

## CHAPTER 12.

# CULTURAL RESOURCES

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### 12.1 INTRODUCTION

This chapter contains a description of the potential environmental consequences to cultural resources associated with implementation of the alternatives within the region of influence (ROI). Because the EIS is also used for Section 106 consultation, this section uses the term, Area of Potential Effects (APE) as defined under the NHPA. The APE is “the geographic area or areas within which the undertaking (project) may directly or indirectly cause changes to the character or use of historic properties, if they exist” (36 CFR 800.16(d)). This would include areas affected by setting (visual or audible), ground disturbance, or public access. The APE was defined during the consultation process early in the planning stages of this EIS in consultation with the Guam SHPO. Maps of the APEs for projects on Guam are included in Volume 9, Appendix G, Chapter 4, Cultural Resources. For a description of the affected environment for all resources, refer to the respective chapter of Volume 2 (Marine Corps Relocation – Guam). The locations described in Volume 2 include the APE for the Army Air and Missile Defense Task Force (AMDTF) component of the proposed action; the chapters are presented in the same order as the resource areas contained in this Volume. Training for the AMDTF would be co-located with Marine Corps training facilities and is not analyzed in this Volume.

### 12.2 ENVIRONMENTAL CONSEQUENCES

#### 12.2.1 Approach to Analysis

##### 12.2.1.1 Methodology

The methodology for identifying, evaluating, and mitigating impacts to cultural resources is based on federal laws and regulations including the National Historic Preservation Act (NHPA) and the Archaeological Resource Protection Act (ARPA).

Under the NHPA, a significant resource is a cultural resource listed or eligible for listing on the NRHP or a historic property. A project affects a historic property when it alters the resource’s characteristics, including relevant features of its environment or use that qualify it as significant according to NRHP criteria. Adverse effects may include the following: physical destruction, damage, or alteration of all or part of the resource; alteration of the character of the surrounding environment that contributes to the resource’s qualifications for the NRHP; introduction of visual, audible, or atmospheric elements that are out of character with the resource; neglect of the resource resulting in its deterioration or destruction; or transfer, lease, or sale of the property without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance (36 Code of Federal Regulations [CFR] 800.5(a)(2)).

Analysis of potential impacts to historic properties considers both direct and indirect impacts. Direct impacts are those that may occur from the project, such as the destruction of the property” (NPS 1997:1). Indirect impacts “may be visual, audible, or atmospheric changes which effect the setting of the property” (NPS 1997:1). Cumulative impacts on historic properties under NEPA result from the incremental impact of the action when added to other past, present, and future actions. Cumulative impacts are discussed in Volume 7.

Vandalism is considered to be a significant impact because it damages the integrity of the site, which is the major determinant of NRHP-eligibility. Physical evidence left in historic properties is finite and cannot be replaced once it has been disturbed. For this reason, federal activities that open areas up to the public or that involve personnel traveling through an area may have an adverse impact, especially if vandalism to historic properties in the vicinity occurs. Determination of Significance under NEPA

A historic property is a property that is listed on, or eligible for the NRHP. A significant adverse impact for cultural resources is one that disturbs the integrity of a historic property. If a project disturbs the characteristics that make the property or listed on, or eligible for the NRHP, then it is also considered to be a significant adverse impact.

The Regional Integrated Cultural Resources Management Plan (ICRMP) for Navy property in Guam (Tomonari-Tuggle et al. 2005) has established standard operating procedures for protecting known NRHP-listed or eligible cultural resources; procedures for managing the inadvertent discovery of archaeological resources, inadvertent discovery of human remains, or inadvertent disturbance to historic properties; and for distributing permits for archaeological investigations. In addition, agreements on limitations in training have been made as part of the Mariana Islands Training Range Complex Environmental Impact Statement (EIS) Programmatic Agreement (PA) (Navy 2007). Areas with limited or no training stipulations at Apra Harbor and the Naval Munitions Site are presented in Volume 2, Chapter 12, Figures 12.1-4 and 12.1-5. Acceptable training on Andersen Air Force Base (AFB) and Andersen South are described in Volume 2. Lands managed by the Army would comply with all cultural resources requirements in accordance with Army Regulation 200-4, Cultural Resources Management. As part of the Section 106 consultation process for this EIS, a proposed PA for all military training activities, construction, and operations proposed under the proposed action, which includes additional mitigation measures and procedures is being prepared. Proposed signatories to this PA are: the Department of Defense (DoD) (Joint Region Marianas; DoD Representative Guam, Commonwealth of the Northern Mariana Islands [CNMI], Federated States of Micronesia, and Republic of Palau; Marines; Navy; Army; Air Force), other federal agencies (Federal Highway Administration, Advisory Council on Historic Preservation [ACHP], and the National Park Service [NPS]), and local government agencies (Guam State Historic Preservation Officer [SHPO], CNMI HPO). Stipulations in the proposed PA include the following:

- The DoD would ensure the identification and evaluation of historic properties within the ROI prior to the initiation of any part of the project with the potential to impact historic properties. Newly discovered properties would be avoided where possible.
- For areas that have not been inventoried for historic properties, the DoD would record surface sites and, when possible, such areas would also be archaeologically sampled for subsurface sites when easily obtainable (i.e., without having to demolish existing facilities or infrastructure) unless this demolition is required for the project.
- Any properties not evaluated, shall be assessed for NRHP eligibility. These historic properties would be incorporated into existing ICRMPs as they are revised or updated or if a new ICRMP is developed in consultation with the appropriate State Historic Preservation Officers.

In recognition of the significance of many historic properties within the APE of the proposed action to various cultural and historic groups, the DoD would look favorably on affording access to historic sites to individuals and organizations that attach significance to these historic properties (where security requirements are not prohibitive). The proposed PA also provides stipulations for treatment in case of

emergency discoveries, the review process, and report requirements. The Standard Operating Procedures (SOP) in the current Regional ICRMP would be updated and revised and would be attached to the PA.

#### 12.2.1.2 Issues Identified During Public Scoping Process

The following analysis focuses on possible impacts to cultural resources, i.e., archaeological, architectural, and traditional cultural properties that could be affected by the proposal. As part of the analysis, concerns relating to cultural resources that were mentioned by the public, including regulatory stakeholders, during scoping meetings were addressed. A general account of these comments including issues other than cultural resource are as follows:

- Access to cultural sites
- Construction impacts to cultural resources
- The need to conduct thorough and adequate data collection
- Public participation in the planning process relating to cultural resources

Other cultural issues indentified included:

- Access to traditional plant and fishing areas
- Curation of artifacts off island and storage issues associated with the Guam Museum

#### 12.2.2 Headquarters/Housing Alternatives

This description of environmental consequences addresses all components of the proposed actions for the Army AMDTF. This includes the headquarters/housing component and the munitions storage component, each of which has three alternatives. A full analysis of each alternative is presented beneath the individual headings of this chapter. The weapons emplacement component has four alternatives. Detailed information on the weapons emplacements is contained in a Classified Appendix (Appendix L). A summary of impacts specific to each set of alternatives (including an unclassified summary of weapons emplacement impacts) is presented at the end of this chapter.

##### 12.2.2.1 Headquarters/Housing Alternative 1 (Preferred Alternative)

Under Alternative 1, the Army administration/headquarters (HQ) and maintenance facility would be co-located with the Marine Corps in the northern portion of Naval Computer and Telecommunications Station (NCTS) Finegayan. Bachelor quarters would also be located within NCTS Finegayan. Family housing facilities would be co-located with the Main Cantonment housing areas in South Finegayan. Recreational and quality of life (QOL) facilities would be co-located within and adjacent to the housing areas.

#### North

##### *NCTS Finegayan*

*Construction.* The activities associated with Alternative 1 are partially located within the NCTS Finegayan site. These activities include the construction of the administration/headquarters (HQ), maintenance facilities, associated quality of life (QOL) facilities, bachelor quarters, and family housing. These facilities would be co-located with Marine Corps facilities on the NCTS Finegayan site. All of NCTS Finegayan has been surveyed for archaeological, architectural, and traditional cultural properties (Griffin et al. 2009; Welch 2010). The total amount of potentially disturbed areas in the Finegayan area is 2,432 acres (ac) (984 hectares [ha]); Army facilities would only comprise approximately 1.5% of the total area that would be disturbed.

The majority of the AMDTF construction would occur in an area where historic properties have not been recorded, and no construction impacts would occur (Figure 12.2-1). Construction of the bachelor quarters facilities has the potential to have significant adverse impacts to two NRHP-eligible sites: sites 08-2299 (artifact scatter) and 08-2300 (four defensive structures).

Construction at Finegayan also has the potential to remove natural resources of cultural concern. However, access to these resources is currently limited to the public; therefore, no impact would result from their loss.

*Operation.* Operations at the AMDTF would include the use of administrative, maintenance, and housing facilities by Army personnel. The AMDTF would increase the population by 1,832 Soldiers, civilian personnel, and associated dependents. This increase in personnel in the area could increase accidental or inadvertent damage to historic properties..

#### *South Finegayan*

*Construction.* The Army housing would be shared with Marine Corps housing at South Finegayan. Site 08-0414 (Latte Stone Park), a traditional cultural property, would be avoided by construction.

*Operation.* Operation of these facilities would bring additional personnel into the area. This increase in personnel could increase accidental or inadvertent damage to historic properties. Indirect significant adverse impacts could occur to site 08-0414 (Latte Stone Park).

#### Central

##### *Navy Barrigada*

As no construction or operations at Navy Barrigada would occur under Alternative 1, there would be no impact to historic properties

##### *Air Force Barrigada*

As no construction or operations at Air Force Barrigada would occur under Alternative 1, there would be no impact to historic properties

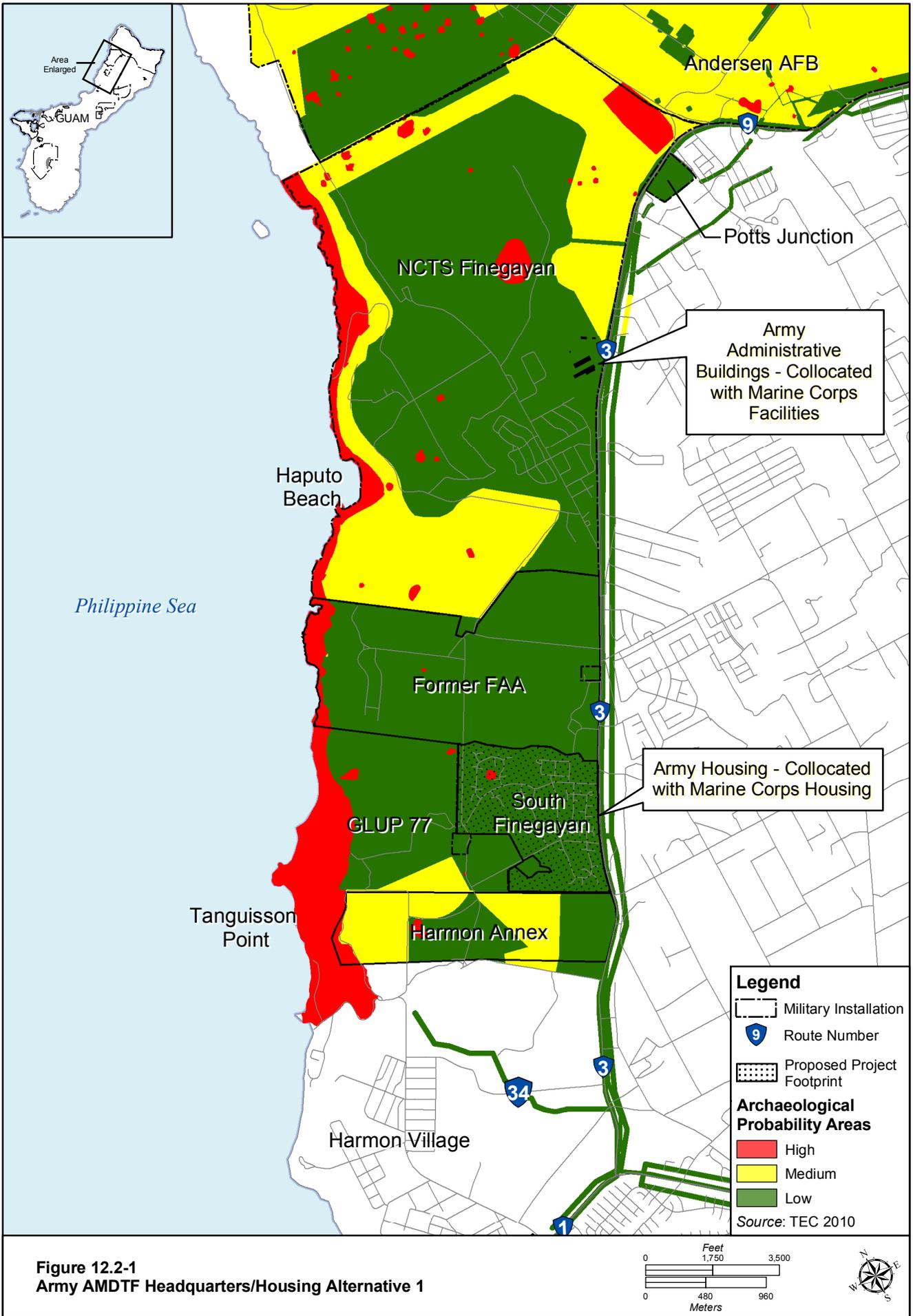
BMPs implemented to protect cultural resources include:

- For post review discoveries an assessment would be made for National Register of Historic Places eligibility in consultation with the State Historic Preservation Office.

#### Alternative 1 Proposed Mitigation Measures

Alternative 1 would have significant adverse impacts to two historic properties. Direct impacts to 08-2299 and 08-2300 would be mitigated through data recovery as these sites are eligible under Criterion D and recovery efforts would follow the ACHP guidance, Resolving Adverse Effects through Recovery of Significant Information from Archeological Sites (ACHP 1999). A table with the area, site number, impact, NRHP criteria of significance, and potential mitigation measures for each resource is included in Volume 9, Appendix G, Cultural Resources.

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**Figure 12.2-1**  
**Army AMDTF Headquarters/Housing Alternative 1**

DOD recognizes that mitigation associated with data recovery efforts for archaeological sites impacted by the Undertaking, would result in an increase in archaeological materials that need to be curated. This increased level of archaeological materials will require appropriate curatorial facilities as well as clearly defined procedures for the disposition of artifacts and, if encountered, the respectful and proper handling of human remains. DoD is committed to working with local, state and federal partners to maintain DoD archeological material collections on CNMI in facilities that meet federal standards and have appropriate capacity. Further, DoD is committed to ensuring the proper handling and disposition of human remains in accordance with federal statutes. For non-DoD archaeological material collections, DoD will follow local regulations regarding the handling and repatriation of cultural materials or human remains to the extent such local regulations are consistent with federal law and regulations on the subject. DoD is currently working on a capacity analysis of its current collections in Guam and CNMI, and will use that information to develop a plan for the initial and long-term curation needs associated with the Undertaking.

Potential operational impacts would be mitigated through historic properties awareness training of DoD employees to avoid impacts to archaeological sites.

Potential mitigation measures associated with the proposed action in general include the production of a Guam Synthesis, which would provide a public document on the surveys and special studies conducted for the EIS. Data would be compiled and synthesized into one document written for the public. This disseminates information to the public and mitigates for loss of cultural resources. Other general mitigation include the production of a Cultural Landscape Report for Northern Guam. The Cultural Landscape Report would focus on installations affected by the relocation in the Northern Limestone Plateau and include Finegayan, Andersen AFB, the Route 15 Range areas, Andersen South, and Barrigada.

A Curation Assessment could be prepared. The curation of cultural material/artifacts from DoD properties would be in a facility that meets 36 CFR 79 requirements. The Curation Assessment would help in making the determination of where DoD collections are curated. Artifacts from non-DoD properties follow local regulations regarding the handling and repatriation of cultural materials or human remains.

Natural resources of cultural concern would be avoided if possible. In places where impacts could not be avoided, the DoD would work with consulting parties to contact traditional artisans. Artisans would be given an opportunity to harvest and collect these resources for carving and canoe building. If *suruhanus* request access for medicinal plant collection the DoD will generally look favorably on affording access to these plants for individuals that practice traditional healing methods if the plants collected are not threatened or endangered species and where security requirements are not prohibitive.

Although the area where Latte Stone Park (08-0141) is located is slated for development, the site would be avoided. However, possible accidental or unintentional damage to the site would be mitigated by signage, and the plaque for the sign would be corrected and upgraded to enhance the interpretation of the site.

#### 12.2.2.2 Headquarters/Housing Alternative 2

Under Alternative 2, all AMDTF projects would occur on Navy Barrigada.

##### North

###### *NCTS Finegayan*

As no construction or operations would occur at NCTS Finegayan under Alternative 2, there would be no impact to historic properties.

###### *South Finegayan*

As no construction or operations would occur at South Finegayan under Alternative 2, there would be no impact to historic properties.

##### Central

###### *Navy Barrigada*

*Construction.* Alternative 2 would include construction of the administration/HQ, maintenance facilities, associated QOL facilities, bachelor quarters, and family housing at Navy Barrigada. Alternative 2 encompasses 509 ac (206 ha) of ground disturbance. Of these total acres, the administration/HQ and maintenance facilities occupy 33 ac (13 ha), and the HSG, QOL facilities, bachelor quarters combine to occupy 481 total ac (195 ha). All of Navy Barrigada has been surveyed for archaeological, architectural, and traditional cultural properties (Athens 2009; Dixon, Walker, and Carson 2009; Griffin et al. 2009). Although no archaeological or architectural historic properties are located in Navy Barrigada, Mount Barrigada is considered to be a traditional cultural property because of its association with Chamorro creation myths.

No historic properties are recorded in the area where the majority of the construction would occur (Figure 12.2-2). Construction at the northern boundary of Navy Barrigada would occur at the southwestern corner of Mount Barrigada or Mount Tuyan, a traditional cultural property. Location of the construction could have a significant adverse visual impact to this traditional cultural property. Construction at Navy Barrigada also has the potential to require the removal of natural resources of cultural concern.

No NRHP- listed or eligible architectural resources would be impacted by Alternative 2.

*Operation.* Operation at the AMDTF would include the use of administrative, maintenance, and housing facilities by Army personnel. The AMDTF would increase the population by approximately 630 Soldiers, 130 civilian personnel, and 950 associated dependents. This increase in personnel could increase accidental or inadvertent disturbance to historic properties. However, historic properties have not been recorded in this area. Access to Mount Barrigada would not be restricted by operations. Therefore, operations due to Alternative 2 would have a less than significant impact to cultural resources.

###### *Air Force Barrigada*

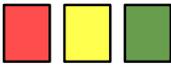
As no construction or operations at Air Force Barrigada would occur under Alternative 2, there would be no impact to historic properties.

BMPs implemented to protect cultural resources would be the same as those described for Alternative 1.

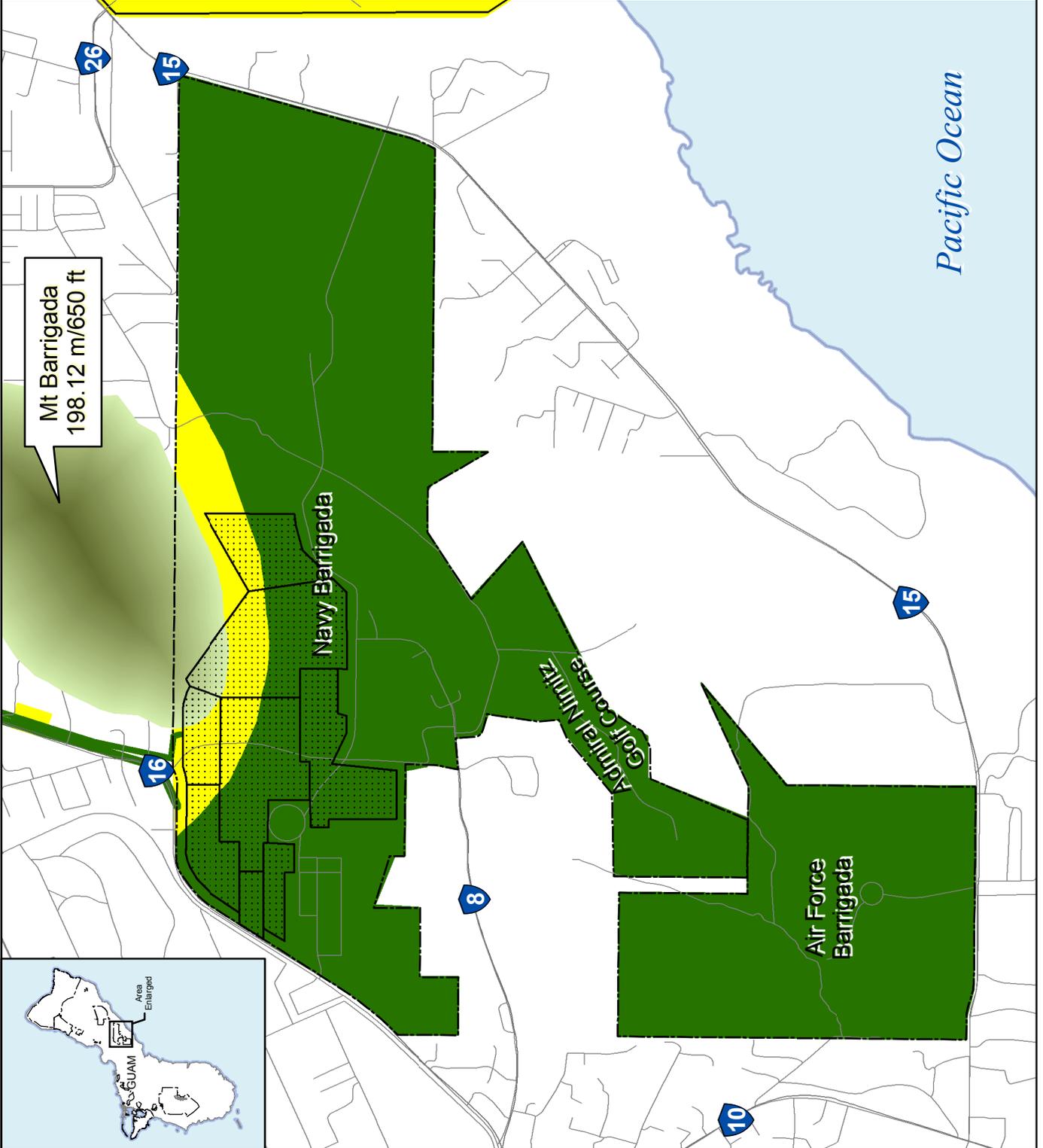
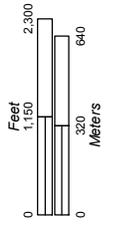
**Figure 12.2-2**

Army AMDTF  
Headquarters/Housing  
Alternative 2

**Legend**

-  Military Installation
-  Route Number
-  Proposed Project Footprint
-  Archaeological Probability Areas
  - High
  - Medium
  - Low

Source: TEC 2010



## Alternative 2 Proposed Mitigation Measures

Alternative 2 would have significant adverse impacts to one traditional cultural property. Design and construction of new facilities and overall landscape would be undertaken in a manner that reduces adverse effects on the viewshed of Mount Barrigada. The current natural shape of Mount Barrigada would be maintained. As under Alternative 1, all general mitigation measures (a Guam Synthesis, Cultural Landscape Report for Northern Guam and Curation Assessment, historic property awareness training for DoD personnel and access to natural resources with cultural significance) will be implemented as part of the mitigation plan.

### 12.2.2.3 Headquarters/Housing Alternative 3

Under Alternative 3, AMDTF project placement would occur in NCTS Finegayan, Navy Barrigada, and Air Force Barrigada.

#### North

##### *NCTS Finegayan*

*Construction.* The activities associated with Alternative 3 are partially located within the NCTS Finegayan site (Figure 12.2-3). These activities include the construction of the administration/HQ, maintenance facilities, and bachelor quarters, and family housing. Under this alternative, these facilities would be co-located with Marine Corps facilities at NCTS Finegayan.

Construction of the bachelor quarters facilities has the potential to have significant adverse impacts to two NRHP-eligible sites: sites 08-2299 (artifact scatter) and 08-2300 (four defensive structures). Construction of HSG and education facilities would avoid site 08-0141 (Latte Stone Park), a traditional cultural property.

Construction at NCTS Finegayan has the potential to require the removal of natural resources of cultural concern.

*Operation.* Operation at the AMDTF would include the use of administrative and maintenance facilities by Army personnel. The AMDTF would increase the population by a portion of the 630 soldiers, 130 civilian personnel, and 950 associated dependents. This increase in personnel in the area has the potential to increase accidental or inadvertent disturbance to historic properties.

##### *South Finegayan*

As no construction or operations at South Finegayan would occur under Alternative 3, there would be no impact to historic properties.

#### Central

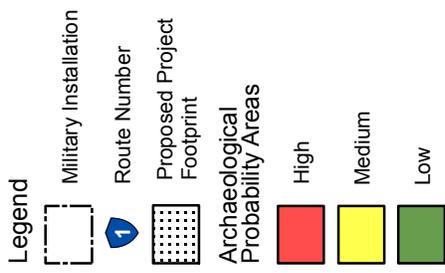
##### *Navy Barrigada*

The activities associated with Alternative 3 are partially located within the Navy Barrigada site. These activities include the construction of the housing and QOL facilities.

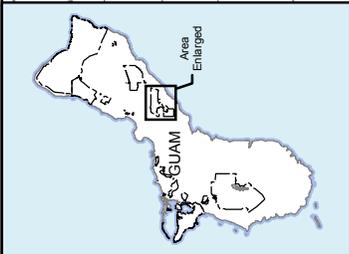
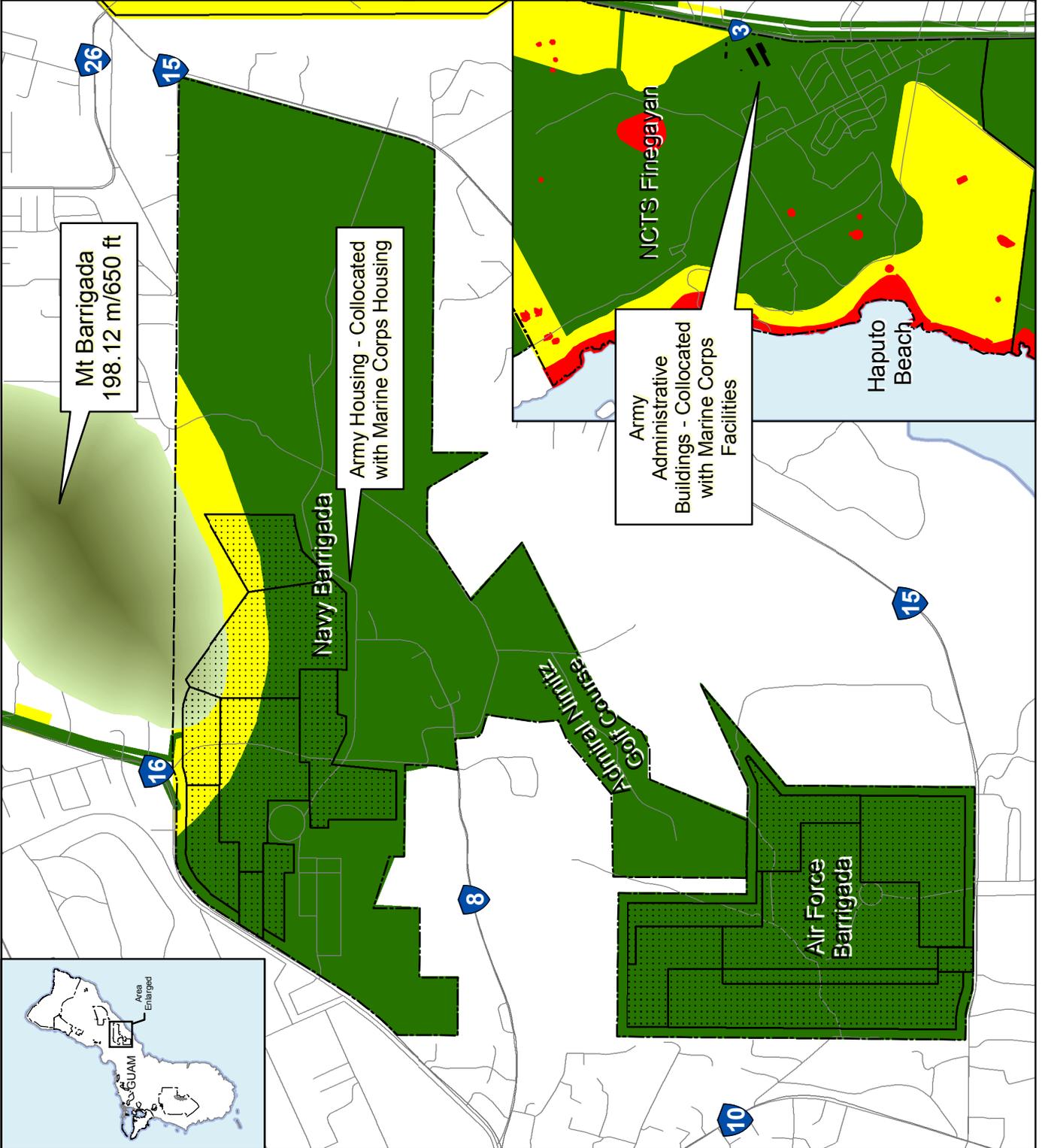
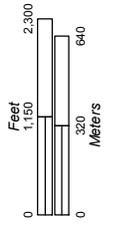
*Construction.* No historic properties have been recorded within the project APE. However, the proposed action would take place partially near the foot of Mount Barrigada. Location of the construction could have a significant adverse visual impact to this traditional cultural property. Construction at Navy Barrigada also has the potential to require the removal of natural resources of cultural concern. No NRHP-listed or eligible architectural resources would be impacted by Alternative 3.

**Figure 12.2-3**

**Army AMDTF Headquarters/Housing Alternative 3**



Source: TEC 2010



*Operation.* Operations at the AMDTF would include the use of housing by Army personnel. However, no historic properties are recorded within the project APE. Therefore, operations due to Alternative 3 at Navy Barrigada would have a no impact to cultural resources.

#### *Air Force Barrigada*

*Construction.* The activities associated with Alternative 3 are partially located within the Air Force Barrigada site, which has been completely surveyed for cultural resources. No historic properties are recorded for Air Force Barrigada. Therefore, no NRHP-listed or eligible archaeological, architectural, or traditional cultural properties would be impacted by Alternative 3 at Air Force Barrigada.

*Operation.* Operation at the AMDTF would include the use of housing by Army personnel. However, historic properties are recorded in the APE. Therefore, operations due to Alternative 3 at Air Force Barrigada would have no impact to cultural resources.

BMPs implemented to protect cultural resources would be the same as those described for Alternative 1.

#### Alternative 3 Proposed Mitigation Measures

Alternative 3 would have significant adverse impacts to two cultural resources. Data recovery would be conducted at NRHP-eligible sites 08-2299 and 08-2300; both of these sites are eligible for listing in the NRHP under Criterion D. ACHP (1999) guidelines for data recovery would be followed.

Although the area where Latte Stone Park (Site 808-0141) is located is slated for development, the site would be avoided. Also, the signage and plaque for the sign would be corrected and upgraded to enhance the interpretation of the site.

As under Alternative 1, all general mitigation measures (a Guam Synthesis, Cultural Landscape Report for Northern Guam and Curation Assessment, historic property awareness training for DoD personnel, and access to natural resources with cultural significance) will be implemented as part of the mitigation plan.

Natural resources of cultural concern would be avoided if possible as described under Alternative 1.

### **12.2.3 Munitions Storage Alternatives**

Proposed construction for munitions storage in earth-covered magazines (ECMs) and/or modular storage magazines (MSMs) would be located at the Andersen Air Force Base (AFB) Munitions Storage Area (MSA) 1. The APEs associated with all of the alternatives have been surveyed for archaeological, architectural, and traditional cultural properties (Griffin et al. 2009; Dixon et al. 2010). One historic property, site T-3-1, is located within the APE.

#### 12.2.3.1 Munitions Storage Alternative 1 (Preferred Alternative)

##### Construction

No historic properties are recorded in the APE for Alternative 1. NRHP-listed or eligible archaeological sites are not located in this area; therefore, there would be no impact to archaeological sites. Figure 12.2-4 shows the new earth-covered magazines that would be located in the eastern area of Andersen Air Force Base (AFB) near the intersection of Routes 3, 3A and 9.

##### Operation

Operations of the munitions storage facilities would have no impact to historic properties.

### Alternative 1 Proposed Mitigation Measures

Because Alternative 1 would not impact historic properties, no mitigation measures are required.

#### 12.2.3.2 Munitions Storage Alternative 2

##### Construction

No historic properties are recorded in the APE for Alternative 2.

##### Operation

Operations of the munitions storage facilities would have no impact to historic properties.

### Alternative 2 Proposed Mitigation Measures

Because Alternative 2 would not impact historic properties, no mitigation measures are required.

#### 12.2.3.3 Munitions Storage Alternative 3

##### Construction

Ground excavation and soil removal associated with buildings and utilities construction would adversely impact a NRHP-eligible archaeological resource, site T-3-1 (artifact scatter) (see Figure 12.2-4).

##### Operation

Operation of the munitions storage facilities would bring additional personnel into the area. However, disturbance to adjacent sites in this area is unlikely due to restricted access. Operations of the munitions storage facilities would have less than significant impacts to historic properties.

### Alternative 3 Proposed Mitigation Measures

If avoidance is not possible, data recovery would take place at site T-3-1, an archaeological resource eligible under Criterion D and recovery efforts would follow the ACHP guidance, Resolving Adverse Effects through Recovery of Significant Information from Archeological Sites (ACHP 1999). A table with the area, site number, impact, NRHP criteria of significance, and potential mitigation measures for each resource is included in Volume 9, Appendix G.

#### **12.2.4 Weapons Emplacement Alternatives**

Detailed information on the weapons emplacements is contained in a Classified Appendix (Appendix L). An unclassified summary of impacts specific to each set of alternatives is presented here. All of the APEs for all alternatives have been surveyed for archaeological, architectural, and traditional cultural properties (Dixon et al. 2010; Griffin et al. 2009).

##### Construction

Weapons Emplacement Alternative 1 would cause significant adverse impacts to 28 NRHP-eligible archaeological sites, including sites with pre-Contact and historic components. Alternative 2 would impact 29 NRHP-eligible archaeological sites, including sites with pre-Contact and historic components. Alternative 3 would cause significant adverse impacts to 33 NRHP-eligible archaeological sites. Alternative 4 would cause significant adverse impacts to 4 NRHP-eligible archaeological sites.

Construction of any of the Weapons Emplacement alternatives has the potential to require the removal of natural resources of cultural concern.

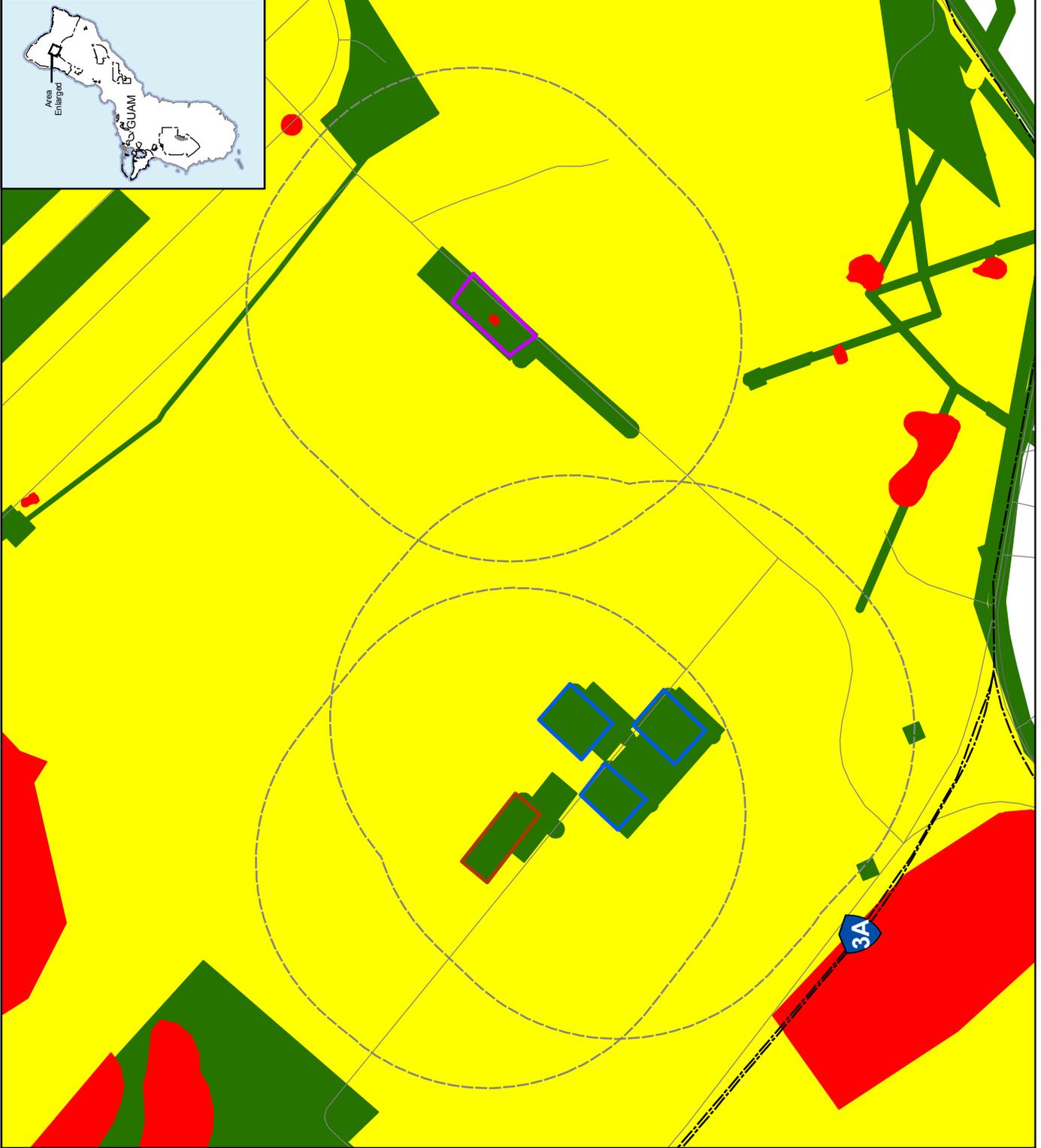
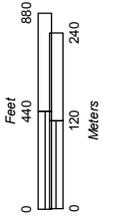
**Figure 12.2-4**

**Army AMDTF  
Munitions Storage  
Alternatives**

**Legend**

-  Military Installation
-  Route Number
-  IBD ESQD Arc
-  Alternative 1
-  Alternative 2
-  Alternative 3
- Archaeological  
Probability  
Areas**
-  High
-  Medium
-  Low

Source: TEC 2010



### Operation

Operation of any of the Weapons Emplacement alternatives would bring additional personnel into the area. However, given the heavy vegetation in most areas and that personnel would be primarily within a fenced area, indirect effects to sites outside of the fenced area would be minimal.

### Proposed Mitigation Measures

Data Recovery of sites directly within the footprints of the facilities, utilities or other ground disturbance activities would mitigate direct impacts to NRHP-eligible archaeological sites. As all archaeological sites are eligible for listing on the NRHP under Criterion D and ACHP guidelines on data recovery would be followed, significant impacts would be reduced to less than significant levels. No NRHP-eligible architectural resources or traditional cultural properties would be impacted by the weapons emplacement areas.

Natural resources of cultural concern would be avoided if possible; however, in places where impacts could not be avoided, the DoD would work with consulting parties to contact traditional artisans. Artisans would be given an opportunity to harvest and collect these resources for carving and canoe building.

#### **12.2.5 No-Action Alternative**

Under the no-action alternative, no construction or operations associated with the AMDTF would occur. Existing operations at the proposed project areas would continue. Therefore, the no-action alternative would not have adverse impacts to significant cultural resources.

#### **12.2.6 Summary of Impacts**

Tables 12.2-1, 12.2-2, 12.2-3 summarize the potential impacts of each major component – headquarters/housing, munitions storage, and weapons emplacement, respectively. A text summary is provided below.

**Table 12.2-1 Summary of Headquarters/Housing Impacts – Alternatives 1, 2, and 3**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
<b>Construction</b>		
SI-M <ul style="list-style-type: none"> <li>• Direct and indirect significant adverse impacts to two NRHP-eligible archaeological sites on NCTS Finegayan mitigated to less than significant through data recovery</li> </ul>	SI-M <ul style="list-style-type: none"> <li>• Direct significant adverse impacts to one traditional cultural property at Navy Barrigada mitigated to less than significant through redesign and vegetation cover</li> </ul>	SI-M <ul style="list-style-type: none"> <li>• Direct significant adverse impacts to one traditional cultural property at Navy Barrigada mitigated to less than significant through redesign and vegetation cover</li> <li>• Direct and indirect impacts to areas with two NRHP-eligible archaeological sites on NCTS Finegayan mitigated to less than significant through data recovery</li> </ul>
<b>Operation</b>		
SI-M <ul style="list-style-type: none"> <li>• Indirect significant adverse impacts to one traditional cultural property on South Finegayan</li> </ul>	LSI <ul style="list-style-type: none"> <li>• Less than significant impacts to one traditional cultural property at Navy Barrigada</li> </ul>	LSI <ul style="list-style-type: none"> <li>• Less than significant impacts to one traditional cultural property at Navy Barrigada</li> <li>• Indirect significant adverse impacts to one traditional cultural property on NCTS Finegayan</li> </ul>

Legend: SI-M = Significant impact mitigable to less than significant; LSI = Less than significant impact

**Table 12.2-2. Summary of Munitions Storage Impacts – Alternatives 1, 2, and 3**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
<b>Construction</b>		
NI <ul style="list-style-type: none"> <li>• No impacts to cultural resources</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts to cultural resources</li> </ul>	SI-M <ul style="list-style-type: none"> <li>• Direct adverse impacts to NRHP eligible archaeological site T-3-1</li> </ul>
<b>Operation</b>		
NI <ul style="list-style-type: none"> <li>• No impacts to cultural resources</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts to cultural resources</li> </ul>	LSI <ul style="list-style-type: none"> <li>• Less than significant impacts to cultural resources</li> </ul>

Legend: SI-M = Significant impact mitigable to less than significant; LSI = Less than significant impact; NI = No impact

**Table 12.2-3. Summary of Weapons Emplacement Impacts – Alternatives 1, 2, 3 and 4**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>	<i>Alternative 4</i>
<b>Construction</b>			
SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts to NRHP-eligible archaeological sites mitigated to less than significant through data recovery</li> </ul>	SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts to NRHP-eligible archaeological sites mitigated to less than significant through data recovery</li> </ul>	SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts to NRHP-eligible archaeological sites mitigated to less than significant through data recovery</li> </ul>	SI-M <ul style="list-style-type: none"> <li>Significant adverse impacts to NRHP-eligible archaeological sites mitigated to less than significant through data recovery</li> </ul>
<b>Operation</b>			
NI <ul style="list-style-type: none"> <li>There would be no impacts due to operations</li> </ul>	NI <ul style="list-style-type: none"> <li>The impacts would be the same as Alternative 1</li> </ul>	NI <ul style="list-style-type: none"> <li>The impacts would be the same as Alternative 1</li> </ul>	NI <ul style="list-style-type: none"> <li>The impacts would be the same as Alternative 1</li> </ul>

*Legend:* SI-M = Significant impact mitigable to less than significant; NI = No impact

Construction and operation of Headquarters/Housing Alternative 1 would result in significant direct impacts to two archaeological sites and one traditional cultural property. Construction of the co-located Army facilities at Finegayan would involve ground disturbance, erosion, and an increase in population in relation to historic properties. However, these impacts would be mitigated through preparation of additional cultural resources documentation as listed on Table 12.2-4, avoidance, data recovery and historic property awareness training.

Construction of Headquarters/Housing Alternative 2 at Navy Barrigada would result in significant impacts to one traditional cultural property. However, this impact could be mitigated through reduction of visual impacts to Mount Barrigada.

Construction of Headquarters/Housing Alternative 3 would result in significant direct impacts to two historic properties and one traditional cultural property. Construction of the co-located Army facilities at Finegayan would involve ground disturbance, erosion, and an increase in population in relation to historic properties. Construction of the alternative in this area would change the setting of one traditional cultural property. Mitigation would include preparation of additional cultural resources documentation as listed on Table 12.2-4, avoidance, data recovery and reduction of visual impacts to Mount Barrigada.

Construction and operation of AMDTF munitions storage facilities in MSA 1 under Alternative 3 would result in significant impacts to one NRHP-eligible archaeological site. Alternatives 1 and 2 would have no impacts to cultural resources. Construction and operation of the weapons emplacement facilities would have significant direct impacts to four NRHP-eligible archaeological sites under Alternative 4 (the preferred alternative) and between 28 and 33 NRHP-eligible sites under alternatives 1, 2, and 3. Mitigation for both the storage and emplacement facilities would include avoidance, and data recovery.

### 12.2.7 Summary of Proposed Mitigation Measures

Table 12.2-4 summarizes the proposed mitigation measures for each action alternative.

**Table 12.2-4. Summary of Proposed Mitigation Measures**

<i>Headquarters/Housing Alternatives</i>	<i>Munitions Storage Alternatives</i>	<i>Weapons Emplacement Alternatives</i>
<b>Archaeological Resources</b>		
<ul style="list-style-type: none"> <li>• Preparation of a Guam Synthesis</li> <li>• Preparation of a Cultural Landscape Report for Northern Guam</li> <li>• Preparation of a Curation Assessment.</li> <li>• Data recovery of sites 08-2299 and 08-2300</li> <li>• Historic property awareness training for DoD personnel</li> <li>• Allow traditional artisans and suruhanus to collect resources</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of a Guam Synthesis</li> <li>• Preparation of a Cultural Landscape Report for Northern Guam</li> <li>• Preparation of a Curation Assessment</li> <li>• Data recovery of site T-3-1 (Alternative 3)</li> <li>• Historic property awareness training for DoD personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of a Guam Synthesis</li> <li>• Preparation of a Cultural Landscape Report for Northern Guam Plateau</li> <li>• Preparation of a Curation Assessment</li> <li>• Data recovery of NRHP-eligible archaeological sites</li> <li>• Historic property awareness training for DoD personnel</li> <li>• Allow traditional artisans and suruhanus to collect resources</li> </ul>
<b>Architectural Resources</b>		
<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Submerged Resources and Objects</b>		
<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Traditional Cultural Properties</b>		
<ul style="list-style-type: none"> <li>• Visual impacts to Mount Barrigada would be reduced by vegetation</li> <li>• Preserve site and upgrade signage for site 08-0141 (Latte Stone Park)</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

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