

4.5 NO-ACTION ALTERNATIVE FOR CANTONMENT/HOUSING

Under the No-Action Alternative for this SEIS, the DON would continue to implement the September 2010 ROD, including construction and operation of a cantonment area for approximately 8,600 Marines and approximately 9,000 dependents on DoD-controlled lands at Finegayan and South Finegayan and by acquiring land known as the former FAA parcel.

4.5.1 Geological and Soil Resources

For the No-Action Alternative, the impacts to geological and soil resources would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 3: Geological and Soil Resources, Section 3.2.3, page 3-49). Under the No-Action Alternative, there would be adverse, but less than significant, direct long-term impacts to topography due to permanent alteration of the landscape. The construction footprint for the No-Action Alternative would be 78% larger than the footprint for Alternative A and would involve a proportionately larger amount of excavation than Alternative A. Approximately 62 features have been preliminarily identified as sinkholes/depressions that may contain sinkholes within or on the perimeter of the No-Action Alternative footprint but there would be less than significant direct, short- and long-term impacts to sinkholes with implementation of sinkhole protection measures. By comparison, 43 similar features have been identified for Alternative A (the most for any of the action alternatives) which would also have less than significant direct, short- and long-term impacts to sinkholes with implementation of sinkhole protection measures.

4.5.2 Water Resources

For the No-Action Alternative, impacts to water resources would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 4: Water Resources, Section 4.2.3: Alternative 2 (Preferred Alternative), pages 4-118 to 4-123). The No-Action Alternative would add substantially more impervious surface area to Guam (883 acres [357 ha]), as compared to the action alternatives discussed in Chapter 4, with Alternative D having the greatest increase in impervious area (319 acres [129 ha]) of the four action alternatives. Greater demand on the existing sewer collection systems under the No-Action Alternative, as compared to the four action alternatives, would result in significant adverse indirect impacts to all categories of water resources. These impacts would be mitigated by DoD seeking other funding for upgrades to the sewer collection systems and southern area WWTPs to meet increased demands associated with the large increase in population. The No-Action Alternative and the four action alternatives would have similar short-term significant direct impacts to nearshore waters. Upgrades of the Agana WWTP and Northern District WWTP to secondary treatment in the long-term would be beneficial to the water quality of nearshore waters. The No-Action Alternative would have no direct impacts on wetlands and would be similar to Alternatives A, B, and C. Alternative D would have significant direct impacts to approximately 0.1 acre (0.04 ha) of potentially jurisdictional wetland areas that may be reduced to a level below significant with potential mitigation.

Under the No-Action Alternative the estimated daily average groundwater withdrawals from the NGLA to meet potable water demand would be 5.8 MGd (22.0 MLd), as compared to 1.7 MGd (6.4 MLd) for the four action alternatives in this SEIS. The 2010 Final EIS concluded that groundwater withdrawals from the NGLA would result in less than significant impacts. However, results from the new USGS study (USGS 2013c) indicate that the four action alternatives would result in localized significant impacts to the NGLA that would be mitigated, and less than significant impacts to the overall NGLA. Therefore, it is assumed that the significantly larger groundwater withdrawals under the No-Action Alternative would

have similar, but greater localized significant impacts to the NGLA that would be mitigated as described for the action alternatives.

4.5.3 Air Quality

For the No-Action Alternative, air quality impacts would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 5: Air Quality, Section 5.2.3: Preferred Alternative (Alternative 2), pages 5-27 to 5-29 and 5-35 and Volume 6, Chapter 7: pages 7-37 to 7-46 and 7-72). Air quality impacts under the No-Action Alternative and the action alternatives discussed in Chapter 4 would be less than significant. However, impacts under the No-Action Alternative would be slightly greater than the action alternatives, given the greater scale of construction and operational activities.

4.5.4 Noise

Under the No-Action Alternative, noise impacts would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 6: Noise, Section 6.2.3: Preferred Alternative (Alternative 2), pages 6-21 to 6-59 and Volume 6, Chapter 8: Noise, Section 8.2: Environmental Consequences, pages 8-11 to 8-50). Noise impacts under the No-Action Alternative would be less than significant or significant but mitigable, depending on the location of construction activities. By comparison, the construction period for the action alternatives discussed in Chapter 4 would be extended, which would allow for the construction schedule to sequence work tasks and only one or two pieces of heavy equipment to operate in areas close to the nearest receptors, resulting in a reduction of noise impacts. As a result, all of the action alternatives would result in less than significant noise impacts with the implementation of BMPs.

4.5.5 Airspace

For the No-Action Alternative, impacts to airspace would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 7: Airspace, Section 7.2.3: Alternative 2 (Preferred Alternative), page 7-15). There would be no impacts to airspace for both the No-Action Alternative and action alternatives discussed in Chapter 4.

4.5.6 Land and Submerged Land Use

For the No-Action Alternative, impacts to land and submerged land use would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 8: Land and Submerged Land Use, Section 8.2.4: Alternative 2 (Preferred Alternative), pages 8-75 to 8-76). The No-Action Alternative would be developed on federally owned land but would also require land acquisition of the former FAA parcel (680 acres [275 ha]). By comparison, the action alternatives discussed in Chapter 4 would not require land acquisition. Significant impacts to land use under the No-Action Alternative would result from the new public access restrictions to the Latte Stone Park at South Finegayan and the jogging trail at the former FAA parcel, while significant impacts under the four action alternatives would only occur under Alternative B due to similar public access restrictions to the Latte Stone Park.

4.5.7 Recreational Resources

For the No-Action Alternative, impacts to recreational resources would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 9: Recreational Resources, Section 9.2.3: Alternative 2 (Preferred Alternative), pages 9-27 to 9-29). There would be significant impacts to recreational resources (i.e., increased user demand, accelerated deterioration,

diminished user satisfaction due to reduced recreational opportunities, and conflicts between users and uses) under the No-Action Alternative, while there would be would less than significant impacts to recreational resources under the action alternatives discussed in Chapter 4 due to the substantially smaller number of Marines and dependents that would arrive on Guam.

4.5.8 Terrestrial Biological Resources

Table 4.5.8-1 provides a brief summary of terrestrial biological resource impacts that would result with implementation of the No-Action Alternative as described in the 2010 ROD and as the Preferred Alternative in the 2010 Final EIS (Volume 2, Chapter 10: Terrestrial Biological Resources, Section 10.2.3: Alternative 2, pages 10-169 to 10-177).

Table 4.5.8-1. Potential Impacts from the Proposed Cantonment/Family Housing Area under the No-Action Alternative

<i>Impact Component</i>	<i>Vegetation</i>	<i>Special Management Areas</i>	<i>Wildlife</i>	<i>SS Species (significant impacts only)</i>
Cantonment/Family Housing at Finegayan, South Finegayan, and the Former FAA Parcel				
Construction	Direct - SI	Direct - SI (Loss of 1,106 acres (448 ha) of Overlay Refuge)	Direct – LSI Indirect – LSI	ESA-Listed Fruit Bat: Direct – SI-M (loss of habitat) Indirect – SI-M (invasive species) All other SS species currently present: Indirect – SI-M (invasive species)
Operation	Indirect - LSI	Indirect - LSI	Direct – LSI Indirect – LSI	ESA-Listed Fruit Bat: Direct – SI-M (loss of habitat) Indirect – SI-M (invasive species) All other SS species currently present: Indirect – SI-M (invasive species)

Legend: LSI = less than significant impact, SI = significant impact, and SI-M = significant impact that is mitigable.

Of the approximate 21,690 acres (8,778 ha) of Overlay Refuge, 1,106 acres (448 ha) would be removed with construction of the cantonment area as proposed under the Preferred Alternative in the 2010 ROD. This area represents 5.1% of Overlay Refuge lands on Guam. Overlay Refuge lands contain habitat that would be suitable for recovery efforts of special-status species, including those that do not presently occur within the action area.

The 2010 Final EIS concluded that implementation of the Preferred Alternative would result in significant impacts to the Mariana crow and Guam Micronesian kingfisher. However, the Mariana crow is now considered extirpated from Guam (Personal communication via letter from USFWS, Pacific Islands Fish and Wildlife Office, Honolulu, HI regarding the DON NOI for Proposed Placement of LFTRC on Guam NWR, December 7, 2012). As both the crow and the kingfisher are extirpated from Guam, there would be no impacts to these species from the construction and operation of the proposed cantonment/family housing complex under the No-Action Alternative.

There would be a direct, significant impact on the Mariana fruit bat due to the removal of 816 acres (330 ha) of suitable habitat during construction and indirectly due to disturbance of habitat adjacent to the proposed facilities. This would be mitigated with the conservation actions proposed in the 2010 Final EIS to less than significant.

Indirectly, movement of construction personnel, equipment, and supplies could result in the spread of invasive plant and animal species to Guam, within Guam, or to other locations from Guam. Invasive species could affect special-status species or degrade habitat and therefore would result in potential

indirect impacts. Although impacts to special-status species would be significant under the No-Action Alternative, implementation of mitigation and conservation measures, such as the preparation of the Micronesia Biosecurity Plan and Hazard Analysis and Critical Control Points planning will reduce the potential impacts from invasive species to less than significant. Even though the potential impacts under the No-Action Alternative would be less than significant, those impacts would be relatively greater than those identified in the materially smaller current proposed action.

4.5.9 Marine Biological Resources

For the No-Action Alternative, the impacts to marine biological resources would be the same as those described for Alternative 2 in the 2010 Final EIS (Volume 2, Chapter 11: Marine Biological Resources, Section 11.2.7: Summary of Impacts, page 118 and Section 11.2.8: Summary of Essential Fish Habitat Assessment, pages 11-123 to 11-124). While less than significant impacts to marine biological resources would occur for both the No-Action Alternative and the action alternatives discussed in Chapter 4, impacts under the No-Action Alternative would be of greater intensity than those for the proposed action in this SEIS due to the larger proposed footprint and number of the Marines and dependents that would arrive on Guam.

4.5.10 Cultural Resources

For the No-Action Alternative, impacts to cultural resources would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 12: Cultural Resources, Section 12.2.3: Preferred Alternative (Alternative 2), pages 12-57 to 12-62). The No-Action Alternative would adversely affect 11 historic properties, while the action alternatives discussed in Chapter 4 would adversely affect historic properties as follows:

- Alternative A: 17 historic properties and 2 unevaluated buildings
- Alternative B: 14 historic properties and 1 unevaluated building
- Alternative C: 10 historic properties
- Alternative D: 5 historic properties, 13 unevaluated archaeological locations, and 3 unevaluated buildings

The No-Action Alternative and the four action alternatives also have the potential to result in significant long-term, direct impacts to culturally important resources that are not historic properties. These significant impacts would be mitigated through measures identified in the 2011 PA, regardless of which alternative was selected for implementation. In addition, the substantially greater number of Marines and their dependents under the No-Action Alternative, as compared to the proposed action in this SEIS, would potentially result in increased accidental or inadvertent damage to historic properties, especially Latte Stone Park (GHPI Number 66-08-0141). The resulting significant long-term, direct impacts to cultural resources would be mitigated through the 2011 PA stipulation on Cultural Resources Awareness orientation.

4.5.11 Visual Resources

For the No-Action Alternative, impacts for visual resources would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 13: Visual Resources, Section 13.2.3: Preferred Alternative (Alternative 2), pages 13-69 to 13-72). There would be significant impacts to visual resources under the No-Action Alternative that may be reduced to less than significant through the implementation of potential mitigation measures. By comparison, there would be less than significant impacts on visual resources under the action alternatives discussed in Chapter 4, as a result of

less development associated with the reduced number of Marines and dependents that would arrive on Guam.

4.5.12 Ground Transportation

For the No-Action Alternative, impacts to ground transportation would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 6, Chapter 4: Roadways, Section 4.2.2.2: Preferred Alternative (Alternative 2), pages 4-88 to 4-89). Impacts to ground transportation may become less than significant through the implementation of potential mitigation measures, specifically, the required roadway improvements. By comparison, action alternatives would also result in less than significant impacts to ground transportation.

4.5.13 Marine Transportation

For the No-Action Alternative, impacts to marine transportation would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 14: Marine Transport, Section 14.2.2.3: Apra Harbor, pages 14-11 to 14-14), but altered only by the start date of construction. The predicted level of use under the No-Action Alternative would be well below capacity of existing marine transportation resources, resulting in less than significant impacts. By comparison, the action alternatives discussed in Chapter 4 would result in a smaller increase in use due to the reduced magnitude of the proposed action.

4.5.14 Utilities

Electrical Power

For the No-Action Alternative, impacts to power would be the same as described in the 2010 Final EIS (Volume 6, Chapter 3: Utilities, Section 3.2.2: Power, pages 3-47 to 3-51). Less than significant impacts to power would occur for both the No-Action Alternative and the action alternatives discussed in Chapter 4. However, upgrades to off-base electrical transmission and generation systems would be required to support the No-Action Alternative, while no upgrades to existing generating facilities would be required as a result of implementing the proposed action alternatives; and the total estimated increase in electrical demand would be three times greater under the No-Action Alternative.

Potable Water

For the No-Action Alternative, impacts for potable water would be similar to those described in the 2010 Final EIS (Volume 6, Chapter 3: Utilities, Section 3.2.3: Potable Water, pages 3-51 to 3-67). However, since the 2010 Final EIS was issued, there have been several improvement projects (completed, in-progress, or planned) for the Air Force water system. These improvements include refurbishing the Tumon-Maui well and five Marbo wells, slip lining some of the water mains to reduce leaks, and repairs to the Mount Santa Rosa Water Storage Tank to eliminate leaks. These initiatives have reportedly reduced water demand through leak elimination. The refurbished wells improve the reliability of the water supply with the Marbo wells by adding an estimated 0.23 MGd (0.87 MLd), and the Tumon-Maui well by adding up to 1.3 MGd (4.9 MLd) to the water supply when put in service. In addition, five new wells, in progress during the 2010 Final EIS preparation, have been completed at AAFB and are now in production. The 2010 Final EIS assessment included the five new planned wells at AAFB in the impacts analysis, but not the other improvements. Those other improvements should reduce the impact of the No-Action Alternative from what was in the 2010 Final EIS for the DoD water system.

The GWA water system remains much the same as presented in the 2010 Final EIS. There have been some improvements made, mostly in leak detection and repair, well maintenance, and the installation of

several new wells. The general water system, however, remains similar to that analyzed in the 2010 Final EIS. The DoD system reportedly would have increased excess water production capability, and could therefore offer excess water to the GWA should the need arise. The No-Action Alternative indirect impacts to the GWA water system would be the same as presented in the 2010 Final EIS for all subcategories (supply, transmission, and distribution).

Since completion of the 2010 Final EIS, the NGLA has been the subject of a major study by the USGS with support from WERI and others. Under the No-Action Alternative the estimated daily average groundwater withdrawals from the NGLA to meet potable water demand would be 5.8 MGd (22.0 MLd), as compared to 1.7 MGd (6.4 MLd) for the four action alternatives. The 2010 Final EIS concluded that groundwater withdrawals from the NGLA would result in less than significant impacts. However, results from the new USGS study (USGS 2013b) indicate that the four action alternatives would result in localized significant impacts to the NGLA but would be a less than significant impact to the NGLA overall. Therefore, it is assumed that the greater groundwater withdrawals under the No-Action Alternative would have similar, but greater localized significant impacts to the NGLA that would be mitigated as described for the action alternatives. The ramifications of this new information on the No-Action Alternative would be that the impacts assessment contained in the 2010 Final EIS would be similar but that the potable water solution would likely require an increased number of new wells above that proposed for the preferred alternative.

Wastewater

For the No-Action Alternative, impacts to wastewater would be similar to those described in the 2010 Final EIS (Volume 6, Chapter 3: Utilities, Section 3.2.4 Wastewater, pages 3-69 to 3-81). There have been some improvements in the operation of the Northern District WWTP since the 2010 Final EIS assessment was prepared. In 2013, the primary treatment system at the Northern District WWTP was repaired and upgraded in accordance with a 2011 Court Order. A capacity evaluation following the completion of the primary treatment upgrades has shown the Northern District WWTP has an operational capacity to treat wastewater to primary treatment standards of up to 9 MGd (34 MLd) (It should be noted this limit is imposed by the 2011 Court Order, and is not a physical operational limitation). The increase in wastewater flow for the proposed action alternatives would be approximately one-third that of the No-Action Alternative, so the existing WWTPs would have adequate design capacity. However, with the issuance of the 2013 NPDES permits establishing effluent quality requirements consistent with secondary treatment; the Northern District WWTP and the Agana WWTP currently cannot meet the permitted discharge limits, and are in a state of non-compliance. Connection to a WWTP that does not meet NPDES permit conditions is a significant impact. As a result, the No-Action Alternative and the four proposed action alternatives would have similar significant impacts. The potential mitigation measure for the No-Action Alternative would be to seek other funding to upgrade these wastewater treatment plants both in total capacity and adding secondary treatment and other wastewater infrastructure improvements.

Solid Waste

For the No-Action Alternative, impacts to solid waste would be similar to those described in the 2010 Final EIS (Volume 6, Chapter 3: Utilities, Section 3.2.5: Solid Waste, pages 3-81 to 3-83). However, the solid waste existing condition on Guam has changed significantly since the 2010 Final EIS was issued. This change is due to the opening of the new GovGuam Layon Landfill at Dandan. Now that this landfill is open, all acceptable municipal solid waste from existing DoD facilities on Guam is disposed at Layon Landfill. Required transfer stations and road improvements have also been completed and are operational. Less than significant impacts to solid waste would occur for both the No-Action Alternative and the

action alternatives discussed in Chapter 4. Although impacts would be similar, the estimated increase in solid waste generation under the proposed action alternatives would be roughly 1/3 that of the No-Action Alternative. This would extend the life of the Layon Landfill over that under the No-Action Alternative.

Information Technology and Communications

The IT/COMM requirements for the No-Action Alternative would be similar to that for the action alternatives discussed in Chapter 4, with a less than significant impact, with the potential for brief outages during construction. The No-Action Alternative intra-base (cantonment area and family housing areas) would require a somewhat larger communication network because these areas would be larger than the action alternatives. However, the interbase and off-base connectivity requirements would be the same in order to meet the Marine Corps IT/COMM criteria.

4.5.15 Socioeconomics and General Services

For the No-Action Alternative, the potential population, economic, public service, sociocultural, and land acquisition impacts would be the same as those described in the 2010 Final EIS (Volume 2, Chapter 16: Socioeconomics and General Services, Section 16.2.2: Proposed Action, pages 16-73 to 16-156). The action alternatives discussed in Chapter 4 would be substantially different from the No-Action Alternative. The population projections for the action alternatives are of a substantially lesser magnitude than those presented in the No-Action Alternative due to a change in the proposed action being analyzed, including:

- Fewer active duty Marines – compared to the No-Action Alternative, the number of active duty Marines would be 42% lower for the action alternatives (from 8,552 to 5,000).
- Fewer military dependents of active duty Marines – military dependents are lower by 86% (from approximate 9,000 to approximately 1,300). The disproportionate decline in the number of dependents is due to a change in composition of active duty Marines. In the action alternatives, two-thirds of active duty Marines would be rotational – spending 6 months per deployment to Guam – and would not be accompanied by dependents.
- Singular focus on the Marine Corps relocation – compared to the No-Action Alternative, action alternatives do not assess impacts related to a potential DON nuclear-powered aircraft carrier berthing or a potential AAMDTF, or any connected actions such as roadways or utilities construction that are not directly associated with cantonment or LFTRC operations.
- An extended construction period – construction work resulting from implementation of the proposed action is expected to begin in 2015; construction would ramp up for a couple of years and then an extended period of construction activity would occur from 2017 through 2023, and then begin to taper off from 2024 until the final year of construction in 2027.

The action alternatives analyzed in Chapter 4 would avoid such a population peak and many of the social problems that can result from sharp population increases and subsequent sharp declines in population (a “Boomtown” economy, Appendix D).

4.5.16 Hazardous Materials and Waste

For the No-Action Alternative, the environmental impacts associated with hazardous materials and waste would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 17: Hazardous Materials and Waste, Section 17.2.3: Preferred Alternative (Alternative 2), page 17-55). The No-Action Alternative would result in less than significant impacts from hazardous materials and waste but the amount of hazardous materials and waste used and generated

would be 64% greater than the levels described for the action alternatives discussed in Chapter 4 due to the increased personnel and operations under the No-Action Alternative.

4.5.17 Public Health and Safety

For the No-Action Alternative, impacts to public health and safety would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 18: Public Health and Safety, Section 18.2.3: Alternative 2 (Preferred Alternative), page 18-23). The No-Action Alternative and the action alternatives discussed in Chapter 4 would result in similar impacts to public health and safety with less than significant impacts during construction and no impacts during operations, except for Alternative C which would have a significant, unmitigable impact associated with operational safety (explosives safety).

4.5.18 Environmental Justice and the Protection of Children

For the No-Action Alternative, the potential environmental justice impacts would be the same as those described for the Preferred Alternative (Alternative 2) in the 2010 Final EIS (Volume 2, Chapter 19: Environmental Justice and Protection of Children, Section 19.2.3: Preferred Alternative (Alternative 2), pages 19-18 to 19-19). There would be no significant noise impacts, and no land acquisition impacts disproportionately affecting minority and low-income populations. The magnitude of potential impacts to environmental justice under the No-Action Alternative would be larger than the potential impacts under the action alternatives discussed in Chapter 4, due to the increased scope and size of the No-Action Alternative. The action alternatives would avoid or significantly reduce environmental justice issues that can result from a substantial and rapid influx of people to a single island location, as proposed in the No-Action Alternative. There would be no significant noise impacts under the action alternatives. In addition, impacts to the economy, public health services, and social services relating to environmental justice would be reduced. The “boom and bust” cycle of population growth and decline proposed in the No-Action Alternative would be substantially alleviated under the action alternatives, reducing potential adverse impacts to the economy (and thus to low-income residents). Access to public health and social services would continue to be problematic under the action alternatives due to the increase in population accessing these services, but the level of strain to public health and social services would be lessened.

4.6 SUMMARY OF IMPACTS AND POTENTIAL MITIGATION MEASURES FOR THE MAIN CANTONMENT/HOUSING ALTERNATIVES

Table 4.6-1 summarizes the impacts and potential mitigation measures of each cantonment/family housing alternative, including the No-Action Alternative. BMPs to minimize impacts would be employed during construction (see Section 2.8). Significant impacts are highlighted in yellow in Table 4.6-1 and any potential mitigation measures are identified immediately following the associated impact.