

## CHAPTER 19.

# ENVIRONMENTAL JUSTICE AND THE PROTECTION OF CHILDREN

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This chapter focuses on the potential for racial and ethnic minorities, low-income populations, or children to be disproportionately affected by project-related impacts. Normally an analysis of environmental justice is initiated by determining the presence and proximity of these segments of the population relative to the specific locations that would experience adverse impacts to the human environment. The situation on Guam is unique in this regard because racial or ethnic minority groups (as defined by the United States [U.S.]) comprise a majority of the Guam population, and the proportions of people living in poverty or who are under 18 years of age are also substantially higher than in the general U.S. population. The analysis is further complicated by the fact that Guam is a relatively small and isolated island, and certain types of impacts would be experienced islandwide. Accordingly, the analysis of environmental justice described in this chapter acknowledges the unique demographic characteristics of the island population and assumes that the project effects could disproportionately affect disadvantaged groups and children because they comprise relatively high proportions of the population. By the same logic, proposed mitigation measures would be expected to effectively mitigate potential environmental justice impacts. Consequently, a distinction is made between potential impacts that would be mitigated and those for which no mitigations have been identified. The focus of this analysis is on the latter type of impacts. If a resource area did not have significant impacts, or were mitigable to less than significant, as analyzed in each individual chapter in Volume 2, then it was not further analyzed in this chapter. These resources are: geology and soils, water resources, air quality, airspace, biological resources, cultural resources, visual, marine transportation, and hazardous materials and waste. The effects of traffic and off base roadway improvements relative to Environmental Justice and Protection of Children are discussed in Volume 6.

### 19.1 AFFECTED ENVIRONMENT

#### 19.1.1 Definition of Resource

In 1994 President Clinton issued Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, in response to growing concern that minority and low-income populations bear adverse health and environmental effects disproportionately. EO 12898 requires federal agencies to assess the potential for their actions to have disproportionately high and adverse environmental and health impacts on minority and low-income populations. In 1997 EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, required a similar analysis for children, where Federal agencies must identify and assess environmental health risks and safety risks that may disproportionately affect children.

EO 12898 authorized the creation of an Interagency Working Group on Environmental Justice, overseen by the United States Environmental Protection Agency (USEPA), to implement the EO's requirements. The Interagency Working Group and USEPA developed guidance for terms contained in the EO. USEPA (2009) defines environmental justice as, "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

USEPA (1995) defines "fair treatment" as follows: "No group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local,

and tribal programs and policies.” A “disproportionate share of the negative environmental consequences” is an adverse effect or impact that is predominantly borne by any segment of the population, including a minority population or a low-income population. It can also mean that the suffering experienced by a minority population or low-income population is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by a non-minority or non-low-income population (USEPA 2009).

USEPA defines “meaningful involvement” as follows:

1. Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that would affect their environment and/or health.
2. The public’s contribution can influence the regulatory agency’s decision.
3. The concerns of all participants involved would be considered in the decision making process.
4. The decision makers seek out and facilitate the involvement of those potentially affected.

The Presidential Memorandum that accompanies EO 12898 cites the importance of the National Environmental Policy Act (NEPA) in identifying and addressing environmental justice concerns. The memorandum states that, “each federal agency shall analyze the environmental effects, including human health, economic and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA” (Federal Register 1994). The memorandum emphasizes the importance of NEPA’s public participation process, directing that “each federal agency shall provide opportunities for community input in the NEPA process.” Agencies are directed to identify potential impacts and mitigations in consultation with affected communities and ensure the accessibility of meetings, crucial documents, and notices.” The Presidential Memorandum includes four provisions that identify ways agencies should consider environmental justice under NEPA:

1. Each federal agency should analyze the environmental effects, including human health, economic, and social effects of federal actions, including effects on minority populations and low-income populations, and Indian tribes, when such analysis is required by NEPA.
2. Proposed mitigation measures identified as part of an Environmental Assessment, a Finding of No Significant Impact, an Environmental Impact Statement (EIS), or a Record of Decision should, whenever feasible, address significant and adverse environmental effects of proposed federal actions on minority populations, low-income populations, and Indian tribes.
3. Each federal agency must provide opportunities for effective community participation in the NEPA process, including identifying potential effects and proposed mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices.
4. Review of NEPA compliance must ensure that the lead agency preparing NEPA analyses and documentation has appropriately analyzed environmental effects on minority populations, low-income populations, or Indian tribes, including human health, social, and economic effects.

Neither the EO nor the Council on Environmental Quality (CEQ) prescribes a specific format for environmental justice assessments in the context of NEPA documents. However, CEQ (1979) identifies the following six general principles intended to guide the integration of environmental justice assessment into NEPA compliance, and that are applicable to the proposed project:

1. Agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the

- proposed action and, if so, whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.
2. Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. For example, data may suggest there is disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.
  3. Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the agency's proposed action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.
  4. Agencies should develop effective public participation strategies. Agencies should, as appropriate, acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation, and should incorporate active outreach to affected groups.
  5. Agencies should assure meaningful community representation in the process. Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to have complete representation of the community as a whole. Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful.
  6. Agencies should seek tribal representation in a manner that is consistent with current procedures and protocols between the U.S. and tribal governments, the federal government's trust responsibility to federally-recognized tribes, and any treaty rights.

CEQ (1979) states that the identification of a disproportionately high and adverse human health or environmental effect on a low-income or minority population does not preclude a proposed agency action from going forward, or compel a finding that a proposed project is environmentally unacceptable. Instead, the identification of such effects is expected to encourage agency consideration of alternatives, proposed mitigation measures, and preferences expressed by the affected community or population.

The following definitions apply to this section and the Environmental Consequences section of this chapter:

- Consistent with CEQ guidance (1979), this chapter defines a racial minority according to the definition used in the 2000 U.S. Census (U.S. Census Bureau 2000a): a racial minority includes American Indian or Alaskan Native; Asian or Pacific Islander; Black; or Hispanic. The 2000 Census (U.S. Census Bureau 2000a) allowed individuals to choose more than one race. For this analysis, consistent with guidance from the CEQ as well as USEPA (CEQ 1979; USEPA 1998, 1999), "minority" refers to people who are Pacific Islander, as well as those who are non-Pacific Islander of a race other than White or European-American.
- Also consistent with CEQ guidance (1979), this chapter bases the definition of low income on the official poverty line according to the U.S. Census (U.S. Census Bureau 2000b) (\$17,603).

However, because U.S. Census Bureau (2000b) data are collected in increments, the closest increment to the poverty line (\$19,999) is used to determine low income.

- Based on U.S. Census 2000 data categories, children are defined as people under the age of 18.

### 19.1.2 Guam Demographics Relevant to Environmental Justice

According to the U.S. Census 2000, “Native Hawaiian and Other Pacific Islander” refers to any of the original peoples of Guam, Hawaii, Samoa, or other Pacific Islands. This category includes people who indicated their race or races as Native Hawaiian, Chamorro, Samoan, Carolinian, Chuukese, Tahitian, Mariana Islander, Kosraean, Marshallese, Palauan, Pohnpeian, Yapese, or Other Pacific Islander (Grieco and Cassidy 2001; U.S. Department of Commerce 2004). The island of Guam is divided into 19 villages called municipalities. Figure 19.1-1 identifies the villages located adjacent to each military installation on Guam, and Table 19.1-1 provides an overview of racial composition, percentage of households in poverty, and percentage of children for those villages that are adjacent to and would be potentially affected by elements of the proposed action or alternatives. In general, the various racial and ethnic minority populations are evenly distributed within each of the villages on the island, as are people with lower incomes and children under age 18.

#### 19.1.2.1 North

##### Racial or Ethnic Minorities

With 15% or less of their populations being Caucasian, Dededo and Yigo have high percentages of racial and ethnic minorities based on U.S. averages (Table 19.1-1). Seventy-five percent (75%) of Dededo’s population is Chamorro and Filipino (combined), while 58% of Yigo is Chamorro and Filipino (combined). Both Dededo and Yigo have a slightly higher percentage of Filipinos (31% and 45%, respectively) than Chamorro (27% and 30%, respectively) (U.S. Census Bureau 2000a). The CNMI and other villages of Guam have similar percentages of racial minorities to Dededo and Yigo.

##### Low-Income Populations

Table 19.1-1 compares the percent of households in poverty in Dededo and Yigo to that of other villages on Guam, the U.S. population as a whole, and the CNMI. As the data indicate, while poverty rates in Dededo and Yigo are similar to those of other villages on Guam, CNMI’s poverty rate is almost double that of both Dededo and Yigo. Further, Dededo and Yigo’s poverty rates are double that of the U.S.

##### Children

As Table 19.1-1 indicates, both Dededo and Yigo have percentages of children similar to those of other Guam villages. However, these percentages are higher than those of both CNMI and the U.S. average.

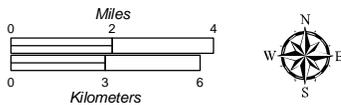
### Central Villages

1. Hagåtña
2. Sinajana
3. Mongmong-Toto-Maite
4. Agana Heights
5. Chalan Pago-Ordot



**Legend**

-  Military Installation
-  Village



**Figure 19.1-1  
Villages of Guam**

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**Table 19.1-1. Villages Affected by the Proposed Action Alternatives on Guam:  
Percentage Ethnic Minorities, in Poverty, and Under 18 Years of Age**

<i>Villages Affected</i>	<i>Village Minority<sup>1</sup></i>	<i>CNMI Minority</i>	<i>U.S. Average Minority</i>	<i>Village Poverty<sup>2</sup></i>	<i>CNMI Poverty</i>	<i>U.S. Average Poverty</i>	<i>Village Children<sup>3</sup></i>	<i>CNMI Children</i>	<i>U.S. Average Children</i>
<b>North</b>									
Dededo	97%	98%	25%	25%	48%	11%	36%	28%	21%
Yigo	85%			22%			38%		
<b>Central</b>									
Mangilao	96%	98%	25%	27%	48%	11%	34%	28%	21%
Barrigada	95%			19%			35%		
Piti	84%			25%			30%		
<b>South</b>									
Santa Rita	76%	98%	25%	13%	48%	11%	31%	28%	21%
Agat	97%			29%			39%		
Umatac	99%			31%			43%		
Talofofo	93%			21%			40%		
Yona	70%			20%			41%		

Notes: <sup>1</sup> All the Guam villages identified in this table have minority populations that are at least three times the percentages of the average minority population in the U.S. (25%), but less than the CNMI average minority populations (98%).

<sup>2</sup> All Guam villages identified in this table have high percentages of people living in poverty relative to the U.S. average (11.3%), but less than the average for CNMI (48%).

<sup>3</sup> All Guam villages identified in this table have higher percentages of children compared to the U.S. average (21.4%) and the CNMI average (28%).

Sources: U.S. Census Bureau 2000b, CNMI Department of Commerce 2005.

#### 19.1.2.2 Central

Villages located in central Guam that would potentially be affected by the proposed action include Mangilao, Barrigada, and Piti (see Figure 19.1-1).

#### Racial or Ethnic Minorities

With only 4% of its population being Caucasian, Mangilao has a high percentage of racial and ethnic minorities compared to the U.S. average. However, this percentage is similar to the percentages of racial minorities in other villages on Guam and on CNMI. Mangilao has a higher percentage of Chamorros (47%) than Filipinos (22%) (U.S. Census Bureau 2000a).

With only 5% of its population being Caucasian, Barrigada has a high percentage of racial and ethnic minorities compared to the U.S. average (refer to Table 19.1-1). Like Mangilao, it has a higher percentage of Chamorros (56%) than Filipinos (19%) (U.S. Census Bureau 2000a).

While Piti has a higher percentage of Caucasians than the other Guam villages analyzed (16%), the majority of its population is a racial or ethnic minority compared to the U.S. average. Piti's percentage of racial minorities (84%) is lower than that of CNMI (98%) but still higher than the U.S. average (25%). Piti has a much higher percentage of Chamorros (60%) than Filipinos (7%) (U.S. Census Bureau 2000a).

#### Low-Income Populations

As indicated in Table 19.1-1, over one quarter (27%) of Mangilao's households live in poverty. While this percentage is similar to that of other villages on Guam and less than that of CNMI (48%), it is over two times greater than that of the U.S. (11%).

The percentage of households living in poverty in Barrigada in 2000 was 19%, which is relatively lower than other Guam villages. This is also substantially lower than the poverty rate on CNMI, which is close

to 50% (U.S. Census Bureau 2000b). However, while relatively low, Barrigada's poverty rate is still higher than the U.S. average.

According to the 2000 U.S. Census, 18% of households in Piti are living in poverty, which is similar to that of Barrigada but less than that of the other villages of Guam analyzed (refer to Table 19.1-1). Piti's poverty rate (18%) is substantially lower than that of CNMI (48%) but still greater than the U.S. average (11%).

### Children

Mangilao has a similar percentage of children to that of other Guam villages (34%); however, this percentage is higher than both CNMI (28%) and the U.S. average (21%).

Barrigada's percentage of children is similar to that of the other Guam villages analyzed. However, Barrigada's percentage of children exceeds that of both CNMI and the U.S. (refer to Table 19.1-1).

Piti's percentage of children (30%) is similar to that of the Guam villages analyzed but still higher than that of CNMI (28%) and the U.S. (21%).

#### 19.1.2.3 South

Villages located in the south part of Guam that would potentially be affected by the proposed action include Santa Rita, Agat, northern Umatac, Tolofofo, and Yona (refer to Figure 19.1-1).

### Racial or Ethnic Minorities

Santa Rita has one of the highest percentages of Caucasians on the island of Guam (24%) (refer to Table 19.1-1). CNMI has a higher percentage of racial minorities (98%) than Santa Rita (76%). However, Santa Rita has a higher percentage of racial minorities than the U.S. average (25%). The population in Santa Rita is 31% Chamorro and 20% Filipino (U.S. Census Bureau 2000a).

Agat, Tolofofo, and Umatac have similarly high percentages of racial minorities compared to the other villages on Guam analyzed and to CNMI. The percentage of racial minorities in Yona (70%) is similar to that of Santa Rita (76%). Agat, Tolofofo, Umatac, and Yona have higher percentages of racial minorities than the U.S. average (25%).

Agat, Tolofofo, Umatac, and Yona have some of the highest percentages of Chamorros on Guam (67%, 79%, 95%, and 70%, respectively). While 23% of the population in Agat is Filipino, the percentage of Filipinos in Tolofofo, Umatac, and Yona is 5% or less (U.S. Census Bureau 2000a).

### Low-Income Populations

Santa Rita has the lowest percentage of households in poverty on the island (refer to Table 19.1-1). Santa Rita's poverty rate (13.4%) is substantially lower than that of CNMI (48%) but is still not as low as the U.S. (11%) (U.S. Census Bureau 2000b).

While Umatac has the highest poverty rate of the other southern villages on Guam that were analyzed (31%), this is lower than the CNMI poverty rate (48%). All villages of southern Guam and CNMI have poverty rates higher than the U.S. average (11%).

### Children

As indicated in Table 19.1-1, Santa Rita has a similar percentage of children to the other Guam villages examined. However, the percentage of children in Santa Rita (31%) is slightly higher than that of CNMI (28%) and higher than that of the U.S. (21%).

The villages of southern Guam, especially Agat, Umatac, Talofoto, and Yona, have substantially higher percentages of children than villages in other regions of Guam. They also have substantially higher percentages of children than CNMI and the U.S.

## **19.2 ENVIRONMENTAL CONSEQUENCES**

This description of environmental consequences addresses all components of the proposed action for the Marine Corps on Guam. The components addressed include: Main Cantonment, Training, Airfield, and Waterfront. There are multiple alternatives for the Main Cantonment, Training-Firing Range, Training-Ammunition Storage, and Training-NMS Access Road. Airfield and Waterfront do not have alternatives. Although organized by the Main Cantonment alternatives, a full analysis of each alternative, Airfield, and Waterfront is presented beneath the respective headings. A summary of impacts specific to each alternative, Airfield and Waterfront, is presented at the end of this chapter. An analysis of the impacts associated with the off base roadways is discussed in Volume 6.

### **19.2.1 Approach to Analysis**

#### **19.2.1.1 Methodology**

Volume 2 of this EIS examines and identifies the potential impacts that each alternative may have on various resources on Guam by region, which is divided into the North, Central, Apra Harbor, and South regions. Based on the conclusions reached in each resource chapter, the analysis of environmental justice sought to identify the adverse impacts that would disproportionately affect racial minorities, children, and/or low-income populations, based on the following assumptions:

- Environmental Justice and Protection of Children policies require a federal agency to analyze whether its proposed action would adversely affect a minority, low-income, and child population disproportionately to the rest of the community. The island of Guam is unique in that a majority of the population of Guam meet the criteria for being an Asian Pacific minority group in the context of the overall U.S. population. As a result, where the EIS identifies significant impacts for a particular resource, there would be a corresponding, island-wide adverse effect to minority populations on Guam, compared to the U.S. population. However, because of international agreements that require the proposed action to focus on Guam, and not other locations within the U.S., the evaluation of environmental justice would be on whether there are disproportionate adverse effects within the context of alternatives for facility location on Guam. Because of this, it would be impossible for there to be a disproportionate effect from an identified adverse impact based solely on the impact affecting a minority population. Therefore, the analysis for environmental justice on Guam must consider whether there is a disproportionate adverse effect on a low-income population or children. For example, if there is a low-income population that is being impacted by a potential reduction in Public Health and Social Services, that impact would be considered a significant impact because the population, as a given, is a minority population and it is being disproportionately affected because it is a low-income population. As a result, some resource areas may have effects on a minority population, but because they do not impact a low-income or child population in a disproportionate manner they will not be considered as causing an environmental justice adverse effect.
- The region of influence (ROI) is defined as the area in which the principal effects arising from the implementation of the proposed action or alternatives are likely to occur. Those who

may be affected by the consequences of the alternatives are often those who reside or otherwise occupy areas immediately adjacent to the alternative locations.

- Because impacts under the proposed action are related either to construction or operations, impacts to villages could result from either a “spill over” effect that extends beyond an installation’s boundary line into the surrounding community (for instance, noise impacts from operations), or that directly affect minority populations in the ROI.

The analysis involved the application of three tiers of criteria to assess the environmental justice implications for each significant impact identified in the relevant resource chapters. In some cases if the analysis shows that the requirements for the specific criteria have not been met, then a discussion on the next tier may not be required. For instance, if an applicable disadvantaged group is not disproportionately affected in Tier 2, then a discussion on significant effects under environmental justice would not be warranted.

- *Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*
- *Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*
- *Tier 3: Would the disproportionate adverse effects be significant?*

#### 19.2.1.2 Determination of Significance

According to Section 1508.27 of the CEQ Regulations for Implementing NEPA (CEQ 1979), determining the level of significance of an environmental impact requires that both context and intensity be considered. These are defined in Section 1508.27 as follows:

- “Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant”.
- “Intensity. This refers to the severity of the impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
  - Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect would be beneficial.
  - The degree to which the proposed action affects public health or safety.
  - Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
  - The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.
  - The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
  - Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined critical under the Endangered Species Act of 1973.
- Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.”

This chapter uses these criteria to determine significance for the proposed action in terms of environmental justice.

#### 19.2.1.3 Issues Identified During Public Scoping Process

As part of the analysis, concerns relating to environmental justice or the protection of children that were mentioned by the public, including regulatory stakeholders, during scoping meetings were addressed. These included:

- Concerns that disruption to family lives and cultural values would ultimately “jeopardize the future of [indigenous] children.”
- Concerns from the Micronesian Youth Services Network about ensuring that, “the transition of personnel on our islands will not disrupt our family lives and our cultural values...”
- Concerns that indigenous people of Guam are treated as second-class citizens. One commenter from Saipan indicated that, “these are their islands, and the locals’ culture and related artifacts which still can be found...are also deserving of respect.”
- Sanctuary, Incorporated, a non-profit organization focused on youth and their families, recommended using the *Social Impact Assessment Guide and Principles* as a basis for conducting the social impact study for this EIS.
- The Chamorro Studies Association requested, “protect the people of Guam and their human rights.”
- The CMTF Social and Cultural Subcommittee submitted a comprehensive paper on the subject of Chamorro interests (see Appendix G). That subcommittee recommends that the EIS identify issues and concerns that must be addressed to minimize negative social impacts and allow local and military communities to live in harmony.

#### 19.2.1.4 Public Involvement

Given the public concern expressed during the public scoping process and in keeping with CEQ guidance to “develop effective public participation strategies,” the following public involvement measures were implemented (Table 19.2-1) to ensure that minority populations on Guam were provided the opportunity to participate in the public review process of this EIS.

**Table 19.2-1. Environmental Justice Public Involvement**

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>	<i>Alternative 8</i>
<b>Public Involvement</b>			
<ul style="list-style-type: none"> <li>• Public meetings were located in areas most accessible to public transportation</li> <li>• Public notices were printed as well as online</li> <li>• Extra effort was made to inform residents about public meetings</li> <li>• Written materials were provided in the Chamorro language and an interpreter was provided at meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Public meetings were located in areas most accessible to public transportation</li> <li>• Public notices were printed as well as online</li> <li>• Extra effort was made to inform residents about public meetings</li> <li>• Written materials were provided in the Chamorro language and an interpreter was provided at meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Public meetings were located in areas most accessible to public transportation</li> <li>• Public notices were printed as well as online</li> <li>• Extra effort was made to inform residents about public meetings</li> <li>• Written materials were provided in the Chamorro language and an interpreter was provided at meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Public meetings were located in areas most accessible to public transportation</li> <li>• Public notices were printed as well as online</li> <li>• Extra effort was made to inform residents about public meetings</li> <li>• Written materials were provided in the Chamorro language and an interpreter was provided at meetings</li> </ul>

*Note:* In addition, for all alternatives, the Mitigation Measures proposed for Chapters 6, 8, 9, 10, and 12 of Volume 2 are recommended; refer to Tables 6.2-6, 8.2-7, 9.2-6, 10.2-15, and 12.2-6, respectively.

**19.2.2 Alternative 1**

19.2.2.1 North

Noise

Under Alternative 1, most of the impacts would be less than significant. For those potential noise impacts of construction and operation of the Route 15 firing ranges that may exceed acceptable noise levels, the use of proposed mitigation measures would reduce noise levels to less than significant levels. Proposed mitigation measures include project sequencing through adaptive program management of construction and/or temporary or permanent sound barriers. Firing range mitigations also include maintaining the current dense foliage to attenuate and reduce noise effects.

Noise impacts during the operational phase due to the hand grenade range in Andersen South would be significant for a small number of nearby residents and they would not be mitigable. Proposed mitigation measures to avoid this significant impact cannot be identified because engineering controls aimed to reduce the low frequency sound generated from hand grenades are not feasible. If innovative and new technologies are developed, made available, and are applicable to address noise impacts on Guam, they would be considered as proposed mitigation measures.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

Noise-sensitive land uses within the north region of Guam include multi- and single-family residences, parks, churches, and schools. Racial and ethnic minority and low-income populations and children of the villages of Dededo and Yigo are present adjacent to the proposed action site.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

Special-status populations would not be disproportionately affected by noise impacts from the hand grenade range in Andersen South because the entire region has minority, low-income, and child populations. All residents within the area of noise impacts for the proposed hand grenade range in Andersen South under training Alternatives A or B would be affected in the same manner; therefore, minority and low-income populations would not be disproportionately affected by noise and there would not be disproportionate risks to the health and safety of children as a result of noise.

### Recreation

As described in Volume 2, Chapter 9 (Recreational Resources), there are numerous public recreational resources in Dededo and Yigo. Chapter 9 discusses that while the proposed action would occur on Department of Defense (DoD) land, indirect adverse impacts to public recreational resources are anticipated due to the large influx of military personnel, *their* dependents, and the H2B workers that are anticipated to provide much of the labor for the construction effort in the north. As Chapter 9 states, this population increase would cause an increase in demand for recreational services, which would likely result in crowding during peak use times (i.e., weekends, holidays, and evenings during summer), as well as increased wear and tear on the resources themselves. While population levels are expected to taper off again in a few years, this in-migration would nonetheless alter the availability and condition of public recreational resources on northern Guam. Potentially-affected resources include: Guam International Raceway, Marbo Cave, Pagat Trail and associated trails in the vicinity, cultural gathering activities (*suruhana*), and off-shore fishing near Marbo Cave. Implementation of Alternative 1, regardless of the Training Complex Alternatives A or B, would cause the cessation of the present activities at all the resources mentioned because the Known Distance (KD) Range Complex is proposed in that location.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

The recreational resources are generally used by all people of Guam, which includes a high proportion of racial or ethnic minorities, low-income individuals, and children.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

Minority and low-income populations and children are not disproportionately affected by the increase in demand to recreation areas, because the entire region has a minority or special status population. All people of Guam would be affected by impacts to recreational resources; therefore Alternative 1 would not result in disproportionately high and adverse effects on minority or low-income populations nor would there be disproportionate risks to the health and safety of children.

### Land Acquisition

There would be significant impacts to land ownership if there is a forced sale of land at the former FAA and Harmon parcels to the federal government for the main cantonment. As described in the approach to analysis in Volume 2 Chapters 8 and 16, it is assumed landowners are not interested in selling their land. Although there may be landowners who are interested in selling their land, the assumption of significant impact remains until negotiations are complete. There would also be relocations and land acquisition, or long-term leases for roadway improvements.

Federal regulations regarding land acquisition mitigate for the economic impacts experienced by individual landowners and occupants due to land acquisition. However, due to the extent of the proposed land acquisition and potential increase in federally owned or controlled land on Guam, and a reduction in

access to lands of sociocultural and recreational importance, the overall socioeconomic impacts of land acquisition would be significant.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

Based on the data provided in Sections 19.1.2 – 19.1.4, the private land owners are likely to be racial minorities that live in areas with a higher poverty rate than the U.S.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

As discussed in Section 19.2.1.1, because all of Guam is considered a racial and ethnic minority population, minorities would not experience disproportionately high and adverse effects due to land acquisition. Because federal regulations regarding land acquisition would ensure that significant economic impacts to landowners and occupants do not occur, low-income populations would not experience disproportionately high and adverse effects due to land acquisition. Land acquisition would not result in health and safety risks that would disproportionately impact children. Therefore, Alternative 1 would not result in disproportionate land use or socioeconomic impacts to minority and low-income populations or children as a result of land acquisition.

#### Public Health Care and Social Services

According to Chapter 16 of this Volume, health services of the Guam Department of Public Health and Social Services (GDPHSS) and the Guam Department of Mental Health and Substance Abuse (GDMHSA) target the most indigent populations for health care. Therefore, the majority of Guam residents accessing health services from the GDPHSS and the GDMHSA are low income and uninsured. However, many people with health insurance also use GDPHSS and GDMHSA services because unaffordable co-payments or missing coverage for specific services and medications necessitate that they access the free services of these two public agencies. This section assesses if the proposed action would disproportionately reduce or limit access to GDPHSS and GDMHSA services to low-income populations on Guam.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

While Public Health and Social Services affects minorities and special status groups island-wide, there are racial minorities, low-income, and children populations in the North.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

Minorities and child populations are not disproportionately affected by a reduction in Public Health and Social Services; however, low-income populations would be disproportionately affected, because the GDPHSS and GDMHSA's programs are designed to primarily serve the poor and uninsured. As indicated in Chapter 16, Socioeconomics, the population growth associated with the proposed action would increase the number of uninsured and underinsured people attempting to access the free services of GDPHSS and GDMHSA, especially temporary workers entering Guam through the Compact of Free Association agreement that does not require individuals to have health coverage before arriving on Guam. Without an increase in staff and other resources, this increase in demand for GDPHSS and GDMHSA would strain existing services to low-income people on Guam.

*Tier 3: Would the disproportionate adverse effect(s) be significant?*

This would depend on how great the demand would be. Given that the GDPHSS and GDMHSA programs are already strained and insufficient to support the needs of the low-income population on Guam, it is likely that the population increase anticipated as part of the proposed action would have disproportionately high and adverse effects on the low-income and uninsured populations on Guam and these effects would be significant.

Socioeconomic Impacts

According to Chapter 16 of this EIS, the proposed action would have several adverse socioeconomic impacts. Implementation of the proposed action would result in a “boom then bust” effect where the population on Guam would increase rapidly through 2014 during the construction phase, and then decrease rapidly after 2014 before leveling off. This cycle would lead to a construction downturn and the creation of an economic environment that meets standard definitions of an economic recession (e.g., decrease in jobs and civilian labor force income). With implementation of the proposed action, the cost of goods and services would rise with the increase in population, but may not be matched by an increase in income. Further, high housing costs, crowding, and/or homelessness may occur if the construction phase housing demand is not met at the construction peak.

This section assesses these impacts in terms of environmental justice.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

As Table 19.1-1 indicates, Guam villages have a high percentage of low-income people. The villages have similar percentages of low-income populations when compared to each other and the CNMI (Table 19.1-1).

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

While all populations on Guam would experience the aforementioned socioeconomic impacts, lower-income people are more likely to slip into poverty under economic distress. Low-income people are more financially vulnerable because they have fewer resources to support them in difficult economic times. The possible combination of higher costs of goods and services with higher housing costs would likely affect low-income people more severely than those with additional resources. Stressful economic circumstances may push people on the verge of poverty into poverty. Therefore, Alternative 1 would likely result in disproportionately high and adverse socioeconomic effects on low-income populations on Guam.

*Tier 3: Would the disproportionate adverse effect(s) be significant?*

Although Alternative 1 could have both significant adverse and disproportionate socioeconomic impacts in terms of environmental justice on low-income populations, some of the socioeconomic impacts would be beneficial. Chapter 16 proposes mitigation measures to reduce some potential adverse socioeconomic impacts. If these proposed mitigation measures are implemented, they would help reduce the impacts of the proposed action on low-income populations on Guam.

Public Health and Safety

Chapter 18 of this Volume concludes that Guam clinics and hospital would not likely be able to increase staffing to meet current health care service ratios and would not be capable of handling a potential increase in illnesses resulting from population growth. Because it is not likely that adequate increases in

the number of doctors and nurses needed to maintain service conditions would occur, significant impacts to health care services are anticipated unless the federal inter-agency task force succeeds in finding funding and/or other assistance to help upgrade the deficiencies in healthcare; therefore, significant impacts to health care services would be anticipated.

It is anticipated that the Guam Police Department and Guam Fire Department would not be able to increase staffing to meet current service ratios unless the federal inter-agency task force succeeds in finding funding and/or other assistance to help upgrade deficiencies; therefore, significant impacts to police and fire service is anticipated. No impacts to public health and safety are anticipated from management of hazardous substances. Less than significant impacts are anticipated from UXO and traffic incidents due to the increase in military personnel and dependents, construction employees, and natural population increase. Traffic congestion impacts and off base roadway projects are discussed in Volume 6.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

The populations of the villages affected by Alternative 1 have high percentages of racial minorities, low income groups, and children .

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

Minority populations are not disproportionately affected by the Public Health and Safety issues, because the entire region has a minority population. Low-income populations and children of low-income families would be disproportionately affected by significant adverse impacts to health care services. Impacts to police and fire services would affect all populations on Guam in the same manner; therefore, impacts to safety services would not be disproportionately high and adverse.

*Tier 3: Would the disproportionate adverse effect(s) be significant?*

Because of the existing sub-standard conditions of health care services on Guam, the impacts of Alternative 1 on public health care services would be significant on low-income populations and child of low-income families.

#### 19.2.2.2 Central

##### Noise

Under Alternative 1, most of the impacts would be less than significant. For those potential noise impacts of construction and operation of the Route 15 firing ranges that may exceed acceptable noise levels, the use of proposed mitigation measures would reduce noise levels to less than significant levels. Proposed mitigation measures include project sequencing through adaptive program management of construction and/or temporary or permanent sound barriers. Firing range mitigations also include maintaining the current dense foliage to attenuate and reduce noise effects.

Noise impacts during the operational phase due to the hand grenade range in Andersen South would be significant for a small number of residents.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

Noise-sensitive land uses within the central region of Guam include multi- and single-family residences, parks, churches, and schools. Racial and ethnic minority, low-income populations, and children are present in the village of Mangilao adjacent to the proposed action site.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

Minority and special status populations would not be disproportionately affected by noise impacts from the hand grenade range in Andersen South. The entire region has minority and special status populations. All residents within the area of noise impacts for the proposed hand grenade range in Andersen South under training Alternatives A or B would be affected in the same manner; therefore, minority and low-income populations and children would not be disproportionately affected by noise nor would there be disproportionate risks to the health and safety of children.

#### Recreational

Due to the proposed action, Pagat trail, a recreational and a cultural resource near Andersen South, would be closed to the public because it would be located within the safety zone of a planned fire training area. Cultural resource mitigation in Volume 2, Chapter 12 suggests that the military would consider allowing limited access to this and other cultural sites to the Chamorros; therefore Alternative 1 would not result in disproportionately high and adverse effects on minority populations nor would there be disproportionate risks to the health and safety of children.

#### Land Acquisition of Proposed Range A and B Areas

There would be a significant impact due to forced sale of the Route 15 lands to the federal government for firing ranges on Guam. As described in the approach to analysis in Volume 2 Chapters 8 and 16, it is assumed landowners are not interested in selling their land. Although there may be landowners who are interested in selling their land, the assumption of significant impact remains until negotiations are complete. There would also be relocations and land acquisition, or long-term leases for roadway improvements.

Federal regulations regarding land acquisition mitigate for the economic impacts experienced by individual landowners and occupants due to land acquisition. However, due to the extent of the proposed land acquisition and potential increase in federally owned or controlled land on Guam, and a reduction in access to lands of sociocultural and recreational importance, the overall socioeconomic impacts of land acquisition would be significant.

*Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

The site itself is sparsely developed; however, based on the data provided in Sections 19.1.2 – 19.1.4, the private land owners are likely to be racial minorities that live in areas with a higher poverty rate than the U.S.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

As discussed in Section 19.2.1.1, because all of Guam is considered a racial and ethnic minority population, minorities would not experience disproportionately high and adverse effects due to land

acquisition. Because federal regulations regarding land acquisition would ensure that significant economic impacts to landowners and occupants do not occur, low-income populations would not experience disproportionately high and adverse effects due to land acquisition. Land acquisition would not result in health and safety risks that would disproportionately impact children. Therefore, Alternative 1 would not result in disproportionate land use or socioeconomic impacts to minority and low-income populations or children as a result of land acquisition.

#### Access to Public Health and Social Services

Impacts would be the same as for the North.

#### Socioeconomic Impacts

Impacts would be the same as for the North.

#### Public Health and Safety Impacts

Impacts would be the same as for the North.

#### 19.2.2.3 Apra Harbor

As discussed in Chapter 2 of this Volume, proposed Marine Corps actions at Navy Base Guam include the construction of a ship berthing and embarkation/staging area and the construction of an amphibious craft laydown area. Also included are the relocation of U.S. Coast Guard facilities, the military working dog kennel, and Apra Medical/Dental Clinic.

#### Access to Public Health and Social Services

Impacts would be the same as the North.

#### Socioeconomic Impacts

Impacts would be the same as the North.

#### Public Health and Safety Impacts

Impacts would be the same as for the North.

#### 19.2.2.4 South

#### Recreation

While there are fewer public recreational resources in the south, there are several resources along the coast as described in Volume 2, Chapter 9. An increase in the number of people using these resources is anticipated with implementation of the proposed action. This may have an adverse impact on the ability of others to use these resources. *Tier 1: Are there any racial minorities, low-income, or children populations adjacent to the proposed action site?*

There are high percentages of racial minorities in the southern villages of Guam, and many of these villages have high levels of poverty and children.

*Tier 2: Are the applicable disadvantaged groups disproportionately affected by the negative environmental consequences of the proposed action(s)?*

All people of Guam would be affected by impacts to recreational resources; therefore Alternative 1 would not result in disproportionately high and adverse effects on minority or low-income populations nor would there be disproportionate risks to the health and safety of children.

Access to Public Health Services

Impacts would be the same as the North.

Socioeconomic Impacts

Impacts would be the same as the North.

Public Health and Safety Impacts

Impacts would be the same as the North.

## 19.2.2.5 Proposed Mitigation Measures

To reduce potential impacts from the implementation of Alternative 1, it is recommended that the proposed mitigation measures in Chapters 6, 8, 9, 10, 12, 16 and 18 of Volume 2 be implemented. This would reduce impacts related to recreation, cultural resources, socioeconomics, public health and safety services and land ownership/use on the surrounding community.

The following measures are recommended to address potential impacts to low-income people due to the proposed land acquisition or long term leasing of the Route 15 lands:

- The proposed mitigation measures in Chapter 8, Land Use.

The following measures are recommended to reduce the strain on GDPHSS and GDMHSA health services for the poor and uninsured:

The proposed mitigation measures in Chapter 16, Socioeconomics. The following measures would likely reduce the socioeconomic impacts to low-income residents of Guam:

- The proposed mitigation measures in Chapter 16, Socioeconomics.

The following measures would likely reduce the public health and safety impacts to racial minority and low-income residents and children of Guam:

- DoD would lead a federal inter-agency effort to identify other federal programs and funding sources that could benefit the people of Guam and Tinian in regards to health care, social services, disease control and/or other assistance to help Guam and Tinian upgrade their capacity to care for and help prevent increased incidence of illnesses. This mitigation measure is described in the Public Health and Safety category.

**19.2.3 Alternative 2 (Preferred Alternative)**

## 19.2.3.1 North

The impacts for the actions proposed in Alternative 2 are the same as those discussed under Alternative 1.

## 19.2.3.2 Central

The impacts for the actions proposed in Alternative 2 are the same as those discussed under Alternative 1.

## 19.2.3.3 Apra Harbor

The impacts for the actions proposed in Alternative 2 are the same as those discussed under Alternative 1.

## 19.2.3.4 South

The impacts for the actions proposed in Alternative 2 are the same as those discussed under Alternative 1.

19.2.3.5 Proposed Mitigation Measures

The proposed mitigation measures for Alternative 2 are the same as those proposed for Alternative 1.

**19.2.4 Alternative 3**

19.2.4.1 North

The impacts for the actions proposed in Alternative 3 are the same as those discussed under Alternatives 1 and 2.

19.2.4.2 Central

The impacts for the actions proposed in Alternative 3 are the same as those discussed under Alternatives 1 and 2.

19.2.4.3 Apra Harbor

The impacts for the actions proposed in Alternative 3 are the same as those discussed under Alternatives 1 and 2.

19.2.4.4 South

The impacts for the actions proposed in Alternative 3 are the same as those discussed under Alternatives 1 and 2.

19.2.4.5 Proposed Mitigation Measures

The proposed mitigation measures for Alternative 3 are the same as those proposed for Alternatives 1 and 2.

**19.2.5 Alternative 8**

19.2.5.1 North

The impacts for the actions proposed in Alternative 8 are the same as those discussed under Alternatives 1 and 2.

19.2.5.2 Central

The impacts for the actions proposed in Alternative 8 are the same as those discussed under Alternatives 1 and 2.

19.2.5.3 Apra Harbor

The impacts for the actions proposed in Alternative 8 are the same as those discussed under Alternatives 1 and 2.

19.2.5.4 South

The impacts for the actions proposed in Alternative 8 are the same as those discussed under Alternatives 1 and 2.

19.2.5.5 Proposed Mitigation Measures

The proposed mitigation measures under Alternative 8 are the same as those proposed under Alternatives 1 and 2.

**19.2.6 No-Action Alternative**

Under the no-action alternative, no construction or operations associated with the proposed military relocation to Guam would occur. Existing operations at the proposed project areas would continue. Recreational and cultural resources like Pagat Trail in northern Guam would remain open to the public, so there would be no disproportionate impact to Chamorros.

The GDPHSS and GDMHSA services would be insufficient to meet the demand; however, their programs would not have the added strain of increased demand due to uninsured and underinsured migrant workers. The no-action alternative would not change the present impact and status of minority, low-income, or children populations.

Under the no-action alternative, the economy of Guam would not change as rapidly as under the proposed action. There would remain a high percentage of low-income people on Guam.

**19.2.7 Summary of Impacts**

Tables 19.2-2, 19.2-3, 19.2-4, and 19.2-5 summarize the potential impacts of each action alternative associated with the Main Cantonment, firing range training, ammunition storage, and NMS access roads. Other off base roadway impacts are discussed in Volume 6. Table 19.2-6 summarizes the potential impacts of other training, airfield, and waterfront components of the proposed action. As these tables indicate, resources that may have effects in terms of environmental justice and the protection of children include access to public health services and socioeconomics.

**Table 19.2-2. Summary of Main Cantonment Impacts – Alternatives 1, 2, 3 and 8**

<i>Main Cantonment Alternative 1 (North)</i>	<i>Main Cantonment Alternative 2 (North)</i>	<i>Main Cantonment Alternative 3 (North/Central)</i>	<i>Main Cantonment Alternative 8 (North/Central)</i>
<p>NI</p> <ul style="list-style-type: none"> <li>No disproportionately high and adverse noise impacts.</li> </ul> <p>NI</p> <ul style="list-style-type: none"> <li>No land acquisition impacts disproportionately affecting minority and low-income populations</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>The “boom and then bust” cycle of population growth and decline may stress the Guam economy. This would be felt more severely by low-income people, who often do not have resources to buffer hard economic times</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>Guam’s public health services would not be able to handle potential increases in illnesses of the medically underserved and low income</li> </ul>	<p>NI</p> <ul style="list-style-type: none"> <li>No disproportionately high and adverse noise impacts.</li> </ul> <p>NI</p> <ul style="list-style-type: none"> <li>No land acquisition impacts disproportionately affecting minority and low-income populations</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>The “boom and then bust” cycle of population growth and decline may stress the Guam economy. This would be felt more severely by low-income people, who often do not have resources to buffer hard economic times</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>Guam’s public health services would not be able to handle potential increases in illnesses of the medically underserved and low income</li> </ul>	<p>NI</p> <ul style="list-style-type: none"> <li>No disproportionately high and adverse noise impacts.</li> </ul> <p>NI</p> <ul style="list-style-type: none"> <li>No land acquisition impacts disproportionately affecting minority and low-income populations</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>The “boom and then bust” cycle of population growth and decline may stress the Guam economy. This would be felt more severely by low-income people, who often do not have resources to buffer hard economic times</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>Guam’s public health services would not be able to handle potential increases in illnesses of the medically underserved and low income</li> </ul>	<p>NI</p> <ul style="list-style-type: none"> <li>No disproportionately high and adverse noise impacts.</li> </ul> <p>NI</p> <ul style="list-style-type: none"> <li>No land acquisition impacts disproportionately affecting minority and low-income populations</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>The “boom and then bust” cycle of population growth and decline may stress the Guam economy. This would be felt more severely by low-income people, who often do not have resources to buffer hard economic times</li> </ul> <p>SI</p> <ul style="list-style-type: none"> <li>Guam’s public health services would not be able to handle potential increases in illnesses of the medically underserved and low income</li> </ul>

**Table 19.2-2. Summary of Main Cantonment Impacts – Alternatives 1, 2, 3 and 8**

<i>Main Cantonment Alternative 1 (North)</i>	<i>Main Cantonment Alternative 2 (North)</i>	<i>Main Cantonment Alternative 3 (North/Central)</i>	<i>Main Cantonment Alternative 8 (North/Central)</i>
SI <ul style="list-style-type: none"> <li>• Access to public health and social services would be strained by an increase in uninsured and underinsured workers coming to Guam. Implementation of proposed mitigation measures in Chapter 16 would reduce this effect</li> </ul>	SI <ul style="list-style-type: none"> <li>• Access to public health and social services would be strained by an increase in uninsured and underinsured workers coming to Guam. Implementation of proposed mitigation measures in Chapter 16 would reduce this effect</li> </ul>	SI <ul style="list-style-type: none"> <li>• Access to public health and social services would be strained by an increase in uninsured and underinsured workers coming to Guam. Implementation of proposed mitigation measures in Chapter 16 would reduce this effect</li> </ul>	SI <ul style="list-style-type: none"> <li>• Access to public health and social services would be strained by an increase in uninsured and underinsured workers coming to Guam. Implementation of proposed mitigation measures in Chapter 16 would reduce this effect</li> </ul>

Legend: NI = No impact, SI = Significant impact.

**Table 19.2-3. Summary of Training Impacts – Firing Range Alternatives**

<i>Firing Range Alternative A (Central)</i>	<i>Firing Range Alternative B (Central)</i>
NI <ul style="list-style-type: none"> <li>• No disproportionately high and adverse effects if Route 15 lands are acquired</li> </ul>	NI <ul style="list-style-type: none"> <li>• No disproportionately high and adverse effects if Route 15 lands are acquired</li> </ul>

Legend: NI = No impact.

**Table 19.2-4. Summary of Training Impacts – Ammunition Storage Alternatives**

<i>Ammunition Storage Alternative A (South)</i>	<i>Ammunition Storage Alternative B (South)</i>
NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>

Legend: NI = No impact.

**Table 19.2-5. Summary of Training Impacts – NMS Access Roads Alternatives**

<i>Ammunition Storage Alternative A (South)</i>	<i>Ammunition Storage Alternative B (South)</i>
NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>

Legend: NI = No impact.

**Table 19.2-6. Summary of Other Training, Airfield, and Waterfront Component Impacts**

<i>Other Training (North/Central/South)</i>	<i>Airfield (North)</i>	<i>Waterfront (Apra Harbor)</i>
NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>	NI <ul style="list-style-type: none"> <li>• No impacts</li> </ul>

Legend: NI = No impact.

**19.2.8 Summary of Proposed Mitigation Measures**

Proposed mitigation measures in Chapters 16 and 18 of Volume 2 would also reduce significant impacts related to Environmental Justice and the Protection of Children. These would reduce impacts to socioeconomics and public health care services.

The following measures are recommended to reduce the strain on GDPHSS and GDMHSA health services for the poor and uninsured:

- The proposed mitigation measures in Chapter 16, Socioeconomics.

The following measures would likely reduce the socioeconomic impacts to low-income residents of Guam:

- The proposed mitigation measures in Chapter 16, Socioeconomics.

The following measures would likely reduce the public health impacts to low-income residents and children of Guam:

- DoD would lead a federal inter-agency effort to identify other federal programs and funding sources that could benefit the people of Guam and Tinian in regards to health care, social services, disease control and/or other assistance to help Guam and Tinian upgrade their capacity to care for and help prevent increased incidence of illnesses. This mitigation measure is described in the Public Health and Safety category.