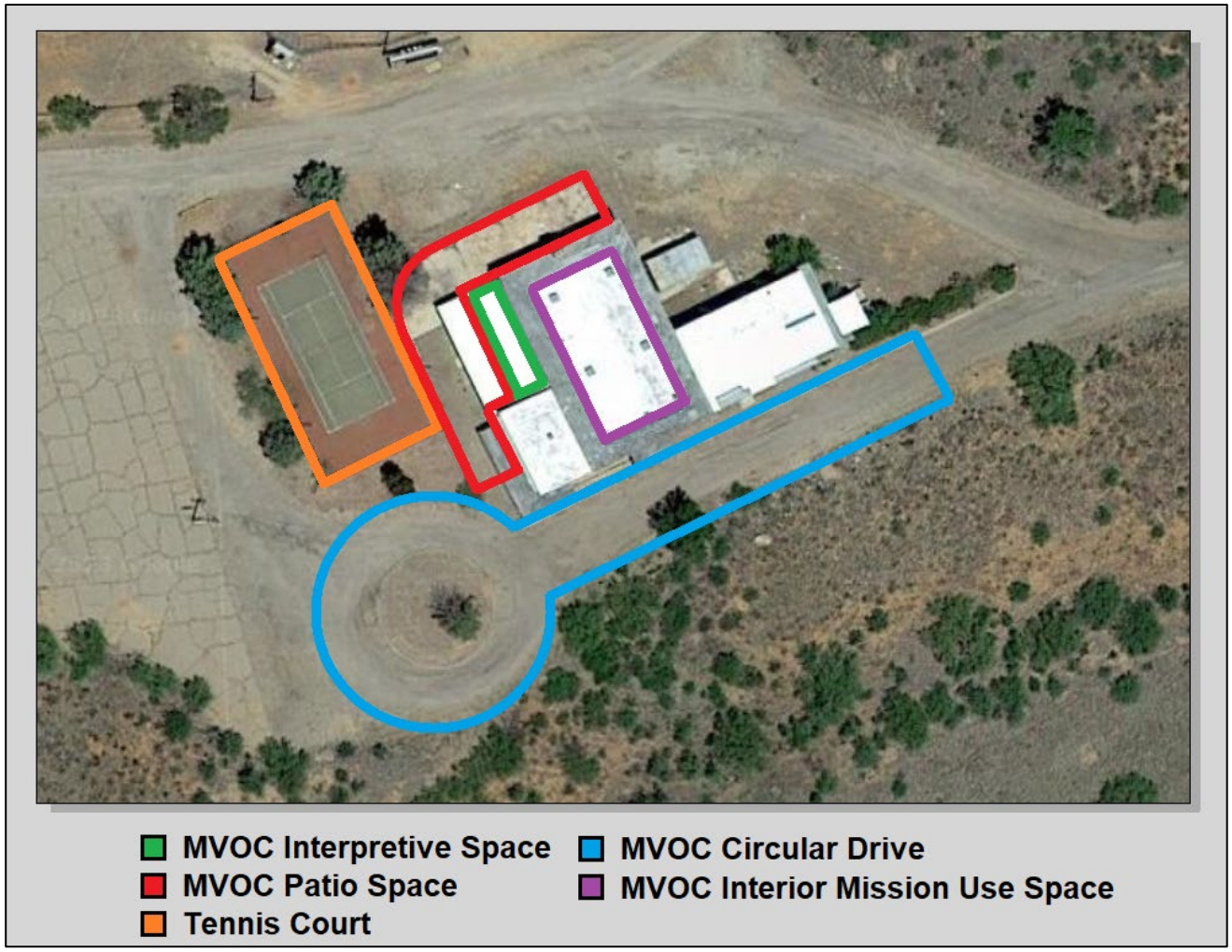


Figure 30. Tangible assets for MVOC exhibit plan Phase II bounded in *neon green* (image by ERDC-CERL researcher, 2023).



3.1 Primary Focus Area (Phase 1)

3.1.1 MVOC Interior—Mission Use Space

The majority of the MVOC interior will be used in support of Fort Huachuca's mission and may or may not be available to members of the public (Figure 31). Therefore, interpretation in this space should primarily focus on military users. The use of signage that interprets the specific site can enhance the value of a site's history in the minds of both visitors and military users, resulting in strengthened community identity and appreciation for heritage by local users (for more information, see Appendix B.1); however, interpretation in this space cannot impede the mission critical use of the building.[108]

Thus, interpretation in the mission use space of the MVOC's interior should focus on branding for the site that emphasizes the building's history and use as a Black Officers' Club. Any interpretive plans should uplift the Army mission, while still recognizing the challenging history of segregation in this specific place. In the same way, the space should impart a feeling of celebration for the club as a Black community space but should also acknowledge that the existence of the space was due to harmful policies of racial segregation. For more information regarding methods of interpreting military history and Black history, see Appendixes B.2 and B.3.

There are two COAs for interpretation in this space, (A) depiction of the art from the 1943 Art Exhibit and (B) depiction of the art from the 1943–1946 exhibit in the lobby and operations space (the former dance hall). Regardless of the chosen COA, a replica of the mural *Progress of the American Negro: Five Great Americans*, which was displayed above the entrance to the MVOC's dance hall during the 1943 Art Exhibit, will be reinstalled in its original location per the 2021 planning charette.[109]

108. Story, "Strategies for Heritage Valuation on Adaptively Reused Transportation Corridors," pp. 100–101; Blackwell, "Community and visitor benefits associated with the Otago Central Rail Trail," pp. 78-80.

109. US Army Corps of Engineers, "SRM Planning Charette Report," p. 19; Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946, pp. 177–178.

Because of the mission use of the majority of the interior of the MVOC (Figure 31), the Design-Build phase should also consider options for displaying some or all of artworks in a manner that is accessible to the general public. Additionally, both COAs presented here should incorporate interpretation, such as storyboards (Figure 32), interpreting why the artwork is important and regarding the history of the MVOC beyond the 1943–1946 exhibit. If possible, the COAs presented here should incorporate oral histories collected from service members who used the MVOC during WWII. See Appendix C for a complete list of and information about the works of art from the 1943–1946 exhibit.

A second mural, Lew Davis's *The Negro in America's Wars*, was concurrently displayed in the MVOC, though was not a part of the 1943–1946 exhibit. The mural was composed of five panels, depicting the Black American contribution to the American Revolution, the War of 1812, the Civil War, the Spanish-American War, and WWI respectively. The panoramic mural was unveiled at a dedication ceremony in the MVOC in August 1944. The ceremony included a dramatic reading to accompany each panel, with music provided by prominent Black opera singer Lawrence Winters. The mural was likely transferred to Howard University around the same time as the works from the 1943–1946 exhibition and remains part of the Howard University Gallery of Art Permanent Collection. Schacht et al., *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946,* pp. 65–66; Robbins, C. C., "Lew Davis: World War II Murals and Posters," Hearing the Century, Voices of Arizona's Arts Past and Present, February 1, 2012, https://www.hearingthecentury.org/lew-davis/.

Figure 31. Plan for first floor of MVOC showing mission use space in *blue*, *green*, and *gray*. (ERDC-CERL 2022. Public domain.)

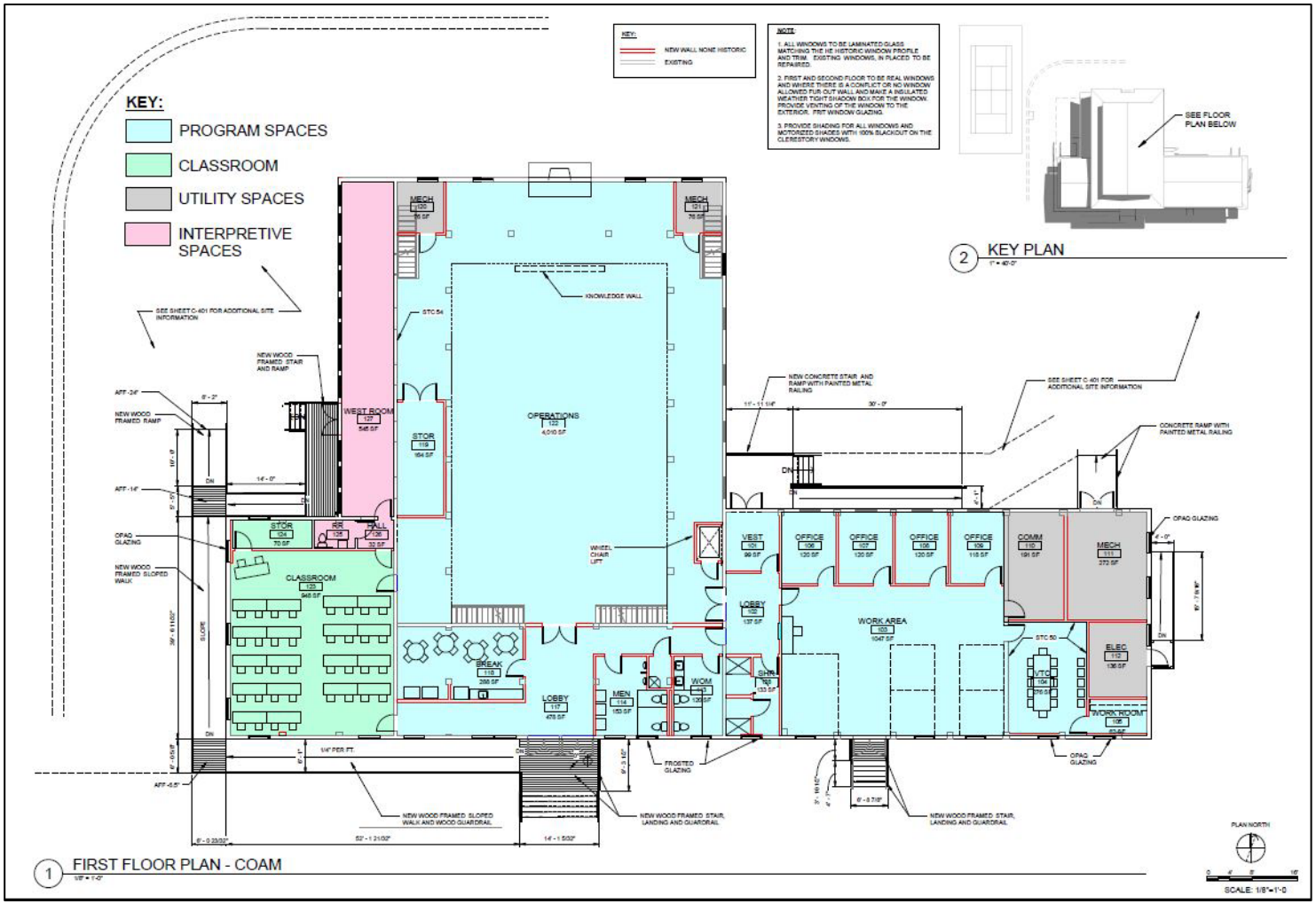
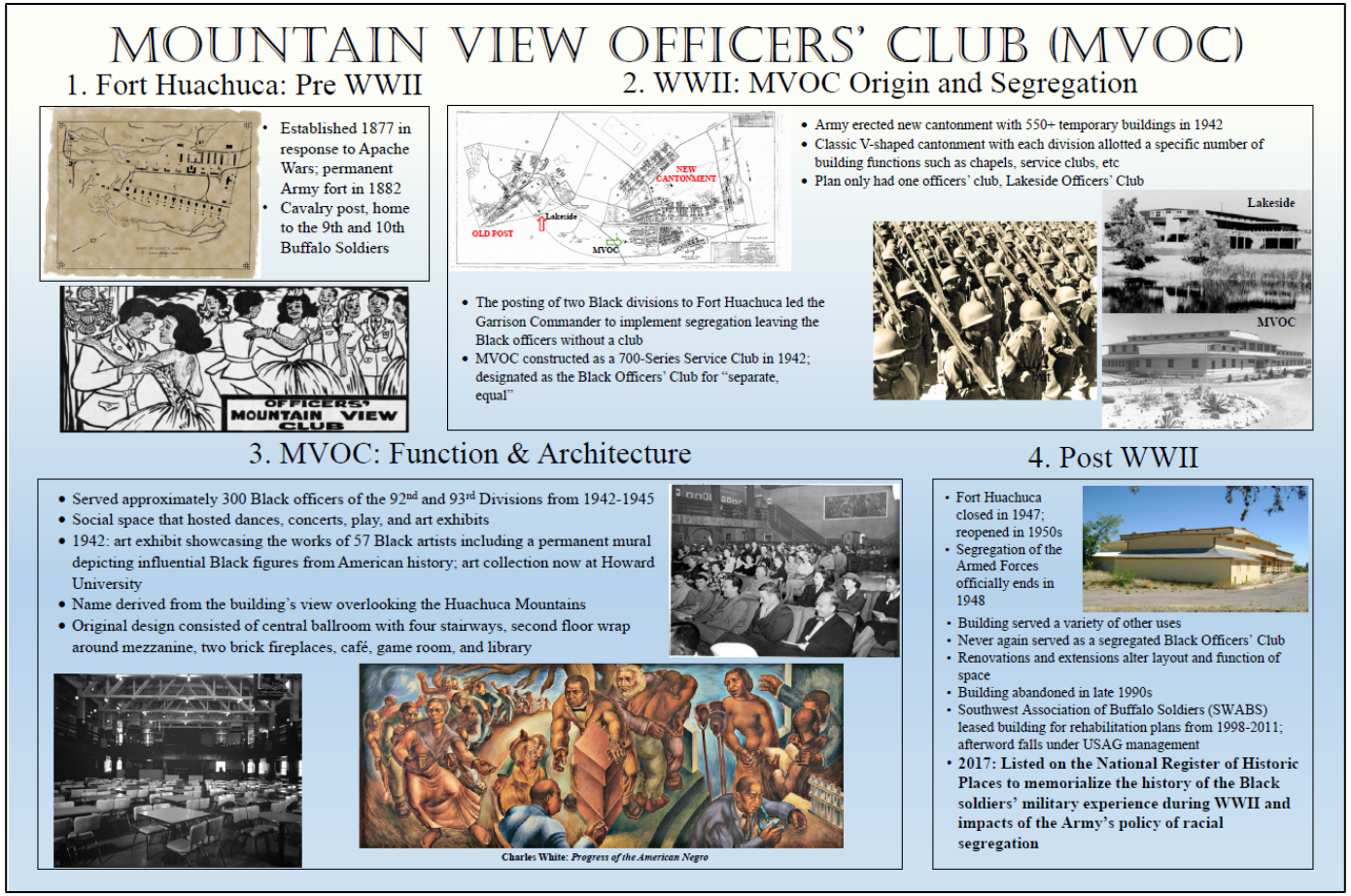


Figure 32. Example of an interpretive storyboard currently used by Fort Huachuca for visitors to the MVOC. (Image courtesy of Fort Huachuca Environmental and Natural Resources Division, 2021. Public domain.)



3.1.1.1 COA A: Depiction of the Art from the 1943 Art Exhibit Dedication and 1943–1946 Long-Term Display in Their Original Locations

This COA is the display of all the currently available art from the 1943 Art Exhibit.[110] This COA will yield the most historically-accurate re-creation of the 1943–1946 exhibit. Ideally, a re-creation of each available work will be displayed in the same location as from 1943–1946; however, if the location is no longer appropriate for the display of art (due to, for example, the construction of a wall that bisects the previous position of the art), the artwork will be displayed in the closest possible approximation to its original place.[111] The locations of some of the original artworks remain unknown, preventing their potential replication. Additionally, there is no known document showing the exact location of each artwork in the historical record. Because of these issues, this COA may be too restrictive to implement in practice. The appearance of the operations space may vary within this COA based on the how the space is ultimately used to support the military mission (Figure 33, Figure 34, and Figure 35).

110. Available art refers to all other art from the 1943–1946 exhibit that has been located; If the art has not been located, it cannot be digitally re-created for exhibition; Schacht et al., *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946*, p. 211.

111. Re-creations rather than the original versions should be put on display in the rehabilitated MVOC due to concerns regarding proper maintenance, care, and protection of art that may be incompatible with ongoing mission-related use of the MVOC, as well as to ease compliance requirements with AR 870-20; Schacht et al., *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946*, p. 21; US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*, p. 13.

Figure 33. MVOC operations space with seating and an LED terrain map for mission use with art from the 1943 Art Exhibit on the walls and the mural on the back wall (rendering by ERDC-CERL researcher, 2023).



Figure 34. Balcony area of the MVOC operations space looking down onto the first floor LED terrain map for mission use with art from the 1943 Art Exhibit on the walls (rendering by ERDC-CERL researcher, 2023).

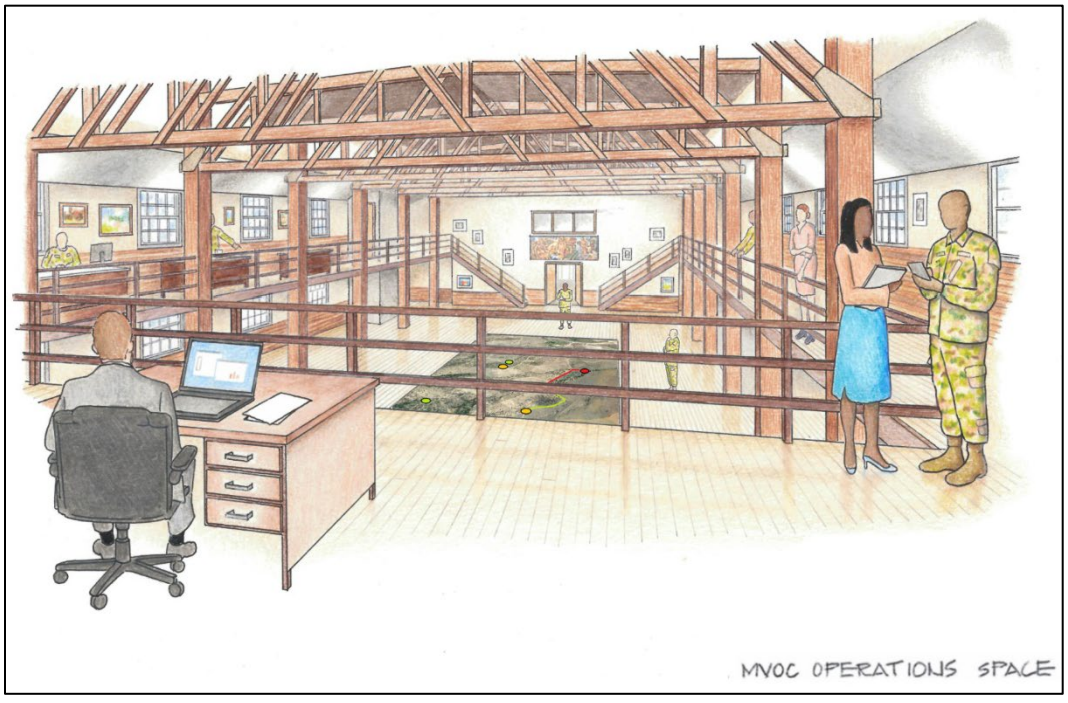
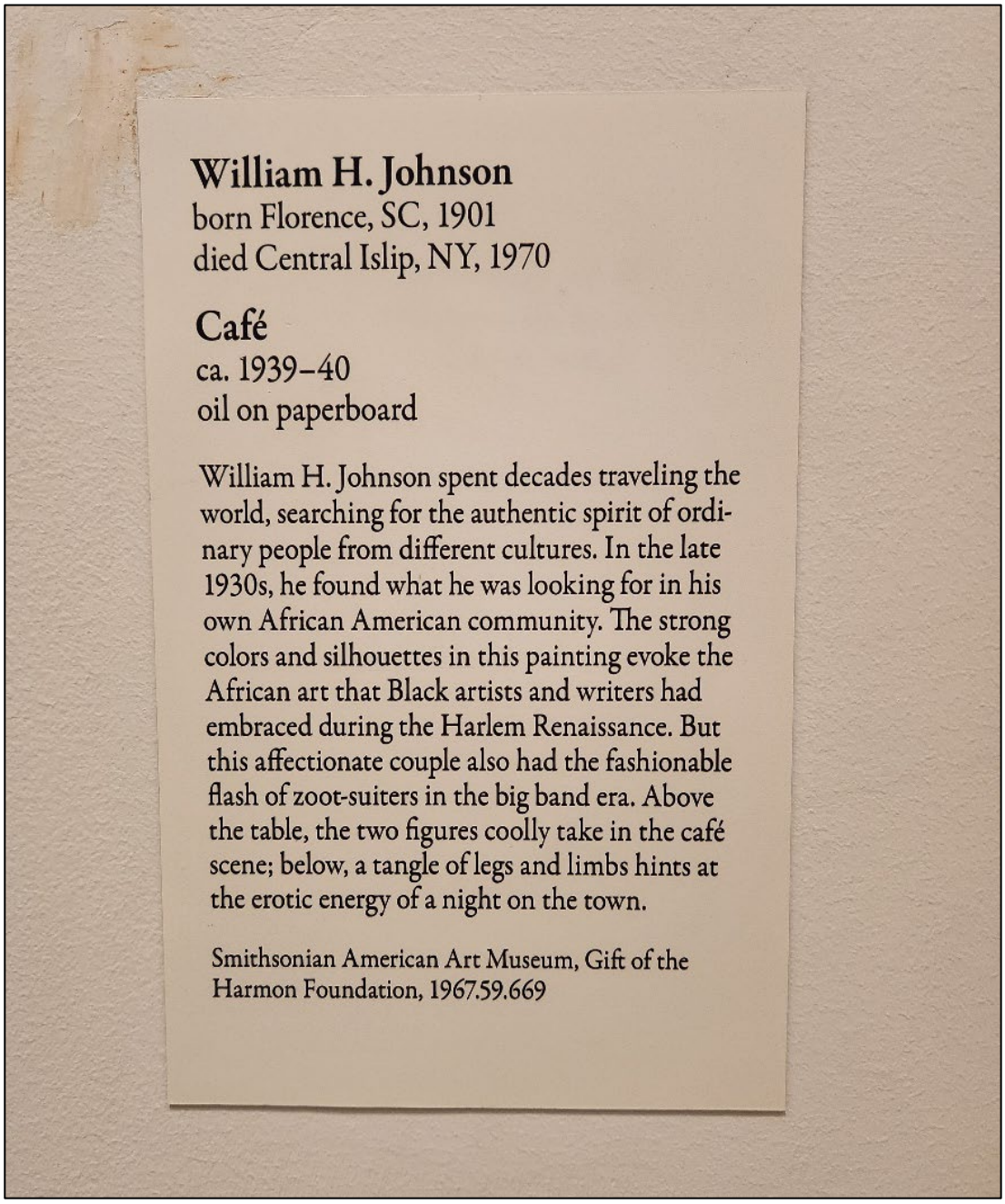


Figure 35. Example of an interpretive plaque used to provide information about a piece of art and the artist. (Image by ERDC-CERL researchers, 2022; "Permanent Exhibition," Smithsonian American Art Museum, Washington, DC.)



3.1.1.2 COA B: Depiction of the Art from the 1943–1946 Exhibit in the Lobby and Breakroom

This COA is for the display of re-creations of all the currently available art from the 1943 Art Exhibit throughout the lobby and breakroom to prioritize advantageous placement for maximum interaction. This COA will also allow for some artwork to be placed in the publicly accessible exhibit space. As in the previous COA, artworks may be accompanied by a small plaque featuring the artist's name and the title of the work or by a more extensive interpretive plaque. Because of space restrictions, this COA may be unable to include interpretive panel regarding the history or historic images of the MVOC; however, the issue of space could be rectified, in part, by using AR, VR, and other digital methodologies for the display of multiple artworks and interpretive information.

3.1.2 MVOC Interior—Exhibit Space

As the only potential exhibit space that can protect ephemera, clothing, or other historical objects from the elements without extensive additional construction while still being readily accessible to the public, the interior of the MVOC should house all historical items on display.[112] It should also house any technology-based interactive exhibits. There are three COAs for the interior of the MVOC, (A) traditional, non-technology-based exhibits; (B) technology-based exhibits; and (C) a combination of exhibit types. Each COA focuses on maximizing visitor interaction to the greatest extent possible; however, due to the small square footage—475 sq ft—available for the exhibit in the interior of the MVOC (Figure 36), this space must focus on small-scale interactives and displays (Figure 37 and Figure 38). Regardless of the COA chosen for this space, it should interpret art from the 1943 Art Exhibit. One potential methodology for this interpretation, as well as the interpretation of the nonpublicly accessible mission use space, is the use of interior and exterior scans and 3D models of the MVOC for AR and VR interpretation.

112. "Ephemera" is defined by Merriam-Webster Dictionary as "paper items (such as posters, broadsides, and tickets) that were originally meant to be discarded after use but have since become collectibles."

Merriam-Webster Dictionary, s.v., "Ephemera," last modified July 22, 2023, https://www.merriam-webster.com/dictionary/ephemera.

Figure 36. Plan for the first floor of the MVOC, showing the exhibit space in *pink*. (ERDC-CERL 2022. Public domain.)

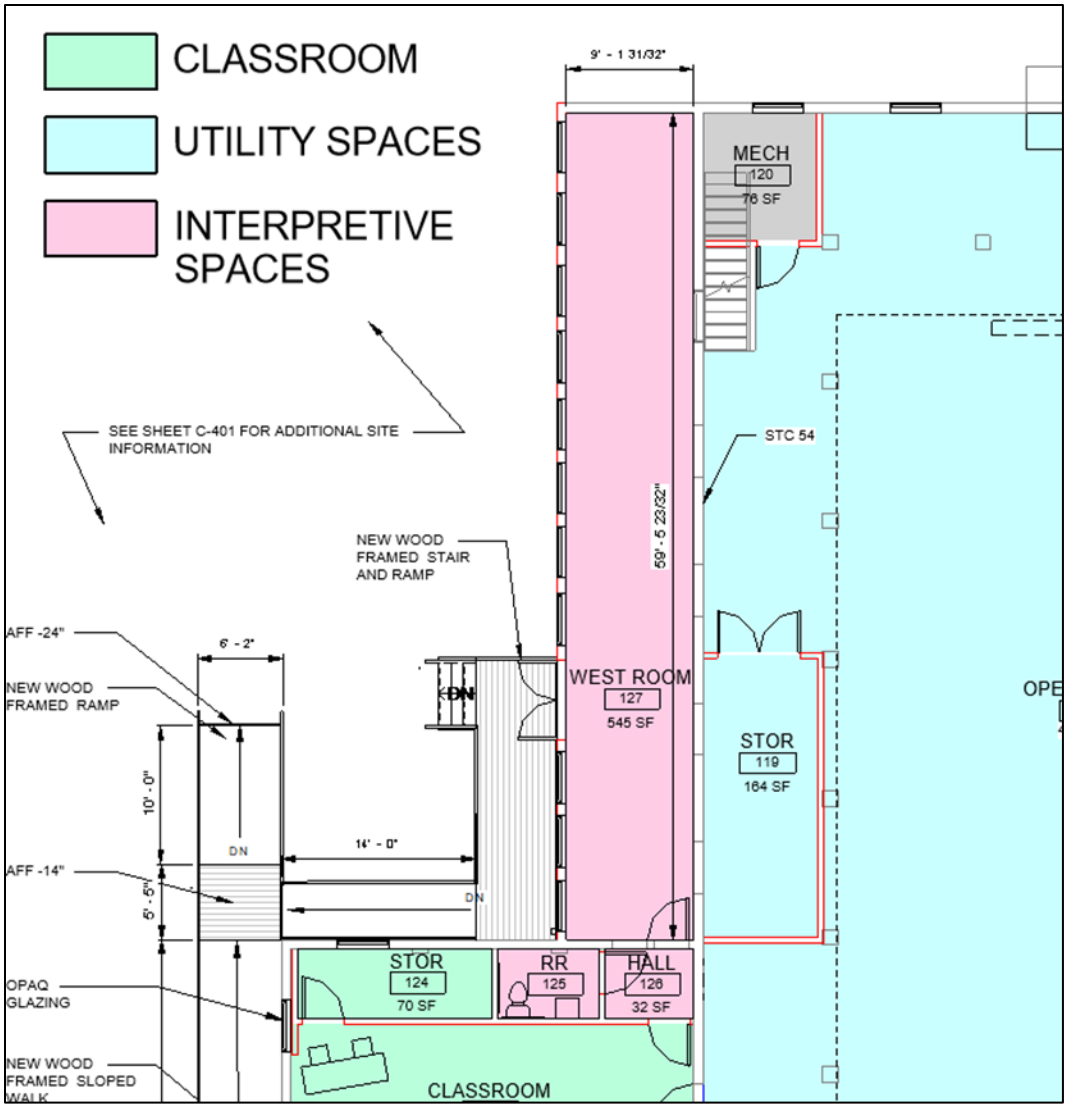


Figure 37. MVOC interior exhibit space view to the north with displays and interpretive features (rendering by ERDC-CERL researcher, 2023).



Figure 38. Movable interpretation panels inside the Fort Leonard Wood Black officers' club following rehabilitation, 2019. (Image provided by Fort Leonard Wood's Cultural Resource Management [CRM] office. Public domain.)



3.1.2.1 COA A: Non-Technology-Based Exhibits

As stated above, the exhibit space in the interior of the MVOC is the only potential exhibit space discussed by this report that can protect ephemera, clothing, or other historical objects from the elements without extensive construction; therefore, the focus of a nontechnology, media-based exhibit in the MVOC will be ephemera, clothing, and other historical objects provided by SWABS, the Fort Huachuca Museum, Center for Military History (CMH) and other parties. Ephemera such as letters and journals from Black service members stationed at Fort Huachuca during WWII will be particularly valuable for communicating these people's experience. All historical objects must be displayed and protected in compliance with Army Regulation 870-20.[113] Signage should be designed to accompany these objects, making their purpose and history easily understandable and identifiable. This signage must comply with accessibility guidelines set forth by the National Park Service (see Appendix A).[114] Additionally, nonhistorical objects may also be displayed; for example, pending spatial availability and artist interest, the interior exhibit space at the MVOC could serve in full or in part as a gallery for community-based multicultural artists as a reference to the 1943 Art Exhibit dedication and 1943–1946 long-term display with a contemporary and local impact.

Non-technology-based interactive experiences in the interior exhibit space may consist of the following: puzzles relevant to the exhibit (for example, custom puzzle re-creations of some of the art on display during the 1943 Art Exhibit) (Figure 39); interpretive panels with interactive components (Figure 41); replica WWII-era uniforms for visitors to try on; and, depending on the interest and availability of staff, volunteers, or both, interpretation in replica WWII-era uniforms; and puzzles relevant to the exhibit. For example, Figure 39 shows a large interactive puzzle that visitors may deconstruct to reveal additional information that is hidden behind the puzzle pieces. The MVOC exhibit space could feature a similar puzzle that re-creates some of the art on display during the 1943 Art Exhibit, WWII-era Lew Davis posters featuring Black service people that were produced at the MVOC, or uniforms or other items used by Black service members during WWII. The base for the puzzle could feature

113. US Department of the Army, Army Museum Enterprise and Army Artifact Collection, p. 13.

114. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49, 51–53.

information about the puzzle's subject. WWII-era uniforms, if available, may also be displayed as a nontechnology exhibit. A corresponding interactive component for these uniforms could be plaques featuring the wearer's name and story. Additional examples of nontechnology based interactive exhibits are available in Appendix B.4.

Figure 39. Example of a large interactive puzzle that may be deconstructed to reveal additional information. This type of exhibit may be featured inside or outside, pending the durability of the materials used to construct it. (Image by ERDC-CERL researcher, 2023; "Brachiosaurus," permanent exhibition, Panhandle-Plains Historical Museum, Canyon, Texas.)



Historical re-creations should be based on real experiences of specific individuals at Fort Huachuca (Figure 40). An interactive interpretive panel like that in Figure 41 may be particularly useful for displaying depictions of multiple artworks from the 1943 Art Exhibit in a small space without technology. Regardless of the non-technology-based interactives chosen, each experience should be cognitive, emotional, participatory, or a combination thereof. The interactive should also be physically, visually, auditorily, and cognitively accessible.[115]

115. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49, 51–53.

Figure 40. Detail of interpretive signage within the Fort Huachuca Historic District. (Image provided by Fort Huachuca ENRD office 2023. Public domain.)

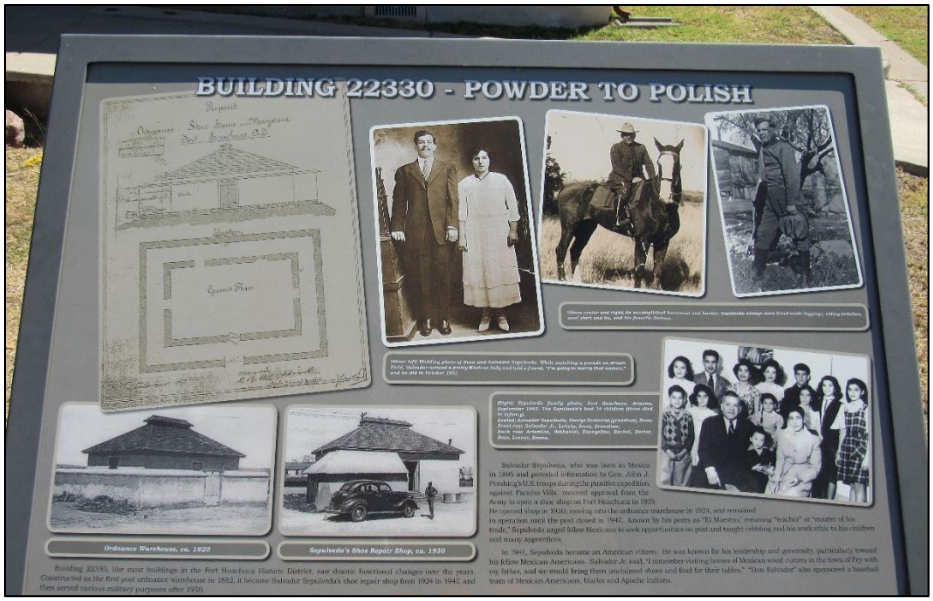


Figure 41. Example of an exhibit with an interactive book of ephemera for visitors to look through. (Image by ERDC-CERL researcher, 2023; "An Artist in the Mirror," permanent exhibition, Panhandle-Plans Historical Museum, Canyon, Texas.)



The classroom space adjacent to the exhibit space, shown in *green* in Figure 36, may be used for person-to-person interactive activities on a scheduled basis. These activities may include public lectures and seminars from local artists and scholars, lectures and seminars for visiting children's and school groups, public workshops, scheduled talks, and other special events. This space must meet mobility accessibility requirements.[116] It is unclear if this classroom space will be a mission only or shared use space. Regardless of the use, this space may serve as a location for placing historic photos and interpretation and will bring additional interpretation to the Mission users of the MVOC.

3.1.2.2 COA B: Technology-Based Exhibits

Because of spatial limitations, the creation of a highly interactive, technology-based exhibit within the interior MVOC exhibit space will likely contain minimal to no ephemera, clothing, or other historical objects. Should the space contain these historical objects, interaction with them may be created through the addition of touch history computer stations that allow users to freely move 3D representations of the objects on display (see Table 3), AR puzzles that mimic ephemera or art from the 1943 Art Exhibit, or user-guided digital interpretation (Figure 42). QR codes can also provide user-guided textual or audible interpretation, as well as recordings of oral histories collected from Black service members stationed at Fort Huachuca during WWII. There may also be entirely digital user-guided exhibits, such as a computer station that allows users to view all the currently available[117] art from the 1943 Art Exhibit, along with information about the artist and where it was in the MVOC. An alternative user-guided exhibit could be a computer station that allows users to search for a Black soldier, WAAC, or nurse stationed at Fort Huachuca during WWII, identify what archival materials, oral histories, or both are available on that soldier, and print a

116. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

117. Available art refers to all the art from the 1943–1946 exhibit that has been located; If the art has not been located, it cannot be digitally re-created for exhibition; Schacht et al., *A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946*, Appendix A.

dossier and portfolio to take home—a system replicating that at the recently renovated Montford Point Marines Museum.[118]

Table 3. Classification of technology-based interactive exhibits. (Modified with ERDC-CERL data modeling Michael-Grigoriou, et al. 2010 data.)

Activity Type	Description	Type of Digital Content	Amount of Digital Content	Type of Activity
Touch History	Use of circular marker tracking technology and a 42 in. LCD screen for display to allow users to freely move a 3D object (represented by a physical marker) in all directions	3D still	Low	Exploratory, nonchallenging
AR puzzle	Use of circular marker tracking technology and a 42 in. LCD screen for display to rotate arrange four physical markers, each linked to a digital cube with four partial images (one per side), to create a digital image	2D still	Low	Game-like, challenging
AR map	Use of circular marker tracking technology and a 42 in. LCD screen for display to place physical markers, representing monuments, in the correct location on a 2D map to see a 3D model of the monument	3D still	Medium	Game-like, highly challenging
VR tour	Single-wall, front-projection of a 5 minute video mimicking a tour through a digitally-re-created historic city	3D dynamic	High	Passive
Touch table	Interactive application on a multitouch table with intuitive commands to allow spatial and temporal exploration of a digitally-re-created fortification	3D still	High	Exploratory, challenging
Real map	Control group: historic maps of various ages exhibited on the wall (no physical interaction)	2D still	Not applicable (N/A)	Passive

118. Calvin Shomaker, "'Completely breathtaking': Montford Point Marines Museum to reopen in the spring," Yahoo! News, November 3, 2021, https://news.yahoo.com/completely-breathtaking-montford-point-marines-214031302.html.

Figure 42. Digital exhibit allowing visitors to select an image of an object on display to obtain further information. (Image by ERDC-CERL researchers, 2022; "Historic Armchair Exhibit," permanent exhibit, Victoria & Albert Museum, London, England.)



Projectors may be used to create partially immersive visual experiences, such as the display of WWII-era videos. The Fort Huachuca Museum and Annex archival collection contains seven WWII-era videos, which range from approximately 0:45 to 2:40 in length. [119] The videos show a variety of

119. "WWIIHomeMovies1," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies2," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies3.1," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies3.2," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies3.3," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies4," n.d., Fort Huachuca archive, Fort Huachuca, AZ; "WWIIHomeMovies5," n.d., Fort Huachuca archive, Fort Huachuca, AZ.

activities by both Black and White Soldiers, but they do not feature audio. Therefore, these videos can be displayed without sound, with narration that provides historical information and descriptions of activities, with recorded oral histories that relate to the activities shown, or as part of a larger edited film that describes shows both images and video footage accompanied by narration and oral histories.

For more immersive experiences, projects can be used to augment static objects on display (Figure 43); for example, a point-of-view video of an individual unpacking WWII-era clothing and comfort items can be projected onto a real WWII-era trunk. Additionally, interpretation may include AR and VR experiences that may vary in degree of immersion. For example, visitors can sit or stand while watching a projection or television display of a short video mimicking a tour through a digitally re-created model of the MVOC during WWII. Alternatively, VR experiences can allow visitors to complete WWII-style training—for example, the use of VR headsets to allow visitors to run through a digital re-creation of Fort Huachuca's WWII obstacle course—or attend a WWII-era Joe Louis boxing match, re-created with actors. Projections, music, oral histories, and fragrance may also be used to create immersive experiences into the currently available 2D art presented at the 1943 Art Exhibit.

Finally, technology-based exhibits and interpretation can be used to augment the MVOC's outdoor exhibit and mission use spaces. For example, QR codes, audio wands, or headsets may provide audio tours of the entire exhibit beginning in the interior of the MVOC and leading through the entire outdoor exhibit. These same devices can also provide access to recorded oral histories from Black service members stationed at Fort Huachuca during WWII and their descendants. (Any audio information must be available in other formats, such as transcripts.)[120]

120. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 71–74.

Figure 43. Partially immersive exhibit featuring a projection of cooking onto a kitchen display. (Image by ERDC-CERL researchers, 2022; [Historic Hotel Tour], permanent exhibition, Wing Luke Museum, Seattle, Washington.)



Alternatively, VR displays may provide interpretation for otherwise inaccessible spaces, depending on the chosen COA for the other tangible assets being interpreted (see Sections 3.1.2, 3.1.3, 3.1.4, and 3.2). For example, if the original PAR loop trail is not available for users to visit Soldier Creek (Section 3.2.5) a large-scale projection, such as that shown in Figure 44, simulating a walk along the trail, accompanied by tree sculptures and nature sounds, may allow users to virtually experience the otherwise inaccessible trail. The University of Arizona's existing 3D model of the interior of the MVOC (see Section 2.3) may be used for visitors to view the former dance hall in the mission-use space, which would be otherwise inaccessible to the public. The University of Arizona Center for Digital Humanities' existing Buffalo Soldiers VR Project can also be used as a basis for interpretation of the Black experience at Fort Huachuca. The aim of this project "is to spark discussion, learning, and reflection in learners of all backgrounds and learning levels about how disparate groups in Arizona have struggled for freedom and equality from post-Civil War to today."[121] The VR experience places students in the historian role, asking them to use artifacts, documents, and photographs to answer age-appropriate historical questions.[122]

All technology-based exhibit spaces should comply with accessibility requirements as set forth by the National Park Service. These requirements include (but are not limited to) ensuring circulation space as required by the Architectural Barriers Act Accessibility Standards, ensuring vertical clearance space of at least 80 inches and that touchable exhibits may be reached without obstruction. Mini-theaters, as may be required by an immersive AR or VR experience, must provide space for at least one visitor in a wheelchair. If this requirement cannot be met, some immersive experiences will not be appropriate for the MVOC exhibit space.[123]

121. Center for Digital Humanities. "Buffalo Soldiers VR Project." University of Arizona College of Humanities. Accessed March 23, 2023. https://digitalhumanities.arizona.edu/project/buffalo-soldier/.

122. Ober, A., "Doctoral student uses digital, gaming platforms to share Black history," University of Arizona News, February 28, 2022, https://news.arizona.edu/story/doctoral-student-uses-digital-gaming-platforms-share-black-history.

123. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

Figure 44. The *Sense of Place* Gallery at the National Nordic Museum, 2022. (*Sense of Place Gallery*, 2022, https://nordicmuseum.org/exhibitions/nordic-journeys#gallery-1. Image printed with permission of the National Nordic Museum.)



3.1.2.3 COA C: Combination of Exhibit Types

The nature and quantity of the available ephemera, clothing, and historical objects, as well as available funding, may result in the interior of the MVOC featuring both non-technology-based and technology-based exhibits. This COA may use any of the potential exhibition types and examples presented in Sections 3.1.2.1 and 3.1.2.2 . If multiple exhibit types are used, there should be a logical flow and thematic connections between the displays (Figure 45). For example, the layout of the interior exhibit space may guide visitors from a display of a WWII-era trunk (either on display alone or with a projected video of unpacking) and clothing to a VR experience of Soldiers vaulting the WWII-era training wall at Fort Huachuca for the first time. An alternative VR experience can show a WWII Black officer speaking about their experience at Fort Huachuca in a virtual recreation of the MVOC dance hall. The Design-Build team should carefully consider multiple display types to provide visitors with the maximum variety possible across the five tangible assets. If the tennis court primarily features interpretive panels with interactive components (see Figure 54, Figure 55, and Figure 56) and the interior of the MVOC features technology-based interaction, interactive panels

should not be used on the interior of the MVOC. The combination of exhibit types should ensure maximum compliance with the National Park Service's accessibility guidelines.[124]

Figure 45. Integrated nontechnology and technology-based exhibit at the Pullman National Monument visitor center featuring historic objects in a display case, touchable re-creation historic trunks, a motion-activated television that plays a short film, and static displays of historic images and interpretation (Image by ERDC-CERL researchers, 2023).



3.1.3 Patio

As the patio will be frequented by regular users—presumably Army personnel working in the MVOC—in addition to visitors, interpretation and the use of space in and around the patio should focus on benefitting both groups. The use of signage that interprets the specific site and can enhance the value of a site's history in the minds of both visitors and regular users, results in strengthened community identity and appreciation for heritage by

124. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*.

local users (see Appendix B.1 for more information).[125] Signage around the patio can interpret and explain the relevance of the MVOC's character-defining features, such as the historic flagstone and retaining wall.[126] To reduce impacts on historic features, signage should not be anchored into the historic flagstone patio or the retaining wall. An example of traditional outdoor interpretive signage is shown in Figure 46 at the WWII era Black officers' club at Fort Leonard Wood, Missouri and at the Sepulveda House in Fort Huachuca's Old Post (Figure 47 and Figure 40). This patio can be used for community or family events, activities, presentations, and gatherings of descendants related to the Black military experience. It could also serve as a staging area to prepare for AR, VR, or other digital experiences on the patio or surrounding landscape if the space has public wireless internet access, which is dependent on Army policy regarding public wireless internet access.

In addition to serving as an interpretive space, the patio should also serve as a usable space for regular MVOC users. In keeping with the space's historic use, the patio will feature outdoor tables and seating. This report presents two COAs for the patio, a relaxing and dining space with (A) standard seating options or (B) energy efficient seating options. In either case, the patio may also serve as an outdoor classroom space for visiting groups. Also, in either case, seating must be placed to comply with the Architectural Barriers Act Accessibility Standards, and signage should be placed in the locations most accessible to wheelchair users (likely, the nonhistoric concrete patio).[127]

125. Story, "Strategies for Heritage Valuation on Adaptively Reused Transportation Corridors," pp. 100–101; Blackwell, "Community and visitor benefits associated with the Otago Central Rail Trail," pp. 69–80.

126. The ERDC-CERL research team, in collaboration with staff of the Fort Huachuca Museum and Annex, were unable to find any historic photos of people utilizing the historic flagstone patio and retaining wall.

127. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49, pp. 72–74.

Figure 46. Traditional interpretive signage at the Fort Leonard Wood, Missouri, Black officers' club following rehabilitation, 2019. (Image provided by Fort Leonard Wood CRM office. Public domain.)



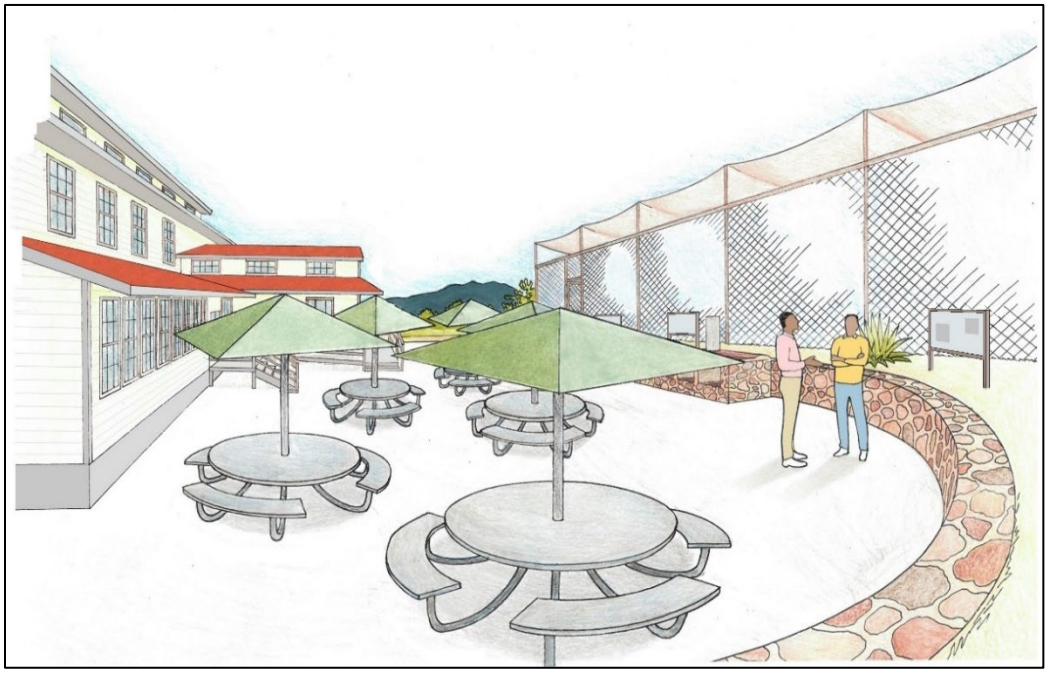
Figure 47. Example of standard Fort Huachuca signage (*left*) and traditional interpretive signage (*right*) within the Fort Huachuca Historic District. (Image provided by Fort Huachuca ENRD office. Public domain.)



3.1.3.1 COA A: Standard Seating

COA A for the patio consists of standard, picnic table-style seating for use by visitors and regular users of the rehabilitated MVOC. The picnic tables should feature umbrellas or canopies to protect users from the sun (Figure 48), and they should primarily be located on the nonhistoric portion of the patio to protect the historic flagstone. Ringing the historic stone wall could be the location for additional traditional interpretive signage.

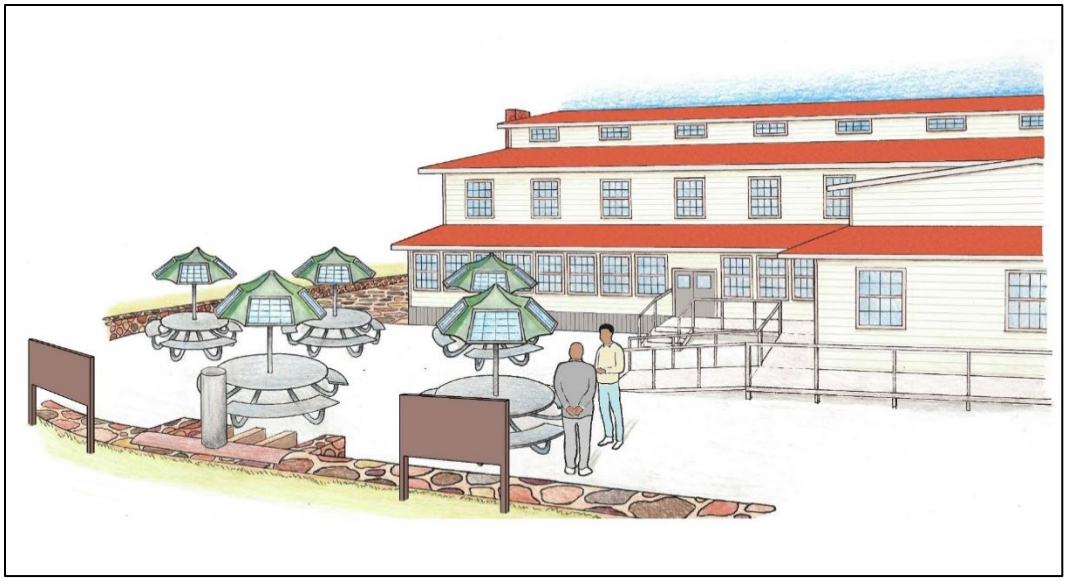
Figure 48. Rendering of historic retaining wall and nonhistoric patio with standard seating and traditional interpretive signage. (Image created by ERDC-CERL researcher, 2022.)



3.1.3.2 COA B: Solar Canopy Seating

Like COA A, COA B features picnic table-style seating for use by visitors and regular users of the rehabilitated MVOC. The picnic tables should be primarily located on the nonhistoric portion of the patio and should feature umbrellas or canopies to protect users from sun; however, these umbrellas or canopies will feature solar panels and USB charging ports so that users may charge their electronic devices (Figure 49).

Figure 49. Rendering of historic retaining wall and nonhistoric patio with solar canopy seating (image created by ERDC-CERL researcher, 2022).



3.1.4 Tennis Court

The tennis court is an ideal outdoor interpretive space for the history of the MVOC and the WWII era at Fort Huachuca. It provides an area of 7,200 sq ft in which ephemera, clothing, or other historic objects cannot be adequately housed but is accessible and has no alternative plans for use. During the 2021 planning charrette, the team planned for a shade structure or ramada cover over the tennis court to provide some protection and shade for interpretive media and meetings or presentations, and this was included in the Planning Charrette Report (PCR) the Army submitted for funding.

Unlike the interior of the MVOC, the tennis court will be readily accessible by the public and available without the aid (i.e., unlocking, monitoring, or tours) of MVOC personnel. There are two COAs presented for the tennis court, (A) the arrangement of interpretive signage as a logical path, or (B) the arrangement of interpretive signage as thematic or topical pods. Regardless of chosen COA, the interpretive signage cannot be technology-based due to a lack of both protection from the elements and around the clock monitoring. The interpretive signage must also be placed to comply

with the Architectural Barriers Act Accessibility Standards, and it must be designed to be physically, visually, and cognitively accessible.[128]

Regardless of the COA chosen for the tennis court, it should include topics not covered in other interpretive areas because it will be the interpretive area with the highest possibility of covering the widest variety of historic topics and stories. For example, if the MVOC's interior exhibit space largely interprets training and athletics, interpretation in the tennis court could focus on Fry, the Lakeside Officers' Club, WAACs, women in the MVOC, hospitals and nurses, Lew Davis, screen printing and posters, Truman Gibson, and other topics and stories mentioned in Table 1, as appropriate.

For either COA, movable panels made of UV and weather-resistant materials may be chosen for the interpretive panels, allowing the tennis court to be cleared and used as an open space for outdoor events and presentations (Figure 50). If portable panels are chosen for either COA, the design of the panels may need to include a numbering system so that they can be easily repositioned into their typical arrangement following events.

Also, regardless of the COA chosen for the tennis court, there will likely be extra space on the court due to its large area and to the narrow scope of the history to be interpreted at this site (Black Soldiers at Fort Huachuca during WWII). Potential uses of this extra area include large-scale 3D-printed versions of the art (either sculpture or textured, such as oil paintings) that visitors may interact with, large-scale interactive art (Figure 51), or specialty children interpretive equipment meant to reference paintings from the 1943 Art Exhibit dedication and 1943–1946 long-term display (Figure 52) and music from its opening (Figure 53). This art should be physically accessible.[129]

128. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

129. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

Figure 50. Movable interpretation panels along the Anacostia waterfront in Washington, DC (Image by ERDC-CERL researchers, 2022).

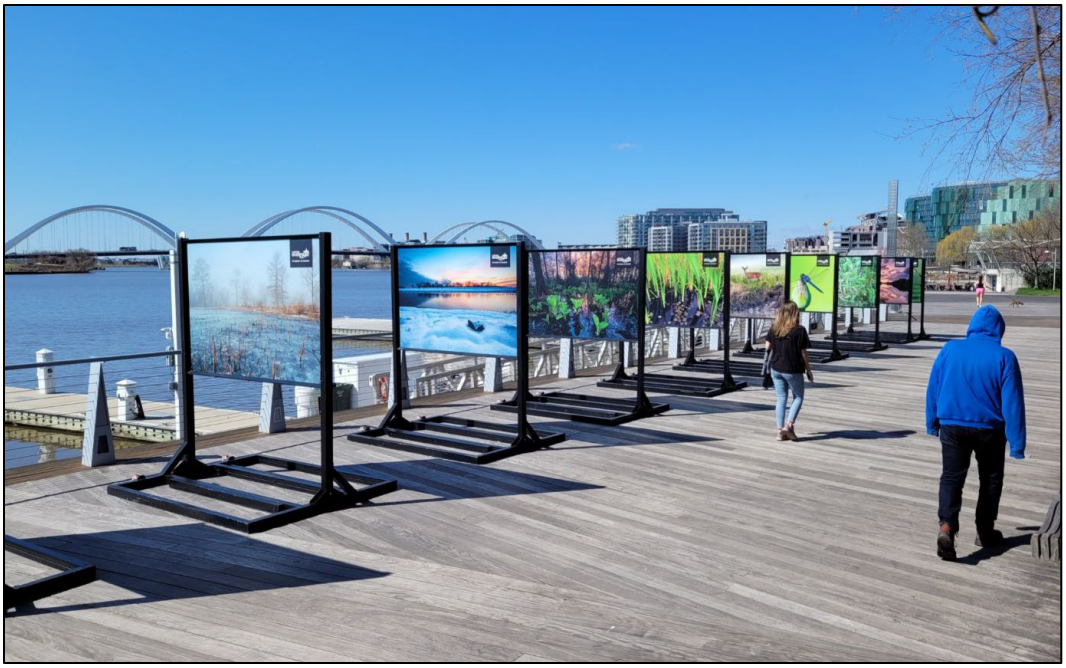


Figure 51. Interactive and thoughtfully placed sculpture and public art that is designed to incite play, Maggie Daley Park, Chicago, Illinois (Image by ERDC-CERL researchers, 2023).



Figure 52. Interactive puzzle playground equipment—similar equipment at the MVOC could feature tiles that, when correctly turned, display a re-creation of an artwork from the 1943 Art Exhibit dedication (Image by ERDC-CERL researcher, 2023).

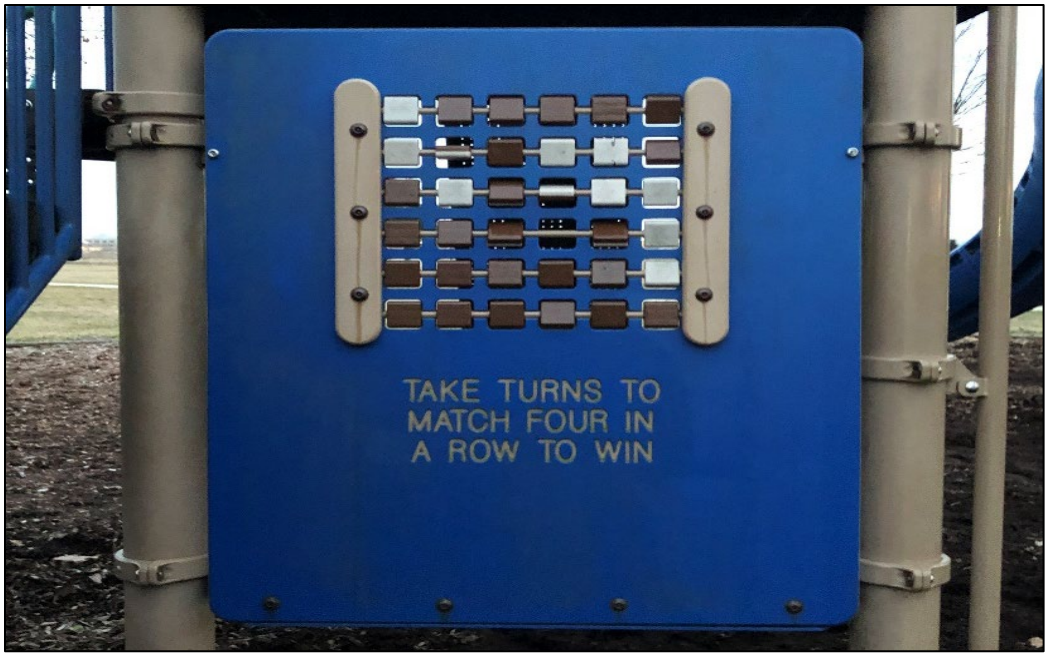
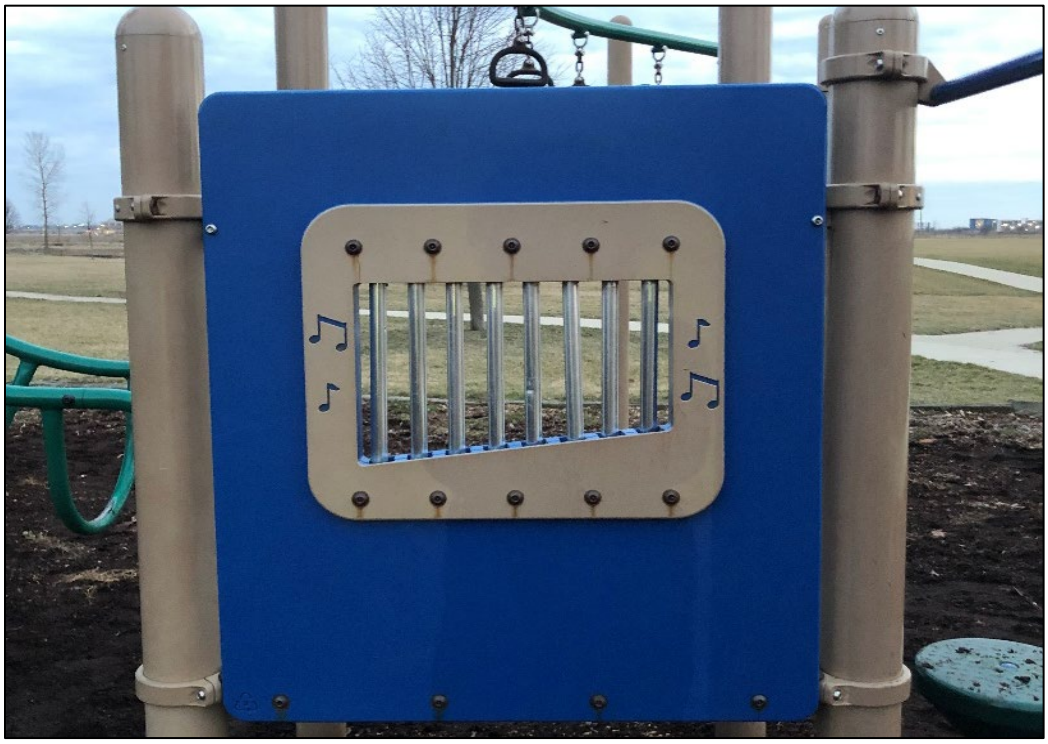


Figure 53. Interactive musical playground equipment—similar equipment at the MVOC could reference the music played at the opening of the 1943 Art Exhibit dedication and 1943–1946 long-term display and encourage visitors to compose their own music inspired by the site (Image by ERDC-CERL researcher, 2023).



3.1.4.1 COA A: Linear Arrangement

This COA is the arrangement of historical information in a logical, linear arrangement contained within the tennis court (Figure 54) using moveable interpretive panels. The panels may be arranged in a way that leaves the center of the tennis court open and available for events and presentations while the panels are present. Several non-technology-based panels should feature interactive components. The panels may be organized thematically or chronologically, so long as the connections between the panels is clear. For example, a chronological series of panels may feature topics in the following order:

1. The history of Fort Huachuca before WWII[130]
2. The construction of the MVOC and Lakeside Officer's Club
3. WAACs, nurses, and other women in the MVOC
4. Lew Davis, screen printing, and posters
5. The 1943 Art Exhibit
6. Truman Gibson and the end of segregation in the War Department, and
7. The architecture and rehabilitation of the MVOC.

Conversely, a thematic series of panels may feature topics in the following order:

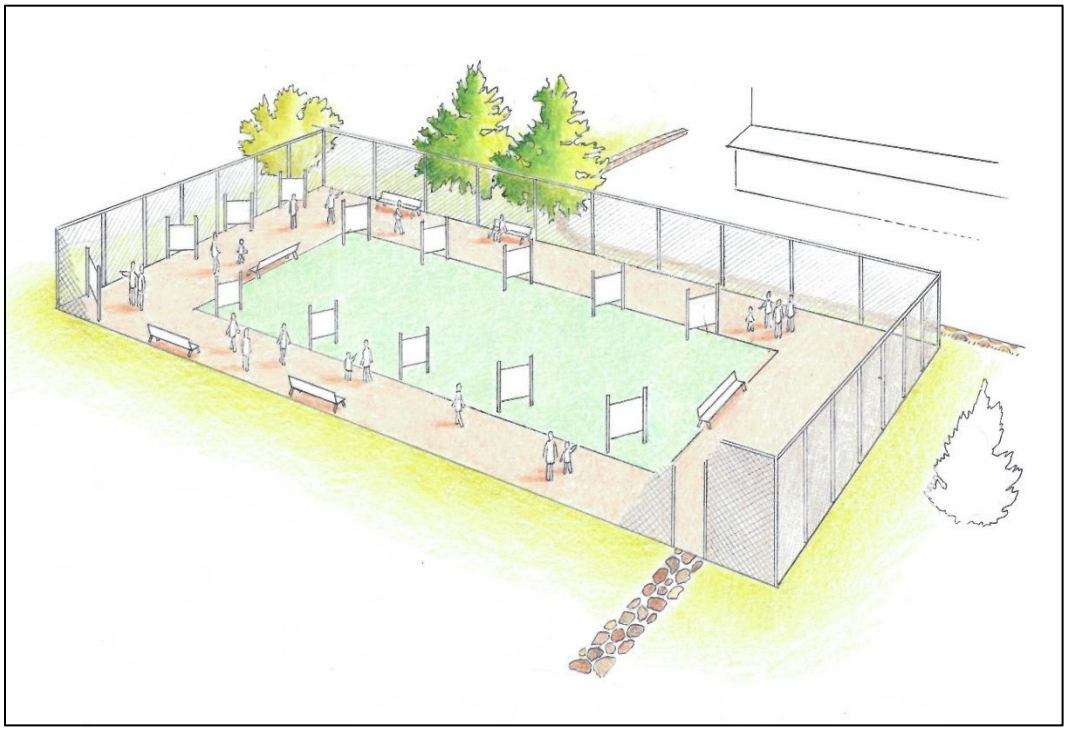
1. The history of Fort Huachuca before WWII
2. The Lakeside Officers' Club, the MVOC, and Truman Gibson and segregation in the War Department
3. The USO and recreation in the MVOC
4. WAACs, nurses, and other women in the MVOC
5. The 1943 Art Exhibit dedication and 1943–1946 long-term art display, and
6. Lew Davis, screen printing, and posters.

These moveable interpretive panels can be shifted to the edges of the tennis court to allow for the planning and holding of large events at the site (Figure 55).

130. While this history is outside of the scope of the focus of the planned WWII exhibit, the inclusion of some historical information is vital to ensure that visitors can accurately place the events discussed in Fort Huachuca's historic context. This signage should complement the signage trail located near the 1914–1918 barracks leading to the Fort Huachuca Museum Annex.

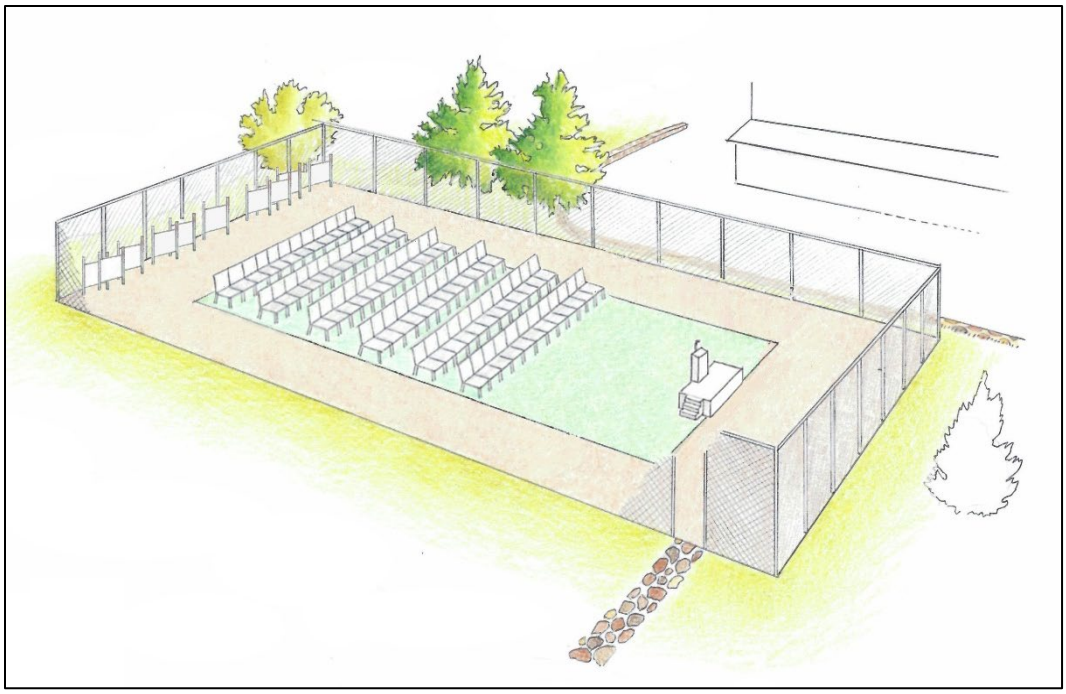
The design and layout of the panels should consider panel sizing, Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) requirements for space between panels, and traffic flow.[131] They should also consider and accommodate the placement of benches, views of the MVOC and viewsheds of the Soldier Creek floodplain, and potential uses of extra space in the tennis court (see Section 3.1.4). The chosen panels and arrangement must consider weather and other impacts on the physical security of the panels. All considerations listed in this paragraph will be discussed and decided on during the Design-Build phase.

Figure 54. Linear arrangement of interpretive panels on the tennis court. The extant chain-link fence is partially removed and the ramada is not shown on the rendering to allow for unimpeded view of the inside the tennis court. (Rendering by ERDC-CERL researcher, 2023.)



131. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

Figure 55. Arrangement of interpretive panels can be pushed to the edges of the tennis court to allow for large events. The chain-link fence is partially removed and the ramada is not shown on the rendering to allow for unimpeded view of the inside the tennis court. (Rendering by ERDC-CERL researcher, 2023.)



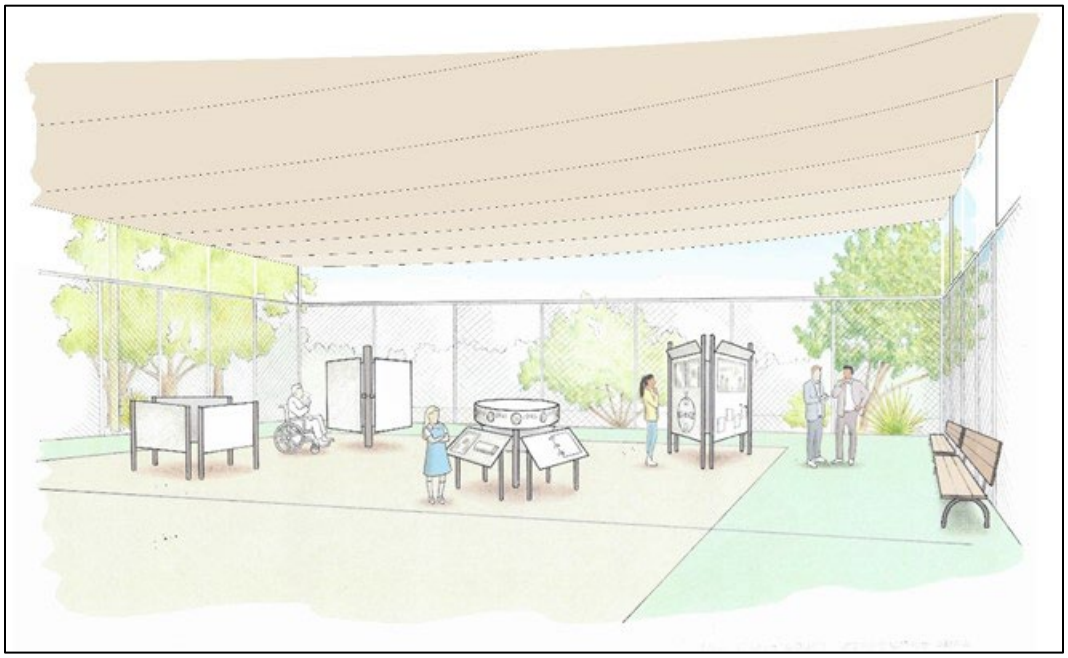
3.1.4.2 COA B: Cluster arrangement

This COA is the arrangement of historical information in thematic clusters created using interpretive panels (Figure 56). These pods may be arranged in a way that leaves a large part of the tennis court open for outdoor events and presentations. Additionally, the individual panels (or groupings of panels, depending on the construction used) may be moveable. This would allow the panels to be pushed to the edges of the tennis court for events as shown in Figure 55. A number of these non-technology-based panels should feature interactive components. Topical clusters, each featuring multiple interpretive panels, may highlight the following topics and stories (presented in no particular order):

- Space and Place (1 pod, 3 panels)
    - History of Fort Huachuca—founding and development
    - Adjacent communities
    - Construction of the MVOC and Lakeside Officers' Club

- Diversity and Segregation: Recreation (1 pod, 3 panels)
    - Significant events
    - Screen printing
    - Athletics
- Diversity and Segregation/Military Mission: Women at Fort Huachuca (1 pod, 3 panels)
    - Nurses and hospitals
    - WAACs
    - USO performers
- Military Mission (1 pod, 3 panels)
    - History of Fort Huachuca—Buffalo Soldiers
    - WWII training ranges and courses
    - WWII training schools

Figure 56. Arrangement of interpretive panels in pods on the tennis court. (Rendering by ERDC-CERL researcher, 2023.)



These topical pods may be complemented by a broad-scale history and timeline of Fort Huachuca—ideally leading from founding to the present—and segregation in the War Department located along the borders of tennis court. Care should be taken to not duplicate the extant interpretive signage within the Fort Huachuca Historic District. The inclusion of a broad-scale history of the installation would increase visitors' abilities to situate each topic chronologically while simultaneously allowing them to freely explore topics and better understand the comprehensive history of Fort Huachuca and the MVOC. Breadth and depth are needed to recognize how individuals at Fort Huachuca responded to and were affected by broader military, racial, and cultural policies and trends (see Appendices B.2 and B.3). Like the panel layout presented in COA A (Section 3.1.4.1), the design and layout of the pods should consider panel sizing, ADA and ABA requirements for space between panels, and traffic flow, as well as the placement of benches, views of the MVOC, and viewsheds of the Soldier Creek floodplain.[132] The design and layout should also accommodate potential uses of extra space in the tennis court (see Section 3.1.4). The chosen panels and arrangement must consider weather and other impacts on the physical security of the panels. The Design-Build team will discuss and decide all considerations during that future phase.

3.1.5 Access Road

There is only one COA for the access road leading from the parking lot to the historic facade of the MVOC; an interpretive trail allowing users to experience and appreciate the historic landscapes and views associated with the MVOC (Figure 57). Per antiterrorism and force protection requirements, the access road and circular drive must be restricted to access only by emergency, maintenance, and military-use vehicles. The Design-Build team will determine the method for how vehicular access will be restricted in that future effort.[133]

Pedestrian interpretation on this road may be limited, featuring just a few panels, or extensive, featuring panels and public art (either re-creations of works from the 1943 Art Exhibit or contemporary art from local minority artists). At minimum, panels should discuss the historic

132. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

133. US Army Corps of Engineers, "SRM Planning Charette Report," p. 7.

landscape plan of the MVOC and the renovation of the MVOC. They may be noninteractive and inspire interaction through asking visitors to identify certain features (such as certain flowers or bushes), or feature interactive components. Interpretation may use other types of specialized panels to clearly depict the restoration of the MVOC (Figure 58). Panels should be physically, visually, and cognitively accessible.[134]

Figure 57. Rendering of the circular drive by the MVOC following restoration. (Rendering by ERDC-CERL researchers, 2022.)



134. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

Figure 58. Translucent interpretive panel showing the previous appearance of a historic structure overlayed onto the current structure. (Digital rendering by ERDC-CERL researchers, 2022.)



3.2 Future Opportunity Area (Potential Phase 2): Soldier Creek Floodplain

The Soldier Creek floodplain is outside the current APE; however, as an active floodplain and historic training area, it presents several sites and opportunities for future interpretation in an otherwise underutilized area featuring an existing, though unmanaged, trail.[135] Fort Huachuca may phase interpretive expansion opportunities into the Soldier Creek floodplain. Each COA presented in this section is an expansion of the previous COA. The COAs described here are future opportunities based on extant WWII features, but there are also opportunities for WWII interpretation at Fort Huachuca to the south and east of the APE within the 31.5 acre survey area. For example, interpretation could focus on the WWII guest houses that once stood east of the MVOC for visiting officers.

135. Fort Huachuca, Programmatic Agreement Among the U.S. Army Garrison Fort Huachuca, the Arizona State Historic Preservation Officer, and the Advisory Council on Historic Preservation for the Rehabilitation of Building 66050 at Fort Huachuca, Arizona, p. 1.

There are five COAs for the Soldier Creek floodplain, the creation of (A) a pedestrian viewpoint from the circular drive discussed in Section 3.1.5, (B) the rehabilitation of the section of the PAR course leading to the WWII-era boxing rings' bleachers, (C) an automotive wayside exhibit interpreting the WWII-era training area, (D) both a pedestrian viewpoint to the WWII-era boxing rings bleacher and an automotive wayside exhibit interpreting the training area, and (E) the rehabilitation of the entire PAR course loop trail leading from the MVOC past the WWII-era boxing rings bleacher, bisecting the training area, and looping back at Irwin Road to the east. All panels recommended in this section should be installed at heights and angles that can be easily viewed by all visitors and in wheelchair-accessible locations whenever possible (see Figure 46); however, the path may also feature panels in nontraditional shapes (Figure 59) for interest and engagement.[136] For example, Figure 59 shows a gear-shaped panel. Similar panels in the area surrounding the MVOC could be shaped like a WWII-era helmet or other era-specific item. The Design-Build team will make decisions regarding the exact shape for panels during that future phase.

Ideally, the plan will ensure the entire path in the Soldier Creek floodplain will be wheelchair accessible with stable, level, firm, and slip-resistant with gradual slopes.[137] In any case, historical information may be incorporated into the trail itself. For example, Figure 60 shows a concrete trail with a brick inlay on which historical information is displayed. A similar path at Fort Huachuca could display brief descriptions of important events related to the fort during WWII accompanied by the years in which these events occurred. The Design-Build team will decide regarding the exact methodology for incorporating wayfinding, images, and interpretive information into paving, paths, and sidewalks during that future phase.

136. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, p. 73.

137. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 23–24.

Figure 59. Gear-shaped panel along the Joliet Iron Works Historic Site trail in Joliet, Illinois, 2023. (Image by ERDC-CERL researchers, 2023).



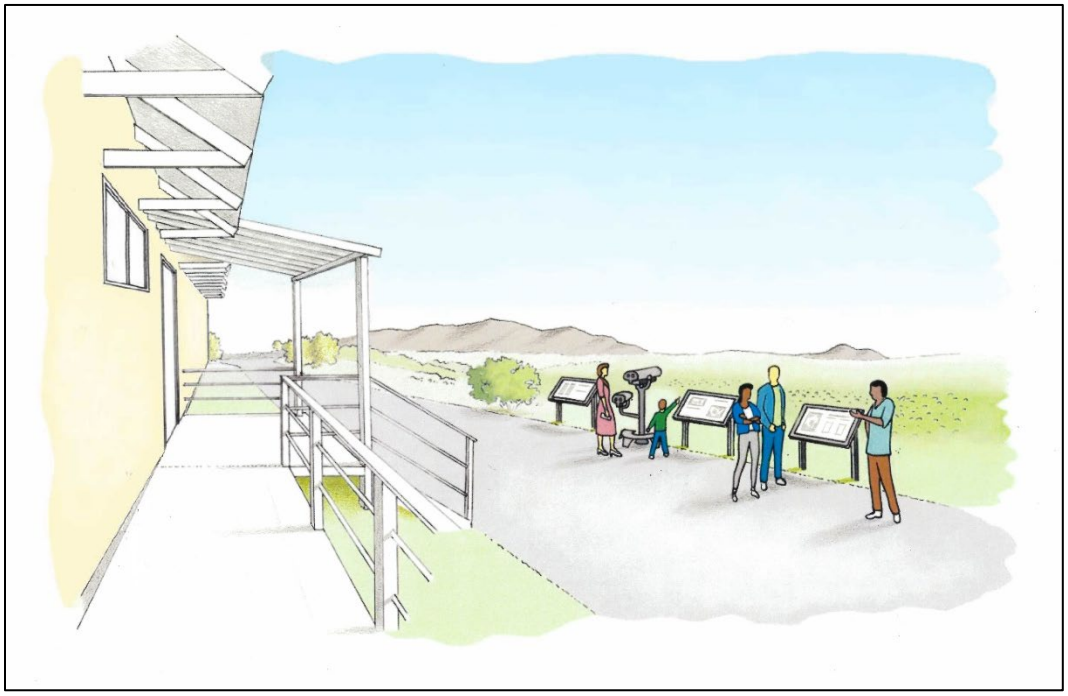
Figure 60. Concrete trail featuring brick inlay reading "1874: Joliet Iron Works Opens Doors" at Joliet Iron Works Historic Site, Joliet, Illinois. (Image by ERDC-CERL researchers, 2023.)



3.2.1 COA A: Pedestrian Viewpoint

This COA is the creation of a pedestrian viewpoint, accessible from the MVOC access road discussed in Section 3.1.5, overlooking Soldier Creek and, specifically, the WWII-era boxing rings bleacher foundation and WWII training area (Figure 61). This viewpoint could feature a view tube or telescope to accommodate different visual capabilities, as well as one to three interpretive panels. These panels could include a discussion of boxing as a recreational and training activity during WWII, as well as more broad discussions regarding the nature of training and physical activity, and related segregation, for WWII-era service members at Fort Huachuca. The panels should include a map, which may be 2D, but a 3D, textured topographic panel depicting the Soldier Creek floodplain would offer greater visual and tactile accessibility (Figure 62 and Figure 63).[138]

Figure 61. Rendering of interpretive panels and view tube beside the MVOC access road overlooking the Soldier Creek floodplain. (Rendering by ERDC-CERL researchers, 2023.)



138. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 38–40.

Figure 62. Accessible tactile map of the Pullman National Monument site located at the Pullman National Monument visitor center. (Image by ERDC-CERL researchers, 2023.)

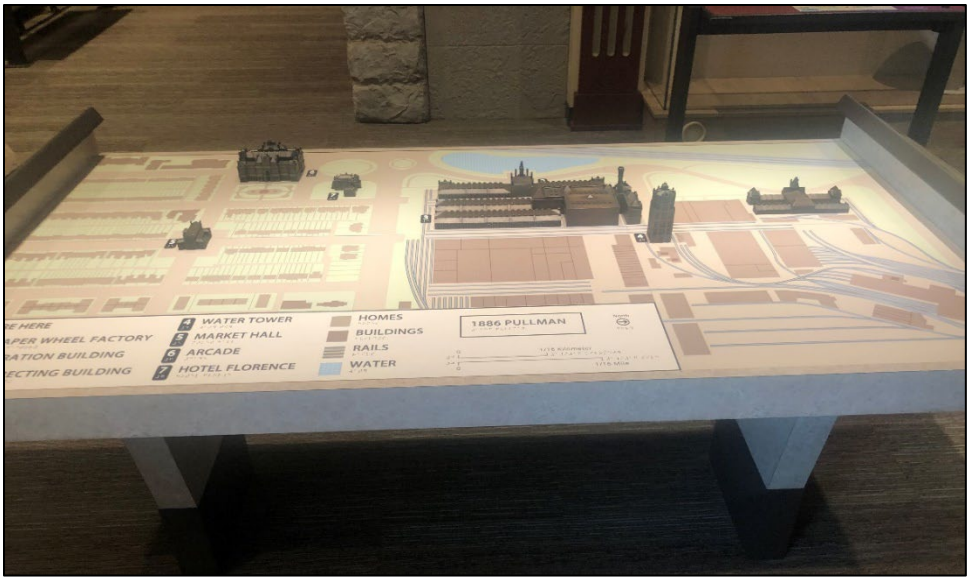
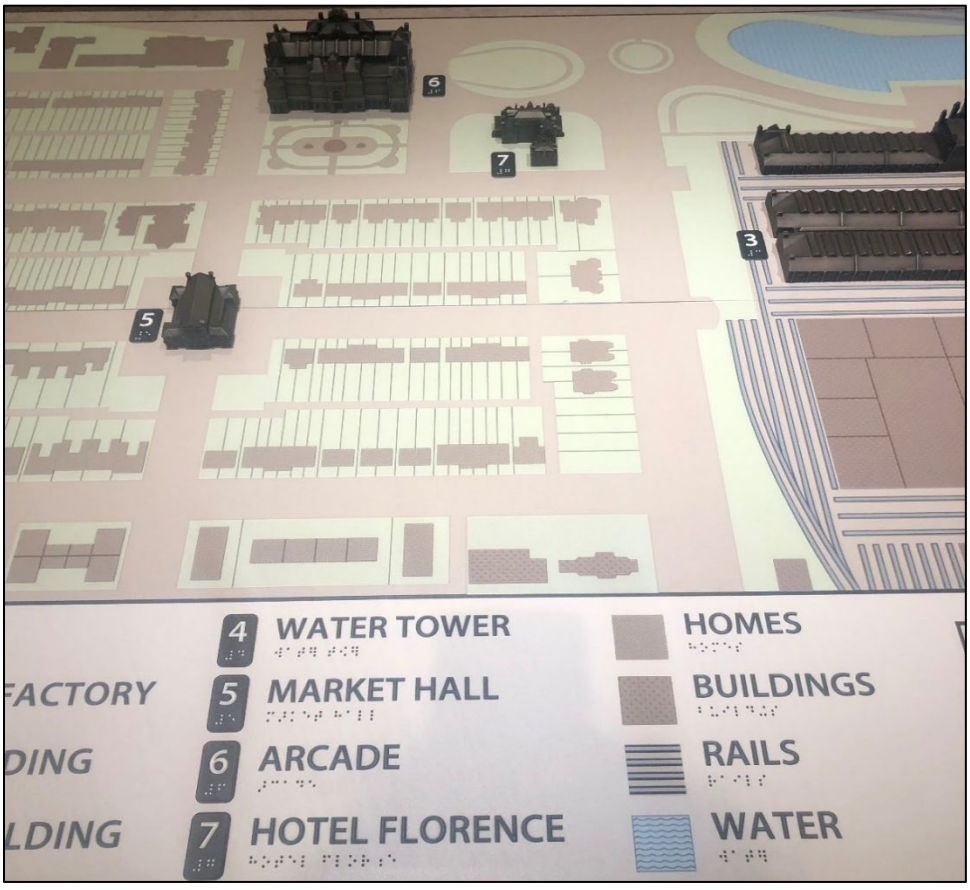


Figure 63. Close-up of accessible tactile map at Pullman National Monument visitor center. All map features are textured and labeled with Braille for maximum accessibility. (Image by ERDC-CERL researchers, 2023.)



3.2.2 COA B: Trail to Boxing Ring

This COA is the repair and upgrade of the section of the existing PAR that leads to the WWII-era boxing rings bleachers on the Soldier Creek floodplain (see Figure 67). The embarkation point for this trail is at the MVOC visitor parking area (point *A* in Figure 64). Proceeding east from the MVOC, the trail descends a moderately-steep bajada slope into the floodplain (point *B* in Figure 64). Currently, this downward grade is encumbered by loose rocks and shrub thickets. Railroad ties along the descent are presumably in place both to prevent erosion and to serve as steps (Figure 65). From point B, visitors may observe a view of the south elevation of the MVOC, but the descent to this point is difficult to undertake in the trail's present condition (Figure 66). On reaching the floodplain, the trail proceeds east on a relatively straight and level route to the historic boxing ring bleachers (point *C* in Figure 64; Figure 67). Future planners must consider Safety and ADA standards for trails, the evaluation of which is beyond the scope of this report and apply them to this COA.

Figure 64. Courses of action (COA) B PAR course segment shown in *red*. (Image created by ERDC-CERL, modified from an ENRD map dated 2021. Public domain.)

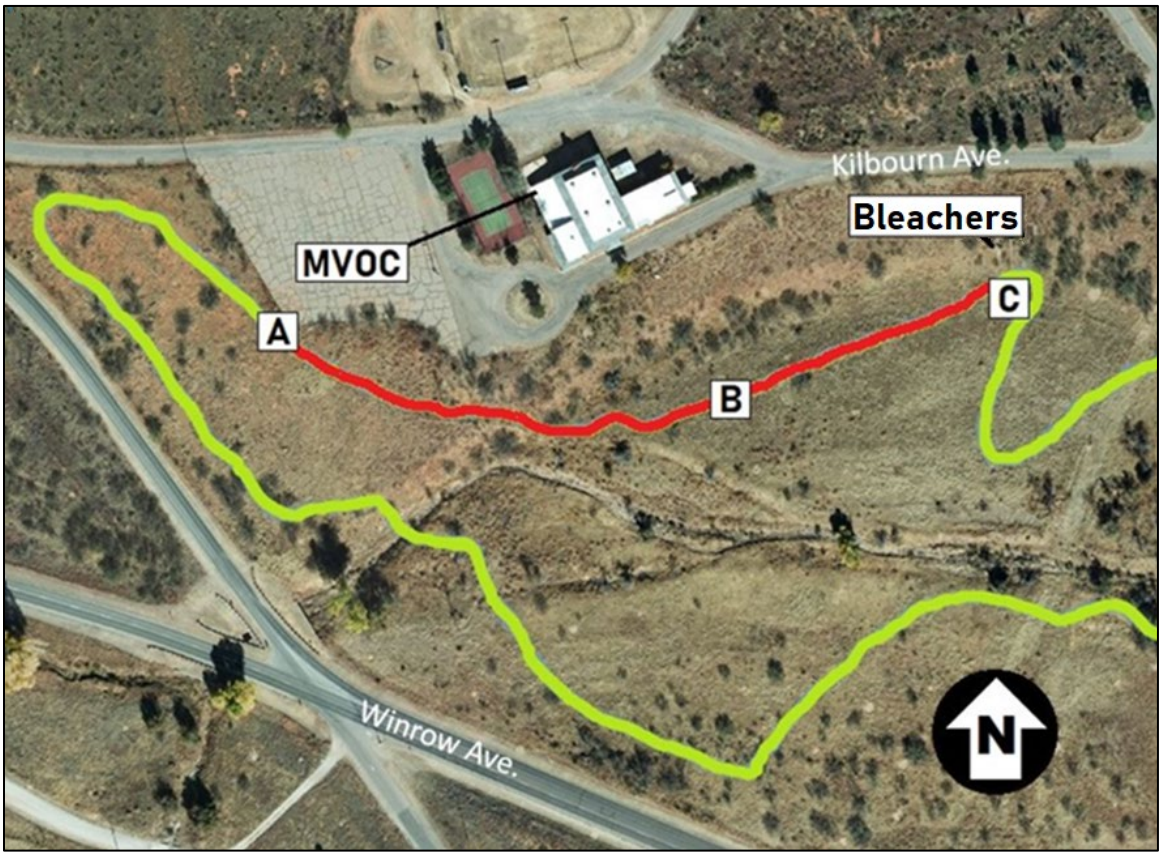


Figure 65. Current condition of the PAR course on the descent between points *A* and *B.* (Image by ERDC-CERL researchers, 2022.)



Figure 66. View of the south elevation of the MVOC from point *B*, facing northwest. (Image by ERDC-CERL researchers, 2022).



Figure 67. View of the historic boxing rings bleacher foundations at point *C.* (Image by Fort Huachuca ENRD, 2023.)



Because of the natural setting of the Soldier Creek floodplain, the Army prefers the trail be maintained in its natural state. Future planners should place benches at the end of the trail near the bleachers to provide a seating area for individuals who may need to rest, as well as to prevent sitting on the historic feature, which the path passes very near.

Potential opportunities for interpretive panels exist at points B and C. Point B is approximately 246 ft (75 m) south of the MVOC and provides a good view of the building's south elevation. Interpretive paneling at this location could use this view as a backdrop for presenting history about the MVOC or the relationship between the MVOC and the WWII buildings that once stood in the area (Figure 68). Panels facing south from Point B can provide interpretive information about WWII-era training at Fort Huachuca. Additional interpretation could include re-creations of WWII-era training features that visitors may use to attempt WWII training exercises. Alternatively, AR or VR headsets could be used to show visitors the use of WWII-era training features by WWII-era Soldiers. These headsets would be available to borrow from the exhibit in the interior of the MVOC. This re-creation can be live action, featuring actors or current Soldiers, or digital. This application of VR can be produced through a partnership with the University of Arizona Center for Digital Humanities (see Section 2.3).[139]

139. Center for Digital Humanities, "Buffalo Soldiers VR Project."

Figure 68. Rendering of possible interpretive arrangement with compacted soil path at point *B.* (Rendering by ERDC-CERL researchers, 2023.)



Interpretation at point C could include one to three interpretive panels (Figure 69), which may be interactive, and should discuss boxing as a recreational activity during WWII. This includes specific discussion of boxer Joe Louis's activities at Fort Huachuca during this time. Additional interpretation can depict the boxing ring as it appeared during the WWII-era. Such interpretation may include VR headsets that could depict a re-creation of a WWII-era boxing match or other activities. This re-creation could be live action, featuring actors or current Soldiers, or digital. This application of VR can be produced through a partnership with the University of Arizona Center for Digital Humanities (see Section 2.3).[140] Alternative options include the use of a translucent panel, such as that depicted in Figure 58, to show the historic features and layout of the site, or a metal silhouette of a Joe Louis boxing with accompanying biographical information (Figure 70 and Figure 71).

140. Center for Digital Humanities, "Buffalo Soldiers VR Project."

Figure 69. Rendering of possible interpretive arrangement at the historic boxing rings bleachers at point *C* with compacted soil path. (Rendering by ERDC-CERL researchers, 2023).



Figure 70. Steel silhouette of George Kiser, a former employee at the Joliet Iron Works, located at the Joliet Iron Works Historic Site, Joliet, Illinois. (Image by ERDC-CERL researchers, 2023).



Figure 71. Interpretive plaque featuring biographical information about George Kiser, located adjacent to the steel silhouette of Kiser at the Joliet Iron Works Historic Site, Joliet, Illinois. (Image by ERDC-CERL researchers, 2023).



3.2.3 COA C: Automotive wayside exhibit

This COA is for the creation of an automotive wayside exhibit along Winrow or Irwin Roads providing visibility of the historic WWII training area and extant obstacle course wall and trenches (Figure 72, Figure 73, and Figure 74). The exhibit would be accessible via automobile and feature parking lots with associated viewpoints for visitors to drive to from the primary MVOC interpretive area (the MVOC, tennis court, and road). The viewpoint and wayside exhibit should feature one to three interpretive panels that discuss WWII-era training ranges, courses, and schools at Fort Huachuca, focusing on the training and activities of Black Soldiers. The panels may be interactive, and should feature a map, photos, or digitally re-created depiction of the no longer extant training areas. Pending the location of the parking lot, this wayside exhibit should feature a view tube or telescope allowing visitors to view the extant obstacle course wall, located in the former obstacle course. ERDC-CERL 3D scanned the extant obstacle course wall, so this may be a reasonable location for interpretation with a VR headset. A non-technology-based alternative may be a translucent panel showing a historical image of the wall overlayed atop the extant wall (Figure 75).

Figure 72. Aerial image of WWII training area, showing potential locations of wayside exhibits, 2023. (Map data: Google, Maxar Technologies, 2023; edited by ERDC-CERL researchers.)



Figure 73. Image of a WWII-era obstacle course wall in use, 1942. (Photograph No. SC 148122, 15 May 1942, RG 111-SC, National Archives and Records Administration—College Park, College Park, MD. Public domain.)



Figure 74. Recent image of the WWII-era obstacle course wall, 2021. (Image provided by Fort Huachuca ENRD office. Public domain.)



Figure 75. Panel showing translucent depiction of 1942-era photo of the obstacle course wall in use overlaid on extant wall. (Rendering by ERDC-CERL researchers, 2023).



3.2.4 COA D: Trail to Boxing Ring and Automotive Wayside Exhibit

This COA is for the repair and upgrade of the section of the existing PAR course that leads to the WWII-era boxing rings bleachers in the Soldier Creek floodplain (see Figure 64) and an automotive wayside exhibit providing visibility of the historic WWII training area and extant WWII-era obstacle course wall and trenches from Winrow or Irwin Roads (see Figure 72). These exhibits should reflect the features listed in COAs B (Section 3.2.2) and C (Section 3.2.3); however, if these individual interpretive locations are treated as a unit, each may feature fewer interpretive panels than if the exhibits were developed individually. For example, each site could feature a maximum of two, rather than three, panels. This will reduce the opportunity for the presentation of repetitive material, as well as reduce visitor fatigue.[141]

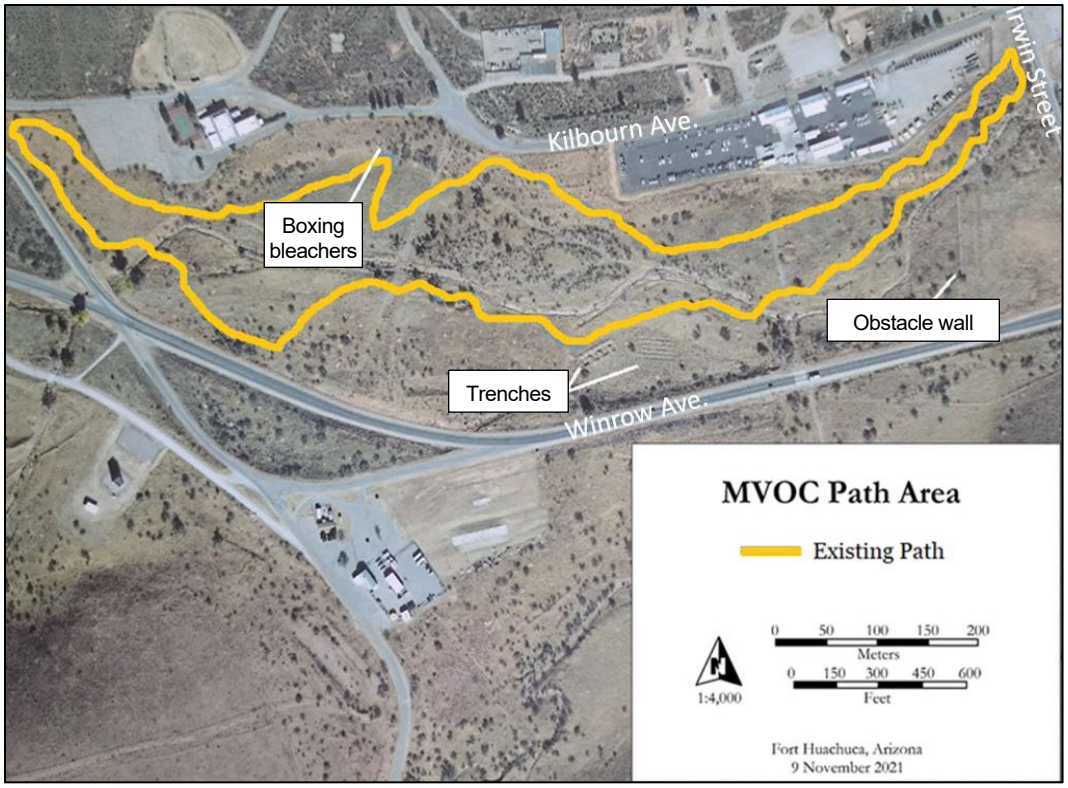
3.2.5 COA E: 1990s PAR Course

This COA is for the restoration of the entire 1990s PAR course that moves through WWII training area and adjacent to the boxing rings bleachers (Figure 76). The trail is approximately 1.5 miles (2.4 km) long and exhibits recurring fluctuations in elevation. Path visibility along the entire route is currently limited due to grass and vegetative overgrowth, and the surface is characterized by loose gravel, rocks, and compacted grass. Thickets of shrubs and trees are common obstacles. The plan for revitalizing this trail includes maintaining it in its natural state and lining it with rocks where there are none. The planning team might place benches at regular intervals along the trail to provide a seating area for individuals who may need to rest. The planners must consider safety and accessibility standards for trails, the complete evaluation of which is beyond the scope of this report and apply it to this COA. Ideally, the entire path within the floodplain will be wheelchair accessible with stable, level, firm, and slip-resistant with gradual slopes.[142] See Appendix A for additional information.

141. Incorvaia, "Crafting Exhibits to Avoid Museum Fatigue."

142. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 23–24.

Figure 76. Map of 1990s PAR course, WWII bleachers, and training areas with extant features, 2023. (Map provided by Fort Huachuca ENRD; edited by ERDC-CERL researchers, 2023. Public domain.)



There should be interpretive panels, which may or may not be interactive, should be located intermittently along the trail at locations including the MVOC embarkation point and the WWII boxing rings foundation locations. The full circuit also includes segments (particularly the eastern and western appendices of the trail) that do not interact with any cultural resources, but may include interpretive panels on a variety of WWII topics such as the New Cantonment two-division layout, those parts of the WWII Cantonment that once stood on the bajada to the north of the trail, or the Army's systematic removal of the WWII temporary buildings in more recent times.

Interpretation should discuss the WWII training courses located along the trail, as well as Fort Huachuca's WWII-era training schools, where possible. Interpretation will point out as many remaining historic features as possible while identifying extant features that do not date to the WWII era. For example, former training stations on the 1990s PAR course designated by a sign (Figure 77) can be called out as dating to the 1990s rather than to WWII or removed entirely.

Other panels might feature historic maps, photos, or digital re-creations of the trail and historic training features. Panels focusing on the historic boxing rings bleachers and the extant wall and trenches, located in the former obstacle course and trench courts of the WWII training area, respectively, should be adjacent to these features. These panels may be like those described in Sections 3.2.2and 3.2.3, including potential translucent panels depicting the training area and features as they existed during WWII. Additional interpretation for the trail may include VR headsets, or an AR app. Headsets would be available to borrow from the exhibit space in the interior of the MVOC; a QR code at the embarkation point of the trail or interior of the museum can lead users to download the AR app. The headsets or app could be used to depict a re-creation of a WWII-era boxing match at the boxing rings site and of Soldiers training at the wall in the former obstacle course. These re-creations could be live action, featuring actors or current Soldiers, or digital. VR headsets or an AR app may also allow visitors to witness, through a first-person point of view the use of WWII training features while walking along the 1990s PAR course trail. The Design-Build team could produce these VR or AR applications through a partnership with the Buffalo Soldiers VR project or, more generally, the University of Arizona Center of Digital Humanities.[143]

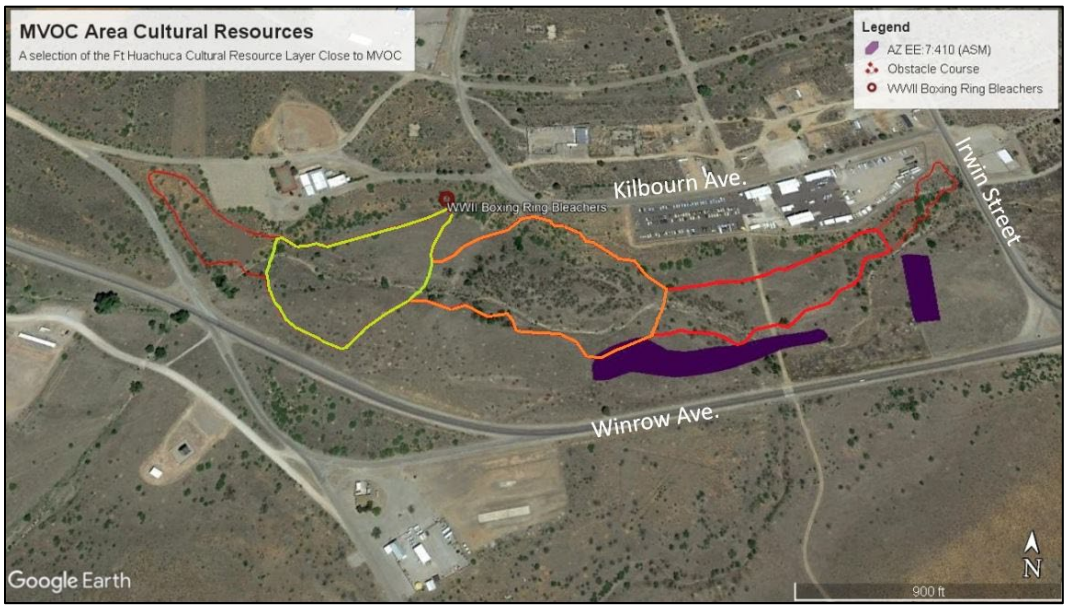
The planning team can phase development of this COA gradually constructing the interpretive areas described in COAs A through D (Sections 3.2.1through 3.2.4), or by breaking the 1990s PAR course loop trail into component parts (Figure 78) as development phases.

143. Center for Digital Humanities, “Buffalo Soldiers VR Project.”

Figure 77. A 1990s PAR course training station sign. (Image by ERDC-CERL researchers, 2022).



Figure 78. Breakdown of interpretive areas into component parts, including the WWII training area and the boxing rings bleachers, 2022. (Map created and provided by Fort Huachuca ENRD, 2022. Public domain.)



4 Guidance and Future Directions

Best practices for exhibit development involve consultation with the local community and other key stakeholders, such as the MVOC consulting parties.[144] Because of the importance of the stakeholders identifying what and how to exhibit and interpret these topics and items, this chapter can only recommend which COAs to implement. Army and consulting parties have yet to determine the amounts of funding for the establishment and long-term staffing and maintenance of the MVOC exhibit. However, this report delineates 120 possible combinations of COAs, not inclusive of suggestions for varying methods of implementing each COA. Therefore, to aid in the decision-making process, this chapter provides guidance regarding three COA combinations:

1. A combination suitable for a small exhibit space with no personnel, no technical support, and minimal start-up funding
2. A combination suitable for a small exhibit space with minimal personnel, minimal technical support, and a moderate amount of start-up funding
3. A combination suitable for a small exhibit space with adequate personnel and volunteers, adequate technical support, and a large amount of start-up funding

The authors chose these COA combinations for discussion due to their applicability to a variety of circumstances based on variables currently unknown, such as funding and staffing. Following publication of this report, if Fort Huachuca receives additional funding for the rehabilitation and reuse of the MVOC, work associated with that funding will include conducting a Design-Build project for the exhibit space. The Design-Build team will make decisions regarding staffing at this time. From work conducted during the Design-Build phase, the team will consider all options for interpretation and make a final decision regarding implementation based on funding, mission use, Army policy, and other considerations. They will use this conceptual exhibit plan as a starting point for the Design-Build contractor to create the final exhibit plan.

The authors also recommend actions that may serve as intermediate steps between the publication of this conceptual exhibit plan and the Design-

144. Chesapeake Bay Office, Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways, p. 44.

Build phase. It also provides recommendations for future research related to Army history exhibits based on unanswered questions the researchers discovered while writing the literature review.

4.1 Potential COA Combinations

This section discusses three combinations of COAs, each with consideration for personnel, technical support, and start-up funding. These COAs include both the interior of the MVOC and the exterior exhibit space within the APE. Regardless of the chosen combination of COAs, ERDC-CERL researchers recommend that new signage should be stylistically like historic or existing signage at Fort Huachuca, as consistent branding and reminders of place play a key role in both visitors' and regular users' sense of place and place-based understanding of history. Additionally, all new signage must comply with Fort Huachuca Master Plan sign standards and go through the Fort Huachuca signage approval process. While a contractor will develop new signage, Ralph Appelbaum Associates' (Appelbaum) developed a branding and design approach in 2019 based on designs from historic ephemera produced by Fort Huachuca such as the 1950s MVOC sign when the building served as the EPG service club (Figure 79). Appelbaum recommended Future Bold (sans serif) as the primary font and Freight Text Pro Medium (serif) as the secondary font, but planners must evaluate these fonts for compliance with federal accessibility requirements and compliance with Fort Huachuca sign standards before being put into use.[145] Appelbaum's recommended branding includes historically inspired signage on the road leading to the MVOC (Figure 79 and cross reference to Figure 80) and branded umbrellas for the patio (Figure 81). The Army may also apply Appelbaum's branding design to merchandise produced for the mission use space and visitors, such as pamphlets and pens. Fort Huachuca and the contractor chosen to create the exhibit infrastructure will make the decisions on using branding from that 2019 study. Consulting parties will be invited to comment on branding and signage, which will be finalized during the Design-Build phase.

145. Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona," pp. 24, 42–45; Story, "Strategies for Heritage Valuation on Adaptively Reused Transportation Corridors," pp. 100–101; Blackwell, "Community and visitor benefits associated with the Otago Central Rail Trail," pp. 78-80; National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*.

Figure 79. The historic Electronic Proving Ground (EPG) service club sign within the circular drive at MVOC, 1955. (Image from Fort Huachuca Museum. Public domain.)



Figure 80. Example of MVOC sign placement west of the tennis court by the parking lot using current Fort Huachuca sign standards. (Rendering by ERDC-CERL researcher, 2023. Public domain.)

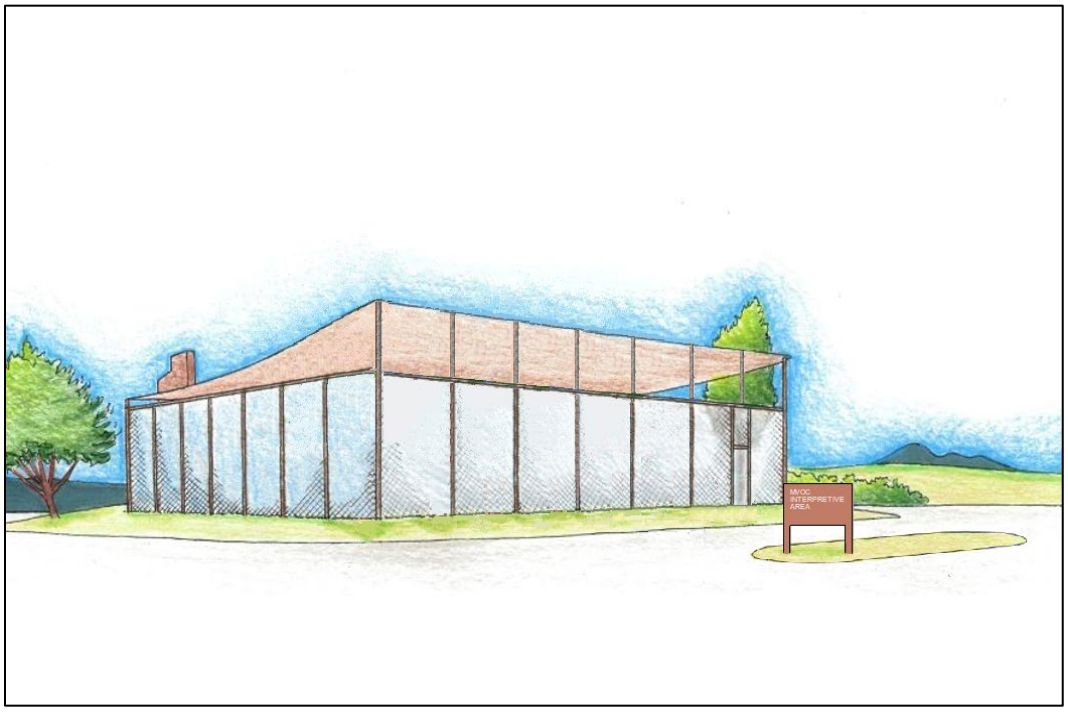
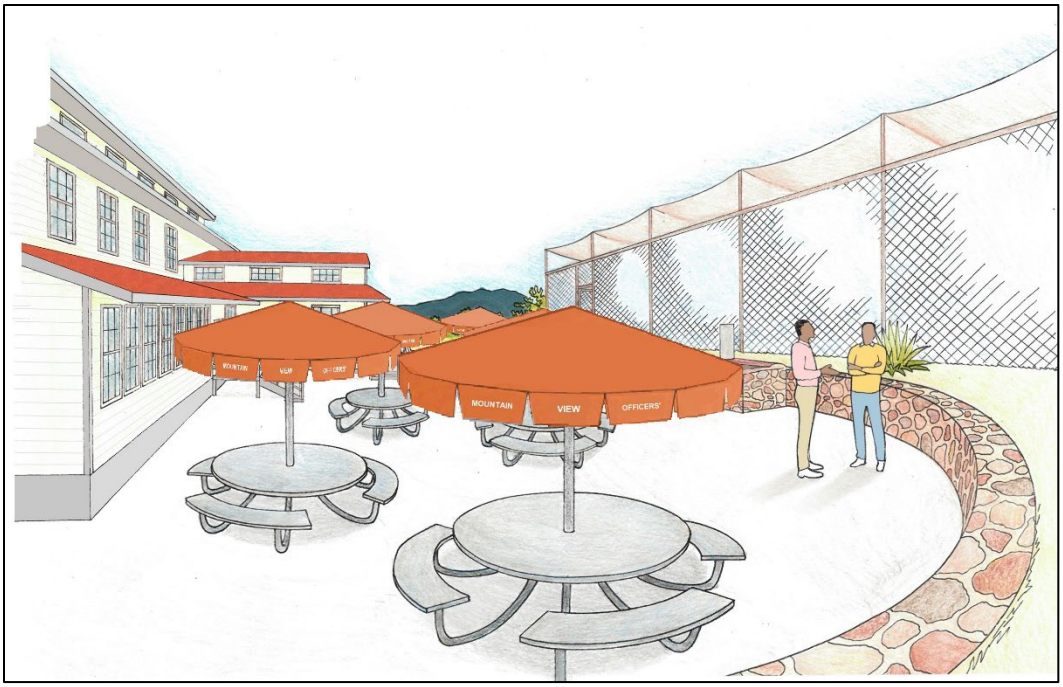


Figure 81. Placement of branded umbrellas on the patio (Ralph Appelbaum Associates, "Mountain View Officers' Club Fort Huachuca Arizona, p. 24; Rendering by ERDC-CERL researcher, 2023. Public domain.)



4.1.1 COA Combination 1

The combination of COAs discussed in this section is for a small exhibit space with no personnel, no technical support, and minimal start-up funding. A summary of the COAs for this combination is provided in Table 4.

Table 4. Summary—COA combination 1 for APE.

Location	COA A	COA B	COA C	COA D	COA E
MVOC interior—mission use space	Not recommended	Recommended	N/A	N/A	N/A
MVOC interior—exhibit space	Recommended	Not recommended	Not recommended	N/A	N/A
Patio	Recommended	Not recommended	N/A	N/A	N/A
Tennis Court	Not recommended	Recommended	N/A	N/A	N/A
Road	Recommended	N/A	N/A	N/A	N/A

4.1.1.1 MVOC Interior—Mission Use Space

A potential COA for the mission use space of the MVOC's interior is COA B; depiction of the art from the 1943 Art Exhibit in the lobby and breakroom. Per this COA, the design team will display re-creations of all currently available art from the 1943 Art Exhibit in the most advantageous location possible within the mission use space.[146] The artworks can be accompanied by small interpretive plaques featuring the artist's name, the title of the work, and biographical information about the artist. The team may place interpretive panels or storyboards featuring historic images of and regarding the history of the MVOC may, per this COA, throughout the mission use space as appropriate to contextualize the artworks. For more information about this COA, see Section 3.1.1.1 . For additional COAs for the mission use space of the MVOC's interior see Section 3.1.1.

4.1.1.2 MVOC Interior—Exhibit Space

The COA for the exhibit space of the MVOC's interior is COA A; non-technology-based exhibits. Per this COA, the exhibit space will house all ephemera, clothing, or other historical objects available for display and could display and interpret art from the 1943–1946 Art Exhibit. This space should include standard interpretation, as well as interactive experiences. Non-technology-based interactive experiences for the interior exhibit space may include puzzles, interactive interpretive panels, and replica WWII-era uniforms. The layout of the space and all interpretation should meet Federal accessibility guidelines.[147] All historical objects must be preserved and protected according to Army Regulation 870-20.[148] For more information about this COA, see Section 3.1.2.1 . For additional COAs for the exhibit space of the MVOC interior, see Section 3.1.2.

4.1.1.3 Patio

The COA for the patio is COA A; standard seating. Per this COA, the patio will feature standard, picnic table-style seating with umbrellas or canopies for use by visitors and regular users of the rehabilitated MVOC

146. Available art refers to all other art from the 1943–1946 exhibit that has been located; If the art has not been located, it cannot be digitally re-created for exhibition; Schacht et al., A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946, p. 211.

147. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Programmatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

148. US Department of the Army, Army Museum Enterprise and Army Artifact Collection.

(see Figure 48). The design team should place signage around the patio to interpret and explain the relevance of the historic flagstone patio and retaining wall. They should not place signage nor the tables on or anchored to historic portion of the patio to protect the historic flagstone. Additionally, the team should space seating to meet Architectural Barriers Act Accessibility Standards, and signage should be placed in accessible locations.[149] For more information about this COA, see Section 3.1.3.1 . For additional COAs for the patio, see Section 3.1.3.

4.1.1.4 Tennis Court

The COA for the tennis court is COA B; interpretive pods. Per this COA, the planners will arrange non-technology-based signage in thematic pods (see Figure 56) created using interpretive panels. Some of the panels should feature interactive components. The topical pods may be complemented by a broad-scale history and timeline of Fort Huachuca located along the borders of the tennis court. For the design and layout of the pods, the team should consider panel sizing, Federal accessibility requirements panels and panel spacing, and traffic flow, as well as seating and views of the MVOC and Soldier Creek floodplain.[150]

Because of its large size, the tennis court may accommodate additional uses. To accommodate minimal funding, these uses should include seating and low-cost interactive art or specialty playground equipment. The arrangement of the clusters may also allow space, or for the panels to be moved to create space, for outdoor gatherings and presentations. Any additional uses in this space must meet Federal accessibility guidelines.[151] For more information about this COA, see Section 3.1.4.2 . For additional COAs for the tennis court, see Section 3.1.4.

149. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49, pp. 72–74.

150. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

151. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Programmatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

4.1.1.5 Access Road

There is only one COA for the access road leading from the parking lot to the historic facade of the MVOC; an interpretive trail allowing users to experience and appreciate the historic landscapes and views associated with the MVOC. To accommodate minimal funding, this COA should feature a few traditional panels discussing the historic landscape and renovation of the MVOC. The roadway and panels must meet Federal accessibility guidelines.[152] For more information about this COA, see Section 3.1.5.

4.1.1.6 Recommendation for Future Opportunity Area (Phase 2)

The COA for Soldier Creek is COA A; pedestrian viewpoint. Per this COA, a pedestrian viewpoint, accessible from the road leading from the parking lot to the MVOC's façade, will overlook the Soldier Creek floodplain (see Figure 61). This viewpoint should interpret the WWII-era boxing ring bleachers and training area, feature a view tube or telescope, and have a topographic panel—preferably tactile—of the entire Soldier Creek floodplain below the MVOC. This space and interpretation must meet Federal accessibility guidelines.[153] For more information about this COA, see Section 3.2.1. For additional COAs for the Soldier Creek floodplain, see Section 3.2.

4.1.2 COA Combination 2

The combination of COAs in this section is for a small exhibit space with minimal personnel, minimal technical support, and a moderate amount of start-up funding. Table 5 provides a summary of the COAs for this combination.

152. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

153. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

Table 5. Summary—COA combination 2 for APE.

Location	COA A	COA B	COA C	COA D	COA E
MVOC interior—mission use space	Not recommended	Recommended	N/A	N/A	N/A
MVOC interior—exhibit space	Not recommended	Not recommended	Recommended	N/A	N/A
Patio	Recommended	Not recommended	N/A	N/A	N/A
Tennis Court	Not recommended	Recommended	N/A	N/A	N/A
Road	Recommended	N/A	N/A	N/A	N/A

4.1.2.1 MVOC interior—mission use space

The COA for the mission use space of the MVOC's interior is COA B; depiction of the art from the 1943 Art Exhibit with interpretive storyboards in the lobby and breakroom. This COA is detailed in Section 4.1.1.1 .

4.1.2.2 MVOC Interior—Exhibit Space

The COA for the exhibit space of the MVOC's interior is COA B; combination of exhibit types. Per this COA, the exhibit space should interpret art from the 1943 Art Exhibit and will house ephemera, clothing, or other historical objects available for display. This space should include both technology-based and non-technology-based interactive interpretation and experiences. Technology-based interactive experiences may include touch history computer stations, AR puzzles, user-guided digital exhibits, and partially or fully immersive experiences. Non-technology-based interactive experiences may include puzzles, interactive interpretive panels, and replica WWII-era uniforms. Exhibit types should be integrated and in a logical flow with clear thematic connections between displays. This space and all exhibits must meet Federal accessibility guidelines and all historical objects must be preserved and protected according to AR 870-20.[154] For more information about this COA, see Section 3.1.2.3 . For additional COAs for the exhibit space of the MVOC interior, see Section 3.1.2.

154. US Department of the Army, Army Museum Enterprise and Army Artifact Collection; National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Programmatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

4.1.2.3 Patio

The COA for the patio is COA A; standard seating. This COA is detailed in Section 4.1.1.3 .

4.1.2.4 Tennis Court

The COA for the tennis court is COA B; interpretive pods. This COA is detailed in Section 4.1.1.4 .

4.1.2.5 Access Road

There is only one COA for the road leading from the parking lot to the historic facade of the MVOC; an interpretive trail allowing users to experience and appreciate the historic landscapes and views associated with the MVOC. With a moderate amount of funding, this COA should feature multiple noninteractive panels discussing the historic landscape and renovation of the MVOC, as well as a few interactive or specialty signage, such as translucent panels. The roadway and panels must meet Federal accessibility guidelines.[155] For more information about this COA, see Section 3.1.5.

4.1.2.6 Future Opportunity Area (Phase 2)

The COA for Soldier Creek floodplain is COA D; repair and upgrade of the section of the existing PAR course that leads to the boxing rings bleachers and an automotive wayside exhibit. Per this COA, there will be both a short trail to the WWII boxing rings bleachers and an automotive wayside exhibit off either Winrow or Irwin roads, or both, providing visibility and interpretation of the historic WWII training area with the extant obstacle course wall and trenches. The end of the trail should feature seating and interpretive panels. Pending the availability of funding, interpretation there may also include specialized signage, such as translucent paneling or metal silhouettes, or VR. The automotive wayside exhibit should feature interpretive panels, which may be static or interactive. Pending the availability of funding and final positioning of the parking lot for the wayside exhibit, it may also feature a view tube or telescope, specialized signage, or VR integration. Interpretation on the trail and at the wayside exhibit should not topically overlap. Both the trail and wayside exhibit

155. must meet Federal accessibility guidelines. For more information about this COA, see section 5.4.2. For additional COAs for the tennis court, see section 5.4.

must be as accessible as possible.[156] For more information about this COA, see Section 3.2.4. For additional COAs for the Soldier Creek floodplain, see Section 3.2.

4.1.3 COA Combination 3

The combination of COAs in this section is for a small exhibit space with adequate personnel and volunteers, adequate technical support, and a large amount of start-up funding. A summary of the COAs for this combination is provided in Table 6.

Table 6. Summary—COA combination 3.

Location	COA A	COA B	COA C	COA D	COA E
MVOC interior—mission use space	Recommended	Not recommended	N/A	N/A	N/A
MVOC interior—exhibit space	Not recommended	Recommended	Not recommended	N/A	N/A
Patio	Not recommended	Recommended	N/A	N/A	N/A
Tennis Court	Not recommended	Recommended	N/A	N/A	N/A
Road	Recommended	N/A	N/A	N/A	N/A

4.1.3.1 MVOC interior—mission use space

The COA for the mission use space of the MVOC's interior is COA B; depiction of the art from the 1943 Art Exhibit and interpretive storyboards in the lobby and breakroom. This COA is detailed in Section 4.1.1.1 .

4.1.3.2 MVOC interior—exhibit space

The COA for the exhibit space of the MVOC's interior is COA C; technology-based exhibits. Per this COA, the exhibit space should interpret art from the 1943 Art Exhibit and will house ephemera, clothing, or other historical objects available for display. This space should include technology-based interactive interpretation and experiences. This may include touch history computer stations, AR puzzles, user-guided digital exhibits, and partially or fully immersive experiences. The exhibit may also serve as a check-in and check-out station for technology-based tools meant to augment the MVOC's outdoor interpretation. This space and all

156. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

technology-based exhibits must meet Federal accessibility guidelines.[157] All historical objects must be preserved and protected according to Army Regulation 870-20.[158] For more information about this COA, see Section 3.1.2.2 . For additional COAs for the exhibit space of the MVOC interior, see Section 3.1.2.

4.1.3.3 Patio

The COA for the patio is COA B; energy providing seating. Per this COA, the patio will feature picnic table-style seating with umbrellas or canopies for use by visitors and regular users of the rehabilitated MVOC; the umbrellas or canopies will feature solar panels and USB ports to allow users to charge their devices (see Figure 49). Signage should be placed around the patio to interpret and explain the relevance of the historic flagstone patio and retaining wall. Neither signage nor the tables should be placed on or anchored to historic portion of the patio to protect the historic flagstone. Additionally, seating should be spaced to meet Architectural Barriers Act Accessibility Standards, and signage should be placed in accessible locations.[159] For more information about this COA, see Section 3.1.3.2 . For additional COAs for the patio, see Section 3.1.3.

4.1.3.4 Tennis Court

The COA for the tennis court is COA B; interpretive pods. This COA is detailed in Section 4.1.1.4 .

4.1.3.5 Access Road

There is only one COA for the access road leading from the parking lot to the historic facade of the MVOC; an interpretive trail allowing users to experience and appreciate the historic landscapes and views associated with the MVOC. With a large amount of funding, this COA should feature a few traditional panels discussing the historic landscape and renovation of the MVOC, as well as numerous interactive or specialty signage, such as translucent panels. Interpretation should also include public art or re-

157. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Programmatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

158. US Department of the Army, Army Museum Enterprise and Army Artifact Collection.

159. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49, pp. 72–74.

creation of works from the 1943 Art Exhibit. The roadway and interpretation must meet Federal accessibility guidelines.[160] For more information about this COA, see Section 3.1.5.

4.1.3.6 Future Opportunity Area (Phase 2)

The COA for Soldier Creek is COA E; 1990s PAR course. This COA includes rehabilitation of the 1.5 mile trail that bisects the WWII training area and is adjacent to the extant boxing rings bleachers' foundation. Seating and interpretation should be located at regular intervals along the trail. The interpretation may include static or interactive paneling and interpret WWII training features. Additional interpretation may include specialty signage, such as translucent panels, and the use of VR headsets or an AR app. The trail should be as accessible as possible.[161] For more information about this COA, see Section 3.2.5and 3.2.4. For additional COAs for the Soldiers' Creek floodplain, see Section 3.2.

4.2 Recommendations for Future Research

ERDC-CERL identified several areas for future research that may be explored prior to or during the Design-Build phase to produce more comprehensive and appropriate interpretation. Avenues for this type of research include but are not limited to the following:

- The collection of oral histories through the DoD Oral History Project or other organizations
- Interviews with the descendants of service members stationed at Fort Huachuca during WWII,
- Exploration of additional opportunities for collaboration on AR and VR projects,
- Contact between the Center for Military History and Howard University regarding access to artworks from the 1943–1946 Art Exhibit, and
- Sourcing potential display items for the interior exhibit space.

160. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49.

161. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, Pro-grammatic Accessibility Guidelines for National Park Service Interpretive Media, pp. 22–49, pp. 72–74.

The ERDC-CERL research team was unable to find quantitative data regarding military interpretive space visitation demographics, which would be helpful for evaluating visitor interests and developing visitor experience objectives. Therefore, the ERDC-CERL research team recommends the collection and analysis of visitor metrics and demographic data from the MVOC during the Design-Build process. The collection and analysis of visitor metrics and demographic data from additional Army exhibits will provide a more holistic understanding of military interpretive space visitation demographics and will also aid in understanding the most effective types of exhibits and interpretation for military applications. Because of the nature of the rehabilitated MVOC, which will welcome both visitors and military users, the ERDC-CERL team also recommends research into the effect of interpretation and placemaking on regular military users of adaptively reused military historic sites. Research questions could include the following:

- How often do regular military users interact with interpretation in the mission use space?
- What kinds of interpretive materials and formats are or would be most interesting, engaging, and relevant to military users?
- How often do they interact with the exhibit and interpretive spaces?
- How do they use these spaces?
- Has the use of these spaces increased appreciation for Army heritage?

5 Next Steps

This exhibit plan provides interpretive concepts and examples of various media types that may be used for the MVOC rehabilitation project, which includes the interior exhibit space and exterior areas within the 8.15 acre APE focused on the MVOC patio and adjacent tennis court. This report also discusses opportunities for expansion beyond the APE into the Soldier Creek floodplain. With the publication of this report, Fort Huachuca will put its efforts towards rehabilitating the MVOC on pause until the Army makes decisions regarding when and if it will fund the rehabilitation project, including the funding amount and the fiscal year in which they will distribute the funding.

Fort Huachuca submitted the USACE PCR through Army channels to secure funding for the rehabilitation. The PCR included full rehabilitation of the MVOC, limited work on the patio, and installation of a ramada over the tennis court. If Fort Huachuca receives less than the requested amount and must reduce the project scope, they will focus on rehabilitating the MVOC for mission use. This may include removing exterior work from the plan. For the purposes of considering next steps, consulting parties must base decisions on what is currently known.

If Fort Huachuca receives the requested funding amount, the rehabilitation will include preparing the interior and exterior exhibit spaces for use. It is highly unlikely that the Army will fund planning or populating this exhibit space. While Fort Huachuca and the consulting parties (the parties) await the Army's decision on funding, they must consider actions which they may complete in the interim, such as planning and implementing the installation of interpretive media. This will include, but is not limited to, four steps: (1) fund the Design-Build phase; (2) determine the timeline for implementation of the Design-Build phase; (3) implement the Design-Building phase; and (4) determine who owns and manages the interpretive media. Fort Huachuca may complete Steps One and Three as a single step, but the completion of Step Three is dependent on decisions made during Step Two. The parties may complete Steps One and Three as a single step, but the completion of Step Three is dependent on decisions made during Step Two. They may or may not make decisions regarding Step Four during the process of completing Steps One through Three. The parties may complete Steps

Two and Four in any order around Steps One and Three. All Steps are described in more detail in the following Sections.

5.1 Step One: Fund the Design-Build Phase

Since it is unlikely the Army will fund the Design-Build phase of planning and populating the Exhibit space, consulting parties must identify a funding source or sources for this effort. As with this Exhibit Plan, the most probable funding source is a grant from an outside agency, such as the National Trust or NPS. To complete the current effort, the National Trust's African American Cultural Heritage Fund provided a grant to the Dunbar Coalition, which gifted it to Fort Huachuca for implementation. Previously, the NPS's African American Civil Rights Grant Program granted the Arizona SHPO $500,000 for the MVOC rehabilitation; however, the NPS rescinded the funding when the Army decided to rehabilitate the building for military use. Consulting parties may pursue these or other grants focused on Black heritage as potential funding sources.

When considering grants as potential funding sources, consulting parties must consider how to implement the funds. In one example described in the preceding paragraph, the Dunbar Coalition gifted the funds to the Army, and the Army implemented the contract for the Exhibit Plan. Such an action was not possible with the SHPO's grant because any financial gift to the Army must fund a cradle-to-grave product. It must provide a final product that is not dependent on another project. In addition, the SHPO could not provide the NPS funding to the Army due to Federal budget regulations. The Dunbar Coalition's gift to create an exhibit plan report fulfilled the requirement for a cradle-to-grave product, while the NPS grant to the SHPO for the partial rehabilitation of the MVOC did not.

Another funding option is for an outside party to gift a service to the Army. In this case, the outside party must manage the contract to design and implement the interpretive displays and would gift the final product to the Army. The NPS could follow this approach to assist with the MVOC rehabilitation. Regardless of how funding is received, consulting parties and donors must coordinate with Fort Huachuca to determine what can and cannot be done, and what processes must be completed to make the gifting possible.

5.2 Step Two: Determine Timeline for Implementation of the Design-Build Phase

The parties can complete Step One, funding the Design-Build phase, at any time prior to or during the building rehabilitation; however, the parties must determine the timeline for preparing and implementing the Design-Build phase prior to Step Three. When developing the timeline for implementation, the parties must consider that the Army may not fund the rehabilitation, or it may schedule the funding for 5 or 10 years in the future. For planning purposes, the parties should consider the following questions:

- Should Fort Huachuca and consulting parties submit proposals to non-Army funding opportunities for the creation of a Design-Build plan for the exhibit spaces before the Army makes a final decision regarding funding for the mission-use space of the MVOC?
- Should Fort Huachuca and consulting parties develop a Design-Build plan for the exhibit spaces before the Army makes a final decision regarding funding for the mission-use space of the MVOC?
- If Fort Huachuca and consulting parties develop a Design-Build plan for exhibit spaces, will this plan be able to be used or easily adapted if the Army does not fund the rehabilitation of the mission-use space?

5.3 Step Three: Implement the Design-Build Phase

The parties may complete implementation of the Design-Build phase partially in conjunction with or entirely separate from Step One, pending decisions made regarding Step Two. Step Three involves identifying how to implement the planning and construction of the Design-Build phase. If this step is completed partially in conjunction with Step One, planning the Design-Build phase will occur simultaneously with the identification of funding sources. Construction associated with the Design-Build phase will follow completion of Step One. If the parties decide to complete Step One before the Army makes a final decision regarding funding for the rehabilitation of the mission use space, Step Three must be initiated separately from Step One. The parties cannot complete the Design-Build phase of interpretive development until after the MVOC is rehabilitated.

5.4 Step Four: Determine who Owns and Manages the Interpretive Media

It is highly unlikely the Army can or will own, manage, or maintain the exhibits in the interpretive space beyond janitorial and grounds maintenance of the exhibit room, patio, tennis court, and land around it. The final decision on this step is dependent on who provides the funding, what they fund, and Fort Huachuca's agreed role. Step 3 is fully dependent on this decision because the parties cannot implement the Design-Build phase without plans in place to manage and maintain the exhibits. Together with that decision is whether the exhibit space will be staffed or unstaffed. Fort Huachuca will not staff the exhibit space, so if there is staff, an outside source or grant must fund them, or they must be volunteers from another organization.

The team must make this decision early in the planning process because it is critical for determining the types of interpretive media that can be used. As with other steps, the team must work closely with Fort Huachuca to determine what Army requirements must be adhered to if there are paid or volunteer staff.

6 Conclusion

In January 2023 USACE completed the concept design PCR for the rehabilitation of the MVOC into a Range Synchronization Center. Fort Huachuca then submitted a request for Department of the Army project approval and funding. If the Army approves funding for the project, Fort Huachuca will use this Exhibit Plan report and the Art Exhibit History report, in conjunction with continued consulting party consultation, to guide the Design-Build phase. The completion of these two reports concludes Fort Huachuca's currently funded actions towards this proposed project.

All parties can explore several next steps discussed in this report until Army review of funding for the proposed project is complete. For example, consulting parties have identified VR and AR interpretive options, as well as new research into oral histories and descendant stories, as key components towards the interpretation of the Black military experience at Fort Huachuca during WWII. Fort Huachuca will support these efforts to the highest degree possible, but at minimum with continued consultation, workshops, and review of developed interpretive material.

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WWIIHomeMovies1, n.d. Fort Huachuca archive, Fort Huachuca, AZ.

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WWIIHomeMovies3.2, n.d. Fort Huachuca archive, Fort Huachuca, AZ.

WWIIHome-Movies3.3, n.d. Fort Huachuca archive, Fort Huachuca, AZ.

WWIIHomeMovies4, n.d. Fort Huachuca archive, Fort Huachuca, AZ.

WWIIHomeMovies5, n.d. Fort Huachuca archive, Fort Huachuca, AZ.

Appendix A: Guidelines, Standards, Regulations, and Requirements for Interpretation and Exhibition Design

This appendix provides an overview of sources for standards, regulations, and guidelines for exhibit planning, interpretive design, and accessibility.

A.1 National Park Service (NPS) Harpers Ferry Center Museum and Visitor center Exhibit Planning, Design, and Fabrication

The Exhibit Division of the Harpers Ferry Center, which provides interpretive media and services to national parks, has a clear process for exhibit development, as well as specifications for exhibit planning, design, and fabrication.[162] Per the Harpers Ferry Center, exhibit development is an iterative process requiring a team approach that involves planning, design, and fabrication.[163] The process should begin with predesign, during which project team members and stakeholders are identified.[164] For the rehabilitation of the Mountain View Officers' Club (MVOC), this step occurred prior to the development and publication of this report.

Following predesign, the schematic design stage occurs. During this stage,

> alternative schemes are explored for organizing both the interpretive content and physical layout of the exhibits. By the end of a Schematic Design, a preferred alternative has been selected and major stories, exhibit elements and presentation techniques are illustrated and described.[165]

162. National Park Service, "What We Do," Harpers Ferry Center, last modified October 28, 2022, https://www.nps.gov/subjects/hfc/what-we-do.htm; National Park Service, "Museum and Visitor center Exhibit Planning, Design, and Fabrication," last modified June 22, 2022, https://www.nps.gov/subjects/hfc/museum-and-visitor-center-exhibit-planning-design-and-fabrication.htm.

163. National Park Service, Harpers Ferry Center, *Exhibit Planning, Design, and Fabrication Specifications*, p. 15.

164. National Park Service, Harpers Ferry Center, *Exhibit Planning, Design, and Fabrication Specifications: Flowchart* (Harpers Ferry, WV: Department of the Interior, National Park Center, 2019), https://www.nps.gov/subjects/hfc/upload/EX-PD-Prod-Charts-R.pdf.

165. National Park Service, Harpers Ferry Center, *Museum and Visitor center Exhibit Planning, Design, and Fabrication Specifications: Flowchart*.

This report comprises the first part of the schematic design stage for the rehabilitation of the MVOC. Once Fort Huachuca and consulting parties secure funding for the Design-Build phase, Fort Huachuca will coordinate with consulting parties to determine the preferred course of action (COA) and collaborate with the Design-Build contractor to develop the final implementation plan. While the Design-Build contractor may consider National Park Service (NPS) guidance, the selected COA and subsequent implementation of the exhibit must adhere to Army regulations.

Following schematic design, design development occurs. Design development involves establishing the exhibit's physical structure and operational characteristics. This includes drafting general layouts for signage, renderings of the planned exhibit, and selecting materials, colors, and finishes.[166] This information is then used to develop graphic content (such as specific exhibit panels), obtain use-rights permissions, and create production documents, such as technical drawings and specifications, for exhibit fabrication and installation.[167]

This process and requirements for each step are outlined further in Figure A-1 through Figure A-3 and the Harpers Ferry Center publication *Museum and Visitor center Exhibit Planning, Design, and Fabrication Process* (2019), available online as of the publication of this report at https://www.nps.gov/subjects%20/hfc/upload/NPS-Exhibit-Planning-Design-and-Fabrication-Specifications-2019.pdf.

166. National Park Service, Harpers Ferry Center, *Museum and Visitor center Exhibit Planning and Design Process: Summary Description* (Harpers Ferry, WV: Department of the Interior, National Park Center, 2019), https://www.nps.gov/subjects/hfc/upload/EX-PD-Prod-Charts-R.pdf.

167. National Park Service, Harpers Ferry Center, *Museum and Visitor center Exhibit Fabrication Process: Summary Description* (Harpers Ferry, WV: Department of the Interior, National Park Center, 2019), https://www.nps.gov/subjects/hfc/upload/EX-PD-Prod-Charts-R.pdf; National Park Service, Harpers Ferry Center, *Museum and Visitor center Exhibit Planning and Design Process: Summary Description*.

Figure A-1. Museum and Visitor Center Exhibit Planning, Design, and Fabrication Process. ("Flowchart" produced by the National Park Service [NPS], Harpers Ferry Center, 2019. Public domain.)

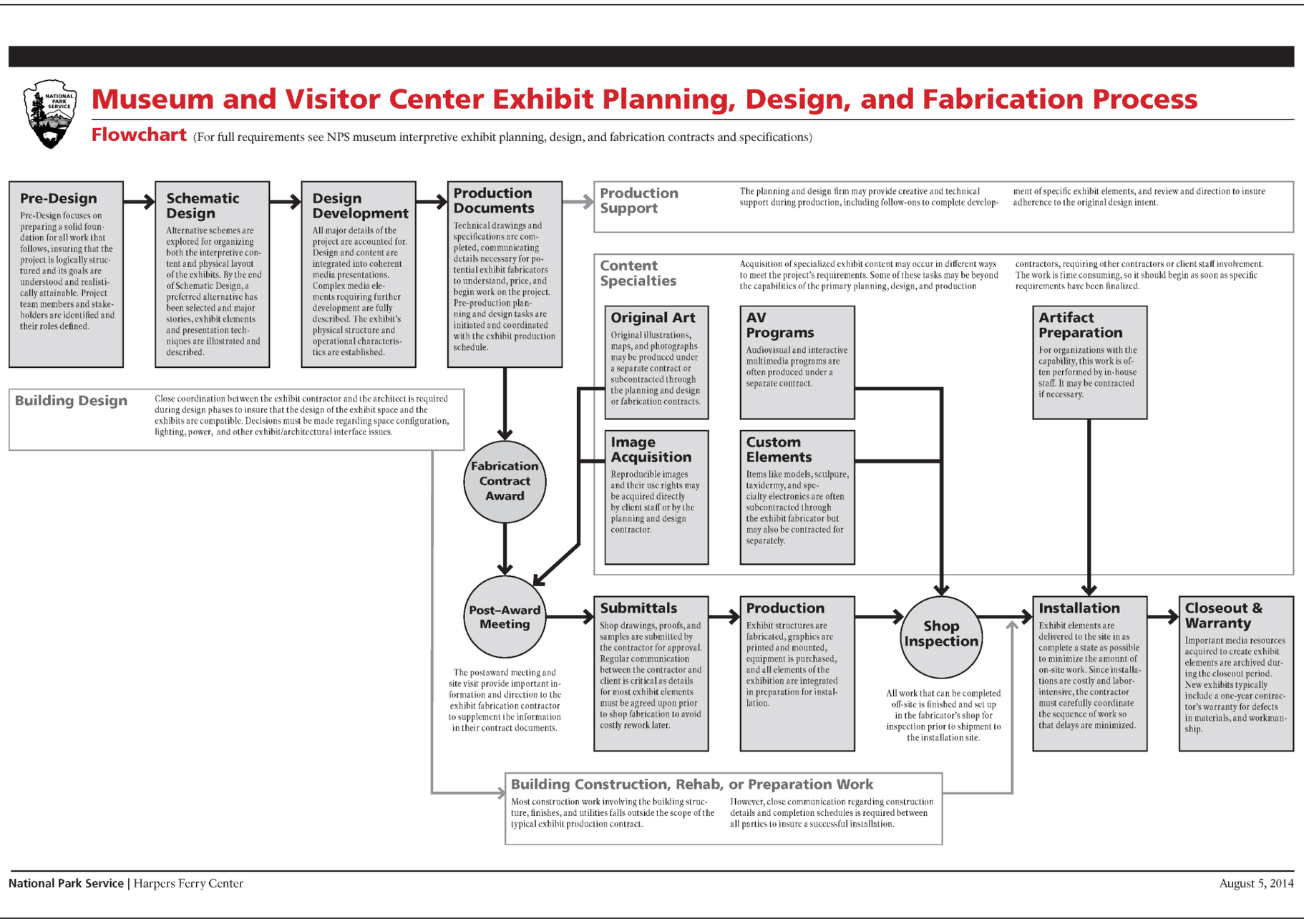


Figure A-2. Museum and Visitor Center Exhibit Planning and Design Process. ("Summary Description" produced by the NPS, Harpers Ferry Center, 2019. Public domain.)

Museum and Visitor Center Exhibit Planning and Design Process

Summary Description (For full requirements see NPS museum interpretive exhibit planning, design, and fabrication contracts and specifications)

Pre-Design

Pre-Design focuses on preparing a solid foundation for all work that follows, insuring that the project is logically structured and its goals are understood and realistically attainable. Project team members and stakeholders are identified and their roles defined. Pre-Design includes pre– and post– contract award phases:

Pre-Contract

- Scoping study at site (if required)
- In-house team reviews project status :
  - Planning documents
  - Goals and objectives
  - Budget, schedule, admin. requirements
- Project scope of work developed
- P&D contract is awarded

Post-Award

- Contractor reviews gov. furnished materials
- On-site orientation and planning workshop
- Identify existing media resources
  - Prepare resource package abstract.
- Develop project brief:
  - Project overview, including updated information and understandings
  - Identify interpretive themes and objectives
  - Analize project goals, media budget, schedule, and all other known issues affecting the development and successful completion of the project
- Front-end evaluation (if required)

Schematic Design

Alternative schemes are explored for organizing both the interpretive content and physical layout of the exhibits. By the end of Schematic Design, a preferred alternative has been selected and major stories, exhibit elements and presentation techniques are illustrated and described. Schematic Design includes two sub-phases:

Schematic I

- Content research
- Resource package I (organized by themes)
- SDI report with design alternatives:
  - Bubble diagrams
  - Written description of exhibit scenes
  - Preliminary sketches
  - Class B cost estimates and life-cycle cost goals
- NPS value analysis process (if required)

Schematic II

- SDII report developing preferred alternative:
  - Content outline consisting of scenes and content groups
  - Floor plan with scenes and content groups identified
  - Conceptual elevations/renderings/visualizations
  - Universal design and accessibility approaches
  - Resource package level II organized according to scenes
  - Updated class B and life-cycle cost estimates for preferred alternative

Design Development

All major details of the project are accounted for. Design and content are integrated into coherent media presentations. Complex media elements requiring further development are fully described. The exhibit's physical structure and operational characteristics are established. Design Development includes two sub-phases:

Design Development I

- Draft DDI content outline (by content group)
  - Text titles and descriptions
  - Graphic layout drafts
  - Graphic style, typography, color, finishes
  - Major exhibit elements documented
- Draft DDI exhibit drawings
  - Detailed exhibit plan; arch. requirements
  - Content group elevations / visualizations
- DDI comprehensive report
  - Updated content outline with draft script
  - Updated exhibit drawing package
  - Material, color, finish sample board

Design Development II

- Draft DDII content & specification package
  - Content schedules
  - AV media treatments and equip specs
  - Specialty element reference packages
- Draft DDII graphic layout package with text
- Draft DDII exhibit drawings (plan elev. detail)
- Draft DDII class B and life-cycle cost estimates
- Update DDII documents per comments
- Formative evaluation if required

Production Documents

Technical drawings and specifications are completed, communicating details necessary for potential exhibit fabricators to understand, price, and begin work on the project. Pre-Production planning and design tasks are initiated and coordinated with the exhibit fabrication schedule. This phase includes these major tasks:

Production Documents I

- PD exhibit drawings
- PD content & specification package
  - Content Schedules and supporting material
  - Technical Specs/cut sheets for AV equip, lighting, exhibit specialties
- PDI graphic layout package
- Revised material and finish samples
- Class A production estimate and updated life-cycle cost estimate

Production Documents II

- Develop completion schedule
- Acquire/prepare production scans
- Proofread/correct production text
- Prepare production-ready files
- Revise exhibit drawings/content & specifications package as necessary
- Provide content data in database readable format
- Prepare Use-Rights Documentation Package with signed original content licenses

Production Support

Work in this phase includes creative and technical support during fabrication of the project, including Planning and Design Follow-ons required to complete development of specific exhibit elements, and Fabrication Support to insure adherence to the project's design intent. Specific tasks vary by project and may include:

Planning and Design Follow-ons

- Prepare all design and content revisions required for production.
- Create original graphic content including:
  - Original illustrations
  - Original photography
  - Original and adapted maps
- Provide creative direction to specialty contractors including:
  - Illustrators
  - Photographers
  - Model makers
  - AV and interactive producers

Fabrication/Installation Support

- Review and comment on exhibit fabricator's submittals including:
  - Shop drawings
  - Samples
- Participate in shop inspections
- Installation support including:
  - On-site art direction
  - Focusing of lighting fixtures
- Update content schedules/data fields
- Support summative/remedial evaluation

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Figure A-3. Museum and Visitor Center Exhibit Fabrication Process. ("Summary Description" produced by the NPS, Harpers Ferry Center, 2019. Public domain.)

Museum and Visitor Center Exhibit Fabrication Process

Summary Description (For full requirements see NPS museum interpretive exhibit planning, design, and fabrication contracts and specifications)

Postaward

The Postaward Meeting and Site Visit provide important information and direction to the exhibit fabrication contractor to supplement the information in their contract documents. It is usually accomplished in one work day.

Typical Agenda for Postaward Meeting

- Conduct a general review of the project, including schedule.
- Review exhibit design. Discuss contractor concerns or questions.
- Provide government-furnished reference materials to contractor. Conduct a review of these references
- Contractor documents exhibit space by taking measurements, reference photographs, and notes on existing conditions. Potential problems are identified.
- Contractor inspects, measures, and takes reference photographs of artifacts to be mounted by the contractor.

Submittals

Shop drawings, proofs, and samples are submitted by the contractor for approval. Regular communication between the contractor and client is critical as details for most exhibit elements must be agreed upon prior to shop fabrication to avoid costly rework later.

Typical Submittals

- Fabrication details (shop drawings): These add required construction detailing not included in the original design drawings.
- Color and materials samples: There may be slight changes in colors and materials from the original design, associated with the fabrication drawings.
- Catalog Cuts: Manufacturer's information from printed or on-line catalogs.
- Graphic Proofs: Print-outs of digital graphics for review of text and visual effect of colors, photos and art. Proofs may be in a different output than the final media, or at a smaller scale. Consequently, other samples may be needed to check actual colors or other characteristics.
- Audiovisual technical drawings: Requirements for power and signal wiring and other technical details for AV equipment installation.

Fabrication

Most exhibit elements are fabricated either in the contractor's shop or by specialty subcontractors.
Complex project management skills are required to coordinate production of graphics, 3-D structures, electronic media, lighting, and curatorial elements.

Typical Elements to be Fabricated or Purchased

- Preparation of production digital graphic files and output of digital graphics.
- Fabrication of structures, including artifact cases, panels, walls, platforms, information desks, benches, audiovisual kiosks, etc.
- Models, including scale models, sculpted or cast human figures, natural history models, taxidermy or freeze dried animals, architectural models, mechanical interactive exhibits.
- Fabrication of custom artifact mounting hardware.
- The contractor acquires audiovisual hardware and tests it in their shop, prior to installation.

Building Prep

Most changes to the building structure, finishes, and utilities fall outside the scope of the typical exhibit fabrication contract. However, detailed coordination between the exhibit contractor and those responsible for building prep work is required to insure a successful installation.

Typical Building Preparation Elements

- Demolition/removal of old exhibits or other furnishings.
- New finishes for walls, floors, ceilings, and trim work as required.
- Changes or additions to electrical circuits, outlets, conduit, fire alarms, emergency exit lights, security system, and other work requiring a licensed electrician.
- Changes or additions to room lighting, such as installation of track lighting for the exhibits.
- Preparation of space for audiovisual equipment closet; installation of conduit for audiovisual equipment wiring.
- Changes to HVAC system to increase capacity when needed, and to move vents, ducts, or thermostats to accommodate new exhibit structures.

Installation

During this phase, the goal is to deliver the exhibit elements in as complete a state as possible and minimize the amount of on-site work to be done. Installations are costly and labor-intensive. The contractor must carefully coordinate the sequence of installation so that delays are minimized.

Typical Work During the Exhibit Installation

- Minor building prep work not previously completed by others.
- Delivery of exhibits. Set up staging area for unloaded exhibit elements.
- Install large structures, such as platforms, walls, cases, etc.
- Install large graphic panels and murals.
- Install smaller graphics, AV equipment, models, interactive exhibits.
- Clean work site of debris and dust, clean artifact cases, install artifacts, perform all other conservation requirements, and seal cases.
- Aim and adjust lighting fixtures.
- Walk-through inspection of completed exhibits. Develop punch-list.
- Supply maintenance manual and train staff in exhibit operation and maintenance.
- Correct punch-list items.
- Photograph completed exhibition.

Closeout/Warranty

New exhibits typically include a one-year contractor's warranty for defects in materials and workmanship. A contingency fund may be established to resolve latent design defects. Important media resources acquired to create exhibit elements are archived during the closeout period.

Typical Work in the Closeout, Warranty Period

- Contractor submits a closeout package including all Government-furnished materials, and materials generated by the contractor to create the exhibits, such as digital layouts, and "as-built" fabrication drawings. A duplicate copy of the maintenance manual is included in the closeout package.
- Graphic source material is checked to verify completeness, and filed for future exhibit rehabilitation.
- Quality issues with the exhibits are addressed under warranty. Other exhibit enhancements may be accomplished through a contract modification.
- A project inventory, including technical and cost data, is prepared to facilitate entry of the new asset into the Facility Management Software System database.

National Park Service | Harpers Ferry Center August 5, 2014

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A.2 Accessibility and Graphic Design Standards

A.2.1 NPS

The US National Park Service published *Programmatic Accessibility Guidelines for National Park Service Interpretive Media* in 2012.[168] The complete guidelines are available online at, http://npshistory.com/publications/interpretation/accessibility-guide-v2.1.pdf.

The *Programmatic Accessibility Guidelines for National Park Service Interpretive Media* provide in-depth guidelines for all interpretive media including exhibits, historically furnished rooms, signage, publications, wayside exhibits, and web-based media (Figure A-4 through Figure A-6). Those for exhibits, signage, and wayside exhibits are particularly applicable to this report. The guidelines for exhibits have extensive guidelines for meeting the Architectural Barriers Act Accessibility Standards for both static and interactive exhibits, as well as the architectural space in which the exhibits are located.[169] The signage guidelines provide information on appropriate typeface, type size, spacing, line length, color and contrast, and content and layout.[170] The guidelines for wayside exhibits have standards for ensuring they are physically, visually, auditorily, and cognitively accessibility for as many visitors as possible.[171]

A.2.2 US Forest Service, Rocky Mountain Region, Center for Design and Interpretation (CDI)

The US Forest Service, Rocky Mountain Region, Center for Design and Interpretation (CDI), has several interpretive planning tools available online at, https://www.fs.usda.gov/detail/r2/home/?cid=stelprdb5181182.

168. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*.

169. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 22–49.

170. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 51–53.

171. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 72–74.

The *Accessibility Guidelines* (2014) and *R2 Interpretive Media Design Guidelines* (2014) are particularly helpful for understanding and applying Federal accessibility requirements.[172]

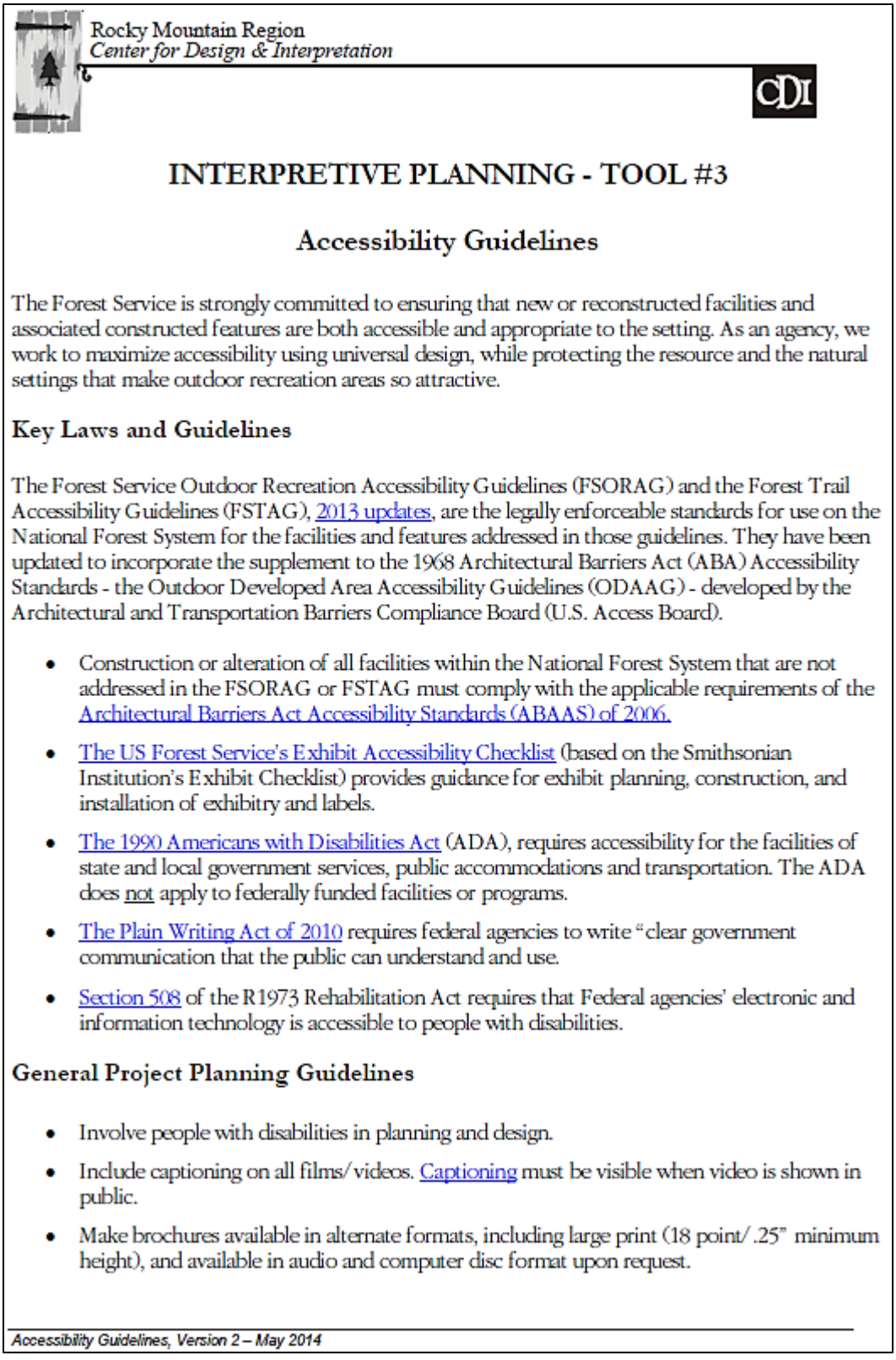
A.2.2.1 Interpretive Planning—Tool #3: Accessibility Guidelines

This section reproduces the *Accessibility Guidelines* produced by the US Forest Service, Rocky Mountain Region, CDI (2014).[173] This document provides an overview of key laws regarding accessibility, and guidelines for ensuring accessibility throughout the project planning process. Since the US Forest Service originally published this document in 2014, links to additional resources may be out of date.

172. US Forest Service, Rocky Mountain Region, Center for Design and Interpretation, *Interpretive Planning – Tool #3: Accessibility Guidelines* (Lakewood, CO: USDA, 2014), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3817041.pdf; US Forest Service, Rocky Mountain Region, Center for Design and Interpretation, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines* (Lakewood, CO: USDA, 2014), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3816960.pdf.

173. US Forest Service, Rocky Mountain Region, Center for Design and Interpretation, *Interpretive Planning – Tool #3: Accessibility Guidelines*.

Figure A-4. US Forest Service, Rocky Mountain Region, Center for Design and Interpretation (CDI), *Interpretive Planning—Tool #3: Accessibility Guidelines*, page 1 (public domain).



Rocky Mountain Region
Center for Design & Interpretation

CDI

INTERPRETIVE PLANNING - TOOL #3

Accessibility Guidelines

The Forest Service is strongly committed to ensuring that new or reconstructed facilities and associated constructed features are both accessible and appropriate to the setting. As an agency, we work to maximize accessibility using universal design, while protecting the resource and the natural settings that make outdoor recreation areas so attractive.

Key Laws and Guidelines

The Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and the Forest Trail Accessibility Guidelines (FSTAG), 2013 updates, are the legally enforceable standards for use on the National Forest System for the facilities and features addressed in those guidelines. They have been updated to incorporate the supplement to the 1968 Architectural Barriers Act (ABA) Accessibility Standards - the Outdoor Developed Area Accessibility Guidelines (ODAAG) - developed by the Architectural and Transportation Barriers Compliance Board (U.S. Access Board).

- Construction or alteration of all facilities within the National Forest System that are not addressed in the FSORAG or FSTAG must comply with the applicable requirements of the Architectural Barriers Act Accessibility Standards (ABAAS) of 2006.
- The US Forest Service's Exhibit Accessibility Checklist (based on the Smithsonian Institution's Exhibit Checklist) provides guidance for exhibit planning, construction, and installation of exhibitry and labels.
- The 1990 Americans with Disabilities Act (ADA), requires accessibility for the facilities of state and local government services, public accommodations and transportation. The ADA does not apply to federally funded facilities or programs.
- The Plain Writing Act of 2010 requires federal agencies to write "clear government communication that the public can understand and use.
- Section 508 of the R1973 Rehabilitation Act requires that Federal agencies' electronic and information technology is accessible to people with disabilities.

General Project Planning Guidelines

- Involve people with disabilities in planning and design.
- Include captioning on all films/videos. Captioning must be visible when video is shown in public.
- Make brochures available in alternate formats, including large print (18 point/ .25" minimum height), and available in audio and computer disc format upon request.

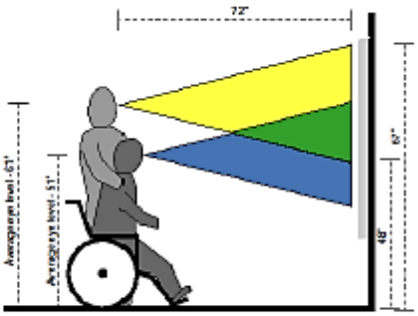
Accessibility Guidelines, Version 2 – May 2014

Figure A-5. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning—Tool #3: Accessibility Guidelines*, page 2 (public domain).

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CDI

- Make web sites fully accessible in compliance with Section 508 of the Rehabilitation Act.
- At your site, have a collection of the information that can be provided in an alternate and accessible format.
- Make sure all signage related to accessibility are appropriately posted and use appropriate language and terminology (*i.e.* "Accessible Parking" instead of "Handicap Parking," etc.)
- Provide audio description in high use areas where visual media tells the story.
- Provide written scripts wherever audio information is presented.
- Display content of information redundantly or in part – orally, tactually, and visually.
- Eliminate obstructions to viewing exhibits (i.e. high pedestals, railings, etc.)
- Use high contrast colors and matte or low gloss finish.
- Adhere to accessibility guidelines for fonts and color contrast.
- All materials for public distribution are to be within the reach ranges stated in the accessibility guidelines –maximum forward reach of 48", maximum side reach of 48". All controls must be operable with one closed fist and force of no greater than 5 lbs.
- Consider the "Cone of Vision" that will be the most visible to the most people. The center of display should generally be from 48" – 61" high.

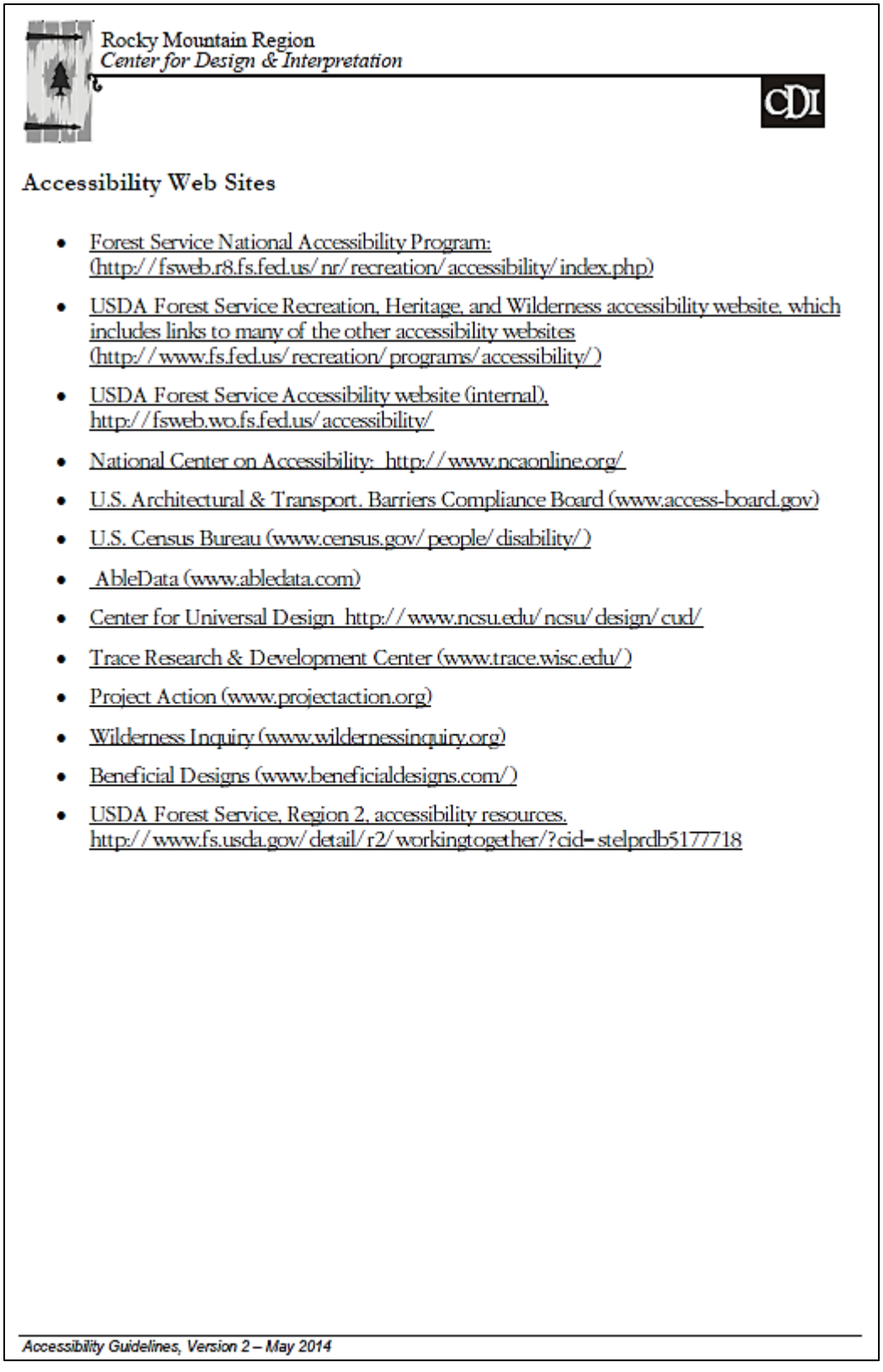


Graphic depicts illustration of Cone of Vision.

Interesting Statistics!

There are approximately 36 million Americans who have at least one disability. Of these, nearly 40% of the citizens with a disability are over the age of 65. Over 19 million have mobility impairment, and over 10 million have a hearing impairment. Approximately 7 million people in the U.S. are visually impaired, 5% are blind, with less than 1% of this population that can actually read Braille. The 95% with low vision would benefit most from large print (18 point).

Figure A-6. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning – Tool #3: Accessibility Guidelines*, page 3 (public domain).



Rocky Mountain Region
Center for Design & Interpretation

CDI

Accessibility Web Sites

- Forest Service National Accessibility Program: (http://fsweb.r8.fs.fed.us/nr/recreation/accessibility/index.php)
- USDA Forest Service Recreation, Heritage, and Wilderness accessibility website, which includes links to many of the other accessibility websites (http://www.fs.fed.us/recreation/programs/accessibility/)
- USDA Forest Service Accessibility website (internal), http://fsweb.wo.fs.fed.us/accessibility/
- National Center on Accessibility: http://www.ncaonline.org/
- U.S. Architectural & Transport. Barriers Compliance Board (www.access-board.gov)
- U.S. Census Bureau (www.census.gov/people/disability/)
- AbleData (www.abledata.com)
- Center for Universal Design http://www.ncsu.edu/ncsu/design/cud/
- Trace Research & Development Center (www.trace.wisc.edu/)
- Project Action (www.projectaction.org)
- Wilderness Inquiry (www.wildernessinquiry.org)
- Beneficial Designs (www.beneficialdesigns.com/)
- USDA Forest Service, Region 2, accessibility resources. http://www.fs.usda.gov/detail/r2/workingtogether/?cid=stelprdb5177718

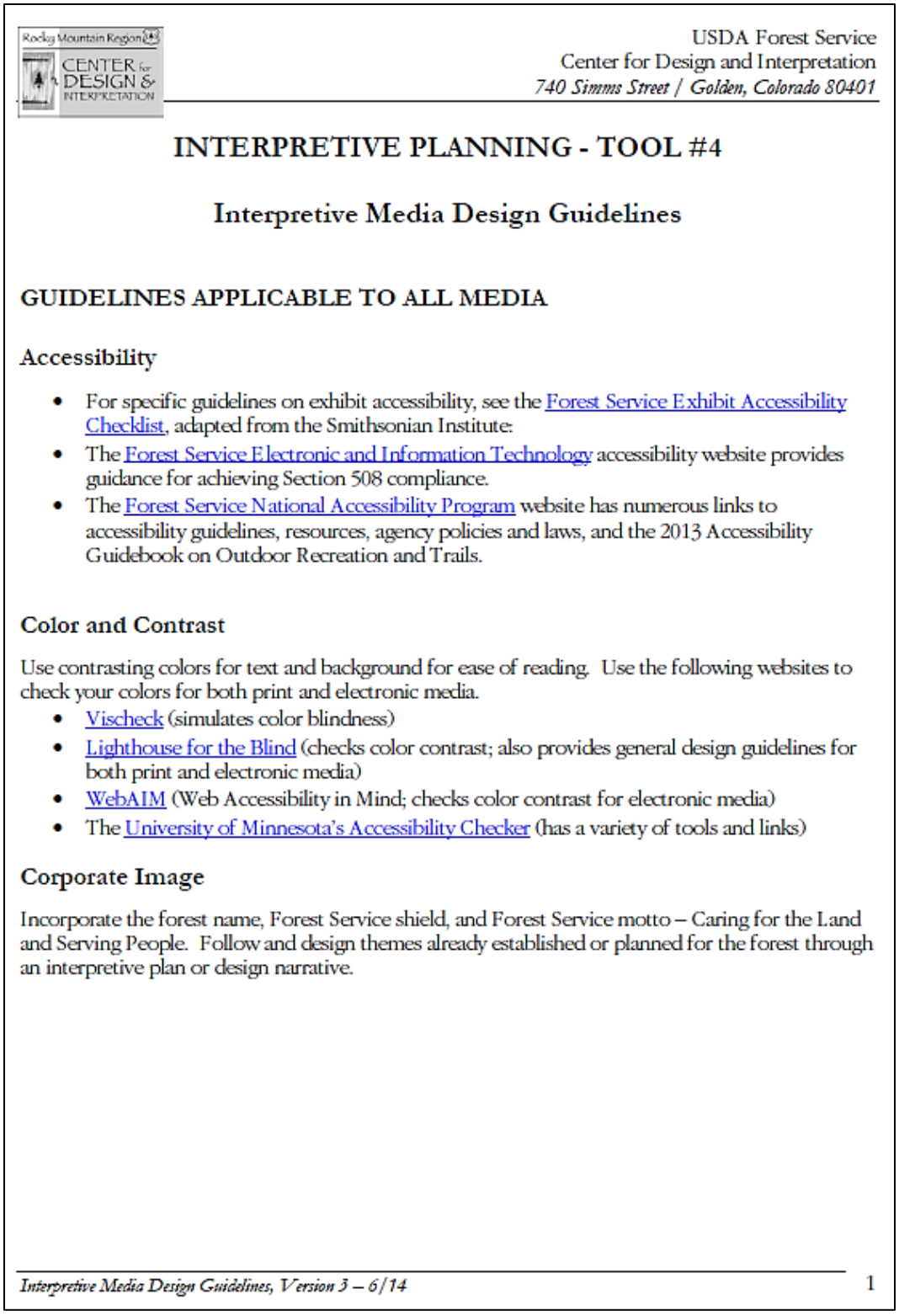
Accessibility Guidelines, Version 2 – May 2014

A.2.2.2 Interpretive Planning—Tool #4: Interpretive Media Design Guidelines

This section reproduces the *Interpretive Media Design Guidelines* produced by the US Forest Service, Rocky Mountain Region, CDI (2014) (Figure A-7 through Figure A-10).[174] While this document is not a comprehensive overview of accessibility standards, it provides basic guidelines for meeting accessibility requirements in interpretive media. Since the US Forest Service originally published this document in 2014, links to additional resources may be out of date.

174. US Forest Service, Rocky Mountain Region, Center for Design and Interpretation, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines*.

Figure A-7. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines*, page 1 (public domain).



Rocky Mountain Region
CENTER for DESIGN & INTERPRETATION

USDA Forest Service
Center for Design and Interpretation
740 Simms Street / Golden, Colorado 80401

INTERPRETIVE PLANNING - TOOL #4

Interpretive Media Design Guidelines

GUIDELINES APPLICABLE TO ALL MEDIA

Accessibility

- For specific guidelines on exhibit accessibility, see the Forest Service Exhibit Accessibility Checklist, adapted from the Smithsonian Institute:
- The Forest Service Electronic and Information Technology accessibility website provides guidance for achieving Section 508 compliance.
- The Forest Service National Accessibility Program website has numerous links to accessibility guidelines, resources, agency policies and laws, and the 2013 Accessibility Guidebook on Outdoor Recreation and Trails.

Color and Contrast

Use contrasting colors for text and background for ease of reading. Use the following websites to check your colors for both print and electronic media.

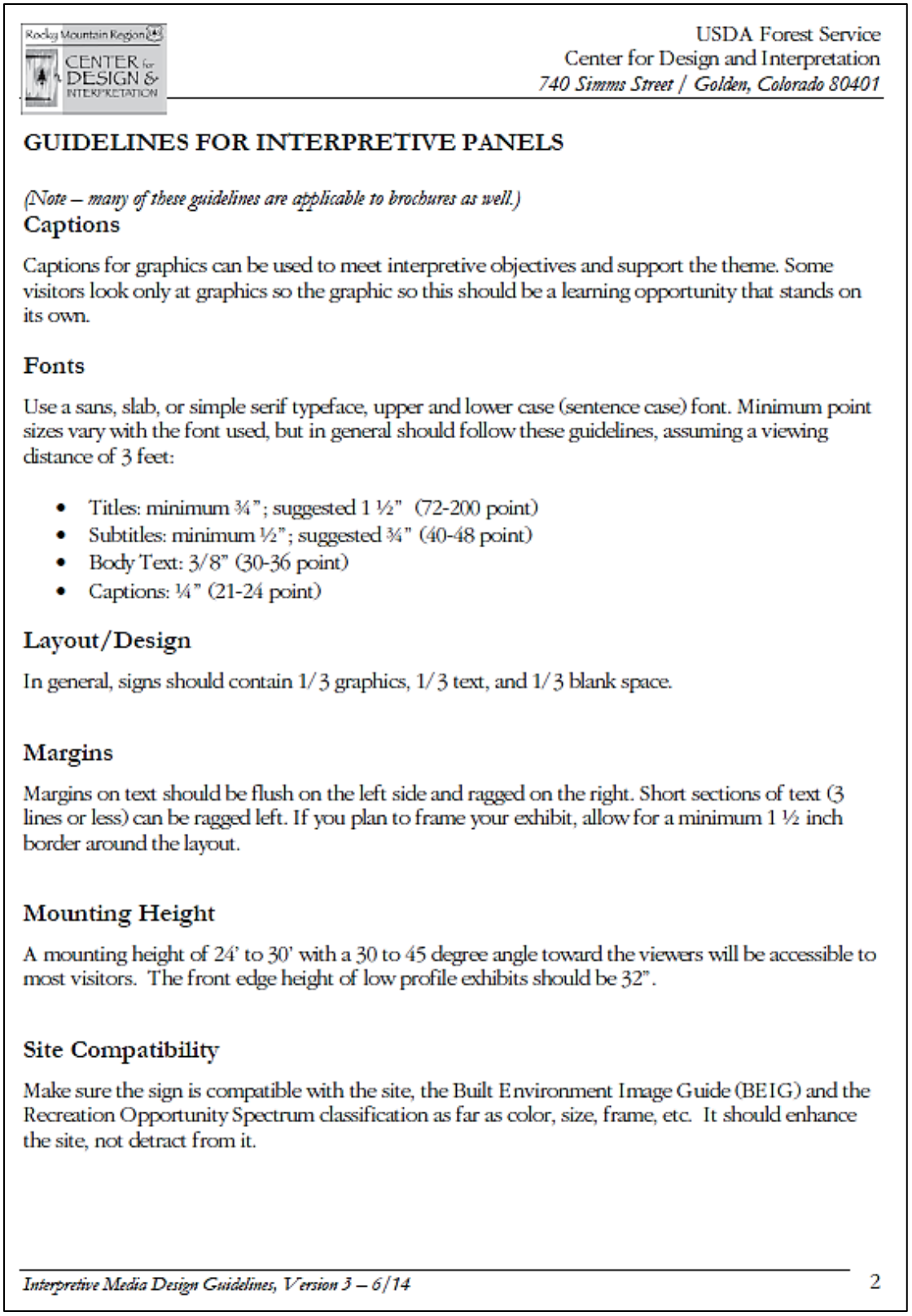
- Vischeck (simulates color blindness)
- Lighthouse for the Blind (checks color contrast; also provides general design guidelines for both print and electronic media)
- WebAIM (Web Accessibility in Mind; checks color contrast for electronic media)
- The University of Minnesota's Accessibility Checker (has a variety of tools and links)

Corporate Image

Incorporate the forest name, Forest Service shield, and Forest Service motto – Caring for the Land and Serving People. Follow and design themes already established or planned for the forest through an interpretive plan or design narrative.

Interpretive Media Design Guidelines, Version 3 – 6/14 1

Figure A-8. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines*, page 2 (public domain).



Rocky Mountain Region
CENTER for DESIGN & INTERPRETATION

USDA Forest Service
Center for Design and Interpretation
740 Simms Street / Golden, Colorado 80401

GUIDELINES FOR INTERPRETIVE PANELS

(Note – many of these guidelines are applicable to brochures as well.)

Captions

Captions for graphics can be used to meet interpretive objectives and support the theme. Some visitors look only at graphics so the graphic so this should be a learning opportunity that stands on its own.

Fonts

Use a sans, slab, or simple serif typeface, upper and lower case (sentence case) font. Minimum point sizes vary with the font used, but in general should follow these guidelines, assuming a viewing distance of 3 feet:

- Titles: minimum ¾"; suggested 1 ½" (72-200 point)
- Subtitles: minimum ½"; suggested ¾" (40-48 point)
- Body Text: 3/8" (30-36 point)
- Captions: ¼" (21-24 point)

Layout/Design

In general, signs should contain 1/3 graphics, 1/3 text, and 1/3 blank space.

Margins

Margins on text should be flush on the left side and ragged on the right. Short sections of text (3 lines or less) can be ragged left. If you plan to frame your exhibit, allow for a minimum 1 ½ inch border around the layout.

Mounting Height

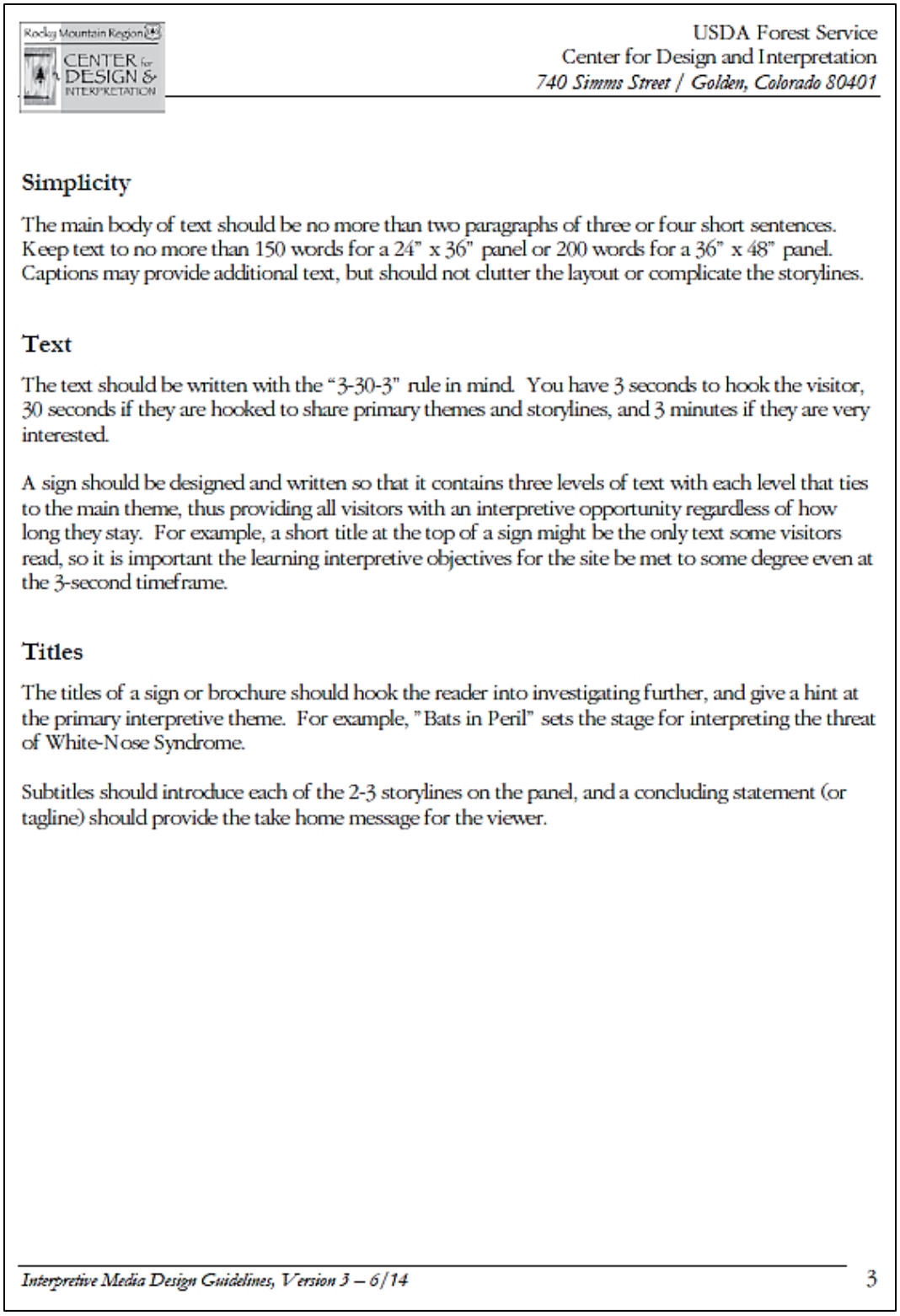
A mounting height of 24' to 30' with a 30 to 45 degree angle toward the viewers will be accessible to most visitors. The front edge height of low profile exhibits should be 32".

Site Compatibility

Make sure the sign is compatible with the site, the Built Environment Image Guide (BEIG) and the Recreation Opportunity Spectrum classification as far as color, size, frame, etc. It should enhance the site, not detract from it.

Interpretive Media Design Guidelines, Version 3 – 6/14 2

Figure A-9. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines*, page 3 (public domain).



Rocky Mountain Region
CENTER for DESIGN & INTERPRETATION

USDA Forest Service
Center for Design and Interpretation
740 Simms Street / Golden, Colorado 80401

Simplicity

The main body of text should be no more than two paragraphs of three or four short sentences. Keep text to no more than 150 words for a 24" x 36" panel or 200 words for a 36" x 48" panel. Captions may provide additional text, but should not clutter the layout or complicate the storylines.

Text

The text should be written with the "3-30-3" rule in mind. You have 3 seconds to hook the visitor, 30 seconds if they are hooked to share primary themes and storylines, and 3 minutes if they are very interested.

A sign should be designed and written so that it contains three levels of text with each level that ties to the main theme, thus providing all visitors with an interpretive opportunity regardless of how long they stay. For example, a short title at the top of a sign might be the only text some visitors read, so it is important the learning interpretive objectives for the site be met to some degree even at the 3-second timeframe.

Titles

The titles of a sign or brochure should hook the reader into investigating further, and give a hint at the primary interpretive theme. For example, "Bats in Peril" sets the stage for interpreting the threat of White-Nose Syndrome.

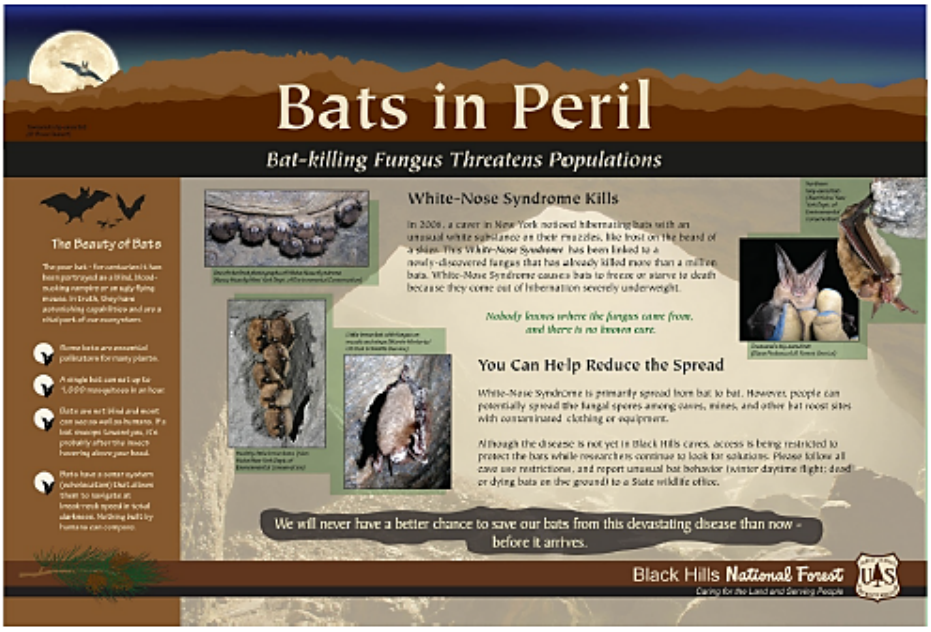
Subtitles should introduce each of the 2-3 storylines on the panel, and a concluding statement (or tagline) should provide the take home message for the viewer.

Interpretive Media Design Guidelines, Version 3 – 6/14 3

Figure A-10. US Forest Service, Rocky Mountain Region, CDI, *Interpretive Planning – Tool #4: Interpretive Media Design Guidelines*, page 4 (public domain).

Rocky Mountain Region
CENTER for DESIGN & INTERPRETATION

USDA Forest Service
Center for Design and Interpretation
740 Simms Street / Golden, Colorado 80401



THE CLASSICS

Creating Environmental Publications: A Guide to Writing and Designing for Interpreters and Environmental Educators. Zehr, Jeffery, Michael Gross and Ron Zimmerman. James Heintzman, consulting ed. Interpreter's Handbook Series. Stevens Point, WI: UW-SP Foundation Press, Inc. 1994.

Exhibit Labels – An Interpretive Approach, by Beverly Serrell, AltaMira Press, Walnut Creek, California. 1996.

Interpretation for the 21st Century – Fifteen Guiding Principles for Interpreting Nature and Culture, by Larry Beck and Ted Cable, Sagamore Publishing, Champaign, IL.

Scenic Byways – A Design Guide for Roadside Improvements, Yamada, Ostergaard, Jilbert, Brunswick, USDA Forest Service, San Dimas Technology and Development Center. July 2002.

Sign, Trails, and Wayside Exhibits Connecting People and Places, by Suzanne Trapp, Michael Gross and Ron Zimmerman, College of Natural Resources, UWSP, Stevens Point, WI 54481 (715) 346-2076.

A.2.3 Additional Resources

A comprehensive review of accessibility and graphic design standards for interpretive spaces is beyond the scope of this conceptual exhibit plan technical report. The US Army Engineer Research and Development Center–Construction Engineering Research Laboratory (ERDC-CERL) researchers recommend that the consulting parties complete a comprehensive review of these standards during or just prior to the Design-Build phase to ensure that the interpretation developed is as accessible as possible, as ideas regarding accessibility are constantly expanding and being updated. Recent publications regarding how to create place-based programming that is accessible to those with a wide range of abilities and needs, including those with physical, visual, aural, and cognitive impairments, include the following:

- Pressman, H., ed. *An Accessible Past: Making Historic Sites Accessible*. Lanham, MD: Rowman and Littlefield Publishers, 2023. https://rowman.com/ISBN/9781538168257/An-Accessible-Past-Making-Historic-Sites-Accessible.
- Intrepid Museum and the New York University Ability Project. "Making History Accessible: Toolkit for Multisensory Interpretation." Intrepid Museum, 2023. https://www.aam-us.org/wp-content/uploads/2023/07/YES-Making-History-Accessible-Toolkit-for-Multisensory-Interpretation2.pdf.

A.3 Regulations for Collections of Historical Objects

AR 870-20 *Army Museum Enterprise and Army Artifact Collection* (2022) provides guidelines and standards for collections management; artifact acquisition; the valuation, loan, and disposition of artifacts; the use of artifacts for exhibits, interpretation, research, and military history and heritage education and training; and administration of organizational activities within the Army Museum enterprise.[175] Standards regarding the safeguard, care, use, and exhibition of Army-owned artifacts are of key importance to this report. The complete text of Army Regulation 870-20 is available online at, https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34565-AR_870-20-000-WEB-1.pdf.

Per Army Regulation 870-20, long-term exhibits, or exhibits intended to be on display for at least 3 years, are required; virtual and temporary exhibits, or exhibits intended to be on display for less than 3 years, are encouraged but not required. These display requirements apply to all

175. US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*; US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*, p. 1.

Army artifacts regardless of display location. Army Regulation 870-20 does not clarify if this requirement applies to interpretation and signage. All exhibits must support the interpretive space's mission as stated in its mission statement, and the Director, Army Museums must approve long-term exhibits. The responsible party must inspect exhibits regularly and keep them clean and free of pests, and they can only exhibit art and artifacts in stable condition.[176]

Army Regulation 870-20 also specifies requirements for exhibit display cases. These cases must be constructed of conservation grade materials that will not degrade the artifacts over time, and glass-front display cases and cases with acrylic vitrines must be secured with locks or security screws. Similarly, wall-mounted cases that are small enough to be lifted off, hidden, and removed from the exhibit must be secured to the wall by a security bracket. Vitrines must be constructed of ultraviolet filtering acrylic at least 1/4 in. thick, and glass-front display cases should be constructed of low iron and water white ultraviolet filtering safety glass at least 3/8 in. thick. Glass-front display cases should also not feature sliding glass doors. Display cases must also conform to the Americans with Disabilities Act. For artifact protection, LED or fiber optic lighting systems should be used in the display area, and heat-generating devices must not be in the display area.[177]

Planning for the inspection and long-term care and maintenance of displays is a critical part of the exhibit planning process. Stakeholders must discuss inspections, care, and maintenance during the Design-Build phase. These parties will make final decisions about systems and processes for inspections, care, and maintenance, dependent on the availability of funding and manpower.

A.4 Standards for Exhibits Dealing with Historical Subjects

In an effort to ensure the transmission of accurate historical information, encourage informed discussion of their content and issues of historical significance, and to ensure all those involved with exhibition planning and management, the Society for History in the Federal Government Executive Council (8 January 1997), the National Council on Public History Executive Council (30 March 2000), the Organization of American Historian's Executive Council (2 April 2000), the American Historical Association Council (4 January 2001), and the Medical Museums

176. US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*, p. 19.

177. US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*, p. 19–20.

Associations (19 April 2001) adopted the *Standards For Museum Exhibits Dealing with Historical Subjects*. These standards were updated by the American Historical Association on 5 January 2017.[178]

The standards are as follows:

1. Exhibits should be grounded in scholarship, marked by intellectual integrity, and subjected to rigorous peer review. Evidence considered in preparing the exhibit may include objects, written documentation, oral histories, images, works of art, music, and folklore.
2. At the outset of the exhibit design process, interpretation planners should engage stakeholders in any exhibit and may wish to involve their representatives in the planning process.
3. Institutions funded with public monies should be keenly aware of the diversity within communities and constituencies that they serve.
4. When an exhibit addresses a controversial subject, it should acknowledge the existence of competing points of view. The public should be able to see that history is a changing process of interpretation and reinterpretation formed through gathering and reviewing evidence, drawing conclusions, and presenting the conclusions in text or exhibit format.
5. Exhibit administrators should support the work of curators who create historical exhibits produced according to these standards.[179]

178. American Historical Association, "Standards for Museum Exhibits Dealing with Historical Subjects (updated 2017);" Society for History in the Federal Government, "Museum Exhibit Standards."

179. American Historical Association, "Standards for Museum Exhibits Dealing with Historical Subjects (up-dated 2017)."

Appendix B: Literature Review and Interpretive Space Examples

This appendix provides a review of academic and gray literature regarding the importance of, and methodologies for outdoor interpretation, signage design, and visitor experience; current practices at military history interpretive spaces; current practices at Black history interpretive spaces; and typologies of interactive exhibits.[180] For information and sources regarding standards, regulations, and guidelines regarding exhibit planning, interpretive design, and accessibility, see Appendix A.

B.1 Outdoor Interpretation, Signage Design, and Visitor Experience

Literature regarding outdoor interpretation focuses on interpretative signage at trails and parks and its impact on visitor understanding of features and place, with the visitor most frequently being identified as a tourist or one-time visitor rather than a regular user of the space. All gray literature and academic works analyzed for this report, though, emphasize the use of stakeholder interviews to identify which features to highlight and where signage should be placed.[181] For the MVOC rehabilitation effort, stakeholder engagement will be a critical step during the Design-Build phase, during which they will make decisions regarding what to interpret and where to place interpretive media.

The most notable gray literature that explores interpretation in outdoor spaces include Matthew Clarke's *Field Guide for Creative Placemaking in Parks* and the Chesapeake Bay Office of the National Park Service's *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*. Both texts serve as guides for implementing interpretation in

180. Gray literature consists of information and documents produced outside of traditional publishing and distribution channels. It can include reports, policy literature, working papers, newsletters, government documents, speeches, white papers, urban plans, and other similar documents. Gray literature typically does not go through a peer review process.

McKenzie, J., "Grey literature: What it is & how to find it," SFU Library, 2023, https://www.lib.sfu.ca/help/research-assistance/format-type/grey-literature.

181. Sorset, I. T., "Maritime Heritage Trails as Public Outreach Tools: An Ethnographic Model for the Apalachicola River, Florida," Master's Thesis, The University of West Florida, 2013, Proquest Dissertations, http://ezproxy.cul.columbia.edu/login?url=https://www-proquest-com.ezproxy.cul.columbia.edu/docview/1348936589?accountid=10226, p. 33; McMillan, K., "Environments that Communicate: Transforming a Museum District with Strategic Signage," Master's Thesis, Mississippi College, 2020, Proquest Dissertations, http://ezproxy.cul.columbia.edu/login?url=https://www-proquestcom.ezproxy.cul.columbia.edu/docview/2426234649?accountid=10226, pp. 25–27.

outdoor spaces; however, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways* provides more in-depth guidance for heritage interpretation than *Field Guide for Creative Placemaking in Parks*, which primarily focuses on artistic interventions in parks.[182]

Though *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways* primarily focuses on large-scale heritage areas and regional planning, it clearly delineates that an effective interpretive plan should include the following:

- Be based on sound scholarship.
- Enhance intellectual and emotional connection.
- Provide intellectual and physical access to people with various abilities, learning styles, and levels of experience with the subject matter.
- Be culturally sensitive and explore topics from varying points of view.
- Be presented within a thematic framework that focuses content and reinforces links and connections between topics.[183]

The text also clarifies that a thematic framework should consist of themes, or "ways of organizing a site's . . . stories to communicate important messages about the place and what it means to people," that[184]

- convey the significance of the site by explaining why it is important and relevant to people today,
- group a range of stories into focused messages that provide insights into the site's past and present and related people,
- create opportunities for visitors to critically examine the complexities of the events, stories, and issues associated with the site, and
- can accommodate new scholarship, perspectives, and points of view, as well as evolving social and political needs and contexts.[185]

182. Clarke, M., *Field Guide for Creative Placemaking in Parks* (San Francisco, CA: The Trust for Public Land & City Parks Alliance, 2017) https://www.tpl.org/field-guide-creative-placemaking-and-parks; Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*, p. 25.

183. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*, p. 25.

184. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*, p. 25.

185. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways*, p. 26.

The needs and interests of the interpretive space's target audience will guide the types of experiences visitors will have (Table B-1). To understand how the themes may combine with types of visitor experience, interpretation planners must develop visitor experience objectives, which should,

- be mission-appropriate,
- be resource-specific with a focus on unique site features,
- emphasize intended outcomes,
- describe experience that "will be available to the average visitor on an average day,"[186]
- shape visitors' encounter with the site, and
- extend visitors' involvement and benefit to the site or community through, for example, community-based initiatives and web-based programs or interactions.[187]

Finally, *Interpretive Planning Tools for Heritage Areas, Historic Trails, and Gateways* delineates that interpretation planners should link interpretive themes with physical resources and locations, then determine the best method of communication for each theme at each site (Table B-1 and Table B-2).

Table B-1. Types of experiences visitors may have at interpretive sites.

Type of Experience	Definition	Example
Cognitive	Learning and making intellectual connections.	Reading interpretive signage.
Emotional	Being moved to feel emotionally connected to the resource.	Watching a film portraying the life of an important individual in history.
Participatory	Participating in activities.	Taking part in a living history demonstration.
Sensory	Engaging senses.	Hiking.[188]

186. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas*, *Historic Trails, and Gateways*, p. 34.

187. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas*, *Historic Trails, and Gateways*, p. 34.

188. Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas*, *Historic Trails, and Gateways*, p. 33.

Table B-2. Types and examples of interpretive communication.

Person-to-Person Interpretation	Media-Based Interpretation
Children's interpretation (i.e., children's walks and talks, puppet shows, etc.)	Films, slides, videos, etc.
Educational activities (i.e., field trips to the site)	Object-based exhibits
Evening activities (i.e., campfire programs, sky observation programs, etc.)	Interactive computer stations
Fixed-station interpretation	Interactive exhibits
Hands-on activities	Interactive viewers
Immersive experiences	Audio wand walking tours
Interpretation in period dress	Cell phone-based interpretation
Dialogue-based programs	Push button, headphone, or handset audio
Outreach	Podcasts
Roving interpretation	GPS-activated devices
Guided walks	Portable DVD players
Demonstrations	Low frequency radio broadcasts
Scheduled talks	Publications
Special activities and presentations (i.e., after-hours or behind-the-scenes open houses, public lectures and seminars, special events, public workshops, etc.)	Wayside exhibits and kiosks
—	Curricula and teachers' guides
—	View tubes; telescopes
—	Ambient sound and smell
—	Websites, including social media
—	Virtual tours[189]

Decisions regarding the application of these methods of communication should consider museum fatigue, or a decline in interest in the interpretation and exhibits as visitors travel through the space. While less of a concern in small exhibit spaces than in large museums, interpretation and exhibition planners and designers must be conscientious of fatigue to help visitors stay engaged. Varying the types of displays and interactives and minimizing the quantity of text can help, as well as providing seating, can help prevent museum fatigue.[190]

189. This list is reduced; Chesapeake Bay Office, *Interpretive Planning Tools for Heritage Areas*, *Historic Trails, and Gateways*, pp. 37–38.

190. Incorvaia, D., "Crafting Exhibits to Avoid Museum Fatigue," Discover Magazine, July 2, 2022, https://www.discovermagazine.com/planet-earth/crafting-exhibits-to-avoid-museum-fatigue.

While many participatory experiences, particularly person-to-person based interaction, are not feasible for exhibit spaces with limited staff, creative outreach opportunities can still facilitate intercommunity dialogue. Laura Frick explored this concept in her 2018 museum exhibition planning and design thesis. In *Pathways to Dialogue: A Study and Guide for Implementing Interpretation on Trails to Connect Rural and Urban Audiences*, Frick evaluates the impact of public art—particularly community-sourced public art—and "provocative interpretation" to express personal stories and facilitate relationships between communities that may otherwise rarely interact.[191]

Though her thesis focuses on the experiences of, and relationships between urban and rural communities on regional trails, Frick's findings demonstrate that "layering these areas, linear spaces and points of interpretation" can contribute to a "deeper sense of place" through highlighting important local events and cultures.[192] Further, Frick found that small museums may contribute to their own success, as well as their value to the community, by incorporating public events and networking with other local museums. She also evaluates public art—defined as temporary or permanent art of any medium that expresses community values, is in public, and is typically site-specific—as a form of interpretation, with public art that was developed with community input being particularly beneficial to creating connections and promoting a sense of place.

Additional academic research into interpretation in outdoor spaces include Irina Sorset's 2013 anthropology thesis "Maritime Heritage Trails as Public Outreach Tools: An Ethnographic Model for the Apalachicola River, Florida," and Kellye McMillan's 2020 Master of Fine Arts thesis "Environments that Communicate: Transforming a Museum District with Strategic Signage," both of which explore heritage interpretation in multi-use spaces. Sorset's thesis seeks to identify potential outdoor sites for interpretation along the Apalachicola River based on historic resources, context, and visual analysis, while also using ethnographic data to guide the interpretation of these sites and the development of that interpretation. Her findings demonstrate that stakeholders believe interpretation will fill a gap

191. Frick, L., "Pathways to Dialogue: A Study and Guide for Implementing Interpretation on Trails to Connect Rural and Urban Audiences," Proquest Dissertations, The University of the Arts, 2018, http://ezproxy.cul.columbia.edu/login?url=https://www-proquestcom.ezproxy.cul.columbia.edu/docview/2055362589?accountid=10226, Abstract, n.p.

192. Frick, "Pathways to Dialogue," p. 105.

in educational programming, augment environmental stewardship, and serve as an economic stimulus by bringing in tourism.[193]

By contrast, McMillan's thesis explores the use of signage placement and design in an existing museum district to encourage a cohesive feel. Most importantly for this report, her background research evaluates which features of signage are more attractive to users (and therefore result in greater interaction), as well as how signage and graphic design can influence visitor behavior within district.[194] Key features McMillan identified for encouraging visitor interaction with signage include the following:

- A stylized map of the area, which "should simplify and capture the essence of a place, while emphasizing the elements that users absolutely need to remember."[195]
- A clear hierarchical strategy involving typeface selection, letterform scaling, and panel size and layout "to enhance communication effectiveness and to conserve space on sign faces."[196] Rules of thumb for hierarchy on a single panel include (1) limiting messages to two per sign; (2) use negative space; and (3) maximize the legibility of type.[197]
- A clear system of signs that considers user accessibility and communicates a message that "should be seen, legible, easy to understand, and should influence a behavior."[198] Notably, signage must consider the needs of visually impaired visitors, including impairments in color discernment. It is suggested that sign designers should "narrow down hue combinations that are appropriate for the environmental context then consider contrast and legibility."[199] Additional information regarding guidelines, standards, regulations, and requirements for signage design can be found in Appendix A.

Madison Story's 2021 historic preservation thesis, *Strategies for Heritage Valuation on Adaptively Reused Transportation Corridors: An Examination of Rail Trails in Central Indiana*, built on McMillan's research, exploring the impact of preservation strategies as applied on rail

193. Sorset, "Maritime Heritage Trails as Public Outreach Tools," pp. 102–108.
194. McMillan, "Environments that Communicate," p. iv.
195. McMillan, "Environments that Communicate," p. 54.
196. McMillan, "Environments that Communicate," p. 55.
197. McMillan, "Environments that Communicate," p. 56.
198. McMillan, "Environments that Communicate," p. 56.
199. McMillan, "Environments that Communicate," p. 57.

trails in central Indiana. Story's key findings, as applies to the current research effort, are that signage must specifically interpret the site at hand—not simply general history of the surrounding area or other topical information—and should feature historically inspired motifs for logos and branding related to site. These practices will enhance the value of site history in the minds of both visitors and regular users of the space while contributing to the development of sense of place.[200]

Dean Blackwell's 2002 parks, recreation, and tourism management thesis entitled *Community and Visitor Benefits Associated with the Otago Central Rail Trail, New Zealand* also explores the benefits of interpretation for regular users of an outdoor space. Using interviews with visitors, community members, and trail managers, Blackwell found that the presence of the Otago Central Rail Trail created a sense of community identity through both increasing local appreciation for cultural and natural heritage and attracting tourism. Clean-up and restoration projects along the trail further enhanced community identity, as did the city's emerging role as a tourist destination. Notably, Blackwell's findings suggest that tourist appreciation of the area yielded increased local appreciation for heritage.[201]

B.2 Military History Museums

Various iterations of the military history museum are found across the bounds of time and sovereign borders, each meant to preserve the memory of service members in times of war and peace. Historically, these spaces emphasized themes of national pride, technological progress, and martial strategy. While these themes have some value, they did not adhere to larger museum trends and cultural narratives adopted in other academic areas. Military history museums tended to lag behind other institutions of public learning in introducing new sociocultural ideas to their collections and methods of interpretation. In the last several decades, new social and museology movements brought military museums into contemporary historical discourse to provide opportunity for greater individual interpretation of the military's role in our collective past. This section will discuss the evolution of military history museums and current practices for

200. Story, M., "Strategies for Heritage Valuation on Adaptively Reused Transportation Corridors: An Examination of Rail Trails in Central Indiana," Master's Thesis, Columbia University in the City of New York, 2021, https://doi.org/10.7916/d8-kba5-mj98, pp. 100–101.

201. Blackwell, D., "Community and visitor benefits associated with the Otago Central Rail Trail, New Zealand," Master's Thesis, Lincoln University, 2002, Research@Lincoln, https://hdl.handle.net/10182/1027, pp. 78—81.

successful visitor interpretive experiences, with special regard to museum spaces specific to the US Army.

The earliest versions of military museums focused on the development of technology and tools of combat. These unofficial museum spaces originated in private arms collections and state munition stores. Continental Army arsenals constituted the earliest iterations of such spaces in Colonial North America, though European counterparts existed much earlier.[202] In 1854, the United States Military Academy at West Point established the Artillery Museum, one of the first official military museums in the nation.[203] Armories and arsenals displayed rows of swords, spears, and firearms to communicate the aesthetic value of traditional weaponry and the technological prowess of regional forces. Such exhibits offered no context or overarching historical narrative to appeal to the public. Nearly all visitors were White men of military service age or those engaged in military service, a trend which continued for many years.[204]

The first public national military history museums, such as the British Naval and Military Museum (1831) and the Museum of Military History in the Vienna Arsenal (1891), opened in the 19th century in response to growing nationalist trends.[205] The United States did not establish an official national military museum until the 21st century but had significant military collections stored in the Smithsonian Institute.[206] The focus of these institutions remained on the technological development of military equipment. However, museum purpose turned to using the equipment and combat chronologies as tools to construct a national identity based in military action. This early interpretive strategy did little to reach beyond

202. Olmert, M., "Of Arms, Armorers, & Armories," *Colonial Williamsburg Journal* (Autumn 2012), https://research.colonialwilliamsburg.org/Foundation/journal/autumn12/arms.cfm.

203. The United States has never established an official national military history museum. Hacker, B. C. and M. Vining, "Military Museums and Social History," in *Does War Belong in Museums?: The Representation of Violence in Exhibitions*, ed. Wolfgang Muchitsch, (Transcript Verlag: 2013), p. 44, http://www.jstor.org/stable/j.ctv1wxr1z.6.

204. McCoy, M., "Relics of Battle: War, Memory, and New Museum Theory in Military Museums" (Master's Thesis, University of Denver 2016), p. 49, https://digitalcommons.du.edu/etd/1130.

205. "Royal United Service Institute (United Service Museum)," The British Museum, accessed February 2, 2023, https://www.britishmuseum.org/collection/term/BIOG129149; "The History of the Museum," Heeresgeschichtliches Museum, accessed February 2, 2023, https://www.hgm.at/en/museum/explore/history-of-the-museum.

206. Hacker and Vining, "Military Museums and Social History," p. 46.

military audiences, yet it established the groundwork for considering the broader sociopolitical impacts of military institutions.

The global-scale warfare of the 20th century blurred the lines between museum and memorial in military history institutions. WWI and WWII led to the establishment of conflict-specific museums, such as the Liberty Memorial in Kansas City, Missouri, now the National WWI Museum and Memorial. These institutions were intended both to bolster morale during periods of conflict and to immortalize the event for its historical enormity.[207] The influx of soldier and civilian memorabilia enabled local and national museums to create meaning out global strife, yet museum administrators shied away from questioning the dominant military narrative or offering any critical interpretation that could be perceived as diminishing service-people's sacrifice.[208] This challenge remains in military museum spaces, requiring a nuanced approach influenced by academics, veterans, and civilian visitors.

Beginning in the 1970s, the new museology movement changed the way museums of all kinds presented historical knowledge.[209] Contemporary liberation movements, such as second-wave feminism, the antiwar movement, and the gay rights movement shed light on the spectrum of identities and experiences that compose a nation's heritage, inspiring academics to confront the long-held idea of a singular American narrative. The "climate of institutional reflexivity" produced by new museology encouraged greater community inclusivity, informational accessibility, and thematic democracy.[210]

As cultural and scientific institutions reevaluated their artifacts and interpretive methods throughout the 1970s, many military museums remained didactic, relying on quantitative data, strategic analysis, and hero tales of the elite.[211] Gradually, military history museums turned towards more inclusive presentations of knowledge: telling the story of the

207. Hacker and Vining, "Military Museums and Social History," p. 49.

208. McCoy, "Relics of Battle," p. 5.

209. Briefly, the new museology movement aimed to diversify cultural representations in museums to con-vey a pluralist narrative. The movement also encouraged greater community engagement and collaboration to increase visitor participation and make information more readily available to nonacademics. Ross, M., "Interpreting the New Museology," Museum and Society 2, no. 2, (July 2004): 84-85, http://dx.doi.org/10.29311/mas.v2i2.43.

210. Ross, "Interpreting the New Museology," pp. 84–85.

211. McCoy, "Relics of Battle," p. 4–5.

common soldier, incorporating historically neglected groups, and considering the cultural and ideological exchange between military and civilian populations during times of war and peace.[212]

In the United States, some early military museums and historical sites presented ideas in ways that harkened towards the rise of new military museology. Leading into the early 20th century, Civil War battlefield sites were the primary spaces for displaying and interpreting military history. Civil War veterans worked closely with the Federal government to establish battlefield parks as military commemorative spaces though years of community engagement expanded battlefield interpretation to consider civilian experience, the origins and impacts of the war, and the Reconstruction period. Interpretive methods at battlefield sites commonly include guided tours, historical reenactment in period dress, and walking trails with descriptive signage.[213] These spaces "early evinced a propensity to address Soldiers' experiences and the local effects of war," an approach which may have inspired the thematically integrative presentation of military history seen today.[214]

This tradition is unique to battlefield sites; however, as many installation-based historical institutions were established with utilitarian missions. Educational spaces linked directly to military branches, units, or installations have primarily existed to train the next generation of service members. This is a valuable practice within the world of defense, as traditional military analysis is necessary to inform policy, soldier action, and successful recruitment and retention methods.[215] Such spaces also provide the veteran population with military knowledge and memory exclusive to those who have served. For a long time, it was the mission of these institutions to uplift the military with the direct engagement of the defense department.[216] The task of maintaining these missions through

212. Blackburn, M. K., *Interpreting American Military History at Museums and Historic Sites*, (Lanham, Maryland: Rowman and Littlefield, 2016), pp. 16–17.

213. Finch, R. A., "Battles on the Home Front: Battlefield Reclamation and Interpretive Challenges at Civil War Historic Sites," Master's Thesis, Middle Tennessee State University, May 2013, pp. 2–5, 57, 59, 89, https://jewlscholar.mtsu.edu/server/api/core/bitstreams/aba80d2c-0a4e-47e8-ab8a-42a20ec44da7/content.

214. Hacker and Vining, "Military Museums and Social History," p. 46.

215. Blackburn, *Interpreting American Military History at Museums and Historic Sites*, p. 23.

216. Ernstell, E.-S., "Army Museums and Military Museums," in *ICOMAM Congress: Military History Museums: Contemporary and Social Relevance* (Moscow, Russian Federation: ICOMAM Congress, October 2014), p. 8.

the transition to new museology practices has been a challenge that requires sensitivity and nuance.

Interpretive spaces administered by military institutions require a great deal of balance to meet the needs and expectations of all their visitors and stakeholders. By their nature, such museums and historical sites are oriented around military language, tradition, and service; yet they must also be accessible to civilian audiences with limited understanding of these things.[217] The broadening demographic of visitors calls for a range of stories and interpretations while still honoring those who have served. A space must be created for memorialization and critique to coexist.

This is a challenge particularly for institutions that develop and maintain their own interpretive spaces, such as national and installation-based Army museums. Maintaining a positive image is crucial for ongoing public support of the military mission. In Army Regulation 870-20, *Army Museum Enterprise and Army Artifact Collection*, the museum objective states,

> [Army museum artifacts] belong to the people of the United States and are used to interpret the Army's history for the purpose of military training, education, and research. As a side benefit, Army museums foster morale and *esprit de corps*, and contribute to informing the American people about the Army's service to the nation.[218]

Museologist James Scott related this objective to the "celebratory" approach to military action in the museum setting, highlighting victories and social, political, and technological accomplishments.[219] This certainly has a place in the American military story, but broader trends of reflexivity cannot be ignored. In the two decades since the Army report was published, many of these museums have made strides to reflect on all angles of their history.

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217. McCoy, "Relics of Battle," p. 52.

218. US Department of the Army, *Army Museum Enterprise and Army Artifact Collection* (Washington, DC: Headquarters, Department of the Army, 2022), https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34565-AR_870-20-000-WEB-1.pdf.

219. Scott, J., "Objects and the Representation of War in Military Museums," *Museum and Society* 13, no. 4 (November 2015): 490, https://journals.le.ac.uk/ojs1/index.php/mas/article/view/349/355.

Since the 1980s, military museums have sought to incorporate untold stories into their exhibition spaces. Early efforts consisted of temporary exhibits focusing on previously underrecognized groups—women and people of color. Today, the National Museum of the United States Army, opened in 2020, has features that recognize "the Army's history of exclusion within its ranks."[220] Attempting to present a transparent, realist view of Army history, such features include interpretation on Black Soldiers and integration, Japanese soldiers and internment, and female commanders and Army sexual assault rates.[221] There is still room for improvement across the museum and general historical field to incorporate these experiences into the overarching Army narrative, yet progress has been made in challenging a purely celebratory view of the Army institution.

Military museums around the world have also succeeded in uplifting the stories of the common soldier. Collections are increasingly centered around materials and creative works that "document Army life, training, combat, and operations other than war," rather than technology-based collections of heavy machinery and weaponry.[222] The Central Museum of Armed Forces in Moscow elevated the interpretive capacity of uniform artifacts by labeling them with the wearer's name and story.[223] Wax figures at the National Museum of the United States Army are modeled after current Soldiers.[224] Such pains are taken to emphasize the human aspect of each artifact—"who made it, who used it, who it was used upon or who it was taken from"—as suggested by Scott's ideal realist approach.[225]

Though some of these new museology-inspired practices may be beyond the financial bounds of small-scale installation museums like those at Fort Huachuca, there is great opportunity for delving into individual stories at a local level. The Army mission can be celebrated through an interpretation of the technological and medical progress achieved on base, as well as the bolstering of the local economy due to garrison presence in the late 19th century. Local stories can also challenge exclusive narratives by analyzing

220. McGreevy, N., "A New Museum Delves into the Complex History of the U.S. Army," Smithsonian Magazine, November 13, 2020, https://www.smithsonianmag.com/smart-news/national-museum-united-states-army-opens-180976293/.

221. McGreevy, "A New Museum Delves into the Complex History of the U.S. Army."

222. US Department of the Army, *Army Museum Enterprise and Army Artifact Collection*, p. 2.

223. Ernstell, "Army Museums and Military Museums," p. 10.

224. McGreevy, "A New Museum Delves into the Complex History of the U.S. Army."

225. Scott, "Objects and the Representation of War in Military Museums," p. 499.

the experience of Black regiments, the Women's Army Auxiliary Corp (WAAC) and the Women's Army Corps (WAC) members, and the Army Nurse Corps (ANC) members at a personal level. Individual stories also lend approachability to the museum space, a vital characteristic to appeal to broad audiences and leave a lasting impact on viewers. General methods currently utilized by military history museums to produce an approachable interpretive space include the following:

- Situation of military spaces and experiences in the larger local context to examine the various impacts of military action on American culture and civilian life at a limited geographical scale.[226]
- Use of theme rather than chronology as a guiding force through exhibition space. Chronological organization may reduce exhibit effectiveness in spaces with limited resources and runs the risk of reverting to old museum methods of the uncritical celebration of "military prowess and progress."[227]
- Reduction of the physical size and number of artifacts to convey a focused and personally meaningful message. Reliance on large machinery and weaponry may create a sense of grandeur that distracts from the ultimate destructive purpose of such technology and the human experience of military life and warfighting.[228]
- Deemphasis of technology and strategy that require in-depth knowledge and understanding of military processes.[229]

In places like Fort Huachuca, interpretation can continue into outdoor spaces. Markers and signage explaining land usage can incorporate the landscape into visitors' historical awareness. Often, outdoor military history spaces consist of large-scale weapons displays.[230] Such displays may be appropriate if they are necessary to convey training or combat experiences in the area. Landscape architects Denisa Halajová and Andrea Cuperová suggest authentically incorporating machinery into landscape

226. Blackburn, *Interpreting American Military History*, pp. 166–167.

227. Hacker and Vining, "Military Museums and Social History," p. 56.

228. Winter, J., "Museums and the Representation of War," in *Does War Belong in Museums?: The Representation of Violence in Exhibitions,* ed. Wolfgang Muchitsch, (Transcript Verlag, 2013), pp. 36–37, http://www.jstor.org/stable/j.ctv1wxr1z.5.

229. McCoy, "Relics of Battle," p. 57.

230. Halajová, D. and A. Cuperová, "Approaches to the Interpretation of Military History in the Exteriors of Military Museums – Case Study of the Military History Museum in Svidník," *Plants in Urban Areas and Landscape* (May 2018): 25, http://dx.doi.org/10.15414/PUAL/2018.25-28.

scenes to connect history with the current environment.[231] Though Halajová and Cuperová's study relates to a previous battlefield space, the theme of connecting history and nature in a place of learning and leisure is also applicable to training posts like Fort Huachuca.

Please refer to the US Army Center of Military History for additional information and official curation guidance and policies.[232]

B.3 Black History Museums

Black history museums are homes of stories that have long been neglected and discounted in the mainstream American narrative. The efforts of Black activists, historians, and museologists over the past century and a half have made Black history and culture prominent and accessible in the academic and public sphere. This section discusses the evolution of Black history museums and historical sites, best practices for impactful visitor interpretive experiences, and the ongoing challenges of effectively presenting Black history to audiences of all backgrounds.

Black museum spaces in the United States can be traced back to the 19th century. The College Museum on Hampton, Virginia, now called the Hampton University Museum, was the first recorded museum to house a Black history collection. Organizers established it in 1868 and acquired its first African art and artifacts in the early 1870s.[233] In 1895, the "Negro Building" at the Atlanta Cotton States and International Exposition became one of the earliest exhibit spaces to showcase Black American history and culture. Though White organizers intended the arrangement to reinforce the harmful confines of segregation, the space gave Black participants an opportunity to present a cohesive exhibit with a "strong sense of racial pride and solidarity."[234] The exhibition mainly featured the industrial capabilities of Black Americans, though some sections branched to include academic and artistic advancement.[235] Engagement with

231. Halajová and Cuperová, "Approaches to the Interpretation of Military History in the Exteriors of Military Museums," p. 27.

232. "Army Museum Enterprise," US Army Center of Military History, accessed February 1, 2023, https://history.army.mil/museums/.

233. "About Us," Hampton University Museum, accessed January 25, 2023, https://home.hamptonu.edu/msm/about-us/.

234. Wilson, M. O., Negro Building: Black Americans in the World of Fairs and Museums, (Berkeley: University of California Press, 2012), pp. 33–34, https://doi-org.proxy2.library.illinois.edu/10.1525/9780520952492.

235. Wilson, *Negro Building*, pp. 66–68.

material culture in the Negro Building established the value of exhibition space as a forum for ideas about the past and future of Black Americans.[236]

Decades after the abolition of slavery, racist ideas about Black Americans lacking history, culture, and any notable contributions to society continued to dominate the American psyche, and many Black individuals struggled with internalizing these ideas. Movements like the Harlem Renaissance acted as a counterpoint to ideas of White supremacy and created what some scholars refer to as the "Negro Canon."[237] The Canon refers to a positive narrative of Black existence "built on history, art, and culture, [that was] powered by the practices of scholarship and activism."[238] The Black academic and cultural movements of the early 20th century worked to implement a new, uplifting self-perception for Black Americans, and communal spaces of sharing knowledge and memory were crucial to this achievement.

Historically Black colleges and universities (HBCUs), sororities and fraternities, and churches were the primary centers for the development, spread, and preservation of the Negro Canon. Most of the early 20th century iterations of Black history and culture museums resided on HBCU campuses and mainly featured Black art collections.[239] In 1915, Carter G. Woodson, "the father of Black history," established the Association for the Study of Negro Life and History in Chicago, one of the first public history institutions in America.[240] These sites provided a public-facing celebration of Black history and culture that challenged racist ideologies. Black academic and cultural institutions promoted an elevated consciousness for and about Black Americans that aided and inspired movements for greater political and social agency.[241]

The first independent public Black history museums opened during the height of the Civil Rights Movement in the 1950s and 1960s. Artifact

236. Wilson, *Negro* Building, p. 75.

237. Ruffins, F. D., "Building Homes for Black History: Museum Founders, Founding Directors, and Pioneers, 1915–95," *The Public Historian* 40, no. 3, (August 2018): 15, https://doi.org/10.1525/tph.2018.40.3.13.

238. Ruffins, "Building Homes for Black History," p. 15.

239. Ruffins, "Building Homes for Black History," p. 25.

240. Ruffins, "Building Homes for Black History," pp. 15–16.

241. Chambers, C. A., "The 'New' Social History, Local History, and Community Empowerment," *Minnesota History*, (Spring 1984): 17, http://collections.mnhs.org/MNHistoryMagazine/articles/49/v49i01p014-018.pdf.

collector and amateur curator Icabod Flewellen established and became the first president of the Afro-American Cultural & Historical Society in 1953. The same year, with the support of the newly founded institution, Flewellen opened the first independent nonprofit museum of Black history in his Cleveland home, which featured his large personal collection of newspaper clippings, art, correspondence, music ephemera, and other artifacts.[242] Due to funding instability and insufficient display space, the growing collection has been relocated and the museum, now called the Black Museum of Cleveland, has temporarily closed several times.[243] The oldest continuously operational Black history museum in the United States is artist and activist Margaret Burrough's DuSable Museum of Black History in Chicago, which opened in 1961. The DuSable Museum established the first narrative exhibit detailing the Black experience from the Atlantic slave trade's Middle Passage through the Civil Rights Era.[244] This exhibition style is a common feature of general Black history and culture museums today.

Black museums and interpretive spaces established during the Civil Rights Era continued engaging with the past in a way that promoted a positive view of the Black American identity for Black and non-Black audiences alike. However, the spirit of Black historical and cultural institutions changed to reflect and engage in the social and political movements of the time. In historian Mabel Wilson's words, "By the 1960s, Black Americans were seeking modes of direct action that would forge advances in social justice and equality rather than high-minded and well-worn platitudes on racial progress."[245] Many Black history museum founders and directors in the 1960s and 1970s were members of various civil rights groups and participated in public demonstrations for justice and equity in the United States and nations in Africa.[246] Their activism continued in the museum space through outreach and programming that addressed the struggle on a global scale. For example, the young DuSable Museum hosted a series of

242. Mack, L., "Black Museum of Cleveland: The Story of Icabod Flewellen's Dream to Create the Nation's First Black Museum," Cleveland Historical, 2019, https://clevelandhistorical.org/items/show/897.

243. Borchert, J., "Black Museum," Encyclopedia of Cleveland History, Case Western Reserve University, accessed March 20, 2023, https://case.edu/ech/articles/a/african-american-museum.

244. Ackerman, L., "DuSable Museum of Black History (1961–)," Black Past, March 19, 2016, https://www.blackpast.org/african-american-history/dusable-museum-african-american-history-1961/.

245. Wilson, *Negro Building*, p. 244.

246. Ruffins, "Building Homes for Black History," p. 14.

talks, "Africa and the Freedom Rides," that situated the American Civil Rights Movement in a larger context of Black liberation.

The Civil Rights Movement and other social liberation movements of the time inspired a major shift in how academics contended with the past and present. This shift is encapsulated in the "new social history." Often referred to as "bottom-up" history, new social history was anti-elite, emphasized collective experiences, celebrated cultural plurality, and focused on the intersections of different communities, regions, and themes.[247] Previously neglected or marginalized groups garnered academic attention, and university Black Studies programs boomed alongside other programs focusing on race and ethnicity, class, gender, and sexuality.

Influenced by new social history studies in the academic world, museums of all subjects gradually became more inclusive through the new museology movement. Prominent museums that had previously neglected Black American stories began to adjust their historical narratives due to audience interest and aid from a new generation of Black historians and museologists. For example, the Smithsonian Institute founded the Center for Folklife and Cultural Heritage in 1967 thanks to the initiative of Black professionals.[248]

At the same time, a growing number of independent Black history museums allowed for public access to the newly popularized field. The establishment of the Association of Black Museums in 1978 brought these independent museums into conversation with national arts organizations, such as the National Endowment for the Humanities and the Institute for Museum and Library Services.[249] With this support and elevated awareness, more than 200 Black history museums and cultural centers were operating across the United States by the late 1980s.[250] General history museums also incorporated Black history exhibits about slavery, cultural influence and representation, mobility, and urbanization.

The increasing visibility of Black history and culture in museum spaces over the last forty years is notable, especially with the opening of the

247. Mayer, D. C., "The New Social History: Implications for Archivists," *American Archivist* 48, no. 4 (Fall 1985): 390, https://www.jstor.org/stable/40292942.

248. Ruffins, "Building Homes for Black History," p. 26.

249. Ruffins, "Building Homes for Black History," p. 29.

250. Ruffins, "Building Homes for Black History," p. 29.

Nation Museum of Black History and Culture on the National Mall in 2016. However, there is room for further development. The 14th Secretary of the Smithsonian Institute, Lonnie Bunch, stated in his 1995 article, "My major concern is that museums are too often crafting exhibitions that simply say, 'Blacks were here too,' rather than examining the complexities, interactions, and difficulties of race in America."[251] Museum practices have improved since the publication of Bunch's article, and will likely continue to do so by challenging the dominant historical narrative and engaging with Black communities.

In creating exhibits about Black history and culture, it is important for museum designers and administrators to view history through the lens of Black Americans. As Bunch correctly argued, information is often segregated by race and ethnicity in the museum space. The stories of Black Americans have traditionally been presented as an auxiliary, "separate but equal" history to the dominant White narrative.[252] Successful Black history interpretive spaces should consider Black history as foundational to American history. Museologist Max A. van Balgooy argues that the main resistance to Black history interpretation in museums is linked to the hesitance of non-Black museum workers to present information about the Black American experience from an outside perspective.[253] The following are abstract and concrete recommendations for museum workers of all backgrounds engaging with history through the Black lens.

- Acknowledge the core American values of "resiliency, freedom, spirituality, and hope" as being distinctly rooted in the Black American experience. Many aspects of American identity and culture held by all citizens can be directly attributed to the efforts and experiences of Black Americans.[254]
- Give administrators, organizers, and interpreters training opportunities to contend with their own perceptions of racial identity.[255]

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251. Bunch, L. G., "In Black & White: Interpreting Black Culture in Contemporary Museums." *History News* 50, no. 4 (1995): 6, http://www.jstor.org/stable/42656062.

252. Bunch, L. G., "Foreword," in *Interpreting Black History and Culture at Museums and Historic Sites*, ed. Max A. van Balgooy (Lanham: Rowman and Littlefield, 2015), p. x.

253. van Balgooy, M. A., ed., *Interpreting Black History and Culture at Museums and Historic Sites*, (Lanham: Rowman and Littlefield, 2015), p. xiii.

254. Bunch, "Foreword," p. x.

255. Gallas, K. L. and J. D. Perry, "Developing a Comprehensive and Conscientious Interpretation of Slavery at Historic Sites and Museums," in *Interpreting Black History and Culture at Museums and Historic Sites,* ed. Max A. van Balgooy (Lanham: Rowman and Littlefield, 2015), pp. 18–19.

- Engage with descendent communities[256] throughout the thematic development, research, and execution process. A collaborative effort with local Black communities will create a more authentic interpretive experience for visitors and ensure that Black voices take priority in the presentation of Black history.[257]
- Investigate biases of existing records, particularly primary sources describing the Black experience from the White perspective. In all cases, be transparent about the source and context of all materials used for interpretation.[258]
- Whenever possible, utilize sources of information produced by Black individuals. Oral histories are particularly rich sources and should be emphasized.[259]
- Consider extant material culture and built environment alongside and in the stead of textual or oral histories.
- Use active voice in textual presentations to make Black individuals the drivers of the narrative, rather than as individuals who are passively receiving action.[260]

To create the most impactful visitor experience, museum planners should present a comprehensive view of the Black experience. Developing a truly comprehensive history in a limited multimedia space is unrealistic, but effort should be made to include a variety of identities and experiences within the Black community. The following are suggested methods for developing comprehensive spaces for Black history. Some of these suggestions are drawn from sources specifically discussing the interpretation of slavery but are applicable to all areas of Black history.

256. The term descendent communities are typically used to refer to groups whose ancestors were enslaved at a particular site or general geographical area. In this context, the term is used more generally to include groups descended from Black individuals involved in any museum or site-relevant historical event; Black Cultural Heritage Action Fund, "Engaging Descendent Communities in the Interpretation of Slavery at Museums and Historic Sites: A Rubric of Best Practices Established by the National Summit on Teaching Slavery," National Trust for Historic Preservation, October 25, 2018, 1, https://montpelier-documents.s3.amazonaws.com/Interpreting%20Slavery%2010-30-18.pdf.

257. Black Cultural Heritage Action Fund, "Engaging Descendent Communities in the Interpretation of Slavery at Museums and Historic Sites."

258. Black Cultural Heritage Action Fund, "Engaging Descendent Communities," p. 7.

259. LaRoche, C., S. Romain, E. Wallace, and K. Robinson, "Black History is American History: Centering the Long Civil Rights Struggle in DC Area Parks," (virtual panel discussion, National Park Service, August 17, 2021), https://www.nps.gov/media/video/view.htm?id=E1504F7D-6D93-4416-9F88-4E731A009141.

260. LaRoche et al., "Black History is American History."

- Seek both breadth and depth in research. Referencing major events and circumstances beyond the area of focus provides audience with necessary context and introduces a range of possible experiences. Delving into specific narratives emphasizes the humanity and individuality of those being remembered.[261]
- Acknowledge other factors of identity that may impact the experiences of historical figures, such as gender, sexuality, class, geographical region, education, and political views. When possible, offering a focused theme rather than temporal-based exhibit topic may make it easier to explore more diverse experiences within the Black community.[262]
- Extend the temporal boundaries of Reconstruction[263] and the Civil Rights Movement[264], at least conceptually. The standard years given to these eras are helpful organizationally but are also limiting. Including liberation struggles and events of political and social progress outside of the defined periods encourages broader pattern building, challenges the compartmentalization and isolation of Black history, and reveals lesser-known stories.[265]

261. Gallas and Perry, "Developing a Comprehensive and Conscientious Interpretation of Slavery," pp. 18–19.

262. Bunch, "In Black & White," p. 7.

263. Briefly, Reconstruction is the period in which Black and White communities and the American government worked to incorporate free Black Americans legally and socially into society after emancipation from slavery. It is commonly defined as starting with the end of the Civil War in 1865 and ending with the Compromise of 1877. Some historians define Reconstruction as a longer period starting with the Civil War and ending at the close of the 19th century. This definition appropriately considers Reconstruction as a broader fight for freedom and civil rights that extends beyond Congressional legislation to center on Black American agency and progress; "Reconstruction Era National Theme Study," National Park Service, last updated February 24, 2023, https://www.nps.gov/reer/learn/historyculture/historyculture.htm; LaRoche et al., "Black History is American History."

264. The Civil Rights Movement is often defined as spanning from the Brown v. Board of Education decision in 1954 to the passage of the Civil Rights Act of 1968. The historical periodization of the Long Civil Rights Movement places the beginning of the Civil Rights Movement much earlier. Some historians argue that the period commenced in 1896 with the beginning of legal segregation through Plessy v. Ferguson. This periodization is preferable as it recognizes the extensive efforts of Black communities and organizations against racial violence, segregation, and discrimination in the early 20th century; Butler, J. M., "Episode 1: The Long Civil Rights Movement," May 16, 2022, Michigan Council for the Social Studies, Webinar, https://mcssmi.org/The-Long-Civil-Rights-Movement.

265. LaRoche et al., "Black History is American History."

- Avoid a trivialization of the Black liberation struggle. Exhibit developers should not "romanticize the past" by heavily relying on popularized hero narratives. An example of this is the common representation of Marin Luther King, Jr., in American primary and secondary education systems, which typically offers and incomplete view of the leader's social and political beliefs.[266] Triumphs should be celebrated but also treated with nuance so not to overshadow or ignore the circumstances that necessitated the struggle.
- Do not reduce experiences of suffering or trauma through "generic and anonymous descriptions." Using personal narratives to explain suffering, oppression, and violence engages the audience more deeply and promotes empathy.[267]

Since the 18th century, spaces for interpreting Black history have used consciousness and memory as a path to political, social, and cultural agency. Black history institutions today are engaged in the same path. Museums are not shrines or tombs but are spaces "with the potential to be genuine transformative forces for truth-telling, for healing, for reckoning, and for transformation."[268] Just as in the past, Black history museums contribute to antiracist movements by spreading knowledge that speaks to the Black experience of the past and present and challenging audience perceptions of race.

B.4 Interactive exhibits and experiences

Interactive exhibits, or exhibits that require a visitor to use one of their five senses to engage with the exhibit, have become an increasingly vital component of visitor experience since the 1970s, when museology began to shift its focus from static display to visitor engagement.[269] The inclusion of interactive exhibits increases the effectiveness of interpretation by providing dimensionality and increased accessibility of the exhibit; however, safety, accessibility, and durability are of primary concern and

266. Bunch, "In Black & White," p. 7.

267. Rose, J., "Interpreting Difficult Knowledge," in *Interpreting Black History and Culture at Museums and Historic Sites,* ed. Max A. van Balgooy (Lanham: Rowman and Littlefield, 2015), p. 34.

268. Gardullo, P. and L. G. Bunch III, "Making a Way Out of No Way: The National Museum of Black History and Culture," *History Workshop Journal* 84 (January 2017): 256, https://doi.org/10.1093/hwj/dbx047.

269. Stillwell, B., "Putting the 'Play' Back Into Display: Interactive Exhibits in Small Museums," Master's Thesis, University of Oregon, 2017, https://scholarsbank.uoregon.edu/xmlui/handle/1794/22496, p. 6.

must be considered for interactive exhibits to be effective.[270] Interactive exhibits may be active, prompting observable behaviors, or passive, not prompting observable behaviors. Interactive exhibits may be audio, visual, tactile, participatory, or role-playing, and they may play different roles in content presentation,

- *Essential* interactives must be utilized to understand the topic presented,
- *Enhancing* interactives allow visitors to independently explore additional content, and
- *Entertaining* interactives can be understood and completed without information from an existing display.[271]

Current trends in visitor interaction largely center around advanced information and communications technology (ICT) systems, with applications like VR systems, AR systems, and haptics displays becoming increasingly popular for use in museum settings. These types of systems "allow reality-based interactivity of the user with a virtual 3D representation of objects within virtual or real worlds."[272]

In 2010, six researchers conducted a comparative study of interaction by children ages nine to eleven with five types of interactive user interface exhibits. Ultimately, this study found that children within the nine to eleven age group preferred and were more likely to repeatedly engage with the interactive exhibits over noninteractive exhibits; however, only one type of noninteractive exhibit was assessed. Preference between the five types of interactive exhibits explored were less distinct, though the puzzle game and virtual reality tour seemingly incited the most desire to reengage with the exhibit.[273]

Given that technologies have advanced since 2010, the interactive exhibit types explored in this study may be outdated. The key finding that VR

270. National Park Service, Harpers Ferry Center, *Exhibit Planning, Design, and Fabrication Specifications* (Harpers Ferry, WV: Department of the Interior, National Park Center, 2019), p. 139.

271. Stillwell, "Putting the 'Play' Back Into Display," pp. 60–61.

272. Michael-Grigoriou, D., N. Pelekanos, I. Chrysanthou, P. Zaharias, L. L. Hadjigavriel, and Y. Chrysanthou, "Comparative Study of Interactive Systems in a Museum," *EuroMed* (2010): Digital Heritage, pp. 250–261, https://link.springer.com/chapter/10.1007/978-3-642-16873-4_19#citeas.

273. Michael-Grigoriou, et al., "Comparative Study of Interactive Systems in a Museum," p. 250.

tours and game-like, challenging activities yield interest in repeated engagement, though, is still applicable to more contemporary technologies.[274] Museum applications of VR and, particularly, AR to create immersive experiences have become increasingly popular and advanced.[275]

VR allows the user to become completely immersed in an experience.[276] For example, the Presidio San Agustín del Tucson Museum in Tucson, Arizona, utilizes a VR headset to provide visitors with a 360-degree virtual tour of the Presidio as it appeared circa 1775, complete with blacksmiths, doctors, and playing children.[277] Conversely, AR presents reality and an alternate version of reality side-by-side, allowing for comparison.[278] For example, the Japanese American Museum of San Jose in San Jose, California, developed a self-guided "Hidden Histories" tour using a mobile phone application that shows nine AR art installations overlaid onto present-day Japantown.[279] The National Gallery in London similarly utilized QR codes to share their artwork outside of the museum on streets in central London. Members of the public could scan the codes with their phones to view pieces of the National Gallery's collection.[280]

Perhaps a more common application of QR codes in museums is to provide visitors within the museum with additional information. For example, artworks and objects may be marked by a QR code that, when scanned, provides visitors with access to additional written, visual, or audio information. Many museums utilize QR codes to create self-guided audio tours that do not require equipment beyond a mobile phone, or to link static

274. Michael-Grigoriou, et al., "Comparative Study of Interactive Systems in a Museum," p. 250.

275. Coates, C., "How Museums are using Augmented Reality," Museum Next, April 17, 2022, https://www.museumnext.com/article/how-museums-are-using-augmented-reality/.

276. Coates, "How Museums are using Augmented Reality."

277. University of Arizona, "Advancing the Presidio," Center for Digital Humanities, accessed February 9, 2023, https://digitalhumanities.arizona.edu/project/advancing-the-presidio/.

278. Coates, "How Museums are using Augmented Reality."

279. Japanese American Museum of San Jose, "Hidden Histories of San Jose Japantown," Hidden Histories, accessed February 9, 2023, https://hiddenhistoriesjtown.org/.

280. Coates, "How Museums are using Augmented Reality."

displays to informational videos available online.[281] Audio information should be available in alternative formats, such as a transcript.[282]

Museums are also increasingly using digital technologies to create truly immersive experiences for museum visitors. These is seen in the recent rise in popularity of immersive art experiences offered by museums and art collectives. For example, Newfields: A Place for Nature & the Arts (formerly known as the Indianapolis Museum of Art), converted a floor of its building into an exhibition space for immersive digital art. Using 150 projectors, music, thematic food and beverages, and fragrance, the Newfields allows visitors to become "immersed" in a piece of art—its first exhibit featured paintings by Van Gogh.[283] A more-pared down example of an immersive experience can be seen in the *Sense of Place Gallery* at the National Nordic Museum in Seattle, Washington, which features tree sculptures, rock-shaped pillows, projections of a fjord, and nature sounds.[284]

While all the above technologies are rising in popularity, particularly following the Covid-19 pandemic, they require costly investments into the technologies themselves, as well as digital collections infrastructure to allow for data hosting and storage.[285] Digital technologies, therefore, are not accessible methods of visitor interaction for museums with minimal staffing and budgets.[286]

In her 2017 Arts Management thesis, Baylie Stillwell evaluated how museums with paid staff of zero to ten people and budgets of $0–$50,000 developed and created interactive displays. Through an analysis of case studies, Stillwell found that all museums evaluated were "progressing

281. Wombell, R. H., "QR codes are experiencing a resurgence but how can they benefit museums?" Museum Next, February 18, 2022, https://www.museumnext.com/article/qr-codes-are-experiencing-a-resurgence-but-how-can-they-benefit-museums/.

282. National Park Service, Harpers Ferry Center, Center for Media Service, Accessibility Committee, *Programmatic Accessibility Guidelines for National Park Service Interpretive Media*, pp. 71–74.

283. Wiener, A., "The Rise of 'Immersive' Art," *New Yorker*, February 10, 2022, https://www.newyorker.com/news/letter-from-silicon-valley/the-rise-and-rise-of-immersive-art.

284. *Sense of Place Gallery*, permanent exhibition, National Nordic Museum, Seattle, Washington.

285. Wombell, "QR codes are experiencing a resurgence but how can they benefit museums?"; Museum Platform Ltd., "Our technology" How we can help, accessed February 10, 2023, https://themuseumplatform.com/how-we-can-help/about-our-technology/.

286. Stillwell, "Putting the 'Play' Back Into Display: Interactive Exhibits in Small Museums," p. 53.

towards a visitor-centered, interactive model of exhibit design," with exhibits developed between 2000–2010 being accompanied by audio, video, or tactile interactives and exhibits developed between 2011–2017 focusing on participatory interactives. All cases were limited by budget, space, time, and staffing.[287]

Stillwell found that museums with minimal funding or staffing to support software and programming preferred non-computer-based interactives, such as tactile, participatory, and role-playing interactives. These activities should be able to be completed independently, take three-to-five minutes, and have a clear relationship to the remainder of the exhibit. Technologies for computer-based interactives, such as Raspberry Pis (a small computer device costing $10 to $50) and RFID scanners (ranging from $500 to $2,000), by contrast, require an information technology (IT) specialist or consultant. An alternative technology that does not require an IT specialist is the software BrightSign, which compiles videos onto a device with push-button activation.[288]

Ultimately, interactive exhibits seek to actively engage one or more of the five senses beyond simply reading and observing static object and text. These exhibits may be partially or completely immersive , may require physical engagement to view timelines or additional text (Figure B-1, Figure B-2, and Figure B-3), or may incite some type of touch or play (Figure B-4, Figure B-5, Figure B-6, and Figure B-7). Budget and staffing constraints may determine whether interactive exhibits are computer-based or non-computer-based. Regardless of presentation, the objective of interactives is to enhance engagement with and understanding of the information presented in the exhibit.[289]

287. Stillwell, "Putting the 'Play' Back Into Display: Interactive Exhibits in Small Museums," pp. 53–56.

288. Stillwell, "Putting the 'Play' Back Into Display: Interactive Exhibits in Small Museums," pp. 53–56.

289. Stillwell, "Putting the 'Play' Back Into Display: Interactive Exhibits in Small Museums," pp. 53–56.

Figure B-1. Interpretive panel with center barrel that rotates to show additional information (Image by ERDC-CERL researchers, 2022; [Fort Sheridan], permanent exhibition, Lake County Forest Preserves, Lake Forest, Illinois).



Figure B-2. Interpretive panel with sliding insert to compare historic and contemporary imagery (Image by ERDC-CERL researchers, 2022; [Stirling Castle history], permanent exhibition, Stirling Castle, Stirling, Scotland).

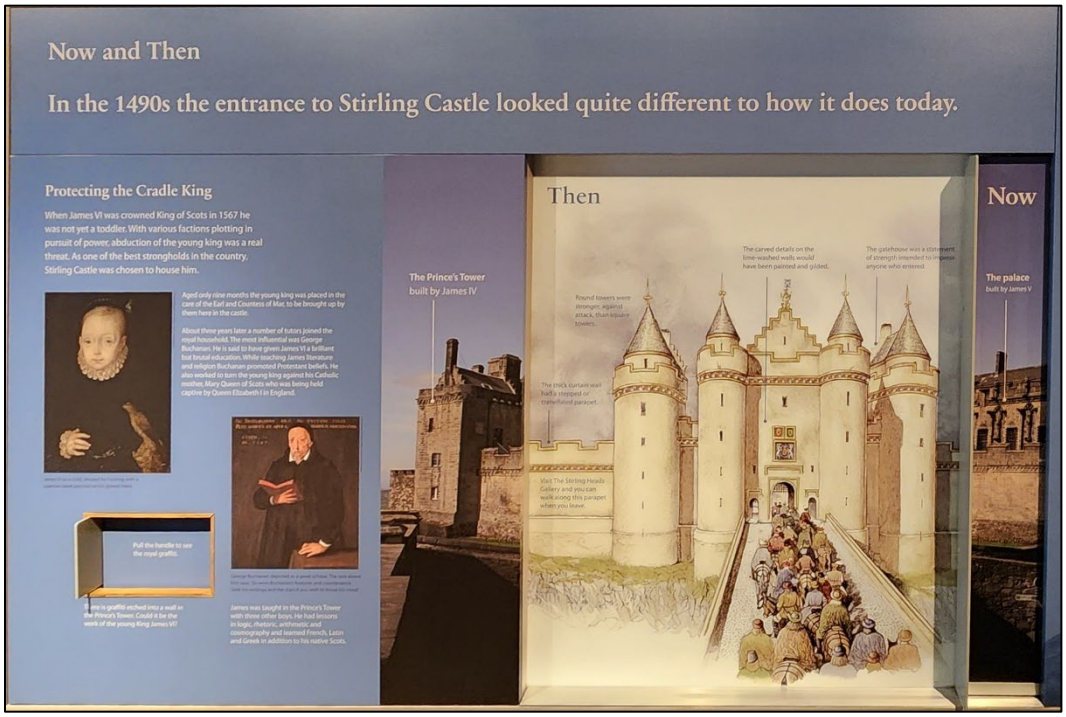


Figure B-3. Interpretive panel with images that visitors may turn though (Image by ERDC-CERL researchers, 2022; [Fort Sheridan], permanent exhibition, Lake County Forest Preserves, Lake Forest, Illinois).

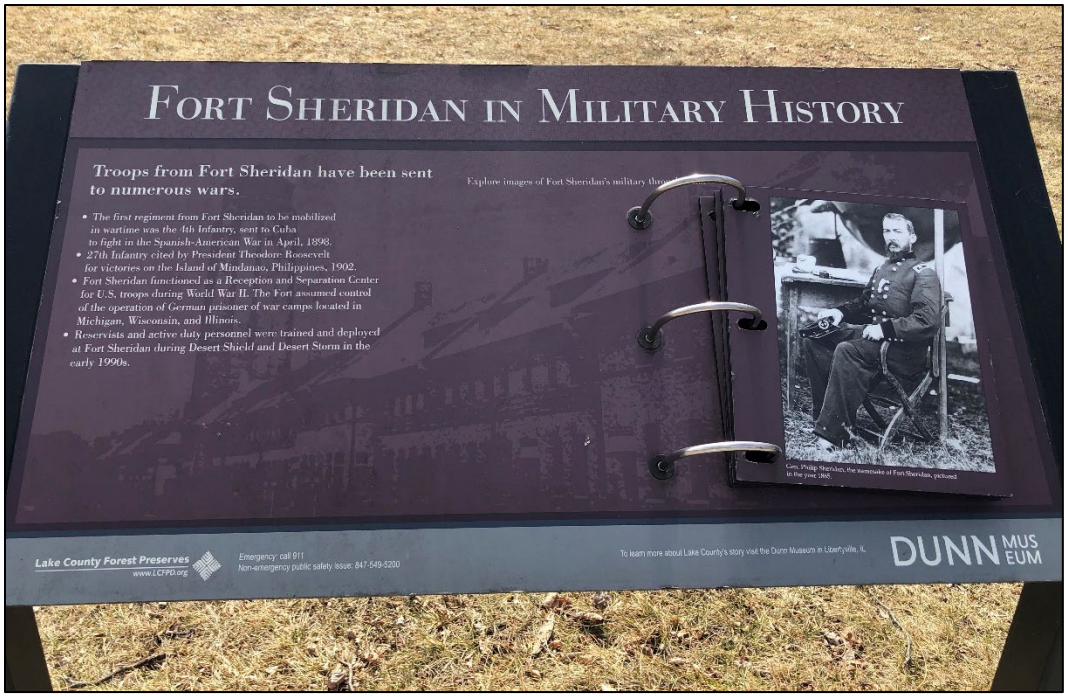


Figure B-4. Tactile exhibit at the Pullman National Monument Visitor center, Chicago, Illinois, that invites visitors to feel historic building materials (Image by ERDC-CERL researchers, 2023).



Figure B-5. Tactile exhibit at the Pullman National Monument Visitor center, Chicago, Illinois, that invites visitors to feel re-creations of historic dishware and cutlery. The re-creations are adhered to the table and adjacent to enclosed historic dishware and cutlery (Image by ERDC-CERL researchers, 2023).



Figure B-6. Coastal artillery exhibit at Fort Sheridan Forest Preserve, Chicago, Illinois, that incites play and interaction with WWII-era weapons and a re-creation WWII-era artillery firing point (Image by ERDC-CERL researchers, 2023).



Figure B-7. Interactive and thoughtfully placed sculpture and public art that is designed to incite play, Maggie Daley Park, Chicago, Illinois (Image by ERDC-CERL researchers, 2023).



Appendix C: Works Included in the 1943 Art Exhibit

Table C-1 contains a list of works included in the 1943–1946 art exhibit, along with repository information, when known. The 86 works exhibited at the MVOC included 38 paintings, 44 prints, one mural, and three sculptures. The current locations of at least 56 pieces are known and 30 are unknown. For more information regarding the artworks, see Table C-1.

Table C-1. Works included in the 1943–1946 art exhibit. (Table re-created from Schacht et al. 2023, Appendix A, Table A.1. Public domain.)

No.	Name	Work Title	Repository	GSA Object No.
Paintings				
1.	Avery, Henry	Girl with Peaches	Unknown	—
2.	Avery, Henry	Big Apples	Unknown	—
3.	Carter, William	South Side Alley	Howard University Gallery of Art	—
4.	Cortor, Eldzier	Adjustment	Howard University Gallery of Art Accession No. 47.9.P	—
5.	Cortor, Eldzier	She Didn't Forget	Howard University Gallery of Art Accession No. 47.8.P	—
6.	Crite, Allen	Shawmut Avenue	Northeastern University Archives and Special Collections	—
7.	Davis, Charles	Benediction	Unknown	—
8.	Davis, Charles	Newsboy	Howard University Gallery of Art Accession No. 47.14.P	—
9.	Dillard, Thurman	Aviator	Unknown	—
10.	Ellison, Walter	The Story Book	Unknown	—
11.	Loper, Edward	McCauley Street	Unknown	—
12.	Lutz, John C.	Early Snow	Unknown	—
13.	Moore, Lonnie	After School	Unknown	—
14.	Motley, Archibald	Carnival	Howard University Gallery of Art Accession No. 47.24.P	—
15.	Motley, Archibald	Arrival of the Slaves	Howard University Gallery of Art Accession No. 47.26.P	—
16.	Sebree, Charles	Portrait of a Man	Unknown	—
17.	Sebree, Charles	Sunflowers	Milwaukee Art Museum	—
18.	Davis, Charles	Johnny Mae Sewing	Unknown	—
19.	Howard, Humbert	The Gardner's House	Unknown	—
20.	Lightfoot, Elba	Mural Panel	Howard University Gallery of Art 1947.20.P	—

Table C-1 (cont.). Works included in the 1943–1946 art exhibit. (Table re-created from Schacht et al. 2023, Appendix A, Table A.1. Public domain.)

21.	Motley, Archibald	The Plotters	Private Collection	—
22.	Walker, Earl	Cornerstone	Unknown	—
23.	Vavak, Joseph	At Work	Unknown	—
24.	Troy, Adrian	Salt Works	Unknown	—
25.	Bruce, Stuart	Man Shoveling	Unknown	—
26.	Cortor, Eldzier	Still Life Figure	Unknown	—
27.	Gillien, Theodore	Blues in Flood Time	Howard University Gallery of Art	—
28.	Neal, Frank	Girl in Yellow Hat	Howard University Gallery of Art Accession No. 44.1.D	—
29.	Brown, Samuel	Portrait Study	Unknown	—
30.	Brown, Samuel	Child Smiling	Unknown	—
31.	Brown, Samuel	Writing Lesson	Howard University Gallery of Art 47.17.G-Lith	—
32.	Thrash, Dox	While Philly Sleeps	Unknown	—
33.	Thrash, Dox	Work at Last	Howard University Gallery of Art Accession No. NN2681	—
34.	Brown, Samuel	Child Reading	Unknown	—
35.	Carter, William	Landscape	Unknown	—
36.	Thrash, Dox	Landscape	Unknown	—
37.	Gaines, Felix	Mural Sketch No. 1	Unknown	—
38.	Gaines, Felix	Mural Sketch No. 2	Unknown	—
		Prints and Drawings		
39.	Chessé, Ralph	Family Group	Detroit Institute of Arts Accession No. 43.146	FA9264
40.	Cortor, Eldzier	The Task	Unknown	—
41.	Cortor, Eldzier	Study No. 10	Howard University Gallery of Art	—
42.	Cortor, Eldzier	Study No. 11	Howard University Gallery of Art	—
43.	Laessle, Paul	Night Goings On	Baltimore Museum of Art Accession No. L.1943.9.651	FA6782
44.	Malnate, Edward	Tobacco Rows	Philadelphia Museum of Art Accession No. 2-1943-276 (5)	FA15297
45.	Steth, Raymond	Evolution of Swing	Metropolitan Museum of Art Accession No. 43.46.55	FA16903
46.	Thrash, Dox	Portrait of R.W.	Unknown	—
47.	Ellison, Walter	Monotype	Unknown	—
48.	Heldner, Knute	The Flood	Weisman Art Museum	FA4443
49.	Sallée, Charles	Used Cars	San Francisco Museum of Modern Art	FA6450
50.	Thrash, Dox	Life	Philadelphia Museum of Art; Howard University Gallery of Art Accession No. NN73	FA15115

Table C-1 (cont.). Works included in the 1943–1946 art exhibit. (Table re-created from Schacht et al. 2023, Appendix A, Table A.1. Public domain.)

51.	Jones, Lawrence	St. Louis Cathedral	Unknown	—
52.	Jones, Lawrence	Wagon	Unknown	—
53.	Schardt, Bernard	Girl Sewing	University of Michigan Museum of Art; Smithsonian American Art Museum Accession No. 1975.83.82	FA14110
54.	Steth, Raymond	Re-creation	Philadelphia Museum of Art	FA15064
55.	Thrash, Dox	Happy Journey	Howard University Gallery of Art; Free Library of Philadelphia Accession No. facwp00176	—
56.	Thrash, Dox	Ebony Joe	Howard University Gallery of Art Accession No. NN161	—
57.	Thrash, Dox	Octoroon	Howard University Gallery of Art Accession No. NN1164	FA22020
58.	Brown, Samuel	Abstract	Philadelphia Museum of Art Accession No. 2-1943-276 (94)	FA12952
59.	Brown, Samuel	Writing Lesson	Free Library of Philadelphia	FA21345
60.	Clark, Claude	Jumpin' Jive	Philadelphia Museum of Art Accession No. 2-1943-276 (51)	FA11413
61.	Clark, Claude	Boogie-Woogie	Howard University Gallery of Art Accession No. 47.23.G-Lith Philadelphia Museum of Art Accession No. 1941-53-400	—
62.	Clark, Claude	Hills	Philadelphia Museum of Art Accession No. 2-1943-276 (72)	FA3170
63.	Clark, Claude	Time Out	Howard University Gallery of Art Accession No. NN1200 Philadelphia Museum of Art Accession No. 2-1943-275 (7)	FA11420
64.	Pringle, Bryant	Arc Welder	Howard University Gallery of Art Accession No. 2008.115.5237	—
65.	Sallée, Charles	Bertha	Case Western Reserve University	FA19269
66.	Sallée, Charles	The Post Setters	Case Western Reserve University	FA19273
67.	Sallée, Charles	Swingtime	Case Western Reserve University; Howard University Gallery of Art Accession No. 1215 and NN1344	FA19274
68.	Steth, Raymond	Reggie	Newark Museum; Howard University Gallery of Art Accession No. NN3646	FA3510
69.	Steth, Raymond	Sidewalk Quintet	Newark Museum; Metropolitan Museum of Art Accession No. 1999.529.158	FA3513
70.	Steth, Raymond	Debris	Howard University Gallery of Art	—
71.	Steth, Raymond	Despair	Metropolitan Museum of Art Accession No. 43.46.86	FA15058

Table C-1 (cont.). Works included in the 1943–1946 art exhibit. (Table re-created from Schacht et al. 2023, Appendix A, Table A.1. Public domain.)

72.	Steth, Raymond	Patton St. Derelict	Howard University Gallery of Art Accession No. NN1220	—
73.	Steth, Raymond	Apostolic	Metropolitan Museum of Art Accession No. 43.46.83	—
74.	Thrash, Dox	Coal Yard	Howard University Gallery of Art Accession No. NN3140	—
75.	Thrash, Dox	Monday Morning Wash	Philadelphia Museum of Art Accession No. 1941-53-377	FA12968
76.	Thrash, Dox	Cabin Days	Free Library of Philadelphia; Howard University Gallery of Art Accession No. NN159	FA22011
77.	Thrash, Dox	Deacon Jones Well	Philadelphia Museum of Art	FA15109
78.	Thrash, Dox	Old Barns	Indiana State University	FA20624
79.	Thrash, Dox	Surface Mining	Newark Museum; Howard University Gallery of Art Accession No. NN163	FA3537
80.	Thrash, Dox	Demolition	Saint Louis Art Museum	FA5238
81.	Thrash, Dox	Boats at Night	Free Library of Philadelphia Howard University Gallery of Art Accession No. NN157	FA22016
82.	Thrash, Dox	Cat Fishin’	Free Library of Philadelphia; Howard University Gallery of Art Accession No. NN3321	FA22041
		Mural		
83.	White, Charles	Five Great Americans	Howard University Gallery of Art Accession No. 47.32.P	—
		Sculpture		
84.	Mathews, Lester	Head	Howard University Gallery of Art	—
85.	Johnson, Sargent	Hippo	Howard University Gallery of Art Accession No. 47.3.S	—
86.	Johnson, Sargent	Woman	Unknown	—

Appendix D: Archival Deliverables

ERDC-CERL submitted to Fort Huachuca a third deliverable of an outline of themes for the future Black experience at Fort Huachuca during WWII exhibit, a 319 page PowerPoint file that contained the themes and examples of archival material to populate the future exhibit (Figure D-1), a list of names of Soldiers and personnel that were in archival photograph captions (Figure D-2), and high resolution files of all archival materials gathered to submit to the chosen contractor to be used in creating the future exhibit at Fort Huachuca (Figure D-3).

Figure D-1. Selection of slides from the PowerPoint deliverable file.



Figure D-1 (cont.). Selection of slides from the PowerPoint deliverable file.

U.S. ARMY
US Army Corps of Engineers

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PLANNING AND CONSTRUCTION - BARRACKS

- Caption: "F" Company, 25th Inf., standing in ranks, at ease, preparatory to marching out to field. Fort Huachuca, AZ, May 19, 1942. Note barracks buildings in the background.
- Source: NARA College Park. Huachuca, Ft, Ariz. 111-SCA, 318



U.S. ARMY
US Army Corps of Engineers

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SEGREGATION AT HUACHUCA

- Caption: Maj. Gen. Hall, Commander 93rd Division, Fort Huachuca, AZ, watches his sandwich being prepared at the picnic. May 20, 1942.
- Source: NARA College Park. Huachuca, Ft, Ariz. 111-SCA, 318



Figure D-1 (cont.). Selection of slides from the PowerPoint deliverable file.

U.S. ARMY US Army Corps of Engineers

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RECREATION – CELEBRITY GUESTS

- Caption: Lena Horne performing at a baseball game, Fort Huachuca, August 22, 1943.
- Source: SWABS MVOC Historic Photos



U.S. ARMY US Army Corps of Engineers

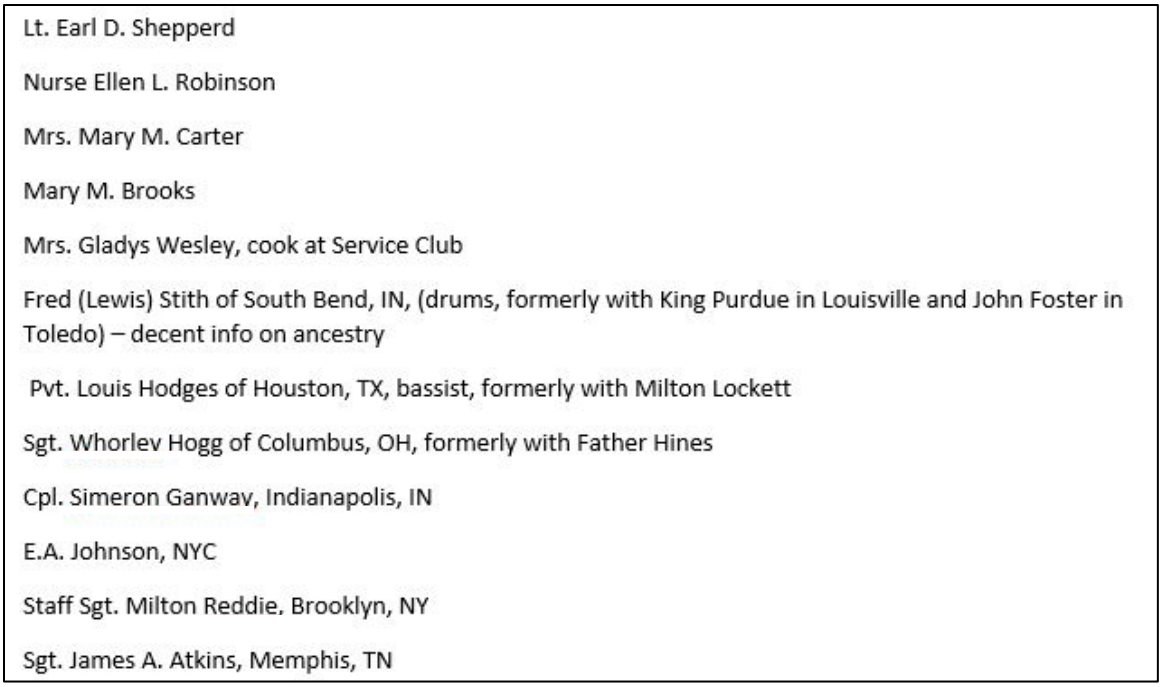
278

MEDICAL PERSONNEL

- Caption: "Hospital Laboratories." This WAAC is shown during her first day at her new job. An experienced laboratory technician, she is taught the hospital routine by the enlisted man working with her. They are left to right, T/4th Thomas McClellan and Auxiliary, Thelma R. Johnson, Post Hospital, Fort Huachuca, AZ. December 8, 1942.
- Source: NARA College Park. Huachuca, Ft, Ariz. 111-SCA, 319



Figure D-2. A screenshot of a portion of the list of names of Soldiers and personnel that are in archival photograph captions.



Lt. Earl D. Shepperd

Nurse Ellen L. Robinson

Mrs. Mary M. Carter

Mary M. Brooks

Mrs. Gladys Wesley, cook at Service Club

Fred (Lewis) Stith of South Bend, IN, (drums, formerly with King Purdue in Louisville and John Foster in Toledo) – decent info on ancestry

Pvt. Louis Hodges of Houston, TX, bassist, formerly with Milton Lockett

Sgt. Whorlev Hogg of Columbus, OH, formerly with Father Hines

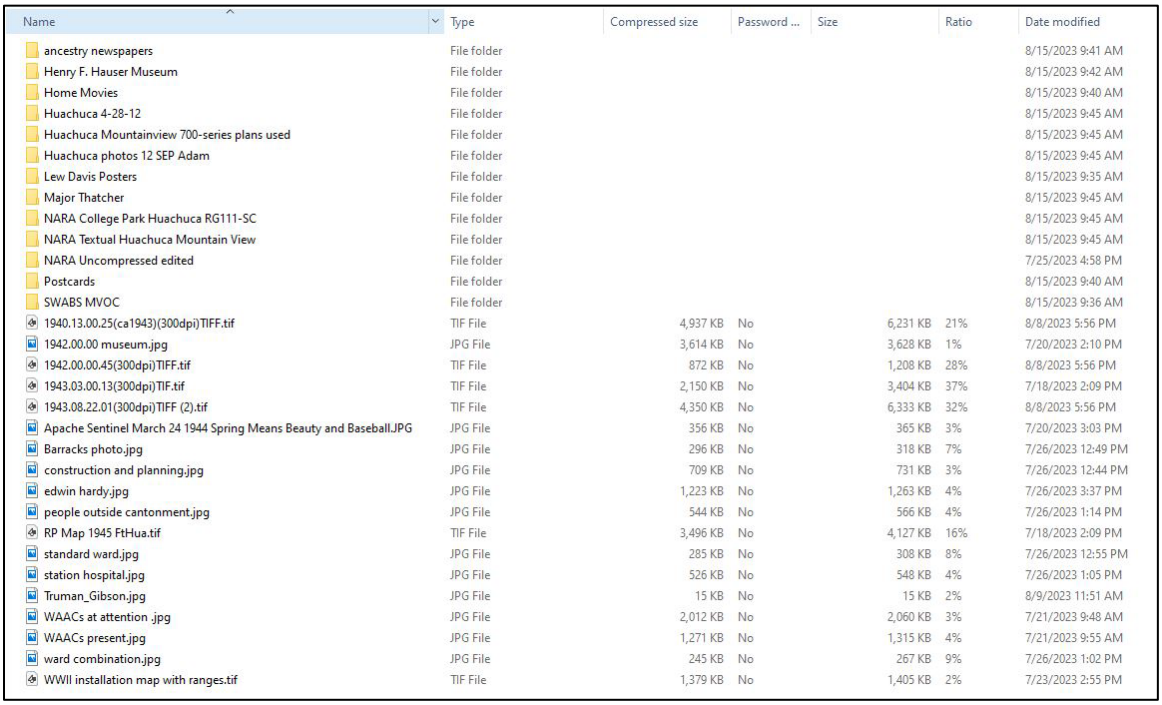
Cpl. Simeron Ganwav, Indianapolis, IN

E.A. Johnson, NYC

Staff Sgt. Milton Reddie. Brooklyn, NY

Sgt. James A. Atkins, Memphis, TN

Figure D-3. A screenshot of the high resolution files of all archival materials gathered to be used in creating the future exhibit at Fort Huachuca.



Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
ancestry newspapers	File folder					8/15/2023 9:41 AM
Henry F. Hauser Museum	File folder					8/15/2023 9:42 AM
Home Movies	File folder					8/15/2023 9:40 AM
Huachuca 4-28-12	File folder					8/15/2023 9:45 AM
Huachuca Mountainview 700-series plans used	File folder					8/15/2023 9:45 AM
Huachuca photos 12 SEP Adam	File folder					8/15/2023 9:45 AM
Lew Davis Posters	File folder					8/15/2023 9:35 AM
Major Thatcher	File folder					8/15/2023 9:45 AM
NARA College Park Huachuca RG111-SC	File folder					8/15/2023 9:45 AM
NARA Textual Huachuca Mountain View	File folder					8/15/2023 9:45 AM
NARA Uncompressed edited	File folder					7/25/2023 4:58 PM
Postcards	File folder					8/15/2023 9:40 AM
SWABS MVOC	File folder					8/15/2023 9:36 AM
1940.13.00.25(ca1943)(300dpi)TIFF.tif	TIF File	4,937 KB	No	6,231 KB	21%	8/8/2023 5:56 PM
1942.00.00 museum.jpg	JPG File	3,614 KB	No	3,628 KB	1%	7/20/2023 2:10 PM
1942.00.00.45(300dpi)TIFF.tif	TIF File	872 KB	No	1,208 KB	28%	8/8/2023 5:56 PM
1943.03.00.13(300dpi)TIF.tif	TIF File	2,150 KB	No	3,404 KB	37%	7/18/2023 2:09 PM
1943.08.22.01(300dpi)TIFF (2).tif	TIF File	4,350 KB	No	6,333 KB	32%	8/8/2023 5:56 PM
Apache Sentinel March 24 1944 Spring Means Beauty and Baseball.JPG	JPG File	356 KB	No	365 KB	3%	7/20/2023 3:03 PM
Barracks photo.jpg	JPG File	296 KB	No	318 KB	7%	7/26/2023 12:49 PM
construction and planning.jpg	JPG File	709 KB	No	731 KB	3%	7/26/2023 12:44 PM
edwin hardy.jpg	JPG File	1,223 KB	No	1,263 KB	4%	7/26/2023 3:37 PM
people outside cantonment.jpg	JPG File	544 KB	No	566 KB	4%	7/26/2023 1:14 PM
RP Map 1945 FtHua.tif	TIF File	3,496 KB	No	4,127 KB	16%	7/18/2023 2:09 PM
standard ward.jpg	JPG File	285 KB	No	308 KB	8%	7/26/2023 12:55 PM
station hospital.jpg	JPG File	526 KB	No	548 KB	4%	7/26/2023 1:05 PM
Truman_Gibson.jpg	JPG File	15 KB	No	15 KB	2%	8/9/2023 11:51 AM
WAACs at attention .jpg	JPG File	2,012 KB	No	2,060 KB	3%	7/21/2023 9:48 AM
WAACs present.jpg	JPG File	1,271 KB	No	1,315 KB	4%	7/21/2023 9:55 AM
ward combination.jpg	JPG File	245 KB	No	267 KB	9%	7/26/2023 1:02 PM
WWII installation map with ranges.tif	TIF File	1,379 KB	No	1,405 KB	2%	7/23/2023 2:55 PM

Abbreviations

ABA	Architectural Barriers Act
ADA	Americans with Disabilities Act
ANC	Army Nurse Corps
APE	Area of Potential Effect
AR	Alternate reality
CDI	US Forest Service, Rocky Mountain Region, Center for Design and Interpretation
CERL	Construction Engineering Research Laboratory
CMH	Center for Military History
COA	Course of action
CRM	Cultural Resources Management
DPW	Directorate of Public Works
ENRD	Environmental and Natural Resources Division
EPG	Electronic Proving Ground
ERDC	Engineer Research and Development Center
FSORAG	Forest Service Outdoor Recreation Guidelines
FSTAG	Forest Trail Accessibility Guidelines
HBCUs	Historically Black Colleges and Universities
ICT	Information and communication technologies
IT	Information technology
MVOC	Mountain View Officers' Club
N/A	Not applicable

NARA	National Archives and Records Administration
NCO	Noncommissioned officer
NPS	National Park Service
NRHP	National Register of Historic Places
PAR	Physical Activity, Running
PCR	Planning Charrette Report
QR	Quick response
SHPO	State Historic Preservation Office
SRM	Sustainment, Restoration and Modernization
SWABS	Southwest Association of Buffalo Soldiers
USACE	US Army Corps of Engineers
USAICoE	US Army Intelligence Center of Excellence
USO	United Service Organizations
VR	Virtual reality
WAAC	Women's Army Auxiliary Corps
WAC	Women's Army Corps

REPORT DOCUMENTATION PAGE

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED	
		START DATE	END DATE
December 2023	Final Report	FY22	FY23

4. TITLE AND SUBTITLE

The Black Experience at Fort Huachuca during WWII:
An Interpretation and Exhibit Plan for the Mountain View Officers' Club

5a. CONTRACT NUMBER	5b. GRANT NUMBER	5c. PROGRAM ELEMENT
5d. PROJECT NUMBER	**5e. TASK NUMBER**	**5f. WORK UNIT NUMBER**

6. AUTHOR(S)

Madison L. Story, Kayley R. Schacht, Aaron R. Schmidt, Karlee E. Feinen, Madelyn G. McCoy, Anthony L. White, and Adam D. Smith

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

US Army Engineer Research and Development Center (ERDC)
Construction Engineering Research Laboratory (CERL)
2902 Newmark Dr.
Champaign, IL 61824

8. PERFORMING ORGANIZATION REPORT NUMBER

ERDC/CERL TR-23-30

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Fort Huachuca–Environmental and Natural Resources Division
Directorate of Public Works
US Army Garrison
3040 Butler Road, Building 22526
Fort Huachuca, AZ 85613

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT

Distribution Statement A. Approved for public release: distribution is unlimited.

13. SUPPLEMENTARY NOTES

Project 473343, MIPR 11746711, "Huachuca African American WWII Experience Exhibit Plan."

14. ABSTRACT

This technical report serves as a contextual planning document for an interpretive exhibit within and surrounding the Mountain View Officers' Club, Building 66050, at Fort Huachuca, Arizona. During World War II (WWII), the Mountain View Officers' Club served as the installation's Black officers' club. It served as various other uses until 2004, at which point it became vacant. Today, Fort Huachuca is planning to rehabilitate the building into a mission use space with an indoor-outdoor exhibit space for visitor use within the rehabilitation plan footprint, an 8.15 acre Area of Potential Effect (APE) including the WWII building and associated adjacent features. This report provides numerous potential Courses of Action regarding methods of exhibiting and interpreting historic materials and information in the public spaces within the APE.

The Courses of Action chosen during a future Design-Build phase will be based on factors currently unknown, such as funding and staffing; thus, this document serves as a Phase I concept plan for ideas that will be further developed and finalized during the Phase II Design-Build phase. This report also provides guidance for course of action implementation pending factors currently unknown. Fort Huachuca will keep this report in both digital and analog format in perpetuity. ERDC-CERL will also publish it online and make it available to the public free of cost.

15. SUBJECT TERMS

Exhibit plan; Fort Huachuca, Arizona; Mountain View Officers' Club; Segregated Army; World War II

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES
a. REPORT	b. ABSTRACT	C. THIS PAGE		
Unclassified	Unclassified	Unclassified	SAR	199

19a. NAME OF RESPONSIBLE PERSON	19b. TELEPHONE NUMBER (include area code)