

**BARRY M. GOLDWATER RANGE**  
**INTEGRATED CULTURAL RESOURCES**  
**MANAGEMENT PLAN**

**Part III: Cultural Resources Management on**  
**The Barry M. Goldwater Range West**



Prepared for  
MCAS Yuma  
Range Management Department  
Yuma, Arizona

2019

Cover photograph taken from *A Historic Mining Context for the Western Barry M. Goldwater Range and an Archaeological Inventory of the Historic Fortuna Mine and Campsite, Yuma County, Arizona* (Schaefer et al. 2007).

*Photograph Caption* - The Fortuna Mill, after 1900, view north, with the blacksmith shop, hoists and gallows frame above and the tailings pile and pond below after removal of cyanide plant. Note the large stacks of ironwood for fuel (Arizona Historical Society, Yuma).

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## LIST OF ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
AGFD	Arizona Game and Fish Department
AIRFA	American Indian Religious Freedom Act
ALF	Auxiliary Landing Field
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
ASM	Arizona State Museum
AUX-II	Auxiliary Airfield II
BMGR	Barry M. Goldwater Range
BMGR East	Barry M. Goldwater Range East
BMGR West	Barry M. Goldwater Range West
CA	Cooperative Agreement
CBP	United States Customs and Border Protection
CD-ROM	compact disk read-only memory
CFR	Code of Federal Regulations
CLEO	Conservation Law Enforcement Officer
CO	Commanding Officer
COLS	Common Output Levels of Service
CommStrat	MCAS Yuma Communication Strategy and Operations
CRM	Cultural Resources Manager
CSOC	Convoy Security Operations Courses
DHS	United States Department of Homeland Security
DoD	Department of Defense
DoN	Department of the Navy
DVD-ROM	digital versatile disc read-only memory
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPPPBE	Environmental Project Planning, Programming, Budgeting and Execution
FARP	Forward Arming and Refueling Point
FASP	Field Ammunition Supply Point
FOIA	Freedom of Information Act
FR	<i>Federal Register</i>
FY	Fiscal Year
GBAFAF	Gila Bend Air Force Auxiliary Field
GIS	geographic information system
GPS	Global Positioning System
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan

MCAGCC	Marine Corps Air Ground Combat Center
MCAS	Marine Corps Air Station
MCO	Marine Corps Order
MLWA	Military Lands Withdrawal Act of 1999
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSC	Multiple Surveillance Capability
NAGPRA	Native American Graves Protection and Repatriation Act
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OPNAV	Office of the Chief of Naval Operations
PA	Programmatic Agreement
PDF	Portable Document Format
PL	Public Law
RMD	Range Management Department
SDE	Spatial Data Engine
SDSFIE	Spatial Data Standards for Facilities, Infrastructure, and Environment
SECNAV	Secretary of the Navy
SHPO	State Historic Preservation Officer
SOP	Standard Operating Procedure
TACTS	Tactical Aircrew Combat Training Systems
TCP	Traditional Cultural Property
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USFWS	United States Fish and Wildlife Service
USMC	United States Marine Corps
USN	United States Navy
UXO	unexploded ordnance

# **BARRY M. GOLDWATER RANGE WEST INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN**

2019 – 2023

## **SIGNATURE PAGE**

This Integrated Cultural Resources Management Plan documents the procedures and processes through which Barry M. Goldwater Range West fulfills its commitment to compliance with applicable laws, regulations, and policies in the spirit of faithful stewardship of cultural resources.

### **APPROVING OFFICIALS:**



24 July 2019

**David A. Suggs**  
Commanding Officer  
Marine Corps Air Station Yuma, Yuma, Arizona

**DATE**

## PLAN UPDATES

This Integrated Cultural Resources Management Plan covers a five-year period. The plan will be reviewed annually and updated on an as-needed basis to account for new information and address any problems encountered while using the document.

Annual Reviews		
Date	Review Findings	Reviewer Initials

Updates and revisions are a necessary part of maintaining a proactive management plan. The section below should be used to document changes to the plan that will improve cultural resources management. Each entry in this section should reference the plan section and page number that is being updated to facilitate quick cross-referencing.

Plan Changes			
Date	Section/Page	Comment/Change	Reviewer

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## EXECUTIVE SUMMARY

The Integrated Cultural Resources Management Plan (ICRMP) for the Barry M. Goldwater Range (BMGR) is designed to support the military mission through proactive cultural resources management and to fulfill legal obligations for the protection of historic properties needed to sustain the withdrawal of public lands for military operations. The ICRMP is divided into three separate documents. Part I provides the basic components and general overview of cultural resources management on BMGR (Luke Air Force Base 2009a). Part II develops a tailored cultural resources management plan for Barry M. Goldwater Range East (BMGR East) (Luke Air Force Base 2009b), which is managed by the United States Air Force (USAF). Part III (this document) provides specific guidance for cultural resources management on Barry M. Goldwater Range West (BMGR West), which is managed by the United States Marine Corps (USMC). This organizational structure reflects the congressionally mandated management authority of the Secretary of the Air Force and Secretary of the Navy over the eastern and western portions of the range, respectively, their specific regulatory requirements, and the differences in military activities and cultural and natural resources between the BMGR East and the BMGR West.

This document is a multi-year planning and decision document signed by the Commanding Officer of Marine Corps Air Station (MCAS) Yuma, designed specifically for the management and regulatory compliance of cultural resources on the BMGR West. It is an internal document that integrates cultural resources program requirements with ongoing mission activities and other planning documents and metrics. It documents cultural resources associated with the BMGR West, identifies potential conflicts between the USMC military mission and cultural resources management, and describes compliance actions necessary to maintain mission-essential properties. The material in this ICRMP is organized to provide sufficient detail to guide day-to-day managers in an easy-to-use format, including the use of Standard Operating Procedures that address the installation's objectives, staffing, policies, and compliance actions to ensure legal and regulatory requirements for managing cultural resources are fulfilled.

This document was prepared pursuant to Department of Defense Instruction 4715.16, *Cultural Resources Management*; Secretary of the Navy Instruction 4000.35A, *Department of the Navy Cultural Resources Program*; and Marine Corps Order 5090.2 (Volume 8), *United States Marine Corps Environmental Compliance and Protection Program: Cultural Resources Management*. As required by *U.S. Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plan Update* (USMC 2009), this ICRMP will require annual reviews and updates on an as-needed basis to take into account new information and address any problems encountered with using the document.

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# 1. INTRODUCTION

The Integrated Cultural Resources Management Plan (ICRMP) for the Barry M. Goldwater Range (BMGR) is designed to support the military mission through proactive cultural resources management and to fulfill legal obligations for the protection of historic properties needed to sustain the withdrawal of public lands for military operations. The ICRMP is divided into three separate documents. Part I provides the basic components and general overview of cultural resources management on the BMGR (Luke Air Force Base 2009a). Part II develops a tailored cultural resources management plan for Barry M. Goldwater Range East (BMGR East) (Luke Air Force Base 2009b), which is managed by the United States Air Force (USAF). Part III (this document) provides specific guidance for cultural resources management on Barry M. Goldwater Range West (BMGR West), which is managed by the United States Marine Corps (USMC). This organizational structure reflects the congressionally mandated management authority of the Secretary of the Air Force and Secretary of the Navy (SECNAV) over the eastern and western portions of the range, respectively, their specific regulatory requirements, and the differences in military activities and cultural and natural resources between the BMGR East and the BMGR West.

This document (Part III) is a multi-year planning and decision document signed by the Commanding Officer (CO) of Marine Corps Air Station (MCAS) Yuma, designed specifically for the management and regulatory compliance of cultural resources on the BMGR West. It is an internal document that integrates cultural resources program requirements with ongoing mission activities and other planning documents and metrics. It documents cultural resources associated with the BMGR West, identifies potential conflicts between the USMC military mission and cultural resources management, and identifies compliance actions necessary to maintain mission-essential properties.

Part III is designed to be used in conjunction with Part I of the ICRMP (Luke Air Force Base 2009a), and refers the reader back to pertinent sections of Part I instead of repeating general information. For example, Part I outlines military aviation training and support activities on the BMGR and describes the working relationships and responsibilities among the USAF, USMC, and federal and state agency partners in the region (Sections 1 and 2, respectively). In Section 3 of Part I, the laws, regulations, and other guidance that govern cultural resources management on the BMGR are summarized. Sections 4 and 5 of Part I provide an overview of natural and cultural resources on the BMGR. The process of evaluating the historic significance of cultural resources, and thus their eligibility for inclusion on the National Register of Historic Places (NRHP), is detailed in Section 6. In Section 7 of Part I, the efforts of USAF and USMC to identify and consult with tribes that attach cultural importance to places on the BMGR are summarized. Part I concludes with a brief discussion of the relationship of military training and cultural resources management goals, and some anticipated challenges (Section 8).

Part III of the ICRMP was prepared pursuant to Department of Defense (DoD) Instruction 4715.16, *Cultural Resources Management*; SECNAV Instruction 4000.35A, *Department of the Navy Cultural Resources Program*; and Marine Corps Order 5090.2 (Volume 8), *United States Marine Corps Environmental Compliance and Protection Program: Cultural Resources Management*. This document is intended to support the BMGR Integrated Natural Resources

Management Plan (INRMP) (Luke Air Force Base and MCAS Yuma 2018a) required by Congress in the Military Lands Withdrawal Act of 1999 (MLWA).

Because this document follows *U.S. Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plan Update* (USMC 2009), the general format and content may differ from Parts I and II of the ICRMP.

## **1.1. MISSION AND GOALS FOR THE CULTURAL RESOURCES MANAGEMENT PROGRAM**

### **1.1.1. Military Mission**

The BMGR (Figures 1 and 2) is the nation's second largest tactical aviation training range and is essential for developing and maintaining the combat readiness of the USMC, USAF, United States Navy (USN), and Army tactical air forces. Since the beginning of World War II, the BMGR has contributed to the nation's defense by effectively accommodating the training requirements of changing air combat capabilities and missions. The USAF and USMC are the two principal agencies that operate and use the range for combat aircrew training.

Under the MLWA, Congress reauthorized the withdrawal of approximately 1,650,000 acres of public land for military use. The MLWA split the range into two segments (BMGR East and BMGR West), and assigned jurisdiction to the Secretary of the Air Force and SECNAV. The BMGR West encompasses approximately 700,000 acres. Range activities within the BMGR West are managed by the Range Management Department (RMD) at MCAS Yuma, and cultural resources stewardship is managed through the MCAS Yuma Cultural Resources Management Program. This program supports the USMC mission by achieving regulatory compliance and ensuring USMC stewardship responsibilities are met.

### **1.1.2. Goals of the Cultural Resources Management Program**

As described in Part I of the ICRMP (Luke Air Force Base 2009a), there are three overarching cultural resources management goals: (1) support military operations through proactive management of cultural resources; (2) fulfill legal obligations for the protection of historic properties; and (3) address Native American concerns, including disposition of cultural items. These goals are designed to comply with the DoD and USMC policies that are discussed in Section 1.4 (*Laws, Regulations, and Standards*).

## **1.2. ORGANIZATION OF THE DOCUMENT**

An important goal for this BMGR West ICRMP is to provide relevant information in a manner that facilitates the planning and decision-making necessary to achieve compliance. To that end, the material is organized to provide sufficient detail to guide day-to-day managers in an easy-to-use format, including the use of Standard Operating Procedures (SOPs) located in Appendix A.



Figure 1. Barry M. Goldwater Range West Regional Location Map



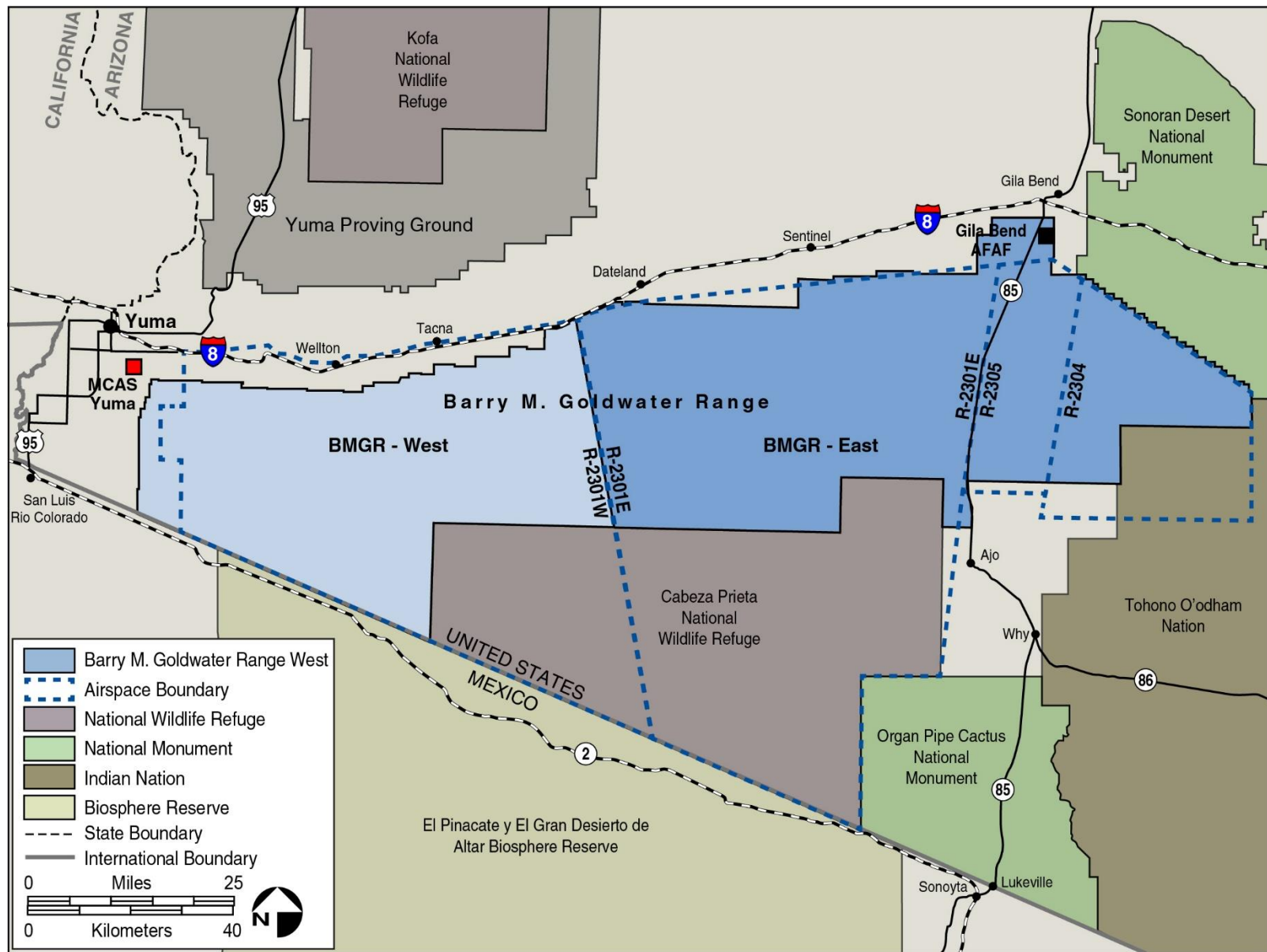


Figure 2. Barry M. Goldwater Range Land Tenure

Major topics of the ICRMP include:

- a summary of relevant laws, regulations, policies, and procedures, with emphasis on those that apply specifically to the BMGR West (Section 1.4);
- a review of key roles and responsibilities for cultural resources management at the BMGR West (Section 1.5);
- an overview of the current mission of the BMGR West (Section 2.1);
- a discussion of the types of projects that may affect cultural resources on the range (Section 2.1);
- a summary of previous cultural resources investigations and a list of previously recorded cultural resource sites, including a brief description of the properties and their NRHP-eligibility determinations (Section 2.2 and Appendix E);
- identification of unique cultural resource issues on the range (Section 2.2.5);
- an analysis of the sufficiency of existing cultural resources information and review of data gaps for compliance requirements and Section 110 survey progress (Section 2.2.7);
- procedures to ensure that actions of the installation and its tenants protect and enhance the cultural resources located on the range (Section 2.3);
- procedures for compliance with the National Historic Preservation Act (NHPA) (Section 2.3.2; SOPs #1 and 2);
- a discussion on integrating the NHPA Section 106 planning process with the National Environmental Policy Act (NEPA) process (Section 2.3.2);
- procedures for compliance with the Archaeological Resources Protection Act (ARPA) and Native American Graves Protection and Repatriation Act (NAGPRA) (Section 2.3.2; SOPs #3 and 4);
- procedures for inadvertent discoveries as well as ensuring the proper processing, maintenance, preservation, curation, and repatriation of archaeological collections (Section 2.3.2; SOPs #4, 5, and 6);
- coordination/consultation processes between the installation, Indian tribes, and the public (Section 2.3.2; SOP #7);
- a summary of cultural resources data management status, processes, and access requirements regarding electronic databases, hardcopy records, and geographic information system (GIS) data (Sections 2.3.3 and 2.3.4);
- provisions for public outreach (Section 2.3.5);
- protection and preservation strategies for threatened cultural resources (Section 2.3.6); and
- priorities for near-term and long-term actions related to cultural resources compliance, including funding priorities and protocols for specific program requirements (Section 2.3.7).

### **1.3. PREPARATION OF THE INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN**

This document is based on reviews of USMC policy information, previous cultural resources investigations and plans, and interviews with personnel at the BMGR West. The following provides additional information about consultation efforts, followed by a summary of relevant agency agreement documents that were reviewed and incorporated, when applicable, into the BMGR West ICRMP policies and guidelines. Copies of the agreement documents can be found in Appendix B.

#### **1.3.1. Integrated Cultural Resources Management Plan Consultations**

Primary consultation with external interested parties and the public was undertaken during the preparation of the Environmental Impact Statement (EIS) for the BMGR INRMP (United States Department of Air Force et al. 2006). Consulting parties for the preparation of Part I of the ICRMP (Luke Air Force Base 2009a) included the State Historic Preservation Officer (SHPO) and tribes that claim cultural affiliation with places on the BMGR.

In addition to the SHPO and the tribes, the U.S. Department of the Interior Bureau of Land Management and U.S. Fish and Wildlife Service (USFWS), on behalf of the Secretary of the Interior, and the Arizona Game and Fish Department (AGFD), on behalf of the state of Arizona, were afforded an opportunity to participate in consultations. Through the Intergovernmental Executive Committee, the agencies also invited the public, interested individuals, organizations, and entities to participate in the development of a Programmatic Agreement (PA) (36 CFR 800.14(b)(2)(ii)). The Advisory Council on Historic Preservation (ACHP) declined to participate in consultation.

The following tribes<sup>1</sup> have expressed a desire to be kept apprised of the development of the ICRMP for the BMGR West:

- Ak-Chin Indian Community;
- Cocopah Tribe;
- Colorado River Indian Tribes;
- Gila River Indian Community;
- Hia-Ced Hemajkam Organization;
- Quechan Tribe;
- Salt River Pima-Maricopa Indian Community;
- Tohono O'odham Nation;
- Yavapai-Apache Nation; and
- Yavapai-Prescott Indian Tribe.

Additionally, MCAS Yuma will send letters to the following tribes to determine if they are interested in consulting on future projects that occur on BMGR West: Chemehuevi Tribe, Fort

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<sup>1</sup> The listed tribes are federally recognized, except for the Hia-Ced Hemajkam Organization.

McDowell Yavapai Nation, Fort Mojave Indian Tribe, Hopi Tribe, Pueblo of Zuni, and San Carlos Apache Tribe.

### **1.3.2. Agency Agreement Documents**

#### **Barry M. Goldwater Range Integrated Natural Resources Management Plan**

**Programmatic Agreement.** A PA was developed among the 56th Range Management Office, Luke Air Force Base, MCAS Yuma, and the Arizona SHPO regarding potential impacts on historic properties from implementing the 2007 BMGR INRMP. The BMGR INRMP was jointly developed by Luke Air Force Base and MCAS Yuma in accordance with the MLWA of 1999. The INRMP was implemented via an EIS that studied the potential impacts it might have on various resources, including cultural resources. Because the effects on historic properties from 6 of the 17 conservation elements could not be assessed prior to the implementation of the INRMP, the PA was developed to stipulate the steps to be taken for compliance with Section 106 concerning those 6 elements on the BMGR. The following groups were invited to be consulting parties: the Ak-Chin Indian Community, the Cocopah Tribe, the Colorado River Indian Tribes, the Gila River Indian Community, the Hia C-ed O'odham Alliance, the Hopi Tribe, the Fort McDowell Yavapai Nation, the Fort Mohave Indian Tribe, the Fort Yuma-Quechan Tribe, the Pascua Yaqui Indian Tribe, the Salt River Pima-Maricopa Indian Community, the San Carlos Apache Tribe, the Tohono O'odham Nation, the Yavapai-Prescott Indian Tribe, the Yavapai-Apache Nation, and the Pueblo of Zuni. The PA was signed in 2005 and is currently in effect (Appendix B: B-1).

#### **Memorandum of Understanding on Section 106 Compliance Consultation Process for**

**Negative Findings.** A Memorandum of Understanding (MOU) between MCAS Yuma and the Arizona SHPO implements procedures to help streamline the Section 106 compliance consultation process for undertakings characterized by negative finds. The MOU was signed in 2010 and is currently in effect (Appendix B: B-2).

**Memorandum of Agreement on Curation Services.** A Memorandum of Agreement (MOA) between Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center (MCAGCC), and MCAS Yuma concerns curatorial services of archaeological artifacts, specimens, and associated records (per 36 CFR 79.4(b)). Six boxes of artifacts and associated records from BMGR West are currently housed at the MCAGCC Curation Facility, and all new BMGR West collections will be housed at MCAGCC for long-term storage and curation, per the MOA. The original MOA was signed in 2011; it was renewed in 2017 and is currently in effect (Appendix B: B-3).

### **1.4. LAWS, REGULATIONS, AND STANDARDS**

Federal laws, regulations, and Executive Orders establish a legal backdrop for managing cultural resources under federal oversight. Chief among these are the NHPA, ARPA, NAGPRA, NEPA, and Executive Order 13175 (*Consultation and Coordination with Indian Tribal Governments*). Additional direction is provided by DoD instructions, Department of the Navy (DoN) instructions, USMC orders, and MCAS Yuma standards.

Table 1 provides website addresses to access regulatory requirements, citations, and summaries of relevant legal authorities and policies for cultural resources on the range. It presents information in the following order: federal laws and implementing regulations, Executive Orders, DoD instructions and policies, DoN instructions, and USMC orders and guidelines.

Full text versions of many federal laws, regulations, and court decisions are accessible online from the Cornell University Law Library at <http://www.law.cornell.edu>. Most laws, regulations, and standards relating to cultural resources are accessible through the National Park Service at <http://www.nps.gov/history/laws.htm>. The website <http://www.dtic.mil/whs/directives> provides DoD instructions. Defense Environmental Network and Information Exchange at <https://www.denix.osd.mil> provides DoD cultural resources policy and guidance, and the DoN Issuances website at <https://www.secnav.navy.mil/doni/default.aspx> provides Office of the Chief of Naval Operations (OPNAV) and SECNAV instructions.

Section 3 (*The Legal Setting*) of Part I of the ICRMP (Luke Air Force Base 2009a) summarizes the most relevant regulations and policies that apply to the BMGR. The following provides brief descriptions of DoN and USMC policies and procedures, as well as MCAS Yuma survey standards that apply specifically to the BMGR West.

- **SECNAV Instruction 4000.35A, DoN Cultural Resources Program, April 9, 2001**

SECNAV Instruction 4000.35A establishes policy and assigns responsibilities for a cultural resources program under the direction and oversight of the Assistant Secretary of the Navy (Energy, Installations, and Environment). This instruction assigns responsibilities to the Commandant of the USMC which are applicable to USMC activities on the BMGR West, and the Commandant will issue implementing instructions. The *Navy Historic and Archaeological Resources Protection Planning Guidelines* also address preparation of Historic and Archaeological Resource Protection Plans, which are comparable to ICRMPs.

- **SECNAV Instruction 11010.14B, DoN Policy for Consultation with Federally Recognized Indian Tribes**

This policy clarifies DoN procedures and responsibilities for consultation with representatives of federally recognized Indian tribes, including Alaska Native governments, on issues with the potential to impact protected tribal resources, tribal rights, or Indian lands.

- **SECNAV Instruction 5090.8B, Policy for Environmental Protection, Natural Resources, and Cultural Resources Programs**

This DoN instruction re-issued policy and assigned responsibilities within the DoN for managing environmental protection, natural resources, and cultural resources programs.

- **OPNAV Instruction 11170.2B, Navy Responsibilities Regarding Undocumented Human Remains**

This policy provides guidance regarding the discovery, handling, and disposition of undocumented human remains located above-ground, below-ground, or in association with structures such as aircraft or ships during DoN action or on DoN land.



**Table 1. Legal Authorities and Policies**

Name	Regulation	Hyperlinks
<b>Public Law</b>		
Military Lands Withdrawal Act of 1999	PL 106-65 §3031	<a href="https://www.gpo.gov/fdsys/pkg/PLAW-106publ65/pdf/PLAW-106publ65.pdf">https://www.gpo.gov/fdsys/pkg/PLAW-106publ65/pdf/PLAW-106publ65.pdf</a>
Archaeological Resources Protection Act of 1979	16 USC §§ 470aa–mm	<a href="https://www.law.cornell.edu/uscode/text/16/chapter-1B">https://www.law.cornell.edu/uscode/text/16/chapter-1B</a>
Sikes Act	16 USC § 670	<a href="https://www.law.cornell.edu/uscode/text/16/chapter-5C/subchapter-I">https://www.law.cornell.edu/uscode/text/16/chapter-5C/subchapter-I</a>
Native American Graves Protection and Repatriation Act of 1990	25 USC §§ 3001–3013	<a href="https://www.law.cornell.edu/uscode/text/25/chapter-32">https://www.law.cornell.edu/uscode/text/25/chapter-32</a>
American Indian Religious Freedom Act of 1978	42 USC §§ 1996 and 1996a	<a href="https://www.law.cornell.edu/uscode/text/42/1996">https://www.law.cornell.edu/uscode/text/42/1996</a>
National Environmental Policy Act of 1969	42 USC §§ 4321–4370m	<a href="https://www.law.cornell.edu/uscode/text/42/chapter-55">https://www.law.cornell.edu/uscode/text/42/chapter-55</a>
National Historic Preservation Act of 1966	54 USC §§ 100101, 300101–307108	<a href="https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-A">https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-A</a>
Historic Sites Act of 1935	54 USC §§ 102303–102304, 309101, 320101–320106	<a href="https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-C/chapter-3201">https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-C/chapter-3201</a>
Antiquities Act of 1906	54 USC §§ 320301–320303	<a href="https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-C/chapter-3203">https://www.law.cornell.edu/uscode/text/54/subtitle-III/division-C/chapter-3203</a>
<b>Federal Regulation</b>		
Protection of Archaeological Resources: Uniform Regulations	32 CFR Part 229	<a href="https://www.law.cornell.edu/cfr/text/32/part-229">https://www.law.cornell.edu/cfr/text/32/part-229</a>
National Register of Historic Places Regulations	36 CFR Part 60	<a href="https://www.law.cornell.edu/cfr/text/36/part-60">https://www.law.cornell.edu/cfr/text/36/part-60</a>
Procedures for State, Tribal, and Local Government Historic Preservation Programs	36 CFR Part 61	<a href="https://www.law.cornell.edu/cfr/text/36/part-61">https://www.law.cornell.edu/cfr/text/36/part-61</a>
Determination of Eligibility for Inclusion in the National Register of Historic Places	36 CFR Part 63	<a href="https://www.law.cornell.edu/cfr/text/36/part-63">https://www.law.cornell.edu/cfr/text/36/part-63</a>
The Secretary of the Interior’s Standards for the Treatment of Historic Properties	36 CFR Part 68	<a href="https://www.law.cornell.edu/cfr/text/36/part-68">https://www.law.cornell.edu/cfr/text/36/part-68</a>
Curation of Federally-Owned and Administered Archaeological Collections	36 CFR Part 79	<a href="https://www.law.cornell.edu/cfr/text/36/part-79">https://www.law.cornell.edu/cfr/text/36/part-79</a>
Protection of Historic Properties	36 CFR Part 800	<a href="https://www.law.cornell.edu/cfr/text/36/part-800">https://www.law.cornell.edu/cfr/text/36/part-800</a>
Federal Property Management Regulations	41 CFR Part 101	<a href="https://www.law.cornell.edu/cfr/text/41/chapter-101">https://www.law.cornell.edu/cfr/text/41/chapter-101</a>
Preservation of American Antiquities	43 CFR Part 3	<a href="https://www.law.cornell.edu/cfr/text/43/part-3">https://www.law.cornell.edu/cfr/text/43/part-3</a>
Protection of Archaeological Resources	43 CFR Part 7	<a href="https://www.law.cornell.edu/cfr/text/43/part-7">https://www.law.cornell.edu/cfr/text/43/part-7</a>

**Table 1. Legal Authorities and Policies**

Name	Regulation	Hyperlinks
Native American Graves Protection and Repatriation Regulations	43 CFR Part 10	<a href="https://www.law.cornell.edu/cfr/text/43/part-10">https://www.law.cornell.edu/cfr/text/43/part-10</a>
<b>Executive Orders and Presidential Memorandum</b>		
Protection and Enhancement of the Cultural Environment (1971)	Executive Order 11593	<a href="https://www.archives.gov/federal-register/codification/executive-order/11593.html">https://www.archives.gov/federal-register/codification/executive-order/11593.html</a>
Locating Federal Facilities on Historic Properties in Our Nation's Central Cities (1996)	Executive Order 13006	<a href="http://www.achp.gov/EO13006.html">http://www.achp.gov/EO13006.html</a>
Indian Sacred Sites (1996)	Executive Order 13007	<a href="http://www.achp.gov/EO13007.html">http://www.achp.gov/EO13007.html</a>
Consultation and Coordination with Indian Tribal Governments (2000)	Executive Order 13175	<a href="https://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO13175tribgovt.pdf">https://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO13175tribgovt.pdf</a>
Preserve America (2003)	Executive Order 13287	<a href="http://www.preserveamerica.gov/EOtext.html">http://www.preserveamerica.gov/EOtext.html</a>
Government-to-Government Relations with Native American Tribal Governments (1994)	Presidential Memorandum	<a href="https://www.justice.gov/archive/otj/Presidential_Statements/presdoc1.htm">https://www.justice.gov/archive/otj/Presidential_Statements/presdoc1.htm</a>
<b>Department of Defense Policy and Instructions</b>		
Department of Defense American Indian and Alaska Native Policy	DoD Policy	<a href="http://www.spk.usace.army.mil/Portals/12/documents/tribal_program/American-Indian-and-Alaska-Native-Policy-Booklet-Version-2-for-Web-Posting.pdf">http://www.spk.usace.army.mil/Portals/12/documents/tribal_program/American-Indian-and-Alaska-Native-Policy-Booklet-Version-2-for-Web-Posting.pdf</a>
Department of Defense Interactions with Federally Recognized Tribes, September 14, 2006	DoD Instruction 4710.02	<a href="http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/471002p.pdf">http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/471002p.pdf</a>
Cultural Resources Management, September 18, 2008 ( <i>updated November 21, 2017</i> )	DoD Instruction 4715.16	<a href="http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/471516p.pdf?ver=2017-11-21-114100-670">http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/471516p.pdf?ver=2017-11-21-114100-670</a>
<b>Department of the Navy Instructions</b>		
Department of the Navy Cultural Resources Program	SECNAV Instruction 4000.35A	<a href="http://www.secnav.navy.mil/eie/ASN%20EIE%20Policy/SECNAV%20INSTRUCTION%204000.35A.pdf">http://www.secnav.navy.mil/eie/ASN%20EIE%20Policy/SECNAV%20INSTRUCTION%204000.35A.pdf</a>
Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes, Alaska Native Tribal Entities, and Native Hawaiian Organizations	SECNAV Instruction 11010.14B	<a href="https://www.secnav.navy.mil/doni/Directives/11000%20Facilities%20and%20Land%20Management%20Ashore/11-00%20Facilities%20and%20Activities%20Ashore%20Support/11010.14B.pdf">https://www.secnav.navy.mil/doni/Directives/11000%20Facilities%20and%20Land%20Management%20Ashore/11-00%20Facilities%20and%20Activities%20Ashore%20Support/11010.14B.pdf</a>
Policy for Environmental Protection, Natural Resources, and Cultural Resources Program	SECNAV Instruction 5090.8B	<a href="https://www.secnav.navy.mil/doni/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-00%20General%20Admin%20and%20Management%20Support/5090.8B.pdf">https://www.secnav.navy.mil/doni/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-00%20General%20Admin%20and%20Management%20Support/5090.8B.pdf</a>
Navy Responsibilities Regarding Undocumented Human Remains	OPNAV Instruction 11170.2B	<a href="https://www.secnav.navy.mil/doni/Directives/11000%20Facilities%20and%20Land%20Management%20Ashore/11-100%20Structures%20and%20Facilities%20Support/11170.2B.pdf">https://www.secnav.navy.mil/doni/Directives/11000%20Facilities%20and%20Land%20Management%20Ashore/11-100%20Structures%20and%20Facilities%20Support/11170.2B.pdf</a>

**Table 1. Legal Authorities and Policies**

Name	Regulation	Hyperlinks
<b>Marine Corps Orders and Guidance</b>		
Environmental Compliance and Protection Program, Volume 8	MCO 5090.2	<a href="https://www.marines.mil/News/Publications/MCPPEL/Electronic-Library-Display/Article/1552941/mco-50902/">https://www.marines.mil/News/Publications/MCPPEL/Electronic-Library-Display/Article/1552941/mco-50902/</a>
Manual for the Marine Corps Historical Program	MCO 5750.1H	<a href="http://www.marines.mil/Portals/59/Publications/MCO%205750.1H.pdf">http://www.marines.mil/Portals/59/Publications/MCO%205750.1H.pdf</a>
U.S. Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plan Update, 2009	U.S. Marine Corps Guidance	<a href="http://www.miramar-ems.marines.mil/Portals/60/Docs/MEMS/Cult_Res/USMC_ICRMP_Guidance_(Feb09).pdf">http://www.miramar-ems.marines.mil/Portals/60/Docs/MEMS/Cult_Res/USMC_ICRMP_Guidance_(Feb09).pdf</a>

CFR = Code of Federal Regulations; DoD = Department of Defense; MCO = Marine Corps Order; OPNAV = Office of the Chief of Naval Operations; PL = Public Law; SECNAV = Secretary of the Navy; U.S. = United States; USC = United States Code

- **Marine Corps Order 5090.2 (Volume 8), United States Marine Corps Environmental Compliance and Protection Program: Cultural Resources Management**

Volume 8 establishes USMC policy and responsibilities for compliance with statutory requirements to protect historic properties and archaeological resources, and discusses compliance with applicable federal statutory and regulatory requirements, Presidential Memoranda, Executive Orders, and DoD regulations and policies for the integrated management of cultural resources on USMC lands or that may be affected by USMC actions.

- **Marine Corps Order 5750.1H, Manual for the Marine Corps Historical Program**

This document sets forth policies, procedures, and standards governing the administration of the USMC historical program and delineates the responsibilities of the History Division, the National Museum of the Marine Corps, field commands, and the Archives and Special Collections Branch of the Library of the Marine Corps in planning, conducting, and executing this program. It is published for instructing and guiding commanders, staff members, and individuals.

- **USMC Guidance for Completion of an Integrated Cultural Resources Management Plan Update, February 2009**

This USMC guidance document focuses on developing ICRMP Updates for USMC installations and addresses how to manage significant changes to ICRMP content. It includes a summary of the required elements of an ICRMP per DoD Instruction 4715.16, and provides guidance on preparing the required information.

- **MCAS Yuma Archaeological Survey and Report Standards, October 2016**

This document sets forth archaeological survey and reporting standards for work conducted for MCAS Yuma (see Appendix C). This document supplements the standards from the Arizona State Museum (ASM) and the California Office of Historic Preservation for archaeological surveys performed in Arizona and California, respectively.

## **1.5. ROLES AND RESPONSIBILITIES**

The following section describes the roles and responsibilities for key military and non-military personnel, agencies, and groups.

### **1.5.1. Military Responsibilities**

**Marine Corps Air Station Yuma Commanding Officer.** The CO's responsibilities include:

- establishing a cultural resources management program;
- establishing a government-to-government relationship with federally recognized Indian tribes;
- establishing a process that requires installation staff, tenants, and other interested parties to coordinate with the Cultural Resources Manager (CRM) early in the project

planning process to determine if significant cultural resources may be affected by an installation undertaking;

- establishing funding priorities and programming funds;
- serving as the “agency official” (36 CFR 800), with responsibility for the installation’s compliance with the NHPA;
- serving as the “federal agency official” (43 CFR 10), with responsibility for installation compliance with NAGPRA;
- serving as the “federal agency official” (36 CFR 79), with management authority over archaeological collections and associated records;
- serving as the “federal land manager” (32 CFR 229), with responsibility for installation compliance with ARPA; and
- signing all NHPA PAs, MOAs, and NAGPRA Cooperative Agreements (CAs) and Plans of Action after command comments have been addressed, and overseeing the preparation of NRHP nominations for historic properties.

**Marine Corps Air Station Yuma Director, Range Management Department.** The RMD at MCAS Yuma controls operations at the BMGR West. The RMD Director oversees all range management functional units, including the Conservation Division. The RMD Director’s responsibilities include:

- scheduling the use of BMGR West lands for training field exercises and tests;
- advising the CO of proposed actions that may result in potential adverse effects to historic properties; and
- serving on the CO’s behalf as the government’s representative during government-to-government consultation with Native American tribes in accordance with DoD Instruction 4710.02.

**Marine Corps Air Station Yuma Conservation Program Manager.** The Conservation Program Manager’s responsibilities include:

- supervising the CRM;
- ensuring cultural resources are considered during planning and implementation of all discretionary federal actions under the purview of MCAS Yuma;
- coordinating cultural resources management activities with organizational elements, installation tenants, and other parties as identified by the CO;
- developing funding priorities for cultural resources program and compliance activities on the CO’s behalf;
- participating in consultation as described in this document or by other laws and regulations;
- serving on the CO’s behalf as the federal agency official with management authority over archaeological collections and associated records; and
- reviewing and approving requests for access to cultural resources data and signing non-disclosure agreements.

**Marine Corps Air Station Yuma Cultural Resources Manager.** The CRM’s responsibilities include:

- reviewing all projects to determine the type and level of impacts to cultural resources;

- determining the applicable laws and regulations and the applicable SOPs or other regulatory or consultation requirements;
- participating in consultation as described in this document or by other laws and regulations, and conducting and reviewing technical studies, as necessary;
- serving as the point-of-contact with the Arizona SHPO and the ACHP, and for Native American consultation;
- assisting the CO with developing funding priorities for cultural resources program and compliance activities;
- developing budget requirements for compliance with this ICRMP and any PAs or MOAs;
- coordinating and approving excavation permits on the installation;
- coordinating record keeping and artifact curation, including:
  - developing and maintaining records, reports, and documentation sufficient for consultation and assessment of NRHP eligibility (including maps, plans, notes, data forms, site records, photographs, memoranda, draft and final reports); and
  - curating artifacts in accordance with *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79).
- updating the ICRMP as needed, based on periodic reviews;
- providing cultural resources expertise for short- and long-range planning, advising other range planners, and conducting preliminary site surveys;
- ensuring that all proposed operations-related functions that may affect cultural resources on the range are identified early in the planning process, and coordinating with appropriate regulatory agencies regarding such work;
- conducting Section 106 reviews of all operations-related undertakings and negotiating agreement documents to complete the review process;
- developing and implementing agreement documents and preparing reports per the terms of the corresponding agreement document; and
- conducting range tours for and meetings with tribal representatives and others in connection with range planning and operations and with specific projects.

**Marine Corps Air Station Yuma Communication Strategy and Operations.** To heighten public and military awareness of the cultural resources identified on the BMGR West, the MCAS Yuma Communication Strategy and Operations (CommStrat) may assist the CRM in initiating an educational program related to historic preservation and the cultural resources situated on the range. CommStrat can help in locating historical information regarding station resources or activities and may assist in developing interpretive programs. CommStrat can also assist in promoting the ICRMP to the public and installation personnel.

**Department of the Navy, Commandant's Legal, Western Area Counsel's Office.** The Counsel's Office coordinates and reviews agreement documents (e.g., PAs, MOAs, NAGPRA CAs) to ensure that such documents are correct and complete, as these documents become legally binding. The Counsel serves as legal counsel in administrative cases, hearings, and enforcement actions, and may interpret various cultural resources laws and regulations.

**Installation Tenants and Other Military Users.** MCAS Yuma tenants are required to consult with the station and applicable local and regional agencies to obtain site approval for their projects and operations. Site approval instructions are routed through the RMD.

### 1.5.2. Nonmilitary Participants

**Arizona State Historic Preservation Officer.** The SHPO coordinates state participation and implementation of the NHPA and is a key participant in the Section 106 process of the NHPA. The SHPO consults with and assists the USMC with identifying historic properties, assessing project effects, and considering alternatives to avoid or reduce such effects. The SHPO takes into account the interests of the people of Arizona and the preservation of their cultural heritage. The SHPO also assists the USMC in identifying potential consulting partners. All undertakings at the BMGR West that fall under Section 106 must be coordinated with the SHPO or have a signed PA or MOA that allows for procedures agreed upon by all parties to be used instead of the standard Section 106 compliance process (see Section 1.3.2 for current agreements).

**Advisory Council on Historic Preservation.** The ACHP may be invited to participate in the Section 106 process or may participate as a result of comments received from any consulting party. If such a request is made, the ACHP has 15 days to acknowledge the request and to state their interest in participating. If the ACHP does request to participate, they have up to 45 days to provide comments. Copies of the agreement document are provided to the ACHP for review, if so requested.

**Native American Groups.** MCAS Yuma will provide timely opportunities for communication with Native American tribes concerning decisions that may affect them. MCAS Yuma will make every effort to ensure that consultation with the tribes is initiated as early as possible (e.g., during the initiation of the NHPA Section 106 process), and is carried out in good faith, and that honesty and integrity are maintained at all stages of the consultation process. Consultation should occur as part of a meaningful and comprehensive process that promotes effective communication between the tribes and MCAS Yuma. Consultations will respect the sovereign status of each Native American tribal government, and MCAS Yuma will work directly with federally recognized tribes on a government-to-government basis. A list of primary points-of-contact is provided in Appendix D.

**Arizona Game and Fish Department.** The AGFD manages the state's resident wildlife, which is held in trust for the citizens of the state of Arizona; this wildlife management responsibility also applies to the BMGR West. The AGFD was a joint member of the team preparing the BMGR INRMP five-year review (Luke Air Force Base and MCAS Yuma 2018a) and is part of the 2001 CA for implementing an ecosystem-based INRMP for the BMGR. The primary wildlife management responsibilities of AGFD on the BMGR West (Luke Air Force Base and MCAS Yuma 2018b) are:

- develop and maintain habitat assessment/evaluation, protection, management, and enhancement projects;
- conduct wildlife population surveys;
- manage wildlife predators and endangered species/special status species;
- issue hunting permits, enforce hunting regulations, and establish game limits for hunting, trapping, and non-game species collection; and
- assist and advise DoD in the management of off-highway vehicle use in terms of habitat protection and user opportunities.

**United States Fish and Wildlife Service.** The mission of the USFWS is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing

benefit of the American people. Among other things, the agency advises and assists the USMC with their efforts to protect and recover all threatened and endangered species as mandated by the Endangered Species Act of 1973, as amended (16 USC §§ 1531 et seq.). The USFWS was a joint member of the team preparing the BMGR INRMP five-year review (Luke Air Force Base and MCAS Yuma 2018a) and is part of the 2001 CA for implementing an ecosystem-based INRMP for the BMGR.

The USFWS leads the Sonoran Pronghorn Recovery Team and the implementation of the USFWS Sonoran Pronghorn Recovery Plan of 1998, as amended in 2016. The plan includes numerous proposed management actions, some of which have potential to disturb cultural resources; examples include habitat enhancements, placement and maintenance of artificial water sources, and selective thinning of vegetation.

**United States Customs and Border Protection.** The priority mission of the U.S. Customs and Border Protection (CBP), a component of the U.S. Department of Homeland Security (DHS), is managing, securing, and controlling the nation's borders. The CBP is responsible for preventing illegal entry into the United States and for apprehending undocumented aliens who have entered the United States illegally. The southern boundary of the westernmost portion of the BMGR West includes approximately 37 miles of the international border between the United States and Mexico. Activities involving the smuggling of people, drugs, or other contraband occur on the BMGR West. Two CBP jurisdictional sectors, the Tucson and Yuma sectors, are responsible for the entire Arizona-Mexico border, with the latter covering the BMGR West through the Wellton and Yuma stations.

Although the DHS has the authority to waive environmental laws under certain circumstances, activities such as road maintenance, dragging of roads, and placement of Multiple Surveillance Capability (MSC) vehicles have not been included in any waiver. MCAS Yuma has had a series of discussions and formal meetings between the MCAS Yuma CO and the CBP Yuma Sector Chief and between the MCAS Yuma Conservation staff and CBP Yuma Sector Public Lands Liaison. MCAS Yuma has also entered into an MOU regarding CBP's action on the range to prevent or minimize the impact to cultural and natural resources.

Due to several instances of CBP agents inadvertently damaging historic properties between 2015 and 2019 (including as recently as March 2019), MCAS Yuma Conservation staff stepped up their efforts to encourage CBP to collaborate with MCAS Yuma in the protection of natural and cultural resources during the conduct of their mission. MCAS Yuma RMD personnel dedicated many hours in 2017 delineating multiple locations so as to provide CBP with suitable locations for the deployment of MSC trucks where such activities would not cause negative impact to cultural and natural resources. In October of 2018, MCAS Yuma representatives held a meeting with CBP officials, including the CBP Yuma Sector Agent-in-Charge, to request that CBP personnel discontinue the practice of randomly placing MSC trucks in culturally sensitive areas within BMGR West. In February of 2019, MCAS Yuma Conservation staff met with the Quechan Cultural Committee and CBP Yuma Sector staff to discuss the importance of CBP staying within approved locations and on approved roads. During March of 2019, an MCAS Yuma RMD Conservation Law Enforcement Officer (CLEO) spent several hours training various shifts of agents on the importance of protecting natural and cultural resources on the BMGR West by staying within approved locations and on approved roads.



Although MCAS Yuma will continue to try to work proactively with the CBP in minimizing impacts to natural and cultural resources, RMD will request funds from CBP for costs of any evaluations, excavations, and tests incurred by MCAS Yuma during the assessment of damages caused by CBP activities to any cultural resource site.

**Public Participation.** Public interest in historic preservation matters on the BMGR West and participation during the Section 106 process is encouraged by the installation. The USMC and the SHPO seek and consider the views of the public when taking steps to identify and evaluate historic properties and when developing alternatives. Public participation in the Section 106 process is coordinated with and satisfied by such programs conducted by the USMC under the authority of NEPA and other regulatory requirements. Providing public notice includes providing historic preservation information to the public adequate to elicit feedback on such issues that can then be considered resolved in decision-making. Members of the public are given a reasonable opportunity to provide input and may have an active role in the overall process.

**The Barry M. Goldwater Range Executive Council.** Since 1997, representatives of Luke Air Force Base, MCAS Yuma, the AGFD, the USFWS, the Bureau of Land Management, and the National Park Service have met frequently to discuss BMGR regional issues. This group, called the BMGR Executive Council, is not a decision-making body, but the sharing of information that takes place at these meetings facilitates regional solutions to common problems that are difficult or impossible to address one agency or jurisdiction at a time. This is particularly useful because the missions and responsibilities of the non-military agencies transect land management boundaries. MCAS Yuma sends one representative to this council.

**The Intergovernmental Executive Committee.** In recognition of the level of public interest in the management of natural and cultural resources at the BMGR, the MLWA of 1999 called for the creation of an Intergovernmental Executive Committee comprised of:

...selected representatives from interested federal agencies, as well as at least one elected officer (or other authorized representative) from State government and at least one elected officer (or other authorized representative) from each local and tribal government, as may be designated at the discretion of the Secretary of the Navy, the Secretary of the Air Force, and the Secretary of the Interior [PL 106-65 §3031(b)(6)].

The sole purpose of the Intergovernmental Executive Committee is to exchange views, information, and advice pertaining to the management of natural and cultural resources on the BMGR. The Intergovernmental Executive Committee, consisting of representatives of federal and state agencies, local governments, and federally recognized tribes, meets three times a year, rotating the location between Tucson, the Phoenix metropolitan area, and Yuma, and its meetings are open to the interested public. MCAS Yuma sends one representative to this committee to address local concerns.

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## 2. CULTURAL RESOURCES MANAGEMENT STRATEGY

### 2.1. MILITARY AND NON-MILITARY ACTIVITIES ON BARRY M. GOLDWATER RANGE WEST THAT MAY HAVE THE POTENTIAL TO AFFECT CULTURAL RESOURCES

#### 2.1.1. Military Training Facilities and Uses

The primary mission of the BMGR West is to support readiness training by the USMC and USN aircrews, including use as (1) an armament and high-hazard testing area; (2) training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; and (3) other defense-related purposes. For the USMC and other users, the BMGR West is an essential component of their ability to produce the combat-ready crews needed to defend the nation and its interests. Table 2, which was adapted from the 2018 INRMP Public Report (Luke Air Force Base and MCAS Yuma 2018b), provides a summary of the current military training facilities and military uses at the BMGR West (see Sections 1 and 2 of Part I of the ICRMP [Luke Air Force Base 2009a] for additional details).

In addition to developed targets and ground support areas, 636 miles of roads are present on the BMGR West, of which 209 miles are administrative (non-public) use and 427 miles are for administrative and public use (Luke Air Force Base and MCAS Yuma 2018b). This road network provides surface access to, between, or within the various functional areas of the range. All vehicles are restricted to designated roads except as required by explosive ordnance disposal, maintenance, emergency response, and environmental staff and contractors conducting required mission support activities.

**Table 2. Current Military Training Facilities and Uses at Barry M. Goldwater Range West**

Range Feature or Facility	Description
<b>Surface Area and Airspace</b>	
BMGR West Surface Area	The BMGR West surface area consists of approximately 40 percent of the total BMGR acreage; boundary and land withdrawal areas were established by the MLWA of 1999.
Restricted Airspace	R-2301W lateral boundaries, altitude floor (ground surface), and altitude ceiling (80,000 feet above mean sea level) are unchanged since 1960.
Airspace Subranges	Four airspace subranges (TACTS-Hi, TACTS-Low, Cactus West, and AUX-II) are allocated to one or more subranges or are aggregated into larger units as needed to support training.
<b>Aviation Training Ranges and Facilities</b>	
AUX-II	AUX-II provides an assault landing zone airstrip for training aircrews of C-130 aircraft to operate in and out of a primitive landing zone in a forward area; AUX-II also continues to be used as a staging area or FARP for helicopter operations.
F-35B ALF	Construction of the F-35B ALF, otherwise known as KNOZ, was completed in 2015; the ALF includes three simulated landing helicopter assault decks, flight control towers, aircraft maintenance shelter, refueling apron, and a fire and rescue shelter.
Cactus West Target Complex	The Cactus West Target Complex includes a bull's-eye target, located inside a 1,500-foot radius bladed circle, and two berm and panel targets for strafing practice; ordnance deliveries are restricted to inert and practice munitions.

**Table 2. Current Military Training Facilities and Uses at Barry M. Goldwater Range West**

<b>Range Feature or Facility</b>	<b>Description</b>
Urban Target Complex	The Urban Target Complex provides a simulated urban setting with streets, 240 buildings, multiple targets, and vehicles for training aircrews in precision air-to-ground attack in densely developed and populated areas; the complex is located inside a fenced area.
Instrumentation	A portion of the TACTS Range is instrumented to support air-to-air and air-to-ground combat training; the electronic architecture is composed of 27 fixed-positions and 17 mobile-positions that can track, record, and replay the simultaneous actions of 36 aircraft and scoring weapon use; no munitions are fired or otherwise released on this electronically scored range.
<b>Air-Ground Training Facilities</b>	
Ground Support Area	Thirty-three undeveloped ground support areas allow units to participate in off-road training exercises; most ground troop developments are coordinated with aviation training exercises to enhance the realism of air-ground training evolutions for both elements.
Parachute Drop Zones	Twenty-one parachute tactical drop zones are currently designated. The AUX-II drop zone is located within a previously disturbed, inactive bull's-eye bombing target; the drop zone immediately to the east of AUX-II is the only drop zone approved for parachute cargo drops, which require retrieval by an off-road combat forklift. Ten drop zones are located within ground support areas to minimize off-road driving for retrievals.
<b>Ground Combat Training Ranges</b>	
Rifle and Pistol Ranges	The Rifle and Pistol Ranges are used to train and qualify personnel in the use of small arms.
Small Arms Live-Fire Maneuver Range (Range 2)	The Small Arms Live-Fire Maneuver Range is located in an unused sand and gravel borrow pit and serves as a close combat maneuvering range for training small teams or individuals in the tactical use of infantry small arms.
Multi-Purpose Machine Gun Range (Panel Stager)	The Multi-Purpose Machine Gun Range is located at the inactive air-to-ground bombing target at the Panel Stager Range 2; ground-to-ground machine gun fire of .50 caliber and smaller is directed from guns mounted on vehicles traveling on existing access roads at target sets located in the retired bombing impact area.
CSOC 1 and 2, Murrayville (East and West)	Four CSOCs are designed to train troops assigned to protect vehicle convoys in combat theaters; static and pop-up targets that simulate threats are located in ambush scenarios along the access road and run-in line; these are located along the existing access roads in the vicinities of the Cactus West Target Complex, Urban Target Complex, and along the run-in line to the Urban Target Complex.
Combat Village	The Combat Village simulates a small building complex adjacent to a railroad; this facility is used as an electronically scored target and for training small units in infantry tactics involving reconnaissance, assaults, or defense; only blank small arms munitions and a special effects small arms marking system are authorized.
Hazard Areas	Five hazard areas, four to the west and one to the east of the Gila and Tinajas Altas mountains, support use of small arms and/or aircraft lasers in training operations; surface entry to hazard areas is closed to nonparticipating personnel when hazardous activities are scheduled.
<b>Support Areas</b>	
Cannon Air Defense Complex	The Cannon Air Defense Complex provides administrative, maintenance, and training areas for a Marine Air Control Squadron; the complex is a permanent built-up facility of about 192 acres.

**Table 2. Current Military Training Facilities and Uses at Barry M. Goldwater Range West**

Range Feature or Facility	Description
AUX-II FASP	The FASP provides temporary secure storage for munitions used by ground units during exercises, primarily during semi-annual weapons and tactics instructor courses; the FASP is located about 1,500 feet northwest of AUX-II.
Munitions Treatment Range	The Munitions Treatment Range is used to train personnel in using demolitions explosives and unexploded ordnance.
Live Ordnance and Drop Tank Jettison Area	The Cactus West Target bull's-eye is used as a Live Ordnance and Drop Tank Jettison Area for aircraft experiencing difficulties that warrant a precautionary jettisoning of external stores prior to recovery at MCAS Yuma. Panel Stager Range 2 is currently used as the impact area for the Multi-Purpose Machine Gun Range.

Source: adapted from Table 2-2 in the 2018 INRMP Public Report (Luke Air Force Base and MCAS Yuma 2018b)

ALF = Auxiliary Landing Field; AUX-II = Auxiliary Airfield II; BMGR = Barry M. Goldwater Range; CSOC = Convoy Security Operations Courses; FARP = forward arming and refueling point; FASP = Field Ammunition Supply Point; MCAS = Marine Corps Air Station; MLWA = Military Lands Withdrawal Act of 1999; TACTS = Tactical Aircrew Combat Training Systems

### 2.1.2. Barry M. Goldwater Range West Management Units and Public Access

The original INRMP identified seven management units within the BMGR, three of which are within the BMGR West (Luke Air Force Base and MCAS Yuma 2007). Because of differences in their historical and proposed uses, as well as differences in the natural resources they contain, the Record of Decision for the INRMP EIS includes different management strategies for some units.

- **Management Unit 1** (approximately 230,000 acres) lies mostly within the restricted area in the westernmost portion of the BMGR West and is off limits to most public visitation. Although a number of military operations occur within this unit, the surface effects of these activities are limited to a small portion of the area. Existing roads provide limited access to most of the unit.
- **Management Unit 2** (approximately 265,000 acres) incorporates a topographically diverse landscape including the Gila Mountains, Copper Mountains, Wellton Hills, and Baker Peaks, as well as the Lechuguilla Desert Valley. Tactical Aircrew Combat Training System Range facilities and the USMC ground support areas are located within this unit. With the exception of the laser hazard area, public access is compatible with current military operations throughout most of this unit. This unit, which includes areas with some of the highest road densities within BMGR, has long been a popular public outdoor recreation area.
- **Management Unit 3** (approximately 195,000 acres) occupies the easternmost area of the BMGR West and is generally bounded on the east by the Mohawk Mountains, although the northeastern corner of the area lies on the eastern side of these mountains. This unit contains some of the largest roadless areas on the BMGR West. Military surface use within Unit 3 is limited to five widely dispersed ground support areas and scattered Tactical Aircrew Combat Training System Range instrument sites. The area is generally open to public visitation on a seasonal basis, but the rates of visitation are less than those experienced in Management Unit 2. The unit is within the current range

of the endangered Sonoran pronghorn, which extends eastward into the BMGR East and southward into the Cabeza Prieta National Wildlife Refuge.

There are no developed recreation sites or facilities on the BMGR West. All recreational access is by permit only, and public access may be restricted occasionally to support military activities that present safety hazards and/or have security requirements. Visitors must abide by range-specific rules, including rules related to rock hounding and hunting (Luke Air Force Base and MCAS Yuma 2018b). Disturbance or removal of cultural artifacts is strictly prohibited.

Those members of the public who wish to access the range must visit [www.luke.isportsman.net](http://www.luke.isportsman.net) to obtain a range pass, watch a safety video, and sign a hold-harmless agreement with the DoD prior to accessing range lands. BMGR West Rules, available on the website, emphasize the fact that cultural resources are protected under federal law from collection, damage, or disturbance of their settings.

Public access to, and use of, portions of the range may be restricted or curtailed if and when such measures are required in order to protect vulnerable resources, such as sensitive cultural resources.

### **2.1.3. Other Activities under the Barry M. Goldwater Range Integrated Natural Resources Management Plan**

The original BMGR INRMP (Luke Air Force Base and MCAS Yuma 2007) identified specific goals for the range that support the military mission, the protection and conservation of cultural resources, and public access, some of which fall under the purview of, or may trigger stewardship actions under, the Cultural Resources Management Program:

- Manage cultural resources in accordance with the BMGR ICRMP.
- Provide for public access to BMGR resources for sustainable multipurpose use, consistent with the military purposes of the range (including security and safety requirements) and ecosystem sustainability.
- Apply ecosystem management principles through a goal- and objective-driven approach that recognizes social and economic values; is adaptable to complex, changing requirements; and is realized through effective partnerships among private, local, state, tribal, and federal interests.
- Meet or exceed the statutory requirements of the MLWA of 1999, the Sikes Act, and other applicable resource management requirements.
- Require that public access (via a range pass) and use of the BMGR be compatible with mission activities and other considerations such as security, safety, and resource conservation and protection goals.
- Incorporate cultural resource protection strategies that reflect DoD's mandate to preserve cultural resources, including consideration of those resources in its decision-making process.
- Comply with *Protection of Historic Properties* (36 CFR 800) and DoD policy, which require agencies to initiate consultation with the SHPO, tribes, and others, pursuant to Section 106 of the NHPA, early in the planning process, when the widest range of prudent and feasible alternatives is available and issues identified through consultation may be resolved most easily.

- Be consistent with the ICRMP for the BMGR.
- Prohibit commercial tour operations on the BMGR unless a range policy is developed to permit and regulate or restrict this use.
- In accordance with Section 3031(b)(3)(E)(vi)(I) of the MLWA, develop an MOA with agencies and tribal governments responsible for lands adjacent to the BMGR to establish courses of action to be taken by SECNAV to prevent, suppress, and manage brush and range fires occurring outside the boundaries of the range resulting from military activities.

Additional activities discussed in the 2018 INRMP Public Report (Luke Air Force Base and MCAS Yuma 2018b) that could affect cultural resources and may trigger stewardship actions include wildlife enhancement projects (e.g., water and food plots), invasive species control, illegal border traffic, wildland fire management, public recreation, and installation of signs, gates, and fences to support road infrastructure and public access.

## **2.2. CULTURAL RESOURCES OVERVIEW**

### **2.2.1. Cultural Historical Overview**

Section 5 of Part I of the ICRMP (Luke Air Force Base 2009a) provides a comprehensive cultural historical overview of the BMGR, from the Paleoindian period to present day. It summarizes each time period, identifies current research issues, and provides the background necessary for evaluating potential historic significance of cultural resources on the BMGR West.

### **2.2.2. Previous Cultural Resources Investigations**

Cultural resource inventories are one of the most valuable tools in an installation's planning program. Such inventories facilitate forward planning by indicating areas of the range and training areas that are sensitive for archaeological sites and historical buildings and areas in which undertakings may occur without concern for adversely impacting significant cultural resources. Such inventories also help with identifying the risk, expense, and investment of time that must be incurred by a project to avoid or mitigate impacts to significant sites.

While smaller military installations may have completed 100 percent cultural resource inventory on lands within their jurisdiction, the majority of larger installations have yet to complete archaeological and historical resource inventories. One of the goals of the cultural resources program for the BMGR West is to accomplish 100 percent survey coverage, in order to obtain a complete picture of the resources requiring management. Because the range's boundaries cover such a vast land area (approximately 700,000 acres), a complete survey has yet to be completed. Long-term planning is in place to continue systematic surveys of the entire range (see also SOP #1 for more information).

While a full inventory of the BMGR West has yet to be accomplished, current knowledge of the cultural resources on the range has provided a cursory understanding of areas of low, medium, and high archaeological and historical sensitivity. The following discussion of previous studies addresses overview studies and archaeological investigations, historic building and structure evaluations, and other studies for the range.

### ***Overview Studies and Archaeological Investigations***

As of May 2019, about 142,448 acres (20 percent of the range) have been surveyed for archaeological resources. Appendix E-1 lists 92 cultural resources investigations based on the current MCAS Yuma Cultural Resources database and identifies each study by MCAS Yuma report number, title, author, and contractor. This list includes several large overview studies and context studies that have been prepared for either the BMGR as a whole or specifically for the BMGR West (e.g., Ahlstrom 2000; Hartmann and Thurtle 2000; Schaefer et al. 2007; Woodall et al. 1993). The majority of prior studies relate to investigations associated with specific undertakings with the potential to affect cultural resources (e.g., Apple 1996; Middleton 1981; Schaefer and Andrews 2010; Underwood 2003). Of particular note, however, is the number of recent surveys covering large expanses of land ranging from 6,000 to over 26,000 acres on the BMGR West (e.g., Hart and Hart 2011; Hlatky et al. 2016; Keur et al. 2015; Laine and Seymour 2016; Neuzil 2012). Even though only 20 percent of the range is currently surveyed, long-term planning is in place for systematically surveying the entire range, as noted above.

### ***Historic Building and Structure Evaluations***

All buildings and structures on the BMGR West that were built prior to 1969 have been evaluated for significance based on the four NRHP criteria for evaluation. All seven were either determined not eligible for listing on the NRHP or, through consultation with the Arizona SHPO, were determined to be nonstructural elements of a type that are not generally considered for listing on the NRHP. All buildings and structures on the BMGR West that were built during the Cold War (i.e., prior to 1990) have been evaluated for significance based on *Criteria Consideration (g)* of the NRHP (a property achieving significance within the past 50 years if it is of exceptional importance). Of the 17 that fall into this category, 8 were determined not eligible for listing on the NRHP under *Criteria Consideration (g)*, and, through consultation with SHPO, 9 were determined to be nonstructural elements of a type that are not generally considered for listing on the NRHP. The eight properties that were determined to be not eligible for listing on the NRHP under *Criteria Consideration (g)* will be reassessed for significance once they reach the 50-year threshold.

### ***Cultural Affiliation Study***

A BMGR West Cultural Affiliation Study (Fortier and Schaefer 2010) was conducted in accordance with Section 110 of the NHPA and in support of NAGPRA, the American Indian Religious Freedom Act, Executive Order 13007 (*Indian Sacred Sites*), and Executive Order 13175 (*Consultation and Coordination with Indian Tribal Governments*). The study presents overviews of the history, culture, and indigenous peoples of southwestern Arizona, including information about the Yuman speaking peoples of the Colorado and Gila River regions as well as the Piman speaking peoples known as Tohono O'odham and Hia C-ed O'odham. The study also presents information about Native American culturally significant resources which have been used for food, ritual activities, and construction materials by the affiliated tribes of the BMGR West region. This may help MCAS Yuma better assess potential impacts to natural and cultural resources of concern to the affiliated Native American tribes of the BMGR West region.

#### **2.2.3. Recorded Cultural Resources**

For the most part, sites identified at the BMGR West are split fairly evenly between prehistoric and historical resources. The prehistoric resources found on the range include an array of



pre-contact cultural remains, including lithic and ceramic artifact scatters, temporary habitation sites, rock features and rock art, prehistoric trails, and other sites. These prehistoric resources document the continuous use of the range from its earliest known inhabitants of the Paleoindian Period (approximately 7,500 to 10,000 years ago) through the time of Euro-American exploration and settlement. Previously documented historical resources located within the BMGR West are World War II-era military bombing targets, historic trash scatters and roadways, evidence of mining activities, campsites, and historic artifact scatters.

Appendix E-2 lists previously recorded cultural resource sites within the BMGR West based on the current MCAS Yuma Cultural Resources database. The list provides the MCAS Yuma site number and corresponding ASM site number, NRHP eligibility determination, references for the original site recordation and any updates, and a brief description of the recorded resource. According to the current database, there are 414 recorded sites located within the BMGR West as of May 2019. Of these sites, 1 is listed on the NRHP, 113 have been determined eligible for listing, 203 have been determined not eligible for listing, and 97 have not been evaluated (see Appendix E-2). The NRHP-listed site is El Camino del Diablo (BMGRW-0002/SON C:1:15), which consists of an overland route and associated artifact scatters, trails, and roads that leads from Sonoyta, in Mexico, into the U.S. through the Cabeza Prieta National Wildlife Refuge, entering the BMGR West about 3 miles north of the U.S./Mexico border and heading west to the Tinajas Altas Mountains. Although the route is known to run north from there on both the east and the west sides of the Gila Mountains, only the east/west trending southern portion is listed on the NRHP.

#### 2.2.4. Traditional Cultural Properties

Traditional Cultural Properties (TCPs) are defined in Parker and King (1990) as places of special heritage value to contemporary communities because of their association with the cultural beliefs or practices that provide a foundation for those communities and provide a basis in maintaining cultural identity. It should be noted that not all TCPs are related to Native American sacred sites; the term is applied to any traditionally used site, regardless of cultural affiliation. It should also be stated that a great deal of knowledge regarding specific TCPs is likely unavailable to researchers, as the Native American community often maintains such information as confidential.

Much of the effort to identify TCPs on the range lies in consultation with affiliated tribes. The Native American community may assign cultural significance to land and other kinds of natural resources on a broad scale, or may focus on discreet locations. TCPs may also cover a range of resource types, from geographic features to traditional resource gathering areas.

An inventory of TCPs was undertaken by Dames and Moore (Tisdale 2001) and conducted in consultation with Native American tribes in the region. The general types of sites that are considered TCPs within the BMGR's boundaries include *tinajas*, caches of religious goods, possible burials, pictographs, and rock features (alignments, cleared circles, and intaglios). Sometimes referred to as natural water tanks, *tinajas* are naturally occurring depressions or catchments that can catch and hold surface water. There are also intermittent streams, mountain springs, and sand catchments located within the BMGR West. Because water is necessary for survival and is the primary limiting factor in an area as arid as the western Papagueria, natural water sources would have likely been assigned high cultural importance.

No TCPs or sacred sites on the BMGR West have been officially identified or designated by Native American representatives to date. As discussed in Section 2.3.4 (*Access to Cultural Resources Data*), MCAS Yuma does not ask for, nor does it maintain, locational information for any TCPs or sacred sites that the tribes wish to keep confidential.

### **2.2.5. Other Unique or Sensitive Cultural Resources**

#### ***Buried Cultural Resources***

The potential for buried cultural resources depends on the geology, the geomorphology, and the soil types (to mention a few of the most dominant factors) found throughout the BMGR West. As more research is conducted in and around the range, more accurate appraisals can be made regarding the potential for buried cultural deposits. Several areas have already been identified as having known buried cultural deposits. These areas should be considered of high importance when making decisions about projects or actions that could affect them.

#### ***Desert Pavement***

Areas on the range with desert pavement are also considered to have archaeological potential. Desert pavement signifies areas that have maintained their surface and subsurface integrity and are typically indicative of undisturbed, older soil deposits. Desert pavement is formed when finer grained soils are swept away by winds, through winnowing of fine-grained sediments during rain, or by larger stones moving progressively upwards as finer-grained soils are redeposited beneath the surface.

#### ***Tinajas***

*Tinajas*, which translates as “small jars” in Spanish, are natural water-collecting bedrock depressions that were utilized by the prehistoric and historical inhabitants of the BMGR West as one of the few reliable water sources in the region. *Tinajas* are also imbued with a certain spiritual or religious significance and may qualify as TCPs, as noted above.

#### ***Trails***

Over 50 pedestrian trails, whose periods of use range from the preceramic to the historical, have been recorded as sites or features within sites on the BMGR West. In addition to pedestrian trails, archaeologists have also noted myriad animal trails within their survey areas. Further complicating the identification of anthropogenic trails are those created by humans that have been utilized by animals in historical or modern times. With only 20 percent of the range surveyed, it can be estimated that there are another 250 pedestrian trails that have yet to be recorded on the BMGR West.

Trails on the BMGR West that were used by its prehistoric inhabitants are generally considered spiritually significant features to the Native American tribes who consider some portions of the range as part of their aboriginal territories. Trails with temporally associated features or artifacts are typically considered significant for their contributions to the scientific knowledge about aboriginal travel and trade in this region. Due to the importance of aboriginal trails to both the Native American tribes and the scientific community, MCAS Yuma has specific instructions for recording trails that help to capture as much information as possible (see Appendix C).

### 2.2.6. Heritage Assets

The DoN defines heritage assets as unique items of historical or natural significance that are categorized as “collections” and “non-collections.” Collections include artifacts, archival information (including audiovisual, electronic, text, and other similar documentation), artwork, and historical artifacts. Non-collections are defined as archaeological sites, buildings and structures, cemeteries, and memorials and monuments.

Importantly, the broad category of heritage assets includes properties subject to treatment as cultural resources, as well as other objects, such as artwork, flags, uniforms, and similar items that do not qualify for protection under historic preservation law. These latter objects are not subject to management under this ICRMP; however, they are subject to reporting to the DoN and the USMC Historical Center.

### 2.2.7. Data Gaps

Although substantial cultural resources work has been completed to date, forming a considerable base of knowledge for the BMGR West, there remains data gaps and the potential for discovery of additional historic properties. Given the large size of the BMGR West (approximately 700,000 acres), a complete inventory of range property has not been completed. Since the MLWA of 1999 transferred control of the BMGR West to MCAS Yuma, there have been approximately 40 cultural resources surveys on the range. Each of these surveys was conducted in support of one of three general project categories: military use (12 surveys); other agencies (e.g., the CBP, Arizona Department of Transportation) (13 surveys); and natural and cultural resources studies (15 surveys). Surveys for the military and other agencies are funded by the project proponent and are specific to the locations of the proposed projects. As of May 2019, about 142,448 acres (20 percent of the range) have been surveyed for archaeological resources.

The majority of the cultural resources studies, totaling over 100,000 acres, have been conducted within the Area of Potential Effects (APE) of the 2005 INRMP PA and focused on designated roadway corridors and areas of known high traffic use by the CBP and for public recreation. Because the corridors of all of the designated roadways on the BMGR West have now been surveyed, future cultural resources funding will be used mainly for inventorying resources within high traffic areas (see also Section 2.3.7, under *Integrated Natural Resources Management Plan Programmatic Agreement Site Monitoring and Management Plan*).

Of the 414 sites recorded to date located within the BMGR West, 97 have not been evaluated for listing on the NRHP. Therefore, a primary data gap centers on evaluating recorded resources that have either not been evaluated or warrant reevaluation for NRHP eligibility (see also Section 2.3.7, under *National Register of Historic Places Evaluation of Undetermined Sites*). While sites should be evaluated under all NRHP criteria, a robust research design can be used to set the stage for evaluating a site under NRHP *Criterion D* (have yielded or may be likely to yield, information important in history or prehistory). A well-developed research design should be set within a historical context appropriate for the range and should include a series of research questions relevant to the region. For prehistoric sites, these questions may center on core themes, such as chronology, subsistence, settlement, and trade. For historic period sites, core themes may include contact and interaction between Native Americans and non-indigenous groups, transportation, mining, and military land use. Section 6 of Part I of the ICRMP (Luke Air Force

Base 2009a) provides more information on relevant research questions and the NRHP evaluation process, including guidance for evaluations of TCPs.

### **2.3. MANAGEMENT ACTIONS**

MCAS Yuma is responsible for compliance with several laws, regulations, policies, and directives related to the management of cultural resources (Section 1.4, *Laws, Regulations, and Standards*). This section addresses management actions on the BMGR West that support the installation's compliance with these requirements, while fulfilling its mission and supporting the missions of its tenants. Additionally, regularly scheduled training for MCAS Yuma personnel involved with cultural resource issues are available on an annual basis, as needed, including overviews of regulatory requirements (e.g., NHPA, ARPA, NAGPRA).

#### **2.3.1. Integrated Cultural Resources Management Plan Updates**

As required by *U.S. Marine Corps Guidance for Completion of an Integrated Cultural Resources Management Plan Update* (USMC 2009), this ICRMP will be reviewed annually and updated on an as-needed basis to take into account new information and address any problems encountered with using the document. During the annual review, the CRM will complete a self-assessment to determine the success of the cultural resources program over the previous year and to note specific accomplishments or challenges encountered. Annual reviews may also include participation by external stakeholders to note changes in points-of-contact, discuss initiatives completed over the previous year, and outline upcoming projects.

ICRMP updates will integrate the latest available cultural resources information, including any new cultural resource studies on the BMGR West and any sites that have been newly identified, evaluated, or mitigated. Existing or new federal laws or regulations will be updated or added to relevant sections of the ICRMP, and any regulatory actions or violations that have occurred since the last update will be noted. SOPs will be improved and updated as needed based on the result of their use. Updates to the ICRMP will also consider any changes in the military mission, substantial increases or decreases of range acreage, identification of new consulting partners, and achievement of major program milestones. All updates to this ICRMP will be made in compliance with DoD Instruction 4715.16.

Future ICRMP updates will be summarized in this section.

#### **2.3.2. Standard Operating Procedures for Cultural Resources Compliance Actions**

MCAS Yuma has developed a series of SOPs that address the installation's objectives, staffing, policies, and compliance actions to ensure legal and regulatory requirements for managing cultural resources are fulfilled.

##### ***National Historic Preservation Act Compliance (SOPs #1 and 2)***

Requirements for Section 110 of the NHPA compliance are provided in SOP #1. Section 110 guides federal agencies in ensuring that historic preservation is integrated with agency programming and charges these agencies with the responsibility to identify, preserve, and maintain historic properties within their jurisdictions. Each federal agency is responsible for establishing a preservation program to identify, evaluate, protect, and preserve historic properties and prepare nominations for the NRHP. Out-year funding should be programmed to take into

consideration the costs of completing a Section 110 inventory of the entire BMGR West. In particular, the program should set goals for the number of acres to be surveyed per year contingent upon funding to work towards completion of a comprehensive record of archaeological sites located on the range. The program should also set goals for evaluating sites on a regular basis, as funding allows.

Procedures for Section 106 of the NHPA compliance are provided in SOP #2. Section 106 directs federal agencies to take into account the effect of their undertakings on historic properties. Compliance procedures are outlined in the ACHP's regulations, *Protection of Historic Properties* (36 CFR 800). These include guidance on how to identify, evaluate, determine effects, and resolve adverse effects of all undertakings on historic properties. The NHPA recommends that federal agencies begin the Section 106 process early in the undertaking's planning so that a broad range of alternatives may be considered during the planning process for the undertaking. Consultation with the SHPO and communication with Native Americans should begin in this critical early phase and continue through the phases that follow. In addition to the SHPO and Native American representatives, the USMC will also plan to enter into discussion with other parties that have a demonstrated interest in the project at hand, including interested members of the public.

The Section 106 process is often conducted concurrently with the processes associated with NEPA. NEPA mandates that federal agencies consider all environmental consequences relevant to proposed actions and reasonable alternatives and include the public in the decision-making process. A cultural resources survey with NHPA Section 106 review often supports the cultural resources component of an Environmental Assessment (EA) or an EIS, which are two types of documents that may be used to detail the analyses of impacts performed during the NEPA process. Although the NEPA process can be used to satisfy Section 106 compliance review, MCAS Yuma typically adheres to the regulations separately yet runs the processes concurrently. Several factors contribute to this preference including funding, contracting, and timing of the processes. The most significant factor, however, is the release of cultural resource locations. Often an essential part of Section 106 review, these locations cannot be disclosed in public documents, including EAs and EISs. Thus, a summary of the thorough Section 106 review is written for inclusion in the public NEPA documents.

### ***Archaeological Resources Protection Act Compliance (SOP #3)***

ARPA strengthened protection of archaeological resources on federal and tribal lands by changing the criminal classification for unauthorized excavation, collection, or damage from misdemeanors (defined by the Antiquities Act of 1906) to felonies. Trafficking in archaeological resources from public and tribal lands is also prohibited by ARPA. ARPA requires notification of affected Native American tribes if archaeological investigations would result in harm to or destruction of any location considered by tribes to have religious or cultural importance. Policies and procedures for ARPA permits, ARPA violation documentation, and other actions are provided in SOP #3.

### ***Native American Graves Protection and Repatriation Act Compliance and Inadvertent Discoveries (SOPs # 4 and 5)***

NAGPRA protects human remains, funerary objects, sacred objects, and items of cultural patrimony of indigenous peoples on federal lands. NAGPRA also applies to collections management related to the treatment of Native American human remains, associated or

unassociated funerary objects, sacred objects, and objects of cultural patrimony. This includes collections that were previously recovered and held in federal or federally funded archaeological repositories. Requirements for federal collections include the preparation of an inventory of NAGPRA-related artifacts, human remains, and funerary objects. NAGPRA also contains provisions for repatriation of such objects to lineal descendants or culturally related Indian tribes. Policies and procedures for NAGPRA inventories, consultations, and inadvertent discoveries of NAGPRA-related materials are provided in SOP #4.

SOP #5 provides procedures for inadvertent discoveries of non-NAGPRA-related cultural materials. These inadvertent discoveries, also referred to as post-review discoveries, are managed in accordance with the Secretary of the Interior's regulations, *Protection of Historic Properties* (36 CFR 800.13).

#### ***Treatment and Curation of Archaeological Collections (SOP #6)***

The regulations titled *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79) establish definitions, standards, procedures, and guidelines to be followed by federal agencies to preserve collections of prehistoric and historical material remains and associated records recovered under the authority of the Antiquities Act (54 USC §§ 320301 et seq.), the Reservoir Salvage Act (54 USC §§ 312501 et seq.), the NHPA (54 USC §§ 300101 et seq.), or ARPA (16 USC §§ 470aa–mm).

While most collections associated with the BMGR West are currently housed at the ASM in Tucson, Arizona, some collections are at the BMGR Repository at Gila Bend Air Force Auxiliary Field and the MCAGCC Curation Facility. New collections will be housed at the MCAGCC Curation Facility for long-term storage and curation per an MOA for curatorial services of archaeological artifacts, specimens, and associated records (see Section 1.3.2 and Appendix B). Copies of technical reports, site records, and other associated materials are also housed at MCAS Yuma and managed by the MCAS Yuma CRM. Additional policies and procedures for the treatment and curation of archaeological collections are provided in SOP #6.

#### ***Tribal Consultation Program (SOP #7)***

Consultation is the formal, mutual process by which an installation commander and/or CRM communicates and coordinates with tribal governments. It is intended to foster positive relationships with sovereign Native American nations and to ensure active participation by tribes in planning and implementing activities that may affect resources of interest to those groups. Consultation provides an essential means of obtaining the advice, ideas, and opinions of Native American parties regarding the management of federal resources, as well as ensuring the concerns of all involved parties are addressed. SOP #7 provides policies and procedures for tribal consultations regarding activities carried out on or issues concerning the BMGR West.

### **2.3.3. Cultural Resources Data Management**

The MCAS Yuma CRM manages cultural resources databases and records, which are housed at MCAS Yuma and include:

- hard copies of all reports;
- digital copies of all reports;
- historical maps and documents;

- hard and digital copies of internal and external correspondence;
- hard and digital copies of relevant literature concerning cultural resources;
- hard and digital copies of all site forms; and
- digital (Adobe Portable Document Format [PDF] and GIS) information for all sites and survey areas.

The BMGR West cultural resources GIS data are managed in two feature classes (*Cultural\_Resources* and *Cultural\_Resources\_Restricted*) within the structure of the MCAS Yuma Spatial Data Engine (SDE). Within the *Cultural\_Resources* feature class is the *CulturalSurveyArea* polygon feature, which contains the attributes for each of the cultural resources surveys that have been performed on the range. The *Cultural\_Resources\_Restricted* feature class contains one polygon feature and one point feature, *ArchaeologicalSiteArea* and *ArchaeologicalSitePoint*, respectively. As can be inferred from their titles, the data in the *Cultural\_Resources* feature class can be accessed by personnel who have SDE permissions, while access to the *Cultural\_Resources\_Restricted* feature class is limited to those personnel who have a need to know and who have been approved by the CRM.

Contractors submitting cultural resources GIS data to MCAS Yuma will be provided with a database template and attribute population instructions to ensure they are submitting data that are compliant with the Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) and are in accordance with MCAS Yuma's Specifications for Geospatial Data, which are provided in Appendix F-1.

#### **2.3.4. Access to Cultural Resources Data**

The general public can access government information through Freedom of Information Act (FOIA) requests. However, there are exceptions, including the dissemination of archaeological site location, character, or ownership information (see NHPA Section 304 and ARPA Section 9).

MCAS Yuma follows best management practices for maintaining the confidentiality of archaeological site locations, which means that only professional archaeologists and qualified personnel with a valid need are allowed to access such data. Site location information will be available to project planners on a need-to-know basis, and such information cannot be included in subsequent analyses, reports, or studies that might be made available to the general public. Contractors and other agencies who have a need to use MCAS Yuma cultural resources GIS data must request access permission from the MCAS Yuma GIS Manager. A sample of a Geospatial Data Request letter is included in Appendix F-2. These outside data users will be required to sign a Geospatial Data Use and Nondisclosure Agreement, a copy of which is provided in Appendix F-3. Requests for site location data from professional archaeologists who are not under contract to the DoD and requests from the general public will be referred to the ASM (i.e., use of the ASM's GIS-based AZSITE system).

Additionally, reports and site records that contain resource locations are kept in locked cabinets in a room with restricted access. Electronic data with resource location information is stored in a secured database where access is granted by the CRM on a need-to-know basis. Because exemption from a FOIA request cannot be guaranteed, MCAS Yuma does not ask for or maintain locational information for any TCPs or sacred sites that the tribes wish to keep confidential.

### 2.3.5. Public Outreach

Public outreach is an important part of cultural resources management to keep the public informed and engaged about cultural resources present on the range. Public outreach activities include participation in Arizona Archaeology Month as well as presentations of archaeological data at symposia (such as the annual meeting of the Society of American Archaeology), DoD-sponsored events, meetings of archaeological and historical societies, and Site Steward conferences. The results of archaeological and historical research are also published in professional journals. These efforts should follow MCAS Yuma's best management practices for maintaining required confidentiality as noted above.

Other public outreach efforts include providing public access to cultural resources on the range, which is consistent with Executive Order 13287 (*Preserve America*). The site most often visited by the public is the historic Fortuna Mine and La Fortuna ghost town. In 2007, RMD Conservation staff developed and installed a 2-mile interpretative trail through the site that allows the public to learn about the early Arizona territory mining process and gain insight into the daily lives of the people who lived and worked in this demanding environment. Also, group tours can be scheduled with an MCAS Yuma CLEO that focus on the anecdotal written history of the area through the eyes of people who lived there.

In addition to Fortuna Mine visitors, the BMGR West draws off-road driving enthusiasts as well as gem and mineral collectors. MCAS Yuma CLEOs give tours and lectures at club meetings where they educate members on the ephemeral nature of cultural resources and how to avoid inadvertently disturbing features such as rock cairns and intaglios. The CLEOs also instruct the public on proper climbing, collecting, and driving etiquette in sensitive areas such as near rock art.

Although guided tours are not offered for El Camino del Diablo, the public can access and traverse four segments of the famed Devil's Highway on the BMGR West. MCAS Yuma cooperated with other federal agencies, Friends of the Sonoran Desert, and other Sonoran Desert alliances to produce *A Visitor's Guide to El Camino del Diablo*, a booklet with a road log of junctions, miles, and Global Positioning System (GPS) coordinates at various intervals along the trail. In addition to telling the history of the trail, the guide highlights scenic viewpoints, natural features and processes, historical sites, and other points of interest. As with any other public forays onto the range, anyone traveling on El Camino del Diablo must obtain the appropriate visitor's pass prior to entering the range.

A recent public outreach project on the BMGR West, funded by a 2016 National Public Lands Day DoD Legacy Award, was the placement of a kiosk at the intersection of El Camino del Diablo and Foothills Boulevard. One side of the kiosk tells the story of El Camino del Diablo by highlighting dates and events that relay its importance as a travel route. The other side displays a map and photographs of some of the modes of travel that have been used on the route. The project also entailed intersection repairs and fencing to improve the intersection.

### 2.3.6. Sustainability Initiatives and Protection of Cultural Resources

One of the primary focuses of environmental stewardship within the DoD is the concept of sustainability; this concept applies to design, construction, operations, and resource conservation. Sustainable practices are an investment in the future. Through conservation, improved



maintainability, recycling, reduction and reuse of waste, and other actions and innovations, the USMC can meet current needs without compromising the ability of future generations to meet their own. Chapter 4 of the National Park Service publication, *Guiding Principles of Sustainable Design* notes that:

Sustainability has often been an integral part of the composition of both tangible and intangible cultural resources. Ecological sustainability and preservation of cultural resources are complementary. In large part, the historic events and cultural values that are commemorated were shaped by mankind's response to the environment. When a cultural resource achieves sufficient importance to be deemed historically significant, it becomes a nonrenewable resource worthy of consideration for sustainable conservation. Management, preservation, and maintenance of cultural resources should be directed to that end [National Park Service 1993].

Sustainability, therefore, is a key component of cultural resources management, and is reflected in the policies and procedures to manage NRHP-eligible buildings, structures, and archaeological sites at the BMGR West. All buildings and structures on the range that were built before 1969, as well as those built during the Cold War (i.e., prior to 1990), were either determined to be not eligible for listing on the NRHP, or, through consultation with the Arizona SHPO, were determined to be nonstructural elements of a type that are not generally considered for listing on the NRHP. Moving forward, properties determined to be not eligible for listing on the NRHP under *Criteria Consideration (g)* that were less than 50 years old at the time of their evaluation will be reassessed for significance once they reach the 50-year threshold. Similarly, properties built after 1990 will be evaluated once they reach the 50-year threshold.

As described in Section 2.2.3 (*Recorded Cultural Resources*), there are 414 recorded archaeological sites located within the BMGR West as of May 2019. One of these sites is listed on the NRHP, 113 have been determined eligible for listing, 203 have been determined not eligible for listing, and 97 have not been evaluated. Roughly one-half of the currently documented sites on the BMGR West (all sites with eligible or undetermined eligibilities) are within the APE for the 2005 INRMP PA and will be managed in accordance with the proposed management plan after it is completed (see Section 2.3.7, under *Integrated Natural Resources Management Plan Programmatic Agreement Site Monitoring and Management Plan*). Presently, the INRMP PA is the document by which preservation decisions are guided.

Based on the MCAS Yuma CRM records, one archaeological site on the range has been fenced to protect it from accidental intrusions by the military, the CBP, and public. The intaglio was originally recorded by Statistical Research Inc. in 1989 (Altschul and Jones 1989), who recommended that the site be fenced. The Bureau of Land Management Yuma Resource Area erected a three-strand barbed wire fence around the entire intaglio in 1990.

MCAS Yuma also takes steps to educate people who work on the range in cultural resources protection. This type of education program serves to provide non-archaeologists with an awareness of the importance of the sensitive cultural resources located on the range, thereby leading to a favorable attitude towards protection and preservation. All military personnel, government employees, and contractors who perform any work on the BMGR West are required to attend a Range Safety Briefing prior to entering the range. The briefing includes a section on cultural resources sensitivity and awareness, as well as instructions on what to do if any are encountered. Contractors working on the BMGR West may receive a more in-depth briefing on

the cultural resources that may be encountered during their activities. Training may cover a range of subjects including an explanation of SOPs, an introduction to cultural resource regulations and management, and the identification of cultural resources themselves.

Everyone who enters the range will be held accountable for their actions concerning cultural resources.

### **2.3.7. Future Year Cultural Resources Compliance Undertakings**

The following are future year cultural resources compliance priorities. Funding priorities, also known as Common Output Levels of Service (COLS), are assigned to projects based on the catalog number, or type of activity, under which a particular project falls. Projects assigned a COLS of 3 are the highest priority, followed by COLS 2, with COLS 1 projects having the lowest priority. For instance, the catalog number for ICRMP funding, CN-3066, is automatically set to a COLS 3, as ICRMPs are required under Marine Corps Order 5090.2 (Volume 8). Conversely, a project nominating properties to the NRHP, CN-3060, is automatically set to a COLS 1, because property nominations, for example, have a lower priority than NAGPRA issues. The proposed future year cultural resources compliance undertakings are described below. Table 3 summarizes these undertakings, provides their COLS assignments, and lists their short-term and long-term needed actions.

**Tinajas Altas Management Plan.** The Tinajas Altas Project began in 1996 with the goal of comprehensively recording the archaeological site and associated features and artifacts, which were under the management of Luke Air Force Base at that time. The management recommendations at the conclusion of the project in 2000 included a proposed Tinajas Altas Archaeological District. Between 2003 and 2006, MCAS Yuma contracted with SWCA Environmental Consultants and made several modifications to the contract to produce a management plan and an NRHP nomination package. This resulted in the delivery of a draft management plan and draft NRHP nomination form for the Tinajas Altas site, both of which were never finalized and are now outdated. Actions are needed to update the management plan and nomination package and finalize both, through SHPO and tribal consultation.

**National Register of Historic Places Evaluation of Undetermined Sites.** Prior to 2013, MCAS Yuma neglected to make NRHP-eligibility determinations for sites that were recorded but were not within the APE of a proposed project. Since 2013, MCAS Yuma has been systematically going through previous survey project records, working backward from the most recent, to make and consult on NRHP-eligibility determinations for sites that have been given recommendations by the contractors who recorded them. As of May 2019, there are 97 recorded archaeological sites on the BMGR West with undetermined NRHP eligibilities. Actions are needed to continue to reduce the backlog of unevaluated sites, in consultation with the SHPO and interested tribal governments and organizations.

**Integrated Natural Resources Management Plan Programmatic Agreement Site Monitoring and Management Plan.** MCAS Yuma executed a PA in 2005 to guide the Section 106 compliance for the implementation of the 2007 BMGR INRMP (see Appendix B-1). The PA undertaking included six conservation elements from the INRMP: (1) motorized access and unroaded area management; (2) camping and visitor stay limits; (3) recreation services and use supervision; (4) rockhounding; (5) woodcutting, gathering, and firewood use, and collection of native plants; and (6) recreational shooting. All roadway corridors and some of the more

popular public access areas have been surveyed. Further actions are needed to continue PA and Section 106 compliance, including additional surveys of the APE, especially high-traffic areas, and development of a monitoring and management plan for areas and elements covered by the PA.

**Update Collections Curation.** In 2017, MCAS Yuma signed a new MOA with MCAGCC for curatorial services, replacing the previous agreement executed in 2011 (see Appendix B-3). Eight boxes of BMGR West artifacts and one box of associated records are housed at MCAGCC. Nine boxes of artifacts related to testing at Tinajas Altas are housed at the Gila Bend Air Force Auxiliary Facility based on work conducted by Luke Air Force Base. Other BMGR West materials collected prior to 2011, including 18 cubic feet of artifacts and associated records, are curated at the ASM, the state’s official curation facility. A 2015 inspection of the BMGR West collections at the ASM revealed that most of the BMGR West collections are in the “field state,” where there are no artifact identification, material type, weights, and other pertinent information recorded for each artifact. Actions are needed to ensure all BMGR West collections are properly cataloged and curated.

**Continue to Update Geographic Information System.** The MCAS Yuma GIS database is managed through the USMC’s SDSFIE-compliant SDE. Over the years, various contractors have written plans for adding the station’s cultural resources spatial data to the SDE; however, none of the plans were ever completed. Starting in 2013, MCAS Yuma initiated a new strategy of creating polygon features for each of the surveyed areas and site boundaries known within the BMGR West. Data that were not already in GIS format or GIS data that MCAS Yuma did not have were either digitally created from original paper records or requested from the original source. All of the MCAS Yuma cultural resources data have been input and are stored and managed within the Station’s GIS database, but some of the data still need to be verified and refined.

**Table 3. Future Year Cultural Resources Compliance Undertakings**

Action (COLS)	Current Status	Short-Term Plan	Long-Term Plan
Tinajas Altas Management Plan (COLS 1)	The draft management plan and draft NRHP nomination form were never finalized and are now outdated.	<ul style="list-style-type: none"> <li>• Develop a statement of work to update the plan and nomination package</li> <li>• Request funding</li> <li>• Begin contracting effort</li> </ul>	<ul style="list-style-type: none"> <li>• Complete the management plan through consultation with the SHPO and tribes</li> <li>• Complete nomination package through consultation with the SHPO and tribes</li> </ul>
NRHP Evaluation of Undetermined Sites (COLS 3)	As of May 2019, there are 97 recorded sites with undetermined NRHP eligibilities.	<ul style="list-style-type: none"> <li>• Develop funding request, or</li> <li>• Develop field-going strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Execute short-term plan</li> <li>• Make determinations</li> <li>• Consult with the SHPO and tribes</li> </ul>
INRMP PA Site Monitoring and Management Plan (COLS 1)	Funding is requested annually to continue surveys within the APE. MCAS Yuma has begun talks with the Arizona Site Stewards Volunteer Program for site monitoring assistance.	<ul style="list-style-type: none"> <li>• Continue to survey APE and evaluate newly recorded sites</li> <li>• Develop a statement of work to develop a monitoring and management plan</li> <li>• Request funding</li> <li>• Begin contracting effort</li> </ul>	<ul style="list-style-type: none"> <li>• Complete the monitoring and management plan through consultation with the SHPO and tribes</li> </ul>

**Table 3. Future Year Cultural Resources Compliance Undertakings**

Action (COLS)	Current Status	Short-Term Plan	Long-Term Plan
Update Collections Curation (COLS 3)	Artifacts and associated records are housed at the ASM, GBFAF, and MCAGCC. Some boxes at the ASM are not properly curated.	<ul style="list-style-type: none"> <li>• Develop strategy to upgrade collections at the ASM, or</li> <li>• Move collections from the ASM to MCAGCC and curate collections per MOA guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure all BMGR West collections are properly catalogued and curated</li> </ul>
Continue to Update Geographic Information System (COLS 3)	All of the MCAS Yuma cultural resources data are stored and managed within the Station's GIS database, but some of the data need to be verified and refined.	<ul style="list-style-type: none"> <li>• Continue to update the GIS database with necessary corrections and additions</li> </ul>	<ul style="list-style-type: none"> <li>• Have all MCAS Yuma cultural resources spatial data up-to-date in the GIS database</li> <li>• Have all sites and survey polygons linked to their site record and survey report</li> </ul>

APE = Area of Potential Effects; ASM = Arizona State Museum; BMGR = Barry M. Goldwater Range; COLS = Common Output Levels of Service; GBFAF = Gila Bend Air Force Auxiliary Facility; GIS = geographic information system; INRMP = Integrated Natural Resources Management Plan; MCAGCC = Marine Corps Air Ground Combat Center; MCAS = Marine Corps Air Station; MOA = Memorandum of Agreement; NRHP = National Register of Historic Places; PA = Programmatic Agreement; SHPO = State Historic Preservation Officer

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**APPENDIX A**

**Standard Operating Procedures**

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**A-1**  
**Standard Operating Procedure #1**  
**National Historic Preservation Act Section 110 Compliance**

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# **STANDARD OPERATING PROCEDURE #1**

## **NATIONAL HISTORIC PRESERVATION ACT SECTION 110**

### **COMPLIANCE**

#### **DRIVER**

The National Historic Preservation Act (NHPA) became public law on October 15, 1966 (PL 89-665) and was codified in title 16 of the United States Code (16 USC § 470). Various amendments followed through the years, including the 1980 amendment that added Section 110 (PL 96-515). On December 19, 2014, Public Law 113-287 moved the NHPA's provisions from title 16 of the United States Code to title 54 (54 USC §§ 300101 et seq.), with minimal and non-substantive changes to the text of the act and a re-ordering of some of its provisions. The Advisory Council on Historic Preservation (ACHP), however, notes that the law that moved the NHPA to title 54 specifies that a reference to an old title 16 provision (e.g., 16 USC § 470h-2 rather than 54 USC §§ 306101 through 306114, for Section 110 of the NHPA) is legally deemed to refer to the corresponding provision in the new title 54.

The ACHP intends to continue referring to Section 110 of the NHPA as "Section 110" since that refers to the section in the public law (PL 96-515) that added this section to the NHPA, as opposed to its legal citation of the United States Code (54 USC §§ 306101-306114). The Section 110 Guidelines, first published in the *Federal Register* on February 17, 1988 (53 FR 4727-46), are titled *The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act*.

#### **OVERVIEW**

Section 110 of the NHPA requires that federal agencies that manage cultural resources assess the significance of those resources and assume responsibility for the preservation of historic properties. Such properties may include archaeological sites, buildings, structures, districts, landscapes, objects, and traditional cultural properties. They are historic properties if they meet the criteria for inclusion on the National Register of Historic Places (NRHP). Marine Corps Air Station (MCAS) Yuma shall evaluate all known cultural resources on the Barry M. Goldwater Range West (BMGR West) to determine which meet the criteria for nomination to the NRHP. Included is the directive to inventory and manage all properties that appear to qualify for inclusion on the NRHP. The criteria are specified in title 36 of the Code of Federal Regulations (36 CFR 60). Agencies are further cautioned not to allow historic properties to deteriorate significantly. Additionally, each Department of Defense installation shall identify and evaluate all cultural resources under its control, including resources from 1945 to 1989, even if they have not yet reached the 50-year threshold.

The intent of Section 110 of the NHPA is to ensure that historic preservation is fully integrated into ongoing programs at federal agencies. The Secretary of the Interior's guidelines direct agencies to establish a preservation program for the identification, evaluation, nomination to the NRHP, and protection of historic properties.

The BMGR West consists of approximately 700,000 acres, of which 142,448 acres (20 percent of the range) have been surveyed for cultural resources as of May 2019. For the fiscal years (FYs) 2013 to 2016, MCAS Yuma received funding to contract for an average of about 15,000 acres per year for Section 110 compliance surveys, with received funding falling short of the

requested budgets most years. If Congress continues to fund the United States Marine Corps (USMC) at or above current levels, the entirety of the BMGR West could feasibly be surveyed within 37 years.

Within the 142,448 acres that have been surveyed, 414 cultural resource sites have been recorded. Of those 414 sites, the NRHP eligibility of 97 has not been determined. Those 97 sites are treated as eligible and avoided until such time as they can be evaluated. A majority of the sites with no eligibility determination on the BMGR West were evaluated by consultants who gave recommendations in their survey reports. The Cultural Resources Managers (CRMs) at the various times that the reports were received, however, did not offer the recommendations to the Commanding Officer (CO) for determinations, and thus, NRHP-eligibility consultations were not done. MCAS Yuma is accomplishing the determinations as time allows, working backward from the most recent reports and averaging about one or two reports each year. Additional survey and evaluation studies are needed to develop a comprehensive record of archaeological sites located on the range.

All buildings and structures on the BMGR West that were built prior to 1969 have been evaluated for significance based on the four criteria for evaluation (see *Criteria for Evaluation* below). All seven were either determined not eligible for listing on the NRHP, or, through consultation with the Arizona State Historic Preservation Officer (SHPO), were determined to be nonstructural elements of a type that are not generally considered for the NRHP. All buildings and structures on the BMGR West that were built during the Cold War (i.e., prior to 1990) have been evaluated for significance based on *Criteria Consideration (g)* of the NRHP (see *Criteria for Evaluation* below). Of the 17 that fall into this category, 8 were determined not eligible for listing on the NRHP under *Criteria Consideration (g)*, and, through consultation with SHPO, nine were determined to be nonstructural elements of a type that are not generally considered for the NRHP. The eight properties determined to be not eligible for listing on the NRHP under *Criteria Consideration (g)*, will be reassessed for significance once they reach the 50-year threshold.

## PROCEDURES

This Standard Operating Procedure (SOP) and associated Integrated Cultural Resources Management Plan (ICRMP) establish the MCAS Yuma preservation program and details the procedures to be followed for Section 110 compliance on the BMGR West.

Using ENCORE, or the USMC's current tool for Environmental Project Planning, Programming, Budgeting and Execution (EPPPB), the CRM will submit funding requests for Section 110 projects for future FYs during the annual FY planning cycle. The annual requests will be for funds to survey at least 20,000 acres per year.

Using ENCORE or the USMC's current EPPPB tool, the Conservation Program Manager will provide local review and prioritization of the requests and will forward to headquarters for final approval.

Upon receipt of funds, the CRM will work with Naval Facilities Engineering Command (NAVFAC) Southwest to procure the consultant services necessary to perform the survey. The CRM is responsible for writing a Statement of Work that details the number of acres to be surveyed; federal and state regulations to be met; the project objectives; a description of the

deliverables, including geographic information system (GIS) data; and qualifications for those performing the work.

Based on the survey results as reported by the consultant, the evaluations in the report, and observations during any site visits, the CRM will provide recommendations to the CO on the NRHP-eligibility determinations for sites recorded or updated during the survey.

A letter requesting consultation from the CO, signed under their direction by the Director of Range Management, will be sent along with a copy of the survey report to the tribes with whom MCAS Yuma typically consults for Section 110 projects on the BMGR West. The letters will be addressed to the executive leader of each tribe with a copy being sent to their appointed consultation representative. The CRM will follow up via email with each tribe that has not responded within 30 days of receipt of the consultation package.

The CRM will then compile the tribal consultation results into a matrix that is mailed to SHPO along with copies of letters and emails to and from the tribes and a copy of the report. Since there is no project linked to the Section 110 surveys, the accompanying letter from the CO will only request SHPO concurrence with the NRHP-eligibility determinations.

If agreement cannot be reached on the eligibility of any sites, those sites will be managed and maintained as eligible until such time as a Section 106 project necessitates further evaluation or the Keeper of the National Register of Historic Places is asked to intervene.

## **SURVEY**

Survey includes conducting a records search/literature review, performing systematic pedestrian coverage of a property, documenting and/or updating documentation for all discovered sites, and preparing a report that provides additional knowledge regarding the survey area. Surveys performed in compliance with Section 110 on the BMGR West generally do not involve excavation. MCAS Yuma, however, may institute a policy, through consultation with SHPO, that allows for shovel test pits or trowel scrapes to assist in the NRHP evaluations of sites. Section 110 surveys on the BMGR West are usually non-collection; however, unusual or unique artifacts may be considered for collection on an individual basis.

In lieu of the typically required survey work plan, MCAS Yuma has developed standards that delineate the methods to be used in performing surveys on the BMGR West (see Appendix C of the ICRMP associated with this SOP). These standards are meant to supplement the *Arizona State Museum (ASM) Archaeological Site Recording Manual* and SHPO's *Standards for Inventory Documents Submitted for SHPO Review in Compliance with Historic Preservation Laws*, both of which are incorporated here by reference. The survey interval, as required by SHPO, is a maximum of 20 meters apart. All sites identified during a survey must meet the requirements of SHPO and the *ASM Archaeological Site Recording Manual*. A report summarizing the survey results will include NRHP-eligibility recommendations, based on the *Criteria for Evaluation* listed below, for all recorded resources.

Survey reports, in a format based on the requirements of the ASM, SHPO, and MCAS Yuma standards, will describe the overall project, the historic context for any sites identified, methodologies, research questions, study results, recommendations, and any additional requirements for documentation. All discovered sites are treated as eligible for listing on the NRHP until a determination of eligibility is completed and has SHPO concurrence. Since there

are no proposed projects or immediate plans for Section 110 survey projects, recommendations will typically include avoidance.

### **CRITERIA FOR EVALUATION**

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A.** That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B.** That are associated with the lives of significant persons in our past; or
- C.** That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D.** That have yielded or may be likely to yield, information important in history or prehistory.

Ordinarily, properties that have achieved significance within the past 50 years shall not be considered eligible for the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they meet *Criteria Consideration (g)* (a property achieving significance within the past 50 years if it is of exceptional importance).



**A-2**  
**Standard Operating Procedure #2**  
**National Historic Preservation Act Section 106 Compliance**

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## **STANDARD OPERATING PROCEDURE #2**

### **NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COMPLIANCE**

#### **DRIVER**

The National Historic Preservation Act (NHPA) became law on October 15, 1966 (PL 89-665) and was codified in title 16 of the United States Code (16 USC § 470). Various amendments followed through the years. On December 19, 2014, Public Law 113-287 moved the NHPA's provisions from title 16 of the United States Code to title 54 (54 USC §§ 300101 et seq.), with minimal and non-substantive changes to the text of the act and a re-ordering of some of its provisions. The Advisory Council on Historic Preservation (ACHP), however, notes that the law that moved the NHPA to title 54 specifies that a reference to an old title 16 provision (e.g., 16 USC § 470f rather than 54 USC § 306108, for Section 106 of the NHPA) is legally deemed to refer to the corresponding provision in the new title 54.

The ACHP intends to continue referring to Section 106 of the NHPA as “Section 106” since that refers to the section in the original public law that enacted the NHPA, as opposed to its legal citation of the United States Code. It is also a reference that has been in constant use for almost 50 years. Likewise, the regulations implementing Section 106 of the NHPA (36 CFR 800), are not affected by this recodification, so referencing of those regulations can continue as before.

#### **OVERVIEW**

The NHPA establishes the federal government's policy to provide leadership in preserving historic properties and to administer federally owned or controlled historic properties in the spirit of stewardship. The ACHP regulations, *Protection of Historic Properties* (36 CFR 800), sets forth the procedural requirements of the NHPA Section 106 to identify, evaluate, determine effects, and resolve adverse effects of all undertakings on historic properties. An undertaking, as defined in the regulations, means:

a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license or approval [36 CFR 800.16(y)].

A historic property, as defined in the regulations, means:

any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria [36 CFR 800.16(1)(1)].

The regulations require that federal agencies initiate the Section 106 process early in the planning of an undertaking (36 CFR 800.1(c)). Consultation with the Arizona State Historic Preservation Officer (SHPO) and communication with Native Americans should also begin in this critical early phase and continue throughout the process. In addition to SHPO and Native American representatives, the Marine Corps Air Station (MCAS) Yuma will also plan to enter

into discussion with other parties that have a proven interest in the project at hand, including interested members of the public. Neither the NHPA nor the ACHP's regulations require that all historic properties be preserved; they do, however, require that all federal agencies consider the effects of their proposed undertakings on historic properties.

## PROCEDURES

Proposed undertakings that have the potential to cause effects on historic properties on the Barry M. Goldwater Range West (BMGR West) are submitted for Section 106 review to the Range Management Department through various means, from different project proponents. Project proponents can be MCAS Yuma staff, departments, or tenants (e.g., Range Training Officer, Installation and Logistics); other United States Marine Corps (USMC) agencies (e.g., Marine Corps Installations Command); other federal agencies (e.g., U.S. Customs and Border Protection, U.S. Geological Survey); state, county, or city entities (e.g., Arizona Department of Transportation); or public utilities (e.g., Arizona Public Service), to name a few. Without consideration of how, or by whom, they are submitted, all proposed undertakings are subjected to Section 106 review and procedures in accordance with the regulations (36 CFR 800).

MCAS Yuma, as allowed under the regulations (36 CFR 800.14), has developed alternative procedures for compliance with the Section 106 process as it pertains to two specific project categories: a Memorandum of Understanding (MOU) for negative findings and a Programmatic Agreement (PA) for undertakings associated with the 2007 BMGR Integrated Natural Resources Management Plan (INRMP). Both documents can be found in Appendix B of the Integrated Cultural Resources Management Plan (ICRMP) associated with this Standard Operating Procedure (SOP).

The basic tenet of the MOU (*Memorandum of Understanding between Marine Corps Air Station, Yuma, Arizona and Arizona State Historic Preservation Officer for Section 106 Compliance Consultation Process for Negative Findings*) is the streamlining of SHPO consultation for Section 106 project surveys when no cultural properties are identified within the project Area of Potential Effects (APE). The MCAS Yuma Cultural Resources Manager (CRM) will ensure that tribal consultations, pursuant to the regulations (36 CFR 800.3 and 800.4), have been conducted for projects meeting this criterion. The CRM will internally document the results of the surveys and tribal consultations for each such project, and at the end of the federal fiscal year, provide an annual report to SHPO that summarizes those actions completed without SHPO consultation.

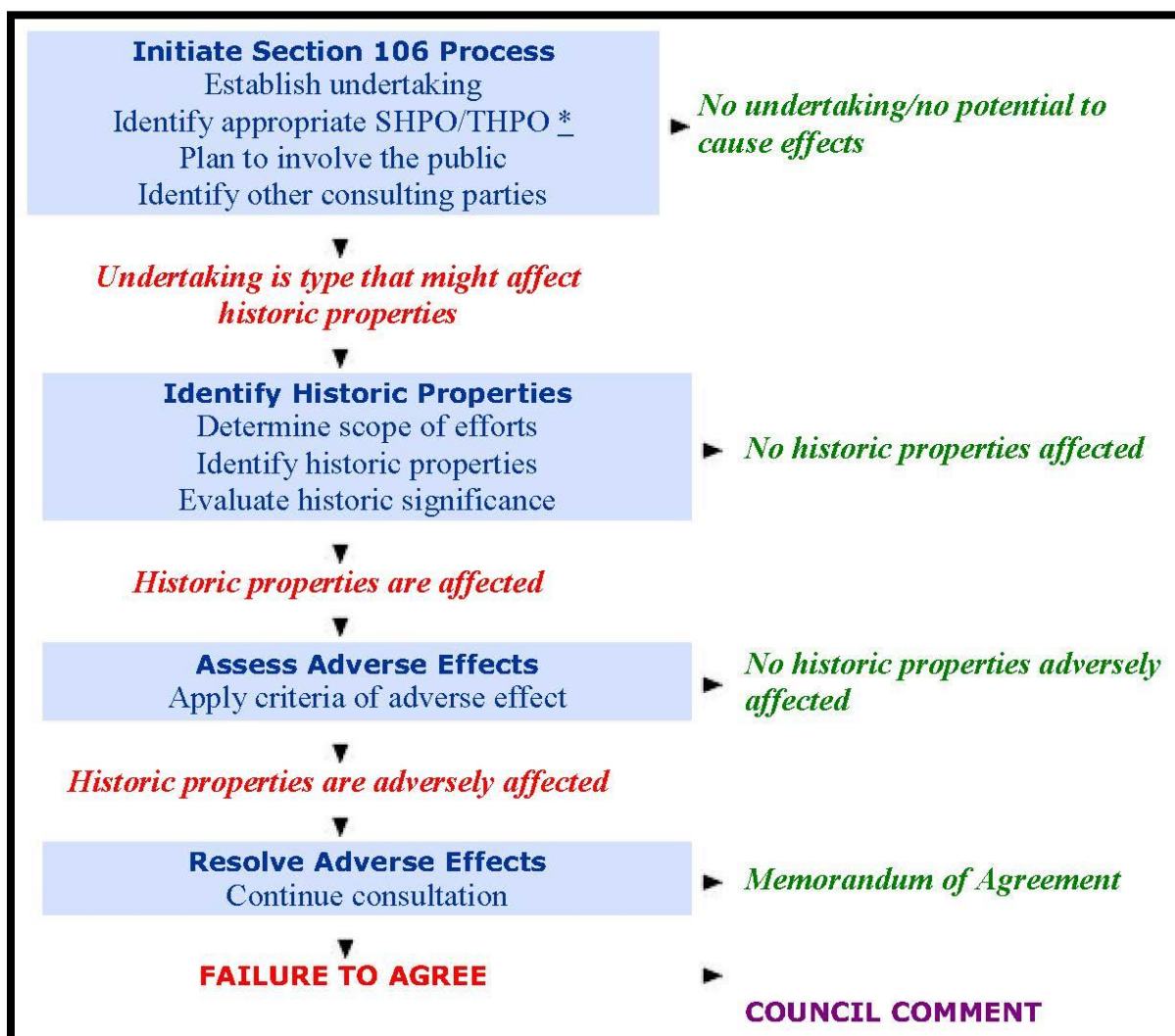
The PA (*Programmatic Agreement among 56<sup>th</sup> Range Management Office, Luke Air Force Base, Marine Corps Air Station Yuma, and Arizona State Historic Preservation Officer regarding Potential Impacts on Historic Properties of Implementing an Integrated Natural Resources Management Plan for the Barry M. Goldwater Range, Southwestern Arizona*) was executed in 2005 in response to the Military Lands Withdrawal Act of 1999 (PL 106-65) requirement that the U.S. Air Force and USMC prepare an INRMP to govern their management of natural and cultural resources on the BMGR. An Environmental Impact Statement (EIS) was prepared to analyze a range of management strategies and identified preferred alternatives for 17 conservation elements. Of the 17 conservation elements that were analyzed in the EIS, 6 were identified as the undertaking to be implemented in accordance with the PA (Stipulation 2).

The APE of the undertaking covered by the PA is a discontinuous area that includes those parts of the range that are open to public access. On the BMGR West, this includes all of Management

Units 2 and 3, plus the southeastern-most extension of Unit 1, which encompasses the area previously designated the Tinajas Altas Mountains Area of Critical Environmental Concern when it was under the management of the Bureau of Land Management.

As stated above, all proposed undertakings are subjected to Section 106 review. For those undertakings that do not fall under the purview of either of these alternative procedures, below is a simple flowchart of the Section 106 process, per the regulations (36 CFR 800), which will be followed by MCAS Yuma.

Failure to take the effects of an undertaking on historic properties into account in accordance with NHPA Section 106 and its implementing regulations (36 CFR 800) can result in formal notification from the ACHP to the Secretary of the Navy of foreclosure of the ACHP's opportunity to comment on the undertaking pursuant to the NHPA. A notice of foreclosure could potentially be used by litigants against the USMC in a manner that can halt or delay critical mission activities.



## **NATIONAL ENVIRONMENTAL POLICY ACT AND SECTION 106**

The Section 106 process is often conducted concurrently with the processes associated with the National Environmental Policy Act (NEPA). NEPA mandates that federal agencies consider all environmental consequences relevant to proposed actions and reasonable alternatives and include the public in the decision-making process. A cultural resources survey with NHPA Section 106 review often supports the cultural resources component of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS), which are two types of documents that may be used to detail the analyses of impacts performed during the NEPA process. Although the NEPA process can be used to satisfy Section 106 compliance review, MCAS Yuma typically adheres to the regulations separately yet runs the processes concurrently. Several factors contribute to this preference including funding, contracting, and timing of the processes. The most significant factor, however, is the release of cultural resource locations. Often an essential part of Section 106 review, these locations cannot be disclosed in public documents, including EAs and EISs. Thus, a summary of the thorough Section 106 review is written for inclusion in the public NEPA documents.

**A-3**  
**Standard Operating Procedure #3**  
**Archaeological Resources Protection Act Compliance**

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## **STANDARD OPERATING PROCEDURE #3 ARCHAEOLOGICAL RESOURCES PROTECTION ACT COMPLIANCE**

### **DRIVER**

The Archaeological Resources Protection Act (ARPA) became public law on October 31, 1979, (PL 96-95) and was codified in title 16 of the United States Code (16 USC §§ 470aa-mm). Various amendments followed through the years. The implementing regulations for ARPA, *Protection of Archaeological Resources*, are found within title 32 of the Code of Federal Regulations (32 CFR 229).

### **OVERVIEW**

An archaeological resource, as defined under ARPA, is any material remains of human life or activities which are at least 100 years of age, and which are of archaeological interest (32 CFR 229.3(a)). Per ARPA, it is a federal offense to excavate, remove, damage, alter, or otherwise deface archaeological resources on federal lands without authorization. The sale, purchase, exchange, transport, and/or receipt of archaeological resources obtained in violation of this law also are federal offenses. Unless found in direct physical relationship with other archaeological resources as defined by ARPA, items excluded from ARPA include paleontological remains, coins, bullets, and unworked minerals and rocks (32 CFR 229.3(a)(4)). Paleontological remains are protected under the Antiquities Act of 1906.

### **PROCEDURES**

Archaeological resources from federal installations, as defined under ARPA (32 CFR 229.3), belong to the installations, except where Native American Graves Protection and Repatriation Act (NAGPRA) requires repatriation to lineal descendants or the closest culturally affiliated federally recognized tribe (see Standard Operating Procedure [SOP] #4 [*NAGPRA Compliance*]). Resources collected from lands used by the United States Marine Corps (USMC), but for which the fee title is held by another agency, are the property of the agency designated as the land manager in the land-use instrument (e.g., public land order, special use permit). The Marine Corps Air Station (MCAS) Yuma Commanding Officer (CO) ensures that land-use instruments allowing for military use are reviewed to determine proper roles and responsibilities.

MCAS Yuma staff or contractors carrying out official duties associated with managing archaeological resources are not required to obtain a permit under ARPA or the Antiquities Act for investigating archaeological resources on a federally owned or controlled installation, including situations where cultural items, as defined by NAGPRA, may be excavated. However, in situations where NAGPRA cultural items or historic properties may be encountered during intentional excavation of archaeological resources, the requirements of NAGPRA (43 CFR 10) and the National Historic Preservation Act (NHPA; 36 CFR 800) must be met before excavating.

To comply with ARPA, the CO is considered the federal land manager as defined in the regulations (32 CFR 229.3(c)). As the federal land manager, the CO may determine that certain archaeological resources in specified areas under CO jurisdiction and under specific circumstances are not or are no longer of archaeological interest and are not considered archaeological resources for the purposes of ARPA (32 CFR 229.3(a)(5)). All such

determinations are then justified and documented by memorandum and formally staffed for review.

The CO ensures that military police, installation legal staff, installation public affairs officials, and range management staff are familiar with the requirements and applicable civil and criminal penalties under ARPA.

## **PUBLIC EDUCATION**

ARPA directs federal cultural resource managers to establish public education programs to foster the public's awareness of the significance and sensitivity of resources located on lands within their jurisdiction. MCAS Yuma outreach includes providing briefings to all field-going civilian personnel, contractors, and military units utilizing the ranges. MCAS Yuma produces and distributes a visitor's guide and map for the Barry M. Goldwater Range West (BMGR West) that helps to educate the visiting public on protected archaeological resources. Also in accordance with ARPA Section 9, the CO may withhold information concerning the nature and location of archaeological resources from the public under the Freedom of Information Act (5 USC § 552).

## **ARCHAEOLOGICAL RESOURCES PROTECTION ACT PERMIT**

ARPA permits are required when the following three criteria are met: 1) the project is located on the BMGR West, 2) digging or collection of artifacts will occur, and 3) the participants are not directly contracted to or by MCAS Yuma. ARPA permits are issued for archaeological investigations that may result in the excavation or removal of Native American inhumations and other cultural items as defined in NAGPRA, or in the excavation of archaeological resources that are of religious or cultural importance to federally recognized tribes.

An ARPA permit can be obtained by submitting an ARPA permit application to the MCAS Yuma Cultural Resources Manager (CRM), pursuant to Section 4(a) of ARPA. To qualify for an ARPA permit, the Principal Investigator for the project must meet the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44738-9).

MCAS Yuma may issue an ARPA permit after the CRM consults with culturally affiliated Indian tribes in accordance with NAGPRA (43 CFR 10.5) and ARPA (32 CFR 229.7). The CRM will inform the tribes that are most likely to be culturally affiliated with the area of the planned activity and provide the names of other present-day Indian tribes that historically occupied the area and any other tribes that may be associated with the items expected to be found. The notice of the project will include a request for a face-to-face meeting with tribal members and proposed treatment and disposition of Native American human remains and other NAGPRA-related items. Written notification will be followed by telephone contact if there is no response. Indian tribes have the right to ensure that excavations are carried out following these rules and that the disposition of NAGPRA-related items is carried out per the custody stipulations of NAGPRA.

The CRM will monitor the field investigations conducted under an ARPA permit to ensure compliance with the ARPA and NAGPRA regulations (32 CFR 229 and 43 CFR 10) and the terms and conditions of the permits.

The CO ensures that the ARPA permits:

- comply with the requirements of the regulations (32 CFR 229 and 43 CFR 10);
- require any interests that federally recognized tribes may have in the permitted activity are addressed in a manner consistent with the requirements of NHPA and NAGPRA, prior to issuance of the permit;
- require that permitted activities are conducted according to applicable professional standards of the Secretary of the Interior; and
- require that the excavated archaeological artifact collection and associated records are permanently housed in a curation facility that meets the requirements of *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79), except as otherwise required under NAGPRA.

### **ARCHAEOLOGICAL RESOURCES PROTECTION ACT VIOLATION DOCUMENTATION**

Investigation of looting, vandalism, or other destruction of an archaeological resource on the BMGR West will require a systematic examination of the crime scene by both an MCAS Yuma Conservation Law Enforcement Officer (CLEO) or Naval Criminal Investigative Service investigator and a professional archaeologist. The law enforcement officer will be responsible for investigating violations of federal law and, therefore, will direct the archaeological crime scene investigation process. The archaeologist will provide forensic expertise on archaeological resources for the crime scene investigation, and law enforcement personnel may request assistance in other activities, such as taking the crime scene photographs, preparing crime scene sketches, collecting crime scene evidence, preparing reports, and testifying in court. The archaeologist will always work under the direction of the investigating officer. The primary function of the archaeologist during an ARPA investigation will be the production of the Archaeological Damage Assessment Report. At the outset of any ARPA violation investigation, the investigating officer and the archaeologist must coordinate all investigation activities through the Judge Advocate General's office. Penalties imposed for ARPA violations vary, but could reach as high as \$250,000 in fines and five years' imprisonment.

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**A-4**

**Standard Operating Procedure #4  
Native American Graves Protection and Repatriation Act Compliance**

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## **STANDARD OPERATING PROCEDURE #4 NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT COMPLIANCE**

### **DRIVER**

The Native American Graves Protection and Repatriation Act (NAGPRA) became public law on November 16, 1990 (PL 101-601) and was codified in title 25 of the United States Code (25 USC §§ 3001-3013). NAGPRA protects human remains, funerary objects, sacred objects, and objects of cultural patrimony of indigenous peoples on federal or tribal lands. Implementing regulations for NAGPRA, *Native American Graves Protection and Repatriation Regulations*, are found within title 43 of the Code of Federal Regulations (43 CFR 10).

### **OVERVIEW**

NAGPRA stipulates priorities for assigning ownership or control of human remains, funerary objects, sacred objects, and objects of cultural patrimony of indigenous peoples excavated or discovered on federal or tribal lands. The act also provides for repatriation of Native American human remains and cultural objects previously collected from federal lands and in the possession or control of a federal agency or federally funded repository. In addition to defining procedures for dealing with previously collected Native American human remains and cultural objects, these regulations outline procedures for negotiating plans of action or comprehensive agreements for treatment of human remains and cultural items encountered in intentional excavations or inadvertent discoveries on federal or tribal lands.

In 1990, NAGPRA was signed into law, establishing a “systematic process for determining the rights of lineal descendants and Indian tribes and Native Hawaiian organizations to certain Native American human remains, funerary or sacred objects, or objects of cultural patrimony with which they are affiliated” (60 FR 232). The law applies to such collections in federal possession or control, in the possession or control of any institution or state or local government receiving federal funds, or any archaeological finds excavated intentionally or discovered inadvertently on federal lands. Briefly, NAGPRA requires the following:

- That an Archaeological Resources Protection Act (ARPA) permit be obtained to excavate or remove NAGPRA-related items from federal or tribal lands (see Standard Operating Procedure [SOP] #3 [*ARPA Compliance*]);
- That the objects be excavated only after Native American consultation has been conducted, or, in the case of tribal lands, with the permission of the tribe;
- That the disposition of the human remains or other NAGPRA-related items be consistent with Section 10.6 of the regulations (43 CFR 10.6); and
- That proof of Native American consultation be provided to the agency that issued the ARPA permit.

NAGPRA also requires that “all Federal authorizations to carry out land use activities on Federal lands or tribal lands...must include a requirement for the holder of the authorization to notify the appropriate Federal or tribal official immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony” (60 FR 232).

## PROCEDURES

The ownership or control over Native American human remains and other NAGPRA-related items is given priority to tribes based upon the lineal descent of the deceased individual, the Indian tribe on whose lands the discovery was made, and the tribe with the closest cultural affiliation with the NAGPRA-related items. When the tribal affiliation of the discovery cannot be determined, custody is based upon the tribe that prehistorically occupied the lands where the discovery was made. If, by a preponderance of evidence, it is determined that a different tribe has a stronger affiliation with the human remains or objects, the tribe with the strongest affiliation is awarded custody of the items.

## INVENTORY OF NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT -RELATED ITEMS

Museums or federal agencies that house Native American human remains, funerary or sacred objects, or objects of cultural patrimony are required to inventory these items and provide a summary description of the collections to lineal descendants or affiliated Indian tribes. The inventory serves to inform Native Americans of the existence of these items should they wish to request repatriation of them. The inventory provides an estimate of the number of objects in federal possession, a description of the kinds of objects the collection includes, reference to the means by which the collection was made and the dates and locations it was made, and information pertaining to the cultural affiliation of the collections.

In 2000, the United States Army Corps of Engineers St. Louis District published the results of an inventory of collections under the control of military installations in selected western states, including Arizona. The inventory of the Marine Corps Air Station (MCAS) Yuma collections included those that in 1996 and 1997 were curated at the Arizona State Museum, the Bureau of Land Management Phoenix District, and KEA Environmental. The report concluded that MCAS Yuma collections contain no human skeletal remains, and thus, no associated funerary objects. MCAS Yuma consults with tribal members regarding collections in its possession and will repatriate collections under certain circumstances after consultation is complete.

## INADVERTENT DISCOVERIES

In the event of the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony on the Barry M. Goldwater Range West (BMGR West), the MCAS Yuma Cultural Resources Manager (CRM) will ensure that all appropriate measures are implemented to protect the remains and any other protected cultural items; all appropriate tribes and agencies will be promptly notified of the find; and all applicable federal, tribal, and state procedures will be followed, as outlined below.

In the event of inadvertent discovery of cultural materials, cease activities immediately, secure the discovery site from further disturbance, and contact the CRM.

1. The CRM will visit the location of the discovery within 24 hours of the notification of the find to determine if NAGPRA applies. The services of appropriate technical experts (e.g., specialist in human osteology, forensic anthropologists) may be retained to participate in the field visit.
2. If the objects are determined to be not covered under NAGPRA, the procedures in SOP #5 (*Inadvertent Discovery of Cultural Materials*) will be implemented.



3. If human remains are known or suspected to be present, the CRM will also promptly coordinate with the MCAS Yuma Conservation Law Enforcement Officer or appropriate MCAS Yuma Law Enforcement staff regarding notification to the local medical examiner, and the procedures in this SOP will be implemented. The CRM will also notify the MCAS Yuma Commanding Officer (CO) through the appropriate chain of command, installation legal counsel, and the Public Affairs Officer.
4. The CRM will notify the Arizona State Historic Preservation Officer (SHPO) of the discovery. The notification should be by telephone, to be followed immediately by written notification.
5. Federally recognized tribes will be notified by telephone along with a written confirmation within three days of the discovery. This notification must include pertinent information as to kinds of human remains, funerary objects, sacred objects, or objects of cultural patrimony, their condition, and the circumstances of discovery.
6. The CRM will follow NAGPRA procedures (43 CFR 10) and consult with interested parties (i.e., SHPO, tribes, property owner) to discuss disposition of remains and mitigation measures. The CRM, in consultation with SHPO and Native Americans, as appropriate, will determine the procedures for disposition and control of any Native American cultural items excavated or removed as a result of an inadvertent discovery.
7. Activities in the area of discovery will resume 30 days after certification of notification is received, or sooner, if a signed binding agreement is reached. Before the original action can resume, the CRM must have implemented the NAGPRA process properly and confirmed with legal counsel that MCAS Yuma is in a legal position to proceed with the project in the area of discovery.

## INTENTIONAL EXCAVATION

The CO must take reasonable steps to determine whether a planned activity may result in the excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony from the BMGR West. In accordance with the regulations (43 CFR 10.3(b)), the intentional excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony from federal or tribal lands after November 16, 1990 is permitted only if:

1. The objects are excavated or removed following the requirements of ARPA and its implementing regulations (see SOP #3 [*ARPA Compliance*]),
2. The objects are excavated after consultation with or, in the case of tribal lands, consent of, the appropriate Native American tribe pursuant to Part 10.5,
3. The disposition of the objects is consistent with their custody as described in Part 10.6, and
4. Proof of the consultation or consent is shown to the federal agency official (i.e., CO) or other agency official (CRM) responsible for the issuance of the required permit.

The CO will notify in writing any Native American tribes that are likely to be culturally affiliated with any human remains, funerary objects, sacred objects, or objects of cultural patrimony that may be excavated. The CO will also notify any present-day Native American tribes which aboriginally occupied the area of the planned activity and any other Native American tribes that the CO reasonably believes are likely to have a cultural relationship to the human remains or objects that are expected to be found.

## **NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT CONSULTATIONS**

Consultation is conducted to identify traditional religious leaders and lineal descendants for NAGPRA-related issues, and serves to establish procedures to determine custody and the treatment and disposition of NAGPRA-related items excavated intentionally or discovered inadvertently on the BMGR West. MCAS Yuma may ask for the following:

- contact information for the tribal official(s) that will act to represent a particular tribe during the consultation process,
- names of appropriate consulting partners and the methods by which to consult, and
- kinds of cultural items that are perceived to be associated with NAGPRA issues.

After consultation is complete, MCAS Yuma will prepare a written plan of action, which is then provided to lineal descendants and Indian tribes. Native American representatives sign the plan of action as appropriate. The plan of action may include a description of the following:

- the kinds of cultural items that are of concern,
- the specific information used to determine the custody of NAGPRA-related items,
- the planned treatment and handling of such items,
- the planned archaeological recording and analysis of such items,
- steps to be followed to contact tribal officials when excavation or discoveries occur,
- the traditional treatment that will occur when such items are encountered,
- the nature of any reports to be prepared, and
- the disposition of NAGPRA-related items.

Whenever possible, MCAS Yuma will enter into comprehensive agreements with tribes that are affiliated with NAGPRA-related items and those who have claims to them. Such agreements will typically address MCAS Yuma activities on the BMGR West that may trigger NAGPRA.

## **TRANSFER OF CUSTODY**

Once the custody rights of a particular tribe have been determined, MCAS Yuma will transfer custody of the Native American human remains and/or other NAGPRA-related objects with respect to traditional customs and practices of the affiliated tribes. A general notice of the proposed disposition will be published in a newspaper with circulation that covers the area in which the human remains and cultural objects were discovered, and in which interested Native American parties currently reside. The notice will describe the nature and affiliation of discoveries, solicit further claims to custody, and will be published twice (with the second publication occurring at least one week after the first). Transfer of the objects will occur at least 30 days after publication of the second notice. If additional claimants do not appear within this time period, a copy of the notice will be sent to the Departmental Consulting Archaeologist at the National Park Service for further research.

Unclaimed Native American human remains and cultural objects are cared for and managed, or returned in accordance with the regulations developed by the NAGPRA Review Committee.

## **SCIENTIFIC STUDY**

Many Native Americans consider the scientific study of human remains, including photographic documentation, to be disrespectful and culturally insensitive. NAGPRA limits scientific research

to procedures that are necessary for determining cultural affiliation and lineal descendancy. The regulations only allow for more extensive study in those circumstances where human remains and certain cultural items are indispensable to the completion of a specific scientific study, the outcome of which is of major benefit to the United States (43 CFR 10.10(c)).

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**A-5**  
**Standard Operating Procedure #5**  
**Inadvertent Discovery of Cultural Materials**

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## **STANDARD OPERATING PROCEDURE #5**

### **INADVERTENT DISCOVERY OF CULTURAL MATERIALS**

#### **DRIVER**

Archaeological investigation methods are designed to discover material evidence of past cultural activities. It is possible, however, that buried archaeological deposits may remain undetected during the survey process, only to be exposed later by construction or other ground-disturbing activities. These inadvertent discoveries, also referred to as post-review discoveries, are managed in accordance with the Secretary of the Interior's regulations *Protection of Historic Properties* (36 CFR 800.13).

#### **OVERVIEW**

The Marine Corps Air Station (MCAS) Yuma Cultural Resources Manager (CRM) will ensure that, in the event of an inadvertent discovery of archaeological deposits, measures are taken promptly to protect the find from further disturbance, assess the significance of the discovery, and implement appropriate mitigation measures (if needed). See Standard Operating Procedure [SOP] #4 for policies and procedures related to Native American Graves Protection and Repatriation Act (NAGPRA) compliance and the inadvertent discovery of Native American human remains and associated funerary objects, sacred objects, or objects of cultural patrimony.

#### **PROCEDURES**

For ground-disturbing activities, project managers and construction personnel will be briefed on cultural resources potentially existing on the range. They will be instructed to notify the CRM immediately upon the discovery of any previously unknown cultural materials, and the following procedures will be adhered to.

1. In the event of inadvertent discovery of cultural materials, cease activities immediately within at least a 100-foot radius, secure the discovery site from further disturbance, and contact the CRM, Range Management Department, or the Conservation Program Manager, as appropriate.
2. The CRM will notify the Arizona State Historic Preservation Officer (SHPO) of the discovery. The notification should be by telephone, to be followed immediately by written notification.
3. If human remains are known or suspected to be present, the CRM will also promptly coordinate with the MCAS Yuma Conservation Law Enforcement Officer or appropriate MCAS Yuma Law Enforcement staff regarding notification to the local medical examiner. The CRM will also notify the MCAS Yuma Commanding Officer through the appropriate chain of command, installation legal counsel, and the Public Affairs Officer. No photographs of the human remains should be taken during this process.
4. The CRM will visit the location of the discovery within 24 hours of the notification of the find. The services of appropriate technical experts (e.g., specialist in human osteology, forensic anthropologists) may be retained to participate in the field visit.
5. A determination of NAGPRA, Archaeological Resources Protection Act (ARPA), and National Historic Preservation Act (NHPA) compliance will be made by the

- CRM upon identification of the discovered material as archaeological or historical in origin. If the CRM determines that the site contains human remains, funerary objects, sacred objects, or objects of cultural patrimony, the procedures in SOP #4 (*NAGPRA Compliance*) will be implemented. If the objects are determined to be not covered under NAGPRA, the procedures outlined in this SOP will be followed.
6. If archaeological materials are present and disturbance has been limited, the CRM will recommend that the activity be relocated to avoid the site until compliance with the Section 106 process and evaluation for National Register of Historic Places (NRHP) eligibility may be completed. If the activity cannot be relocated, the CRM shall consult with SHPO. Unless the activity is of the nature of an actual emergency (natural disaster or declaration of war), site activity must stop until consultation with SHPO and/or the Advisory Council on Historic Preservation (ACHP) is completed. Failure to cease activities that intentionally destroy archaeological deposits prior to evaluation and determination of NRHP eligibility in accordance with the regulations (36 CFR 800) may result in fines and penalties under ARPA.
  7. The CRM will contact SHPO to obtain concurrence on the NRHP-eligibility determination of the site. If SHPO and the CRM agree that the discovered archaeological deposit is not eligible for listing on the NRHP, the correspondence will be documented. The CRM may then advise the project manager to proceed with project activities, although the CRM will monitor the remainder of excavation activities in the vicinity to ensure that NRHP-eligible deposits are protected.
  8. If, in the opinion of either SHPO or the CRM, the recovered materials are of insufficient quantity or otherwise non-diagnostic to make a valid assessment of NRHP eligibility, an emergency mitigation plan may be developed by the CRM, in consultation with SHPO. Further ground-disturbing activities in the immediate site vicinity shall be halted pending the accomplishment of the emergency mitigation plan. The CRM may request that SHPO be present on site to consult directly on the assessment of the site's NRHP eligibility. SHPO may choose to send a representative to observe the emergency mitigation plan without prior request by MCAS Yuma; however, access to the site by non-military personnel must be approved by and coordinated with the cultural resources office.
  9. If the site is determined eligible, or if MCAS Yuma and SHPO cannot reach an agreement on determination of eligibility, the following alternative actions are available:
    - a. Reconsider relocating the project to avoid adverse effect (this is always the preferable course of action).
    - b. Develop a Memorandum of Agreement (MOA) with SHPO that specifies the scope and extent of data recovery required to mitigate the project impact.
  10. Where data recovery (mitigation) is limited in scope and such action is amenable to SHPO, MCAS Yuma may elect to proceed without development of an MOA. All aspects of data recovery will be fully documented and reported to SHPO in a written report at the termination of data recovery efforts.



**A-6**  
**Standard Operating Procedure #6**  
**Treatment and Curation of Archaeological Collections**

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## **STANDARD OPERATING PROCEDURE #6 TREATMENT AND CURATION OF ARCHAEOLOGICAL COLLECTIONS**

### **DRIVER**

The regulations titled *Curation of Federally-Owned and Administered Archaeological Collections* (36 CFR 79) establish definitions, standards, procedures, and guidelines to be followed by federal agencies to preserve collections of prehistoric and historical material remains and associated records recovered under the authority of the Antiquities Act (54 USC §§ 320301 et seq.), the Reservoir Salvage Act (54 USC §§ 312501 et seq.), the National Historic Preservation Act (54 USC §§ 300101 et seq.), or the Archaeological Resources Protection Act (16 USC §§ 470aa–mm). The regulations define responsibility for federal collections; procedures and guidelines to manage and preserve collections; terms and conditions for federal agencies to include in contracts, memoranda, agreements or other written instruments with repositories for curatorial services; standards to determine when a repository has the capability to provide long-term curatorial services; and guidelines for collections access, loan, and use (36 CFR 79).

### **OVERVIEW**

Perhaps the most compelling reason for establishing and maintaining a proper curation facility for archaeological artifacts, aside from the fact that each federal agency is required to do so by law, is that the collected prehistoric and historical material information will be the only lasting evidence of the historical past of the Barry M. Goldwater Range West (BMGR West). Without proper conservation and storage, archaeological artifacts deteriorate, become misplaced, or are otherwise subject to the many vicissitudes of time.

Archaeological collections include material remains that are excavated or removed during a survey, excavation, or other study of a prehistoric or historical site, and associated documents that are prepared or assembled in connection with the survey, excavation, or other study. Associated documents comprise original records (or copies thereof) that are prepared or assembled to document efforts to locate, evaluate, record, study, preserve, or recover prehistoric or historical resources.

Collections from federal lands should be deposited in a repository that meets the standards outlined in Part 79.9 of the regulations to ensure that they will be safeguarded and permanently curated in accordance with federal guidelines (36 CFR 79.9).

A curation facility is specifically designed to serve as a physical repository where collections and records are sorted, repackaged, assessed for conservation needs, and then placed in an appropriate, environmentally controlled, secure storage area. Proper curation also includes a review and update of all paper records. Artifact data are entered into a database that serves as an important management and research tool. The overall goal of the federal curation program as set forth in Part 79.10 is to ensure the preservation and accessibility of cultural resource collections and documents for use by members of the public interested in the archaeology and history of the region (36 CFR 79.10).

A 1999 report by the United States Army Corps of Engineers (USACE), St. Louis District, Mandatory Center of Expertise for the Curation and Management of Archaeological Collections,

provides guidelines for Department of Defense (DoD) agencies regarding artifact collection and curation of collections, and follows the requirements of Part 79 (36 CFR 79). The curation guidelines prepared by the USACE include adjustments to Part 79 to address the unique collections management challenges facing DoD agencies. The authors emphasized that artifact collection destroys a site's primary context. Only by carefully documenting, recording, and handling artifacts can this context be preserved for study. These guidelines also stress the importance of maintaining collections and their accompanying documentation for reexamination. These guidelines establish several principles:

- Curation begins before archaeological materials are collected or a document is created.
- It must be considered that all actions (including inaction) may have a permanent effect on archaeological materials.
- Each action that affects artifacts, records, and other materials should be documented.
- Collections should be curated in a repository that meets the standards of Part 79 (36 CFR 79).

## **PROCEDURES**

Most collections associated with the BMGR West are currently housed at the Arizona State Museum in Tucson, Arizona. Nine boxes of artifacts, as well as associated records, from the Tinajas Altas site and vicinity, collected during studies when Luke Air Force Base had management responsibility for the BMGR West, are at the BMGR Repository at Gila Bend Air Force Auxiliary Field (GBAFAP). Six boxes of artifacts and associated records are housed at the Marine Corps Air Ground Combat Center (MCAGCC) Curation Facility for long-term storage and curation per a recent 2017 Memorandum of Agreement (MOA) for curatorial services of archaeological artifacts, specimens, and associated records (see Appendix B of the ICRMP associated with this SOP). Copies of technical reports, site records, and other associated materials are also housed at Marine Corps Air Station (MCAS) Yuma and managed by the MCAS Yuma Cultural Resources Manager (CRM).

The following procedures will be followed for all new collections:

- Before permanent curation, all artifacts recovered on the BMGR West will be analyzed using commonly accepted methods for artifact analysis in the region. Artifact analyses will be consistent with current archaeological research objectives for the region.
- Cleaning, curation, and storage of artifacts and associated documents will meet professional standards and follow the guidelines of the curation facility at MCAGCC, according to the MOA.
- Artifacts and associated documents will be stored in clean, spacious, temperature-controlled facilities while on the installation and kept in archival-quality bags, folders, or boxes.
- All field, laboratory, and other project records to be curated will be reproduced on archival-quality paper.

## **REPORTING AND INSPECTION REQUIREMENTS**

Inspections of federally curated archaeological collections are conducted periodically by the CRM or a qualified United States Marine Corps (USMC) representative selected by the CRM, in

accordance with the Federal Property and Administrative Services Act (40 USC § 484), and its implementing regulation (41 CFR 101). Consistent with Part 79.11(a), the CRM or a qualified USMC representative selected by the CRM will (36 CFR 79. 11(a)):

- Maintain a list of any U.S. government-owned property received;
- Periodically inspect the physical environment in which all archaeological materials are temporarily stored to monitor the physical security and environmental control measures;
- Periodically inspect the collections housed in temporary storage to assess the condition of the material remains and associated records, and to monitor those remains and records for possible deterioration and damage;
- Annually inventory the collections by accession, lot, or catalog record, verifying the location of the material remains and associated records;
- Periodically inventory any other U.S. government-owned property in the possession of the CRM;
- Send the CRM an annual status report from their curation facility where BMGR West collections are housed; and
- Periodically inspect any other U.S. government-owned archaeological materials that are housed outside of USMC jurisdiction.

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**A-7**  
**Standard Operating Procedure #7**  
**Native American Consultation**

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## **STANDARD OPERATING PROCEDURE #7**

### **NATIVE AMERICAN CONSULTATION**

#### **DRIVER**

Native American consultation, also referred to as American Indian or Indian Tribal consultation, is mandated by federal laws, Executive Orders, and Department of Defense (DoD) and Department of Navy policies, including the National Historic Preservation Act (NHPA; 54 United States Code [USC] §§ 300101 et seq.), American Indian Religious Freedom Act (AIRFA; 42 USC § 1996), Native American Graves Protection and Repatriation Act (NAGPRA; 25 USC §§ 3001-3013), Archaeological Resources Protection Act (ARPA; 16 USC §§ 470aa-mm), Executive Order 13175 (*Consultation and Coordination with Indian Tribal Governments*), DoD Instruction 4710.02 (*DoD Interactions with Federally Recognized Tribes*), and Secretary of Navy Instruction 11010.14B (*Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes*).

#### **OVERVIEW**

Consultation, broadly defined, is the action or process of formally discussing. More specifically, consultation, as defined in the NHPA Section 106 regulations, is the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process (36 CFR 800.16(f)). As it pertains to this Standard Operating Procedure (SOP), consultation is the formal, mutual process by which the Commanding Officer (CO) and Cultural Resources Manager (CRM) communicate and coordinate with tribal governments. It is intended to foster positive relationships with sovereign Native American nations and to ensure active participation by tribes in planning and implementing activities that may affect resources of interest to those groups. Consultation provides an essential means of obtaining the advice, ideas, and opinions of Native American parties regarding the management of federal resources, as well as ensuring the concerns of all involved parties are addressed.

#### **PROCEDURES**

Marine Corps Air Station (MCAS) Yuma consults with Native American tribes and organizations for specific undertakings (see SOP #2 [*NHPA Section 106 Compliance*]), when creating or updating procedural documents that affect tribal resources (e.g., Integrated Cultural Resources Management Plan [ICRMP], Integrated Natural Resources Management Plan), when excavation of Native American remains is anticipated or unintentionally occurs (see SOP #4 [*NAGPRA Compliance*]), upon discovery of cultural materials during project implementation (see SOP #5 [*Inadvertent Discovery of Cultural Materials*]), when an undertaking will affect Traditional Cultural Properties or areas of tribal significance under DoD Instruction 4710.02, and when requested by a specific tribe.

MCAS Yuma will make every effort to ensure that consultation with the tribes is carried out in good faith and that honesty and integrity are maintained at all stages of the consultation process. Consultation should occur as part of a meaningful and comprehensive process that promotes effective communication between the tribes and MCAS Yuma.

Consultations will respect the sovereign status of each Native American tribal government, and MCAS Yuma will work directly with federally recognized tribes on a government-to-government basis. MCAS Yuma consults with those groups that have tribal or trust lands in proximity to the Barry M. Goldwater Range West (BMGR West), those Native American tribes that occupied the area of the BMGR West at some point in history, and those tribes or groups with an expressed interest in consultation proceedings regarding the BMGR West. When an undertaking may affect a property of historic value to a non-federally recognized tribe on non-Native American lands, the consulting parties will, if warranted, afford such a tribe the opportunity to participate as an interested party.

Native American consultation can be either formal or informal, but will always be initiated on a formal government-to-government basis. For MCAS Yuma, that typically will entail a letter from the CO, signed on his behalf by the Director of Range Management, to the executive leader of each tribal government. Written correspondence will be sent via certified mail or similar device that offers receipt of delivery to the addressee. Subsequent, informal consultation is conducted at the staff level and consists of communication and exchange of information through emails, phone calls, and meetings, which are necessary to ensure relationships are maintained. The CO and CRM will share appropriate technical information and data with the tribes in accordance with the established Geospatial Data policy (see Appendix F of the ICRMP associated with this SOP).

MCAS Yuma will provide timely opportunities for communication with Native American tribes concerning decisions that may affect them. DoD Instruction 4710.02 states that installations should involve tribal governments early in the planning process for proposed actions that may have the potential to affect protected tribal rights, land, or resources, and shall endeavor to complete consultations prior to implementing the proposed action. Similarly, tribal consultation should be conducted during the initiation of the NHPA Section 106 process. Early involvement means that a tribal government is given an opportunity to comment on a proposed action in time for the tribal government to provide meaningful comments that may affect the decision.

Because consultation is required by various statutes, regulations, and policies, it is important to maintain records that document MCAS Yuma's good faith efforts to consult with Native American tribes. Copies of letters and emails, documentation of phone calls, and notes of meetings will be compiled (with sensitive information omitted) and placed in the project folder associated with the specific consultation effort. For informal consultation specific to a tribe and not pertaining to any one certain project, the documentation will be maintained in separate electronic or paper files for each tribe.

## **INSTALLATION LIAISONS**

DoD Instruction 4710.02 states that:

When contacting tribes, the consultation shall be initiated by the installation commander. Follow-on consultation shall be at a level agreed to by the installation commander and tribal government leadership. Base commanders at installations that have on-going consultation and coordination with tribes shall assign a staff member to serve as a tribal liaison [DoD Instruction 4710.02 Parts 6.8-6.9].

For the BMGR West, the designated liaison is the MCAS Yuma CRM.

## **CULTURALLY AFFILIATED TRIBES**

MCAS Yuma consults with nine Native American tribes and one Native American Organization who have expressed an interest in the BMGR West: the Ak-Chin Indian Community, the Cocopah Indian Tribe, the Colorado River Indian Tribes, the Gila River Indian Community, the Quechan Indian Tribe, the Salt River Pima Maricopa Indian Community, the Tohono O'odham Nation, the Yavapai-Apache Nation, the Yavapai-Prescott Indian Tribe, and the Hia C-ed Hemajkam. Additionally, MCAS Yuma will send letters to the following tribes to determine if they are interested in consulting on future projects: Chemehuevi Tribe, Fort McDowell Yavapai Nation, Fort Mojave Indian Tribe, Hopi Tribe, Pueblo of Zuni, and San Carlos Apache Tribe.

## **PUBLIC DISCLOSURE AND CONFIDENTIALITY**

Representatives of Indian tribes may be reluctant, unwilling, or even unable to provide information on sacred site locations or specific aspects of religious ceremonies or cultural traditions. It is MCAS Yuma's policy to not request more information than is needed to discuss and resolve consultation issues and to not keep that information on file except when absolutely necessary. Even though subsection (b)(3) of the Freedom of Information Act (FOIA) exempts the locations of resources of tribal concern from release because they are "specifically exempted from disclosure by statute", that only applies if the other statute's disclosure prohibition is absolute (5 USC § 552(b)(3)). The U.S. Department of Justice has found that the *Archaeological Resources Protection Act of 1979* (16 USC §§ 470aa-mm) applies concerning information pertaining to the nature and location of certain archaeological resources. It is important to note, however, that FOIA applies only to records in the control or possession of a federal agency and does not apply to nongovernmental or private organizations (e.g., contractors, associations, or other organizations) simply because they may receive federal funds or support.

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**APPENDIX B**

**Agreement Documents**

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**B-1**

**Barry M. Goldwater Range Integrated Natural Resources Management Plan  
Programmatic Agreement**

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PROGRAMMATIC AGREEMENT

Among

56th RANGE MANAGEMENT OFFICE, LUKE AIR FORCE BASE  
MARINE CORPS AIR STATION YUMA  
AND  
ARIZONA STATE HISTORIC PRESERVATION OFFICER

Regarding

POTENTIAL IMPACTS ON HISTORIC PROPERTIES  
OF IMPLEMENTING  
AN INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN  
FOR THE BARRY M. GOLDWATER RANGE,  
SOUTHWESTERN ARIZONA

WHEREAS, the Military Lands Withdrawal Act of 1999 (MLWA; Public Law 106-65) reauthorized the withdrawal of over 1,650,000 acres of public land in southwestern Arizona for military use and assigned jurisdiction over the Barry M. Goldwater Range (BMGR) East and BMGR West to the Secretaries of the Air Force and Navy, respectively; and

WHEREAS, the MLWA requires the United States Air Force (USAF) and Marine Corps (USMC) to prepare an Integrated Natural Resources Management Plan (INRMP) that will govern their management of natural and cultural resources on the BMGR, and the US Air Force (USAF) and US Marine Corps (USMC) have published a Draft Environmental Impact Statement (DEIS) that analyzes a range of management strategies and identifies a preferred alternative for managing the natural resources of the BMGR; and

WHEREAS, the 56th Range Management Office (56 RMO) at Luke Air Force Base administers the land and airspace of the BMGR East, and the Range Management Department (RMD) at Marine Corps Air Station Yuma manages the BMGR West; and

WHEREAS, other laws and regulations also govern the management of natural resources by Department of Defense installations, including the Sikes Act, as amended (16 U.S.C. 670a et seq.), which sets forth requirements for management of natural resources on military installations, including: conservation and rehabilitation of natural resources; sustainable multipurpose resource use, which shall include hunting, fishing, trapping, and non-consumptive uses; and public access subject to safety requirements and military security [16 U.S.C. 670a (a)(3)]; and

WHEREAS, under the previous withdrawal legislation, the Bureau of Land Management (BLM) had surface management authority over areas within BMGR not actively used for military training and allowed public access for recreational purposes to some areas in accordance with Department of Interior policies and procedures; and

WHEREAS, the USAF and USMC propose to permit the continued use of some portions of BMGR for public recreation consistent with the provisions of MLWA, the Sikes Act, and the INRMP; and

WHEREAS, the preferred alternative described in the DEIS sets forth actions that will be implemented when the Record of Decision (ROD) is signed, including six elements that have been identified as having the potential to impact cultural resources, including properties that may be eligible for inclusion on the National Register of Historic Places (NRHP); and

WHEREAS, although less than five percent of the APE has been surveyed, these limited survey data indicate that properties eligible for inclusion on the National Register of Historic Places are likely to be present in unsurveyed portions of the APE but their number, nature, and significance are unknown; and

WHEREAS, the USAF and USMC have consulted with the Arizona State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (the Council), and have identified the Department of Interior, US Fish and Wildlife Service (USFWS) and/or BLM, and the Arizona Game and Fish Department as consulting parties; and

WHEREAS, SHPO is authorized to enter into this agreement in order to fulfill its role of advising and assisting federal agencies in carrying out their Section 106 responsibilities under the following federal statutes: Sections 101 and 106 of the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470f, and pursuant to 36 CFR Part 800, regulations implementing Section 106, at 800.2(c)(1)(i) and 800.6(b),

WHEREAS, SHPO also is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under A.R.S. 41-511.04(D)(4),

WHEREAS, the Ak-Chin Indian Community, the Cocopah Tribe, the Colorado River Indian Tribes, the Gila River Indian Community, the Hia C-ed O'odham Alliance, the Hopi Tribe, the Fort McDowell Yavapai Nation, the Fort Mohave Indian Tribe, the Fort Yuma-Quechan Tribe, the Pascua Yaqui Indian Tribe, the Salt River Pima-Maricopa Indian Community, the San Carlos Apache Tribe, the Tohono O'odham Nation, the Yavapai-Prescott Indian Tribe, the Yavapai-Apache Nation, and the Pueblo of Zuni attach cultural importance to places on the BMGR and have been invited to participate in the development, execution, and implementation of this agreement; and

WHEREAS, pursuant to the Council's regulation at 36 CFR Part 800, *Protection of Historic Properties*, a programmatic agreement may be used when effects on historic properties are similar and repetitive, when effects on historic properties cannot be fully determined prior to approval of an undertaking, where routine management activities are undertaken at federal installations, or when other circumstances warrant a departure from the normal Section 106 process (36 CFR 800.14(b)(1)(i, ii, iv, and v);

NOW THEREFORE, the signatories have agreed that the execution and implementation of this agreement is evidence that the USAF and USMC have made a good faith effort to take into account the effects of the undertaking on historic properties and have afforded the Council an opportunity to comment on the undertaking and its effects in accordance with 36 CFR Part 800.

#### STIPULATIONS

1. This PA shall be implemented under the oversight of a person or persons who meet or exceed the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739) in the appropriate discipline(s).

#### 2. Undertaking

The **undertaking** includes those actions identified as the Preferred Alternative under 6 of the 17 conservation elements (elements 3-7 and 9) shown in Table 3-3 of the DEIS (see Attachments A and B):

- Motorized access and unroaded area management
- Camping and visitor stay limits
- Recreation services and use supervision
- Rockhounding
- Woodcutting, gathering, and firewood use, and collection of native plants
- Recreational shooting

Some of the actions included in the Preferred Alternative and analyzed in the EIS (for example, use of the road system) may be implemented without further analysis under the National Environmental Policy Act and the Council on Environmental Quality regulation 40 CFR Parts 1500-1508, and some of those actions have the potential to impact historic properties that may exist in the area. Once the Record of Decision (ROD) and the INRMP are signed, the actions identified above as the undertaking may be implemented in accordance with the terms of this agreement; other actions included in the Preferred Alternative (for example, development of additional wildlife waters) will require additional analysis and review.

#### 3. Area of Potential Effect

The **area of potential effect** (APE) is the area within which any historic properties that may exist may be affected by the undertaking. In this instance, it is a discontinuous area that includes those parts of BMGR East and West that will be open to public access, where the actions identified as the undertaking (Stipulation 2) may occur (see Attachment C).

- A. Within BMGR East, the APE consists of almost all of Management Unit 6 (Area B plus what is known as the Ajo Air Station area).
- B. Within BMGR West, the APE is all of Management Units 2 and 3, plus the southeasternmost extension of Unit 1, which encompasses the existing Tinajas Altas Mountains Area of Critical Environmental Concern.

#### 4. Identification and evaluation of resources within the APE:

##### A. Extent of previous survey effort

- 1) BMGR East: Little systematic survey has been completed in the areas open to public access (Management Unit 6); 56 RMO has concentrated its efforts on areas impacted

by military training. Roughly 16 % of BMGR East has been surveyed; however, only 2,346 of the roughly 138,000 acres within the APE (just less than 2%), including 93 acres in the Ajo Air Station parcel west of SR 85, have been systematically surveyed (see Attachment D).

- 2) BMGR West: MCAS Yuma is in the process of compiling and reconciling the various archaeological resources databases that exist for BMGR West. Under contract to MCAS Yuma, Northland Research, Inc., has been tasked to complete an up-to-date and thorough archaeological resources database for the BMGR West. Because the archaeological resources database for the BMGR West is not complete, figures presented for the number of acres surveyed, sites recorded, and sites evaluated should be considered tentative at this time. Once this analysis is completed, a table of survey and site information will be included as an attachment to this agreement. For the most part, MCAS Yuma has concentrated its survey efforts on areas potentially impacted by actions proposed by the USMC in order to fulfill its military mission. In Management Unit 1, nearly 7,000 acres have been surveyed in the western part of the unit which is closed to public access. In the Tinajas Altas area of Management Unit 1, 5,523 acres have been systematically surveyed; most of this work was sponsored by the 56 RMO before the passage of MLWA in 1999. In all, approximately 5.4% of Management Unit 1 has been surveyed (Attachment E). Surveys of 16,377 acres (6.2% of the unit) were completed in Management Unit 2, nearly all of these in support of military actions. Management Unit 3 has received the least survey with only 1824 acres (0.9% of the unit).

B. Previously recorded sites

- 1) BMGR East: Thirty-six archaeological sites have been recorded in the APE (see Attachment D). In addition to these, volunteer site stewards have reported as many as 32 rock shelters in the vicinity of existing roads in Area B; however, their exact locations are unknown and only brief descriptive remarks about these sites are available.
- 2) BMGR West: As indicated in Stipulation A.2 above, MCAS Yuma is in the process of compiling and reconciling the various archaeological resources databases that exist for BMGR West, and figures presented for the number of acres surveyed, sites recorded, and sites evaluated should be considered tentative at this time. Available information indicates that 151 archaeological sites have been recorded in the APE, including 40 in Management Unit 1, 86 in Management Unit 2, and 25 in Management Unit 3.

C. Previously evaluated sites

- 1) Eligible
  - a) BMGR East: Eleven of the previously recorded archaeological sites were determined eligible for inclusion on the National Register of Historic Places by BLM when they were first identified. To date, the USAF has not reconsidered these determinations. Determinations of eligibility for the remaining sites have not been made.
  - b) BMGR West: As indicated in Stipulation A.2, additional information regarding eligibility determinations will be added or attached to this agreement when it becomes available. Preliminary figures are 47 sites recommended eligible and 60

sites recommended not eligible. No eligibility recommendations are available for 44 sites.

2) Not eligible

- a) BMGR East: None of the evaluated sites in Area B has been found to be ineligible for inclusion on the NRHP. The Ajo Air Station was recorded as a potentially eligible Cold War property; however, the SHPO concurred with the Air Force's determination that it was not eligible for inclusion on the NRHP.
- b) BMGR West: As indicated in Stipulation C.1(b), this information will be added or attached to this agreement when it becomes available.

D. Phased identification and evaluation strategy

- 1) In coordination with consulting parties, USAF and USMC will make determinations of eligibility for previously recorded sites and offer these determinations to SHPO for concurrence.
- 2) With consulting parties, USAF and USMC will prioritize areas for survey based on available data. Priority survey areas will include known camping and recreational use sites, areas adjacent to most heavily traveled roads, and natural water sources such as washes, springs, or Tinajas (see Attachments D and E). Other priority areas may be identified based on recreation monitoring or other management activities, including observations made by range security patrols and volunteer Site Stewards.
- 3) As surveys of priority areas are completed, USAF and USMC will evaluate the eligibility of recorded resources for inclusion on the NRHP and will offer determinations of eligibility to SHPO and consulting parties.
- 4) USAF and USMC will compile and distribute an annual report to the parties to this agreement and shall meet with consulting parties as needed to evaluate the progress of the inventory and evaluation strategy, and if necessary, develop alternatives.

5. Assessing and Resolving Effects

- A. With consulting parties, assess effects on previously identified historic properties.
- B. As surveys of priority areas are completed, and determinations of eligibility made, USAF and USMC will assess the effects of the undertaking on historic properties, and in consultation with the parties to this agreement, will develop measures to avoid, minimize, or mitigate any adverse effects. Those measures may include, but are not limited to: avoidance of impacts through management actions such as road closures, signing, monitoring by Site Stewards, or increased security patrols; preservation in place through fencing or other measures; comprehensive recording and documentation; and oral-historical or archaeological investigation.
- C. USAF and USMC will monitor the success of management actions taken and the results of this monitoring effort will be included in the annual report to consulting parties.

6. Monitoring and Reporting

A. Monitoring

- 1) The ICRMP for BMGR, which is incorporated in the INRMP by reference, will include strategies for monitoring sites in areas open to public use, as well as military training areas that are closed to the public. Volunteer Site Stewards will monitor selected sites in public-use areas; some sites will be monitored by USAF and USMC personnel.

- 2) Previously unidentified sites that are discovered during implementation of the undertaking will be treated in accordance with the discovery procedures described in the ICRMP.

B. Reporting

- 1) USAF and USMC will compile and distribute an annual report to the parties to this agreement no later than 15 January of each year that this agreement remains in effect. That report will: summarize the results of inventory completed in the reporting year; identify areas programmed for inventory in the upcoming year; describe the results of monitoring activities, including discoveries made during this process; identify any problems encountered in implementing the agreement; and propose solutions for consideration by the parties.

7. Dispute Resolution

- A. Should any signatory to this agreement or any concurring party object at any time to the manner in which the terms of this agreement are implemented, or to any documentation prepared in accordance with its terms, USAF and USMC will immediately notify the other signatories of the objection and request their comments on the objection within 14 days following receipt of the such notification. USAF and USMC will consult with the objecting party for no more than 30 days to resolve the objection, honor the request of any other signatory to participate in the consultation, and take any comments provided by other signatories into account in efforts to resolve the objection. If at the end of the 30-day consultation period, USAF and USMC determine that the objection cannot be resolved through such consultation the USAF and USMC will either:
  - 1) Render a decision regarding the objection within 14 days after it has determined that the objection could not otherwise be resolved and in writing notify the objecting party and the other signatories of its decision within this time frame. In reaching a final decision, USAF and USMC will take all comments received into account. USAF and USMC shall have the authority to make the final decision resolving the objection; or
  - 2) Forward all documentation relevant to the objection to the Council per 36 CFR Part 800.2(b)(2). Any comments provided by the Council within 30 days after its receipt of all relevant documentation and all other comments will be taken into account by USAF and USMC in reaching a final decision regarding the objection. USAF and USMC will notify all signatories and consulting parties in writing of the final decision within 14 days after it is rendered. USAF and USMC shall have the authority to make the final decision resolving the objection.
- B. At any time during implementation of the terms of this agreement, should an objection be raised by a member of the public, USAF and USMC shall immediately notify the other signatories in writing and take the objection into account. USAF and USMC shall consult with the objecting party and, if the objecting party so requests, with any or all of the other signatories for no more than 30 days. Within 14 days following closure of this consultation period, USAF and USMC will render a decision regarding the objection and notify all parties of this decision in writing. In reaching a final decision, USAF and USMC will take into account comments from the signatories. USAF and USMC shall have the authority to make the final decision resolving the objection.
- C. The agencies' responsibility to carry out all other actions under this PA that are not the subject of the objection will remain unchanged. USAF and USMC may implement that



portion of the Undertaking subject to objection under this stipulation after complying with either subsection (A)(1) or (A)(2) of this stipulation.

- D. Any dispute pertaining to the National Register eligibility of cultural resources covered by this PA will be addressed by USAF and USMC in accordance with 36 CFR Part 800.4 (c)(2).

#### 8. Amendment or Termination

- A. The BMGR INRMP shall be reviewed, and possibly updated, annually and may be revised at least every 5 years. Substantive changes in the undertaking as defined in this agreement may require amendment or modification of the agreement. USAF and USMC will include the signatories to this agreement in consultation regarding the need for INRMP updates and revisions, and the parties will consult to amend this agreement as needed.
- B. If any signatory believes that the terms of this agreement are not being honored or cannot be carried out, or that an amendment to its terms should be made, that signatory will immediately consult with the other signatories to consider and develop amendments to the agreement.
- C. If this agreement is not amended as provided for in this stipulation, the USAF, USMC, or SHPO may terminate it. The party terminating this agreement will provide all other signatories with a written explanation of the reasons for termination.
- D. If the Council determines that the terms of this agreement are not being carried out, or if this agreement is terminated, the USAF and USMC shall comply with 36 CFR 800, Subpart B.

#### 9. ANTI-DEFICIENCY ACT

All requirements set forth in this Agreement requiring expenditure of USAF and USMC funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. section 1341). No obligation undertaken by USAF or USMC under the terms of this agreement shall require or be interpreted to require a commitment to expend funds not appropriated for a particular purpose.

#### 10. OTHER

- A. Equal Opportunity/Non-Discrimination: The Parties agree to comply with Chapter 9, Title 41, Arizona Revised Statutes (Civil Rights), Arizona Executive Order 99-4 and any other federal or state laws relating to equal opportunity and non-discrimination, including the Americans with Disabilities Act.
- B. Records: Pursuant to A.R.S. et seq. 35-214, 35-215 and 41-2548, all books, accounts, reports, files and other records relating to this Agreement shall be subject, at all reasonable times, to inspection and audit by the State for five years after the termination of this Agreement.
- C. Conflict of Interest: This Agreement is subject to cancellation by the State under A.R.S. et seq. 38-511 if any person significantly involved in the Agreement on behalf of the State is an employee or consultant of the contractor at any time while the Agreement or any extension of the Agreement is in effect.

- D. Non-Availability of Funds: This Agreement shall be subject to available funding, and nothing in this Agreement shall bind the State to expenditures in excess of funds authorized and appropriated for the purposes outlined in this agreement.
- E. Arbitration: To the extent required by A.R.S. §§ 12-1518(B) and 12-133, the parties agree to resolve any dispute arising out of this Agreement by arbitration.

#### 11. EFFECTIVE DATE

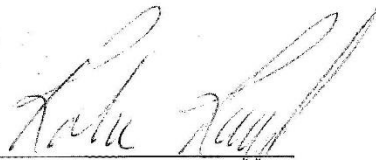
This agreement shall take effect on the date that it has been fully executed by the USAF, USMC, and SHPO and shall expire on 5 October 2024, at the end of the current range withdrawal, unless it has been amended by the signatories to extend its term.

Execution of this agreement and subsequent implementation of its terms evidence that USAF and USMC have afforded the Council a reasonable opportunity to comment on the undertaking and its effects on historic properties, that USAF and USMC have taken into account the effects of the undertaking on historic properties, and that USAF and USMC have satisfied their responsibilities under Section 106 of the NHPA and 36 CFR Part 800.

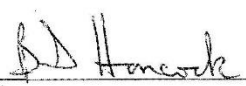
#### ATTACHMENTS

- A. Table of Alternative Management Strategies from DEIS
- B. Preferred Alternative
- C. Comparison of Preferred Alternative and Existing Management
- D. Area of potential effect, areas surveyed, and sites recorded on BMGR East
- E. Area of potential effect, areas surveyed, and sites recorded on BMGR West
- F. Prioritized survey areas (to be developed after ROD is signed)

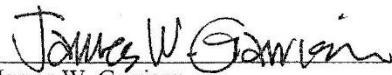
#### SIGNATORIES

  
 ROBIN RAND, Brig Gen (S), USAF  
 Commander, 56th Fighter Wing

  
 Date

  
 B. D. Hancock  
 Colonel, U.S. Marine Corps  
 Commanding Officer, MCAS Yuma

  
 Date

  
 James W. Garrison  
 Arizona State Historic Preservation Officer

  
 Date

*Programmatic Agreement, INRMP Implementation*

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## CONCURRING PARTIES:

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Arizona Game and Fish Department

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Date

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Ak-Chin Indian Community

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Date

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Cocopah Tribe

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Date

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Colorado River Indian Tribes

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Date

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Fort McDowell Yavapai Nation

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Date

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Fort Mohave Indian Tribe

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Date

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Fort Yuma-Quechan Tribe

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Date

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Gila River Indian Community

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Hia C-ed O'odham Alliance

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Date

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Hopi Tribe

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Date

Salt River Pima-Maricopa Indian Community

Date

San Carlos Apache Tribe

Date

Tohono O'odham Nation

Date

Yavapai-Prescott Indian Tribe

Date

Yavapai-Apache Nation

Date

Pueblo of Zuni

Date

**B-2**

**Memorandum of Understanding on Section 106 Compliance Consultation  
Process for Negative Findings**

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ORIGINAL

UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION YUMA  
YUMA AZ 85369-9100  
ARIZONA STATE HISTORIC PRESERVATION OFFICE  
PHOENIX AZ 85007

5758  
MCAS

23 AUG 2010

MEMORANDUM OF UNDERSTANDING  
BETWEEN  
MARINE CORPS AIR STATION, YUMA, ARIZONA  
AND  
ARIZONA STATE HISTORIC PRESERVATION OFFICE

Subj: SECTION 106 COMPLIANCE CONSULTATION PROCESS FOR NEGATIVE  
FINDINGS

1. Purpose. This Memorandum of Understanding (MOU) is by and between Marine Corps Air Station, Yuma, Arizona; hereafter referred to as MCASY, and the State Historic Preservation Office, Phoenix, Arizona; hereafter referred to as SHPO. The purpose of this agreement is to help streamline the Section 106 compliance consultation process (National Historic Preservation Act of 1966 and implementing regulations at 36 CFR Part 800) between MCASY and SHPO for undertakings characterized by negative findings. This MOU will result in streamlining MCAS Yuma's Section 106 consultations with SHPO by decreasing the number of consultations required under 36 CFR Part 800, thus assisting in the better management of heavy work loads by both parties.

2. Background. MCASY has determined that their programs and projects may have an effect upon properties included in or eligible for inclusion in the National Register of Historic Places (NRHP) and therefore requires Class III (100% inventory) cultural resources surveys prior to implementation of said programs and projects. Many of these Class III cultural resources surveys result in negative findings in which no cultural (archaeological, historical, or traditional) properties are identified within a project's Area of Potential Effect (APE). ("Traditional" properties include tribal Traditional Cultural Properties or TCFs, sacred sites, traditional use areas, or other properties of cultural and religious significance.)

3. Responsibilities. In support of this agreement, it is understood that:

a. MCAS Yuma Cultural Resources Program Office shall:

(1) Conduct Class III cultural resources surveys for all projects, as appropriate; these surveys will meet the *Secretary of the Interior's Standards and Guidelines for Historic Preservation*, especially including *Guidelines and Standards for Identification, Evaluation, and Archeological Documentation*.

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SUBJ: SECTION 106 COMPLIANCE CONSULTATION PROCESS FOR NEGATIVE FINDINGS

(2) Ensure that all Class III surveys are carried out by or under the direct supervision of a person meeting the Secretary of the Interior's *Professional Qualifications* (48 FR 44738-44739).

(3) Ensure that the APEs for these Class III surveys include indirect and cumulative impact areas associated with a project, as well as direct impact areas.

(4) Ensure that tribal consultations, pursuant to 36 CFR 800.3 and .4, with relevant Indian Tribes have been conducted for these projects in order to ascertain if tribal TCPs, sacred sites, traditional use areas, or other properties of cultural and religious significance are present within a project APE.

(5) Ensure that the following reporting guidelines are met:

(a) When no cultural properties are identified within a project APE as a result of a Class III cultural resources survey, document the results internally, as appropriate to MCASY's reporting and documentation standards and policies.

(b) At the end of the federal fiscal year, provide an Annual Report to SHPO that summarizes those actions completed without consultation. The Annual Report will list the individual projects and negative finding documents completed during the fiscal year, along with a map of the installation/facility showing project locations. This report will be provided to SHPO by November 1st of each year.

(c) At its discretion, MCASY may decide to consult with SHPO on surveys resulting in negative findings. Such consultation shall pertain to that undertaking only and will not negate this MOU for all other projects.

(6) For any unanticipated discoveries encountered during a project for which negative finding documentation was generated following this MOU, ensure that work ceases in the area of the discovery and that MCASY's internal procedures for handling discoveries are followed. MCASY will then consult with SHPO on the discovery situation as per 36 CFR Part 800, Subpart B.

(7) Ensure self-monitoring of the process embodied in this MOU. If any problems are encountered in implementing this agreement, notify SHPO and seek advice on rectifying the situation(s).

b. Arizona State Historic Preservation Office shall:

(1) Monitor activities carried out pursuant to this MOU. SHPO will review MCASY's Annual Report and provide MCASY with any review comments within 30 days of receipt. If no comments are received from SHPO within this time period, MCASY may assume that SHPO does not have any issues with the work summarized in the Annual Report.

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SUBJ: SECTION 106 COMPLIANCE CONSULTATION PROCESS FOR NEGATIVE FINDINGS

(2) Review and comment on those negative surveys for which MCASY voluntarily seeks SHPO consultation as per 3a(5)(c) of this MOU.

4. Dispute Resolution. Should either party object at any time to any actions proposed, or the manner in which the terms of this MOU are implemented, they shall notify the other party in writing with a proposed solution. While discussions ensue between MCASY and SHPO to resolve the objection, MCASY shall continue to comply with this MOU unless otherwise agreed to by both parties. If the objection cannot be resolved as a result of these discussions, it is the responsibility of MCASY to consult with SHPO pursuant to the Section 106 compliance steps found at 36 CFR Part 800, Subpart B. To the extent required by A.R.S. §§ 12-1518(B) and 12-133, the parties agree to resolve any dispute arising out of this agreement by arbitration.

5. Other Provisions

a. State Standard Clauses for Federal Agreement Documents Equal Opportunity/Non-Discrimination: The Parties agree to comply with Chapter 9, Title 41, Arizona Revised Statutes (Civil Rights), Arizona Executive Order 99-4 and any other federal or state laws relating to equal opportunity and non-discrimination, including the Americans with Disabilities Act.

b. Records: Pursuant to A.R.S. et seq. 35-214, 35-215 and 41-2548, all books, accounts, reports, files and other records relating to this agreement shall be subject, at all reasonable times, to inspection and audit by the State for five years after the termination of this agreement.

c. Conflict of Interest: This agreement is subject to cancellation by the State under A.R.S. et seq. 38-511 if a person significantly involved in the agreement on behalf of the State is an employee or consultant of the contractor at any time while the agreement or any extension of the agreement is in effect.

d. Non-Availability of Funds: This agreement shall be subject to available funding, and nothing in this agreement shall bind the State to expenditures in excess of funds authorized and appropriated for the purposes outlined in this agreement.

6. Terms of Agreement

a. Personnel responsible for execution this Agreement are the MCASY Archaeologist/Cultural Resource Program Manager and the Arizona SHPO Archaeological Compliance Specialist.

b. All support identified within this agreement is provided on a non-reimbursable basis. Any additional support not identified in this agreement will be reviewed on a case-by-case basis to determine



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SUBJ: SECTION 106 COMPLIANCE CONSULTATION PROCESS FOR NEGATIVE FINDINGS

whether it will be provided on a non-reimbursable or reimbursable basis.

c. Nothing in this agreement is intended to conflict with current law or regulation. If a term of this agreement is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions of this agreement shall remain in full force and effect.

7. Points of Contact

MCAS Yuma Archaeologist/Cultural  
Resource Program Manager  
(928) 269-2288

SHPO Archaeological Compliance  
Specialist  
(602) 542-7138

MCAS Yuma Support Agreements Manager  
(928) 269-2047/3637

8. Modification/Termination. The terms of this agreement will normally be modified by mutual agreement by both agencies. Notification of the intention of either agency to terminate or modify the agreement will be by written notice at least 30 days in advance of the proposed date. Any modification(s) will be recorded in writing and made a part of this basic agreement. If the agreement is terminated, MCASY will consult with SHPO under 36 CFR 800.3 and 800.4 on all negative surveys from that time on or until a new MOU is established.

9. Effective. This agreement becomes effective upon the last date of the signatories below. This MOU will remain in effect for ten years with biennial reviews, or until modified, terminated, or superseded by official documentation.

James W. Garrison 8/30/10  
James W. Garrison Date  
State Historic Preservation  
Officer  
Phoenix, Arizona

M. A. Werth 8/23/2010  
M. A. Werth Date  
Colonel, US Marine Corps  
Commanding Officer  
Marine Corps Air Station  
Yuma, Arizona



**B-3**  
**Memorandum of Agreement on Curation Services**

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ORIGINAL

Appendix I

M62974-20161130-0308

UNITED STATES MARINE CORPS  
MARINE AIR GROUND TASK FORCE TRAINING COMMAND  
MARINE CORPS AIR GROUND COMBAT CENTER  
BOX 788100  
TWENTYNINE PALMS, CALIFORNIA 92278-8100

4000

P&amp;I

21 Aug 17

MEMORANDUM OF AGREEMENT  
BETWEEN  
MARINE AIR GROUND TASK FORCE TRAINING COMMAND  
MARINE CORPS AIR GROUND COMBAT CENTER  
TWENTYNINE PALMS, CALIFORNIA  
AND  
MARINE CORPS AIR STATION, YUMA, ARIZONA

Subj: MEMORANDUM OF AGREEMENT CONCERNING CURATORIAL SERVICES FOR MARINE  
CORPS AIR STATION YUMA

Encl: (1) 2017 MCAS Yuma Collections Inventory Report  
(2) MAGTFTC, MCAGCC Archaeology and Paleontology Curation Center  
Instructions for Submission of Collections

1. This is a Memorandum of Agreement (MOA) between Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, (hereinafter referred to as MAGTFTC, MCAGCC), and Marine Corps Air Station (MCAS) Yuma, Arizona (hereinafter referred to as MCAS Yuma) concerning curatorial services of archaeological artifacts, specimens and associated records referred as "Collections" per 36 CFR § 79.4(b). When referred to collectively, MAGTFTC, MCAGCC and MCAS Yuma are referred to as the "Parties".

2. Background. MCAS Yuma has the responsibility under 36 CFR § 79 to ensure that the Collections are suitably managed and preserved for the public good. To this end, MCAS Yuma seeks to obtain curatorial services from MAGTFTC, MCAGCC. In accordance with 36 CFR § 79.8, MAGTFTC, MCAGCC agrees to manage, preserve, obtain, store, catalog, and maintain the Collections listed in enclosure (1) and any other future Collections added to the MCAS Yuma Collections Inventory Report. MAGTFTC, MCAGCC recognizes the benefits that will accrue to the Collections as well as the public and scientific interests by storing and maintaining the Collections for study and other educational purposes.

3. Purpose. The purpose of this MOA is to establish curatorial responsibilities to manage, preserve, obtain, store, catalog, and maintain certain collections of archaeological artifacts, specimens, and associated records.

4. Scope. This agreement shall not alter existing authority or command relationships aboard MAGTFTC, MCAGCC or MCAS Yuma.

5. Responsibilities

a. MAGTFTC, MCAGCC will:

(1) Provide for the professional care and management of the Collections, and bear all costs for such care.

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(2) Perform all work necessary to protect the Collections in accordance with 36 CFR § 79 for the curation of federally-owned and administered archaeological Collections.

(3) Assign qualified professionals having responsibility for the work under this MOA such as the Curator, the Collections Manager, and the Conservator each of whose expertise is appropriate to the nature and content of the Collections.

(4) Provide and maintain a repository facility having requisite equipment, space, and adequate safeguards for the physical security and controlled environment for the Collections and any associated records in MAGTFTC, MCAGCC's possession.

(5) Maintain complete and accurate records of the Collections, including information on the study, use, loan, and location of said Collections which have been removed.

(6) Not in any way adversely alter or deface any of the Collections except as may be absolutely necessary in the course of stabilization, conservation, scientific study, analysis, and research. Any activity that will involve the intentional destruction of any of the Collections must be approved in advance and in writing by MCAS Yuma.

(7) In accordance with 36 CFR § 79.11, annually inspect the Collections and perform only those conservation treatments that are absolutely necessary to ensure the physical stability and integrity of the Collections. A report of the results of the inventories, inspections, and treatments shall be provided to MCAS Yuma.

(8) Within five business days of discovery, report all instances of and circumstances surrounding loss, deterioration, damage, and/or destruction of the Collections to MCAS Yuma to include those actions taken to correct any deficiencies in the curation center or operating procedures that may have contributed to the loss, deterioration, damage, and/or destruction. Actions to repair or restore any part of the Collections must be approved in advance and in writing by MCAS Yuma.

(9) Approve or deny requests for access to the Collections (or any part thereof) for scientific, educational, or religious uses in accordance with 36 CFR § 79.10 requirements for the curation of federally-owned and administered archaeological collections. MCAS Yuma may specify reasonable conditions for handling, packaging, and transporting the Collections to prevent breakage, deterioration, and contamination. MAGTFTC, MCAGCC will refer requests for consumptive uses of the Collections (or any part thereof) to MCAS Yuma for approval or denial.

(10) Provide copies of any publications resulting from study of the Collections to MCAS Yuma. All exhibits, reproduction, and studies shall credit MCAS Yuma and read as follows: "Courtesy of Marine Corps Air Station Yuma."



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(11) Not mortgage, pledge, assign, repatriate, transfer, exchange, give, sublet, discard, nor part with any possession of the Collections in any manner to any third party either directly or indirectly without the prior written permission of MCAS Yuma. Any such requests shall be redirected to MCAS Yuma.

(12) Not take any action whereby any of the Collections shall or may be encumbered, seized, taken in execution, sold, attached, lost, stolen, destroyed or damaged.

(13) Return any deposited items to MCAS Yuma upon request, at MCAS Yuma's expense.

b. MCAS Yuma will:

(1) Deliver or cause to be delivered, at MCAS Yuma's expense, the Collections to MAGTFTC, MCAGCC.

(2) Submit Collections in accordance with enclosure (2), MAGTFTC, MCAGCC Instructions for Submission of Collections. Any deviation by MCAS Yuma from the MAGTFTC, MCAGCC Instructions for Submission of Collections must be negotiated in advance with MAGTFTC, MCAGCC, on a case-by-case basis.

(3) Assign as MCAS Yuma's representative, having full authority with regard to this MOA, a person who meets the pertinent professional qualifications.

(4) Jointly with MAGTFTC, MCAGCC's designated representative, MCAS Yuma's representative will inspect and inventory the Collections and the repository facility, as needed and at least annually.

(5) When appropriate, provide instructions for restricting access to information relating to the nature, location and character of the prehistoric or historic resource from which the material remains are excavated or removed.

(6) Approve or deny requests for consumptively using the Collections (or any part thereof).

(7) Prior to moving, exchanging, or disposing of any collection that is from Indian lands, ensure the Federal Agency Official obtains written consent of the Indian landowner and the Indian tribe having jurisdiction over the lands. Additionally, if any collection falls under the category of human remains and associate funerary objects, then these items must be handled according to 43 CFR § 10.11.

(8) Adhere to terms and conditions developed pursuant to §-.7 of uniform regulation 43 CFR part 7, 36 CFR part 296, 18 CFR part 1312, and 32 CFR part 229 when the collection is from a site on public lands that the Federal Agency Official has determined is of religious or cultural importance to any Indian tribe having aboriginal or historic ties to such lands.

6. Possession. Title to the Collections being cared for and maintained under this MOA lies with the Federal Government.

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7. Personnel. Each party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each party is responsible for supervision and management of its personnel.

8. General Provisions

a. Points of Contact (POC). The following POCs will be used by the Parties to communicate in the implementation of this MOA. The MCAS Yuma POC for the administration of this MOA is the Support Agreement Manager (SAM). Any modifications to the contents and conditions of the MOA must be facilitated through the both the MAGTFTC, MCAGCC and MCAS Yuma SAMs. Each party may change its point of contact upon reasonable notice to the other party.

(1) MAGTFTC, MCAGCC Natural Resources and Environmental Affairs (NREA)

Primary POC: Collections Manager, (760) 830-1196

Alternate POC: Conservation Branch Head, (760) 830-5200

(2) MAGTFTC, MCAGCC Performance & Innovation

Primary POC: Director, (760) 830-5140

Alternate POC: Administrative Officer, (760) 830-1186

(3) MCAS Yuma

Primary POC: Archeologist, (928) 269-2288

Alternate POC: Conservation Manager, (928) 269-3401

Administrative POC: Support Agreement Manager,  
(928) 269-2047 or (928) 269-3637

b. Correspondence. All correspondence to be sent and notices to be given pursuant to this MOA will be addressed to:

(1) MAGTFTC, MCAGCC

AC/S G-4, NREA Division  
Box 788110  
MAGTFTC, MAGACC,  
Twentynine Palms CA 92278-8110

Director, Performance & Innovation  
Attn: Support Agreements Manager  
Box 788350  
Twentynine Palms, CA 92278-8350

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(2) MCAS Yuma  
Commanding Officer  
Attn: Range Management Department  
Box 99134  
Yuma, AZ 85369-9134

9. Review of Agreement. This MOA will be reviewed annually on or around the anniversary of its effective date for financial impacts and triennially in its entirety.

10. Modification, Change, or Amendment. Any modifications, changes, or amendments to this agreement must be in writing. Subsequent to approval, all Parties must sign the modification, change, or amendment. Written requests for modifications will be forwarded by one Party to the other not less than 30 business days prior to the desired effective date of such modification.

11. Disputes. Any disputes relating to this MOA will, subject to any applicable law, Executive Order, Directive, or Instruction, be resolved by consultation between the Parties or in accordance with Department of Defense Instruction 4000.19.

12. Termination of Agreement. This MOA may be terminated by either Party by giving at least 90 business days written notice to the other Party. The MOA may also be terminated at any time upon the mutual written consent of the Parties.

Upon termination, at the expense of MCAS Yuma, MAGTFCTC, MCAGCC shall return such Collections to the destination directed by MCAS Yuma and in such a manner to preclude breakage, loss, deterioration, and contamination during handling, packaging, and shipping, and in accordance with other reasonable conditions specified in writing by MCAS Yuma. If MAGTFCTC, MCAGCC terminates or is in default of this MOA, MAGTFCTC, MCAGCC shall fund the packaging and transportation costs.

13. Transferability. This Agreement is not transferable.

14. Entire Agreement. It is expressly understood and agreed that this MOA embodies the entire agreement between the Parties regarding the MOA's subject matter.

15. Effective Date. This MOA takes effect beginning on the day after the last Party signs.

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16. Expiration Date. This MOA expires nine (9) years on the anniversary of its effective date.

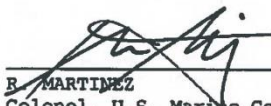
17. Cancellation of Previous MOA. This MOA cancels and supersedes the previously signed agreement which had an effective date of 30 November 2011, between the same Parties.

SUGGS.DAVID.AL  
LEN.1125602939

Digitally signed by  
SUGGS.DAVID.ALLEN.1125602939  
DN: c=US, o=U.S. Government,  
ou=DoD, ou=PKI, ou=USMC,  
cn=SUGGS.DAVID.ALLEN.1125602939  
Date: 2017.08.21 17:14:02 -07'00'

D. A. SUGGS  
Colonel, U.S. Marine Corps  
Commanding Officer, MCAS Yuma,  
Yuma, AZ

Date: \_\_\_\_\_

  
R. MARTINEZ  
Colonel, U.S. Marine Corps  
Chief of Staff, MAGTFTC, MCAGCC  
Twentynine Palms, CA

Date: 20170726



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## Appendix I

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MARINE AIR GROUND TASK FORCE TRAINING COMMAND  
MARINE CORPS AIR GROUND COMBAT CENTER  
BOX 788100  
TWENTYNINE PALMS, CALIFORNIA 92278-8100

**2017 MCAS Yuma Collections Inventory Report****Current Collection:**

# Artifact Boxes	Accession #	CRR or Source	Year Accessioned
1	2012.003	"Yuma Pot"*	2012
2	2015.004	Yuma	2015
1	2015.005	Yuma	2015
3	2015.006	Yuma	2015
1	2015.007	Yuma	2015
1	2015.008	Yuma	2015

\*The "Yuma Pot" is on display in the APCC Exhibit Room.

Total # Artifact Boxes: 9 (11.25 cu.ft.)

Associated records: 0.5 linear feet.

No additional collections from MCAS Yuma have been accessioned to the MCAGCC APCC in FY17.

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## Appendix I

**MAGTFTC, MCAGCC Archaeology and Paleontology Curation Center  
Instructions for Submission of Collections**

*Please ensure that all submitted archaeological collections and supporting documentation conform to the following instructions.*

**Cleaning**

- Artifacts should be cleaned with water or dry brushed.
- Wash only those materials that will not deteriorate or where cleaning with water will not destroy archaeological evidence.
- Artifacts, specimens or samples that should not be washed or otherwise cleaned or processed should be separated from other materials and marked: *Special Treatment Required*

**Sorting and Cataloging**

- Each item submitted in a collection should be assigned a unique sequential catalog number.
- Collections should be sorted according to the following hierarchy: 1) site number, 2) artifact type, 3) catalog number.
- Collections must be accompanied by a catalog (Excel spread sheet; hard copy stored in Box #1).
- Include a full, written explanation of the cataloging/analytical method employed with each collection in addition to coding forms and/or analytical abbreviations (i.e. keys). Specifically include notes on deaccessioned, lost, mis-numbered (including unused numbers) or mis-recorded items.

**Packaging**

- All items must be packed in acid-free materials.
- Storage boxes must be archival, must meet or exceed a bursting test of 200 lbs p/sq inch, and must measure 10"x12"x15" (such as Gaylord #TC1215, available at [gaylord.com](http://gaylord.com)).
- All artifacts should be placed in plastic, self-sealing (ziplock) bags (at least 4 mil/thick).
- Fragile items (bone, shell, wood, etc.) should be placed in plastic vials, then into plastic bags.
- Double-bagging is required for heavier objects.

**Tags and Labels**

- Each bag should contain an internal printed acid free paper tag no larger than 1 1/4" x 2 1/4", which includes the following eight fields in order (note: please use MAGTFTC, MCAGCC "Request for Accession Number" form to request an accession number before submission of

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collection). Do not use adhesive labels. See the *Artifact Catalog Format* section below for further discussion of these fields.

Site:  
 Catalog:  
 Accession: (please request an Accession number before submission of collection)  
 Unit/Location:  
 Level:  
 Total No:  
 Material: (when appropriate, please include specific material type, e.g. Material\_2)  
 Item: (when appropriate, please include more specific Description information)

**SAMPLE LABELS**

Site: CA-SBR-8974 Catalog: 199 Accession: 2003.007 Unit/Location: Unit 2 Level: 0-10 cm Total No: 5 Material: stone, rhyolite Item: debitage	Site: CA-SBR- 9765 Catalog: 22 Accession: 2004.005 Unit/Location: N25/E30 Level: Surface Total No: 1 Material: metal Item: historic refuse, can fragments
---	--

- Individual artifacts such as tools, diagnostics, or other unique items should be surface labeled with waterproof, permanent white or black ink and sealed with a layer of clear, permanent sealant. Fragile items such as beads should be labeled with an acid free tag. Surface labels should contain, at a minimum, the Site number and the Catalog number.

**Soil Samples**

- All bulk soil samples are required to be processed *before* submission to the curation center.

**Radiocarbon Samples**

- Fragile samples should be packaged in aluminum foil or archival plastic vials and placed in plastic bags.



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**Photographs and Slides**

- Photographs, negatives, and slides should be separated as to type and stored in archival polypropylene storage pages.
- Negatives must be accompanied by proof sheets.
- All slides and photographs must be appropriately labeled and numbered.
- All slides and photographs must be accompanied by a photographic record.
- Digital photographs (JPEG) -- see below for electronic submission requirements.

**Final Technical Synthesis Report Submission**

*With respect to the stipulations specified in the Scope of Work please submit:*

- One (1) final technical report on archival paper - unbound
- Requisite number of bound copies (not required to be on archival paper)
- Original field notes, drawings, maps, and photos
- Copy of the report, including graphics, on CD-ROM as a PDF file (e.g. Adobe Acrobat)
- Separate files also on the CD should include:
  - ✓ Individual PDF files for all completed site forms
  - ✓ All final report graphics (includes digital photos)- JPEG
  - ✓ Photographic record- Excel
  - ✓ Artifact catalog-Excel (using, at a minimum, the fields on the following page:)
  - ✓ All associated GIS files

**Artifact Catalog Format (see MCAGCC Collection Template)**

The MAGTFTC, MCAGCC Collection Template contains the format required for collection information to be uploaded to the MAGTFTC, MCAGCC Cultural Resources database. While catalogs included with the submitted report need not be restricted to this format, it is requested that they also be submitted according to these guidelines, in order that all collections data can be integrated into our database. See the below descriptions for details on how information should appear on the template.

**Accession:** The accession number for the collection, provided by the MCAGCC Collections Manager

**Prefix:** State and county designation (e. g., CA-SBR-)

**Site:** Site number as whole number

**Suffix:** Site component information, if other than prehistoric (H or /H)

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**Catalog:** Unique whole number for each item or group of like items.

**Material:** Material type of artifact(s). Please select from the attached *Material List*, if possible. If no appropriate item appears on the list, please contact the MCAGCC Collections manager to have an item added to the list.

**Material\_2:** Specific material type, especially regarding stone (e. g., felsite, granite, rhyolite, basalt, cryptocrystalline).

**Item:** Type or description of object (e. g., core, bone, sherd, biface). Please select from the attached *Item List*, if possible. If no appropriate item appears on the list, please contact the MAGTFTC, MCAGCC Collections manager to have an item added to the list.

**Description:** Any further item description deemed necessary

**Total No:** The number of like artifacts contained in a single cataloged bag.

**Unit / Location:** The numbered Unit, Feature, etc., recorded in the project report.

**Level:** Level below surface at which the artifact was located, in either centimeters or other applicable code (e. g., level A, B, C, D).

**Weight:** Weight of artifact(s) measured in grams (g).

**Condition:** Information about the condition of the artifact, if necessary

**Comments:** Any additional information should be recorded here (e. g., Does it have any unique / noteworthy characteristics? Is it a large, unboxed item? Does it require special attention?).

For questions regarding the above guidelines, please contact:

Charlene Keck, Collections Manager  
Natural Resources and Environmental Affairs  
Marine Air Ground Task Force Training Command  
Marine Corps Air Ground Combat Center  
Twentynine Palms, CA 92278-8110  
Phone: 760-830-1196 FAX: 760-830-5718  
Email: [charlene.keck@usmc.mil](mailto:charlene.keck@usmc.mil)

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Item List	Material List
assayed cobble	stone
battered stone	ceramic
bead	bone
biface	fiber
charcoal	metal
cobble tool	glass
core	wood
core tool	shell
debitage	soil
drill	charcoal
faunal bone	other
fire affected rock	
flake tool	
flotation sample	
formed flake tool	
groundstone	
hammerstone	
historic military	
historic mining	
historic refuse	
misc stone	
modern trash	
modified sherd	
modified stone	

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Enclosure (2)

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other	
other	
sample	
projectile	
point	
seed	
Item List	Material List
shell	
sherd	
tool blank	
utilized	
flake	
wood	

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## **APPENDIX C**

### **Marine Corps Air Station Yuma Archaeological Survey and Report Standards**

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## Marine Corps Air Station Yuma Archaeological Survey and Report Standards

To Supplement Arizona State Museum “Archaeological Site Recording Manual”, “Standards for Inventory Documents Submitted for SHPO Review in Compliance with Historic Preservation Laws”, and “Arizona Reporting Standards for Cultural Resources” for all Archaeological Survey’s Performed in Arizona for Marine Corps Air Station (MCAS) Yuma

and

To Supplement California OHP “Instructions for Recording Historical Resources” and “Archaeological Resource Management Reports (ARMR): Recommended Contents and Format” for all Archaeological Surveys Performed in California for MCAS Yuma

**October  
2016**

Point of Contact for Questions:

Karla James, M.A.,  
Archaeologist  
karla.james@usmc.mil  
928-269-2288

## 1. Prior to Fieldwork

If not provided at onset of task, contractor will request current versions of the relevant digital datasets held by MCAS Yuma. These are continually being updated and it will save rewrites later if you work from the most recent authoritative data.

Contractor will thoroughly review all reports for previous surveys in the vicinity of the survey area so that they have an understanding of the prehistoric and historical archaeology of the area and survey methods executed during previous surveys in the area.

Contractor will supply the necessary documentation to schedule range access at least two weeks prior to beginning field work. All field-crew members will be required to attend the range safety and security brief and obtain Range IDs before beginning field work.

Check Bureau of Land Management (BLM)/General Land Office (GLO) maps and other historical maps for any historic period roads, mines, homesteads, etc. Contractor is also expected to check BLM grazing allotment information if there are relevant historical-period sites found during the survey.

## 2. In The Field

### *GPS Data Collection*

GPS data will be collected in North American Datum (NAD) 83, in the UTM zone for the location at which the data will be collected. The settings on the GPS unit will be verified each day before data collection begins. During each day of data collection, an accuracy assessment will be performed on the data collected that day. At a minimum, the accuracy assessment will consist of either 1) collecting a data point for each of at least three survey monuments (GLO markers, etc.), near the location where data will be collected that day, or 2) downloading the data to a computer with post-processing software (Pathfinder, Trimble Positions, etc.), performing differential correction, and printing out an accuracy report for that day's data collection. If the accuracy assessment shows that the day's data do not meet the accuracy standards in the SOW, the data must be re-collected.

### *Survey*

The entire survey area will be surveyed except for slopes greater than 40 percent, unless stated otherwise in the contract. Contractor will do site updates and new site records for all previously recorded sites in the survey area, to include updated GIS data such as site datum and site boundary.

### *Survey Polygon for GIS*

The survey polygon provided in the deliverables by the contractor should not be the survey polygon provided by MCAS Yuma. The survey polygon provided by MCAS Yuma is only a general reference and will not be identical to the area surveyed. Please see the GIS template for directions as to how the survey polygon for the *CulturalSurveyArea* feature class should be created.

#### Arizona

Distance between transects will be maintained at 20 meters or less, depending on the ground visibility.

- 80-100 percent ground visibility transects will be no more than 20 meters apart
- Below 80 percent ground visibility transects will be no more than 15 meters apart

#### California

Distance between transects will be maintained at 15 meters or less, depending on the ground visibility.

### ***Recording Sites and Isolated Occurrences***

#### **Establishing a Site Datum**

Contractor shall place a permanent datum stake in an inconspicuous location as near to the site center as possible, and within the site boundary, for every site. The UTM coordinates collected for the datum are to be reported as the *cntr UTM* on the first page of the ASM site card in Arizona or as the *P2.d. UTM* on the first page of the Primary Record in California.

#### **Trails**

MCAS Yuma ranges are home to wild animals that have roamed the ranges for decades. These animals have created many trails of their own and have also used human-made trails. In order to avoid having to manage animal trails as cultural resources, use the following guidelines when determining whether a trail is animal- or human-made:

- Animal trails are often narrow and one can see that it would be difficult, if not impossible, for a human to walk with their feet so close together.
- Human trails are generally straighter than animal trails, though this is not always so.
- Animal trails often follow the contour of a hill/mountain whereas human trails are more likely to go up and over or around these features.
- Human trails will usually have artifacts or features somewhere along them, though not always.
- If a trail has plants such as ocotillo or creosote bush growing in them and there are no visible routes bypassing the plants, this is a good indication of age and possible human origin/use.

Prehistoric trails that are 100 or more meters long will be recorded as linear sites; whereas, those less than 100 meters with no associated artifacts will be recorded as isolated occurrences (IOs). All artifacts and features near trails will be recorded with a set of coordinates for each (Easting and Northing in NAD83, UTM Zone 11 or 12), the only exception being a situation where there are numerous artifacts within a five-meter diameter. Those locations will, however, be detailed in the field notes.

Prehistoric trails will be recorded with one person capturing GPS data while walking the trail and keeping the GPS receiver as close to the centerline of the trail as possible. In addition, there will be one person on either side of the trail at a distance of no more than five meters, closely examining the ground for artifacts and features. Often in areas along trails where several sherds are found, there will be an intersecting or branching trail. Examine the ground spanning out from the trail in all directions where ceramics are found along a trail. Look closely in the vicinity of any trails as they go into or come out of a wash because these locations are often marked with ceramics.

In areas where ceramic sherds appear to be in a linear or curvilinear pattern, a closer examination of the area for evidence of trails will be performed.

Before field work is completed, pull trail GPS data into GIS with DOQ or other aerial imagery and examine the trajectory of both ends of all trails to see if more of each trail is visible so that they can be followed and recorded to at least the survey boundary.

Before field work is completed, pull the ceramic GPS data into GIS with DOQ or other aerial imagery and see if any trails are visible in areas where ceramics occur in a linear trajectory.

#### **Roads**

Unfortunately, MCAS Yuma's ranges have fallen victim to significant cross-country travel throughout its history, and there are numerous roads, trails, and two-tracks across the ranges. If any such features have few or no associated artifacts by which to date them, or if they do not appear on any historical GLOs or other maps, they will not be recorded. Historical roads more than 100 meters long will be recorded as

linear sites whereas those less than 100 meters with no associated artifacts will be recorded as IOs.

#### Rock Features

All rock features will be described in terms of cobbles (less than 10 inches in diameter) and boulders (greater than 10 inches in diameter).

When recording rock rings or alignments, note presence or absence of caliche on exposed and buried surfaces.

Note if the rocks are laying on the surface or to what degree they are embedded.

If rock rings are on desert pavement, note whether the area within the ring is cleared of desert pavement or is the same as the surrounding area.

Rock feature (e.g. cairn, ring, alignment) descriptions will include approximate number of cobbles and/or boulders, number of courses, height and base diameter measurements, and any other attributes that might indicate whether the feature is historical or prehistoric.

Historical period military defensive positions will include description of shape (e.g. half circle, u-shaped), and number of courses.

#### Cleared Areas (aka "Sleeping Circles")

There are myriad cleared areas on MCAS Yuma ranges that have natural causes such as plant scars and burro wallows. There are also many cleared areas created by munitions detonations. Any cleared areas recorded as prehistoric cultural features must meet the following criteria:

1. Be circular in shape.
2. Have a well-defined rim.
3. Rim must be more than one stone thick.
4. Does not have unpatinated gravel interior if it is not present in the surrounding matrix.
5. Is associated with artifacts or other features indicating human activity.

See McAuliffe and McDonald (2004) and McDonald et al. (2006) for more information.

#### Ceramics

If field crew is not experienced and knowledgeable in typing Patayan ceramics, just record all the pertinent attributes of the sherds: temper, thickness, fracture, finish, surface color, oxidation, form, decoration, etc. Take a close-up photo of a fresh break on a representative sample of sherds.

#### Flaked Stone

If possible, discern what type of core the flakes originated from (e.g., bifacial flake core, single platform core). Note if flakes are "cortical," "partly cortical," or "non-cortical" and give counts or estimates of each type. If other flaked stone technological information can be discerned, include that information as well. Describe material type, e.g. good quality chert, poor quality jasper.

In the simplest terms possible, describe the color of the artifacts, e.g. brown, tan, red, and not purplish/reddish/fuchsia.

Scaled sketches will be made of all projectile points.

#### Historical Period Artifacts

For measurements of cans use the whole number equivalents ( $4 \frac{3}{4}$  inches expressed as 412,  $5 \frac{1}{2}$  inches

expressed as 508). For sites and IOs containing historical can dumps or other trash deposits, a general statement about the concentration and an estimated number of artifacts will suffice:

*Can concentration consists of approximately 20 crushed #10 cans, 50 whole or partial milk cans with "punch here" embossed on the lid, and 100 sanitary cans.*

When recording sites with numerous shell casings, record the various head stamps and overall count estimate. This is a military reservation and has been so for many years. Detailed information about shell casings is a waste of time and is of no scientific value. We do not need itemized lists of these artifacts and a general statement will suffice:

*Approximately 100 30.06 shell casings with head stamps "LC 44", "UT 42", and "TC 43".*

Unidentifiable pieces of metal that are scattered across the ranges do not need to be recorded as IOs.

#### Recording Methods

Ensure that photographs are taken facing a direction where the sun does not produce a glare in the frame. As much as is possible, try to not have any feet, portions of other surveyors, footprints, photographer shadows, backpacks, vehicles, etc., in the photographs. If necessary, crop the photographs before putting them in the report. Do not ever photograph any training troops or facilities unless it is specifically called for in the contract.

At least one overview photograph of the site and one photograph of each feature will be taken at every site. Include scales and north arrows for reference. Distinguishable natural background such as mountains and slow-growing plants such as saguaros and ocotillos are also useful to help relocate sites in the future.

At least one photograph of each diagnostic lithic artifact will be taken. A selective sample of ceramic sherds at each site or IO will be photographed. Include scale for reference.

At least one photograph will be taken of each feature recorded as an isolated occurrence.

Detailed site maps will be made for each site. Include easily identifiable natural features such as saguaro, ocotillo, trees, and drainages (use different symbols for various vegetation types). Any nearby (within 20 meters) roads, trails (animal or human), and two-tracks will be depicted on the maps. Also include any areas of disturbance. Also to be included on all site record site maps: north arrow pointing to the top or side of page (not a corner), and give direction and distance to any roads within 100 meters.

#### Arizona

If the density and diversity of artifacts and features does not meet ASM Revised Site Definition Criteria, record the item or items as an IO. In other words:

- Any number or combination of flakes and/or cores from a single source will be recorded as an IO if there are no other artifacts or features within 15 meters.
- Any number of sherds in a single pot drop will be recorded as an IO if there are no other artifacts or features within 15 meters.
- Any single feature will be recorded as an IO if there are no associated artifacts within 15 meters or temporally associated feature within 100 meters.
- Less than 20 artifacts of any kind within a 15-meter diameter area will be recorded as an IO.
- Less than 30 artifacts of a single class (e.g., lithics, ceramics, cans), within a 15-meter diameter area will be recorded as an IO.



#### California

In order to obtain some consistency in the site recording methods on our two ranges in separate states, MCAS Yuma will institute the following changes to site definitions:

- Any number or combination of flakes and/or cores from a single source will be recorded as an IO if there are no other artifacts or features within 15 meters.
- Any number of sherds in a single pot drop will be recorded as an IO if there are no other artifacts or features within 15 meters.
- Any single feature will be recorded as an IO if there are no associated artifacts within 15 meters or temporally associated feature within 100 meters.
- Less than 20 artifacts of any kind within a 15-meter diameter area will be recorded as an IO.
- Less than 30 artifacts of a single class (e.g., lithics, ceramics, cans), within a 15-meter diameter area will be recorded as an IO.

### 3. Report

The report title will follow this format:

Archaeological Survey of XXXX Acres for the Proposed XXXX on the Barry M. Goldwater Range West, Yuma County, Arizona

Archaeological Survey of XXXX Acres for the Proposed XXXX on the Chocolate Mountain Aerial Gunnery Range, XXXX County, California

If the title is included in a page header in the report, an abbreviated version is acceptable. The complete title, however, will be included on DPR 523A Section P11. Report Citation (California) or ASM Site Card Side A Report Ref. (Arizona).

If the report is formatted with chapters where the page numeration begins at 1 for each chapter (e.g., 5.1, 5-1) and not numbered sequentially throughout, insert numbered tabs at each chapter of the report.

In the Methods section of the report, state the datum and projection in which the data were collected, and also state the datum and projection of the deliverables.

There should be consistent formatting of the various parts of the report: all tables should be similar, all table captions should be the same style; all figure captions should be the same style.

In addition to the *Arizona Reporting Standards and Standards for Documents Submitted to SHPO* and/or *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*, the following items will be included in all reports:

- The date of the final report shall be on the front cover (e.g., January 1, 2016)
- This distribution statement shall be on the front cover: Distribution authorized to U.S. Government agencies and their contractors; and federally recognized Indian Tribes for purposes of cultural resource research/investigation. Other requests for this document shall be referred to Range Management Department, MCAS Yuma, Arizona.
- At least one overview photo of each site
- At least one photo of each type of feature on each site
- All photos should be half-page size if possible
- An Isolated Occurrences table with the columns for IO Number, Description, Northing, and Easting will



be included in an appendix. Append a footnote to the Easting column header to specify the datum used for the entire table. If the IOs are in both Zone 11 and 12, add a column for Zone, otherwise use a footnote to state the UTM zone. IOs will be numbered consecutively, beginning with 1 (IO 001, IO 002, IO 003). Do not keep IO field numbers in the report (IO KJ-10-1, IO LP-10-1)

IO Type		To Include In Description
<i>Ceramics</i>		
Pot Drop	Do not call out that it is ceramic. Do not call a small number of sherds a pot drop. Only use this term if it is a complete or nearly complete vessel.	Type- if it cannot be typed, specify the Ware if known. Estimated number of rim and body sherds. Vessel type if discernable. Diameter of the IO.
Sherd(s)	Do not call out that it is ceramic.	Type- if it cannot be typed, specify the Ware if known. Estimated number of rim and body sherds. Vessel type if discernable. Diameter of the IO if more than one sherd.
Historical		Ware (e.g., stoneware, earthenware, porcelain) and maker's mark. Type of vessel if discernable. Diameter of the IO if more than one sherd.
<i>Lithics</i>		
Debitage	Do not call out that it is lithic.	Number of "cortical", "partially cortical", and "non-cortical" flakes. Type and color of material (e.g., brown chert, tan quartzite). Whether all are from the same parent rock. Diameter of the IO if more than one flake.
Hammerstone(s)	Do not call out that it is lithic.	Type and color of material. Diameter of the IO if more than one.
Tested Cobble(s)	Do not call out that it is lithic.	Type and color of material. Number of fragments. Diameter of the IO if more than one.
Tool(s)	Do not call out that it is lithic.	Type of tool (e.g., expedient, scraper). Type and color of material and whether it was utilized. Diameter of the IO if more than one.
Projectile Point(s)	Do not call out that it is lithic.	Type and color of material, type or period (e.g., desert side-notched, archaic) of point. Diameter of the IO if more than one.
Core(s)	Do not call out that it is lithic.	Type and color of material and whether it is uni-directional or bifacial, etc. Diameter of the IO if more than one.
Mano(s)	Do not call out that it is lithic.	Material type, whole or fragment. Diameter of the IO if more than one.
Metate(s)	Do not call out that it is lithic.	Material type, whole or fragment, concave or flat. Diameter of the IO if more than one.
<i>Other Prehistoric Artifacts</i>		
Shell(s)		Shell species, whole or fragment, whether it was worked and number of each. Diameter of the IO if more than one.
<i>Historical Artifacts</i>		
Can(s)	Do not call out that it is metal.	Number and type of cans (e.g., 10 sanitary, 2 meat tins). Opening (e.g., church-key, knife, punched). Diameter of the IO if more than one.
Jar(s)	Do not call out that it is glass.	Number and type of jars. Maker's mark. Diameter of the IO if more than one.

Bottle(s)	Do not call out that it is glass.	Number and type of bottles. Maker's mark. Blown or machine made. Diameter of the IO if more than one.
Glass	Do not use for whole or nearly whole vessels.	Maker's mark. Whether it was a window, jar, or bottle if discernable. Diameter of the IO.
Nail(s)		Number or wire or cut nails.
Cartridges		Number of each caliber. Year and manufacture of military ammunition.
<i>Rock Features</i>		
Rock Ring(s)	Do not use this for hearths.	Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Number of layers and height if more than a single layer. Diameter of the IO.
Rock Alignment(s)	Do not use this for rock rings.	Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Number of layers and height if more than a single layer. Length of IO.
Rock Pile(s)	Do not use for single layer clusters.	Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Approximate height. Diameter of the IO.
Rock Cluster(s)	Do not use for piles.	Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Diameter of the IO.
Rock Cairn(s)		Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Number or tiers or height. Diameter of the IO.
Hearth(s)		Prehistoric, historical, or unknown age. Number of cobbles and/or boulders and whether they are embedded. Presence of caliche. Number or tiers or height. Presence of charcoal. Diameter of the IO.

**Preferred Format for IO Tables**

IO No.	Period	Description	Zone	Easting <sup>1</sup>	Northing
001	Prehistoric	Rock ring, 10 boulders, slightly embedded, caliche on bottom surface of some rocks, 1.5 m in diameter	11	768772	3593653
002	Historical	20 1944 50-caliber shell casings, St. Louis, 4 sanitary cans, 5 x 2 m area	11	768990	3594200
003	Unknown	Rock cairn, 3 tiers high, 50 cm base diameter, approx. 20 boulders and cobbles, on surface	12	277888	3596222

<sup>1</sup> North American Datum 1983

- Map(s) showing all previous surveys and previously recorded sites in the search area of current survey
- A "Previous Surveys within One Mile" (or One-half Mile) table with the columns for BMGRW or CMAGR Survey Number (or ASM Survey Number if outside BMGRW boundary; or DHP Survey Number if outside CMAGR boundary), Report Title, and Reference (e.g. Jones and Jones 2010) will be included in the Previous Research section. Those surveys falling within the current survey area will be marked in bold or italics, and explained in a footnote (e.g., **Bold** indicates surveys within current survey area).
- A "Previously Recorded Sites within One Mile" (or One-half mile) table with the columns for ASM

Number in AZ or Trinomial and Primary Number in CA, Site Description, NRHP-eligibility Determinations, and Reference will be included in the Previous Research section. Those sites falling within the current survey area will be marked in bold or italics, and explained in a footnote (e.g., Note: Sites in *italics* are in the current survey area).

- Map(s) showing recorded IO locations with historical IOs having a different symbol than prehistoric IOs, at a scale where they can be neatly labeled and visible. This can be combined with the site locations map if there are few enough resources to still produce a good quality map. IO labels on the map do NOT need "IO" before the IO number, as these are redundant.
- Plan-view maps for all sites should be scaled to fit vertically or horizontally on 8 ½ by 11 paper unless the site is so large that it would be impractical. Each plan-view site map, whether in the report or as part of the site record, needs to have a legend that shows what the signs on a map symbolize and represent. If contour lines are depicted on the plan-view site map, the legend must state the contour intervals (e.g., 10-foot contours, contour interval 1 meter), or the actual elevation should be printed on the lines.
- Associated artifacts table and features table for each applicable site, with columns for Type, Count, Description (to include measurements when appropriate), and Date(s) that will fit vertically on 8 ½ by 11 paper. Columns can be combined, when feasible (e.g., dates can be in the description column). These tables will also be depicted on the site cards.

Be sure that all maps that state 1:24,000, actually print at that scale.

Eligibility recommendations will discuss significance criteria and aspects of integrity to sufficiently convey these aspects to the reader.

Be sure formatting of dates is correct and consistent throughout the report (10,000 BC and AD 1000). Do not use CE, BCE, or BP, the only exception being radio carbon dates, which can be reported using BP.

#### 4A. Site Cards (Arizona)

Thoroughly read the ASM Site Recording Manual and use the codes and abbreviations in there. Some of the blanks that are often filled out incorrectly include:

Proj. Name: This is the abbreviated name that you sent to ASM to acquire site numbers (e.g., *MCAS Yuma FY13 Surveys*).

Site Name: Unless the site was previously given a name, no sites will be named on MCAS Yuma.

Series: All maps used should be 1:24,000 (i.e., 7.5')

Site Size: (in Ft or M) Historical period sites consisting of roads or buildings (i.e., constructed features/sites), will be reported in feet. Prehistoric and historical period military sites will be measured in meters.

Length: The length of the site is the distance between the **two most distant points** on the site perimeter.

Width: The width is the **greatest distance** between opposite boundaries, perpendicular to length.

Cntr UTM Z E N : All UTM coordinates for the site card shall be derived from the differentially corrected GPS data. Zone will be the zone in which the site is actually located, (i.e., 11 or 12). The easting and the northing will be in NAD 83 and in the zone in which the site is actually located. This will

be a point as close to the center of the site as possible. For large sites, four perimeter UTM's will also be recorded. For linear sites, two end point UTM's will also be recorded. For linear sites, there should be *ctr. UTM* and the end points should be renamed from *peri. UTM* to the closest cardinal direction (e.g. *North* and *South*). The UTM's for the location of the datum will be written in the Site Description/Remarks section. Please be sure that the data are projected in NAD 83 and the correct UTM zone when acquiring the UTM coordinates – do not attempt to acquire coordinates when the data are projected in Arizona State Plane West.

BL: For all sites on MCAS Yuma, this will be *GI*. It need only be written on the first line.

TWN RNG: If the site falls in one township and range, it need only be written on the first line.

SC: Fill this in only if it has been surveyed, do not project it. Preferably, only one section will be on each line. For long sites, however, there may need to be two or more sections on each line, separated by commas. The Subdivisions will have corresponding separating commas.

SUBDIVISION: See paragraph two on page 22 of the ASM manual.

ASM Proj No.: This is issued by ASM when you receive the site numbers. Be sure to fill it in on all site cards.

Side B is not to be included in the Site Record.

Side C Artifacts: Read and follow the instructions on page 27 and 28 of the ASM manual, with the following exception. SHPO will no longer accept artifact counts using the plus symbol (e.g., 200+), and they must be a range instead (e.g., 200-250). Exact counts for small numbers and *P* for present for artifacts such as nails or crown caps are also acceptable.

Sides C and D Features: Read and follow the instructions on pages 29-31 of the ASM manual. If there are no features listed on Side D, delete that page from the Site Record.

Put photos, rim profiles, and other supplementary information into site cards as much as possible.

#### 4B. Site Cards (California)

Thoroughly read the OHP *Instructions for Recording Historical Resources* and use the codes and abbreviations as instructed. Put photos, rim profiles, and other supplementary information into site cards as much as possible. The blanks that MCAS Yuma has specific instructions for are:

DPR 523A Primary Record

**\*Resource Name or #: (Assigned by recorder)** - Sites and IOs recorded on land managed by MCAS Yuma will not be named. The field recording number will be indicated here.

**\*P7. Owner and Address:** - All sites recorded within the CMAGR will have the following owner address:

Marine Corps Air Station Yuma  
Range Management Bldg. 151  
Yuma, AZ 85369

**\*P11. Report Citation:** - For newly recorded sites, this will be the author(s) name(s), year that



report is finalized, and the full report title.

DPR 523C Archaeological Site Record

**\*A8. Nearest Water** - Do not list the Coachella Canal. This is for the nearest natural fresh water source or probable former source. "Unknown" is an acceptable response.

DPR 523J Location Map

After the map has been inserted into the document, do a test print and measure the map to ensure that it prints at 1:24,000.

## **5. Data Compendium** (One of the final deliverables)

A CD or DVD with the following folders (separate DVDs can be created if necessary):

### ***Folder 1: Photographs***

All photos in a single electronic folder saved as JPEGs with all photos listed on a single Microsoft Excel photo log to be included in the same folder. On the photo log, photos must be organized and filed by project area and site number/IO number as much as possible, not by field date, field director, or other organization method that will make no sense to MCAS Yuma cultural resources personnel or future researchers.

### ***Folder 2: Field Notes***

Scanned copies of all field notes saved as PDFs in a single electronic folder. Again, as much as possible, field notes should also be organized into folders by project area and site number/IO number.

### ***Folder 3: Site Cards***

Arizona: Complete ASM site cards in both Microsoft Word and PDF formats. The files should be named for the ASM site number. Include a copy of ASM's populated Site Number Request form as received from them with the project name, project number, and site numbers.

California: Complete OHP site cards in both Microsoft Word and PDF formats. The files should be named for the Primary Number.

### ***Folder 4: Report***

Complete report in both Microsoft Word and PDF formats.

A separate CD or DVD will contain GIS data:

All GIS data are to be in the template provided by MCAS Yuma and according to the GIS Specifications in the SOW. The data disk will be labeled with the date of the data set.

## **References**

McAuliffe, Joseph R., and Eric V. McDonald

2006        Holocene Environmental Change and Vegetation Contraction in the Sonoran Desert.  
              *Quaternary Research* 65:204-215.

McDonald, Eric, Erik Hamerlynck, Joseph McAuliffe, Todd Caldwell

2004        Analysis of Desert Shrubs Along First-order Channels on Desert Piedmonts: Possible  
              Indicators of Ecosystem Condition and Historic Variation. Strategic Environmental  
              Research and Development Program SEED Project #CS1153. Final Technical Report

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## **APPENDIX D**

### **Tribal Consultations Points-of-Contact List**

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Title	First Name	Last Name	Job Title	Company	Address	City	State	Postal Code
Mr.	Robert	Miguel	Chairman	Ak-Chin Indian Community	42507 W. Peters and Nall Road	Maricopa	Arizona	85138
Ms.	Carmen	Narcia	Cultural Specialist	Ak-Chin Indian Community	42507 W. Peters and Nall Road	Maricopa	Arizona	85138
Ms.	Sherry	Cordova	Chairwoman	Cocopah Indian Tribe	14515 S Veterans Dr.	Somerton	Arizona	85350
Mr.	Justin	Brundin	Cultural Resources Manager	Cocopah Indian Tribe	14515 S Veterans Dr.	Somerton	Arizona	85350
Mr.	Dennis	Patch	Chairman	Colorado River Indian Tribes	26600 Mohave Road	Parker	Arizona	85344
Mr.	Bryan	Etsitty	Tribal Historic Preservation Officer	Colorado River Indian Tribes	26600 Mohave Road	Parker	Arizona	85344
Mr.	Stephen	Lewis	Governor	Gila River Indian Community	P.O. Box 97	Sacaton	Arizona	85147
Mr.	Barnaby V.	Lewis	Tribal Historic Preservation Officer	Gila River Indian Community	P.O. Box 2140	Sacaton	Arizona	85147
Ms.	Christina C.	Andrews	Chairwoman	Hia-Ced Hemajkam	P.O. Box 447	Ajo	Arizona	85321
Mr.	Jordan	Joaquin	President	Quechan Indian Tribe	P.O. Box 1899	Yuma	Arizona	85366
Mr.	Manfred	Scott	Chairman	Quechan Cultural Committee	P.O. Box 1899	Yuma	Arizona	85366
Mr.	Martin	Harvier	President	Salt River Pima-Maricopa Indian Community	10005 East Osborn Road	Scottsdale	Arizona	85256
Ms.	Angela	Garcia-Lewis	Cultural Preservation Compliance Supervisor	Salt River Pima-Maricopa Indian Community	10005 East Osborn Road	Scottsdale	Arizona	85256
Mr.	Edward	Manuel	Chairman	Tohono O'Odham Nation	P.O. Box 837	Sells	Arizona	85634
Mr.	Peter	Steere	Tribal Historic Preservation Officer	Tohono O'Odham Nation	P.O. Box 837	Sells	Arizona	85634
Ms.	Jane	Russell-Winiecki	Chairwoman	Yavapai-Apache Nation	2400 W. Datsi Road	Camp Verde	Arizona	86322

<b>Title</b>	<b>First Name</b>	<b>Last Name</b>	<b>Job Title</b>	<b>Company</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Postal Code</b>
Ms.	Gertrude	Smith	Cultural Department Director	Yavapai-Apache Nation	2400 W. Datsi Road	Camp Verde	Arizona	86322
Mr.	Robert	Ogo	Acting President	Yavapai-Prescott Indian Tribe	530 East Merritt Street	Prescott	Arizona	86301
Ms.	Linda	Ogo	Culture Research Department Director	Yavapai-Prescott Indian Tribe	530 East Merritt Street	Prescott	Arizona	86301

## **APPENDIX E**

### **Barry M. Goldwater Range West Cultural Resources Data**

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**E-1**  
**Previous Cultural Resources Investigations**

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MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-1980-001	Archaeological Site Descriptions: The Buried Trench Project, Luke Air Force Range, Arizona	Doelle	HDR Sciences
BMGRW-1981-001	A Cultural Resource Investigation of a Proposed 69 kV Transmission Line	Middleton	Bureau of Reclamation
BMGRW-1982-002	An Archaeological Survey of the Yuma Tacts Range Project Area, Luke Air Force Range, Arizona	Doelle	Institute for American Research Arizona Division
BMGRW-1982-003	An Archaeological Survey of the Cares-Dry Project Area, Luke Air Force Range, Arizona	Mayro	Institute for American Research Arizona Division
BMGRW-1982-004	An Archaeological Survey of the Expanded Cares-Dry Project Area, Luke Air Force Range, Arizona	Bowen	Institute for American Research Arizona Division
BMGRW-1983-001	An Archaeological Survey of the ISST Project Area, Luke Air Force Range, Arizona	Mayro	Institute for American Research Arizona Division
BMGRW-1984-001	An Archaeological Survey of the Expanded ISST Project Area, Luke Air Force Range, Arizona	Mayro	Institute for American Research Arizona Division
BMGRW-1984-002	Letter Report re: Archaeological Evaluation of the Proposed Border Patrol Road Located on Luke Air Force Range, Arizona	Mayro	Institute for American Research Arizona Division
BMGRW-1985-001	Assessment of Cultural Resources for the Yuma Range Air Installation Compatible Use Zone Study	Effland	Archaeological Consulting Services, Inc.
BMGRW-1986-001	Archaeological Survey for Peacekeeper Follow-on Basing Concealment Testing, Dateland Test Site, Luke Air Force Range, Arizona	Christensen	Tetra Tech, Inc.
BMGRW-1986-002	A Cultural Resources Survey of a Proposed Expansion of the ISST Missile Site, Luke Air Force Range, Yuma County, Arizona	Polk	Sagebrush Archaeological Consultants
BMGRW-1987-001	Surface Reclamation Along Camino Del Diablo, Tinajas Altas Natural Area	Barger	Bureau of Land Management
BMGRW-1988-001	Cultural Resources Technical Report for the Goldwater Range Environmental Assessment, Phase I	Bruder, Fenicle, and Bassett	Dames & Moore
BMGRW-1988-002	Tinajas Altas Pothole Improvement	Blanchard	Bureau of Land Management
BMGRW-1989-001	Preliminary Technical Report, A Cultural Resources Sample Survey of Operation Zones, Barry M. Goldwater Range, Marine Corps Air Station, Yuma, Arizona	Altschul and Jones	Statistical Research, Inc.
BMGRW-1989-002	TASET H Site Fence	Blanchard	Bureau of Land Management
BMGRW-1990-001	Tortoise Inventory	Pike	Bureau of Land Management

MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-1990-002	AUX 2 LHA Pad Security Fence	Blanchard	Bureau of Land Management
BMGRW-1990-003	Squad Level Ground Training Area	Blanchard	Bureau of Land Management
BMGRW-1991-001	Pistol Range Survey	Johnson	Bureau of Land Management
BMGRW-1991-003	P-111 Radar Hill AN/TPS-63	Blanchard	Bureau of Land Management
BMGRW-1991-004	Moving Sands Tracked Vehicle Target Area	Blanchard	Bureau of Land Management
BMGRW-1991-005	USGS Trenches for Imaging Radar	Blanchard	Bureau of Land Management
BMGRW-1991-006	Dripping Springs Wildlife Water	Blanchard	Bureau of Land Management
BMGRW-1992-001	An Archaeological Survey of the Yuma Lateral Expansion Project, La Paz and Yuma Counties, Arizona	McQuestion, Haynes-Peterson, and Stein	SWCA
BMGRW-1992-002	Historic Yuma Project	Pfaff, Queen, and Clark	Bureau of Reclamation
BMGRW-1993-001	Two Sides of the River: Cultural Resources Technical Studies Undertaken as Part of Environmental Documentation for Military Use of the Marine Corps Air Station, Yuma Training Range Complex in Arizona and California	Woodall, Peterson, Apple, and Bruder	Dames & Moore
BMGRW-1993-002	MCAS Explosive Ordnance Disposal Facility	Johnson	Bureau of Land Management
BMGRW-1996-001	Phase I Cultural Resources Survey for the Tactical Aircrew Combat Training System Range Upgrade, Marine Corps Air Station, Yuma	Apple	KEA Environmental, Inc.
BMGRW-1996-002	The Western Edge: Cultural Resources Assessment for the Yuma Aviation Training Range Complex on the Goldwater Range, Southwestern Arizona	Bruder, Shepard, and Olszewski	Dames & Moore
BMGRW-1996-003	Goldwater Range Remote Interrogator Sites (TACTS Range)	Johnson	Bureau of Land Management
BMGRW-1996-004	Coyote Peak Water Catchment	Johnson	Bureau of Land Management



MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-1997-001	A Supplemental Cultural Resources Survey of Three Parcels, Totaling 61.6 Acres, for the Proposed Yuma Area Service Highway Between San Luis and Interstate-8 at Araby Road, Yuma County, Arizona	Lite	Archaeological Research Services, Inc.
BMGRW-1997-002	Final Report Archaeological Testing of Five Sites for the Tactical Aircrew Combat Training System (TACTS) Range Upgrade, Marine Corps Air Station (MCAS) Yuma, Arizona	York, Apple, and Cleland	KEA Environmental, Inc.
BMGRW-1997-003	County 14th Extension ROW Amendment	Johnson	Bureau of Land Management
BMGRW-1997-004	Betty Lee Cistern Mine Gates	Johnson	Bureau of Land Management
BMGRW-1998-001	Archaeological Inventory and Survey Report for the Marine Corps Air Station (MCAS) Yuma, Cannon Air Defense Complex, and Martinez Lake Recreation Area, Yuma County, Arizona	Carrico and Case	Brian F. Mooney Associates
BMGRW-1999-001	The ISST Bunkers and the MX Buried Trench National Register Eligibility Assessment of Two Properties M. Goldwater Range, Yuma County, Arizona	Gross and Van Wormer	Affinis
BMGRW-1999-002	MCAS Antelope Forage Project	Johnson	Bureau of Land Management
BMGRW-2000-001	The Only Water for 100 Miles Volumes I and II	Hartmann and Thurtle, editors	SWCA
BMGRW-2000-002	Class III Cultural Resources Survey for the P-111 Cannon Complex Storm Water Retention Pond Enlargement Project	Telles	Bureau of Reclamation
BMGRW-2000-003	Class III Cultural Resources Survey for the Range Gate Entrance Dirt Removal Project	Telles	Bureau of Reclamation
BMGRW-2000-004	Living in the Western Papageria: An Archaeological Overview of the Barry M. Goldwater Range in Southwestern Arizona	Ahlstrom	Arcadid Geraghty & Miller/SWCA
BMGRW-2001-001	An Intensive Archaeological and Biological Survey of Six Proposed Emergency Towers on the Barry M. Goldwater Range (East and West)	Rankin, Barry, and Wirt	56 RMO/ESM
BMGRW-2002-001	Archaeological Survey for Two Crash Sites on the Barry M. Goldwater Range, Marine Corps Air Station, Yuma	Bowden-Renna and Apple	EDAW, Inc.
BMGRW-2002-002	A Cultural Resources Survey of 84.6 Acres for the Proposed Yuma Area Service Highway, East of San Luis, Yuma County, Arizona	Morrison	Logan Simpson Design, Inc.

MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-2003-001	A Supplemental Cultural Resources Survey of 16.1 Acres for the Proposed Yuma Area Service Highway Between US 95 North of San Luis and Interstate 8 at Araby Road, Southwest Yuma County, Arizona	Lonardo	Logan Simpson Design, Inc.
BMGRW-2003-002	Flat Tailed Horn Lizard Trapping Project	Queen	Bureau of Land Management
BMGRW-2003-003	Archaeological Survey of the Mohawk Valley Forage Enhancement Project, Marine Corps Air Station, Yuma	Underwood	EDAW, Inc.
BMGRW-2004-001	Aux II Bivouac Area	Lawson	MCAS Yuma
BMGRW-2004-002	A Cultural Resources Survey of 3.0 miles (118.7 Acres) of an Alternate Alignment for the Proposed Yuma Area Service Highway and of a United States Marine Corps Yuma Air Station Rifle Range Parking Lot (4.7 Acres) Between County 15th and County 19th	Lonardo	Logan Simpson Design, Inc.
BMGRW-2004-003	Cultural Resources Along Selected Roads and Tracks in the Vicinity of the Western Terminus of the Camino Del Diablo, Barry M. Goldwater Range, Arizona	Schaefer, Andrews, and Moslak	ASM Affiliates
BMGRW-2004-004	Results of Archaeological Testing at AZ X:6:14(ASM), a Limited Activity Site Located Within the Original Corridor of the Proposed Yuma Area Service Highway Between US 95 and Interstate 8, Yuma County, Arizona	Walsh	Logan Simpson Design, Inc.
BMGRW-2004-005	A Cultural Resources Survey of 2.40 Miles (110.55 Acres) of an Alternate Alignment for the Proposed Yuma Area Service Highway Between US 95 North of San Luis and Interstate 8 at Araby Road, Southwest Yuma County, Arizona	Walsh	Logan Simpson Design, Inc.
BMGRW-2004-006	Archaeological Survey of 35 Acres at AUX II for Dust Abatement Study	Lawson	MCAS Yuma
BMGRW-2005-001	Cultural Resources Survey for the Installation of Permanent Vehicle Barriers and Patrol Roads, Office of Border Patrol Yuma Sector, Arizona	Hart, Dosh, Lindemuth, and Welch	Gulf South Research Corporation/Northland Research, Inc.
BMGRW-2005-002	Flat Tail Horned Lizard Culvert Study	Lawson	MCAS Yuma
BMGRW-2005-003	Border Radar	Lawson	MCAS Yuma
BMGRW-2006-001	Archaeological Survey for the Pronghorn Drinkers Project, Marine Corps Air Station Yuma, Arizona	Bowden-Renna, Shalom, and Apple	EDAW, Inc.

MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-2006-002	Cultural Resources Survey: 15 Proposed, 6 Alternate, and 12 Existing Rescue Beacons, Yuma, Pima, and Maricopa Counties, Arizona	Dechambre and Hart	Northland Research, Inc.
BMGRW-2006-003	An Archaeological Survey and Historical Assessment of the Tinajas Altas Site (AZ X:12:2[ASM]), Barry M. Goldwater Range, U.S. Marine Corps Air Station Yuma, Yuma County, Arizona	Foster, editor	SWCA
BMGRW-2006-004	Cultural Resources Survey of 1,500 Acres around the Copper Mountains at the Barry M. Goldwater Range, Marine Corps Air Station, Yuma, Arizona	Hart	Northland Research, Inc.
BMGRW-2006-005	A Class III Cultural Resources Survey of 24 Linear Miles of Right-of-Way along Cipriano Pass Road and Avenue 4E and 2.1 Acres along the U.S./Mexico Border within the Barry M. Goldwater Range, Marine Corps Air Station, Yuma, Yuma County, Arizona	Stahman	Northland Research, Inc.
BMGRW-2006-006	Supplemental Cultural Resources Survey for the Installation of Permanent Vehicle Barriers and Patrol Roads, Office of Border Patrol Yuma Sector, Arizona	Zyniecki, Lindemuth, and Hart	Gulf South Research Corporation/Northland Research, Inc.
BMGRW-2007-001	A Historic Mining Context for the Western Barry M. Goldwater Range and an Archaeological Inventory of the Historic Fortuna Mine and Campsite, Yuma County, Arizona	Schaefer, Manley, Andrews, and Moslak	ASM Affiliates
BMGRW-2007-002	A Class III Cultural Resources Survey of Approximately 5.75 Miles of Right of Way along County 14th Street between Avenue 7 East and Avenue 13 East, Yuma, Yuma County, Arizona	Harris Environmental Group, Inc.	Harris Environmental Group, Inc.
BMGRW-2007-003	A Line Through the Sand: A Class I Overview and Class III Cultural Resource Inventory of the Proposed San Luis Rio Colorado Project Transmission Line Corridor, Yuma County, Arizona	Graves, Natoli, and Huber	Statistical Research, Inc.
BMGRW-2008-001	Cultural Resources Survey Along 173 Miles of Roadway Near Wellton Hills, Barry M. Goldwater Range West, Marine Corps Air Station, Yuma County, Arizona	Dosh	Northland Research, Inc.
BMGRW-2008-002	Cultural Resources Survey Along 92 Miles of Roadway in Mohawk Valley, Barry M. Goldwater Range West, Marine Corps Air Station, Yuma County, Arizona	Dosh	Northland Research, Inc.
BMGRW-2008-003	A Cultural Resource Survey for the Proposed Murrayville Range Complex, Barry M. Goldwater Range-West, Arizona	Schaefer and Richards	ASM Affiliates

MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-2008-004	A Cultural Resources Survey of Approximately 12 Miles and Damage Assessment of Four Cultural Resources Sites Along the Camino del Diablo Within the Barry M. Goldwater Bombing Range in Yuma County, Arizona	Stubing and Davis	Carter Burgess
BMGRW-2009-001	Archaeological Survey for the Lonesome Dove Landing Zone	Drennan and Foster	SAIC
BMGRW-2009-002	Sonoran Pronghorn Forage Enhancement Plot, Devils Hills, Barry M. Goldwater Range West	Lawson	MCAS Yuma
BMGRW-2009-003	A Cultural Resources Survey of County 14th Street between Avenue 3E and Avenue 6 1/2E, in Yuma County, Arizona	Turner	Jacobs Engineering Group
BMGRW-2009-004	A Cultural Resources Survey of 22 Acres for a Proposed Aggregate Materials Storage Area Located Adjacent to the SR 195 Right-of-way near County 19th Street in Yuma, Yuma County, Arizona	Walsh	Logan Simpson Design, Inc.
BMGRW-2010-001	Archaeological Survey of 16 Ground Support Areas on the Barry M. Goldwater Range West in Support of the MV-22 Osprey Project, Yuma County, Arizona	Barr and Griset	SWCA
BMGRW-2010-002	Archaeological Survey of Barry M. Goldwater Range West Training Areas in Support of MV-22 Training EIS, Yuma County, Arizona	Schaefer and Andrews	ASM Affiliates
BMGRW-2010-003	Cultural Resources Survey Proposed Auxiliary Landing Field, Marine Corps Air Station Yuma, Yuma, Arizona	TEC, Inc.	TEC, Inc.
BMGRW-2011-001	Cultural Resources Survey of 10,000 Acres of Roads on the Barry M. Goldwater Range West for the Marine Corps Air Station, Yuma, Yuma County, Arizona	Hart and Hart	EnviroSystems Management, Inc.
BMGRW-2012-001	A Cultural Resource Survey of 22,865 Acres on the Barry M. Goldwater Range-West, Marine Corps Air Station, Yuma	Neuzil	EcoPlan Associates, Inc.
BMGRW-2013-001	Cultural Resources Survey for a Renewable Energy Project for Marine Corps Air Station Yuma	Jones	Cardno TEC
BMGRW-2013-002	Archaeological Survey Report of Negative Findings for the Laser Spot Video Recording System on the Barry M. Goldwater Range West	James	MCAS Yuma
BMGRW-2014-001	Archaeological Survey Report of Negative Findings for the Range One Expansion on the Barry M. Goldwater Range West	James	MCAS Yuma
BMGRW-2015-001	Archaeological Survey of 21,941 Acres on the Barry M. Goldwater Range West, Marine Corps Air Station, Yuma, Arizona	Keur, Homburg, Hall, and Wegener	Statistical Research, Inc.

MCAS Yuma Report Number	Title	Author	Contractor
BMGRW-2015-002	Archaeological Survey Report of Negative Findings for a Proposed Earthquake Early Warning Sensor on the Barry M. Goldwater Range West	James	MCAS Yuma
BMGRW-2016-001	An Archaeological Survey of 6,289 Acres on the Barry M. Goldwater Range West, Yuma County Arizona	Laine and Seymour, editors	Far Western/AMEC
BMGRW-2016-002	Archaeological Survey of 26,172 Acres on the Barry M. Goldwater Range West, Marine Corps Air Station Yuma, Arizona	Hlatky, Windingstad, Knighton-Wisor, Keur, and Wegener	Statistical Research, Inc.
BMGRW-2016-003	Letter Report for National Public Lands Day Restoration and Improvements Along the Historic El Camino Del Diablo within the Barry M. Goldwater Range West	James	MCAS Yuma
BMGRW-2018-001	Archaeological Survey of 7,143 Acres on the Barry M. Goldwater Range West, Yuma County, Arizona	Knighton-Wisor, Windingstad, and Wegener	SRI
BMGRW-2019-001	Class III Inventory of 80.55 acres for the Barry M. Goldwater Range Border Barrier System Geotechnical Investigations, Yuma County, Arizona	Winslow and Andrews	ASM Affiliates
BMGRW-2019-002	Letter Report on CBP Damage to Lithic Site on the BMGRW	James	MCAS Yuma
BMGRW-2019-003	Archaeological Survey Report of Negative Findings for the Reopening of a Road on the Barry M. Goldwater Range West	James	MCAS Yuma

Source: MCAS Yuma Cultural Resources Management database, dated May 2019

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**Recorded Cultural Resource Sites**

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MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0001	AZ X:12:1(ASM)	Undetermined	Ezell 1949	Johnson 1992	Prehistoric artifact scatter, bedrock milling, pictographs
BMGRW-0002	SON C:1:15(ASM)	Listed	Unknown 1961	-	Camino del Diablo
BMGRW-0003	AZ X:12:2(ASM)	Eligible	Carr and Ayres 1971, Hedges 1976	Foster 2006, Hart and Hart 2011	Tinajas Altas- bedrock milling, artifacts, rock art, trails, rock ring, and historical graffiti, foundations
BMGRW-0004	AZ X:8:9(ASM)	Undetermined	Van Devender 1973	-	Rock shelter, ceramic vessel containing a seed cache
BMGRW-0005	-	-	-	-	Not Assigned
BMGRW-0006	AZ Y:6:7(ASM)	Eligible	Doelle 1982	-	Ground stone, flaked stone
BMGRW-0007	AZ Y:6:10(ASM)	Eligible	Doelle 1982	-	Pits, hearths, rock clusters, cleared areas, rock alignment, flaked stone, ground stone, ceramics
BMGRW-0008	AZ Y:6:12(ASM)	Undetermined	Doelle 1982	-	Ash features, ceramics, ground stone, flaked stone, bone
BMGRW-0009	AZ Y:6:13(ASM)	Undetermined	Doelle 1982	-	Cleared circle, ash feature, ground stone, flaked stone, ceramics
BMGRW-0010	AZ Y:6:14(ASM)	Undetermined	Doelle 1982	-	Ground stone, ceramics, bone, charcoal
BMGRW-0011	AZ Y:6:15(ASM)	Not Eligible	Doelle 1982	Bruder et al. 1996	Cleared circles, rock clusters, ceramics, ground stone, possible trail
BMGRW-0012	AZ Y:6:16(ASM)	Undetermined	Doelle 1982	-	Pits, ground stone, flaked stone, ceramics, bone
BMGRW-0013	AZ Y:6:18(ASM)	Undetermined	Doelle 1982	-	Rock rings, pit, ash feature, lithics, ceramics
BMGRW-0014	AZ Y:6:19(ASM)	Undetermined	Doelle 1982	-	Historical campsite
BMGRW-0015	AZ Y:6:9(ASM)	Undetermined	Doelle 1982	-	Rock rings, ground stone, chipped stone, ceramics, shell
BMGRW-0016	AZ Y:6:17(ASM)	Undetermined	Doelle 1982	-	Rock rings, rock cluster, ground stone, flaked stone, ceramics
BMGRW-0017	AZ X:12:3(ASM)	Not Eligible	Doelle 1982	Barr and Griset 2010	Lithic, ground stone, ceramic
BMGRW-0018	AZ X:12:4(ASM)	Not Eligible	Doelle 1982	Hlatky et al. 2016	Prehistoric artifact scatters
BMGRW-0019	AZ X:8:14(ASM)	Undetermined	Bowen 1982	-	Lithic quarry, lithic scatter, trail

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0020	AZ Y:5:5(ASM)	Not Eligible	Doelle 1982	Bruder et al. 1996, Barr and Grisct 2010	Prehistoric cleared circles, rock piles, surface artifacts
BMGRW-0021	AZ Y:6:22(ASM)	Not Eligible	Christensen 1986	Hart and Hart 2011	Trail
BMGRW-0022	AZ Y:6:27(ASM)	Undetermined	Christensen 1986	-	Historical campsite
BMGRW-0023	AZ X:12:48(ASM)	Eligible	Broyles and Roberson 1987	Hlatky et al. 2016	Tinajas, trail segment, bedrock milling, pictographs
BMGRW-0024	AZ X:12:49(ASM)	Eligible	Broyles and Roberson 1987	Hlatky et al. 2016	Bedrock milling, rock shelters, and tinajas
BMGRW-0025	AZ X:7:46(ASM)	Undetermined	Broyles 1987	-	Series of tinajas, bedrock milling, ceramics, petroglyphs, historical graffiti, trails
BMGRW-0026	AZ X:8:91(ASM)	Undetermined	Broyles and Roberson 1987	-	Ephemeral tinaja with bedrock milling
BMGRW-0027	AZ X:12:5(ASM)	Not Eligible	Bruder et al. 1988	-	Prehistoric ceramic and lithic scatter
BMGRW-0028	AZ X:12:6(ASM)	Undetermined	Bruder et al. 1988	-	Rock ring, artifact scatter
BMGRW-0029	AZ X:8:15(ASM)	Not Eligible	Bruder et al. 1988	Dosh 2008 - Wellton	Wood foundations, rock alignments, possible latrine, historical trash dump
BMGRW-0030	AZ X:8:16(ASM)	Not Eligible	Bruder et al. 1988	-	Rock cairns, cleared circle, historical trash dump
BMGRW-0031	AZ X:8:17(ASM)	Not Eligible	Bruder et al. 1988	Barr and Grisct 2010	Historical structural remains
BMGRW-0032	AZ X:8:18(ASM)	Undetermined	Bruder et al. 1988	Dosh 2008 - Wellton, Barr and Grisct 2010	Cleared circles
BMGRW-0033	AZ X:8:92(ASM)	Undetermined	Broyles 1988	Johnson 1996	Prehistoric trail, hearth, clearing, artifact scatter
BMGRW-0034	AZ Y:5:6(ASM)	Not Eligible	Bruder et al. 1988	-	Historical tent platform, trash deposits, three pits, associated artifacts
BMGRW-0035	AZ Y:5:7(ASM)	Not Eligible	Bruder et al. 1988	-	Historical trash dump
BMGRW-0036	AZ X:12:50(ASM)	Eligible	Broyles 1988	Hart and Hart 2011	Trail segments, shell fragments, ceramics, flakes, cores, rock ring

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0037	AZ 050-2087	Undetermined	Altschul and Jones 1989	-	Lithic scatter
BMGRW-0038	AZ X:12:10(ASM)	Undetermined	Altschul and Jones 1989	-	Single pot break and ground stone scatter
BMGRW-0039	AZ X:12:11(ASM)	Undetermined	Altschul and Jones 1989	-	Chipping stations
BMGRW-0040	AZ X:12:12(ASM)	Undetermined	Altschul and Jones 1989	-	Rock ring
BMGRW-0041	AZ X:12:13(ASM)	Undetermined	Altschul and Jones 1989	-	Rock rings, lithic scatter
BMGRW-0042	AZ X:12:14(ASM)	Undetermined	Altschul and Jones 1989	-	Rock circle
BMGRW-0043	AZ X:12:15(ASM)	Undetermined	Altschul and Jones 1989	-	Rockshelter with cache of palo verde branches
BMGRW-0044	AZ X:12:16(ASM)	Undetermined	Altschul and Jones 1989	Hartmann and Thurtle, ed. 2000	Rockshelters, lithics, ceramics, trail segment, historical rockshelter, kiln, retaining wall, trash scatter
BMGRW-0045	AZ X:12:17(ASM)	Undetermined	Altschul and Jones 1989	-	Small rockshelter with cached ocotillo branches
BMGRW-0046	AZ X:12:18(ASM)	Eligible	Altschul and Jones 1989	Hart and Hart 2011	Partially buried lithic and ceramic
BMGRW-0047	AZ X:12:19(ASM)	Not Eligible	Altschul and Jones 1989	Hart and Hart 2011	Rock cairns (one with intact tobacco tin containing papers)
BMGRW-0048	AZ X:12:7(ASM)	Not Eligible	Altschul and Jones 1989	Bruder et al. 1996	Ceramic scatter
BMGRW-0049	AZ X:12:8(ASM)	Undetermined	Altschul and Jones 1989	-	FAR, one associated flake, sherds
BMGRW-0050	AZ X:12:9(ASM)	Undetermined	Altschul and Jones 1989	-	Pit
BMGRW-0051	AZ X:8:19(ASM)	Undetermined	Altschul and Jones 1989	-	Cleared circle, lithic scatters
BMGRW-0052	AZ X:8:20(ASM)	Undetermined	Altschul and Jones 1989	-	Trail segment, lithic scatters
BMGRW-0053	AZ X:8:21(ASM)	Undetermined	Altschul and Jones 1989	-	Rockshelter with associated artifacts

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0054	AZ X:8:22(ASM)	Undetermined	Altschul and Jones 1989	-	Rockshelter with associated artifacts
BMGRW-0055	AZ X:8:23(ASM)	Undetermined	Altschul and Jones 1989	-	Small cave with cairn and rock wall
BMGRW-0056	AZ X:8:24(ASM)	Undetermined	Altschul and Jones 1989	-	Rock-lined cleared circle, ceramics
BMGRW-0057	AZ X:8:25(ASM)	Undetermined	Altschul and Jones 1989	Bruder et al. 1996	Rock alignment (possibly modern)
BMGRW-0058	AZ X:8:26(ASM)	Undetermined	Altschul and Jones 1989	-	Cairn with intact mining claim
BMGRW-0059	AZ X:8:27(ASM)	Undetermined	Altschul and Jones 1989	-	Rock-lined circle
BMGRW-0060	AZ X:8:28(ASM)	Undetermined	Altschul and Jones 1989	-	Rock-lined circle, possible shrine, two bedrock tanks
BMGRW-0061	AZ X:8:29(ASM)	Undetermined	Altschul and Jones 1989	-	Lithic scatters
BMGRW-0062	AZ Y:5:11(ASM)	Not Eligible	Altschul and Jones 1989	Bruder et al. 1996	Rock alignment
BMGRW-0063	AZ Y:5:12(ASM)	Not Eligible	Altschul and Jones 1989	Bruder et al. 1996	Historical mine (Owl Mine)
BMGRW-0064	AZ Y:5:13(ASM)	Not Eligible	Altschul and Jones 1989	Bruder et al. 1996	Cleared circles
BMGRW-0065	AZ Y:5:16(ASM)	Undetermined	Altschul and Jones 1989	Bruder et al. 1996	Cairn
BMGRW-0066	AZ Y:5:17(ASM)	Not Eligible	Altschul and Jones 1989	Barr and Griset 2010	Rock-lined cleared area, rock circle, trail segment, pot break, two depressions
BMGRW-0067	AZ Y:5:20(ASM)	Undetermined	Altschul and Jones 1989	-	Prehistoric artifact scatter, historical can scatter
BMGRW-0068	AZ Y:5:21(ASM)	Undetermined	Altschul and Jones 1989	-	Cleared circle
BMGRW-0069	AZ Y:5:22(ASM)	Undetermined	Altschul and Jones 1989	-	Rock cairn (mining claim marker)
BMGRW-0070	AZ Y:5:23(ASM)	Undetermined	Altschul and Jones 1989	-	Rock-lined circles, pot break, one flake

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0071	AZ Y:5:24(ASM)	Undetermined	Altschul and Jones 1989	-	Cleared circle with associated rock berm
BMGRW-0072	AZ Y:5:25(ASM)	Undetermined	Altschul and Jones 1989	-	Rock-lined ring, ground stone
BMGRW-0073	AZ Y:5:8(ASM)	Not Eligible	Altschul and Jones 1989	Bruder et al. 1996	Lithic scatter, trail, rockshelters
BMGRW-0074	AZ X:12:51(ASM)	Undetermined	Broyles and Roberson 1987	-	Trail
BMGRW-0075	AZ X:6:14(ASM)	Eligible	McQuestion et al. 1992	Walsh 2004	Lithic procurement and reduction
BMGRW-0076	AZ 050-2587	Undetermined	Johnson 1993	Barr and Grisct 2010	Alignment of 14 rock cairns
BMGRW-0077	AZ 050-2588	Not Eligible	Johnson 1993	Barr and Grisct 2010	Rock piles
BMGRW-0078	AZ Y:9:2(ASM)	Eligible	Woodall et al. 1993	-	Historical and prehistoric artifact scatter
BMGRW-0079	AZ X:6:72(ASM)	Not Eligible	Bruder et al. 1996	Hart and Hart 2011	WWII airfield, historical trash (AUX-2)
BMGRW-0080	AZ Y:5:10(ASM)	Eligible	Bruder et al. 1996	Hart and Hart 2011	Intaglio with associated trails
BMGRW-0081	AZ Y:5:14(ASM)	Not Eligible	Bruder et al. 1996	Hart and Hart 2011	Prehistoric artifact scatter
BMGRW-0082	AZ Y:5:15(ASM)	Not Eligible	Bruder et al. 1996	Hart and Hart 2011, Barr and Grisct 2010	Prehistoric ceramic, ground stone, shell artifacts
BMGRW-0083	AZ Y:5:18(ASM)	Not Eligible	Bruder et al. 1996	Barr and Grisct 2010	Cleared circles
BMGRW-0084	AZ Y:5:19(ASM)	Not Eligible	Bruder et al. 1996	Barr and Grisct 2010	Rock alignments (possibly modern)
BMGRW-0085	AZ Y:5:9(ASM)	Not Eligible	Bruder et al. 1996	Hart and Hart 2011	Linear arrangement of rock piles
BMGRW-0086	AZ X:6:80(ASM)	Not Eligible	Lite 1997	-	Lithic and ceramic scatter

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0087	AZ X:6:81(ASM)	Undetermined	Lite 1997	Jones 2013, Hart and Hart 2011	WWII-era gunnery range, roads and ammunition dumps
BMGRW-0088	AZ Y:5:26(ASM)	Not Eligible	Bruder et al. 1996	Dosh 2008 - Mohawk	Rock alignments (possibly modern)
BMGRW-0089	AZ Y:5:27(ASM)	Not Eligible	Apple 1996	York et al. 1997	Prehistoric trail segment, lithic scatter
BMGRW-0090	AZ Y:5:28(ASM)	Not Eligible	Apple 1996	York et al. 1997	Cleared circles, lithic scatter
BMGRW-0091	AZ Y:5:29(ASM)	Undetermined	Apple 1996	-	Lithic scatters
BMGRW-0092	AZ Y:5:30(ASM)	Undetermined	Apple 1996	-	Prehistoric ceramic scatter, metate fragment
BMGRW-0093	AZ Y:5:31(ASM)	Not Eligible	Apple 1996	York et al. 1997	Prehistoric artifact scatters
BMGRW-0094	AZ Y:5:32(ASM)	Not Eligible	Apple 1996	York et al. 1997	Prehistoric temporary camp, historical road and trash scatter
BMGRW-0095	AZ Y:5:33(ASM)	Not Eligible	Apple 1996	York et al. 1997	Lithic scatter, ground stone and features
BMGRW-0096	AZ Y:5:34(ASM)	Undetermined	Apple 1996	-	Lithic scatter
BMGRW-0097	AZ Y:5:35(ASM)	Not Eligible	Apple 1996	Hart and Hart 2011	Lithic scatters
BMGRW-0098	AZ Y:9:4(ASM)	Undetermined	Apple 1996	-	Prehistoric temporary camp
BMGRW-0099	AZ 050-1662	Undetermined	Johnson 1998	-	Pictographs
BMGRW-0100	AZ X:12:52(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock circle
BMGRW-0101	AZ X:12:53(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Bedrock milling, rock cairn, trails, and prehistoric artifacts
BMGRW-0102	AZ X:12:54(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock circle, trail
BMGRW-0103	AZ X:12:55(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Prehistoric artifact scatter within a tafoni, associated rock wall
BMGRW-0104	AZ X:12:56(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Historical mine adit, associated features

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BMGRW-0105	AZ X:12:57(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock features, ceramics, artifact scatter
BMGRW-0106	AZ X:12:58(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	Hart and Hart 2011	Trail segment, ceramics and historical artifacts
BMGRW-0107	AZ X:12:59(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock cluster
BMGRW-0108	AZ X:12:60(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock circles
BMGRW-0109	AZ X:12:61(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	Hart and Hart 2011	Trail segments, rock circles, rock clusters, ceramic scatters
BMGRW-0110	AZ X:12:62(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock features, trail segment, bedrock milling, prehistoric and historical artifact scatters
BMGRW-0111	AZ X:12:63(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Bedrock milling, rock cairn, ceramic scatter and one lithic artifact
BMGRW-0112	AZ X:12:64(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock rings
BMGRW-0113	AZ X:12:65(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock cluster, rock circle, and prehistoric and historical artifact scatter
BMGRW-0114	AZ X:12:66(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock circles
BMGRW-0115	AZ X:12:67(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	Hart and Hart 2011	Trail segment, historical and prehistoric artifacts
BMGRW-0116	AZ X:12:68(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Mining features, historical artifacts
BMGRW-0117	AZ X:12:69(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Prehistoric ceramic scatter, historical feature and artifacts
BMGRW-0118	AZ X:12:70(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock alignment, cairn, fire ring, historical and prehistoric artifacts
BMGRW-0119	AZ X:12:71(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Ceramic scatter, rock feature
BMGRW-0120	AZ X:12:72(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock features, trail segment, artifact scatters
BMGRW-0121	AZ X:12:73(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Trail segments, boulder pile, historical and prehistoric artifact scatters

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0122	AZ X:12:74(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock circle, rock cluster, artifacts
BMGRW-0123	AZ X:12:75(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Ceramic and shell scatter
BMGRW-0124	AZ X:12:76(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock ring
BMGRW-0125	AZ X:12:77(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Rock feature, lithic artifact
BMGRW-0126	AZ X:12:78(ASM)	Undetermined	Hartmann and Thurtle, ed. 2000	-	Prehistoric artifact scatter
BMGRW-0127	AZ X:7:119(ASM)	Undetermined	Schaefer et al. 2004	-	Lithic scatter, road, historical trash scatter
BMGRW-0128	AZ X:7:120(ASM)	Eligible	Schaefer et al. 2004	Hart and Hart 2011	Water pipeline segment, roads, trail segments, ceramic scatter
BMGRW-0129	AZ X:7:121(ASM)	Undetermined	Schaefer et al. 2004	-	Prehistoric trail segment, artifacts
BMGRW-0130	AZ X:7:122(ASM)	Not Eligible	Schaefer et al. 2004	-	Mining features, historical artifacts
BMGRW-0131	AZ X:7:123(ASM)	Not Eligible	Schaefer et al. 2004	Hart and Hart 2011	Lithic scatter, quarry
BMGRW-0132	AZ X:7:124(ASM)	Not Eligible	Schaefer et al. 2004	-	Lithic scatter
BMGRW-0133	AZ X:7:125(ASM)	Not Eligible	Schaefer et al. 2004	-	Lithic scatter, quartzite and chert quarry
BMGRW-0134	AZ X:7:126(ASM)	Eligible	Schaefer et al. 2004	Laine and Seymour, ed. 2016	Trail, historical and prehistoric artifacts
BMGRW-0135	AZ X:7:127(ASM)	Not Eligible	Schaefer et al. 2004	-	Trail, historical and prehistoric artifacts
BMGRW-0136	AZ X:7:128(ASM)	Not Eligible	Schaefer et al. 2004	-	Historical trail, cairn, quartz shatter
BMGRW-0137	AZ X:7:129(ASM)	Not Eligible	Schaefer et al. 2004	-	Trail segment, historical artifacts
BMGRW-0138	AZ X:7:130(ASM)	Not Eligible	Schaefer et al. 2004	-	Prospecting pits, milled wood
BMGRW-0139	AZ X:7:131(ASM)	Not Eligible	Schaefer et al. 2004	-	Prospect pit, rock cluster
BMGRW-0140	AZ X:7:132(ASM)	Not Eligible	Schaefer et al. 2004	-	Prospect pit, cairns, trail segment
BMGRW-0141	AZ X:7:133(ASM)	Not Eligible	Schaefer et al. 2004	-	Quartz prospects
BMGRW-0142	AZ X:7:134(ASM)	Not Eligible	Schaefer et al. 2004	-	Lithic scatter
BMGRW-0143	AZ X:7:135(ASM)	Not Eligible	Schaefer et al. 2004	-	Lithic scatter, historical bottle and glass fragments
BMGRW-0144	5360-3	Undetermined	Schaefer et al. 2004	Hart and Hart 2011	Historical trash scatter



MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0145	5360-15	Undetermined	Schaefer et al. 2004	-	Lithic scatter
BMGRW-0146	AZ X:10:18(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 199
BMGRW-0147	AZ X:10:19(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 200
BMGRW-0148	AZ X:10:20(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 201
BMGRW-0149	AZ X:11:1(ASM)	Not Eligible	Hart et al. 2005	-	Historical adobe foundation, artifact scatter
BMGRW-0150	AZ X:11:2(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 196
BMGRW-0151	AZ X:11:3(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 197
BMGRW-0152	AZ X:11:4(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 198
BMGRW-0153	AZ X:12:80(ASM)	Not Eligible	Hart et al. 2005	-	Historical scatter of cans and glass
BMGRW-0154	AZ X:12:81(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 193
BMGRW-0155	AZ X:12:82(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 194
BMGRW-0156	AZ X:12:83(ASM)	Eligible	Hart et al. 2005	-	International Boundary Monument 195
BMGRW-0157	AZ 050-3127	Undetermined	Unknown 2006	Hart and Hart 2011	Geoglyph (possibly recent), trail segment, rock alignment, metate fragment
BMGRW-0158	AZ X:12:85(ASM)	Eligible	Hart 2006	-	Historical mine, associated features
BMGRW-0159	AZ X:12:86(ASM)	Eligible	Hart 2006	-	Historical mining camp, associated features
BMGRW-0160	AZ X:12:87(ASM)	Not Eligible	Hart 2006	-	Historical mining camp, associated features
BMGRW-0161	AZ X:12:88(ASM)	Not Eligible	Hart 2006	-	Historical mine, mining camp, associated features
BMGRW-0162	AZ X:12:89(ASM)	Not Eligible	Hart 2006	-	Historical camp, associated features
BMGRW-0163	AZ X:12:90(ASM)	Not Eligible	Hart 2006	-	Historical mine, mining camp, associated features
BMGRW-0164	AZ X:8:109(ASM)	Not Eligible	Hart 2006	-	Historical trash scatter
BMGRW-0165	AZ Y:5:38(ASM)	Eligible	Hart 2006	-	Historical camp, associated features (Betty Lee Tank)
BMGRW-0166	AZ Y:5:39(ASM)	Eligible	Hart 2006	-	Historical mine, mining camp, associated features (Betty Lee Mine)
BMGRW-0167	AZ Y:5:40(ASM)	Not Eligible	Hart 2006	-	Historical artifact scatter
BMGRW-0168	AZ Y:5:41(ASM)	Not Eligible	Hart 2006	-	Prehistoric camp
BMGRW-0169	AZ Y:5:42(ASM)	Not Eligible	Hart 2006	-	Prehistoric camp
BMGRW-0170	AZ Y:9:8(ASM)	Not Eligible	Hart 2006	-	Historical mine, mining camp, associated features

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BMGRW-0171	AZ Y:9:9(ASM)	Not Eligible	Hart 2006	-	Historical mine, mining camp, associated features
BMGRW-0172	AZ X:7:162(ASM)	Eligible	Schaefer et al. 2007	-	Fortuna Mine
BMGRW-0173	AZ X:7:163(ASM)	Eligible	Schaefer et al. 2007	-	Fortuna Mine Southwest
BMGRW-0174	AZ X:7:164(ASM)	Eligible	Schaefer et al. 2007	-	Road near Fortuna Mine
BMGRW-0175	AZ X:12:91(ASM)	Eligible	Dosh 2008a	-	Prehistoric artifact scatter
BMGRW-0176	AZ X:12:92(ASM)	Eligible	Dosh 2008a	-	Prehistoric ceramic scatter
BMGRW-0177	AZ X:7:188(ASM)	Not Eligible	Dosh 2008a	-	Historical camp, trash scatter
BMGRW-0178	AZ X:7:189(ASM)	Not Eligible	Dosh 2008a	-	Historical camp, trash scatter
BMGRW-0179	AZ X:7:190(ASM)	Not Eligible	Dosh 2008a	-	Historical trash scatter
BMGRW-0180	AZ X:7:191(ASM)	Undetermined	Dosh 2008a	-	Prehistoric rock ring
BMGRW-0181	AZ X:7:192(ASM)	Eligible	Dosh 2008a	Laine and Seymour, ed. 2016	Prehistoric trail, rock ring, artifacts
BMGRW-0182	AZ X:8:108(ASM)	Eligible	Dosh 2008a	-	Historical mine, trash scatter (Poorman Mine)
BMGRW-0183	AZ X:8:131(ASM)	Not Eligible	Dosh 2008a	-	Mine and camp
BMGRW-0184	AZ X:8:132(ASM)	Not Eligible	Dosh 2008a	-	Historical campsite
BMGRW-0185	AZ X:8:133(ASM)	Not Eligible	Dosh 2008a	-	Historical rock alignment
BMGRW-0186	AZ X:8:134(ASM)	Not Eligible	Dosh 2008a	-	Prehistoric sleeping circles
BMGRW-0187	AZ X:8:135(ASM)	Not Eligible	Dosh 2008a	-	Prehistoric sleeping circles
BMGRW-0188	AZ X:8:136(ASM)	Not Eligible	Dosh 2008a	-	Prehistoric sleeping circles
BMGRW-0189	AZ X:8:137(ASM)	Not Eligible	Dosh 2008a	-	Prehistoric sleeping circles
BMGRW-0190	AZ X:8:138(ASM)	Not Eligible	Dosh 2008a	-	Historical trash scatter
BMGRW-0191	AZ X:8:139(ASM)	Not Eligible	Dosh 2008a	-	Historical concrete structure, trash scatter
BMGRW-0192	AZ X:8:140(ASM)	Eligible	Dosh 2008a	-	Prehistoric trail shrines
BMGRW-0193	AZ X:8:141(ASM)	Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0194	AZ X:8:142(ASM)	Not Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0195	AZ X:8:143(ASM)	Not Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0196	AZ X:8:144(ASM)	Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0197	AZ X:8:145(ASM)	Not Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0198	AZ X:8:146(ASM)	Not Eligible	Dosh 2008a	-	Historical mining prospect, trash scatter
BMGRW-0199	AZ X:8:147(ASM)	Eligible	Dosh 2008a	-	Historical mine, trash scatter
BMGRW-0200	AZ X:8:148(ASM)	Not Eligible	Dosh 2008a	-	Historical trash scatter

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BMGRW-0201	AZ X:8:149(ASM)	Not Eligible	Dosh 2008a	-	Historical trash scatter
BMGRW-0202	AZ X:8:150(ASM)	Not Eligible	Dosh 2008b	-	Historical trash scatter
BMGRW-0203	AZ Y:5:50(ASM)	Not Eligible	Dosh 2008b	-	Historical trash dump
BMGRW-0204	AZ Y:5:51(ASM)	Not Eligible	Dosh 2008b	-	Historical trash dump
BMGRW-0205	AZ Y:6:87(ASM)	Not Eligible	Dosh 2008b	-	Historical trash scatter and roadway
BMGRW-0206	AZ Y:6:88(ASM)	Not Eligible	Dosh 2008b	-	Mining camp, masonry structure, fire rings, foot trail, can dumps, artifacts
BMGRW-0207	AZ Y:9:10(ASM)	Eligible	Dosh 2008b	-	Ceramics
BMGRW-0208	AZ X:8:151(ASM)	Not Eligible	Foster and Drennan 2009	-	Prehistoric lithic scatter
BMGRW-0209	AZ X:12:118(ASM)	Eligible	Barr and Griset 2010	-	Prehistoric ceramics, ground stone, flaked stone tools
BMGRW-0210	AZ X:12:93(ASM)	Not Eligible	Schaefer and Andrews 2010	-	Historical debris
BMGRW-0211	AZ X:12:94(ASM)	Not Eligible	Schaefer and Andrews 2010	-	Historical debris
BMGRW-0212	-	-	-	-	Not Assigned
BMGRW-0213	-	-	-	-	Not Assigned
BMGRW-0214	AZ X:8:156(ASM)	Not Eligible	Barr and Griset 2010	-	Rock alignments, sleeping circle
BMGRW-0215	AZ Y:5:53(ASM)	Not Eligible	Schaefer and Andrews 2010	-	Prehistoric ceramic scatter
BMGRW-0216	AZ Y:5:54(ASM)	Not Eligible	Schaefer and Andrews 2010	-	Prehistoric ceramic scatter
BMGRW-0217	AZ Y:5:55(ASM)	Not Eligible	Schaefer and Andrews 2010	-	Historical can and bottle dump
BMGRW-0218	AZ Y:9:11(ASM)	Undetermined	Schaefer and Andrews 2010	-	Sparse artifact scatter
BMGRW-0219	AZ Y:5:57(ASM)	Not Eligible	Barr and Griset 2010	-	Circle of rocks and a single sherd
BMGRW-0220	AZ Y:5:58(ASM)	Not Eligible	Barr and Griset 2010	-	Sleeping circles
BMGRW-0221	AZ Y:5:59(ASM)	Eligible	Barr and Griset 2010	-	Ceramic scatter
BMGRW-0222	AZ X:11:21(ASM)	Eligible	Hart and Hart 2011	Laine and Seymour, ed. 2016	Prehistoric artifact scatter (lithics, ceramics, and shell)
BMGRW-0223	AZ X:11:22(ASM)	Eligible	Hart and Hart 2011	-	Thermal features, artifact scatter

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BMGRW-0224	AZ X:12:119(ASM)	Eligible	Hart and Hart 2011	-	Prehistoric trail segments, artifact scatter
BMGRW-0225	AZ X:12:120(ASM)	Eligible	Hart and Hart 2011	Laine and Seymour, ed. 2016	Trail segments, rock features, possible roasting feature, prehistoric and historical artifacts
BMGRW-0226	AZ X:12:121(ASM)	Eligible	Hart and Hart 2011	-	Ceramic scatter
BMGRW-0227	AZ X:12:122(ASM)	Not Eligible	Hart and Hart 2011	-	Rock rings, sherd
BMGRW-0228	AZ X:7:215(ASM)	Not Eligible	Hart and Hart 2011	-	Can scatter
BMGRW-0229	AZ X:7:216(ASM)	Eligible	Hart and Hart 2011	-	Prehistoric artifact scatter - mostly ceramics
BMGRW-0230	AZ X:7:217(ASM)	Not Eligible	Hart and Hart 2011	-	Lithic procurement and reduction
BMGRW-0231	AZ X:7:218(ASM)	Not Eligible	Hart and Hart 2011	-	Lithic reduction
BMGRW-0232	AZ Y:10:17(ASM)	Not Eligible	Hart and Hart 2011	-	Mine shaft, prospects, can dump, rock pile, three-walled rock structure
BMGRW-0233	AZ Y:5:60(ASM)	Eligible	Hart and Hart 2011	-	Prehistoric trails, sherds, historical mining features, collapsed cabin
BMGRW-0234	AZ Y:5:61(ASM)	Not Eligible	Hart and Hart 2011	-	Dry well with remains of habitation structure and artifact scatter
BMGRW-0235	AZ Y:5:62(ASM)	Not Eligible	Hart and Hart 2011	-	Tent platform, historical artifacts
BMGRW-0236	AZ Y:5:63(ASM)	Not Eligible	Hart and Hart 2011	-	Collapsed corral, artifact scatter
BMGRW-0237	AZ Y:6:89(ASM)	Undetermined	Hart and Hart 2011	-	Prehistoric trail segment, cleared circles
BMGRW-0238	AZ Y:6:90(ASM)	Not Eligible	Hart and Hart 2011	-	Cleared circles
BMGRW-0239	AZ Y:6:91(ASM)	Eligible	Hart and Hart 2011	-	Mine, mining camp
BMGRW-0240	AZ Y:6:92(ASM)	Not Eligible	Hart and Hart 2011	-	Cleared circles
BMGRW-0241	AZ Y:6:93(ASM)	Not Eligible	Hart and Hart 2011	-	Multi-component artifact scatter of cans, milled lumber, and flaked stone
BMGRW-0242	AZ X:11:23(ASM)	Not Eligible	Neuzil 2012	-	Rock wall features
BMGRW-0243	AZ X:11:24(ASM)	Eligible	Neuzil 2012	-	Ceramic scatter with associated rock shelter
BMGRW-0244	AZ X:11:25(ASM)	Not Eligible	Neuzil 2012	-	Flaked stone scatter
BMGRW-0245	AZ X:11:26(ASM)	Not Eligible	Neuzil 2012	-	Flaked stone scatter, rock cluster
BMGRW-0246	AZ X:11:27(ASM)	Eligible	Neuzil 2012	-	Flaked stone quarry, rock cluster
BMGRW-0247	AZ X:8:158(ASM)	Eligible	Neuzil 2012	-	Prehistoric artifact scatter
BMGRW-0248	AZ X:8:159(ASM)	Undetermined	Neuzil 2012	-	Multiple rock enclosures
BMGRW-0249	AZ Y:6:4(ASM)	Undetermined	Doelle 1982	-	Trail, ceramics

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BMGRW-0250	AZ Y:13:7(ASM)	Not Eligible	Zyniecki et al. 2006	-	Historical scatter of cans and glass
BMGRW-0251	AZ X:6:124(ASM)	Undetermined	Jones 2013	-	Prehistoric ceramic and lithic scatter
BMGRW-0252	AZ X:6:125(ASM)	Not Eligible	Jones 2013	-	Historical trash scatter
BMGRW-0253	AZ X:6:126(ASM)	Not Eligible	Jones 2013	-	Historical trash dump
BMGRW-0254	AZ X:6:127(ASM)	Not Eligible	Jones 2013	-	Historical trash dump
BMGRW-0255	AZ X:6:128(ASM)	Not Eligible	Jones 2013	-	Historical trash scatter
BMGRW-0256	AZ X:6:129(ASM)	Not Eligible	Jones 2013	-	Historical trash dump
BMGRW-0257	AZ X:12:123(ASM)	Not Eligible	Keur et al. 2015	-	Historical artifact scatter
BMGRW-0258	AZ X:11:28(ASM)	Not Eligible	Keur et al. 2015	-	Historical trash scatter
BMGRW-0259	AZ X:11:29(ASM)	Not Eligible	Keur et al. 2015	-	Prehistoric artifact scatter
BMGRW-0260	AZ X:6:131(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical trash scatter
BMGRW-0261	AZ X:6:132(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric expedient lithic quarry
BMGRW-0262	AZ X:6:133(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical trash scatter
BMGRW-0263	AZ X:6:134(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric lithic scatter
BMGRW-0264	AZ X:7:228(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical rock feature
BMGRW-0265	AZ X:7:229(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical rock features
BMGRW-0266	AZ X:7:230(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0267	AZ X:7:231(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical rock features
BMGRW-0268	AZ X:7:232(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical rock feature
BMGRW-0269	AZ X:7:233(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0270	AZ X:7:234(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical habitation
BMGRW-0271	AZ X:7:235(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail

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BMGRW-0272	AZ X:7:236(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0273	AZ X:7:238(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0274	AZ X:7:239(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0275	AZ X:7:240(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0276	AZ X:7:241(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric trail and historical habitation
BMGRW-0277	AZ X:7:242(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0278	AZ X:7:243(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0279	AZ X:7:244(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0280	AZ X:7:245(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical trail
BMGRW-0281	AZ X:7:246(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0282	AZ X:7:247(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0283	AZ X:7:248(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0284	AZ X:7:249(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Historical habitation
BMGRW-0285	AZ X:7:250(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0286	AZ X:7:251(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0287	AZ X:7:252(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration
BMGRW-0288	AZ X:7:253(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration

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BMGRW-0289	AZ X:7:254(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric artifact scatter
BMGRW-0290	AZ X:7:255(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0291	AZ X:7:256(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Historical habitation
BMGRW-0292	AZ X:7:257(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Historical mining exploration and habitation
BMGRW-0293	AZ X:7:258(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0294	AZ X:7:259(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0295	AZ X:7:260(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0296	AZ X:7:269(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric lithic scatter
BMGRW-0297	AZ X:7:270(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical trail
BMGRW-0298	AZ X:7:271(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric lithic scatter
BMGRW-0299	AZ X:7:272(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric lithic scatter
BMGRW-0300	AZ X:7:273(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric sherd scatter and historical trash scatter
BMGRW-0301	AZ X:7:274(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical trash scatter
BMGRW-0302	AZ X:8:161(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Prehistoric habitation and historical trash scatter
BMGRW-0303	AZ X:8:162(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Prehistoric trail, artifact scatter
BMGRW-0304	AZ X:11:30(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical rock features
BMGRW-0305	AZ X:11:31(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Unknown-age rock features

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BMGRW-0306	AZ X:11:32(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Historical habitation
BMGRW-0307	AZ X:11:33(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric sherd scatter and historical habitation
BMGRW-0308	AZ X:12:125(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Prehistoric habitation
BMGRW-0309	AZ X:12:126(ASM)	Undetermined	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0310	AZ X:12:128(ASM)	Eligible	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0311	AZ Y:5:64(ASM)	Not Eligible	Laine and Seymour, ed. 2016	-	Prehistoric lithic scatter
BMGRW-0312	AZ Y:5:65(ASM)	Undetermined	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0313	AZ Y:5:66(ASM)	Undetermined	Laine and Seymour, ed. 2016	-	Unknown-age trail
BMGRW-0314	AZ Y:5:67(ASM)	Undetermined	Laine and Seymour, ed. 2016	-	Prehistoric trail
BMGRW-0315	AZ X:7:276(ASM)	Not Eligible	Hlatky et al. 2016	-	Historical mining
BMGRW-0316	AZ X:7:277(ASM)	Not Eligible	Hlatky et al. 2016	-	Historical rock ring, trash scatter
BMGRW-0317	AZ X:7:278(ASM)	Not Eligible	Hlatky et al. 2016	-	Historical trail
BMGRW-0318	AZ X:7:279(ASM)	Not Eligible	Hlatky et al. 2016	-	FAR concentrations
BMGRW-0319	AZ X:7:280(ASM)	Not Eligible	Hlatky et al. 2016	-	Rock concentration, lithic scatter
BMGRW-0320	AZ X:7:281(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0321	AZ X:7:282(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0322	AZ X:7:283(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0323	AZ X:7:284(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0324	AZ X:7:285(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0325	AZ X:7:286(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0326	AZ X:7:287(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0327	AZ X:7:288(ASM)	Not Eligible	Hlatky et al. 2016	-	FAR concentrations, lithics
BMGRW-0328	AZ X:7:289(ASM)	Not Eligible	Hlatky et al. 2016	-	FAR concentrations, lithics
BMGRW-0329	AZ X:7:290(ASM)	Not Eligible	Hlatky et al. 2016	-	Lithic scatter
BMGRW-0330	AZ X:7:292(ASM)	Eligible	Hlatky et al. 2016	-	Trail, ceramics



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BMGRW-0331	AZ X:7:293(ASM)	Eligible	Hlatky et al. 2016	-	Trails, ceramics
BMGRW-0332	AZ X:7:294(ASM)	Eligible	Hlatky et al. 2016	-	Trail, cleared circle
BMGRW-0333	AZ X:7:295(ASM)	Eligible	Hlatky et al. 2016	-	Trail
BMGRW-0334	AZ X:7:296(ASM)	Eligible	Hlatky et al. 2016	-	Trail, ceramics
BMGRW-0335	AZ X:11:34(ASM)	Eligible	Hlatky et al. 2016	-	Trails, rock pile, ceramics, flake
BMGRW-0336	AZ X:11:35(ASM)	Eligible	Hlatky et al. 2016	-	Trail
BMGRW-0337	AZ X:11:36(ASM)	Eligible	Hlatky et al. 2016	-	Trail, cleared circle
BMGRW-0338	AZ X:11:37(ASM)	Eligible	Hlatky et al. 2016	-	Trail
BMGRW-0339	AZ X:11:38(ASM)	Eligible	Hlatky et al. 2016	-	Trail
BMGRW-0340	AZ X:11:39(ASM)	Eligible	Hlatky et al. 2016	-	Trail
BMGRW-0341	AZ X:11:40(ASM)	Eligible	Hlatky et al. 2016	-	Whole olla, trail, ceramics, shell
BMGRW-0342	AZ X:11:41(ASM)	Eligible	Hlatky et al. 2016	-	Trail, rock alignment, ceramics
BMGRW-0343	AZ X:11:42(ASM)	Not Eligible	Hlatky et al. 2016	-	Rock ring, rock pile
BMGRW-0344	AZ X:11:43(ASM)	Eligible	Hlatky et al. 2016	-	Trail, cairn, ceramics, lithics
BMGRW-0345	AZ X:11:44(ASM)	Eligible	Hlatky et al. 2016	-	Trail, ceramics, lithics
BMGRW-0346	AZ X:11:45(ASM)	Eligible	Hlatky et al. 2016	-	Ceramics
BMGRW-0347	-	-	-	-	Not Assigned
BMGRW-0348	-	-	-	-	Not Assigned
BMGRW-0349	-	-	-	-	Not Assigned
BMGRW-0350	AZ X:12:129(ASM)	Eligible	Hlatky et al. 2016	-	Petroglyphs, ceramics, animal bone
BMGRW-0351	AZ X:12:130(ASM)	Eligible	Hlatky et al. 2016	-	Cairns, ceramics
BMGRW-0352	AZ X:12:131(ASM)	Eligible	Hlatky et al. 2016	-	Trail, cairn, ceramics, mano
BMGRW-0353	AZ X:12:132(ASM)	Eligible	Hlatky et al. 2016	-	Trail, ceramics, lithics
BMGRW-0354	AZ X:12:133(ASM)	Eligible	Hlatky et al. 2016	-	Trail, lithics
BMGRW-0355	AZ X:12:134(ASM)	Not Eligible	Hlatky et al. 2016	-	Ceramics, lithics
BMGRW-0356	AZ X:12:135(ASM)	Eligible	Hlatky et al. 2016	-	Trail, ceramics, lithics
BMGRW-0357	AZ X:12:136(ASM)	Not Eligible	Hlatky et al. 2016	-	Ceramics, lithics, burned bone
BMGRW-0358	AZ X:12:137(ASM)	Eligible	Hlatky et al. 2016	-	Ovate grinding features
BMGRW-0359	AZ X:12:138(ASM)	Eligible	Hlatky et al. 2016	-	Bedrock milling stations, ovate grinding features, ceramics
BMGRW-0360	Not Assigned	Undetermined	Not Assigned	-	Extensive trail, features, ceramics, lithics
BMGRW-0361	AZ X:7:302(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Rock ring, ceramics

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0362	AZ X:7:303(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0363	AZ X:7:304(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Survey marker, cairns
BMGRW-0364	AZ X:7:305(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Historical rock rings, tent bases, trail, artifact scatter
BMGRW-0365	AZ X:7:306(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0366	AZ X:7:307(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0367	AZ X:7:308(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, cairn, rock alignment, hammerstone
BMGRW-0368	AZ X:7:309(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical rock cluster, artifact scatter
BMGRW-0369	AZ X:7:310(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0370	AZ X:7:311(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0371	AZ X:7:312(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Multicomponent: prehistoric petroglyph, ceramics, lithics; historical inscription, artifact scatter; unknown rock alignment
BMGRW-0372	AZ X:7:313(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0373	AZ X:7:314(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0374	AZ X:7:315(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0375	AZ X:7:316(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Multicomponent: prehistoric ceramics, lithics; historical mining features, artifact scatter
BMGRW-0376	AZ X:7:317(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, cairn, rock cluster, lithics
BMGRW-0377	AZ X:7:318(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, cairns, rock ring, rock cluster, ceramics, flaked and ground stone

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0378	AZ X:7:319(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, ceramics, lithics
BMGRW-0379	AZ X:7:320(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail
BMGRW-0380	AZ X:7:321(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Rock ring, rock piles, clearings
BMGRW-0381	AZ X:7:322(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical tent pads, pits, rock piles, artifacts
BMGRW-0382	AZ X:7:323(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical cairns, artifacts
BMGRW-0383	AZ X:7:324(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Rock ring, rock alignments, ceramics, shell, flaked and ground stone
BMGRW-0384	AZ X:7:325(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical rock rings, rock alignments, clearings, rock-lined trails, rock cluster, rock pile, cans
BMGRW-0385	AZ X:7:326(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, lithics
BMGRW-0386	AZ X:7:327(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Multicomponent: prehistoric ceramics, flaked and ground stone; historical trash scatter; unknown rock alignment, rock pile
BMGRW-0387	AZ X:7:328(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Multicomponent: prehistoric ceramics, shell, flaked and ground stone; historical trail, cairns, pits, platform cistern, rock piles
BMGRW-0388	AZ X:7:329(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0389	AZ X:7:330(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical road
BMGRW-0390	AZ X:7:331(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, lithics
BMGRW-0391	AZ X:7:332(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Historical rock clusters, tent pads, rock piles, hearth, trash scatter
BMGRW-0392	AZ X:7:333(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Mining cairns

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0393	AZ X:7:334(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical mining
BMGRW-0394	AZ X:7:335(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock piles
BMGRW-0395	AZ X:7:336(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock pile
BMGRW-0396	AZ X:7:337(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, clearings, ceramics
BMGRW-0397	AZ X:7:338(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Rock pile, ceramics
BMGRW-0398	AZ X:7:339(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock ring, ceramics, shell
BMGRW-0399	AZ X:8:163(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock ring
BMGRW-0400	AZ X:8:164(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail
BMGRW-0401	AZ X:8:165(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical dump
BMGRW-0402	AZ X:8:166(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Historical campsite
BMGRW-0403	AZ X:8:167(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical campsite
BMGRW-0404	AZ X:8:168(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Cairns
BMGRW-0405	AZ X:8:169(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock pile, cairns, ceramics, lithics
BMGRW-0406	AZ X:8:170(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Historical mining
BMGRW-0407	AZ X:8:171(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Rock pile, bottle
BMGRW-0408	AZ X:8:172(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Historical mining
BMGRW-0409	AZ X:8:173(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, cairn

MCAS Yuma Site Number	ASM Site Number	NRHP Eligibility Determinations	Reference	Updated By	Description
BMGRW-0410	AZ X:8:174(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Rock piles, rock cluster
BMGRW-0411	AZ X:8:175(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Rock piles, lithics
BMGRW-0412	AZ X:8:176(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock alignment
BMGRW-0413	AZ X:8:177(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical dump
BMGRW-0414	AZ Y:5:70(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Intaglio, rock alignment
BMGRW-0415	AZ Y:5:71(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical dump
BMGRW-0416	AZ Y:5:72(ASM)	Not Eligible	Knighton-Wisor et al. 2019	-	Historical mining
BMGRW-0417	AZ Y:5:73(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Old Soak Mine
BMGRW-0418	AZ Y:5:74(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, ceramics
BMGRW-0419	AZ Y:5:75(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Trail, rock cluster, ceramics
BMGRW-0420	AZ Y:5:76(ASM)	Eligible	Knighton-Wisor et al. 2019	-	Rock shelter, ceramics, lithics

Source: MCAS Yuma Cultural Resources Management database, dated May 2019

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## **APPENDIX F**

### **Geospatial Data Documents**

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**F-1**  
**MCAS Yuma Specifications for Geospatial Data**

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**SPECIFICATIONS FOR GEOSPATIAL DATA:** The Contractor shall develop GIS feature classes to Government provided specification. Specifications for all required geospatial data deliverables may be found in the following sections.

**1.0 Database Files:** The Marine Corps standard computing software is Microsoft Office 2010. Databases shall be provided in file geodatabase format, unless specified otherwise, as approved by the Government. All text, spreadsheet, and database files, to include aerial photography, shall be delivered on a Compact Disk read-only memory (CD-ROM) or Digital Versatile Disc read-only memory (DVD-ROM). Drafts for review may be delivered via the Government AMRDEC SAFE (Safe Access File Exchange) system.

<https://safe.amrdec.army.mil/safe>

**2.0 Maps, Drawings, Sketches and Aerial Photography (Digital Geospatial Data):**

**2.1 Geospatial Data Software Format:** Geographic data (vector and raster) **must** be provided in a form that does **not** require translation, preprocessing, or post processing before being loaded to the Installation's centrally hosted geodatabase. The Contractor shall validate any deviation from this specification in writing with the Government (Department GIS Manager via the Project Manager).

**2.1.1 GIS (Feature Classes):** All feature classes shall be provided in file geodatabase format using ArcGIS 10.1 software. The geodatabase must be importable to a multi-user geodatabase using ArcSDE 10.1. The delivered feature classes shall be provided with x, y domain precision of 1000 (unless otherwise identified by the Installation). Feature classes shall be in the same projection and use the same coordinate system, datum, and units as stated below in the paragraph titled Geospatial Data Projection.

(NOTE: ArcGIS and ArcSDE are geographic information system software produced by the Environmental Systems Research Institute (ESRI) of Redlands, California. This software is used by the Marine Corps GEOFidelis Program)

**2.2 Geospatial Data Structure:**

**2.2.1 GIS (Feature Classes):** When developing/delivering geospatial data, the Contractor shall develop the initial structure consistent with the most current version of the GEOFidelis Data Model. The GEOFidelis Data Model shall be followed for geospatial database table structure, nomenclature, and attributes. The Contractor shall consult with the Government concerning modifications or additions to the GEOFidelis Data Model. The Government may approve modifications to the GEOFidelis Data Model if it is determined that the GEOFidelis Data Model does not adequately address subject datasets. If further modifications to structure are required as a result of this Scope, the Contractor will consult with the Government (IGI&S Manager) for direction and final approval. It should be noted that the Contractor may request the Government provide the Contractor with the correct feature class schema. The Government will provide this in the form of an empty geodatabase.

**2.2.1.1 Required Feature Classes:** The Contractor shall develop all required GEOFidelis SDSFIE 3.0 GIS feature classes to depict all changes to existing survey areas, site boundaries, and isolated occurrences, as well as any others deemed necessary by the MCAS Yuma Project Manager.

**2.2.1.2 Required Feature Class Attribution:** The contractor shall be responsible for ensuring submitted feature classes are populated with all required MCAS Yuma feature class attribution. Specifications for attribute population may be obtained from the MCAS Yuma Range Department GIS Manager.

**2.3 Geospatial Data Projection:** Geographic data (regardless of format) shall be provided in **International Feet** and **projected** into the **Arizona West State Plane, FIPS Zone 0203** projection system. The maps and data shall use the GRS 1980 spheroid and the North American Datum 1983. This projection requirement applies to all GIS data layer deliverables as well as all CAD drawings such as as-designed and as-built project plans. Each data set shall have a projection file if appropriate based on format. Map or drawing **scales** will be determined by the Project Manager, if applicable. Mapping **accuracy** for the agreed scales will conform to the American Society for Photogrammetry and Remote Sensing (ASPRS) "Accuracy Standards for Large-Scale Maps", "Interim Accuracy Standards for Large-Scale Maps", and "Geospatial Positioning Accuracy Standards". Copies of these standards can be obtained on the Internet at <http://www.asprs.org>, and/or at <http://www.fgdc.gov>, or by contacting:

American Society for Photogrammetry and Remote Sensing  
5410 Grosvenor Lane, Suite 210  
Bethesda, MD 20814-2160

**2.4 Geospatial Data Collection:** Mapping grade Global Positioning System (GPS) data collection shall be performed to develop all site data. Mapping grade GPS data collection shall at a minimum use the Geoid2003 CONUS epoch (or a more current epoch if available at the time of this project). All site boundaries must be within  $\pm 5$  meters horizontal and all site datum points must be within  $\pm 1$  meter. Every effort shall be made to capture feature locations without using offsets unless obstructions are present. Any offsets used shall be annotated in the "user flag" field. The horizontal accuracy will be compiled, tested, and reported in accordance with Part 3 of the Federal Geographic Data Committee's Geospatial Positioning Accuracy Standards: the National Standard for Spatial Data Accuracy (NSSDA). Spatial accuracy will be reported at the 95% confidence level. The spatial accuracy standard is available at:

<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part3/chapter3>

(NOTE: Raw GPS data collection information is not to be included in the table structure of the delivery, unless it is specifically part of the GEOFidelis Data Model, established Installation feature format, or specifically requested by the Government.)

**2.5 Media for Geospatial Data Deliverables:** Geographic data shall be delivered on a separate CD-ROM or DVD-ROM. This media shall **contain only the value-added data sets** as designated in the Task sections of the statement of work. Do not include the Contractor's working files or original installation data sets that may have been used by the Contractor to develop the deliverables. "READ ME" files may be included on the geographic data media if such files provide explanation of the delivered data sets. However, these "READ ME" files should not be delivered in lieu of standard metadata.

**2.6 Geographic Data Documentation (Metadata):** For each digital file delivered containing geographic information (regardless of format), **the Contractor shall provide documentation** consistent with the Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata (CSDGM). Both 'Mandatory' and 'Mandatory as Applicable' fields shall be completed for each geographic data set. The documentation shall include, but not be limited to, the following:

- The name, description, abstract, and purpose of the data set/data layer.
- The source of the data and any related data quality information such as accuracy and time period of content.
- Descriptions of the receiver and other equipment used during collection and processing, base stations used for differential corrections, software and version used for performing differential corrections, estimated horizontal and vertical accuracies obtained, and conversion routines used to translate the data into final geographic data delivery format.
- Type of data layer (point, line, polygon, etc.).
- Field names of all attribute data and a description of each field name.
- Definition of all codes used in the data fields.
- Ranges of numeric fields and the meaning of these numeric ranges.
- The creation date of the map layer and the name of the person who created it.
- A point of contact shall be provided to answer technical questions.

Metadata generation tools included in the ArcGIS suite of software (or equivalent technology) shall be used in the production of the required metadata in XML format. Regardless of the tools used for metadata creation, the Contractor must ensure that the metadata is delivered in XML format and can be easily imported to the Installation's enterprise geodatabase. Copies of the FGDC metadata standard can be obtained on the Internet at <http://www.fgdc.gov> or by contacting:

FGDC Secretariat  
c/o U.S. Geological Survey  
590 National Center  
Reston, Virginia 22092  
(703) 648-5514

Additionally, the metadata will meet all requirements per the MCAS Yuma Metadata Authoring Guide, currently 3.0 dated January 2013. This document will undergo revision to reflect changes from ArcGIS 9.3.1 to 10.1.

**2.7 Geographic Data Review:** The digital geographic maps, related data, and text documents shall be included for review in the draft and final contract submittals. The data will be analyzed for discrepancies in subject content, correct format in accordance with these specifications, and compatibility with the existing GIS system. The Contractor shall incorporate review comments to data and text prior to approval of the final submittal. For each review of digital geospatial data deliverables, the Contractor shall provide a technical consultant to be available by telephone, email, web conference, or when practical, on-site at MCAS Yuma with the GIS Manager and functional area subject matter experts to visually review the data deliverables on a Windows 7 compatible system unless otherwise approved by the Government.

**Ownership:** All digital files, final hard copy products, source data acquired for this project, and related materials, including that furnished by the Government, shall become the property of the Installation and will not be issued, distributed, or published by the Contractor.

**Contact Information:** For project inquiries, please contact the Project Manager. For specific geospatial questions, upon approval of the Project Manager, you may contact:

**Jonathan Gholson, YRMD GIS Manager**  
**151 O'Neill St, Yuma, AZ, 85369**  
**(928) 269-8400**  
**jonathan.gholson.civ@usmc.mil**

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**Sample Geospatial Data Request Letter**

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**OMEGA ENTERPRISES CORPORATION**  
 SCIENCE AND TECHNOLOGY DIVISON  
 10123 PACIFIC COAST ROAD  
 SAN DIEGO CA 92120-1234

27 Aug 2009

From: Steve Travail, New Business Development, Omega Enterprises Corporation  
 To: Karla James, Cultural Resources Manager, Marine Corps Air Station Yuma

Subj: MARINE CORPS AIR STATION YUMA GEOSPATIAL DATA REQUEST IN  
 SUPPORT OF AIRFIELD OBSTRUCTION MAPPING AND MANAGEMENT

Ref: (a) NAVAIR Contract N1234-00-A-1234

Encl: (1) Statement of Work (Contract N1234-00-A-1234)

1. The Naval Air Systems Command has selected Omega Enterprises Corporation as a Phase II finalist under the innovative research solicitation for Innovative Airfield Obstruction Mapping and Management Technology (DoD SBIR NO1234-56). Phase II requires the demonstration of the technology, which is scheduled to occur at Marine Corps Air Station Yuma no later than September 30, 2009. The RAPTOR QUICKMAP system is comprised of a vehicle mounted stationary terrestrial 3D laser scanner, video capture, and an on-board data processing system. A 360 degree area of detection is monitored by the sensor, and referenced to a calibrated on-board GPS system. The display software requires a GEO Tiff map of the airfield with an ideal horizontal resolution of 12" pixel resolution or better. A sample area will be selected by the installation for the demonstration area in which the RAPTOR QUICKMAP will be used to capture potential airfield obstructions. To assist with this technology demonstration, prior to the installation site visit, Omega Enterprises Corporation requests that the installation provide copies of the following geospatial data layers so that the contractor can develop a schedule and action plan based on the demonstration area and provide raster imagery backgrounds to the display software.

2. The contractor requests copies of the following data layers or their equivalents if available to be provided on a CD-R or DVD or transferred via corporate FTP site located at  
[ftp://OmegaCorp/Projects/FY09/contracts/N1234\\_00\\_A\\_1234](ftp://OmegaCorp/Projects/FY09/contracts/N1234_00_A_1234)

airfield\_surface\_area  
 air\_accident\_zone\_area  
 XXX.tif (geotiff imagery of the airfield area at .3 m resolution)

3. See ENCL 1 for the detailed Statement of Work (SOW).

4. Data will be transferred from the provided storage media format and stored on contractor maintained storage and retrieval systems utilizing approved protective measures in accordance with For Official Use Only data storage. Access to this information will be restricted to contractor personnel directly involved in project. The original storage media will be placed in a secure, locked cabinet or office after working hours. Upon completion of the project, a copy of the data will be provided back to the installation POC for review. Following final review, copies of the data will be provided to the MCAS Yuma IGI&S and Airfield Operations offices as appropriate. The original storage media will be destroyed or returned to the installation POC. Final disposition of digital data will be in accordance with the SOW and the signed MCAS Yuma geospatial nondisclosure agreement (NDA).

5. Mr. Collin Arbeit, GIS Analyst, Omega Enterprises Corporation ph (614) 555-1234, fax (614) 555-4321, ArbeitCJ@OmegaCorp.com, will be the contractor point of contact for this request.

6. All additional questions or concerns should be addressed to Mr. Steve Travail, New Business Development, (614)-555-1235, TravailSJ@OmegaCorp.com.

Respectfully,

Steve Q. Travail (ESQ)  
New Business Development

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**Geospatial Data Use and Nondisclosure Agreement**

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### Geospatial Data Use and Nondisclosure Agreement

**Agency Name:** *(shall be known as 'The Outside Agency')*

**Address:**

**Project Title:**

**Contract Number:**

The United States Marine Corps (USMC) has consulted with 'The Outside Agency' to develop and/or utilize geospatial information for use as part of the USMC Installation Geospatial Information and Services Program (IGI&S). 'The Outside Agency' understands and agrees that it is the duty and obligation of 'The Outside Agency' and its employees to comply with the provisions of the NHPA and this agreement respecting such information, and that any violation of this agreement may result in adverse action against both 'The Outside Agency' and its employees.

1. The development of any geospatial information, pursuant to the HQMC IGI&S Program is official, sensitive, and deliberative in nature. 'Geospatial' information includes all electronic and hard copy forms of data. 'The Outside Agency' and its employees further understand that the development of such information is not limited to final documents or products, but also includes all draft and feeder documents, briefings and notes, as well as any other related oral or written communication.
2. By signing below, 'The Outside Agency' and its employees agree that they will not use, or allow to be used, any data provided by the USMC for marketing or other uses not specifically stated in the Regulations. Data can only be used for other purposes with explicit written consent from the appropriate USMC approval authority and contracting officer. As it relates to the USMC IGI&S program, the appropriate USMC approval authority for any USMC Installation geospatial data is the USMC Installation's primary IGIS contact.
3. Any geospatial data or any other written communication, whether draft or final, is the official property and record of the Department of Defense (DoD) and shall be retained, disseminated, released, and destroyed in accordance with requirements of law and applicable DoD or Military Department directives, regulations, instructions, policies or guidance. This document must be returned to the office listed in the contact information below. Please direct any questions related to IGI&S to the person listed in the contact information below.
4. 'The Outside Agency' and its employees utilizing the data contained in the attached electronic document files depicting Marine Corps Air Station (MCAS) Yuma are responsible for verifying the accuracy of any and all spatial information contained in the attached files, to include the individual spatial components that comprise the overall map content. Due to multiple sources of data provided by various architectural-engineering firms, construction contractors, non-governmental agencies and other users, MCAS Yuma, offers no express or implied warranty for the accuracy of the spatial data provided. Use of this spatial data information by any entity other than MCAS Yuma Installation & Logistics Department is the sole responsibility and liability of the individual user. The end user of this spatial information accepts all responsibility for the accuracy and liabilities incurred in the use of the enclosed data.

Signature \_\_\_\_\_ Print Name \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

**Contact Information:**

Thomas Plicka  
IGI&S Manager  
MCIWest  
MCAS YUMA  
Box 99140 Bldg 888  
Yuma, AZ. 85369-9140  
Phone: (928) 269-2490  
Fax: (928) 269-2713  
E-Mail: thomas.plicka@usmc.mil

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## **APPENDIX G**

### **Glossary**

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## GLOSSARY

**Advisory Council on Historic Preservation:** The Advisory Council on Historic Preservation (ACHP) is the independent federal agency charged by the National Historic Preservation Act (NHPA), as amended, to advise the President, Congress, and federal agencies on matters related to historic preservation. The ACHP also administers Section 106 of the NHPA through its regulation, *Protection of Historic Properties* (36 CFR 800).

**Archaeological resources:** Any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques such as controlled observation, contextual measurement, controlled collection, analysis, interpretation, and explanation (see the Archaeological Resources Protection Act [ARPA] and 32 CFR 229.3).

**Archaeological Resources Protection Act of 1979:** ARPA (16 USC §§ 470 aa-mm) strengthened protection of archaeological resources on federal and tribal lands by increasing the penalties first included in the Antiquities Act of 1906 for unauthorized excavation, collection, or damage of those resources from misdemeanors to felonies, including fines and imprisonment for first offenses. Trafficking in archaeological resources from public and tribal lands is also prohibited by ARPA. ARPA requires notification of affected Native American tribes if archaeological investigations would result in harm to or destruction of any location considered by tribes to have religious or cultural importance.

**Area of Potential Effects:** The Area of Potential Effects (APE) is the area within which any existing historic properties may be affected by a federal undertaking. The APE includes the footprint of the proposed project and areas around the footprint that might be affected by visual, auditory, erosional, and other direct and indirect results of the undertaking. The APE may consist of a single area or two or more geographically discontinuous areas.

**Building:** One of the five National Register of Historic Places (NRHP) property types. A structure created to shelter any form of human activity—includes houses, barns, churches, and other buildings, including administration buildings, dormitories, garages, and hangars.

**Conservation:** Planned management, use, and protection of natural and cultural resources to provide sustainable use and continued benefit for present and future generations and to prevent exploitation, destruction, waste, and/or neglect.

**Consultation:** A reasonable and good-faith effort to involve affected parties in the findings, determinations, and decisions made during the Section 106 process and other processes required under other statutes and regulations. Consultations with Indian tribes must be on a government-to-government level to respect tribal sovereignty and to recognize the unique legal relationship between the federal government and Indian tribes set forth in the Constitution, treaties, statutes, and court decisions.

**Cultural landscape:** A geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, sites, and/or natural features.

**Cultural resource:** Cultural resources represent the nation's collective heritage; broad public sentiment for protecting these heritage resources has been codified over the years in numerous

federal, state, and local laws. This term includes: buildings, structures, sites, districts, and objects that may be eligible for or that are included on the NRHP (historic properties); cultural items as defined in the Native American Graves Protection and Repatriation Act (25 USC § 3001); American Indian, Eskimo, Aleut, or Native Hawaiian sacred sites for which access is protected under the American Indian Religious Freedom Act (42 USC § 1996); archaeological resources as defined by ARPA (16 USC § 470bb); archaeological artifact collections and associated records defined under Part 79 (36 CFR 79); and any definite location of past human activity, occupation, or use, identifiable through field inventory (survey), historical documentation, or oral evidence.

**Culture:** The traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it an Indian tribe, a local ethnic group, or the people of the nation as a whole. Human use of and adaptation to the environment as seen through the behavior, activities, and methods employed to transmit customs, knowledge, and ideas to succeeding generations.

**Curation:** The process of managing and preserving an archaeological collection of artifacts and records according to professional museum and archival practices (36 CFR 79).

**Desert pavement:** Large, flat, conspicuous areas largely devoid of vegetation and covered by a layer of tightly packed small stones, which are frequently very dark-colored due to the development of desert varnish. Desert pavement is formed through a process of physical weathering and the accumulation of a porous mineral layer in the soil that separates and levels the desert-pavement surface from the underlying, uneven rocky material.

**District:** One of the five NRHP property types. Districts are concentrations of significant sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

**Effect:** Any change in the characteristics that contribute to the uses determined appropriate for a cultural resource, or to the qualities that qualify a cultural property for listing on the NRHP. Determination of effect is guided by criteria in Part 800.9 (36 CFR 800.9).

**Evaluation:** Assessing the historic significance and historic integrity of a site, building, structure, district, or object by applying the criteria of eligibility for inclusion on the NRHP.

**Historic context:** An organizing structure for interpreting history that groups together information about historic properties sharing a common theme, geographical location, and time period. The development of historic contexts is a foundation for decisions about the planning, identification, evaluation, registration, and treatment of historic properties based upon comparative significance.

**Historic integrity:** The ability of a property to convey its historic significance. To be eligible for listing on the NRHP, a property must be historically significant. It also must possess historical integrity, which is a measure of authenticity and not necessarily condition. Elements of integrity to be considered include location, design, setting, materials, workmanship, feeling, and association. Not all seven aspects of integrity need to be retained, but a property must have sufficient physical remnants from its period of historical importance to illustrate significant aspects of its past. The integrity of archaeological sites typically is evaluated by the degree to which they can provide important contextual information. The integrity of traditional cultural places is interpreted with reference to the views of closely affiliated traditional groups, if traditional people will write or talk about such places so information can be filed with a public agency. If a place retains integrity in the perspective of affiliated traditional groups, it probably

has sufficient integrity to justify further evaluation. NRHP Bulletin 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, provides guidance for identifying and assessing traditional cultural places.

**Historic preservation:** The NHPA (54 USC § 300315) states that historic preservation “includes identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation, and education and training” regarding cultural resources.

**Historic property:** Any district, site, building, structure, or object listed in or eligible for inclusion on the NRHP because of its historic significance. The regulation at Part 60.4 explains criteria for determining eligibility for listing on the NRHP (36 CFR 60.4).

**Historic significance:** The importance of a property to the history, architecture, archaeology, engineering, or culture of a community, a state, or the nation. It is achieved by meeting one or more of the following criteria: association with events, activities, or patterns (*Criterion a*); association with important persons (*Criterion b*); distinctive physical characteristics of design, construction, or form (*Criterion c*); and/or potential to yield important information (*Criterion d*).

**Identification:** The first step in the NHPA Section 106 process includes preliminary work (such as archival research or literature review), actual efforts to identify properties through field survey, and the evaluation of identified properties to determine if they qualify as historic properties. The standard is a “reasonable and good faith effort” for identification and evaluation.

**Indian tribe:** A federally recognized Indian tribe is one that the U.S. government formally recognizes as a sovereign entity requiring government-to-government relations. The federal government holds lands in trust for many, but not all, Indian tribes. Some tribes are not federally recognized and are not afforded special rights under federal law, with the following exception. According to NRHP guidelines, traditional cultural places include places of cultural significance to both federally recognized tribes and other groups. Non-federally recognized tribes may be consulted as interested parties.

**Inert:** Nonreactive, nonexplosive (in regard to inert ordnance).

**Intaglio:** A figure or design incised on the surface of the earth, or desert pavement, or composed of rock alignments.

**Integrated Cultural Resources Management Plan:** An Integrated Cultural Resources Management Plan (ICRMP) is a document that defines the procedures and outlines plans for managing cultural resources on DoD installations (see DoD Instruction 4715.16).

**Integrated Natural Resources Management Plan:** An Integrated Natural Resources Management Plan (INRMP) is an integrated plan based, to the maximum extent practicable, on ecosystem management that shows the interrelationships of individual components of natural resources management to mission requirements and other land-use activities affecting an installation’s natural resources.

**Inventory:** A process of descriptive listing and documentation of cultural resources within a defined geographic area based on a review of existing data, fieldwork, and other means.

**National Register of Historic Places:** The NRHP is the official federal list of sites, districts, buildings, structures, and objects worthy of preservation consideration because of significance in American history, architecture, archaeology, engineering, or culture. The NRHP is administered

by the Department of the Interior, National Park Service. Criteria for eligibility, and the procedures for nomination, making changes to listed properties, and removing properties from the NRHP are detailed in *National Register of Historic Places* (36 CFR 60). Significance may be local, state, or national in scope.

**Native Americans:** American Indians, Eskimos, Aleuts, and Native Hawaiians (DoD Instruction 4715.16).

**Object:** One of the five NRHP property types. Objects typically are small in scale, sometimes movable, and often artistic in nature, and include sculpture, monuments, airplanes, boundary markers, and fountains.

**Papaguería:** A unique geographic area in southwestern Arizona and northwestern Sonora, Mexico; subdivided into the eastern and western Papaguería based on cultural and environmental factors. This term is used extensively in archaeological literature to identify a geographic region, an environment, and a cultural area.

**Restricted airspace:** Airspace with defined vertical and lateral dimensions that has been established by the Federal Aviation Administration (via the rule-making process) to denote areas where military activities can occur.

**Road:** A motor vehicle travelway.

**Site:** One of the five NRHP property types. The physical location of a significant activity or event; often refers to archaeological sites or traditional cultural places, although the term also may be used to describe military properties such as testing ranges, treaty signing locations, and aircraft wrecks. All sites are the location of past human activities or events.

**State Historic Preservation Officer:** The State Historic Preservation Officer (SHPO) is the official appointed by the governor of each state or territory to carry out the functions defined in the NHPA and to administer the state's historic preservation program. SHPOs provide advice and assistance to federal agencies regarding their historic preservation responsibilities.

**Stewardship:** The management of resources entrusted to one's care in a way that preserves and enhances the resources and their benefits for present and future generations.

**Structure:** One of the five NRHP property types. A work constructed for purposes other than human shelter, including bridges, tunnels, dams, roadways, and military facilities such as missiles and their silos, launch pads, weaponry, runways, and water towers.

**Tinaja:** A cavity or natural depression eroded into bedrock by stream or wind action and filled with direct rainfall or runoff. Small, rock pocket *tinajas* (formed by aeolian erosion) are found in rock outcrops away from streambeds. Stream channel *tinajas* (formed by alluvial action) are bedrock pools that range in size from small potholes to large plunge pools. These are one of the most reliable water sources in the Sonoran Desert. They can hold several hundreds of gallons and in some cases are perennial. *Tinajas* can be buried in sand but still retain subsurface water.

**Traditional cultural property (or place):** A property that is eligible for inclusion on the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community. The traditional cultural significance of a historic property is derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include: a location associated

with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world; a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents; a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and a place where Native Americans still go to collect traditional tools or raw materials to make traditional items such as basketry or pottery.

**Tribe:** A federally recognized tribe or other federally recognized Native American group or organization (DoD Instruction 4710.02).

**Undertaking:** Any project, activity, action, or program wholly or partly funded under the direct or indirect jurisdiction of a federal agency. Includes projects and activities that are executed by or on behalf of a federal agency; federally funded; require a federal permit, license, or approval; or are subject to state or local regulation administered through delegation or approval authority by a federal agency. Also, any action meeting this definition that may have an effect on NRHP-eligible resources and thereby triggers procedural responsibilities (54 USC §§ 300101-307108).

**Unexploded ordnance:** Unexploded ordnance (UXO) are military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material, and remain unexploded either by malfunction, design, or any other cause.

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