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# Finding of No Significant Impact

## Proposed Ice House and Boat Ramp, Pago Pago Harbor, to Support Recovery of the American Samoa Bottomfish Fishery

(RIN 0648-XP001)

September 12, 2019

### Introduction

The National Marine Fisheries Service (NMFS) prepared this Finding of No Significant Impact (FONSI) according to the following guidance:

- National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6A (April 22, 2016) – Compliance with the National Environmental Policy Act, Executive Orders 12114 (Environmental Effects Abroad of Major Federal Actions), 11988 and 13690 (Floodplain Management), and 11990 (Protection of Wetlands); and its associated Companion Manual (January 13, 2017); and
- Council on Environmental Quality (CEQ) significance criteria at 40 CFR 1508.27(b).

### Proposed Action

NMFS proposes to release congressionally appropriated fishery disaster relief funds to the AS Department of Marine and Wildlife Resources (DMWR). Once approved for release, DMWR will use the funds to build a small concrete ice house at its administrative and workstation adjacent to Pago Pago Harbor at Fagatogo and a small boat ramp at the southwestern-most terminus of Pago Pago Harbor. The projects are intended to support recovery of the American Samoa bottomfish fishery, which experienced a fishery disaster after the 2009 Tsunami. The boat ramp would relieve boat traffic congestion in the area and fishermen would experience improved boat launching and return conditions due to a modernized ramp design. The ice house would protect ice machines that produce ice used by bottomfish fishermen and allow them to maintain the quality of the fish they harvest.

### Environmental Assessment

NMFS prepared an environmental assessment (EA) that analyzes the potential effects of the projects on the environment. The EA for "Proposed Ice House and Boat Ramp, Pago Pago Harbor, to Support Recovery of the American Samoa Bottomfish Fishery," dated September 11, 2019, supports this FONSI. The EA is organized as follows:

- Section 1 contains the purpose and need for the Federal action.
- Section 2 describes the alternatives considered for both the ice house and the boat ramp projects. The proposed action is Alternative 2 for both projects.
- Section 3 provides a detailed description of the ice house project, including design and construction activities and potential effects on the environment. Appendix A-1 provides construction diagrams and Appendix B-1 provides best practices for the ice house.
- Section 4 provides a detailed description of the boat ramp project, including design and construction activities, and potential effects on the environment. Appendix A-2 provides boat ramp construction diagrams and Appendix B-2 provides best practices for the boat ramp. Additional best practices are found in section 4.2.3 (conservation recommendations), including conservation recommendations.

Alternative 1, the no-action alternative, serves as the baseline for the environmental effects analysis for each project. Under this alternative, NMFS would not construct a boat ramp in Pago Pago Harbor or an ice house next on a developed parcel adjacent to Pago Pago Harbor. The baselines allowed NMFS to evaluate whether either of the proposed projects would have the potential for significant environmental effects individually, or cumulatively. Our findings are summarized below.

**Public Review**

On July 10, 2019, NMFS published a Notice of Availability in the *Federal Register* inviting public comment on the draft EA, dated June 17, 2019 (84 FR 32888). The public was invited to provide comments at www.regulations.gov or by mail. We also posted a Summary and link to the EA on our Pacific Islands Regional Office public website on July 11, 2019. The public was provided with a 15-day review and comment period on the draft EA. NMFS received one comment from an individual who expressed support for the disaster relief effort.

**Significance Analysis**

The Council on Environmental Quality (CEQ) Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the Companion Manual for NAO 216-6A (January 13, 2017) provides sixteen criteria, the same ten as the CEQ Regulations and six additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

Because the grant application included two project proposals that occur near the inner Pago Pago Harbor and both are part of the bottomfish fishery disaster relief program, we consider here whether the two projects can appropriately be considered independent actions or whether they are connected actions (40 CFR section 1508.25). We note that even if the projects were independent actions, our significance analysis would evaluate potential cumulative effects.

Based on the description of the two projects, we conclude that the boat ramp and ice house projects are not connected actions for the purpose of environmental effects review and analysis under NEPA, because:

a) Neither project triggers the other project (i.e., one project does not have to be completed before the other);
b) Neither action requires the other project in order to be undertaken (i.e., each project can be undertaken separately and each project would succeed at attaining the individual project goals without affecting the success of the other project); and
c) Neither action is an interdependent part of a larger action that depends on the larger action for its justification. The analysis of effects of each project has been addressed separately in the EA and in this FONSI.

Below, we describe the effects of each project on affected features of the environment and consider direct, indirect, short-term, long-term, and cumulative environmental effects. Section numbers in parentheses refer to the sections of the final EA that contain the analysis (NMFS 2019).

***1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?***

Ice House Project

No. Overall, the ice house is a small building that would not have significant adverse or beneficial environmental effects. The project location is already developed and paved and does not feature natural habitat. The ice house would be built on an existing administrative and maintenance facility in an urban setting adjacent to a marina and harbor area. Best management practices are listed in Appendix A-1. Our analysis showed that the small size of the building, its design, and construction BMPs would help prevent significant adverse effects on harbor water quality, and, therefore, on marine habits and species that occur in adjacent waters. Future uses of the parcel and adjacent marina would not change substantially. The ice house project would be consistent with the Pago Pago Harbor Special Management Area (SMA) zoning which ensures that the American Samoa Coastal Management Program (ASCMP) may have a review of proposed projects and can provide input on proposals. Providing ice for fishermen is not expected to result in a fishery expansion. Future uses at and around the project site are not expected to change as a result of building the ice house. More details are provided in answers to questions below.

Boat Ramp

No. Overall, the boat ramp is a relatively small construction project that would not have significant adverse or beneficial environmental effects. The project location is already developed. Land areas were created by fill many years ago and have been graded. Some areas are planted in grass and other areas are in gravel over soil. The area is used to park boat trailers for small fishing vessels and other boats using a nearby boat ramp. An in-water survey revealed low species diversity and degraded habitat. Design and construction BMPs would help prevent

significant adverse effects on harbor water quality, and, therefore, on marine habitats and species. The boat ramp project would be consistent with the Pago Pago Harbor SMA zoning, which ensures that the ASCMP may have a review of proposed projects and can provide input on proposals. Building a new boat ramp is not expected to result in a fishery expansion because the boat ramp is expected to better handle existing uses. Future uses at and around the project site are not expected to change as a result of building the boat ramp. More details are provided in answers to questions below.

***2. Can the proposed action reasonably be expected to significantly affect public health or safety?***

Ice House

No. The ice house project would not affect public health or safety. The project is located in a secured area and the construction site would be secured. (EA, section 3.6.1)

Boat Ramp

No. The boat ramp would not have a significant adverse effect on safety. The project affect public health or safety. The construction area would be secured and roadways kept clear. The boat ramp is expected to relieve congestion at the existing small boat ramp and would likely improve launch and return for ocean safety response vessels, which is considered an improvement over the current conditions. (EA, section 4.6.1)

***3. Can the proposed action reasonably be expected to result in significant impacts to 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***

Ice House

No. The ice house project is located in an urbanized area on a parcel that has been developed (EA, section 3.1, section 3.4.6). The EA does not reveal any adverse effects to the unique characteristics of the geographic area. The project would not affect historic, archaeological or cultural resources (Section 3.5.4). The location of the site within a tsunami inundation zone was considered and found not to have significant adverse effects on flooding or flood velocity (EA, section 3.6.3). NMFS found the project would be consistent with the Pago Pago Harbor Special Management Area (SMA) zoning, which provides for harbor uses and allows for government review of effects of Pago Pago Harbor water quality and other effects. Because of past development, design features and construction BMPs, the ice house would not have significant adverse effects on water quality, marine benthic habitats or wildlife. NMFS found the project would be consistent to the maximum extent practicable with the enforceable provisions of the Coastal Management Program (EA, section 3.4.6).

Boat Ramp

No. Both land area and marine areas have been disturbed in the past and are used for the same uses that would occur after the ramp is built (EA, section 4.1, section 4.4.6). The boat ramp would not affect historic or cultural resources (EA, section 4.5.4). The location of the site within a tsunami inundation zone was considered and found not to have significant adverse effects on tsunami flooding or flood velocity (EA, section 4.6.3). NMFS found the project would be consistent with the Pago Pago Harbor SMA zoning, which provides for harbor uses and allows for government review of effects of Pago Pago Harbor water quality and other effects. Because of past development, design features and construction BMPs, the boat ramp would not have significant adverse effects on water quality, marine benthic habitats or wildlife. The analysis in the EA shows the boat ramp project would not adversely affect access to fishing, recreation or cultural uses. NMFS found the project would be consistent to the maximum extent practicable with the enforceable provisions of the Coastal Management Program (EA, section 4.4.6).

***4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?***

Ice House

No. The effects of the proposed action are not controversial. The footprint of the project site is small and BMPs would be in place during construction to protect water quality and marine habitats. NMFS provided the public with a 15-day review and comment period on the draft EA. We received one comment supporting the proposed projects (EA, section 5.3.2). Intragovernmental and intergovernmental reviews did not reveal any controversies around the environmental effects analysis in the EA.

Boat Ramp

No. The effects of the proposed action are not controversial. The footprint of the boat ramp project is fairly small and BMPs would be in place during construction to prevent significant adverse effects on water quality, marine habitats, and marine wildlife. NMFS provided the public with a 15-day review and comment period on the draft EA. We received one comment supporting the proposed projects (EA, section 5.3.2). Intergovernmental reviews did not reveal any controversies around the environmental effects analysis in the EA.

***5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?***

Ice House

No. Construction of a small brick building is not associated with uncertain, unique, or unknown risks. We considered the risks of constructing a small concrete masonry building in a tsunami hazard zone, but found no feature of the project that would result in increased threats to life or property. (EA, section 3.6.3). The ice house project was coordinated with the public, other

agencies, and with NMFS. This coordination did not provide evidence that the effects of the ice house would highly uncertain or involve unique or unknown risks.

Boat Ramp

No. Construction of a small boat ramp is not associated with uncertain, unique, or unknown risks. A small boat ramp is not unique to American Samoa and there are several boat ramps that exist in the Territory, including near the proposed boat ramp in Pago Pago Harbor.
We considered the risks of constructing a small boat ramp at the end of the harbor in a tsunami hazard zone, which is subject to flood inundation levels from potential storm surge or tsunami (EA, section 4.6.3 and Figure 5). We found that due to the small size of the boat ramp, it is not expected to increase the velocity of storm surge or tsunami in any way that would increase the effects of these natural disasters on people or property. (EA, section 4.6.3). The boat ramp project was coordinated with the public, other agencies, and with NMFS. This coordination did not provide evidence that the effects of the boat ramp would be highly uncertain or involve unique or unknown risks.

***6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?***

Ice House

No. The ice house is not associated with, nor would it lead to, follow-on projects or automatic approval of future projects. Future projects would be subject to applicable public reviews and government permits. (EA, section 3.6.5).

Boat Ramp

No. The boat ramp is not associated with, nor would it lead to, follow on projects or automatic approval of future projects. Future projects would be subject to applicable public reviews and government permits. (EA, section 4.6.5).

***7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?***

Ice House

No. The effects of the ice house project were considered in relation to environmental conditions in Pago Pago Harbor and the effects analysis took into account past, present and reasonably foreseeable actions by NMFS and others. (EA, section 3.6.1 and other effects sections). The project is not expected to result in adverse effects on Pago Pago Harbor water quality including in terms of cumulative adverse effects. The American Samoa government (ASG) is working to improve water quality in the Harbor and has had the opportunity to review the proposed project. The ASG provided no comments indicating there would be cumulatively significant effects.

There are listed marine species in Pago Pago Harbor that could be affected by both the ice house project and the boat ramp project. Cumulative effects on listed species were considered (see answer to Question 9, below).

Boat Ramp

No. The effects of the boat ramp project were considered in relation to environmental conditions in Pago Pago Harbor and the effects analysis took into account past, present, and reasonably foreseeable actions by NMFS and others (EA, section 4.6.1 and other effects sections). The boat ramp project is not expected to result in significant adverse effects on Pago Pago Harbor water quality because of design features and construction BMPs, so there would not be a cumulative adverse effect on Pago Pago Harbor water quality (EA, section 4.3.4). The American Samoa government (ASG) is working to improve water quality in the Harbor and had the opportunity to review the proposed project. The ASG provided no comments indicating there would be cumulatively significant effects. There are listed marine species in Pago Pago Harbor that could be affected by both the boat ramp project and the ice house project. Cumulative effects on listed species were considered (see answer to Question 9, below).

***8. Can the proposed action reasonably be expected to 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?***

Ice House

No. Our review found the ice project would have no effect on historic resources. No such resources are present or suspected to occur in the project area because the parcel has been previously graded and paved. The project would require a very small amount of utility trenching and the DMWR would be responsible for complying with provisions of the land use permit that would address monitoring, coordination, and reporting in the unlikely event that historic, cultural or archaeologic resources were to be discovered. (EA, section 3.5.4).

Boat Ramp

No. Our review found the boat ramp project would have no effect on historic resources. No such resources are present or suspected to occur in the project area because the land area was formed of fill and features a recent dumped-rock wall. The project requires opening the rock wall and ground disturbance to prepare the site (limited grading and dredging). Best management practices are part of the contractor's requirements for protecting any historic objects that may be discovered during ground disturbance. The BMPs would allow proper protection and disposition of any historic, cultural, or archeological resources that may be uncovered. These include a requirement to notify the ASHPO before ground disturbance activities, monitoring ground disturbance; a stop work requirement if any historic resources are discovered; and further coordination with the ASHPO to ensure proper treatment of any historic properties that may be discovered. The DMWR would be responsible for complying with provisions of the land use permit that would address monitoring, coordination, and reporting in the unlikely event that

historic, cultural or archaeologic resources were to be discovered. (EA, section 4.5.4; EA, Appendix B-2).

***9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?***

Ice House

No. There is no critical habitat in the project area, so the ice house project would not affect designated critical habitat. (EA, section 3.4.4). The ice house project site does not support listed species. Two listed turtles, a listed hammerhead shark, and potentially the larvae of listed corals may occur in the waters of Pago Pago next to the ice house site. Species listed as endangered or threatened under the Endangered Species Act (i.e., "listed species") which are known from the project area are listed in the EA (section 3.4.4) and in Appendix C. BMPs for the ice house are found in the EA in section 3.2.3 and Appendix A-1 The ESA consultation considered the potential for direct and indirect (including cumulative effects) on listed species that inhabit Pago Pago Harbor (EA, section 3.4.4). Our effects analysis and ESA consultation showed that adverse effects would be avoided or minimized due to the general absence of listed species, the small size of the ice house, the limited duration of construction, the location of the construction site out of water, the nature of the building project (brick building construction), and BMPs.

The project would not result in adverse effects on water quality or large changes to uses of the parcel or the harbor. BMPs are found in the EA in section 3.2.3 and Appendix A-1; our analysis of effects on protected species is in section 3.4.4. We conclude that the ice house project would not adversely affect green and hawksbill sea turtles, the scalloped hammerhead shark, or larvae of listed corals. These findings took into consideration the project's effects and considered effects on the same species by other activities in Pago Pago Harbor (see EA, section 3.4.4). Other approved or reasonably foreseeable projects in Pago Pago Harbor with the potential to affect listed species (the Fagatogo mooring replacement project and the proposed boat ramp, which was considered in the same EA) also include BMPs that would prevent large adverse effects including cumulative effects on scalloped hammerhead sharks or sea turtles.

Boat Ramp

No. There is no critical habitat in the project area, so the boat ramp project would not affect designated critical habitat. (EA, section 4.4.4). Terrestrial areas do not support listed species. Two listed turtles, a listed hammerhead shark, and potentially the larvae of listed corals may occur in the waters of Pago Pago in the vicinity of the boat ramp. Listed species known from the project area are listed in the EA (section 4.4.4) and in Appendix C. BMPs are found in the EA in section 4.2.3 and Appendix A-2; and our analysis of the effects on protected species is in section 4.4.4. The ESA consultation considered the potential for direct and indirect (including cumulative effects) on listed species that inhabit Pago Pago Harbor (EA, section 4.4.4).

The boat ramp project may affect but would not adversely affect two species of sea turtles, one species of hammerhead shark, and the larvae of up to seven listed corals that could potentially

occur in Pago Pago Harbor. Our effects analysis showed that adverse effects would be avoided or minimized due to the general absence of listed species in the project area, the design of the boat ramp, and construction methods, which include BMPs to help protect water quality and prevent other adverse effects on listed species. We note, in particular, that construction would occur after sedimentation and erosion control barriers are in place including an in-water turbidity barrier. After construction, the water remaining shoreward of the turbidity barrier would be allowed to settle and ground areas would be replanted before barriers are removed. The construction contractor and staff would be briefed on BMPs, which include keeping watch for listed species; inspecting the area before deploying and removing the turbidity barrier, and each day at the start of work, after breaks, and at the end of the day. The contractor would keep alert for listed species and stop work if a turtle or shark comes within 50 yards of the work. The construction materials including rocks and the ramp would be built behind the turbidity barrier. If vessels are to be used, the contractor would operate the vessel carefully and keep watch to prevent collisions with marine wildlife. Machinery would not be used in the water and would be cleaned before using near the water. The contract would include requirements for carefully storing and using hazardous materials and the contractor would have a Toxic Materials Prevention and Contingency Plan. There is no critical habitat in the project area, so the project would not affect designated critical habitat. (EA, section 4.4.4).

The boat ramp project would not adversely affect listed species that may occur in Pago Pago Harbor which include green and hawksbill sea turtles, the scalloped hammerhead shark, and potentially, larvae of listed corals. These findings took into consideration the project's effects and considered effects on these species by other activities in Pago Pago Harbor (see EA, section 4.4.4). Other approved or reasonably foreseeable projects in Pago Pago Harbor with the potential to affect listed species (the Fagatogo mooring replacement project and a proposed ice house, which was considered in the same EA) also include BMPs to prevent large adverse effects on scalloped hammerhead sharks or sea turtles.

***10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?***

Ice House

No. The DMWR would obtain permits and authorizations prior to constructing the ice house. (EA, section3.2.2). The EA describes coordination and environmental compliance with various environmental laws. The proposed ice house project was proposed by the DMWR, a government agency, and coordinated with Federal and state agencies and the public and no violation of Federal, State, or local law or requirements was found.

Boat Ramp

No. The DMWR would obtain permits and authorizations prior to constructing the boat ramp (EA, section 4.2.2). The EA describes coordination and environmental compliance with various environmental laws. The proposed boat ramp project was proposed by the DMWR, a government agency, and coordinated with Federal and state agencies and the public and no violation of Federal, State, or local law or requirements was found.

***11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?***

Ice House

No. Marine mammals are not reported from inner Pago Pago Harbor; but because the Harbor is connected to coastal open waters, we considered effects of the ice house on marine mammals. The EA describes that noise from construction would be limited in intensity and duration and would not be at levels that would startle or damage the hearing of marine mammals. Marine mammals are expected to avoid the area during construction. Construction BMPS and design features would protect water quality. The ice house would not change vessel uses in the area. For these reasons, we conclude that the ice house would not adversely affect marine mammals. (EA, section 3.4.4).

Boat Ramp

No. Marine mammals are not reported from inner Pago Pago Harbor; but because the Harbor is connected to coastal open waters, we considered effects of the ice house on marine mammals. The EA describes that the construction contractor would conduct a visual survey of the site before beginning work, after extended breaks, and at the end of the workday to allow them to detect marine wildlife. The project is not expected to result in adverse effects to water quality. Noise would be limited in intensity and duration and because marine mammals could avoid the area during construction, the project is not expected to result in injury to marine mammals. The boat ramp would not change the intensity of uses in the area. For these reasons, we conclude that the boat ramp would not adversely affect marine mammals. (EA, section 4.4.4).

***12. Can the proposed action reasonably be expected to adversely affect managed fish species?***

Ice House

No. The EA describes that the ice house would benefit bottomfish fishermen and is expected to support better quality fish and potentially longer fishing trips. The ice is intended to provide economic relief to fishermen and improve product quality. (EA, section 3.5.1). Because the bottomfish fishery is currently harvesting bottomfish well below estimated maximum sustainable yield (MSY) and is sustainable (EA, section 3.5.1 and referring to details in the EA, section 4.5.1), the ice house would not have the potential to significantly adversely affect American Samoa bottomfish management unit species (BMUS). (EA, section 3.5.1).

Boat Ramp

No. The EA describes that the American Samoa bottomfish fishery (the fishery that is the focus of the recovery effort), generally had fewer than 30 part time fishery vessels, and that number declined to 12 in 2011 after the 2009 tsunami (EA, section 4.5.1). The bottomfish fishery is slowly improving, and catch is well below estimated MSY and is sustainable. The boat ramp is not expected to result in a fishery expansion, but is intended, along with other disaster recovery initiatives to promote recovery of the American Samoa bottomfish fishery. Because the fishery is

and would remain sustainably managed, the boat ramp would not have the potential to adversely affect American Samoa BMUS. (EA, section 4.5.1).

***13. Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?***

Ice House

No. Pago Pago Harbor water column and substrate are designated as essential fish habitat (EFH) for American Samoa BMUS, which are listed in Table 2 of the EA. The water column in Pago Pago Harbor from the surface to the bottom is designated EFH for Pelagic MUS which are listed in Table 3 of the EA. There is no area designated as Habitat Areas of Particular Concern in the project area. NMFS completed an analysis of the effects of the ice house on EFH and completed an EFH consultation on July 25, 2019. The EFH consultation and analysis in the EA concluded that although the ice house would be built on land on an area that has been paved, the project has the potential for indirect adverse effects on EFH in the form of turbidity, sedimentation and chemical contamination from equipment. However, NMFS found that the BMPs are suitable to ensure that adverse effects to EFH would be no more than minimal. (EA, section 3.4.7).

Boat Ramp

No. Pago Pago Harbor water column and substrate are designated as essential fish habitat (EFH) for American Samoa bottomfish management unit species (BMUS) which are listed in Table 2 of the EA. The water column in Pago Pago Harbor from the surface to the bottom is designated EFH for Pelagic MUS which are listed in Table 3 of the EA. There is no area designated as Habitat Areas of Particular Concern in the project area. NMFS completed an analysis of the effects of the boat ramp on EFH and completed an EFH consultation on July 25, 2019. The EFH consultation and analysis in the EA concluded that the boat ramp would adversely affect EFH by replacing a small area of soft bottom with rock and ramp, the effects of the conversion may be slightly beneficial to BMUS and PMUS EFH because the armor rocks would provide limiting structuring habitat.

We found that the uses of the area would not change in a way that would adversely affect water quality or the functions of the area as habitat for BMUS or PMUS. NMFS further found that there could because construction requires in-water work, the project has the potential to result in adverse direct and indirect adverse effects to EFH in the form of physical damage, sedimentation and turbidity from ramp construction activities, nutrient enrichment due to dredging and excavation, and chemical contamination from equipment use. However, NMFS found that the BMPs are suitable to ensure that adverse effects to EFH would be no more than minimal. (EA, section 4.4.7).

***14. Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?***

Ice House

No. There is no potential for adverse effects to vulnerable marine or coastal ecosystems. Within the vicinity of the ice house, Pago Pago Harbor does not support vulnerable marine or coastal ecosystems including deep coral ecosystems. The project location and project setting are described in the EA, section 3.1, and terrestrial and marine habitats are described in section 3.4.1.

Boat Ramp

No. There is no potential for adverse effects to vulnerable marine or coastal ecosystems. Within the vicinity of the boat ramp, Pago Pago Harbor does not support vulnerable marine or coastal ecosystems including deep coral ecosystems. The project location and project setting are described in the EA, section 4.1, and terrestrial and marine habitats are described in section 4.4.1.

***15. Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.).***

Ice House

No. There are no native terrestrial species on the ice house parcel, and the ice house would not affect terrestrial wildlife including birds and bats (EA, section 3.4.2). Because of design features, construction BMPs, and a lack of change to current use levels in the harbor, the ice house project would not have adverse effects on harbor water quality (EA, section 3.3.4), other features of the marine environment, or marine wildlife (EA, section 3.4.3). Therefore, there is no potential for the project to adversely affect biodiversity or ecosystem functioning.

Boat Ramp

No. There are no native terrestrial species on the terrestrial portions of the boat ramp that would be adversely affected by the project (EA, section 4.4.1). Marine habitats have been previously disturbed and the bottom habitat and marine communities are degraded (EA, section 4.4.1). Design features of the ramp, construction BMPs, and a lack of change to current use levels in the harbor, allow us to conclude the boat ramp would not result in long term or significant short term adverse effects on water quality (EA, section 4.3.4). The boat ramp would replace soft bottom degraded habitat with hard bottom (concrete or boulders) over a small area (0.051 acre). Common marine fishes and invertebrates are expected to colonize the armor rocks and lower reaches of the ramp over time. (EA, section 4.4.1) Due to its small size, and lack of significant effects on the ecosystem, there is no potential for the boat ramp project to adversely affect biodiversity or ecosystem functioning.

***16. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?***

Ice House

No. BMPs would be employed during construction to prevent runoff from the site from entering harbor waters. After construction is complete, patterns of drainage, access and use would not change in any way that would have the potential to spread or introduce nonindigenous species. (EA, section 3.6.2).

Boat Ramp

No. Equipment would not enter the water and BMPs require the equipment to be clean. After construction is complete, patterns of drainage, access and use would not change in any way that would have the potential to spread or introduce nonindigenous species. (EA, section 4.6.2).

***Other NEPA considerations - Environmental Justice***

Ice House

The ice house project would not have large adverse environmental effects and therefore, would not have the potential have disproportionately high and adverse human health or environmental effects, including human health effects. There is no subsistence fishing or gathering in the area of the ice house, so the ice house project would not adversely affect subsistence fishing or gathering. (EA, section 3.5.5).

Boat Ramp

The boat ramp project would not have large adverse environmental effects and therefore, would not have the potential have disproportionately high and adverse human health or environmental effects, including human health effects. There is no subsistence fishing or gathering in the area of the boat ramp project, so the boat ramp project would not adversely affect subsistence fishing or gathering. (EA, section 4.5.5).

***Other NEPA considerations- Greenhouse gases and climate change***

Ice House

NMFS considered the climate setting in the draft EA. Under the baseline, changing climate trends could result in the project area being subject to rising sea level, storm surge inundation, more intense storms, and more frequently rainfall. The ice house is not expected to change local climate because the site is already paved. The ice house would be built at about 6 to 7 feet above sea level on land so it is not expected to be adversely affected by potential sea level rise. The ice house would not increase storm water runoff or runoff velocity. For all these reasons, the ice house would not be adversely affected by climate change or change climate locally. The ice

house would not increase vessel use over the baseline, and there would be no changes in greenhouse gas emissions. (EA, section 4.6.4).

Boat Ramp

NMFS considered the climate setting in the draft EA. Under the baseline, changing climate trends could result in the project area being subject to rising sea level, storm surge inundation, more intense storms, and more frequently rainfall. The boat ramp is not expected to change local climate because the area around the project would remain an open space. The boat ramp would end 6 to 7 feet above sea level on land so it is not expected to succumb to rising sea levels. The ramp is reinforced and is expected to hold up under storm conditions. The boat ramp is not expected to increase vessel use, but would more efficiently handle vessels, so the ramp would not result in changes in greenhouse gas emissions. (EA, section 4.6.4).

**DETERMINATION**

In view of the information presented in this document and the analysis contained in the supporting EA I have determined that the proposed action will not significantly impact the quality of the human environment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

Michael D. Tosatto
Regional Administrator

9/12/19
Date

Attachment: National Marine Fisheries Service. 2019. Final Environmental Assessment: Proposed Ice House and Boat Ramp, Pago Pago Harbor, to Support Recovery of the American Samoa Bottomfish Fishery. 108 pp.

**U.S. DEPARTMENT OF COMMERCE**
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# Final Environmental Assessment

## Proposed Ice House and Boat Ramp, Pago Pago Harbor, to Support Recovery of the American Samoa Bottomfish Fishery

(RIN 0648-XP001)

September 11, 2019


Aerial image of the terminus of Pago Pago Harbor (Source: Google Maps, retrieved February, 2018.)

**Final Environmental Assessment**

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RIN 0648-XP001

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Responsible Agency: Pacific Islands Regional Office (PIRO)
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration (NOAA)

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## Abstract

NMFS proposes to release Congressionally-appropriated bottomfish fishery disaster relief funds to the American Samoa Department of Marine and Wildlife Resources (DMWR) for two projects at Pago Pago Harbor on Tutuila Island, American Samoa. If approved, DMWR would build a small concrete ice house at its administrative and work station adjacent to Pago Pago Harbor in Fagatogo and a small boat ramp at the southwestern-most terminus of Pago Pago Harbor. The projects are intended to support recovery of the American Samoa bottomfish fishery, which experienced a fishery disaster after the 2009 tsunami. NMFS prepared this environmental assessment (EA) to evaluate the potential environmental effects of the proposed projects. A draft EA was provided to the public for a 15-day review and comment period and we received no comments that changed the analysis. NMFS received one comment from an individual expressing support for the disaster relief effort.

***If you need assistance with this document, please contact NMFS at 808-725-5000.***

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## Abbreviations

BMP – Best Management Practice(s)
CEQ – Council on Environmental Quality
CMD – Concrete Masonry Design
CO – Contracting Officer
cyd – Cubic Yards
CZMA –Coastal Zone Management Act
CZMP –Coastal Zone Management Program
DA – Department of the Army
DMWR –American Samoa Department of Marine and Wildlife Resources
DPS – Distinct Population Segment
DPW – American Samoa Department of Public Works
EA – Environmental Assessment
EFH – Essential Fish Habitat
EO – Executive Order
ESA – Endangered Species Act
FEP – Fishery Ecosystem Plan
FONSI – Finding of No Significant Impact
FR – Federal Register
ft - Feet
HAPC – Habitat Areas of Particular Concern
MMPA – Marine Mammal Protection Act
MSA – Magnuson-Stevens Fishery Conservation and Management Act
NAO – NOAA Administrative Order
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
nm – Nautical miles
NMFS – National Marine Fisheries Service
NOAA – National Oceanic and Atmospheric Administration
PIRO – Pacific Islands Regional Office
PNRS – American Samoa Project Notification and Review System
USACE – U.S. Army Corps of Engineers
USFWS – U.S. Fish and Wildlife Service
WPFMC – Western Pacific Fishery Management Council

# 1. Introduction

National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) proposes to release Congressionally-appropriated funds to the American Samoa Department of Marine and Wildlife Resources (DMWR) for two projects at Pago Pago Harbor, Tutuila Island. DMWR proposes to build a small ice machine house at its administrative and workshop site adjacent to Pago Pago Harbor in Fagatogo and a boat ramp at the southwestern-most corner of inner Pago Pago Harbor (Figure 1). The projects were designed by the DMWR and the American Samoa Department of Public Works (DPW). Funds would come from the "Disaster Relief Funding for the American Samoa Bottomfish Fishery that Collapsed after the 2009 Tsunami," which the U.S. Congress appropriated in 2014 under the "Consolidated Appropriations Act, 2014." The Magnuson-Stevens Fishery Conservation and Management Act or MSFCMA (Sections 312 and 315) and the Inter-jurisdictional Fisheries Act or IFA (Section 308) provide NMFS with authority to provide fishery disaster relief after Congress appropriates funds.

NMFS prepared this environmental assessment (EA) in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA, and agency guidance in NOAA's Administrative Order (NAO) Section 216-6A, "Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990, Protection of Wetlands" (NOAA 2016) and the associated Companion Manual (NOAA 2017). The EA evaluates the effects of the projects which would occur if the agency releases federal funds to the DMWR.

On September 29, 2009, a Pacific Ocean submarine earthquake generated a tsunami (tidal wave) that caused large-scale damage, loss of life, and injuries in American Samoa and elsewhere. President Obama declared a major disaster in the Territory of American Samoa (74 FR 51301; October 6, 2009). The Governor of American Samoa subsequently initiated a request for financial assistance in accordance with provisions of sections 312 and 315 of the MSFCMA and section 308(d) of the IFA.

Damage assessment reports about the effects of the tsunami on the bottomfish fishery were prepared by the DMWR, the Western Pacific Fishery Management Council and NMFS Pacific Islands Regional Office (PIRO) (see WPFMC 2010 which includes the AS DMWR's reports of damage). The reports describe extensive damage to the harbor and floating docks and a boat ramp in Pago Pago; damaged and destroyed alia (small fishing vessels), gear, and infrastructure; and lost fishing opportunities, food, and income from the bottomfish fishery. The formerly productive and profitable bottomfish fishery was estimated to have lost 80% of its revenue after the tsunami. NMFS concluded the tsunami damaged or destroyed 17 bottomfish fishing vessels (estimated to be 50 percent of the bottomfish fishing fleet) and that lost revenue to commercial

bottomfish fishermen was estimated to be around $200,000. A summary report by NMFS[1] described the decline in bottomfish landings and revenues. Landings declined from 70,266 lb in 2009, to 15,141 lb landed in 2010, a decrease of 78.5 percent. Ex-vessel revenues were estimated to have dropped to $42,283 in 2010 from $190,213 in 2009. Adjusted revenues in 2010 ($42,283) were down 46 percent from the 10-year average revenue for the period 2001–2010 of $78,942. 2010 revenues were nearly 65 percent lower than the three-year average from the period 2008 –2010 (which was $119,988). The Council and the American Samoa Government estimated the value of the fishery failure (value of damages to vessels, gear, lost earning, some infrastructure and fishery development needed to facilitate rebuilding) to be approximately $5 million (WPFMC 2010; Sunia 2010).

After considering results of damage assessment reports, the Secretary of Commerce determined that a commercial fishery failure occurred for the bottomfish fishery in American Samoa due to a fisheries resource disaster. The Secretary noted that the tsunami caused significant loss of access to the fishery resource and revenues declines and the effects met with criteria in section 312(a) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and section 308(b) of the Inter-jurisdictional Fisheries Act (IFA). Through the Consolidated Appropriations Act of 2014, Congress appropriated disaster relief funding under the MSA and IFA for NOAA NMFS to provide assistance to the Territory of American Samoa and affected communities.

After collaborating with the American Samoa Port Authority, the Council, and NMFS, DMWR submitted its application for disaster relief funds to support the recovery of the American Samoa bottomfish fishery. Details of the American Samoa Government's 2009 Tsunami Fishery Disaster Assistance Request, the Secretary of Commerce's Determination and Appropriation for Fishery Disaster 51, and Funding Authority are available online at: https://www.fisheries.noaa.gov/national/funding-and-financial-services/fishery-disaster-determinations#numbers-72---54.

The projects currently being proposed for funding are a small boat ramp that would improve launching and return of fishing vessels by providing an improved ramp and relieving congestion and a small ice house. Neither DMWR nor NMFS expect the boat ramp or ice house to expand the size or scope of the fishery; rather, the projects are part of a suite of activities funded through the fisheries disaster relief appropriation that are intended to support restoration of the bottomfish fishery to the level (i.e., number of vessels and participants in the fishery) prior to the 2009 tsunami.

[1] NMFS American Samoa Fishery Disaster Decision Memo (M. Tosatto to E. Schwaab), dated July 6, 2011.

## 1.1. Purpose and Need for Federal Action

NMFS is responding to a request for Bottomfish Fishery Disaster Relief funds from the American Samoa Government. NMFS needs to complete environmental reviews of the proposed projects before funds may be released.

The DMWR has requested funds to construct a boat ramp in Pago Pago and an ice house on its administrative station in Fagatogo. The purpose of both projects is to support the rehabilitation of the American Samoa bottomfish fishery which suffered a fisheries resource disaster as a result of devastation caused by the South Pacific Tsunami of September 29, 2009.

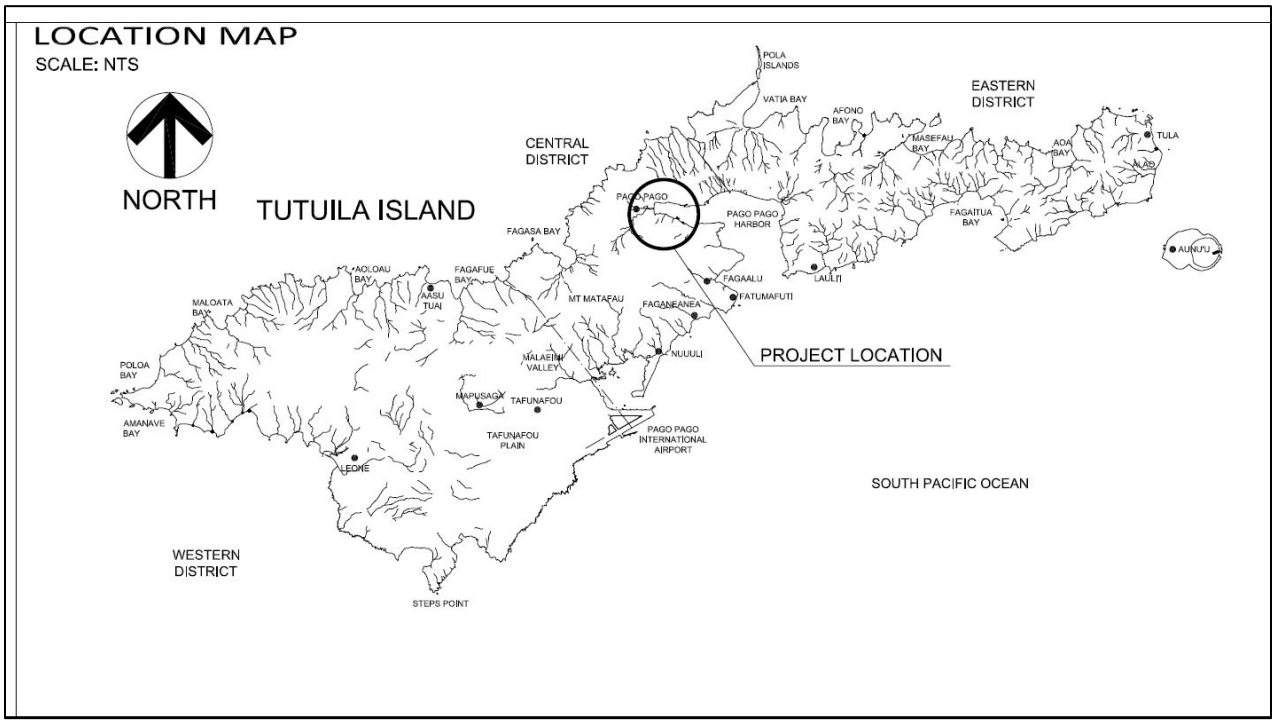


Figure 1. General location of the proposed projects in inner Pago Pago Harbor, Tutuila Island, American Samoa.

Source: American Samoa Department of Public Works.

## 1.2. Proposed Action

NMFS proposes to release Federal Bottomfish Fishery Disaster Relief funds to the American Samoa DMWR for the construction of a boat ramp and ice house at Pago Pago Harbor, Tutuila Island. The boat ramp and ice house projects are described more fully in Section 3 (Ice House) and Section 4 (Boat Ramp). Project engineering design plans are in Appendix A. Construction notes and best management practices for the boat ramp are highlighted in Appendix B.

## 1.3. Roles and Responsibilities

The NMFS Pacific Islands Regional Administrator (RA) will use information in the EA to determine whether the release of Federal funds would be a major federal action with the potential to have significant environmental impacts. If the proposed action does not have the potential for significant environmental impacts, the RA will prepare a finding of no significant impact. If the RA determines the proposed action would have the potential for significant environmental impacts, NMFS would need to prepare an environmental impact statement before releasing funds.

NMFS will prepare a Finding of No Significant Impact, as a result of the analysis in this EA.

NMFS is the lead agency for this EA. NMFS is responsible for complying with applicable law and will use the EA to support compliance reviews. Once NMFS completes its compliance requirements, the agency will release funds to the DMWR to undertake the proposed projects.

American Samoa DMWR is the project lead and would obtain all required permits. American Samoa DPW engineers developed the design and construction plans and would oversee construction, coordinate pre-construction reviews and assist DMWR with obtaining permits and clearances. DPW is the Point of Contact for the construction contractor and is responsible for ensuring the contractor complies with required best management practices.

## 1.4. Summary of the Public Involvement Process

We published a Notice of Availability of the Draft EA, which was dated July 16, 2019, in the *Federal Register* (84 FR 32888; July 10, 2019) and provided a 15-day public review and comment period. A "Summary" of the project and link to the *Federal Register* notice was posted at the NOAA Fisheries web page at "Fisheries Rules & Regulations – Pacific Islands." We accepted comments by mail or through the Federal electronic-rulemaking portal (www.regulations.gov) through July 25, 2019. We received one comment from an individual expressing support for the disaster relief effort.

## 1.5. Changes to the EA

The following changes were made to the draft EA:

- Minor typographical corrections, improved clarity of description of the fishery disaster.
- Added public review comment; deleted requests for review and comments.
- Added results of coordination with the American Samoa Historic Preservation Office (ASHPO), completion of an Essential Fish Habitat (EFH) consultation, Endangered Species Act (ESA) consultation, and coordination with American Samoa Coastal Management Program (ASCMP). We modified the effects of the proposed ice house on EFH from "no effect" to EFH to "potential for indirect effects" that would be no more than minor due to best management practices. We considered input of nutrients into the environment during dredging in the effects of the boat ramp on water quality section. None of these compliance reviews or public review comments resulted in substantial changes to the environmental effects analysis in the draft EA.

# 2. Alternatives

## 2.1. Alternative 1. No Action (Status Quo): Do not construct an ice house or boat ramp

*Description:* Under Alternative 1, the status quo, NMFS would not release federal bottomfish fishery disaster relief funds and DMWR would not build an ice house or boat ramp in American Samoa.

*Expected outcomes, Alternative 1*: Under the baseline, the DMWR would not build an ice house or provide ice to fishermen at its workstation and bottomfish fishermen. DMWR would also not build a new boat ramp and bottomfish fishermen and other small boat owners would continue to experience congested conditions at the existing boat ramp, particularly during sportfishing tournaments. This alternative would not provide improvements to support recovery of the American Samoa bottomfish fishery.

## 2.2. Alternative 2. Proposed Action: Construct an ice house and boat ramp

*Description:* Under Alternative 2, NMFS would release federal bottomfish fishery disaster relief funds and DMWR would build an ice house at its work station in Fagatogo and a small boat ramp at the southwestern-most end of Pago Pago Harbor.

**Ice House:** The ice house is described in more detail in Section 3, below. Design plans are provided in Appendix A-1. The building would be made of concrete masonry and would measure 12 feet wide by 12 feet long and 10 feet high. The project site is a developed parcel in a business district adjacent to inner Pago Pago Harbor, in Fagatogo Village.

*Expected outcomes, Alternative 2*: The ice house would allow DMWR to protect ice machines from the elements. Fishermen would either drive to the DMWR parcel or temporarily moor their vessels at the floating docks adjacent to the station. The ice would improve the ability of bottomfish fishermen to maintain the quality of their bottomfish and enable them to stay at sea longer.

**Boat Ramp:** The boat ramp is described in more detail in Section 4, below. Design plans are provided in Appendix A-2 and construction best practices are summarized in Appendix B. The ramp would be south of the mouth of Vaipito Stream (shown as Laolao Stream on some maps). A 30-foot long section of seawall would be removed and the boat ramp would be built to extend from the landward side out to the harbor. The ramp would be made of concrete and would be 24 feet wide and extend approximately 54 feet into the harbor with a slope grade of 8.22%. The ramp would extent landward for approximately 42 feet. The ramp design includes a six-inch high curb along the sides and grouted riprap to prevent stormwater channeling into the harbor from the shore. Offshore, grouted armour rocks, riprap, and toe stones would be used to secure the ramp. Design and required construction practices (construction notes and BMPs) are intended to protect water quality and prevent adverse effects to habitat and wildlife. These include silt barriers, in-water turbidity barriers, fugitive dust control measures, proper storage and use of fuels and contaminants, proper disposal, and maintaining an awareness of wildlife that should come into the vicinity of the construction activity. Other requirements of the contract work

include provisions to coordinate with the American Samoa Historic Preservation Office, should cultural remains be uncovered during excavation work.

*Expected outcomes, Alternative 2*: The boat ramp would be used by bottomfish fishermen and other small boat owners from the community. Fishermen would experience improved boat launching and return conditions due to a modernized ramp design and reduced congestion. An existing small boat ramp would not be affected by the new boat ramp and vessels could continue to use that ramp. Community members would continue to use the small longboat ramp nearby.

The new ramp would not change levels of use of the area including parking at the existing parking area. Rather, the new boat ramp is expected to serve vessels which would already launch in the area. Recovery of the bottomfish fishery could be fostered by the new boat ramp, but no fishery is expected to experience an expansion as a result of the new ramp.

Table 1. Comparison of Features and Outcomes of the Alternatives

| Topic or Resource: | Alternative 1. No Action (Baseline/Status Quo) | Alternative 2. Proposed Action |
|---|---|---|
| Federal funding: | Federal funds would not be expended. | DMWR would use federal funds to build an ice house in Fagatogo and a small boat ramp at inner Pago Pago Harbor. |
| Ice house: | An ice house would not be constructed. | A small concrete building would be built at the DMWR work station in Fagatogo to protect a commercial ice machine and ice storage machine. |
| Boat ramp: | The existing boat ramp would continue to serve the boating public. | DMWR would build a small boat ramp near the southwest inner corner of Pago Pago Harbor. The existing ramp could still be used. |
| Outcomes for fishermen: | Bottomfish fishermen would not gain benefits from ice provided at the DMWR site.<br><br>Fishermen would continue to experience congestion at the existing boat ramp especially during sport fishing tournaments. | Ice provided at DMWR would help bottomfish fishermen to keep their catch fresher and stay at sea longer.<br><br>Bottomfish fishermen and other boaters would have a better experience at launching and upon return to shore. The new ramp would reduce congestion. |
| *Boat Ramp:* Trailer and car parking | Trailers and vehicles currently park in an unimproved area near the current boat ramp. | No change. |

| Topic or Resource: | Alternative 1. No Action (Baseline/Status Quo) | Alternative 2. Proposed Action |
|---|---|---|
| *Boat Ramp:* Boat wash-downs | There is currently no boat washing in the area of the current boat ramp. | No change. A boat washing area is not proposed for the Pago Pago ramp area. |
| Lighting | The DMWR work station has low level security lighting.<br><br>The boat ramp parking area has several lights on poles. | The ice house may have a small outdoor security light.<br><br>A new pole-mounted light would be installed near the ramp. |
| Landscaping | The ice house area is mostly paved, with a small strip of grass.<br><br>The boat ramp site is flat open space with a dumped-rock wall along the harbor front. Land areas are planted in grass with a few coconut trees. | The DMWR site would remain fully paved after the ice house is built.<br><br>Grass, shrubs and trees would be replaced after the boat ramp is installed. |
| Maintenance costs | The American Samoa government maintains the current small boat ramp at Pago Pago. | The American Samoa government would acquire new responsibilities for maintaining the ice house and boat ramp. |
| Public safety | Congestion at the boat ramp has the potential to slow launching of search and rescue vessels. | Reduced congestion could result in quicker launches by search and rescue vessels. |

### 2.3. Alternatives Rejected from Detailed Consideration

DMWR initially considered building a new boat ramp near Malaloa Wharf, inner Pago Pago Harbor. This location was rejected from detailed consideration because this area has substantial vehicular and vessel traffic.

DMWR initially considered replacing the existing small boat ramp. This alternative was rejected because the existing boat ramp is still in serviceable condition.

# 3. Ice House Project Summary

The Territory of American Samoa lies roughly 14 degrees south of the equator between longitudes 169 and 173 west and about 2,500 miles southwest of Hawaii (AS-EPA 2016). Tutuila is the most populated and largest island and is the location of the Capital of American Samoa. Pago Pago Harbor is on Tutuila and the general locale of the projects. The 2010 census recorded American Samoa's population as 55,519 people, 97% of which live on Tutuila. In 2017, the 2017 Mid-year Population Census for American Samoa estimated population at 60,300 (http://doc.as.gov/wp-content/uploads/2017/07/Mid-Year-Population-Estimate-2017.pdf; retrieved 3/7/18).

## 3.1. Location and Setting – Ice House

DMWR would build the ice house at its workstation located on the southwestern shore along inner Pago Pago Harbor, Tutuila Island, American Samoa (Figure 2 and Appendix A-1). The site supports an office building, storage, boat and vehicle parking, training, and repairs. The site is adjacent to Malaloa Marina in the Village of Fagatogo.


Figure 2. Location of the proposed ice house within the American Samoa DMWR work station in inner Pago Pago Harbor.

Source: Google Maps retrieved February, 2018.

According to Craig (2009), climate in American Samoa is hot, humid and rainy year-round with a wet summer season (October through May) and a slightly cooler and drier season (June through September). Total rainfall is 125 inches at the Tafuna airport and 200 plus inches in mountainous areas. Nearshore waters are usually warm, ranging from around 82 to 86 ºF.

***Ownership and Zoning:*** The DMWR site is government property. It is within the Pago Pago Harbor Special Management Area and the project would need review by the American Samoa Coastal Zone Management Program. The site is not listed on or next to sites on the National Register of Historic Places. The project would not require a zoning variance.

***Flood Hazard Zones:*** The ice house would be built within a flood hazard zone, "Zone VE (EL 7 feet)" that is associated with the potential risk of flooding from tsunami or storm surge to depths as high as 7 feet above sea level (Figure 5).

***Site Conditions:***

Figure 3 shows the general setting of the ice house site. The site is currently paved and supports no natural habitat or native vegetation or wildlife; it is relatively flat and is at an elevation of approximately 6 feet above sea level.

The surrounding area includes a small paved roadway to the south and several commercial businesses across the road including a restaurant, office building, and a market. The nearby marina includes several floating docks. Fishermen can access the DMWR work station from the roadway by car or truck, or they can moor their vessels at floating docks immediately adjacent to the DMWR site and use walk-up ramps.

Figure 3. Setting of the proposed ice house at the DMWR site, inner Pago Pago Harbor.

Source: NMFS file photo, 2017.

***Harbor setting:*** The project area is immediately adjacent to Pago Pago Harbor.

***Water quality and classifications:*** According to the U.S. Army Corps of Engineers (USACE 1975), harbor salinity varies from 34.8 to 36 percent during the dry season and drops to 25 to 50 percent during the wet season which has greater freshwater inputs. Water surface temperature during the rainy season is 1 degree Fahrenheit cooler than ocean surface water. High rainfall results in vertical salinity gradient (fresh water on the surface of the harbor). The surface layer moves out of the harbor toward the ocean during high rainfall events.

Pago Pago waters are classified by the American Samoa Government as an "embayment" in the 2013 Revision to American Samoa Water Quality Standards (AS-EPA 2013). The harbor is an embayment where water quality has been degraded from the natural condition because of both vessel uses and non-point drainage from surrounding communities. The Environmental Quality Commission (EQC) established separate water quality standards for Pago Pago Harbor which are published as "American Samoa Water Quality Standards 2013 Revision Administrative Rule No. 001-2013." Uses of harbor waters which are protected under the Water Quality Standards are shipping, docking, loading and unloading as well as protection of marine life.

***Drainage:*** Rainwater from the DMWR site currently drains into a stormwater drain on site and passively into the Harbor. Facilities on site are connected to the municipal wastewater system.

***Marine Habitats (Adjacent to site):*** Marine habitats of inner Pago Pago Harbor show a general trend of decreasing quality and complexity compared with areas closer to the outer harbor (Coles et al. 2003). DMWR marine biologists conducted an in-water site survey in the harbor immediately next to the DMWR site prior to a project to restore damaged floating docks (AS DMWR 2014). The survey found that habitats immediately adjacent to the station are degraded. Bottom habitats consisted of silty sand and manmade debris. DMWR reported just five small coral colonies offshore from the DMWR site and piers that were covered with small bivalves. None of the corals that were seen was a threatened species under the Endangered Species Act (ESA). Several common species of reef fishes and invertebrates and a hawksbill turtle were seen on the survey. Green and hawksbill turtles are occasionally seen in the nearby area.

## 3.2. Ice House Design and Construction

Construction diagrams are in Appendix A-1. The ice house would be approximately 12 feet long, 12 feet wide, and 10 feet high, built of concrete masonry atop a concrete foundation. Rainwater from the roof would be directed into the existing storm drain. The building would be connected to municipal water and sewer systems through underground pipes. Electricity would be routed through above-ground conduits. The project does not include fences, parking, antennas, or towers.

### 3.2.1. Construction Overview – Ice House

***Duration:*** DMWR estimates construction would be completed within a time span of 4 months.

***Construction dates:*** Estimated completion by late 2019.

***Construction staging:*** Construction materials would be staged within the DMWR station.

***Public access:*** Public access to the construction site would be restricted during construction.

***Drains, utilities:*** The area is already paved. Minor trenching to a depth of one foot is needed for potable water pipe between the main source and the ice house, a run of 20 ft. Electricity would be connected through above-ground conduits. The ice house drain would be connected to the municipal wastewater system.

***Erosion, sediment and contaminant control:*** To protect Pago Pago Harbor waters, the construction contractor would follow any American Samoa land use permit requirements regarding an approved erosion control plan and would comply with pollution prevention and spill response requirements. Examples may include temporary silt barriers around the excavation site and resealing the open trench as soon as possible.

***Demolition/debris disposal:*** The contractor would dispose of construction waste at a site approved by the territorial government.

***Traffic setting:*** The parcel is large enough to accommodate construction vehicles, equipment and supplies without affecting local traffic.

***Noise:*** Temporary construction noise would be generated by vehicles, a cement mixer, hammering, and other handheld or power construction equipment during normal work hours (7:30 a.m. – 4 p.m.). Work would not be done on Saturdays, Sundays or Holidays.

***Dust:*** The site is already paved and there would be a minimum of exposed soil during trenching. The contractor would comply with land use permit requirements to control fugitive dust.

***Post construction use:*** After the ice house is built, fishermen would either temporarily moor their vessels at the adjacent floating dock or drive up to the ice house to obtain ice. The ice house would be available daily during normal business hours.

### 3.2.2. Permits and Authorizations – Ice House

***American Samoa Government permits and authorizations – Ice House***:

DMWR would be responsible for obtaining an American Samoa land use permit and pre-construction reviews.

***Federal reviews and consultations – Ice House:***

NMFS will complete the following reviews, as applicable, before the ice house is built:

- Environmental review under the National Environmental Policy Act
- Coastal Zone Management Act (Federal Consistency Determination)
- National Historic Preservation Act Section 106 coordination
- Endangered Species Act and Marine Mammal Protection Act reviews
- Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat review)

### 3.2.3. Best Management Practices – Ice House

The DMWR and its construction contractor would be required to adhere to conditions of the American Samoa Government land use permit and construction contract requirements. The contractor would adhere to an erosion control plan and secure all construction materials in order to protect harbor waters. A construction barrier would be used to prevent construction debris from entering the harbor. The DMWR's contractor would dispose of waste at an approved site. The contractor would comply with any land use permit requirements and laws that provide for the proper storage, use and transport of toxic materials and that provide for spill prevention and response. The DMWR and its construction contractor would comply with any conditions of the American Samoa government's land use permit that provide for protection of historic properties that may be uncovered during construction of the ice house.

## 3.3. Physical Resources and Effects – Ice House

### 3.3.1. Air Quality – Ice House

*Alt. 1, Baseline:* The DMWR site is located next to Malaloa Marina, Pago Pago Harbor, and is in an urbanized area. Vehicles and vessels in the vicinity produce noises and exhaust emissions typical of business, maritime, and commercial transportation uses. Air quality is good. On the whole, American Samoa air quality is classified by the Environmental Protection Agency as "In Attainment" for various air quality standards (CFR 40 Section 107 Attainment Status Designations, Section 81.352 American Samoa).

*Alt. 2, Potential Effects:* Neither construction nor access to the ice would result in a large adverse effect on air quality. The parcel is open to wind flow and the small amounts of emissions from construction equipment would dissipate quickly. The contractor would be required to control dust. Because vessels and vehicles are already using the harbor and roadways, the ice house is not expected to result in large changes to the emissions sufficient to appreciably reduce air quality. There are no other sources of emissions in the area that would combine with the low levels of emissions related to the project to result in cumulatively large and adverse effects on air quality.

### 3.3.2. Noise – Ice House

*Alt. 1, Baseline:* Vehicles and vessels and other activities in the area produce noises typical of maritime and commercial activities in a marina, harbor, and commercial area.

In the future, the DMWR plans to replace 10 damaged concrete piles in the Fagatogo area of Pago Pago Harbor (see cumulative effects section 3.6.1). This is a short-term project that would generate construction noise related to installing piles over existing stubs and using a barge.

*Alt. 2, Potential Effects:* The ice house project is not expected to result in large adverse effects on noise. Construction equipment, vehicles, and construction work would generate noise during daytime weekdays, but the sound levels are not expected to greatly exceed ambient sound levels from traffic and vessels. The construction activity may result in temporary loud sounds. The construction site is not located near sensitive receptors, and sounds are expected to attenuate over distance.

Should the ice house project coincide with the harbor repair project at nearby Fagatogo, the noise from the expected harbor piling project would not combine with the limited noise from the ice house construction project to result in large and adverse effects to noises in the project area.

In the future, access to the ice house by fishermen collecting ice is not expected to result in large changes to the level of noise in the harbor area.

The limited and temporary construction noise and limited noises associated with fishermen obtaining ice would not combine with other noises to result in large and adverse effects.

### 3.3.3. Views – Ice House

*Alt. 1, Baseline:* The areas around the inner harbor support commerce, government activities, and nearby areas support residential homes. The project site has been paved. The DMWR work site includes a two story office building, a tall, open work shed, and other smaller sheds. Two-story buildings are on nearby properties (Figure 4).

*Alt. 2, Potential Effects:* The ice house would be smaller in scale than surrounding buildings so it would not stand out among the existing developments of the site or the area, nor would the building affect views from nearby locations. The small ice house would not require or promote follow on construction or activities with the potential to have cumulatively adverse effects on views.


Figure 4. View of the ice house project site from the in-water vantage at Pago Pago Harbor.

Note: The white arrow shows the location of the proposed ice house next to the existing maintenance shed on the DMWR work station.

Source: Google Street View, retrieved on 4/18/19 from https://www.google.com/maps/@-14.2752749,-170.6916351,2a,60y,178.58h,91.71t/data=!3m6!1e1!3m4!1sdx42RyTRzmWbwTfAbsHhRQ!2e0!7i13312!8i6656

### 3.3.4. Pago Pago Harbor Water Quality – Ice House

*Alt. 1, Baseline:* The ice house site is adjacent to Pago Pago Harbor. The American Samoa Environmental Protection Agency (AS-EPA) is responsible for monitoring, assessing and protecting water quality for the Territory. The DMWR would obtain a land use permit which includes an opportunity for the AS-EPA to review the proposed project.

American Samoa EPA's Integrated Water Quality Report (2016) recognizes that Pago Pago Harbor water quality is compromised primarily because of runoff from land sources, but also from marine and port traffic. Pago Pago Harbor is an "Impaired" water body as a result of current and past uses including agricultural, residential, military, and industrial activities as well as due to limited circulation. Thus, Harbor waters are rated "Impaired" for fish consumption and for swimming. In their 2002 survey off of the DMWR site, Coles et al. (2003, page 8) reported high turbidity and low visibility of between 3 and 4 meters. Active management of point-source and non-point source inputs and other factors are helping improve water quality.

Pago Pago harbor's watershed is a total of 4 square miles (AS-EPA 2016). The harbor receives freshwater input from 27 streams (AS-EPA and AS-CZMP 2000) and input from non-point sources throughout the watershed. Harbor sediments and some fish and invertebrates could be contaminated with heavy metals (Craig 2009; AS-EPA and US EPA 2007). Sediment and plastics enter the harbor after heavy rainstorms. Swimming in the inner harbor is not recommended (Craig 2009).

Water Quality Standards for Pago Harbor Embayment are listed in the American Samoa Water Quality Standards 2013 Revision, Administrative Rule No. 001-2013. Pago Pago is designated as "Watershed 24." Inner Pago Pago Harbor water quality is affected by pollution from marina and port traffic and non-point sources. The American Samoa Environmental Quality Commission recognized that Pago Pago Harbor is a degraded embayment and established separate standards which are a lower quality compared with those for other embayments in the Territory. For more details, see Appendix C, Table AC of the EPA's Integrated Water Quality Monitoring and Assessment Report for 2016 (AS-EPA 2017). The government and private sector are working to manage inputs and improve water quality.

The future DMWR project to replace 10 damaged concrete piles in the Fagatogo area includes a number of best practices that are intended to prevent large and adverse effects on water quality described in section 3.6.1 below. These BMPs will help to prevent adverse effects of the piling replacement project to water quality adjacent to the ice house project.

*Alt. 2, Potential Effects:* The ice house would be connected to the municipal sewer system, so there would not be inputs to harbor waters from ice house operations or maintenance.

The ice house roof would allow rainwater to flow into the existing storm drain, so there would be no large change to stormwater runoff into Pago Pago Harbor. Construction best management practices would include sediment barriers and proper site management to prevent sediment or construction debris or other contaminants from entering harbor waters. Maritime uses and vehicle use levels are not expected to change substantially as a result of the ice house.

Given the best practices, ice house design, and limited changes in vessel uses in the Harbor, we conclude the ice house would not have adverse effects on water quality in Pago Pago Harbor and would not change turbidity, salinity, temperature, stormwater runoff velocity, or contaminant levels.

Among the past and ongoing effects on water quality are effects of stormwater runoff and pollutant inputs to the harbor from urban, commercial, and maritime activities. Positive effects are continued efforts by the territorial government and others to manage terrestrial and maritime activities to improve water quality. Because the ice house project would not adversely affect water quality, there is no potential for the project effects to combine with ongoing effects or effects of the planned DMWR dock repair project to result in cumulatively large and adverse effects on water quality.

#### 3.3.5. Soils – Ice House

*Alt. 1, Baseline:* The ice house location is paved, so there is no disruption to soils under the baseline.

*Alt. 2, Potential Effects:* The project would not affect soils. A small amount of subsurface soil would be removed during trenching for plumbing. Best management practices would be followed including the appropriate use of erosion control barriers and resealing the open trench as soon as possible. These measures would prevent soil loss during construction.

## 3.4. Biological Resources and Effects – Ice House

### 3.4.1. Terrestrial and Marine Habitats – Ice House

*Alt. 1, Baseline:* The project site is paved and developed. The location is in a developed urbanized area next to an active harbor and marina. Natural terrestrial habitats would not be affected by the ice house project.

The site is adjacent to Pago Pago Harbor. Floating docks form the north and west perimeter of the site. Marine areas near the ice house project site are known to support a variety of fishes, invertebrates and green and hawksbill turtles. Wildlife are described in section 3.4.3 below. A photographic survey of the adjacent marine areas revealed degraded bottom habitats (AS DMWR 2014). DMWR documented the substrate consisted primarily of sand, pavement, and rubble (29.3% of the area sampled); macro-algae (23.2%); dead coral with algae (16.1%); other (16.1%); sponges (4.21%); coralline algae (5.96%); unknown (3.51%); live hard corals (0.92%); and diseased corals (0.7%). The corals were on two degraded coral reef beds 30 feet away from the pilings at Malaloa. Five colonies of corals were seen including *Acropora muricata, Pocillopora damicornis,* and *Montipora* sp. No endangered or threatened species of coral were observed. Several marine fishes and invertebrates were seen around coral colonies and algae or on reef beds and dock pilings (AS DMWR 2014).

The proposed future project to repair 10 damaged concrete piles near the DMWR project site has the potential to temporarily disturb marine habitats through temporary suspension of sediments and installing new pilings over the existing damaged pilings which provides substrate for sessile organisms. The DMWR piling repair project includes substantial mitigation measures that would

minimize adverse effects on marine habitats. These BMPs are described below in cumulative effects section 3.6.1, below and include provisions to avoid anchoring in areas with live coral, and the use of turbidity curtains and preventing contamination of harbor waters.

*Alt. 2, Potential Effects:* Neither the ice house construction or use would adversely affect the quality of terrestrial or marine habitats. During construction, the contractors would implement best practices intended to prevent sediment, debris, and pollutants from entering harbor waters. Once built, the ice house would not change stormwater runoff from the parcel (see Harbor water quality effects described in section 3.3.4, above. Vessel use levels are not expected to change substantially once the ice is available. Given the construction best practices, ice house design, and limited changes in vessel uses in the Harbor, we conclude the ice house would not have large and adverse effects on marine habitats including on the water column and benthic habitats.

Habitats in the harbor will continue to be affected by past, present and future harbor uses and inputs from the surrounding areas. Government and private efforts to improve water quality will continue and coral reef patches will continue to persist. Because the project and future use would not adversely affect water quality or other marine habitats, the ice house project would not interact with ongoing sources of environmental pollution to result in cumulatively large effects on marine habitats.

### 3.4.2. Terrestrial Wildlife and Effects – Ice House

*Alt. 1, Baseline – Terrestrial wildlife:* The ice house site does not support native wildlife and no birds or bats have been reported as flying over the site. For the reader's interest, information about native species is on the National Park of American Samoa's website: https://www.nps.gov/npsa/learn/nature/index.htm. Five animal species from terrestrial areas in American Samoa are listed as endangered or threatened: two land snails, two birds (Friendly Ground-dove and Mao), and the Pacific sheath-tailed bat (81 FR 65466; September 22, 2016). None of these species occurs on or near the project site and there is no critical habitat on or near the site. More information about these species can be found online at: https://www.govinfo.gov/content/pkg/FR-2016-09-22/pdf/2016-22276.pdf.

*Alt. 2, Potential Effects – Terrestrial wildlife:* The ice house project would not affect native birds, bats, snails, or other terrestrial wildlife. The site is already paved and would not convert natural habitat. The project would not have the potential to result in bird or bat collisions with buildings. The ice house would be smaller than surrounding buildings, there would not be towers, antennas or guy wires. Lighting on the building would be minimized and down-shielded.

### 3.4.3. General Marine Wildlife and Effects – Ice House

*Alt. 1, Baseline – Marine wildlife:* In general, a survey of underwater locations in Pago Pago Harbor showed a decreasing gradient in terms of numbers and variety of marine species the further the sample station was located from the ocean (Coles et al. 2003). DMWR marine biologists conducted an in-water survey of the adjacent areas prior to repairing floating docks at Malaloa (DMWR 2014). They documented degraded bottom habitat that consisted primarily of sand and non-living coral rubble. Five coral colonies of hard corals were photographed on former reef beds 30 feet from the nearest shore-side piling that included *Acropora muricata,*

*Pocillopora damicornis*, and *Montipora* sp., none of which is ESA-listed. Coral, algae, and invertebrates (oysters, sponges, and tube worms) are able to colonize dock pilings. In general, as shown by these recent surveys, we conclude that bottom habitat is highly degraded with limited natural structuring coral habitat. DMWR observed common marine fishes such as damselfishes, cardinalfishes, butterflyfishes, surgeonfishes, wrasses, goatfish, and a bream. DMWR documented organisms on dock pilings including an abundance algae and oysters.

*Alt. 2, Potential Effects – General marine wildlife:* Neither ice house construction or its future use would adversely affect harbor water quality; therefore, the project would not have adverse effects on coral reef- associated marine life adjacent to the ice house site.

Coral reef-associated organisms directly offshore from the DMWR site are affected by ongoing uses by maritime vessels and inputs of sediment and contaminants from point and non-point sources around the harbor, but corals, other invertebrates and fishes persist, despite the degraded condition of the habitat. Some coral reef-associated organisms would be killed during the future restoration of the Fagatogo floating docks by the DMWR in another project described in section 3.6.1, below. Loss of the organisms which include species that colonize the existing dock pilings is unavoidable. The contractor is required to apply BMPs to reduce the potential for large adverse effects on coral colonies. These include the use of turbidity curtains, prohibitions on anchoring over corals, and provisions to protect marine habitats from pollution. Coral reef-associated organisms persist in Pago Pago Harbor offshore from the DMWR site despite ongoing maritime uses and despite past fairly large scale dock restoration work. Because the ice house at the DMWR station would not adversely affect water quality or coral reef associated organisms, and because the ice house would not result in large changes to harbor use, there is no potential for the ice house to adversely affect coral reef organisms. For the same reasons, the proposed ice house does not have the potential to affect biodiversity or ecosystem functioning (such as predator-prey relationships).

#### 3.4.4. Protected Species and Effects – Ice House

*Alt. 1, Baseline – Listed marine wildlife:* A number of marine species are listed as endangered or threatened and occur in waters around American Samoa (see list, Table C-1, Appendix C).

*Listed mollusk:* The chambered nautilus (*Nautilus pompilius*) occurs in waters around American Samoa and was listed as threatened throughout its range in 2018 (83 FR 48976; September 28, 2018). Critical habitat was not determinable at the time the species was listed, but chambered nautiluses are found in association with steep-sloped fore reefs with sandy, silty, or muddy bottomed substrates and in depths from around 100 meters to 500 m. The project site is much shallower than this type of habitat and nautilus have not been reported from Pago Pago Harbor. Therefore, we conclude chambered nautilus would not be affected.

*Sea turtles:* Four species of sea turtles have been reported from waters around American Samoa (green, hawksbill, leatherback, and olive ridley turtles). For the reader's interest, detailed information, including the range, abundance, status, and threats of the listed sea turtles, can be found in the status reviews, 5-year reviews, and recovery plans for each species on the NMFS species pages available online at: http://www.fpir.noaa.gov/PRD/prd_esa_section_4.html. General information is also found in the post "Protected Species – American Samoa" on the

Western Pacific Fishery Management Council's website at: http://www.wpcouncil.org/managed-fishery-ecosystems/american-samoa-archipelago/protected-species-samoa/.

Only two marine turtle species are expected to be seen in Pago Pago the endangered green sea turtle (*Chelonia mydas*) and endangered hawksbill seas turtle (*Eretmochelys imbricata*) (AS DMWR 2016, Utzurrum 2002) and both turtles have been observed in Pago Pago Harbor. Green turtles occur predominately at Rose Atoll, an important nesting site. Hawksbill turtles are the most common turtle seen around Tutuila and Manua Islands and also occur at Rose Atoll and Swains Island. There is no sea turtle nesting habitat in Pago Pago Harbor and critical habitat has not been designated for sea turtles in American Samoa. While the American Samoa longline fishery interacts with turtles from five distinct population segments (DPSs), the most commonly encountered green turtles in coastal waters are likely to be from the endangered Central South Pacific Green Sea Turtle DPS, which are known to nest at Rose Atoll in American Samoa (see list, Appendix C). Our environmental effects analysis considers the low possibility a turtle from the other four DPSs could enter the Harbor.

*Listed fishes:* Threatened scalloped hammerhead sharks from the Indo-West Pacific DPS (*Sphyrna lewini)*, giant manta ray (*Manta birostris*), and threatened oceanic whitetip shark (*Carcharhinus longimanus*) occur in waters around American Samoa. Of these three listed fish species, only the scalloped hammerhead shark may occur in inner Pago Pago Harbor (Craig 2009). For the reader's interest, information about listed species is available online at: https://www.fisheries.noaa.gov/species-directory/threatened-endangered.

Scalloped hammerhead sharks are found worldwide in coastal warm temperate and tropical seas, and are frequently observed in aggregations over seamounts and near islands (NMFS 2014). Scalloped hammerhead sharks from American Samoa are from the Indo-West Pacific distinct population segment (DPS) which is a "threatened" DPS. The waters of American Samoa constitute a very small portion of the range of this DPS. Craig (2009) described hammerhead shark pupping in Pago Pago near the tuna cannery seaward and across the harbor from the DMWR site. Neither NMFS nor American Samoa Dept. of Marine and Wildlife Resources has confirmed the presence of *Sphyrna lewini* in Pago Pago Harbor and our assessment of its presence is based Craig's report. NMFS has not designated critical habitat for the Indo-West Pacific DPS of scalloped hammerhead shark (NMFS 2015).

*Listed corals:* We have no information that any of the six listed coral species which are found in waters of American Samoa are present in Pago Pago Harbor. Because these species are generally found in deeper open water areas, we conclude that listed corals would not be affected by the project. Coral larvae in the planktonic phase could potentially occur in the area, so effects on larvae in terms of effects on water quality are considered. More information on listed corals around American Samoa is available at http://www.fpir.noaa.gov/Library/PRD/Coral/us_indo-pacific_corals_distribution.pdf. Critical habitat has not been designated for listed corals in American Samoa.

*Alt. 2, Potential effects on coral larvae:* The project would not result in changes to water quality (see section 3.3.4 above); therefore, we conclude the ice house project would not have the potential to affect coral larvae.

*Alt. 2, Potential effects on turtles and scalloped hammerhead shark:* We considered three potential stressors to green and hawksbill turtles and the hammerhead shark from the ice house construction project:

1) Potential effects on water quality such as changes in turbidity (suspended sediments), changes in salinity (if more stormwater were to enter the harbor), or pollution (such as contaminants from construction materials). Pollutants and changes in water chemistry could affect sharks directly or indirectly by changing prey species availability;
2) Disturbance and injury due to construction noise; and
3) Disturbance or injury related to changes in the amount of vessel traffic in the vicinity which could increase the potential for vessel strikes or increase the risk of pollution from oil spills.

As described in section 3.3.4 above, the project design would not change stormwater runoff patterns or introduce pollutants to Pago Pago Harbor, construction best practices would prevent sediments and pollutants from entering harbor waters, and the ice house would not increase vessel traffic in the area. Therefore, the project would not change water quality in any way that would affect coral larvae, sea turtles or hammerhead shark, or marine habitats, prey, or forage.

Activity and noise during construction of the ice house have the potential to disturb turtles and sharks, which could, in turn cause physical injury or a disruption in major life activities including feeding or resting. As described above in section 3.3.2, construction noises would be limited in duration and intensity. The sound levels would be attenuated because of the distance between the construction site and the fact that noise would not be generated in-water. Because sound levels would be attenuated and sound disturbance would be temporary, and because the normal life patterns for sea turtles and sharks would not be disrupted, and because sharks and turtles could avoid the area, construction related noise would be insignificant and we conclude construction noise would not affect these species. Vessel use in the harbor is not expected to change substantially, so future use would not affect turtles or sharks in terms of the potential for oil spills or collisions.

The DMWR is planning to repair 10 piles (floating dock supports) in the Fagatogo area. The information here is from the 2016 Biological Opinion. The loudest noise is expected to be related to vibratory power driving the piles to a depth of -47 feet in soft substrate, over a total of two 8-hour workdays. Each pile would require 15 minutes to drive. The noise is not expected to require ear protection (less than 75 dB re 20 µPa) which is estimated as 101 dB re 1 µPA at one meter in-water.

If the DMWR Fagatogo floating dock repair project were to coincide with the ice house project, our conclusions regarding effects of noise on sea turtles and sharks would not change because sea turtles and sharks could avoid the area. Furthermore, the contractor working on the floating dock repair would be working with a turbidity barrier in place which would provide additional geographic separation between sea turtles and sharks and the ice house construction project. DMWR's in-water project. As part of required BMPs, the contractor would survey the area before work, postpone or halt work if listed species (including hammerhead sharks and turtles) are present within 50 yards, working only during daylight hours and lowering equipment in a controlled manner. Vessels would be operated with slow speeds, and active watch would be kept for listed turtles and sharks. The noise from the vibratory hammers was found to be less than the thresholds above which hearing damage in turtles may occur and NMFS found noise effects

would be reduced because of other BMPs that would be employed. NMFS concluded that the DMWR's work to repair and replace 10 pilings off of Fagatogo may affect, but would not likely adversely affect sea turtles or scalloped hammerhead sharks. All of these facts allow us to conclude there is no potential for large and adverse cumulative effects related to noise on sea turtles or sharks.

Scalloped hammerhead sharks and sea turtles are affected by other activities around American Samoa including incidental take in fisheries, entanglement, vessel strikes, and pollution. The survival of corals and their larvae can be affected by sedimentation and pollution. Incidental take of turtles by the American Samoa commercial longline fishery is authorized under the provisions of the ESA and monitored to ensure the take does not have the potential to jeopardize the continued survival or recovery of any species, including those that occur in Pago Pago Harbor. Conservation measures such as protection and management have positive effects on the survival and reproduction of marine listed species. Both territorial and federal laws prohibit taking of listed species. Several large marine protected areas in American Samoa provide refuge for sea turtles, sharks and corals and are likely helping to promote recovery. Because the ice house would not affect listed turtles, sharks, or coral larvae, there is no potential for cumulatively large and adverse effects on listed species.

*Completion of Endangered Species Act, Section 7 Informal Coordination:*

The information and effects analysis in the draft EA, dated June 17, 2019, served as a biological evaluation of the ice house and boat ramp projects. The draft EA was sent to the NMFS PIRO Protected Resources Division (PRD) in accordance with provisions of Section 7 of the ESA and NMFS initiated an informal consultation on June 27, 2019. By letter of July 17, 2019, the Assistant Regional Administrator PRD (ARA PRD), concurred with the determination that both the proposed actions (construction of the ice house and boat ramp) may affect but would not likely adversely affect endangered Central South Pacific green turtles, endangered hawksbill turtles, threatened Indo-Pacific scalloped hammerhead sharks, and six threatened Indo-Pacific corals (Consultation Number: PIRO-2019-01684; I-PI-19-1764-AG). The ARA PRD, also concurred there is no designated critical habitat in the action area. The letter of consultation advised that ESA consultation must be reinitiated if: 1) Take occurs to an endangered species, or to a threatened species for which NMFS has issued regulations prohibiting take under section 4(d) of the ESA; 2) new information reveals effects of the action that may affect ESA-listed species or designated critical habitat in a manner or to an extent not previously considered; or 3) the identified action is subsequently modified in a manner causing effects to ESA-listed species or designated critical habitat not previously considered.

The DMWR will be advised to adhere to the BMPs described herein, when the grant is issued.

*Potential effects on marine mammals:*

*Baseline, Alternative 1:* Marine mammals are not reported from Pago Pago Harbor; however, because the harbor is connected to coastal open waters, it is possible that smaller marine mammals could enter the Harbor.

*Alt. 2, Potential effects on marine mammals:* Noise from the construction would be limited in intensity and duration and would not be at levels that would startle or damage the hearing of

marine mammals. Marine mammals could avoid the area during construction. Construction best practices and design features would protect water quality, as described above. Finally, the ice house is not expected to result in substantial changes to vessel uses in any manner that would adversely affect marine mammals. For these reasons, we conclude that the project would not result in large and adverse effects on marine mammals or result in taking any marine mammal.

This information about the potential effect of the proposed ice house on marine mammals was provided to NMFS PIRO Protected Resources Division for information on June 27, 2019.

### 3.4.5. Stream-associated Species and Effects – Ice House

*Alt. 1, Baseline:* Eggs, larvae, and juveniles of stream-dwelling fishes (e.g., gobies, dusky sleeper, and freshwater eels), invertebrates (e.g., stream snails and shrimps), and other invertebrates (e.g., larvae of coconut crabs and aquatic insects) are present in Pago Pago Harbor. These species have amphidromous life cycles which includes life stages in freshwater and marine waters.

*Alt. 2, Potential Effects:* The ice house project and future uses would not adversely affect harbor water quality or marine habitats; and, therefore, the ice house would not affect habitats of amphidromous stream-associated species.

### 3.4.6. Effects on Coastal Zone and Special Management Areas – Ice House

*Alt. 1, Baseline:* The DMWR workstation is in an urbanized business and harbor area. The ice house project site is terrestrial and does not support special characteristics such as parkland, prime agricultural land (or farmland), wetland, wild and scenic rivers, or ecologically critical areas. Critical habitat has not been established in Pago Pago Harbor or on the project site.

The ice house project area is located in the Coastal Zone, as designated by American Samoa Coastal Management Program (ASCMP). The project is within the Pago Pago Harbor Special Management Area (SMA) designated in 1990. The Pago Pago Harbor SMA designation recognizes that the watershed is extensively impacted by sedimentation and that water quality is degraded in Pago Pago Harbor. ASCMP reviews projects in the SMA and the Coastal Zone with the intention of managing effects on the Harbor. Habitats in Pago Pago Harbor relevant to the SMA are summarized in Kendall and Poti (2011). In the project area, benthic structures next to the work site include artificial structures (floating docks) patch reefs and aggregate reefs. There is no fishing or recreational use of the area, and there are no known historical or cultural resources on or near the project site.

*Alt. 2, Potential Effects:* As described above, the ice house project would not adversely affect natural resources of the coastal zone including the Pago Pago Harbor SMA. The ice house construction would be done in accordance with land use permitting and applicable laws. Ice house design and construction practices would help ensure the project would not adversely affect water quality, habitat or wildlife. The project would not affect access to fishing, recreation, or cultural resources. Based on these facts, NMFS determined that funding the ice house would be consistent to the maximum extent practicable with the enforceable policies of the American Samoa Coastal Management Program (ASCMP) and consistent with the Pago Pago Harbor SMA. NMFS coordinated the draft EA and its determination with the ASCMP on June 27, 2019.

NMFS did not receive a response from the ASCMP within 60 days and, therefore, in accordance with regulations at 15 CFR 930.41(a), NMFS presumed concurrence as of September 1, 2019.

### 3.4.7. Essential Fish Habitat and Habitat Areas of Particular Concern – Ice House

*Background:* The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), defines EFH as, "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (50 CFR, section 600.10). The MSFCMA requires any federal agency that may adversely affect EFH to consult with NMFS. Adverse effects on EFH are defined as "any impact that reduces the quality and/or quantity of EFH," and may include "site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions." (50 CFR, section 600.810(a)). Adverse effects may include "direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH." In this section, we describe designated EFH in Pago Pago Harbor and review whether the ice house construction or use would adversely affect the quality and/or quantity of EFH.

*Alt. 1, Baseline*: Habitat Areas of Particular Concern (HAPC) are subsets of EFH identified pursuant to 50 CFR, section 600.815(a)(8). At present, there is no HAPC designated in Pago Pago Harbor.

The Fishery Ecosystem Plan (FEP) for the American Samoa Archipelago identifies EFH for demersal management unit species (MUS) in American Samoa beginning on page 118 (WPFMC 2009a). The Pacific Pelagic FEP (WPFMC 2009b) identifies EFH and HAPC in American Samoa for Pelagic MUS beginning on page 172. The Council used the best available scientific information regarding biological requirements for each life stage (egg, larvae, juvenile, and adult) for each MUS. EFH and HAPC were identified by the Council in accordance with requirements in 50 CFR, section 600.805(b). Based on the Council's recommendations, NMFS specified EFH and habitat areas of particular concern (HAPC) for Bottomfish and Seamount Groundfish, Crustaceans, and Precious Corals MUS on February 3, 1999 (64 FR 19068); on June 14, 2002, for Coral Reef Ecosystem MUS EFH and HAPC (69 FR 8336); and on February 3, 1999, for Pelagic MUS EFH and HAPC designations (64 FR 19608).

EFH was recently modified in American Samoa and other Pacific Island areas in early 2019 (84 FR; 2767). Effective March 11, 2019, NMFS reclassified a number of MUS including bottomfish, crustaceans, and coral reef ecosystem species in American Samoa, as ecosystem component species (or ECS). For more details, Amendment 4 to the American Samoa FEP (along with other FEP amendments) is available online at www.regulations.gov through a search on regulatory identification number or RIN 0648-BH63.

The March 2019 rule did not change the extent of EFH in Pago Pago Harbor, so the water column and seafloor remain designated EFH as described below. The rule reclassified all former coral reef ecosystem, crustacean, and precious coral MUS in American Samoa as ECS. Nine bottomfish in American Samoa (six shallow-water bottomfish and three deep-water bottomfish) were reclassified from MUS to ECS. ECS are still managed as part of fisheries under the

American Samoa Fishery Ecosystem Plan, its amendments and implementing regulations, but EFH is no longer defined around American Samoa for certain shallow-water bottomfish including uku (*Aprion virescens*); ambon emperor (*Lethrinus amboinensis*); amberjack *(Seriola dumerili*); thicklip trevally (*Pseudocaranx dentex*); giant trevally (*Caranx ignoblis*); and blacktip grouper (*Epinephelus fasciatus*) and certain deep-water bottomfish including yellowtail kalekale (*Pristipomoides auricilla*), hapuupuu (*Epinephelus quernus*), and kalekale (*Pristipomoides sieboldii*).

The ice house project site is a terrestrial site adjacent to Pago Pago Harbor. The water column and seafloor in Pago Pago Harbor are designated EFH for and support various life stages of bottomfish and pelagic fisheries management unit species (MUS). EFH in Pago Pago Harbor is currently defined for the bottomfish MUS in Table 2 as:

Bottomfish EFH (shallow water and deep-water bottomfish MUS):

- Eggs and larvae: "The water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fm)
- Juvenile/adults: "The water column and all bottom habitat extending from the shoreline to a depth of 400 m (200 fm)."

Habitat Areas of Particular Concern (HAPC) for bottomfish MUS are currently defined as, "All slopes and escarpments between 40–280 m (20 and 140 fm)." There are no such features in Pago Pago Harbor.

Table 2. American Samoa Bottomfish Management Unit Species.

| **Local name** | **English common name** | **Scientific name** | Depth: |
|---|---|---|---|
| palu-gutusiliva | red snapper, silvermouth | *Aphareus rutilans* | Deep* |
| Asoama | gray snapper, jobfish | *Aprion virescens* | Shallow** |
| Tafauli | black trevally, jack | *Caranx lugubris* | Shallow |
| papa, velo | lunartail grouper | *Variola louti* | Shallow |
| palu malau | red snapper | *Etelis carbunculus* | Deep |
| palu-loa | red snapper | *Etelis coruscans* | Deep |
| filoa-paomumu | redgill emperor | *Lethrinus rubrioperculatus* | Shallow |
| savane | blueline snapper | *Lutjanus kasmira* | Shallow |
| palu-‘ena‘ena | pink snapper | *Pristipomoides filamentosus* | Deep |
| palu-sina | yelloweye snapper | *Pristipomoides flavipinnis* | Deep |
| palu-ula, palu-sega | snapper | *Pristipomoides zonatus* | Deep |

** Shallow-water species are generally found between 0 and 50 fm and *deep-water bottomfish species are generally found between 50 and 200 fm.

Pelagic MUS that occur in waters of American Samoa and are managed under the Pacific Pelagic Management Plan (WPFMC 2009b) are categorized as tropical pelagic species and sharks and listed in Table 3.

Table 3. American Samoa Pelagic Management Unit Species.

| **English common name** | **Scientific name** | Pelagic species category |
|---|---|---|
| Yellowfin tuna | *Thunnus albacares* | Tropical pelagic species |
| Kawakawa or mackerel tuna | *Euthynnus affinis* | Tropical pelagic species |
| Skipjack tuna | *Katsuwonus pelamis* | Tropical pelagic species |
| Frigate tuna | *Auxis thazard* | Tropical pelagic species |
| Bullet tuna | *A. rochei* | Tropical pelagic species |
| Black marlin | *Makaira indica* | Tropical pelagic species |
| Blue marlin | *Makaira nigricans* | Tropical pelagic species |
| Slender tuna | *Allothunnus fallai* | Tropical pelagic species |
| Dogtooth tuna | *Gymnosarda unicolor* | Tropical pelagic species |
| Spearfish | *Tetrapturus* spp. | Tropical pelagic species |
| Sailfish | *Istiophorus* | Tropical pelagic species |
| Mahimahi | *Coryphaena hippurus, C. equiselas* | Tropical pelagic species |
| Ono | *Acanthocybium solandri* | Tropical pelagic species |
| Opah or moonfish | *Lampris* spp. | Tropical pelagic species |
| Pelagic thresher shark | *Alopias pelagicus* | Shark |
| Bigeye thresher shark | *Alopias sp.* | Shark |
| Common thresher shark | *Alopias vulpinus* | Shark |
| Silky shark | *Carcharhinus falciformis* | Shark |
| Oceanic whitetip shark | *Carcharhinus longimanus* | Shark |
| Blue shark | *Prionace glauca* | Shark |
| Shortfin mako shark | *Isurus oxyrinchus* | Shark |
| Longfin mako shark | *Isurus paucus* | Shark |
| Salmon shark | *Lamna ditropis* | Shark |

Source: Western Pacific Pelagic Fishery Ecosystem Plan (WPFMC 2009b).

According to the Council, the eggs and larvae of many of these species are pelagic and are lightly buoyant when first spawned and can be found distributed throughout the tropical epipelagic zone (approximately 200m deep) from the shoreline to the outer limit of the EEZ.

EFH for Pelagic MUS is defined as:

- "Eggs/larvae: the (epipelagic zone) water column down to a depth of 200m (100 fm) from the shoreline to the outer limit of the EEZ."
- "Juvenile/adults: the water column down to a depth of 1,000 m (500 fm) from the shoreline to the outer limit of the EEZ."

Pelagic HAPC is established as, "Water column from the surface down to a depth of 1,000 m (500 fm) above all seamounts and banks with summits shallower that 2,000 m (1,000 fm) within the EEZ." No areas meeting this definition are found in Pago Pago Harbor.

*Alt. 2, Potential Effects:* The ice house project would not change use of the parcel nor would it result in changes to stormwater runoff or introduce pollutants in any way that would adversely affect water quality or habitat quality in the harbor (see water quality, section 3.3.4, above and

marine wildlife, section 3.4.3). The contractor would employ best management practices to protect water quality during construction.

Once built, the ice house is not expected to change stormwater runoff from the parcel (which flows into a storm drain). Drainage from the ice house would be through the municipal sewer system. Because the site is already paved and the building would direct stormwater runoff into the storm drain, construction of the small ice house would not change stormwater runoff intensity or patterns.

*EFH Consultation:* On June 27, 2019, NMFS initiated an EFH consultation on the ice house and boat ramp projects. NMFS provided the draft EA, dated June 17, 2019, and an EFH Assessment Worksheet for Federal Agencies dated June 14, 2019, to support the agency's review. NMFS completed its consultation under Section 305(b)(D)(2) of the Magnuson-Stevens Fishery Conservation and Management Act on July 25, 2019.

*EFH conclusions with respect to the proposed ice house:* NMFS found that although the ice house project would be built on an area that is on land and is paved, the project has the potential for indirect adverse effects on EFH in the form of turbidity, sedimentation and chemical contamination from equipment. NMFS also found that that the best management practices for the project are suitable to ensure that adverse effects to EFH would be no more than minimal. NMFS was satisfied that the BMPs were sufficient and did not provide additional conservation recommendations for the ice house project.

## 3.5. Socio-Economic Effects– Ice House

### 3.5.1. Effects on Bottomfish Fishery – Ice House

*Alt. 1, Baseline:* Bottomfish fishermen would not benefit from ice provided by the DMWR. The bottomfish fishery is managed in accordance with the Fishery Ecosystem Plan for the American Samoa Archipelago (WPFMC 2009a) developed by the Council and implemented by NMFS under the authority of the Magnuson-Stevens Fishery Conservation and Management. The American Samoa fishery is monitored by the American Samoa DMWR, the Council, and NMFS and catches of American Samoa bottomfish management unit species (BMUS) are well below the annual catch limit (ACL) and the fishery is sustainable (NMFS, in prep). For more details, see section 4.5.1, below.

*Alt. 2, Potential Effects:* DMWR would provide ice to bottomfish fishermen which would support better quality fish and potentially longer fishing trips. The ice is not expected to result in a large change to the number of fishermen accessing the DMWR site to get ice; but it would provide some relief to bottomfish fishermen by reducing costs and improving product quality. The American Samoa bottomfish fishery is not expected to change and the fishery will continue to remain sustainably managed.

### 3.5.2. Effects on the American Samoa Fishing Community – Ice House

*Alt. 1, Baseline:* Under Alternative 1, bottomfish fishermen would not have the added benefit of ice provided by the DMWR. The American Samoa fishing community that relies on bottomfish includes fishermen, vendors, and community members who consume and share fish with others.

*Alt. 2, Potential Effects:* DMWR would provide ice to bottomfish fishermen which would support better quality fish and potentially longer fishing trips. Because the fishery is fairly small, the provision of ice to bottomfish fishermen is not expected to result in a large change to the number of fishermen accessing the DMWR site to get ice. The ice would improve fish quality and if the fishery conditions improve, could increase the availability of sustainably caught bottomfish for the community.

### 3.5.3. Subsistence and Cultural Fishing by American Samoans – Ice House

*Alt. 1, Baseline:* There is no subsistence or cultural fishing in inner Pago Pago Harbor including near the DMWR site because of concerns about pollution. Fishermen engaging in bottomfish fishing using small alia vessels that originate from Pago Pago Harbor launch vessels at the small boat ramp. Cultural uses of bottomfish may include gifts to chiefs, family, and the community.

*Alt 2, Potential Effects:* Neither the ice house construction nor its operation would affect subsistence or cultural fishing in Pago Pago Harbor because there is no fishing in this area. The ice machine would not change access to fishing areas at sea and would not change cultural fishing rights for the people of American Samoa.

The ice house would protect ice machines that would provide ice to bottomfish fishermen. In addition to supporting the fishery, the ice house would also support the continuation of traditional cultural uses of bottomfish in the local community.

### 3.5.4. Historic, Archaeological, and Cultural Resources – Ice House

*Alt. 1, Baseline:* The DMWR workstation is not listed on the National Register of Historic Places. The site has previously been previously disturbed and paved, so no historic, archaeological or cultural resources or sites are known or suspected on the site. The site is not part of the "U.S. Naval Station Tutuila Historic District." Because the site is altered and paved, there are no known or suspected historic, archaeological, or cultural resources that could be affected.

*Alt. 2, Potential Effects:* The project would have no effect on historic, archaeological or cultural resources because the site is mostly paved, is not listed on the National Register of Historic Places, and there are no known or suspected historic, cultural, or archaeological resources on site. A small utility trench would be excavated during construction. ASHPO staff would provide guidance on treatment of any historic properties that are uncovered during ground excavation, as described in the project description and best management practices.

By letter of June 27, 2019, NMFS provided information on the project to the ASHPO, and requested review under Section 106 of the National Historic Preservation Act of 1966, as amended. After reviewing the draft EA and completing a site visit, the Historic Preservation Officer, ASHPO, concurred with the determination of the Area of Potential Effect and with NMFS determination of "No effect to historic properties" (Consultation 072-19HP; July 18, 2019).

The Historic Preservation Officer noted the need for future monitoring, communication, and reporting, which would be the responsibility of the DMWR and its construction contractor. If any

historic resources are discovered during ground disturbance, the construction contractor would be required to stop work in the area and notify the DPW and the American Samoa Historic Preservation Office (ASHPO).

#### 3.5.5. Environmental Justice – Ice House

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to make achieving environmental justice part of their missions by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations in the United States and its territories…" Federal agencies are also directed to consider effects of actions on subsistence consumption of fish or wildlife.

*Alt. 1, Baseline:* The majority of residents of American Samoa are Samoan (Grace-McCaskey 2013). There is no subsistence consumption of fish or wildlife in or near the project site. The current use of the project site is for government administration of fish and wildlife programs, maintenance, education and outreach. Nearby uses include maritime and business uses.

*Alt. 2, Potential Effects:* As described in this EA, the ice house construction and operation are not expected to result in large and adverse environmental effects and the project would not affect subsistence consumption of fish or wildlife. The ice house is not expected to change uses or use levels in the adjacent harbor or business areas. The ice house is expected to improve the quality of fish caught by bottomfish fishermen, but not result in a fishery expansion. For these reasons, we conclude that the project would not have the potential to have a disproportionately large or adverse environmental or health effects on members of environmental justice populations and the ice house would not affect patterns of subsistence consumption of fish or wildlife.

### 3.6. Other Environmental Considerations – Ice House

#### 3.6.1. Public Safety and Health – Ice House

*Alt. 1. Baseline:* The project site is not affecting the public health or safety.

*Alt. 2, Effects:* Neither construction nor future use of the ice house would have an adverse effect on public health or safety. The site is within a gated area and would be further secured during construction.

#### 3.6.2. Potential to Introduce or Spread Non-indigenous Species – Ice House

*Alt. 2, Effects:* The ice house project would not have the potential to introduce or spread a non-indigenous species. Equipment would not enter the water and best practices would prevent runoff from the site to enter harbor waters during construction. After construction, patterns of drainage, access and use would not change in any way that would have the potential to introduce or spread a non-indigenous species.

### 3.6.3. **Hazards – Inundation – Ice House**

*Alt. 1, Baseline:* The boat ramp and ice house would both be located in a tsunami hazard zone. FEMA Flood Map 600001 (see Figure 5) shows flood inundation levels from potential storm surge or tsunami at the ice house site (orange arrow) and proposed boat ramp site (yellow arrow), Pago Pago Harbor, Tutuila, American Samoa. The ice house site is located within a flood elevation zone of 8 feet above sea level. The U.S. Army Corps of Engineer's "Final Report on the 2009 Tsunami" (USACE 2012), reported that tsunami inundation ended fairly close to the back side of the AE zone shown in the FEMA flood zones map (see Fig. 3.9 in USACE 2012, for details).

*Alt. 2, Effects:* The ice house would be structurally sound and made of concrete masonry. Although built in an area that could be subject to inundation during a tsunami, the ice house would not likely increase tsunami velocity or result in increased threat to human life or property. Coordinated infrastructure planning for this project, which is part of American Samoa's approach to coastal zone management and tsunami resilience, will occur through reviews of the proposed ice house.

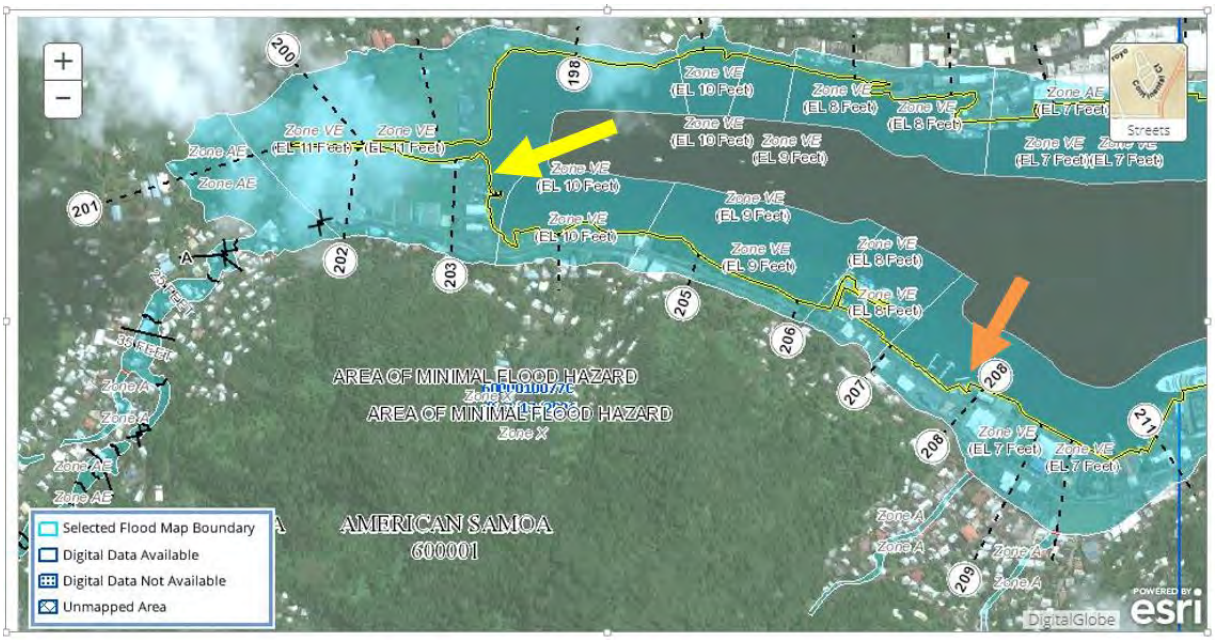


Figure 5. FEMA Flood Zones Panel 60001, Pago Pago, American Samoa.

Note: Proposed ice house location shown at the orange arrow and the proposed boat ramp shown near the yellow arrow. Source: Retrieved from: https://msc.fema.gov/portal/search?AddressQuery=pago%20pago%20harbor#searchresultsanchor on 2/23/18.

### 3.6.4. Climate considerations – Ice House

*Alt. 1, Baseline:* Reports on climate trend projections in American Samoa by the American Samoa Governor's Coral Reef Advisory group (ASG CRAG 2007) and a water resources study by Wallsgrove and Grecni (2016) provide basic information for American Samoa. Projections include the possibility of rising air temperatures, rising sea level, variable rainfall (possibly less rainfall, possibly more rainfall), more intense storms, and more frequent rainfall. Changes in ocean temperature and acidity have the potential to adversely affect marine life such as corals and invertebrates and can affect different life stages and habitat use patterns of marine organisms. The American Samoa government and community members incorporate climate change adaptation into their planning processes. Sea level could rise as much as 5mm per year over the next 100 years – 1.6 feet (ASG CRAG 2007).

*Alt. 2, Potential climate change effects:* The ice house would not have the potential to modify local climate due to the fact that the project area is already paved. The ice house would be about 6 to 7 feet above sea level and would not be adversely affected by potential sea level rise. The building would be designed to direct stormwater into existing drains and would not increase stormwater runoff or runoff velocity. Thus, the project would not change water quality including temperature, salinity, or turbidity and there would be no potential for cumulatively large and adverse effects on marine life. The project would not increase vessel use over the levels that are occurring or could occur under the baseline, so we conclude that the project would not result in changes in greenhouse gas emissions.

### 3.6.5. Precedent and Decisions in Principle – Ice House

*Alt. 1, Baseline:* The ice house would be built on a site that is administered by the territorial government. Future proposals would be subject to applicable public and agency reviews.

*Alt. 2, Potential Effects:* The ice house will undergo public and American Samoa government review. The project would not lead to follow on projects, or result in automatic approval of future projects.

### 3.6.1. Cumulative Effects – Ice House

Past, present, and reasonably foreseeable activities that have affected or may affect the environment have been considered in the previous sections. For example, the water quality analysis took into consideration past and ongoing inputs as well as recent and ongoing efforts to mitigate inputs of pollutants from surrounding areas into the harbor. Similarly, noise analysis, viewplane analysis, and effects on marine wildlife considered other ongoing effects in the baseline.

The boat ramp and ice house are the last two projects to be funded using funds appropriated by Congress for the American Samoa Bottomfish Fishery Disaster Relief. Except for one project, the projects funded by the appropriation have been completed and are no longer actively affecting the environment in a way that would have the potential for additive or other cumulative effects on the boat ramp or ice house projects. Past projects funded through the disaster relief appropriation included support for boat repair, repair of a wharf, and repair of 22 missing and

damaged anchor piles at the Fagatogo and Malaloa areas of Pago Pago Harbor. The previous projects underwent environmental and compliance reviews before progressing.

As a separate project, DMWR is planning to replace 10 damaged concrete piles at the Fagatogo floating dock, which is in the vicinity of the DMWR administrative work site for the ice house project. The floating dock repair project is separate from the current proposed ice house and boat ramp and is in the final planning stages. Information on the effects of the floating dock repair project was obtained from correspondence related to the Magnuson-Stevens Fishery Conservation and Management Act essential fish habitat consultation (NMFS March 7, 2016, and April 26, 2016, file communications). The EFH consultation found that there would be an adverse effect on EFH due to the nature of the activity, but the adverse effect would likely be minimal because of mitigation incorporated in the activity. The floating dock repair BMPs are intended to prevent large and adverse effects on water quality, marine habitat and wildlife. Best practices that were committed to include requirements for shore-side erosion and sediment control; provisions to prevent contaminants, sediments, and debris from entering harbor waters; a requirement to employ in-water turbidity barriers; cleaning equipment before it is used in the water; and requirements to prevent and clean up any contaminant spills. Other BMPs include scheduling work during the non-rainy season and when ocean conditions are known to be calm; scheduling construction outside of mass-coral spawning times; and using materials that do not leach pollutants into the marine environment. The project includes a commitment to anchor the spud barge away from two coral outcrops in the vicinity. These BMPs are intended to prevent adverse effects of the Fagatogo dock piling repair and replacement project on water quality.

Because of the substantial mitigation measures incorporated in the future floating dock and pilings repair project at Fagatogo, and because the ice house project occurs on land and would include BMPs that would protect water quality, the effects of the two projects would not combine to result in large and adverse cumulative environmental effects.

Even though there have been multiple projects completed using the bottomfish disaster relief funds, none of the project individually or together is expected to result in a large expansion of the bottomfish fishery; rather, the projects are intended to support relief for the fishery and ideally would help restore the bottomfish fishery to conditions before the 2009 tsunami. The bottomfish fishery and other fisheries would continue to be monitored and managed by the DMWR and the Council, which helps to assure that the projects would not result in unsustainable effects on fish stocks.

We note that the ice house is located over half a mile away from the boat ramp area and the proposed future Fagatogo dock repair project would not have effects on the environment with the potential to interact with the environmental conditions in the location of the boat ramp to result in large and adverse cumulative effects.

Table 4. Summary of Effects of the Ice House Alternatives.

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Air Quality:** (EA, section 3.3.1) | Air quality is good. American Samoa air quality "in Attainment" under EPA criteria.<br>Site is adjacent to harbor, marina and commercial areas, so there are some emissions from vessels and vehicles. | No large and adverse effects on air quality. Temporary emissions from construction vehicles and equipment would dissipate. No change to EPA "Attainment" rating. Vessel and vehicle uses would not change substantially, so there would not be a change in air quality. |
| **Noise:** (EA, section 3.3.2) | Existing noise from vessels, vehicles, and other human activities. | Construction noise would be temporary, during regular working hours, and would not generally exceed ambient levels. Sounds would attenuate and would not adversely affect marine wildlife. The site is not near sensitive receptors. No large and adverse cumulative effects on noise.<br>Future uses would not change substantially. |
| **Views:** (EA, section 3.3.3) | The parcel is developed and there are several two-story buildings in the vicinity. | The ice house would be small in relation to surrounding structures so it would not have a large and adverse effect on views.<br>The ice house project would not require or promote follow-on construction, so there is no potential for cumulatively large and adverse effects on views. |
| **Pago Pago Harbor Water Quality:** (EA, sections 3.3.4; 3.6.1) | Water quality is impaired in Pago Pago Harbor and efforts are underway to reduce inputs into the Harbor. Baseline standards are established by the American Samoa EPA and reflect impaired water quality.<br><br>The parcel is currently mostly paved. Stormwater passively drains into the Harbor and into a stormwater drain. | No large adverse effects on water quality. Construction BMPs would protect harbor waters from turbidity, sedimentation, debris, and contaminants. The roof is designed to direct rainwater into a stormwater drain. The ice house would be connected to the municipal sewer system.<br><br>Future uses are not expected to change substantially in a way that would affect water quality.<br><br>The ice house project would not have the potential for water quality effects that would combine with effects from other planned projects to result in large and adverse cumulative effects on water quality (section 3.6.1). |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Soils:** (EA, section 3.3.5) | Ice house location is paved. | No effect to soils.<br><br>Construction best practices would protect harbor waters from sedimentation. Erosion control barriers and resealing a small open trench as soon as possible would prevent soil loss. |
| **Terrestrial and Marine Habitats** (EA, section 3.4.1) | The site is paved and there is no natural habitat on site.<br><br>Marine water quality and substrate habitat are degraded. Five coral colonies, common marine fishes, other invertebrates, and sea turtles were confirmed in the area. Hammerhead sharks are reported from Pago Pago Harbor. | Construction best practices and design features would prevent adverse effects on water quality and other marine habitats.<br><br>Future uses would not change in a way that would affect water quality or benthic habitats. |
| **Wildlife** (EA, sections 3.4.2, 3.4.3) | No native wildlife occurs on or flies over the project site.<br><br>Marine wildlife is associated with degraded coral reef structures, dock pilings, and debris and include common reef-associated fishes including scalloped hammerhead sharks, and invertebrates. Green and hawksbill turtles confirmed in inner harbor. | Construction would not have a large and adverse effect on marine wildlife. Design features and best practices would protect harbor water quality.<br><br>Use levels would not change in a way that would affect marine wildlife. |
| **Birds** (EA, section 3.4.2) | No land birds are reported from the site. A number of seabirds and shorebirds are present in American Samoa, but the DMWR site does not support birds. | The ice house project would not affect birds. The project would not have the potential to result in bird collisions because the ice house would be smaller than surrounding buildings and there would not be towers, antennas or guy wires. Lighting on the building would be minimal and down-shielded. |
| **Critical Habitat**<br><br>(EA, section 3.4.4) | No critical habitat has been designated in marine waters of American Samoa and there is no critical habitat on the DMWR parcel. | No effect on critical habitat. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Threatened Corals:** (EA, section 3.4.4) | None of the six species of threatened corals are likely to occur in the project area. Larvae of six threatened corals could occur. | The ice house project may affect but would not adversely affect threatened coral including coral larvae. Design features and best practices would protect harbor water quality and marine habitat. Future harbor uses would not change in a manner that would affect water quality. |
| **Endangered Sea Turtles:** (EA, section 3.4.4) | Green and hawksbill turtles forage, swim and rest in Pago Pago Harbor. There is no turtle nesting in the area. | The ice house project may affect, but would not adversely affect green or hawksbill sea turtles. Design features and best practices would protect harbor water quality and marine habitat. Noise from construction would be temporary and at such low levels that effects would be insignificant. Sea turtles could and likely would avoid the area if noise from the construction disturbed the animal.<br><br>Future harbor uses would not change in a manner that would affect sea turtles. |
| **Threatened scalloped hammerhead shark:** (EA, section 3.4.4) | Scalloped hammerhead shark from the Threatened Indo-West Pacific DPS reported as pupping near tuna cannery in inner Pago Pago Harbor. | The ice house project may affect but would not adversely affect scalloped hammerhead sharks. Design features and best practices would protect harbor water quality and marine habitat. Noise from construction would be temporary and at such low levels that effects would be insignificant. Hammerhead sharks could avoid the area if noise presented a disturbance.<br><br>Future harbor uses would not change in a manner that would affect sharks. |
| **Marine mammals:** (EA, section 3.4.4) | Marine mammals have not been seen in the inner Pago Pago Harbor and are unlikely to be in the area off of the DMWR project site at Fagatogo. | Design features and best practices would protect harbor water quality. Construction noise would be temporary and at levels that would not likely adversely affect marine mammals, should any be in the area. Future harbor uses would not change in a manner that could affect marine mammals.<br><br>The project would not result in marine mammal take. |
| **Stream-associated species:** (EA, section 3.4.5) | Amphidromous species occur in Pago Pago Harbor. | The ice house construction and future uses would not adversely affect harbor water quality or marine habitats, so there would be no effect on amphidromous species. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Coastal Zone & SMA** (EA, section 3.4.6) | The ice house is located in the Coastal Zone and Pago Pago Harbor Special Management Area (SMA). | Neither construction nor future use of the ice house would adversely affect water quality, wildlife habitats, wildlife, cultural resources, or fishing and recreational uses of the harbor. The provision of ice in support of fishermen is consistent with Pago Pago Harbor maritime uses and the Pago Pago Harbor SMA. NMFS coordinated the ice house project with the American Samoa Coastal Zone Program in June 2019. |
| **Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC)** (EA, section 3.4.7) | EFH in Pago Pago Harbor adjacent to the DMWR project site includes the water column and substrate which has been designated as EFH for bottomfish and pelagic MUS.<br><br>There is no HAPC in Pago Pago Harbor. | Neither construction nor future uses of the ice house are expected to adversely affect water quality or marine habitats. Design features and best management practices would protect water quality. The project would not affect substrates adjacent to the DMWR site. NMFS completed an EFH consultation on July 25, 2019, that concluded that the ice house has the potential for indirect adverse effects to EFH, but BMPs are suitable to ensure that adverse effects to EFH would be no more than minimal. |
| **Bottomfish Fishery**<br><br>(EA, section 3.5.1) | The bottomfish fishery would not benefit from the availability of ice. Harvests of BMUS are currently monitored by fishery managers and scientists. The American Samoa bottomfish fishery continues to be sustainably managed. | A limited yet reliable supply of ice would be available to support recovery of the bottomfish fishery. The relief is not expected to expand the size or scope of the fishery, but is part of a suite of activities intended to support restoration of the small alia bottomfish fishery to levels prior to the 2009 tsunami. Harvests of BMUS would continue to be monitored and would continue to be sustainable. |
| **American Samoa Fishing Community**<br><br>(EA, section 3.5.2) | The American Samoa fishing community relies on bottomfish and includes fishermen, vendors, and community members who consume and share fish with others. | The ice house would provide limited relief to the bottomfish fishery, which may eventually provide greater opportunities for community members to benefit from sustainable harvests of bottomfish fishing. The ice house would not result in large effects on the fishing community. |
| **Subsistence and cultural fishing by American Samoans** (EA, section 3.5.3) | No subsistence or cultural fishing occurs in inner Pago Pago Harbor. Bottomfish fishermen use small alia vessels. | No effect on subsistence or cultural fishing in inner Pago Pago Harbor. No effect on access to fishing grounds. Ice would support improved quality of bottomfish which would support continued cultural uses of bottomfish. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Historic, Archaeological, and Cultural Resources**<br><br>(EA, section 3.5.4) | Site has been previously disturbed and paved. No known or suspected historic, archaeological, or cultural resources on the site. | No effect because no resources are known or suspected. NMFS completed a consultation in accordance with Section 106 of the National Historic Preservation Act consultation on the ice house project on July 18, 2019.<br><br>The DMWR and construction contractor would be required to contact the ASHPO if any resources were to be uncovered during minor utility trenching. |
| **Environmental Justice**<br><br>(EA, section 3.5.5) | The majority of the residents of American Samoa are Samoan. There is no subsistence harvests in the area. | The project does not have the potential for disproportionately high and adverse environmental or health effects on members of Environmental Justice populations. The project would not affect patterns of subsistence consumption of fish or wildlife. |
| **Public Safety and Health**<br><br>(EA, section 3.6.1) | Site is not adversely affecting public safety or health. | No change. No adverse effect on public health or safety. |
| **Potential to Introduce or Spread Non-indigenous Species** (EA, section 3.6.2) | Activities on the site do not have the potential to introduce or spread non-indigenous species. | No change. No potential to introduce or spread non-indigenous species. |
| **Hazards – Inundation**<br><br>(EA, section 3.6.3) | Site is located in a tsunami hazard zone. | The ice house would be structurally sound and would not increase tsunami velocity or result in increased threat to human life or property. |
| **Climate considerations**<br><br>(EA, section 3.6.4) | Climate change has the potential to affect the coastal environment of American Samoa particularly the marine environment through increased temperature, ocean acidity, and the potential for changes to the frequency and severity of storms. Sea level could change in the future. | No effects on climate change. Project would not be adversely affected by sea level rise. Project would not have the potential for cumulative effects to marine life through effects on water quality. The ice house would not modify vessel use and would not result in changes to greenhouse gas emissions. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Ice House |
|---|---|---|
| **Precedent and Decisions in Principal**<br><br>(EA, section 3.6.5) | The site is administered by the Territorial government. Future proposals would be subject to applicable public and agency reviews. | The project would not lead to automatic approval of future projects or narrow options for projects currently being contemplated. |

# 4. Boat Ramp Project Summary

## 4.1. Location and Setting – Boat Ramp

American Samoa DMWR proposes to build a small boat ramp at the southwestern-most end of Pago Pago Harbor. The area currently supports parking for trailers and vehicles associated with a nearby boat ramp. The ramp location is shown in Figure 6. It lies south of Vaipito Stream (denoted on maps as Laolao Stream) and approximately 120 feet north of an existing small boat ramp. Coordinates are: Latitude -14.272864 and Longitude -170.699670. The boat ramp project is over half a mile away from the Fagatogo pilings project and neither the ice house project or the DMWR's other project to restore pilings at Fagatogo (described above in section 3.6.1) would interact with the boat ramp project including in terms of effects on the environment.


Figure 6. Location of the proposed small boat ramp (blue arrow) at the southwest inner corner of Pago Pago Harbor, Tutuila, American Samoa.

Note: An existing small boat ramp (yellow arrow) and existing unimproved parking area are in the vicinity of the proposed project. The project site is flat with limited planted vegetation.

Photo Source: Google Maps (retrieved on 2/7/2018).

***Ownership and zoning:*** The ramp would be built on American Samoa Government property (TMK 10; x=252787.35; y= 307780.77). The project is located within the American Samoa Coastal Zone and the "Pago Pago Harbor Special Management Area" (SMA). The project obtained American Samoa Coastal Zone Management Program Federal Consistency approval of Land Use Permit 18-5772 L on January 18, 2019. The site is not listed on or next to sites on the National Register of Historic Places. The project would not require a zoning variance.

***Flood Hazard Zones:*** The boat ramp would be built within a flood hazard zone, "Zone VE (EL 10 feet)" that is associated with the potential risk of flooding from tsunami or storm surge to depths as high as 10 feet above sea level (Figure 5).

***Site Conditions – Land areas:*** Land areas are flat with an elevation of approximately 6 to 7 feet above sea level. The parcel is used as a parking area for fishing and other vessels and trailers associated with use of the existing boat ramp. The area supports recreational launches of long boats during the April "Flag Day" festival. The area is heavily used and becomes congested, particularly during fishing tournaments. There are no homes or businesses in the immediate vicinity. Figures 7 through 12 depict site conditions.

The boundary between land and the harbor is a dumped-rock seawall approximately 14 feet wide and approximately 7 feet high. Terrestrial areas are either planted in grass or covered with gravel. Sparse plantings along the rock seawall include young coconut trees and indigenous trees and shrubs.

Facilities adjacent to the project area include:

- A small concrete longboat ramp (Figure 8, 9, and 12).
- A gravel parking area for vehicles and boat trailers with pole lights (Figure 10).
- A small community boat ramp approximately 45 feet long and 29 feet wide (Figure 11).
- A building used to store longboats (Figure 12).

The ramp area is accessed on a small unimproved roadway off of the main around-the island road, Route 1. Well beyond the immediate project footprint, the entry road passes a number of buildings including:

- Territorial Administration on Aging (TAOA) buildings that are used for activities but are not permanently occupied.
- Outdoor tennis courts and a small playground.
- Pago Airport Inn is located across Route 1 (toward the mountains).
- The Development Bank office building is located just before the entrance to the access road.

Figure 7. Photo of the boat ramp project site at the southwestern inner corner of Pago Pago Harbor.

Note: The boat ramp would be constructed in the area where the women are standing. The confluence of Vaipito Stream and Pago Pago Harbor can be seen at the top left portion of the image. Source: NMFS file photo, 2017.

Figure 8. View showing the area where Vaipito Stream empties into Pago Pago Harbor. Photograph taken from an existing small concrete ramp for longboats.

Source: NMFS file photo, 2017.

Figure 9. Photograph of Pago Pago Harbor from the small longboat ramp.

Source: NMFS file photo, 2017.

Figure 10. Photograph showing current parking area near the proposed boat ramp.

Source: NMFS file photo, 2017. Note: The two buildings are used by the Territorial Administration Office on Aging (TAOA). The existing parking area would not be affected by the new boat ramp. Vehicles using both boat ramps would park at the existing parking area.

Figure 11. Photo of an existing small boat ramp approximately 120 feet south of the proposed new boat ramp.

Source: NMFS file photo, 2017. Note: Figure 11 shows a typical aluminum and wood fishing vessel (alia) near the ramp.

Figure 12. A small building near the proposed boat ramp is used for longboat storage.

Source: NMFS file photo, 2017. Note: The building is near the existing parking area (gravel/grass).

***Site Conditions – Harbor Waters:*** Harbor waters are generally calm, but during storms and heavy rainstorms, conditions can be choppy and the water can become murky with sediments brought in from surrounding areas or from bottom sediments.

Sediments in the harbor at the boat ramp site are unconsolidated terrigenous sediments. Natural conditions were altered in the past when the land was created by filling. Sediments are carried by Vaipito Stream into this portion of Pago Pago Harbor during heavy downpours.

Water depths are shallowest close to shore and then drop off fairly quickly to approximately two and one-half fathoms (15 feet deep) in the vicinity of the boat ramp (see NOAA Chart, Figure 13). Water depths are sufficient to allow safe maritime use without further dredging.

Marine habitats of this innermost portion of Pago Pago Harbor are degraded and feature a mix of sediments, sand, and rocks. A few small coral colonies, common species of reef fishes, and invertebrates were found living on or around rocks, pavement, rubble, and debris (DMWR 2019).

***Water quality and classifications:*** According to the U.S. Army Corps of Engineers (USACE 1975), harbor salinity varies from 34.8 to 36 percent during the dry season and drops to 25 to 50 percent during the wet season which has greater freshwater inputs. Water surface temperature during the rainy season is 1 degree Fahrenheit cooler than ocean surface water. High rainfall results in vertical salinity gradient (fresh water on the surface of the harbor). The surface layer moves out of the harbor toward the ocean during high rainfall events.

Pago Pago waters are classified by the American Samoa Government as an “embayment” in the 2013 Revision to American Samoa Water Quality Standards (AS-EPA 2013). The harbor is an embayment where water quality has been degraded from the natural condition because of both vessel uses and non-point drainage from surrounding communities. The Environmental Quality Commission (EQC) established separate water quality standards for Pago Pago Harbor which are published as “American Samoa Water Quality Standards 2013 Revision Administrative Rule No. 001-2013.” Uses of harbor waters which are protected under the Water Quality Standards are shipping, docking, loading and unloading as well as protection of marine life.

***Drainage:*** Stormwater on the project site percolates through the soil as well as drains into the Harbor and nearby stream.

***Utilities:*** The site has several electric lights on poles (see Figure 10 and Figure 12).

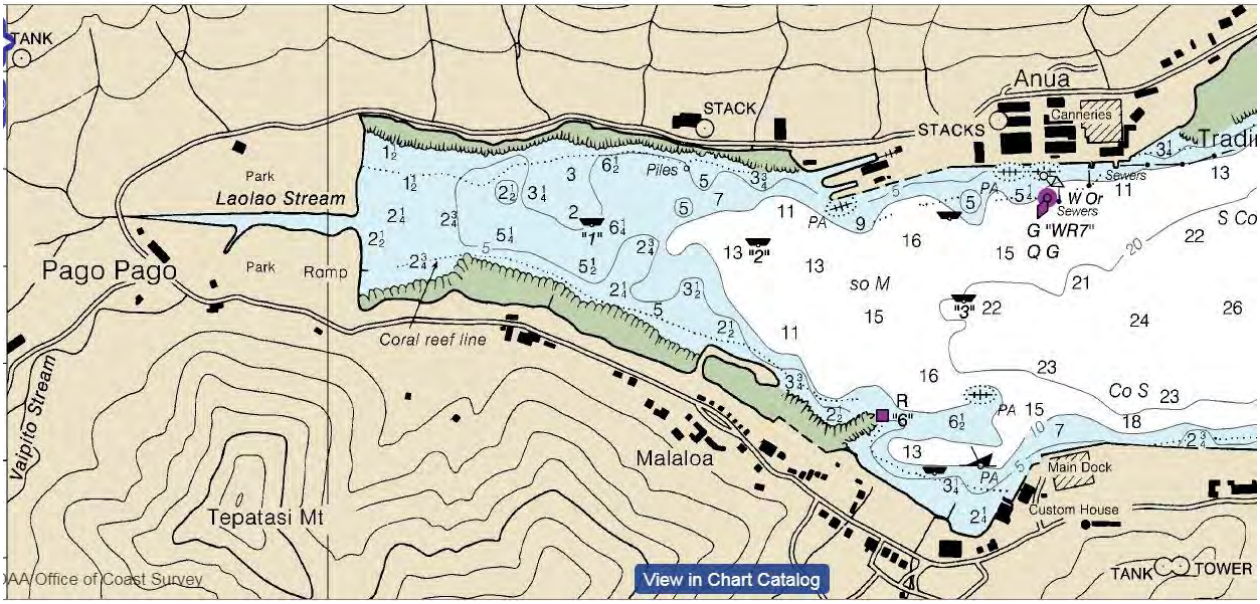


Figure 13. NOAA Chart 83484 detail showing depths (in fathoms) in inner Pago Pago Harbor and near the proposed boat ramp.

Note: Depths close to shore near “Ramp” south of Laolao Stream are 2½ fathoms (15 feet).
Source: NOAA Chart 83484 retrieved on 4/29/19: www.charts.noaa.gov/OnLineViewer/83484.shtml

## 4.2. **Boat Ramp Design and Construction**

Boat ramp construction diagrams are provided in Appendix A-2.

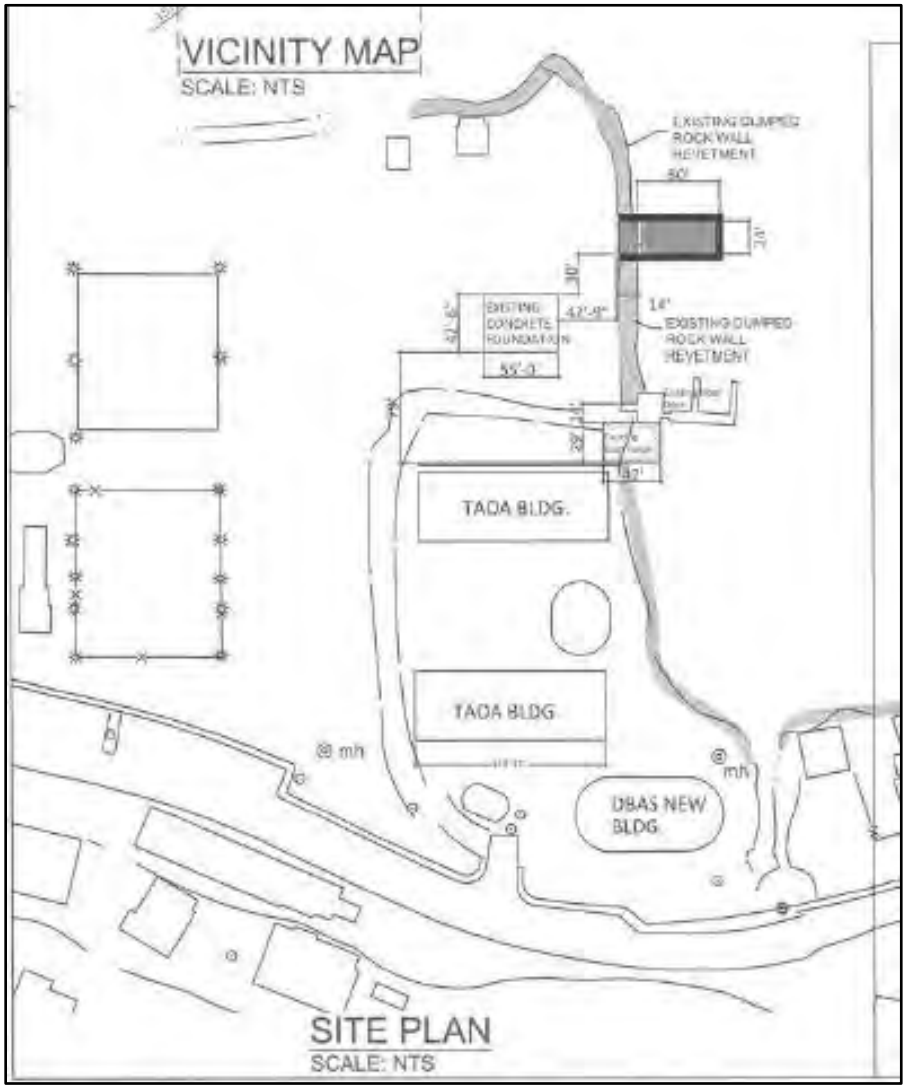


Figure 14. Schematic diagram of the boat ramp site plan.

Source: American Samoa Department of Public Works.

Figure 14 shows a schematic site plan diagram of the boat ramp project site. Key features to note are the existing small roadway leading to the site, Territorial Administration on Aging (TAOA) activity buildings, the existing small boat ramp, the dumped rock wall revetment, and the location of the proposed boat ramp. The rock wall would be opened to accommodate the boat ramp.

### 4.2.1. Construction Overview – Boat Ramp

***Duration:*** Construction would take place over a time frame of up to 4 months. The start date is contingent upon project approval, but is anticipated to begin after July of 2019.

***Construction dates:*** Estimated completion by late 2019.

***Construction overview:*** The ramp plans are shown in Appendix A-2. The ramp would begin on land and extend 54 feet into the harbor with a slope of 8.22 percent. The ramp would begin at a concrete landing slab which measures 24 feet wide by 25.5 feet long. The landing would slope slightly away from the harbor. The ramp would have 6 inch curbs along each side. The slope of the landing and curbs would prevent the ramp from channelizing stormwater into the harbor during heavy rains.

The contractor would use an excavator to build the ramp. After deploying soil erosion and in-water turbidity barriers, the dumped-rock wall would be opened. The contractor would contour the site, deposit rock underlayment and compacted rock fill, cover the fill with geotextile fabric, deposit stabilizing rip-rap, and then pour quick-set concrete over reinforcing matrix. The ramp would be made of 8" thick grooved concrete poured in place. The rip rap would be grouted above low tide. Toe-rocks would secure the ramp at its base.

The excavator would not enter the water. The contractor would check the machinery daily for leaks and suspend work if any fluids were found to be leaking. Water depth in the area is up to 6 feet deep.

***Project size:*** The ramp would be constructed over a seabed area of 2,200 square feet (0.051 acre). This includes the footprint of the ramp and the armor rock. The overall ramp length, including the landward portion is 96.21 feet. The seaward length of ramp that would fall under Department of the Army jurisdiction is 54 feet.

***Dredge:*** The base of the ramp would be prepared by grading to even the seabed. The excavated soil and rocks would be used as structural fill. The DPW estimates the project would remove a total volume of 5 cubic yards (cyd).

***Fill:*** The base of the ramp would consist of 80–100 pounds of underlayer rocks wrapped with geotextile fabric. The ramp would be 8" thick reinforced concrete. The underlayment would be sealed on the sides with grouted riprap above mean high high water. The ramp would be secured on the sides with 1.8 ft thick 800–1,000 lb armor rocks below low tide. The ramp would be secured at its base with 3 units of 1,000-1,250 lb toe stones.

Discharge quantities include:

Turbidity curtain: (210 ft x 3 ft), enclosing an area of 630 sq. ft: 8.00 cyd (temporary discharge)
Toe stones: 160 ft perimeter x 7.5 ft = area 1,200.00 square ft, volume of 112 cyd.
Armour rocks: 50 ft x variable width = volume estimated to be 104.93 cyd.
Underlayer (80-100 lb armor rock): 50 ft x variable width = volume 147.32 cyd.
Concrete ramp: 37 ft x 24 ft x 0.67 ft = 594.96 cubic feet (cft) + curb (18.5 cft) = volume 23 cyd
Geotextile fabric 50ft x 60 ft = area of 50; not computed toward fill volume.

Grouted riprap: 50 ft x 34 ft = area 1,700, volume 114 cyd.

Discharge that would need to be permitted by the U.S. Army Corps of Engineers which comprise fill below mean high high water (MHHW) within the harbor is 387.25 cyd. This total does not include the temporary turbidity curtain or grouted riprap.

***Ramp:*** The ramp would be made of 8" thick grooved cement poured over rebar on site. The ramp would be placed over the geotextile-wrapped underlayer. The ramp slope would be 8.22%. The ramp would have a 6" curb along the sides.

***Rip-rap:*** Grouted rocks would secure two sides of the ramp. Non-grouted armor rock would secure the sides of the ramp below low tide, and non-grouted toe rocks would secure the lower base of the ramp.

***Equipment:*** The contractor would use an excavator. The equipment would not be used in the water. A concrete truck would be used to pour the ramp in place.

The use of a vessel is not anticipated, as the turbidity barrier could be installed without a watercraft. If a small boat is used, it would only be operated at low speeds with operator and crew maintaining a lookout for sea turtles, hammerhead sharks or marine mammals to prevent the possibility of a collision. The vessel would not be anchored over coral resources, as none is present.

***Percussive methods*:** Pile driving and vibratory hammers are not required.

***Mitigation:*** A number of requirement are included in the construction notes and best management practices (BMPs) and are designed to reduce environmental effects, protect marine wildlife, properly handle historic, cultural and archaeological resources encountered, and promote public safety. These notes and BMPs are on the Design Plans in Appendix A-2 and summarized by topic in Appendix B-2. Other requirements may be included in the contract to meet additional conservation requirements.

***Construction staging:*** Vehicles and materials would be staged within the parcel. Fuels, solvents, and other chemicals would be stored in a manner to prevent accidental spills.

***Public access:*** Public access to the site would be restricted during construction.

***Drains/utilities:*** No drains or utilities are proposed for the project.

***Lights:*** A light pole would be placed near the ramp. The light would be connected to the existing electrical grid. The light would be down-shielded in the same manner as other lights in the area (see Figures 10 and 12).

***Erosion, sediment, and contaminant control:*** To protect Pago Pago Harbor waters, the construction contractor would comply with BMPs that include an approved erosion control plan, a toxic spill prevention and response plan, and having materials available to be able to effectively respond to a spill. Erosion control would include the use and maintenance of temporary silt

barriers around the excavation site, sealing any open trenches as soon as possible, and replanting land areas with beach grass (*Mutia*) and trees and shrubs as soon as possible to prevent erosion.

Sediment control barriers and in-water turbidity barriers are shown in the construction diagrams in Appendix A-2. The in-water turbidity barrier, made of geotextile fabric, would be connected to posts secured into the substrate or connected to a boom float. Sufficient slack in the fabric would account for marine tidal fluctuations and wave activities. The upper edge would float and the bottom would be secured at the harbor floor using sandbags placed at intervals sufficient to overcome displacement from currents and flow.

Visual surveys of the work site and the turbidity barrier would be done by competent observers prior to turbidity barrier installation, prior to the start of work each day and prior to resumption of work following any break of more than one half hour. In-water work would be postponed or halted when ESA-listed marine species are within 50 yards of the proposed work and would only begin/resume after the animals have voluntarily departed the area.

***Post-construction replanting:*** The contractor would replant disturbed grass areas as soon as possible to prevent soil erosion.

***Traffic management:*** The site is located far from the main roadway and is past the existing parking area for the boat ramp. The construction site might temporarily affect parking in a portion of the project area. Construction is not expected to result in traffic congestion.

***Noise:*** Temporary construction noise would be generated by vehicles, the excavator, and cement mixture. The work would occur during daytime hours and is far from sensitive receptors such as residences or businesses.

***Air quality:*** Construction would generate limited emissions from vehicles and equipment on a temporary basis. The contractor would implement fugitive dust control measures to prevent problems with dust. Replanting exposed areas as soon as possible is part of the best practices to control soil erosion.

***Stormwater control:*** The land use permit requires that stormwater be contained within the site so as not to discharge onto neighboring properties.

***Solid waste, excess dirt:*** Any solid waste or excess dirt, cinder, spoils generated from construction would be disposed of at the Futiga landfill or the scrap metal yard at Tafuna. Solid waste and scrap metal would not accumulate at the site. Solid waste would not be stored or placed within 50 feet of the shoreline or stream in the area.

***Post-construction use:*** After the boat ramp is built, fishermen would use either the new or existing boat ramp. They would park their trailers and vehicles in the same general vicinity as they are parking in now. The new boat ramp is not expected to result in large increases in use of the area, but it is intended to support rebuilding of the bottomfish fishery.

### 4.2.2. Permits and Authorizations – Boat Ramp

***American Samoa Government permits and authorizations – Boat Ramp:***
DMWR would be responsible for obtaining an American Samoa land use permit and construction reviews. DMWR has obtained a land use permit for construction of the boat ramp (No. 18 5772 L, dated 1/18/19). Conditions of the LUP have been included in the description of the proposed action.

***Federal Permits – Boat Ramp:***
The DMWR would apply for a Department of the Army (DA) permit from the U.S. Army Corps of Engineers, Honolulu District for the Boat Ramp. A DA Permit is required under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972 because the boat ramp involves activities that would result discharge into waters of the United States. DMWR will request a DA permit under Nationwide Permit 36 (Boat Ramps). This would require a waiver from certain upper limits. If approved, DMWR would obtain a water quality certification from the American Samoa Environmental Protection Agency. If an Individual DA permit is required, then DMWR would obtain a water quality certification from the U.S. Environmental Protection Agency.

***Federal reviews and consultations – Boat Ramp:***
NMFS will complete the following reviews, as applicable, before the boat ramp is constructed:

- Environmental review under the National Environmental Policy Act
- Coastal Zone Management Act (Federal Consistency Determination)
- National Historic Preservation Act Section 106 coordination
- Endangered Species Act and Marine Mammal Protection Act reviews
- Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat review)

The project would not affect land-based birds, mammals, or plants, nor nesting sea turtles listed under the Endangered Species Act and under the purview of the U.S. Fish and Wildlife Service.

### 4.2.3. Best Management Practices – Boat Ramp

The construction contractor would be required to adhere to conditions of the American Samoa Government Land Use Permit and construction notes and may use best practices (see project plans in Appendix A-2 and summary of best practices in Appendix B-2). The contractor would follow an erosion control plan, secure construction materials, and would comply with pollution control and response requirements in order to protect harbor waters. BMPs require the contractor to secure the site; clean equipment; prevent chemical spills; respond to spills promptly; control soil erosion and sedimentation; implement traffic control and safety; and implement air pollution control. Other provisions include disposal of waste, limits to clearing and grading, and revegetation requirements.

The DMWR would comply with conditions of the American Samoa government's land use permit that provide for protection of historical properties should any be uncovered during excavation work associated with constructing the boat ramp (see section 4.5.4, below).

**Additional Conservation Recommendations:**
In addition to the best practices and required conditions of the land use permit, NMFS recommends DMWR incorporate additional mitigation to help the construction contractor avoid and minimize potential effects of the project on green sea turtle, hawksbill sea turtle and the Indo-West Pacific DPS of scalloped hammerhead sharks and essential fish habitat.

- All workers associated with this project, irrespective of their employment arrangement or affiliation (e.g. employee, contractor, etc.) would be fully briefed on the BMPs and conservation recommendations and the requirement to adhere to them for the duration of their involvement in the project.
- The contractor would designate a competent observer to visually survey the turbidity barrier and adjacent areas for sea turtles and scalloped hammerhead sharks prior to the start of work day and at the end of the work day.
- During deployment of the turbidity barrier, if a green sea turtle, hawksbill sea turtle, or a scalloped hammerhead shark is discovered within 50 yards of the work, work would be halted and would only resume after the animal(s) have departed the area on their own. In support of allowing the work to proceed in a timely manner, the Contractor and may contact the DMWR and the NMFS point of contact for marine wildlife to obtain additional support in allowing work to resume.
- Special attention would be given to verify that no green sea turtles, hawksbill sea turtles, or scalloped hammerhead sharks are in the area where sediments, gravel, the ramp, or boulders would be deposited.
- All material and equipment would be clean of invasive species before being used in the water.
- If a small vessels is to be utilized during the implementation of the project, the vessel will be operated at slow speeds and lookout maintained to prevent accidental collisions with listed turtles, hammerhead sharks, or marine mammals.
- Turbidity barrier lines would be maintained in a taut configuration to prevent the potential for entanglements with marine wildlife including turtles and sharks.
- Appropriate materials to contain and clean potential spills would be stored at the work site and be readily available. All project-related materials placed in the water would be free of pollutants.
- The contractor would perform daily pre-work equipment inspections for cleanliness and to check for leaks. Heavy equipment operations would be postponed or halted should a leak be detected, and would not proceed until the leak is repaired and equipment cleaned.
- Off-site fueling sites would be used to the maximum extent practical. Should fueling of project-related vehicles or equipment need to occur on-site, a designated fueling area would be established at least 50 feet from any body of water (shoreline, streams, drainage, etc.) and secured to prevent fuels or oils from entering the environment. Project personnel would be trained on proper fueling and fuel spill cleanup procedures. Contaminant spills and response would be reported to the DMWR and NMFS.
- Stockpile, staging, and material storage areas would be kept at least 50 feet from the any body of water (shoreline, streams, drainage, etc.).
- The contractor would take appropriate precautions in advance of predicted typhoon events to prevent material losses during surge or flood events, such as relocating materials and equipment to be at least 50 feet from the shoreline.

- Hazardous materials and petroleum products would be transported, used, and stored on-site in a manner to prevent contamination of soils and water.
- Spill kits including absorbent pads and other materials would be readily available on-site.
- Turbidity and siltation from project-related work would be minimized and contained through the appropriate use of erosion-control practices and effective silt containment devices (e.g., turbidity barriers) and the curtailment of deployment and recovery work during adverse weather and tidal/flow conditions.
- Removal of the turbidity barrier would be done after sediments are allowed to settle.
- Solid and sanitary waste disposal procedures would be followed and facilities would be maintained throughout the construction.
- Erosion-control device(s) would be employed at the job site to prevent debris and soil from entering the water. Device(s) would be secured and able to withstand heavy rains and winds.
- Construction debris would be removed immediately and not stored at the job site. Debris would include excavated soil, cement material, and misc. building material.
- Any material or debris removed from the aquatic environment would be disposed of at upland sites in accordance with applicable laws and regulations.
- Contractor personnel would be prohibited from attempting to feed, touch, ride, or otherwise intentionally interact with any ESA-listed marine species.

## 4.3. Physical Resources and Effects – Boat Ramp

Pago Pago Harbor is one of the deepest and most sheltered harbors in the Pacific. The boat ramp location is near the southwestern-most terminus of Pago Pago Harbor, Tutuila, just south of Vaipito Stream. This part of the harbor is generally calm, except during storms with high winds and rainfall when conditions become rougher.

The environmental baseline is the No-action Alternative (Alternative 1) under which a new boat ramp would not be constructed.

Under the proposed action (Alternative 2), the boat ramp would be constructed by the DMWR at the southwestern-most terminus of Pago Pago Harbor.

### 4.3.1. Air Quality – Boat Ramp

*Alt. 1, Baseline:* The area is currently used by vehicles and vessels which produce exhaust emissions. Air quality is good in the project area due to open space nature of the site. On the whole, American Samoa air quality is classified by the Environmental Protection Agency as “In Attainment” for various air quality standards (CFR 40 Section 107 Attainment Status Designations, Section 81.352 American Samoa).

*Alt. 2, Potential Effects:* Neither construction nor future use would result in large adverse effects on air quality. Construction equipment would produce limited and temporary exhaust emissions. The work would take place during regular working hours in an area that is open and subject to breezes, so emissions are expected to dissipate quickly. The area is not close to businesses or homes or sensitive receptors.

After the boat ramp is built, vehicles and vessels would continue to park in the lot or in a nearby lot as they currently do. The new ramp would accommodate vessels and vehicles that are already using the existing ramp. If the new ramp reduces congestion, as expected, the amount of emissions might be slightly reduced. Overall, the new ramp would not result in a large change to air quality in the area.

Other than vehicles and vessels, there are no nearby sources of exhaust emissions that would combine with the proposed boat ramp project to result in cumulatively large and adverse effects on air quality.

#### 4.3.2. Noise – Boat Ramp

*Alt. 1, Baseline:* Vehicles and vessels produce noises typical of a small boat ramp and parking area. The boat ramp is located over 200 feet from the primary road (Route 1) around the shoreline of the harbor.

*Alt. 2, Potential Effects:* Construction equipment, vehicles, and construction work would generate noise during daytime weekdays, but the sound levels are not expected to greatly exceed ambient sound levels from traffic and vessels. The construction activity may result in temporary loud sounds. The greatest noise is likely to be associated with heavy equipment operation during demolition of the seawall, dredging, compacting the ramp base, and depositing fill materials. The construction site is not located near sensitive receptor areas (e.g., hospitals or schools), and sounds are expected to attenuate over distance.

Demolition, site preparation, compacting the ramp base, and depositing fill materials would be done landward of a turbidity barrier. Because the construction contractor would maintain awareness of the presence of listed turtles or sharks, it is unlikely that noise would adversely affect these species (see discussion, section 4.4.4, below).

In the future, vehicle and vessel use of the new ramp is not expected to change much over the baseline. If congestion is reduced around launching and retrieving vessels, there could be a limited reduction in noise. Overall, the ramp is not expected to have a large and adverse effect on noise levels in this part of the harbor.

The boat ramp is not anticipated to result in follow-on development or use that could result in substantially higher use of the area in any way that would cause large adverse effects on noise.

#### 4.3.3. Views – Boat Ramp

*Alt. 1, Baseline:* The project area is a flat open area with several large one-story buildings in the vicinity, a few medium sized trees, and light poles. A small boat ramp is in the project area.

*Alt. 2, Potential Effects:* The boat ramp would have a low profile and is consistent with the harbor landscape. Most of the ramp would be covered by water, but the rip rap and ramp would rise out of the water at the shore. A single light would be installed onshore for safety and security.

Because the ramp has a low profile and would be secured by a grouted riprap, and because the single light would not add substantially to the amount of lighting in the night viewplane, the project would be consistent with the rural setting and would not have a large adverse effect on views.

The boat ramp is not expected to result in follow-on developments in the area that could have the potential for large and adverse cumulative effects on views.

#### 4.3.4. Water Quality – Boat Ramp

*Alt. 1, Baseline:* Water quality in Pago Pago Harbor is summarized in section 3.3.4 above. The boat ramp project is at the westernmost end of Pago Pago Harbor. The American Samoa Environmental Protection Agency (AS-EPA) is responsible for monitoring, assessing and protecting water quality for the Territory. The DMWR would obtain a land use permit which includes an opportunity for the AS-EPA to review the proposed project.

American Samoa EPA's Integrated Water Quality Report (2016) recognizes that Pago Pago Harbor water quality is compromised primarily because of runoff from land sources, but also from marine and port traffic. Pago Pago Harbor is an "Impaired" water body as a result of current and past uses including agricultural, residential, military, and industrial activities as well as due to limited circulation. Thus, Harbor waters are rated "Impaired" for fish consumption and for swimming. In their 2002 survey off of the DMWR site, Coles et al. (2003, page 8) reported high turbidity and low visibility of between 3 and 4 meters. Active management of point-source and non-point source inputs and other factors that are helping improve water quality.

Pago Pago harbor's watershed is a total of 4 square miles (AS-EPA 2016). The harbor receives freshwater input from 27 streams (AS-EPA and AS-CZMP 2000) and input from non-point sources throughout the watershed. Harbor sediments and some fish and invertebrates could be contaminated with heavy metals (Craig 2009; EPA 2007). Sediment and plastics enter the harbor after heavy rainstorms. Swimming in the inner harbor is not recommended (Craig 2009).

Water Quality Standards for Pago Harbor Embayment are listed in the American Samoa Water Quality Standards 2013 Revision, Administrative Rule No. 001-2013. Pago Pago is designated as "Watershed 24." Inner Pago Pago Harbor water quality is affected by pollution from marina and port traffic and non-point sources. The American Samoa Environmental Quality Commission recognized that Pago Pago Harbor is a degraded embayment and established separate standards which are a lower quality compared with those for other embayments in the Territory. For more details, see Appendix C, Table AC of the EPA's Integrated Water Quality Monitoring and Assessment Report for 2016 (AS-EPA 2017). The government and private sector are working to manage inputs and improve water quality.

Water in the project area can become quite turbid during heavy rainstorms when Vaipito Stream discharges substantial amounts of sediments from surrounding areas into the Harbor near the project area. We address several factors that could have the potential to affect water quality and describe these in the following subsections.

#### 4.3.4.1. Stormwater runoff – Boat Ramp

*Alt. 1, Baseline:* Stormwater passively drains through the land and runs off of the parcel into the nearby stream and the harbor during heavy rainfall events.

*Alt. 2, Potential Effects:* The boat ramp is not expected to change stormwater runoff. The parcel is fairly flat and the design of the ramp includes features that would prevent the boat ramp from channeling water. These includes grading of the parcel around the ramp to slope away from the ramp, rock wall revetment, and a 6 inch curb. After construction, stormwater would continue to percolate through the land and run off the parcel into the nearby stream or the harbor. For these reasons, we conclude the project would not change stormwater runoff in the area.

#### 4.3.4.2. Contaminants – Boat Ramp

*Alt. 1, Baseline:* Past inputs from maritime, industrial, and residential land uses have resulted in elevated levels of some contaminants of concern in fish, macro-invertebrates and sediments within the inner portions of Pago Pago Harbor, although not at levels considered dangerous to human health (CH2M Hill 2007). Likely sources of the contaminants are past industrial activities and some contributions from ongoing activities in the watershed. The 2016 American Samoa Integrated Water Quality Report (AS EPA 2016) describes contaminant sources, water quality, and impairment status for Pago Pago (Watershed 24) listing the Harbor as not supporting (Poor) for fish consumption or swimming. In that report, CH2M Hill describes that contaminated sediments generally haven't spread and, when sediments are disturbed, they tend to settle back in place.

Within the immediate project area, two existing contemporary sources of contaminants are contaminants in sediments that wash into the harbor during heavy rains and minor fuel spills from vessels. Vessel owners are required by the American Samoa Government Department of Port Administration Best Management Practices to adhere to BMPs (available online at: https://americansamoaport.as.gov/about-us/best-management-practices.html). The BMPs are supported by U.S. Coast Guard Regulations and the Federal Clean Water Act. Among the provisions, vessel owners are prohibited from discharging contaminated bilge water, provide guidance on disposal and recycling of oil and fuels, on boat fueling best practices, prohibit disposal of fuels or used oil in marina dumpsters, require spills to be stopped immediately at the source and owners to contain the spill. Spills must be reported to Port Security immediately. BMPs require a supply of petroleum absorbent materials (spill pads, pillows, socks, etc.) to be on board.

*Alt. 2, Potential Effects:* During construction, the contractor would have a toxic materials spill prevention and response plan in place which is intended to ensure construction equipment, fuels, and other materials would not contaminate harbor waters (see BMPs, Appendix A-2 and Appendix B-2). Should a spill occur, an immediate response would be initiated and the contractor would dispose of contaminated cleanup gear at an American Samoa Government-approved site. Heavy equipment would not be operated in the water and would be checked for leaks on a daily basis. When followed, the BMPs are expected to protect harbor water quality from contamination.

After construction, the boat ramp is not expected to result in a large change to use of the area by vessels and vehicles because it is intended to better serve vessel owners who are already using the boat ramp in this area. For this reason, and because vessel owners are already required to comply with laws regarding prevention and response to spills, a new boat ramp is not expected to result in an increase in fuel or oil spills.

#### 4.3.4.3. Turbidity, resuspension of sediments, and nutrients associated with construction of the boat ramp

*Alt. 1, Baseline:* Harbor waters range from clear to very turbid, depending on storm conditions. Heavy rains, wind, and surge create turbid conditions.

*Alt. 2, Potential Effects:* Land-based silt barriers would prevent soil erosion and would protect harbor water from land-based sedimentation. The in-water turbidity barrier would prevent sediments from spreading beyond the work site.

The 2007 sediment toxicity report (CH2M Hill) concluded that the sediments of concern have limited migration so that when sediments are remobilized, they re-deposit fairly close to the source location. Therefore, in addition to protecting the adjacent areas from excessive sedimentation, the turbidity barriers are expected to minimize remobilization of potentially contaminated sediments. The contractor would allow sediments to resettle before removing the barrier.

As a result of a comment we received as a result of our EFH consultation with NMFS, we consider here the potential for site preparation dredging to release nutrients from the soil into the water column. Nutrients such as nitrogen, phosphate, and chlorophyll are products of decomposition of natural materials or can come from land-based sources and can accumulate in fine grained soils in coastal areas Harbor soils in the project site are a mix of sand, broken shells, and land based sediments. Marine seagrass and macroalgae have not been reported as being present in the area. Dredging would be minimal and limited to that amount of dredging needed to level the work site. DMWR estimates less than 5 cubic yards of substrate would be dredged and reapplied or removed from the site. Dredging would be done within a turbidity barrier which would prevent turbidity and nutrients from entering the wider harbor environment. Some nutrients might be reabsorbed, some might be metabolized within the turbidity barrier. Because the disturbance would be limited in size and duration, and because sediments and water within the turbidity barrier would be allowed to settle before the barrier is removed, we expect nutrient release to be fairly minor. Any nutrients that may remain in the water once the sediment has settled and the turbidity barrier is removed would be readily diluted by currents. The low levels of nutrients that might be released would not combine with other nutrients in the harbor to result in a large cumulative adverse effect on water quality such as creating plankton blooms or resulting in acute toxicity to the surrounding areas.

Due to the design of the ramp, the boat ramp would not change the velocity of stormwater runoff. The contractor would re-plant grasses after construction. All of these measures are expected to prevent large adverse effects to water quality from sedimentation.

#### 4.3.5. Soils – Boat Ramp

*Alt. 1, Baseline:* On land, the boat ramp would be constructed in an area that has been substantially disturbed and that consists of fill and alluvial soils. Upland soils are classified as "Urban land – Aua-Leafu complex (AS-EPA and AS-CZMP 2000). This soil type is a mixture of important soil material (Aua) and Leafu soils. This soil type has a higher composition of larger rock fragments giving it a moderately rapid permeability, with a limited potential for runoff. Erosion potential is slight to moderate.

Marine sediments in the project site are a combination of land-based volcanic soil and marine sediments from reef organisms (corals, shells).

*Alt. 2, Potential Effects:* Under Alternative 2, some soils would be excavated from the immediate area through grading. The dredged soils may be combined with rocks to be compacted as the underlayer. Excess soil or dredge spoils would be disposed of at an approved upland site, after testing for contaminants. If excavated soils are temporarily stored on site, the storage location would be 50 ft from a stream or coastline and the temporary site would be protected with a sedimentation barrier. Exposed upland sediments would be sealed with rock revetment or replanted with grass as soon as construction is over.

Because the project is small and soil erosion and sedimentation controls would be established, maintained, and properly removed, the boat ramp project is not expected to result in soil erosion or sedimentation of Pago Pago Harbor or the nearby stream.

### 4.4. Biological Resources and Effects – Boat Ramp

#### 4.4.1. Terrestrial and Marine Habitats – Boat Ramp

*Alt. 1, Baseline – terrestrial habitats:* The boat ramp area was previously disturbed through filling a tidal stream alluvial plain (AS-EPA and AS-CZMP 2000). The dryland portion of the project site is planted in grass or covered with gravel. A few coconut trees are planted at the shoreline. The coastline is formed of a dumped-rock wall approximately 7 feet high and 14 feet wide. There are no native wildlife habitats capable of supporting native birds or bats. Native shorebirds such as Pacific Golden-plovers and other shorebirds may incidentally visit the area, but they are not commonly seen in the area (DMWR personal communication to NMFS).

*Alt. 2, Potential Effects – terrestrial habitat:* The proposed boat ramp would not affect natural terrestrial habitats because none currently exists in the project location.

*Alt. 1, Baseline – marine habitats:* This portion of the harbor does not support thriving coral reefs (see "Coral communities," page 24-13, in AS-EPA and AS-CZMP 2000). Historically, the area supported submerged reef flats, but the reefs were filled in the 1940's and again in 1967 for Pago Pago Park (American Samoa Dept. of Public Works and Federal Highway Administration 1992). The site does not contain hard bottom suitable for corals to thrive due to the soft nature of the bottom and freshwater and sediment inputs from Vaipito Stream. In a recent underwater photographic survey, DMWR found the bottom substrate and habitats in the project area to be degraded (DMWR 2019). The dominant substrate was a mix of sand, pavement, and rubble (89.41% of the bottom sampled), dead coral with algae (7.06%), and hard coral (1.4%). The

biologists attributed the low coral cover to unfavorable substrate and water conditions. The few corals found were a juvenile coral, an unidentified coral, and *Montastrea annularis*. No corals listed under the ESA were recorded. Coralline algae (0.78%) and macroalgae (0.39%) comprised the rest of the substrate. Figure 15 and 16 provide underwater images taken in the boat ramp project area. Note the heavy sedimentation and marine debris, algae, mud and coral rubble substrate. A few marine fishes live among the boulders in part of the area sampled.


Figure 15. Photograph of bottom habitat near the existing boat ramp site.

Source: DMWR (2019).

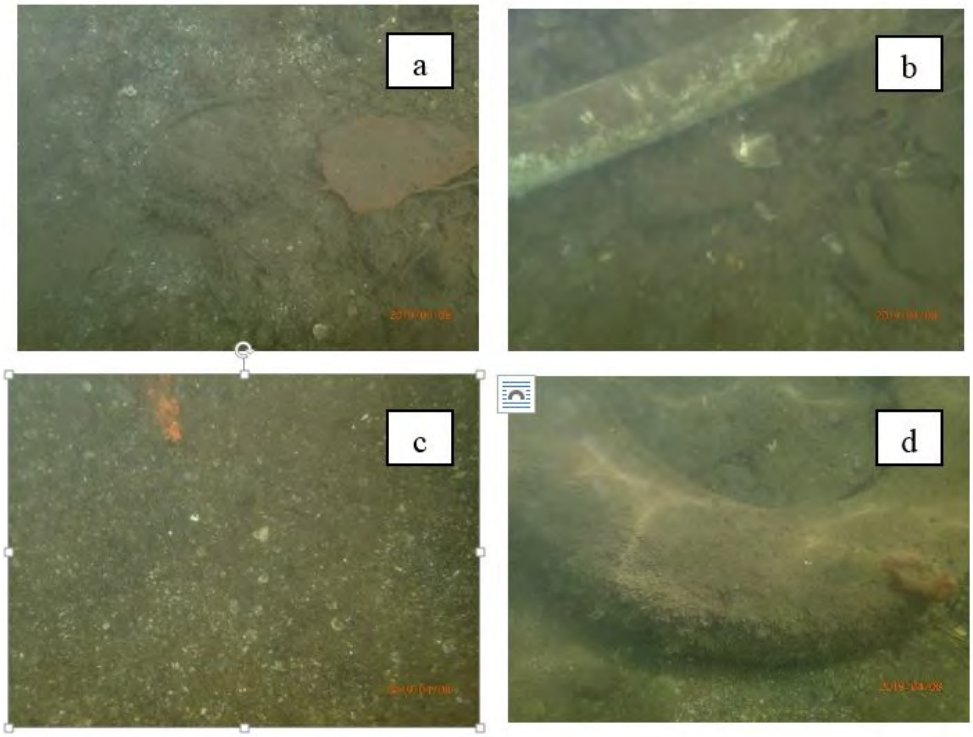


Figure 16. Underwater photographs typical of areas near the proposed boat ramp.

Images a) and c) show silt and mud with sandy rubble made of coral and shell pieces. Image b) shows a PVC pipe and some loose rocks. Image d) shows a tire with algal growth and an anemone. Source: DMWR, provided to NMFS, May 2019).

*Alt. 2, Potential Effects – Marine habitats:* The boat ramp would replace degraded soft-bottom, rubble, and boulder substrate with a concrete ramp and riprap boulders in an area 0.051 acre (~1/20$^{th}$ of an acre) in size. The lowest reaches of the boat ramp and the boulders would be colonized by marine organisms over time. These areas would continue to be subject to sedimentation and freshwater inputs during storms, so the type of organisms that would colonize the area are those that are tolerant to sedimentation and freshwater inputs.

The construction contractor would deploy a turbidity barrier in the harbor and use sediment barriers on land to prevent soil erosion and to prevent suspended sediments from affecting a wider area during construction. The ramp is designed to prevent stormwater from becoming channelized, and the design of the ramp calls for reinforced concrete and grouted riprap at the exposed portions, which would help the ramp hold up under storm conditions.

Because the benthos is highly disturbed, because sedimentation, nutrient inputs, and channelization of stormwater would be controlled, and because the ramp would provide new three-dimensional hard cover that would be recolonized, the boat ramp is not expected to result in large and adverse effects on marine habitats.

Harbor water column and substrate are designated essential fish habitat (EFH). Effects on EFH are covered in section 4.4.7, below.

### 4.4.2. Terrestrial Wildlife and Effects – Boat Ramp

*Alt. 1, Baseline – Terrestrial wildlife:* Native birds and mammals do not use the terrestrial areas of the project site. The site is planted in grass with sparse coconut palm plantings and used as a parking area. Pacific Golden-plover, a migratory bird that is tolerant of human use, may occasionally visit portions of the grassy areas during their regular visits (September through April).

*Alt. 2, Potential Effects – Terrestrial wildlife:* The project would not affect native terrestrial wildlife.

### 4.4.3. General Marine Wildlife and Effects – Boat Ramp

*Alt. 1, Baseline – Marine fishes:* In-water reconnaissance surveys indicate that waters in the project area supports common marine fishes, invertebrates, and algae that are able to tolerate sedimentation and fluctuations in salinity. Fishes reported form the area include damselfishes (*Dascyllus aruanus, Chrysiptera taupou, and Abudefduf sexfasciatus*), cardinalfishes (*Cheilodipterus quinquelineatus*), generalist-feeding butterflyfishes (*Chaetodon vagabundus*, *C. ephipium*, and *C. citrinellu*s); wrasses (*Alostomus chinensis*, *Halichoeres* sp.); surgeonfishes (*Ctenochaetus striatus, Acanthurus nigrofuscus*); Moorish idol (*Zanclus cornutus*); goatfishes (*Parupeneus multifasciatus and Mulloidichthys vanicolensis*); bream (*Scolopsis bilineatus*); mackerel (*Rastrelliger* sp.); and slender lizardfish (*Saurida gracilis).*

*Alt. 2, Potential Effects – Marine fishes:* The boat ramp is not expected to have an adverse effect on marine fishes. These common fishes are expected to colonize the lower portions of the ramp and riprap boulders.

### 4.4.4. **Protected Species and Effects – Boat Ramp**

This section presents an analysis of effects of the boat ramp on marine species listed under the ESA and on marine mammals. In order to determine that the proposed action is not likely to adversely affect a listed species, NMFS must find that the effects of the proposed action are insignificant, discountable or beneficial as defined in the joint USFWS-NMFS Endangered Species Consultation Handbook (USFWS & NMFS 1998). Insignificant effects relate to the size of the impact and should never reach the scale at which take occurs; discountable effects are those that are extremely unlikely to occur; and beneficial effects are positive effects without any adverse effects. This standard as well as consideration of the probably duration, frequency, and severity of potential interactions is considered here.

*Alt. 1, Baseline: Listed marine invertebrates, fishes, and turtles:* A number of marine species are listed as endangered or threatened and occur in waters around American Samoa (see list, Table C-1, Appendix C). Critical habitat has not been designated for any listed species in American Samoa.

*Listed corals:* We have no information that any of the six listed coral species which are found in waters of American Samoa are present in Pago Pago Harbor. Because these species are generally found in deeper open water areas, we conclude that listed corals would not be affected by the project. Coral larvae in the planktonic phase could potentially occur in the area, so effects on larvae in terms of effects on water quality are considered. More information on listed corals around American Samoa is available at http://www.fpir.noaa.gov/Library/PRD/Coral/us_indo-pacific_corals_distribution.pdf. Critical habitat has not been designated for listed corals in American Samoa.

*Listed mollusk:* The chambered nautilus (*Nautilus pompilius*), a pelagic mollusk, occurs in waters around American Samoa and was listed as threatened throughout its range in 2018 (83 FR 48976; September 28, 2018). Critical habitat was not determinable at the time the species was listed, but chambered nautiluses are found in association with steep-sloped fore reefs with sandy, silty, or muddy bottomed substrates and in depths from around 100 meters to 500 m. The project site is much shallower than this type of habitat and nautilus have not been reported from Pago Pago Harbor. Because the project area does not support nautilus, we conclude chambered nautilus would not be affected.

*Sea turtles:* Four species of sea turtles have been reported from waters around American Samoa (green, hawksbill, leatherback, and olive ridley turtles). For the reader's interest, detailed information, including the range, abundance, status, and threats of the listed sea turtles, can be found in the status reviews, 5-year reviews, and recovery plans for each species on the NMFS species pages available online at: http://www.fpir.noaa.gov/PRD/prd_esa_section_4.html. General information is also found in the post "Protected Species – American Samoa" on the Western Pacific Fishery Management Council's website at: http://www.wpcouncil.org/managed-fishery-ecosystems/american-samoa-archipelago/protected-species-samoa/.

Only two marine turtle species are expected to be seen in Pago Pago the endangered green sea turtle (*Chelonia mydas*) and endangered hawksbill seas turtle (*Eretmochelys imbricata*) (AS DMWR 2016, Utzurrum 2002) and both turtles have been observed in Pago Pago Harbor. Green

turtles occur predominately at Rose Atoll, an important nesting site. Hawksbill turtles are the most common turtle seen around Tutuila and Manua Islands and they also occur at Rose Atoll and Swains Island. There is no sea turtle nesting habitat in Pago Pago Harbor and critical habitat has not been designated for sea turtles in American Samoa. While the American Samoa longline fishery interacts with turtles from five distinct population segments (DPSs), the most commonly encountered green turtles in coastal waters are likely to be from the endangered Central South Pacific Green Sea Turtle DPS, which are known to nest at Rose Atoll in American Samoa (see list, Appendix C).

*Listed fishes:* The threatened scalloped hammerhead shark from the Indo-West Pacific DPS (*Sphyrna lewini)*, the threatened giant manta ray (*Manta birostris*), and the threatened oceanic whitetip shark (*Carcharhinus longimanus*) occur in waters around American Samoa. Of these three listed fish species, only the scalloped hammerhead shark may occur in inner Pago Pago Harbor. For the reader's interest, information about listed species is available online at: https://www.fisheries.noaa.gov/species-directory/threatened-endangered. Giant manta rays and oceanic whitetip sharks are pelagic species and would not be affected by the boat ramp project.

Scalloped hammerhead sharks are found worldwide in coastal warm temperate and tropical seas, and are frequently observed in aggregations over seamounts and near islands (NMFS 2014). Scalloped hammerhead sharks from American Samoa are from the Indo-West Pacific distinct population segment (DPS) which is a "threatened" DPS. The waters of American Samoa constitute a very small portion of the range of this DPS. Craig (2009) described hammerhead shark pupping in Pago Pago near the tuna cannery seaward and across the harbor from the DMWR site. Neither NMFS nor American Samoa Dept. of Marine and Wildlife Resources has confirmed the presence of *Sphyrna lewini* in Pago Pago Harbor and our assessment of its presence is based on Craig's report.

*Alt. 2, Potential effects to endangered coral larvae:* The project would not result in permanent or large adverse effects on water quality (see section 4.3.4 above) either during construction or after construction. The effects of construction and use on water quality would be a very limited and temporary increase in turbidity during construction. Turbidity would be controlled through in-water barriers. The temporary change in turbidity would have insignificant effects on coral larvae; therefore, we conclude the boat ramp project would not adversely affect coral larvae.

*Alt. 2, Potential effects on turtles and scalloped hammerhead shark:* We considered four potential stressors to green and hawksbill turtles and the hammerhead shark from the boat ramp project:

1) Potential effects on water quality such as changes in turbidity (suspended sediments), changes in salinity (if more stormwater were to enter the harbor), or pollution (such as contaminants from construction materials). Pollutants and changes in water chemistry could affect sharks directly or indirectly by changing habitat and prey species availability;
2) Disturbance and injury from construction (such as from noise causing disruption in life activities or injury due to a startle response);
3) Disturbance or injury related to changes in the amount of vessel traffic in the vicinity which could increase the potential for vessel strikes or increase the risk of pollution from oil spills; and
4) Injury or mortality from entanglement in the turbidity barrier.

*Water quality considerations:* As described in section 4.3.4 above, the boat ramp design would not change stormwater runoff patterns, so there would not be a change in water quality from increased stormwater runoff. The project is not expected to result in contaminants entering the marine environment. Construction best practices (such as checking equipment for leaks, carrying spill response supplies, responding to spills immediately, not fueling equipment on site, and deploying and maintaining sediment and turbidity barriers) would prevent sediments and pollutants from entering harbor waters. Turbidity barriers would prevent sediments disturbed during construction from spreading out from the vicinity. Finally, the boat ramp is not expected to increase vessel traffic in the area, but is expected to more effectively accommodate existing levels of vessels. Strict use of required best management practices would reduce the likelihood of exposure to construction related discharges and spills. If a spill were to occur, we expect the Contractor's response would be immediate and effective. For these reasons, we conclude effects on water quality would be so insignificant that there would not be adverse effects on sea turtles or hammerhead sharks.

*Potential for disturbance effects of construction:* Activity and noise during construction of the boat ramp would have the potential to disturb turtles or sharks which could, in turn cause physical injury or a disruption in major life activities including feeding or resting. The greatest noise is likely to be associated with heavy equipment operation during demolition of the seawall, dredging, compacting the ramp base, and depositing fill materials. As described above in section 4.3.2, construction noise effects would be temporary (lasting over the duration of the active construction period) and would be mitigated. Construction work would occur after qualified observers scan the area for the presence of sea turtles or sharks prior to starting work and after extended breaks. Work would not start and would stop if a listed marine species were to come within 50 yards of the work site and would not resume until the animal has voluntarily departed the area, or unless the contractor has coordinated with NMFS and DMWR for further guidance. Turtles and sharks would be able to avoid the area if there is noise associated with construction. Because the contractor would maintain awareness of the presence of turtles or sharks and halt work or obtain further guidance, because the construction work would occur landward of a turbidity barrier, and because turtles and sharks could leave the area without becoming injured there is a reduced likelihood of exposure to construction related noise, and the construction would have insignificant effects from noise on sea turtles and hammerhead sharks.

*Potential for vessel collisions or vessel-related oil spills:* If the contractor uses a vessel to deploy, maintain and retrieve the turbidity barrier, they would operate the vessel in a careful manner, maintaining visual awareness to prevent collisions with turtles or sharks. This would make the potential for a collision very unlikely. Vessel use in the harbor is not expected to change substantially as a result of constructing the ramp because the ramp is intended to more effectively handle existing levels of vessel use. Therefore, the boat ramp would result in insignificant effects on turtles and sharks from oil spills.

*Potential for injury or mortality from entanglement in the turbidity barrier:* The in-water turbidity barrier would be deployed after surveying the locale to ensure that turtles or sharks are not in the vicinity. The barrier would be made of geotextile fabric that is not likely to ensnare a turtle or shark. In order to control sedimentation from the construction site, the turbidity barrier would be anchored with ballasts at the bottom using sandbags. This is unlikely to allow a shark or turtle to broach the barrier or become entangled at the base. The contractor would not allow lines to loop in a way that could pose an entanglement hazard. Visual surveys for wildlife would

be undertaken at the start of the workday, after extended breaks, and at the end of the workday. Strict adherence to requirements to visually monitor the worksite and to maintain the turbidity barrier would reduce the potential for the barrier to entangle a turtle or shark.

Scalloped hammerhead sharks and sea turtles are affected by other activities around American Samoa, including incidental take in fisheries, entanglement, vessel strikes, and pollution. The survival of corals and their larvae can be affected by sedimentation and pollution. Incidental take of turtles by the American Samoa commercial longline fishery is authorized under the provisions of the ESA and monitored to ensure the take does not have the potential to jeopardize the continued survival or recovery of any species including those that occur in Pago Pago Harbor. Conservation measures such as protection and management have positive effects on the survival and reproduction of marine listed species. Both territorial and federal laws prohibit taking of listed species. Several large marine protected areas in American Samoa provide refuge for sea turtles, sharks and corals and are likely helping to promote recovery. Because the boat ramp does not have the potential to adversely affect listed turtles, sharks, or larvae, there is no potential for cumulatively large and adverse effects on these listed species.

We conclude that the proposed boat ramp may affect listed green and hawksbill turtles, scalloped hammerhead shark, and listed coral larvae, but because of mitigation built into the construction and because there would not be a large change to use of the area by vessels in the future, the boat ramp would not adversely affect larvae, green or hawksbill turtles, or scalloped hammerhead sharks. Our analysis and conclusions were coordinated with NMFS in accordance with the ESA.

*Completion of Endangered Species Act, Section 7 Informal Coordination:*

The information and effects analysis in the draft EA, dated June 17, 2019, served as a biological evaluation of the ice house and boat ramp projects and was sent to the NMFS PIRO Protected Resources Division (PRD) in accordance with provisions of Section 7 of the ESA. NMFS initiated an informal consultation on June 27, 2019. By letter of July 17, 2019, the Assistant Regional Administrator (ARA), of the PRD, PIRO, concurred with the determination that both the proposed actions (construction of the ice house and boat ramp) may affect but would not likely adversely affect endangered Central South Pacific green turtles, endangered hawksbill turtles, threatened Indo-Pacific scalloped hammerhead sharks, and six threatened Indo-Pacific corals (Consultation Number: PIRO-2019-01684; I-PI-19-1764-AG). The ARA, PRD, also concurred there is no designated critical habitat in the action area. The consultation advised that ESA consultation must be reinitiated if: 1) Take occurs to an endangered species, or to a threatened species for which NMFS has issued regulations prohibiting take under section 4(d) of the ESA; 2) new information reveals effects of the action that may affect ESA-listed species or designated critical habitat in a manner or to an extent not previously considered; or 3) the identified action is subsequently modified in a manner causing effects to ESA-listed species or designated critical habitat not previously considered.

The DMWR will be advised to adhere to the BMPs described herein, when the grant is issued.

*Potential effects on marine mammals:*

*Alt. 1, Baseline – Marine Mammals:* Marine mammals are not reported from Pago Pago Harbor; however, because the harbor is connected to coastal open waters, it is possible that smaller marine mammals could enter the Harbor.

*Alt. 2, Potential Effects on marine mammals:* Best management practices would require the contractor to conduct a visual survey of the site before beginning work, after extended breaks and at the end of the workday to help detect the presence of marine wildlife. As described above for sea turtles and sharks, the project is not expected to adversely affect water quality, noise from the construction would be limited in intensity and duration, and because marine mammals could avoid an area that is under construction, is not expected to result in injury to marine mammals. The boat ramp is not expected to change the intensity of use in the area. For these reasons, we conclude that the project would not result in large and adverse effects on marine mammals or result in taking any ESA-listed marine mammal. This information about the project's effects on marine mammals was coordinated with NMFS PIRO PRD on June 27, 2019.

#### 4.4.5. Stream-associated Species and Effects – Boat Ramp

*Alt. 1, Baseline:* Eggs, larvae, and juveniles of stream-dwelling fishes (e.g., gobies, dusky sleeper, and freshwater eels), invertebrates (e.g., stream snails and shrimps), and other invertebrates (e.g., larvae of coconut crabs and aquatic insects) are present in streams of American Samoa and some of these likely occur in Pago Pago Harbor in the vicinity of the boat ramp project. These species have amphidromous life cycles which includes life stages in freshwater and marine waters. Basic information is available in the Natural History Guide to American Samoa, part 26, available online at:
www.botany.hawaii.edu/basch/uhnpscesu/htms/5Atlas/partz.htm

*Alt. 2, Potential Effects:* As described above (section 4.3.4), neither boat ramp construction nor future uses would adversely affect harbor water quality. The ramp would replace degraded nearshore marine habitat with concrete substrate and rock boulders in a relatively small area (0.051 acre) which may provide new habitat for juvenile and adult stream-associated species. During construction, adults or juveniles would be able to actively swim away from the construction site. Therefore, we conclude the boat ramp project would not have the potential to have large and adverse effects on stream-associated species.

#### 4.4.6. Effects on Coastal Zone and Special Management Areas – Boat Ramp

The proposed boat ramp would not affect characteristics of the geographic area including parklands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas. Such resources are not present in the project location. Except for being part of the Pago Pago Harbor SMA, the project site is not located within a marine protected area nor does it contain resources of ecological or scientific significance.

*Alt. 1, Baseline:* The boat ramp project is located in the Coastal Zone, as designated by American Samoa Coastal Management Program. The project also lies within the Pago Pago Harbor Special Management Area (SMA) designated in 1990 and which protects harbor uses. The Pago Pago Harbor SMA designation recognized that the watershed is extensively impacted

by sedimentation and that water quality is degraded in Pago Pago Harbor. Review of projects in the SMA and the Coastal Zone is done by American Samoa Coastal Management Program in the American Samoa Department of Commerce.

Features of habitats in Pago Pago Harbor relevant to the SMA are summarized in Kendall and Poti (2011). The benthic areas of the Pago Pago Harbor in the project area are degraded due to historical filling and sedimentation. The area does not support patch or aggregated reefs (DMWR 2019), although there are some small fishes, algae, and invertebrates that exist among the bottom rubble and rocks. Small corals were detected on rubble. There is no fishing and there are no known historical or cultural resources near the project site.

*Alt. 2, Potential Effects:* The boat ramp is not expected to adversely affect natural resources of Pago Pago Harbor and would be a use that is consistent with designated purposes of the SMA. The boat ramp would promote harbor uses while mitigating potential adverse effects on water quality through construction best practices. The project would not adversely affect access to fishing, recreation, or cultural resources. DMWR received a Federal Consistency Certificate under the Coastal Zone Management Act of 1972 on November 27, 2018. The Land Use Permit for the project (18-5772-L), dated January 18, 2019, contains certain required provisions (see list, Appendix B-2) that DMWR and the construction contractor would comply with in order to avoid adverse impacts on the Territory's coastal resources.

Based on these facts, NMFS determined that funding the boat ramp would be consistent to the maximum extent practicable with the enforceable provisions of the American Samoa Coastal Management Program and is consistent with the Pago Pago Harbor SMA. NMFS coordinated the draft EA and its determination with the ASCMP on June 27, 2019. NMFS did not receive a response from the ASCMP within 60 days and, therefore, in accordance with regulations at 15 CFR 930.41(a), NMFS presumed concurrence as of September 1, 2019.

#### 4.4.7. Essential Fish Habitat and Habitat Areas of Particular Concern– Boat Ramp

*Background:* The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), defines EFH as, "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (50 CFR, section 600.10). The MSFCMA requires any federal agency that may adversely affect EFH to consult with NMFS. Adverse effects on EFH are defined as "any impact that reduces the quality and/or quantity of EFH," and may include "site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions." (50 CFR, section 600.810(a)). Adverse effects may include "direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH." In this section, we describe designated EFH in Pago Pago Harbor, and review whether and, if so, how, the boat ramp construction or use would adversely affect the quality and/or quantity of EFH and whether the ramp or use would result in lost value of MUS.

Habitat Areas of Particular Concern (HAPC) are subsets of EFH identified pursuant to 50 CFR, section 600.815(a)(8). At present, there is no HAPC designated in Pago Pago Harbor.

*Alt. 1, Baseline:* EFH in the boat ramp area and associated management unit species (MUS) are the same as were described for the harbor areas adjacent to the ice house in section 3.4.7 above, and the baseline is incorporated by reference in its entirety here. The water column and the substrate from the shoreline of the harbor out to the EEZ are identified as EFH for American Samoa Bottomfish and Pelagic MUS in the American Samoa FEP and the Western Pacific Pelagic FEP, respectively.

*Alt. 2, Effects:* Boat ramp construction would require grading and filling a limited area. The boat ramp project would convert an area of degraded soft benthic habitat and rocky boulders to a concrete boat ramp and riprap in an area approximately 2,200 square feet or 0.051 acres. The construction contractor would follow best practices described above in sections 3.2 and 4.2.3, and in Appendices A-2 and B-2.

*EFH Conclusions:* The proposed boat ramp would not result in a permanent change to water quality in terms of affecting temperature, salinity, turbidity, or other features of the water column that are essential to the major life stages of bottomfish or pelagic MUS. Temporary effects on water quality from construction would be limited by deploying and maintaining sedimentation and turbidity barriers and other best practices to prevent sediment, contaminants, and nutrients and other compounds from degrading harbor waters. Future uses are not expected to change in any way that would affect water quality because the ramp is not expected to result in large changes to the uses of the area and would allow for more efficient launching of and return by vessels. Vessel owners would continue to comply with laws protecting the environment from spills.

With respect to substrate EFH, the ramp would replace degraded soft bottoms (mud, sand, silt, rubble) and man-made rocky habitats with hard structures (rip rap boulders and concrete) over an area approximately $1/20^{th}$ of an acre in size or 2,200 square feet. The boulder areas and lowest reaches of the ramp could eventually be colonized with algae and invertebrates and provide structure and forage for juvenile and adult stages of bottomfish and pelagic MUS that occur in the area.

The boat ramp would extend onshore at a relatively gentle slope and would end on land at a height of approximately 6.5 feet above sea level. The construction design would be adapted to potential sea level changes (see section 4.6.4 below). The boat ramp would be made of reinforced concrete with grouted rip rap in the exposed areas, which would help the ramp hold up under storm conditions. The ramp design would prevent stormwater from being channelized (see stormwater, section 4.3.4.1). For these reasons, the ramp would not fail under future possible conditions and would not have the potential for a cumulative adverse effect on EFH due to climate change.

Although the boat ramp would adversely affect EFH by replacing a small area of substrate which is EFH, the conversion may be slightly beneficial to bottomfish and pelagic MUS in the project area because the armor rocks would provide limited structuring habitat. Uses of the area would not change in a way that would adversely affect water quality or the functions of the area as MUS habitat.

The boat ramp project would not affect areas designated as HAPC because there are no such areas in Pago Pago Harbor.

These findings were coordinated with NMFS in accordance with EFH consultation requirements to ensure potential effects to EFH have been adequately considered.

*EFH consultation:* On June 27, 2019, NMFS initiated an internal EFH consultation on the ice house and boat ramp projects. NMFS provided the draft EA, dated June 17, 2019, and an EFH Assessment Worksheet for Federal Agencies dated June 14, 2019, to support the agency's review. NMFS completed its consultation under Section 305(b)(D)(2) of the Magnuson-Stevens Fishery Conservation and Management Act on July 25, 2019, and we incorporated minor changes into the final EA.

*EFH consultation conclusions with respect to the proposed boat ramp project:* NMFS found that because the construction of the boat ramp requires in-water work, the project has the potential to result in adverse direct and indirect adverse effects to EFH in the form of physical damage, sedimentation and turbidity from ramp construction activities, nutrient enrichment due to dredging and excavation, and chemical contamination from equipment use. NMFS further found that that the best management practices for the boat ramp project are suitable to ensure that adverse effects to EFH would be no more than minimal.

## 4.5. Socio-Economic Effects – Boat Ramp

### 4.5.1. Effects on Bottomfish Fishery – Boat Ramp

*Alt. 1, Baseline:* The American Samoa bottomfish fishery is profiled in the American Samoa Fishery Ecosystem Plan for American Samoa Archipelago (WPFMC 2009a) with a more recent update available in a 2017 EA covering the annual catch limits and accountability measures for 2016 through 2017 (NMFS 2017). Information here is extracted from the 2017 EA and other cited sources.

The fishery operates in accordance with territorial and Federal laws and the commercial fishery is subject to annual catch limits (ACLs) recommended by the Council and implemented by NMFS. The fishery is monitored through boat based and shore-based creel surveys and a mandatory vendor report. Bottomfish fishing in American Samoa is sustainable; the most recent catch limit for bottomfish management species in American Samoa was 101,000 lb. The long term estimate of the bottomfish stock complex maximum sustainable yield (MSY) is 76,740 lb.

The American Samoa bottomfish fishery has fewer than 30 part time relatively small commercial vessels, most of which are aluminum vessels less than 32 ft long (*alia*) with outboard engines (Levine and Allen 2009 and NMFS 2017). From 2000 to 2008, the fishery landed between 6,000 and 32,000 lb annually (NMFS, in prep.). Levine and Allen (2009) reported the previous bottomfish fishery fleet consisted of 22 part-time vessels. After the 2009 tsunami, the number of vessels participating in the fishery declined down to only 12 in 2011 (Grace-McCaskey 2015).

According to NMFS (in prep.) data NMFS retrieved in 2019 from WPacFIN website shows the bottomfish fishery slowly improving. Immediately after the 2009 tsunami, the total catch in 2010 dropped to 9,509 lb (from a previous total catch of 43,340 in 2009). The catch after then

fluctuated between 3,647 lb BMUS in 2012 to a high estimated catch in 2015 of 27,724 lb. (NMFS, in prep). NMFS estimated the average annual total catch between 2013 and 2017 was 19,459 lb of BMUS. Most of the catch is kept for personal use Commercial landings were estimated at 740 lb of BMUS in 2017 with a value of $4,377. (NMFS, in prep). Thus, fishery landings are substantially below the MSY and the fishery is contributing to the availability of bottomfish in the community.

Under the no-action alternative, bottomfish fishermen would not benefit from an upgraded boat ramp and would continue to use the existing boat ramp and experience congested conditions, particularly during times of heavy use.

*Alt. 2, Potential Effects:* A new boat ramp is expected to provide some relief to bottomfish fishermen by reducing delays in boat launching. The boat ramp is not expected to lead to a large expansion of the fishery, but is intended, along with other disaster recovery initiatives to promote recovery of the American Samoa bottomfish fishery to pre-2009 conditions.

#### 4.5.2. Effects on the American Samoa Fishing Community – Boat Ramp

*Alt. 1, Baseline:* The American Samoa fishing community that relies on bottomfish and other marine fisheries includes fishermen, vendors, and community members who consume and share fish with others. The current boat ramp serves a portion of the small boat fishing community.

*Alt. 2, Potential Effects:* The new boat ramp would improve launching conditions for vessels that use the community boat ramp in Pago Pago. Improved conditions in the bottomfish fishery could slightly increase the availability of sustainably caught bottomfish for the community.

#### 4.5.3. Subsistence and Cultural Fishing by American Samoans – Boat Ramp

*Alt. 1, Baseline:* There is no subsistence or cultural fishing including gleaning in inner Pago Pago Harbor because of concerns about pollution. Fishermen engaging in bottomfish fishing use small alia vessels. Some bottomfish fishing trips originate from the Pago Pago boat ramp. Cultural uses of bottomfish may include gifts to chiefs, family, and the community. Community boat ramp users sometimes face heavy congestion.

*Alt. 2, Potential Effects:* Neither the boat ramp construction nor eventual use would affect subsistence or cultural fishing in Pago Pago Harbor because there is no fishing in this area. The boat ramp would not change access to fishing areas at sea and would not change cultural fishing rights for the people of American Samoa.

The boat ramp would, along with other fishery disaster relief projects that have been completed, support recovery of the American Samoa bottomfish fishery, which would also indirectly support the continuation of traditional cultural uses of bottomfish in the local community.

#### 4.5.4. Historic, Archaeological, and Cultural Resources – Boat Ramp

*Alt. 1, Baseline:* The boat ramp site is not listed on the National Register of Historic Places. Terrestrial areas have previously been disturbed by filling with terrestrial and marine sediments

and planted in grass, so no historic, archaeological or cultural resources are expected to be found during the light excavation or dredging associated with constructing the ramp.

*Alt. 2 Potential Effects:* The proposed boat ramp would have no effect on historic properties.

The DMWR coordinated its proposed boat ramp construction project with the ASHPO in April 2019. After a site visit and review of the proposed boat ramp construction plans, on April 29, 2019, the ASHPO concurred with the DMWR's determination of "No effect to historic properties within the area of potential effect" and concluded Section 106 consultation for the boat ramp project.

On July 18, 2019, following a request for review of its proposal to fund the boat ramp, the Historic Preservation Officer, ASHPO, notified NMFS that the boat ramp project received concurrence under Section 106 through the concurrence provided to the DMWR on April 29, 2019.

Conditions of the boat ramp construction Land Use Permit 18-5772-L provide for specific steps to be taken under Section 106 of the National Historic Preservation Act such as notifying the ASHPO 72 hours in advance of conducting any work. Although there are no known or suspected historic properties, the DMWR has included some of these provisions into best management practices. The construction contractor would stop work in the area if any cultural remains such as artifacts or burials are found during excavation and would notify the Contracting Offer and the American Samoa Government Historic Preservation Office (ASHPO). If any historic properties are discovered during the construction process, including site access and preparation, the discoveries would be treated in accordance with the National Historic Preservation Act, 36 CFR 800.13, "Post Review Discoveries." DMWR would report the archaeological monitoring and any findings to the American Samoa Historic Preservation Office within a year of the end of the construction.

#### 4.5.5. **Environmental Justice – Boat Ramp**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to make achieving environmental justice part of their missions by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low income populations in the United States and its territories…" Federal agencies should consider effects on patterns of consumption of fish or wildlife.

*Alt. 1, Baseline:* The majority of residents of American Samoa are Samoan (Grace-McCaskey 2013). There is no subsistence fishery in or near the project site. Members of the community rely on fish caught by the small boat fishery.

*Alt. 2, Potential Effects:* As described in this EA, the boat ramp and future use are not expected to result in large and adverse environmental effects including health effects. The boat ramp project may slightly increase the availability of sustainably caught bottomfish for vendors and consumers in the community. The ramp would not adversely affect subsistence fishing. We

conclude, therefore, the project would not have the potential to result in disproportionately large or adverse environmental or health effects on members of environmental justice populations.

## 4.6. Other Environmental Considerations – Boat Ramp

### 4.6.1. Public Safety and Health – Boat Ramp

*Alt. 1, Baseline:* The project site does not affect public health or safety. Fishing and swimming are not recommended in this portion of the harbor because of poor water quality. Sediments in some areas show contamination due to former military and industrial uses and ongoing input from terrestrial areas (Craig 2007; AS-EPA and US-EPA 2013). The government and community are working to improve water quality in the harbor.

*Alt. 2, Potential Effects:* Neither construction nor future use of the boat ramp would have a large and adverse effect on safety. Overall, the project is not expected to result in adverse effects to health or safety. Sediments that may be contaminated would resettle out and would not be spread out over a larger area (see section 4.3.4.3). Construction best practices would help to ensure that the construction site is secured and roadways are kept clear (Appendix B-2). The boat ramp is expected to relieve congestion at the existing small boat ramp and would likely improve launch and return for ocean safety response vessels.

### 4.6.2. Potential to introduce or spread a non-indigenous species – Boat Ramp

The boat ramp would not have the potential to introduce or spread a non-indigenous species. Equipment would not enter the water and best practices call for equipment to be clean. After construction, patterns of drainage, access and use would not change in any way that would have the potential to introduce or spread a non-indigenous species.

### 4.6.3. Hazards – Inundation – Boat Ramp

*Alt. 1, Baseline:* The boat ramp is located in a tsunami hazard zone. FEMA Flood Map 600001 (see Figure 5, above) shows flood inundation levels from potential storm surge or tsunami at the proposed boat ramp. According to FEMA flood map, the boat ramp site is within a potential flood inundation level of 10 feet. The U.S. Army Corps of Engineer's Final Report on the 2009 Tsunami, described devastating inundation in 2009 with run-up that ended close to the back side of zone AE shown in the FEMA flood zones map (USACE 2012; see Figure 3).

*Potential Effects, Alternative 2:* Tsunami inundation in the project area would depend on the origin of the tsunami and direction of the wave. Due to its small size, the boat ramp is not expected to increase the velocity of storm surge or tsunami in any way that would increase the effects of these natural disasters on people or property.

### 4.6.4. Climate Considerations – Boat Ramp

*Alt. 1, Baseline:* Reports on climate trend projections in American Samoa by the American Samoa Governor's Coral Reef Advisory group (ASG CRAG 2007) and a water resources study by Wallsgrove and Grecni (2016) provide basic information for American Samoa. Projections

include the possibility of rising air temperatures, rising sea level, variable rainfall (possibly less rainfall, possibly more rainfall), more intense storms, and more frequent rainfall. Changes in ocean temperature and acidity have the potential to adversely affect marine life such as corals and invertebrates and can affect different life stages and habitat use patterns of marine organisms. The American Samoa government and community members incorporate climate change adaptation into their planning processes. Sea level could rise as much as 5mm per year over the next 100 years – 1.6 feet (ASG CRAG 2007).

*Potential Effects, Alternative 2:* The boat ramp is not expected to change local climate. Land areas would remain in open space, and the coastline would continue to be armored with a rock wall.

The boat ramp would end on land approximately 6 to 7 feet above sea level, so it is not expected to succumb to rising sea levels. The boat ramp would be made of reinforced concrete with grouted rip rap in the exposed areas, which would help the ramp hold up under storm conditions. The ramp design would prevent stormwater from being channelized (see stormwater, section 4.3.4.1). For these reasons, the ramp would not fail under future possible conditions and would not have the potential for a cumulative adverse effect on marine areas due to climate change.

The ramp would not increase vessel use, but would more efficiently handle vessels that would already be accommodated by the existing ramp. Therefore, the ramp would not result in a change in greenhouse gas emissions.

#### 4.6.5. Precedent and Decisions in Principle – Boat Ramp

*Alt. 1, Baseline:* The boat ramp would be built on a site that is administered by the territorial government. Future construction proposals would be subject to applicable government permits and public and agency reviews.

*Alt. 2, Potential Effects:* The proposed boat ramp has been reviewed by the public and agency officials in American Samoa, as part of the Land Use Permitting process. The project does not represent a precedent that has the potential to result in large follow-on projects. The boat ramp would not automatically lead to other projects being planned or approved, nor would it narrow options for other projects in the future.

#### 4.6.1. Cumulative Effects – Boat Ramp

Past, present, and reasonably foreseeable activities that have affected or may affect the environment have been considered in the previous sections. For example, the water quality analysis took into consideration past and ongoing inputs (including nutrients) as well as recent and ongoing efforts to mitigate inputs of pollutants from surrounding areas into the harbor. Similarly, noise analysis, viewplane analysis, and effects on marine wildlife considered other ongoing effects in the baseline.

The boat ramp and ice house are the last two projects to be funded using funds appropriated by Congress for the American Samoa Bottomfish Fishery Disaster Relief. The other projects are complete and are no longer actively affecting the environment in a way that would have the potential for additive or other cumulative effects on either the boat ramp or ice house project.

Projects funded through the disaster relief appropriation included boat repair, and repair of floating docks at Malaloa wharf near the DMWR administrative site. None of the disaster relief projects including the boat ramp are expected to result in a large expansion of the bottomfish fishery, but the project are intended to support relief for the fishery and recovery from the fishery disaster. The bottomfish fishery and other fisheries would continue to be monitored and managed by the DMWR and other members of the Council.

We note that the ice house is located approximately ½ a mile away from the boat ramp area and the two projects would not have effects that would interact to result in cumulative effects.

Table 5. Summary of Effects of the Boat Ramp Alternatives.

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Air Quality:** (EA, section 4.3.1) | Air quality is good. American Samoa air quality "in Attainment" under EPA criteria.<br><br>Site is adjacent to harbor, marina and commercial areas, so there are some emissions from vessels and vehicles. | No large and adverse effects on air quality.<br><br>Temporary emissions from construction vehicles and equipment would dissipate. No change to EPA "Attainment" rating. Vessel and vehicle uses would not change substantially, so the boat ramp would have a large effect on air quality. |
| **Noise:** (EA, section 4.3.2) | The boat ramp area has noise from vessels, vehicles, and other human activities. | Construction noise would be temporary, during regular working hours, and would not generally exceed ambient levels. Sounds would attenuate and would not adversely affect marine wildlife. The site is not near sensitive receptors. No large and adverse cumulative effects on noise.<br><br>Future uses would not change substantially. |
| **Views:** (EA, section 4.3.3) | The parcel is flat and open and used as a parking area<br><br>Another ramp and several buildings and lights on poles are in the vicinity. | The boat ramp has a small aspect. Adding a single light near the ramp would not change night lighting.<br><br>The boat ramp would not result in follow-on construction. |
| **Pago Pago Harbor Water Quality:** (EA, section 4.3.4; 4.3.4.3) | Water quality is impaired in Pago Pago Harbor and efforts are underway to reduce inputs into the Harbor. Baseline standards are established by the American Samoa EPA and reflect impaired water quality.<br><br>The parcel is planted in grass or covered in gravel. Stormwater passively drains into the harbor nearby stream. | No large and adverse effects on water quality.<br><br>Construction best practices, including the use of sedimentation and erosion barriers and the in-water turbidity barrier, would protect harbor waters from turbidity, sedimentation, debris, excessive nutrient release. The contractor would follow a toxic materials spill prevention and response plan to protect water quality.<br><br>Future uses are not expected to change substantially in a way that would affect water quality. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Stormwater runoff** (EA, section 4.3.4.1) | Stormwater percolates through the ground and enters the stream and harbor during storms. | No change. Design of ramp would prevent ramp from channeling stormwater into the harbor. |
| **Contaminants** (EA, section 4.3.4.2) | Elevated contaminants in some sediments from past and ongoing uses. When disturbed, sediments tend to settle back in place.<br><br>Vessel users required to prevent contaminants and stock supply of petroleum absorbent materials aboard. | Contractor would follow spill response plan. Best practices would help prevent contamination of harbor waters.<br><br>No large change to vessel use result in increased potential for water contamination. |
| **Turbidity, sedimentation and nutrients** (EA, section 4.3.4.3 | Waters can be turbid during storms and during rainstorms. | Minor temporary effects. Construction best practices would protect harbor waters from sedimentation. Erosion control and turbidity barriers would also prevent sediments and nutrients from spreading widely. |
| **Soils:** (EA, section 4.3.5) | Site consists of fill. Site is planted in grass or covered with gravel and used as a parking area. | No adverse effect to soils.<br><br>Construction best practices would protect harbor waters from sedimentation. Erosion control barriers and resealing open soil as soon as possible would prevent soil loss.4 |
| **Terrestrial and Marine Habitats** (EA, section 4.4.1) | Upland areas are made of man-made fill and are planted in grass with some small trees.<br><br>Marine water quality and substrate habitat are degraded. | Construction best practices and design features would prevent large adverse effects on water quality and other marine habitats.<br><br>The boat ramp would replace a relatively small area of soft marine sediments with broken shells, sand, and coral rubble with hard substrate of the ramp and boulders.<br><br>Future uses would not change in a way that would affect water quality or benthic habitats. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Wildlife** (EA, section 4.4.2, 4.4.3, 4.4.4, 4.4.5) | No native terrestrial wildlife species occur on or flies over the project site, except occasional shorebirds. Marine wildlife is associated with degraded substrate including rock debris and includes common reef-associated fishes and invertebrates. Green and hawksbill turtles confirmed in inner harbor. Hammerhead sharks reported from Pago Pago Harbor. | Construction would not have a large and adverse effect on marine wildlife. Design features and best practices would protect harbor water quality habitat of harbor marine species.<br><br>Use levels would not change in a way that would affect marine wildlife.<br><br>Common marine fish, invertebrates, and algae are expected to colonize portions of the ramp. |
| **Birds** (EA, section 4.4.2) | No land birds are reported from the site. Seabirds and shorebirds are present in coastal areas around Pago Pago, but the project area does not support native birds. | The boat ramp would not adversely affect native shorebirds. |
| **Critical Habitat**<br><br>(EA, section 4.4.4) | No critical habitat has been designated in marine waters of American Samoa and there is no critical habitat in the boat ramp project area. | No effect on critical habitat. |
| **Threatened Corals:** (EA, section 4.4.4) | None of the six species of threatened corals are likely to occur in the project area. Larvae of six threatened corals could occur. | The boat ramp project may affect, but would not adversely affect larvae of threatened corals. Design features and best practices would protect harbor water quality. Future harbor uses would not change in a manner that would affect water quality. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Endangered Sea Turtles:** (EA, section 4.4.4) | Green and hawksbill turtles forage, swim and rest in Pago Pago Harbor. There is no turtle nesting in the area. | The boat ramp project may affect but would not adversely affect green or hawksbill sea turtles. Design features and best practices would protect harbor water quality and marine habitat. Noise from construction would be temporary and construction would stop if a sea turtle approaches the project area. Sea turtles could avoid the area.<br><br>The construction contractor would monitor the site before deploying the turbidity barrier, and before starting work, after breaks, and at the end of the day. Construction contractor would maintain awareness of listed species and stop work if a turtle comes within 50 yards of the project, until the animal leaves the area on its own. The turbidity barrier is not expected to entangle sea turtles. Future harbor uses would not change in a manner that would affect sea turtles. |
| **Threatened scalloped hammerhead shark:** (EA, section 4.4.4) | Scalloped hammerhead shark from the Threatened Indo-West Pacific DPS reported as pupping near tuna cannery in inner Pago Pago Harbor. | The boat ramp may affect, but would not adversely affect scalloped hammerhead sharks. Design features and best practices would protect harbor water quality and marine habitat. Noise from construction would be temporary and construction would stop if a shark were noticed to approach the area. Hammerhead sharks could avoid the area. The construction contractor would monitor the site before deploying the turbidity barrier, and before starting work, after breaks, and at the end of the day. Construction contractor would maintain awareness of listed species and stop work if a hammerhead shark is noted as coming within 50 yards of the project, until the shark leaves the area on its own. The turbidity barrier is not expected to entangle sharks. Future harbor uses would not change in a manner that would affect sharks. |
| **Marine mammals:** (EA, section 4.4.4) | Marine mammals have not been seen in the inner Pago Pago Harbor and are unlikely to be in the boat ramp site. | Design features and best practices would protect harbor water quality. Construction noise would be temporary and at levels that would not likely adversely affect marine mammals, should any be in the area. Future harbor uses would not change in a manner that could affect marine mammals.<br><br>The project would not result in marine mammal take. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Stream-associated species:** (EA, section 4.4.5) | Amphidromous species occur in Pago Pago Harbor. | The boat ramp construction and future uses would not have large and adverse effects on harbor water quality. A small amount of disturbed habitat would be converted to hard-bottom (boat ramp and rocks), much of which stream-associated species could use. |
| **Coastal Zone & SMA** (EA, section 4.4.6) | The boat ramp is located in the Coastal Zone and Pago Pago Harbor Special Management Area. | The boat ramp would not have a large adverse effect on water quality, wildlife habitats, wildlife, cultural resources, or fishing and recreational uses of the harbor. A boat ramp is a consistent use for the Pago Pago Harbor SMA. NMFS coordinated the boat ramp project with the American Samoa Coastal Management Program in June of 2019. |
| **EFH and HAPC** (EA, section 4.4.7) | The water column and substrate in Pago Pago Harbor are designated as EFH for bottomfish and pelagic MUS.<br><br>There is no HAPC in Pago Pago Harbor. | Design features and best management practices would protect water quality.<br><br>Neither construction nor use of the boat ramp are expected to have large adverse effects on water quality. The boat ramp would replace degraded habitat that includes sand, sediment, rock and unconsolidated rubble with hard bottom and armoring boulders over an area of 0.05 acres (approximately 1/20$^{th}$ of an acre). Life stages of bottomfish and pelagic MUS that occur in the area could live in and feed in the water column and part of the ramp and rip rap after the ramp is constructed. Therefore, the project would have slightly beneficial effects in terms of the value of the replacement substrate as habitat for bottomfish and pelagic MUS that occur in the area.<br><br>NMFS completed an EFH consultation on July 25, 2019, that concluded that the boat ramp project has the potential for direct and indirect adverse effects to EFH, but that BMPs are suitable to ensure that adverse effects to EFH would be no more than minimal. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Bottomfish Fishery** (EA, section 4.5.1) | Some bottomfish fishermen launch vessels from the existing boat ramp. They and other fishermen experience congested conditions. Catches are sustainable and are gradually improving since the fishery disaster occurred in 2009. | A new boat ramp would support improved launching and return for bottomfish fishing vessels that are already launching from the Pago Pago boat ramp area. The new ramp is not expected to expand the size or scope of the fishery, but is part of a suite of activities intended to support restoration of the alia bottomfish fishery to levels prior to the 2009 tsunami. Some improvement to catches are expected and catches would remain sustainable. |
| **American Samoa Fishing Community**<br><br>(EA, section 4.5.2) | The American Samoa fishing community relies on bottomfish and includes fishermen, vendors, and community members who consume and share fish with others. | The boat ramp would provide limited relief to the bottomfish fishery, which may eventually provide slightly greater opportunities for community members to benefit from sustainable harvests of bottomfish fishing. The boat ramp would provide improved boat launching and return for other members of the fishing community. |
| **Subsistence and Cultural Fishing by American Samoans** (EA, section 4.5.3) | No subsistence or cultural fishing is occurring in inner Pago Pago Harbor. The bottomfish fishery harvests bottomfish management unit species that are kept, sold, and shared in the community. | No effect on subsistence or cultural fishing in Pago Pago Harbor. A new boat ramp would not adversely affect access to fishing areas. The boat ramp would provide better launching and recovery of fishing vessels for all members of the community. Bottomfish fishery relief is expected to result in more sustainably caught bottomfish to be available to community members. |
| **Historic, Archaeological, and Cultural Resources** (EA, section 4.5.4) | Site has been previously disturbed and paved. No known or suspected historic, archaeological, or cultural resources on the site. | No effect to historic properties. NMFS completed consultation in accordance with Section 106 of the National Historic Preservation Act consultation on the ice house project on July 18, 2019.<br><br>In accordance with the American Samoa Land Use Permit conditions, ground disturbance would be subject to archaeological monitoring. The construction contractor would be required to stop work and contact the ASHPO should any resources be uncovered during construction and comply with further requirements. The ASHPO would provide guidance to the DMWR for treating any historic properties discovered during construction. A report documenting the archaeological monitoring and any findings shall be provided to the ASHPO within a year of the end of construction. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Environmental Justice**<br><br>(EA, section 4.5.5) | A majority of residents in American Samoa are Samoan. There is no subsistence harvest in the project area. Members of the community rely on fish caught by the small boat fisheries. | The project does not have the potential for disproportionately high and adverse environmental or health effects on members of Environmental Justice populations. The project would not affect patterns of subsistence consumption of fish or wildlife. The ramp may slightly increase availability of sustainably caught bottomfish for vendors and consumers in the community. |
| **Public Safety and Health**<br><br>(EA, section 4.6.1) | Site is not adversely affecting public safety or health. | No change. No adverse effect on public health or safety. |
| **Potential to Introduce or Spread Non-indigenous Species** (EA, section 4.6.2) | Activities on the site do not have the potential to introduce or spread non-indigenous species. | No change. No potential to introduce or spread non-indigenous species. |
| **Hazards – Inundation**<br><br>(EA, section 4.6.3) | Site is located in a tsunami hazard zone. | The boat ramp would not cause flooding to inland areas due to sea level rise. The ramp would not increase tsunami velocity in a way that would increase the threat to human life or property. |
| **Climate considerations**<br><br>(EA, section 4.6.4) | Climate change has the potential to affect the coastal environment of American Samoa particularly the marine environment through increased temperature, ocean acidity, and the potential for changes to the frequency and severity of storms. Sea level could change in the future. | No effects on climate change. Project would not be adversely affected by sea level rise. The ramp would not channelize stormwater. The ramp design would be reinforced in order to hold up under adverse storm conditions.<br><br>The boat ramp would not modify vessel use in a way that would change greenhouse gas emissions. |

| Topic or Resource | Alternative 1: No Action Baseline | Alternative 2. Proposed Action – Boat Ramp |
|---|---|---|
| **Precedent and Decisions in Principal**<br><br>(EA, section 4.6.5) | The site is administered by the Territorial government. Future proposals would be subject to applicable public and agency reviews. | The project would not lead to automatic approval of future projects. |

# 5. Preparers, Reviewers, and Coordination with Others

## 5.1. Preparers and Reviewers

### 5.1.1. NMFS EA Preparer

Phyllis Ha, Resource Management Specialist, Sustainable Fisheries Division (SFD) Pacific Islands Regional Office (PIRO) (Environmental effects, compliance, coordination)

NMFS acknowledges the support of Fatima Sauafea-Le‘au, Fishery Biologist, Habitat Conservation Division, PIRO, American Samoa (on-island project coordination, discussion of environmental effects)

### 5.1.2. NMFS reviewers

Jarad Makaiau, Fish and Wildlife Administrator, SFD, PIRO (Review, coordination)
Ariel Jacobs, NEPA Coordinator, Directorate Division, PIRO (NEPA compliance review)
Randy McIntosh, Endangered Species Biologist (preliminary ESA review)
Fatima Sauafea-Le‘au, Fishery Biologist, Habitat Conservation Division, PIRO, American Samoa Office (MSA EFH consultation review)
Alice Berg, Protected Resources Division (ESA Section 7 review)

## 5.2. American Samoa Government

NMFS acknowledges contributions of the following staff from the American Samoa Government with information for this EA and coordination on the project:

Va‘amua Henry Sesepasara, Director, Department of Marine and Wildlife Resources (DMWR)
Selaina Tuimavave, Deputy Director, DMWR
Misipati Salanoa, Disaster Recovery Coordinator, DMWR (Project Coordinator)
Domingo Ochavillo, Chief Biologist, DMWR
Estela Rubina, Engineer, American Samoa Department of Public Works, Civil Highway Division (Project design, specifications)

## 5.3. Coordination with Others

### 5.3.1. Agency Coordination

NMFS provided the draft EA to the following for review:

- NMFS Pacific Islands Regional Office: Habitat Conservation Division ( Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat review); and Protected Species Division (Endangered Species Act and Marine Mammal Protection Act review)
- Sandra Lutu, American Samoa Department of Commerce, Coastal Management Program
- Letitia M. Peau-Folau, Historic Preservation Officer, American Samoa Historic Preservation Office

### 5.3.2. Public Comments on the Draft EA

NMFS provided a 15-day public review and comment period on the draft EA (84 FR 32888; July 10, 2019). NMFS received one comment from an individual expressing support for the disaster relief projects.

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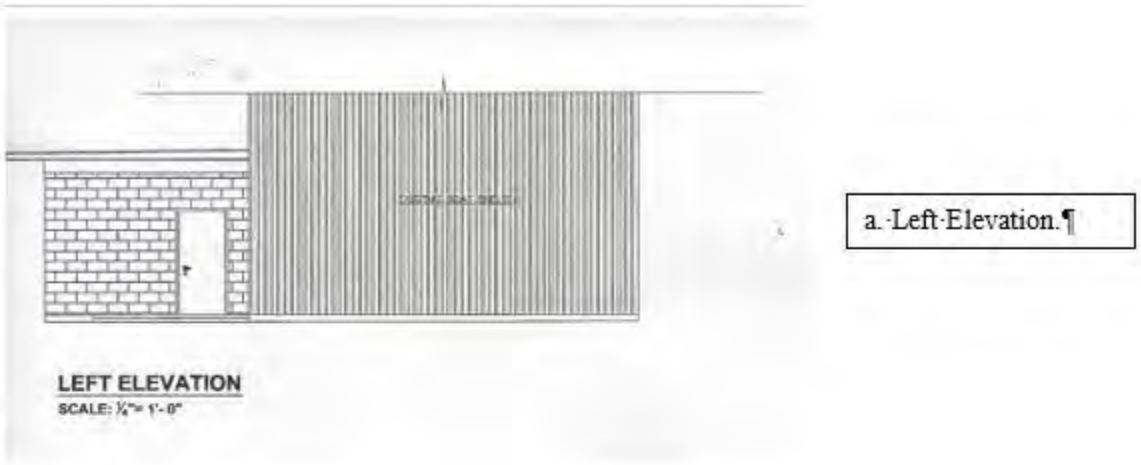
American Samoa Soil Associations, online source: https://www.google.com/search?q=soil+map+american+samoa&rlz=1C2GGRV_enUS752US752&tbm=isch&source=iu&ictx=1&fir=NkpHPIGt_d8MBM%253A%252CPj8ktESINBprGM%252C_&usg=__QH33b-iI_uxIs1dFeROywRCkZgc%3D&sa=X&ved=0ahUKEwjKv9nG-pfZAhVhiVQKHb4iCZUQ9QEILzAB#imgrc=NkpHPIGt_d8MBM: retrieved on 2/8/18 by NMFS.

# Appendix A. Ice House and Boat Ramp Plan Details

## Appendix A-1. Selected Ice House Diagrams



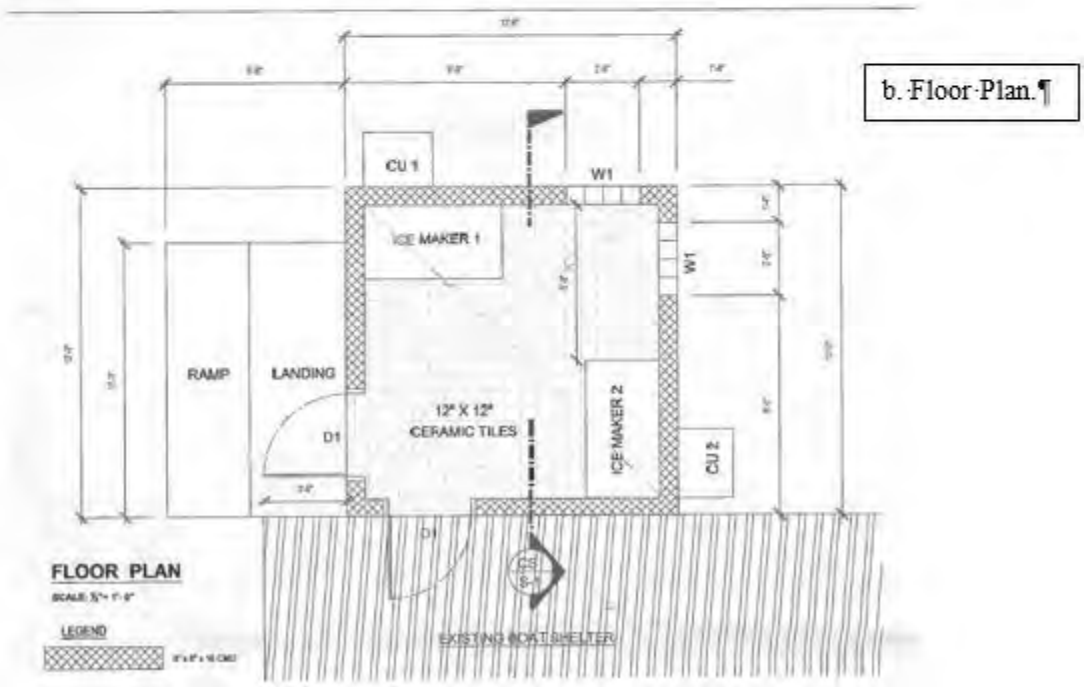




Figure A-1. Selected Ice House plans: a) side elevation; b) floor plan. Source: American Samoa Dept. of Public Works 2019.

**Appendix A-2. Selected Boat Ramp Plan Diagrams**


Figure A-2a. Locator map of the proposed boat ramp facility, Pago Pago Harbor, Tutuila. Source: American Samoa Dept. of Public Works 2017.

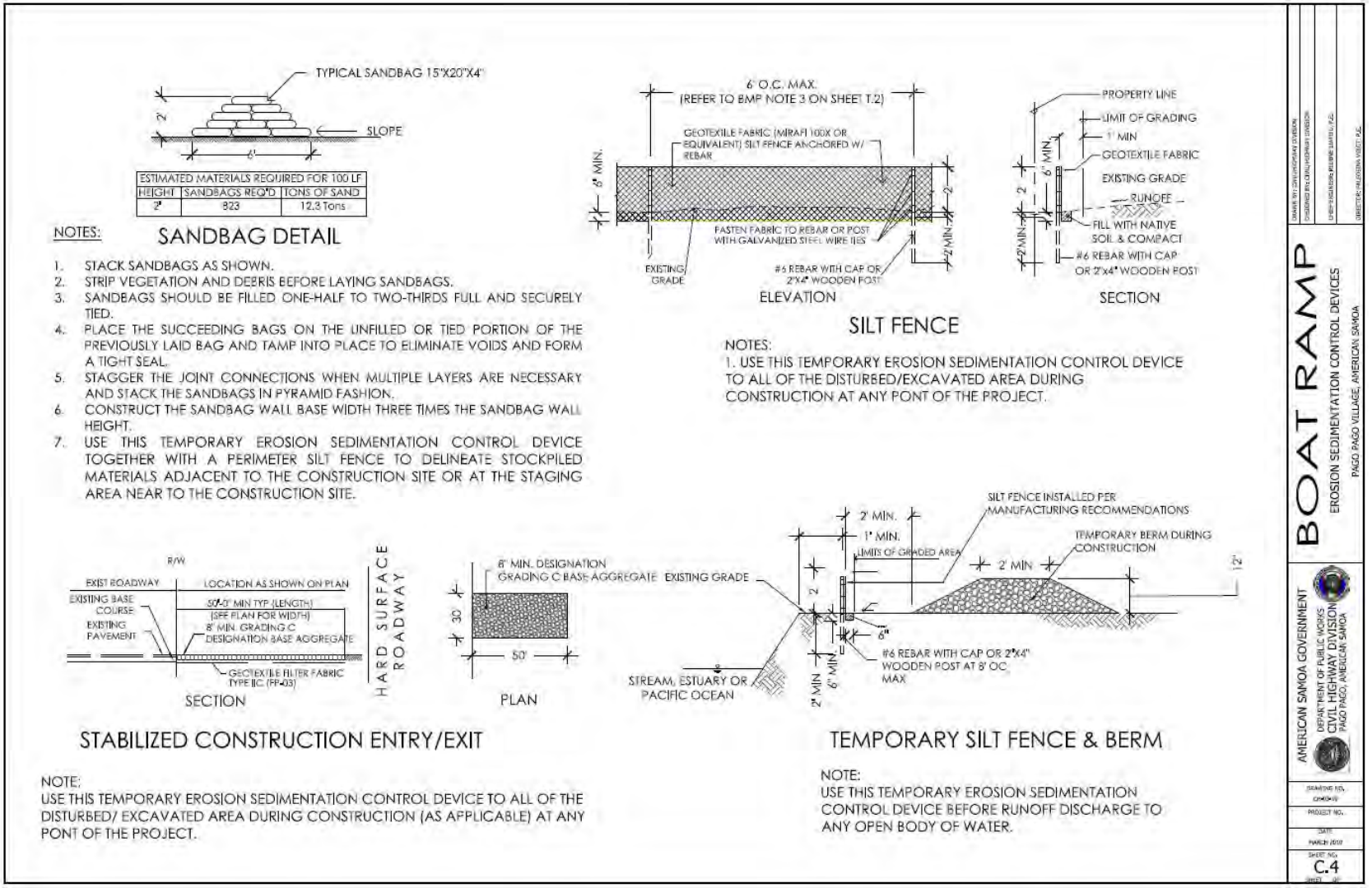



Figure A-2b. Sediment barrier, silt fence details. Source: American Samoa Dept. of Public Works 2019.

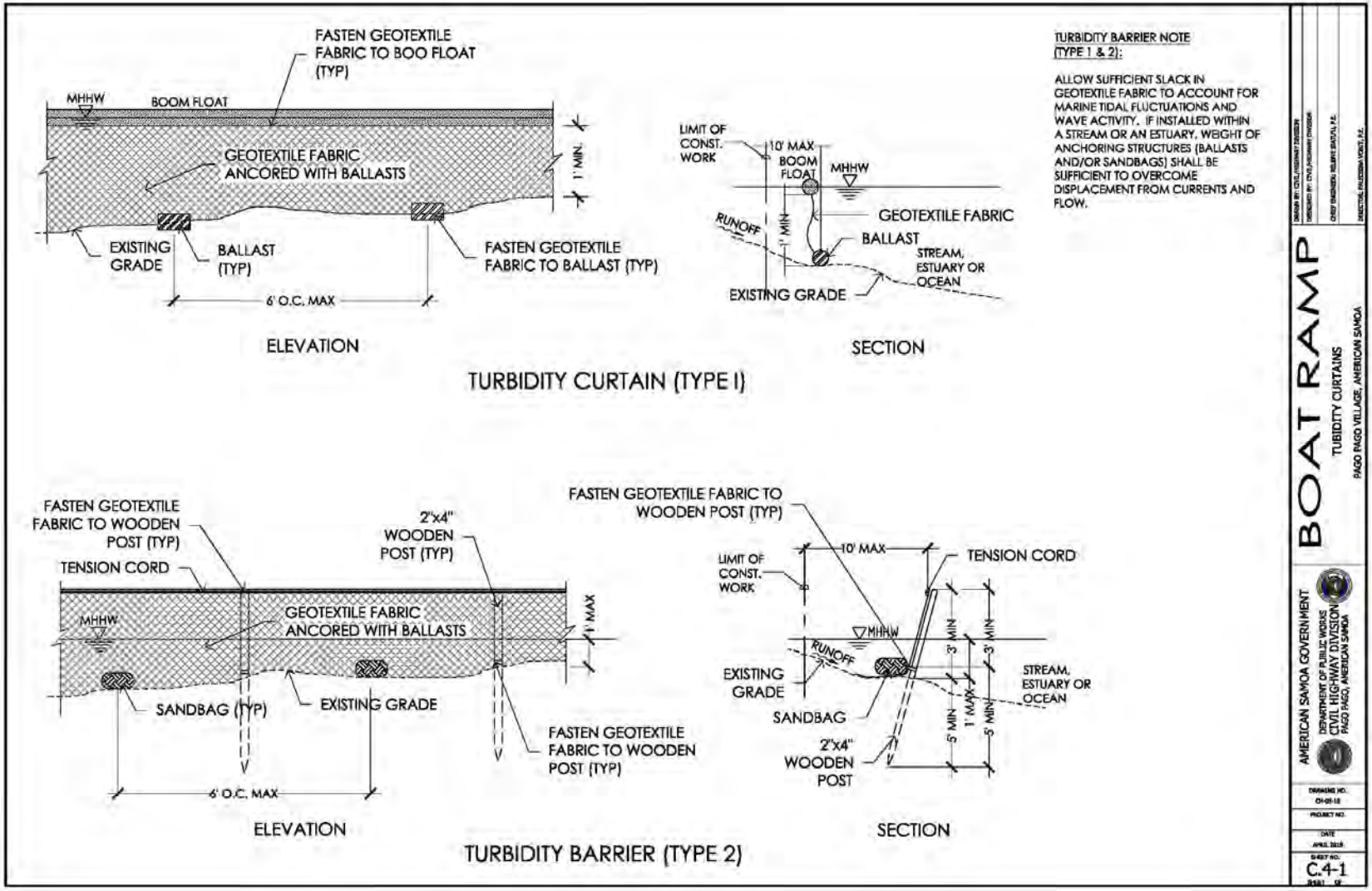



Figure A-2c. Turbidity curtain details. Source: American Samoa Dept. of Public Works 2019.

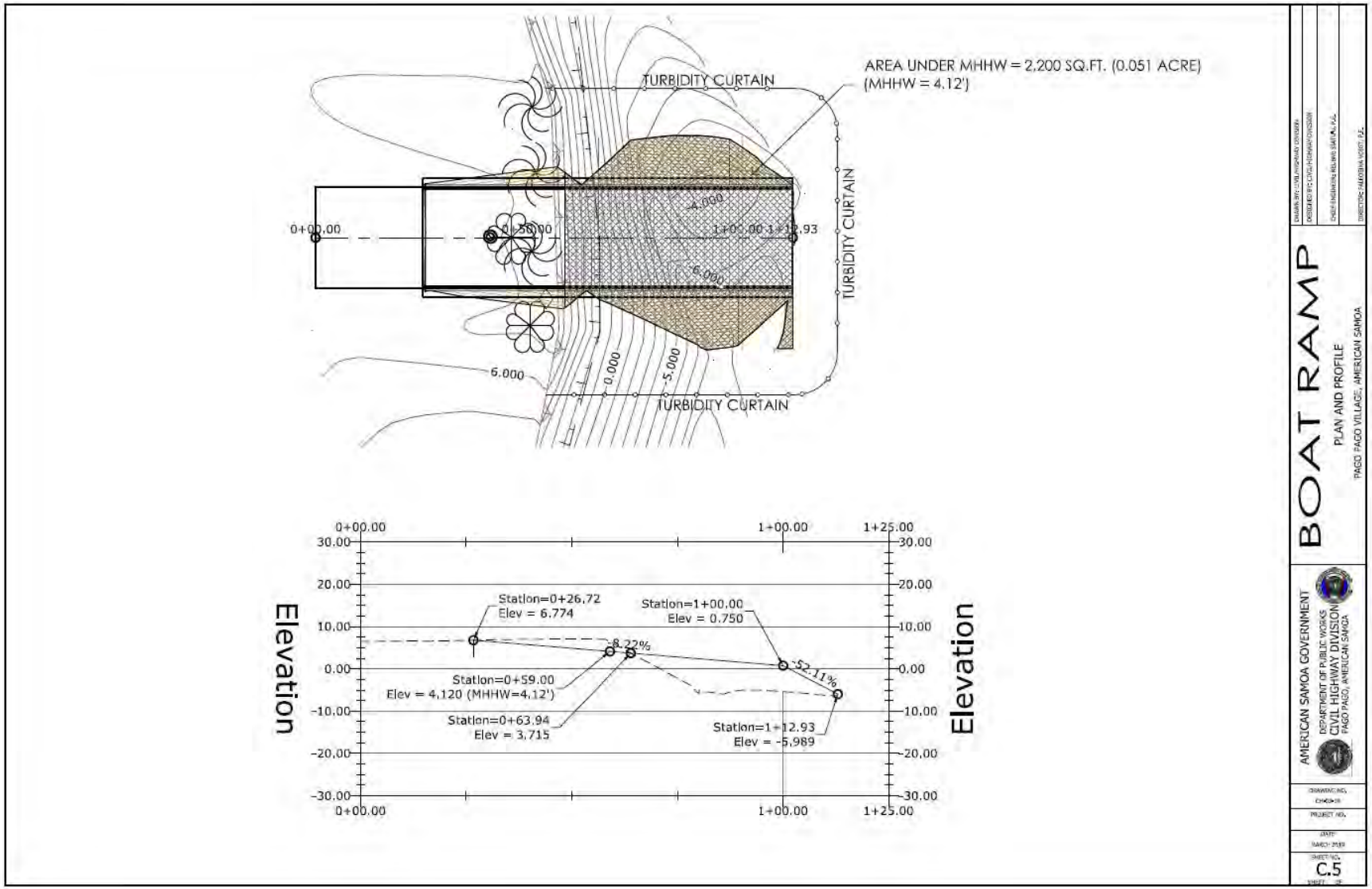



Figure A-2d. Ramp top view, side elevation. Source: American Samoa Dept. of Public Works 2019.

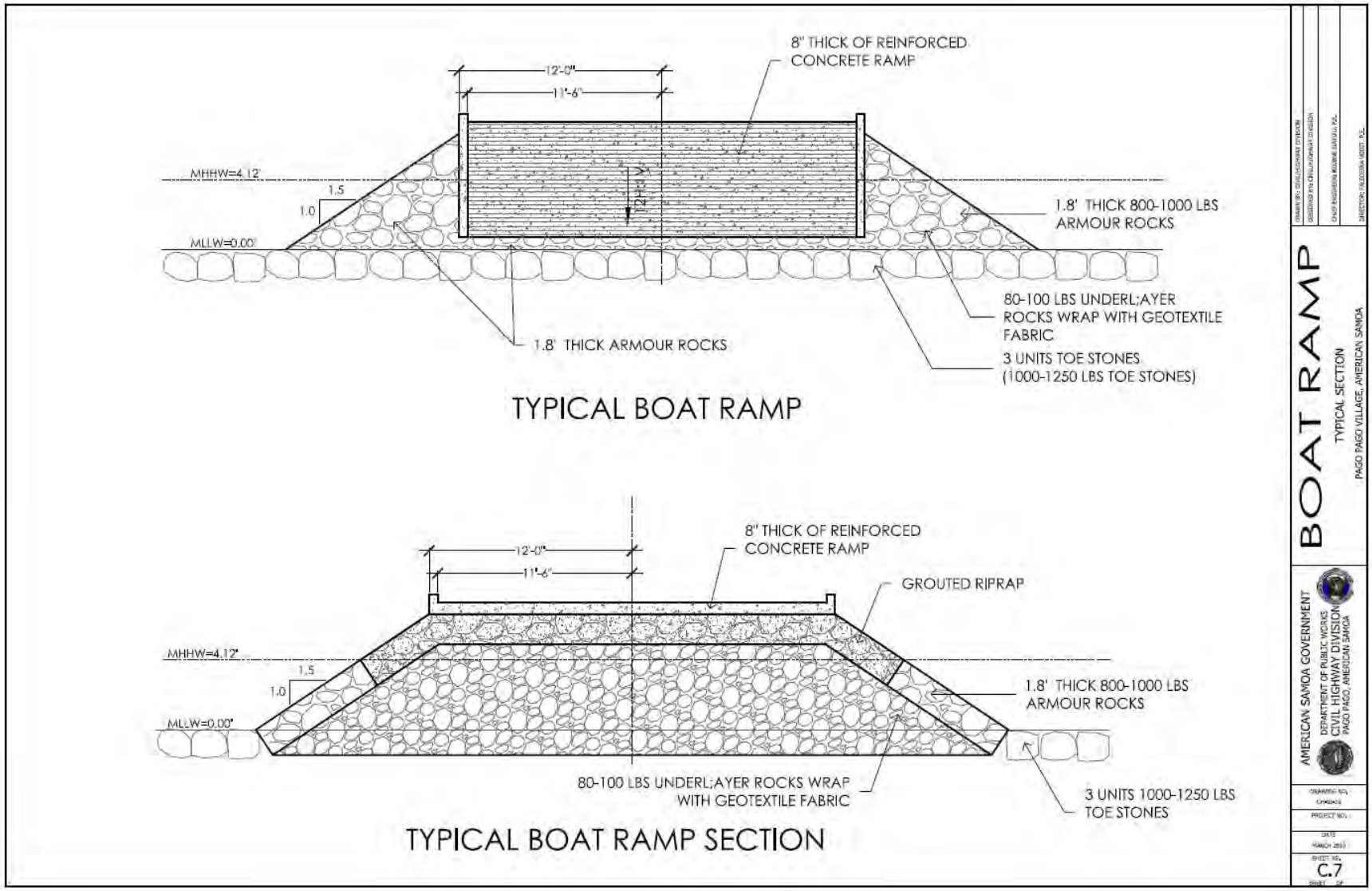



Figure A-2e.Ramp top view and cross section. Source: American Samoa Dept. of Public Works 2019.

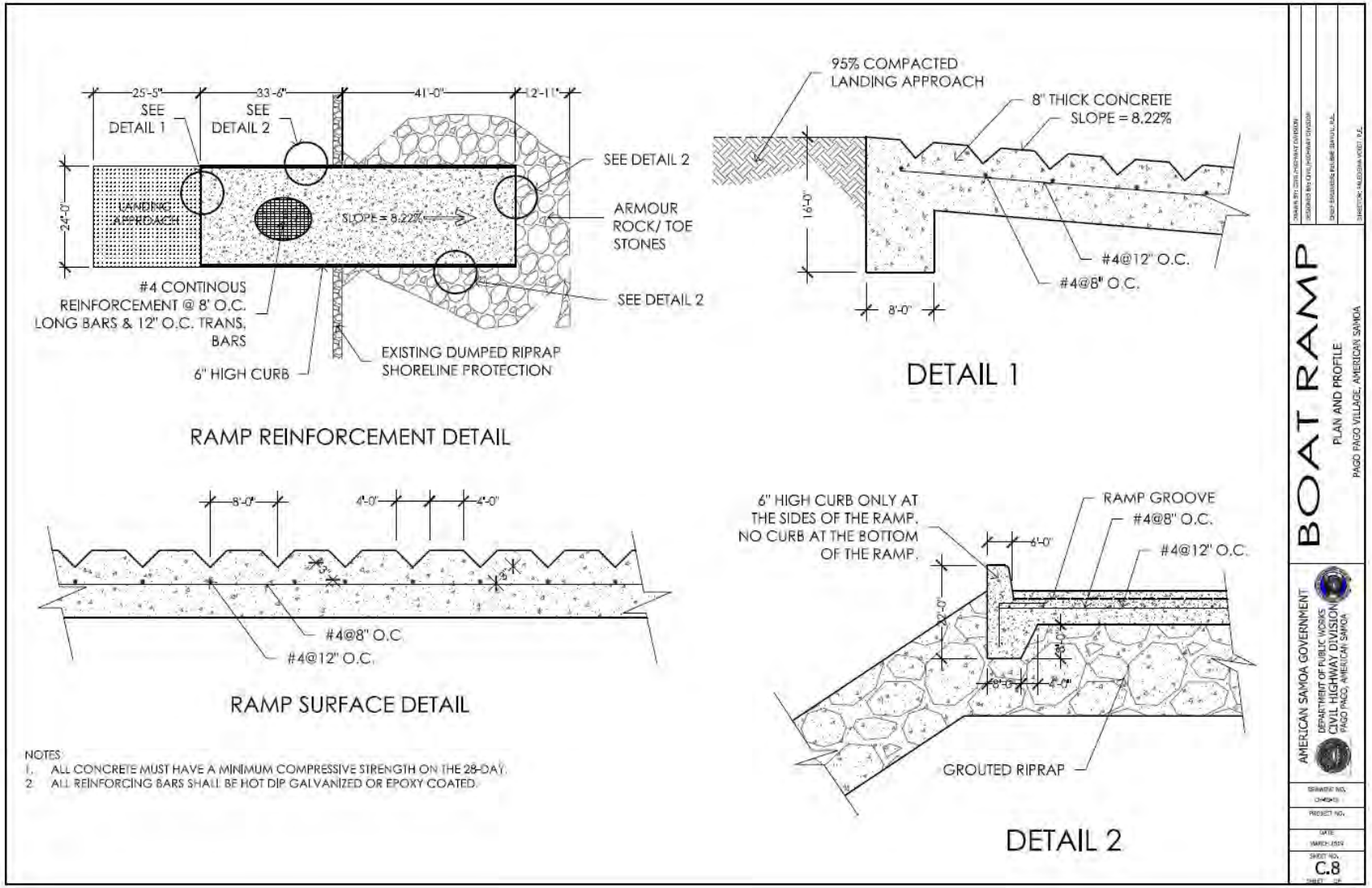


Figure A-2f. Ramp surface detail. Source: American Samoa Dept. of Public Works 2019.

# Appendix B. of Selected Construction Best Practices

## Appendix B-1. Selected Ice House Construction Best Practices

The construction contractor would conform to requirements of the American Samoa government land use permit conditions. Sample best practices may include:

A barrier around the construction site would prevent debris from entering Pago Pago Harbor.

Construction debris would be disposed of at an American Samoa Government-approved site.

Erosion control methods would be in place to prevent exposed soil from entering Pago Pago Harbor waters. Exposed soil would be re-covered as soon as possible.

Hazardous materials would be properly stored. The contractor would ensure spill prevention and response to meet requirements of the land use permits and applicable law.

To protect historic resources in the unlikely event that resources might be uncovered during minor trenching for utilities, the DMWR and the contractor would be required to comply with requirement of the land use permit and conditions established by the American Samoa Historic Preservation Office. ASHPO requires that all ground disturbance activity for the proposed ice house project be subject to archaeological monitoring. Should cultural remains, such as artifacts or burials, be uncovered during excavation work, the contractor would stop work in the area of the find and notify DPW and the American Samoa Historic Preservation Office (ASHPO). If any historic properties are discovered during the construction process, including site access and preparation, they will be treated as per 36 CFR 800.13 for Post Review Discoveries. DMWR would be required to provide a report documenting the archaeological monitoring and any findings to the ASHPO within a year of the end of construction.

## Appendix B-2. Selected Boat Ramp Construction Best Management Practices

This section highlights Construction Notes, Best Management Practices, and U.S. Fish and Wildlife Service provisions that appear on the American Samoa Department of Public Works (DPW) Boat Ramp project plan sheets. Selected requirements and best management practices by theme. Codes in parentheses refer back to details in the Boat Ramp Plans. Construction notes are required measures. BMPs guide the contractor in meeting the required measures. BMPs are intended to prevent the discharge of pollutants, resulting from sediment-laden storm water runoff, into receiving waters, protect wildlife and habitats, and provide for public safety and conservation of cultural resources. Fish and Wildlife provisions are intended to protect wildlife and habitat and are required of the contractor. This list does not include site staging, hauling, technical, utility, or other requirements of the construction contractor making this, therefore, an unofficial subset and summary of requirements and recommendations. The official requirements would be contained in the approved plan sheets and fully executed contracts. Other required special conditions are from the American Samoa Coastal Management Program and are included in the approved Land Use Permit 18-5772-L for the Boat Ramp. Conservation measures from the essential fish habitat and endangered species act reviews are highlighted in the text of the EA because they are not yet part of design plans or contracts.

Notes: “CN” indicates a Construction Note; “BMP” is a Best Management Practice; “SC” refers to the American Samoa Land Use Permit Special Conditions; “OTHER” refers to conservation recommendations to support determinations under the Magnuson-Stevens Fishery Conservation and Management Act essential fish habitat (EFH) review or Endangered Species Act (EFH) review; “FW” refers to selected BMPS for fish and wildlife resource protection that are required by the AS DPW; and the “CO” refers to the contracting officer.

### A. Selected Traffic Control and Safety Measures

The contractor would follow an approved traffic control plan which would ensure emergency access; control access; ensure safe passage; provide for minimal disruption to vehicular and foot traffic; and clear and remove silt and debris generated from grading and construction work from roadways and other areas; ensure public traffic has safe passage … especially during night time. (CN 3, CN 8, CN 16)

The contractor shall be responsible for any precaution for the health and safety of his/her employees at the project where contaminated water or other hazardous materials are present at the project site. (BMP 14)

### B. Selected Noise and Disturbance Controls

Work would be done during normal work hours (7:30 a.m. - 4:00 p.m.). No work would be done on Saturday, Sundays, or holidays. No night construction lighting without prior arrangement or approval by the contracting officer (CO). (CN 10)

No blasting allowed unless approved by CO (CN 11). [NMFS notes that blasting is not needed for the boat ramp project.]

## C. Selected Pollution and Sedimentation Control Measures

The contractor shall provide an erosion control plan for the review and approval of ASEPA prior to the submission to the CO. Project work shall be in conformance with Section 157 of FP-14, ASEPA Guidance Manual for Runoff Control and BMPs. (CN 18, BMP 1)

Detours shall not encroach on the beach or near shoreline. Any fill or spoil placed into a stream or drainage channel shall include provisions to prevent such material from contaminating the stream flow. Any fill or spoil placed into a stream or drainage channel shall include provisions to prevent such material from … creating additional turbidity to the stream and its receiving body of water… (CN 9).

Should the contractor choose to have an on-site maintenance/storage/stockpile area, the contractor shall install proper secondary containment structures such as diversion berms and silt fences around the designated area to prevent storm water carrying contaminants into drainage systems r water courses. The rainwater accumulating within the designated area shall be naturally evaporated or infiltrated into the ground. (BMP 11)

The DMWR must identify a contractor and staging areas for the project. Staging areas must maintain a 35-ft setback from the centerline of the main road. (SC 8)

DMWR must ensure that any and all solid waste as a result of construction shall not be placed or stored within a fifty (50) foot setback zone from all wetlands, streams, or shoreline areas. (SC 6)

Waste material will be disposed of at an approved PNRS-Compliant off-site disposal area with approval of the CO (CN 14).

DMWR must ensure that any and all excess dirt; cinder, spoils, and construction activities must be disposed of at the Futiga landfill. Any other uses of these materials shall require a separate land use permit. (SC 5)

Soil, aggregate, concrete, sampling and testing services for quality control must be performed by certified ACI Personnel… etc. (CN 13)

Any solid waste generated as a result of construction at the site shall be disposed of at the Futiga landfill. DMWR shall ensure that adequate solid waste storage and disposal is provided at the site. Solid waste and scrap metal will not be allowed to accumulate at the site. All solid waste shall be properly disposed of at the Futiga landfill or scrap metal yard at Tafuna. Contact ASEPA for assistance. (SC 3)

The contractor shall install turbidity barriers, silt fences, diversion berms, sandbags, drain inlet protection, catch basin filters, stabilized construction ingress/egress features, and other methods as required as soon as practicable prior to commencement of construction work for sediment runoff control. The contractor shall maintain these erosion control measures as required to ensure their effectiveness. (BMP 3)

All silt fences, curtains, and other structures must be installed properly and maintained throughout the construction period where fill and exposed soils might cause transport or sediment or turbidity beyond the immediate construction site. (SC 9)

Maintenance of sediment and erosion control features is an ongoing responsibility. Within the erosion and sediment control plan the contractor shall establish an approved monitoring plan to verify this requirement. The site specific erosion and sediment control plan should be referred to frequently during project work and revised when site conditions or information changes. Site housecleaning to prevent indiscriminate storage of construction materials or waste is a requirement of the contractor. (BMP 15)

During the construction or repair of armor stone, Samoa stone, tribar, or core-loc unit revetment structure, any under-layer fills used in the project shall be protected from erosion as soon after placement as practicable. (FW 9)

Measures to control erosion and other pollutants shall be in place before any earthwork or demolition is initiated. (BMP 6)

Slope and exposed area shall be watered, mulched, sodded or planted as soon as backfill and final grading has been established in order to control dust, erosion, and sedimentation…(BMP 7).

Erosion protection shall be provided and remain in place until soil is permanently stabilized. (SC 7)

Maintenance of sediment and erosion control features is an on-going responsibility. Within the erosion and sediment control plan, the contractor shall establish an approved monitoring plan … The specific erosion and sediment control plan should be referred to frequently during project work and revised when site conditions or information changes. Site housecleaning to prevent indiscriminate storage of construction materials or waste is a requirement of the contractor. (BMP 15)

Temporary BMPs shall not be removed until all permanent erosion controls are in place and established. (BMP 8)

Any backfilled area which will be left idle for thirty (30) calendar days or more shall be mulched. (BMP 9)

Washing down construction equipment and vehicles and wash out of concrete truck drums on site is prohibited. Water from wash downs shall not be discharged into drainage systems nor water courses. (BMP 10)

The contractor shall provide required information to the contracting officer and AS Environmental Protection Agency (ASEPA) for discharges of storm water associated with construction activity within 30 days before the commencement of construction. (BMP 12)

All storm water generated by run-off from roofs or pavement at the site must be contained within the site by using soak holes, similar methods or approved storm water drainage. Storm water must not discharge onto neighboring properties. (SC 4)

Turbidity and siltation from project-related work shall be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions. (FW1)

**D**. **Protection of Historic and Cultural Resources**

If the contractor uncovers any cultural remains, such as artifacts or burials during excavation work, the contractor shall stop work in the area of the find and notify the CO and the American Samoa Government Historic Preservation Office (ASHPO). (CN 17)

DMWR must comply with the regulations of Section 106 of the National Historic Preservation Act of 1966, (36 CF Part 800) prior to the start of the project. For further information contact David Herdrich, of the ASHPO seventy-two hours prior to conducting any work. (SC 1).

If, during demolition and construction, any previously unidentified archaeological sites or remains (such as artifacts, shell, bone, or charcoal deposits, human burials, rock or coral alignments, paving, or walls) are encountered, the DMWR shall stop work and immediately contact David Herdrich of ASHPO. (SC 2)

Although no resources are known or suspected, if any historic properties are discovered during the construction process, including site access and preparation, the DMWR would be required to treat them as per 36 CFR 800.13 for Post Review Discoveries. DMWR would be required to provide a report of the archaeological monitoring and any findings to the ASHPO within a year of the end of construction. (ASHPO letter to DMWR dated April 29, 2019; and ASHPO letter to NMFS dated July 18, 2019).

**E. Other Wildlife and Habitat Protections**

Project sites located at, or immediately adjacent to, a beach will be surveyed by a qualified biologist prior to commencement of construction activity to ensure that no sea turtles are in the project area. If sea turtles are detected, local wildlife authorities from DMWR will be contacted and construction activities postponed until the animal(s) voluntarily leave the area. (BMP 16)

If any new sea turtle nesting activity is found a 25-meter buffer zone will be delineated around the nest until the nest has fully hatched or has been determined to be unsuccessful. (BMP 17)

Any construction-related debris that may pose an entanglement hazard to marine protected species must be removed from the project site if not actively being used and/or at the conclusion of the construction work. (BMP 18)

Turbidity and siltation from project-related work shall be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions. (FW1)

Dredging/filling in the marine environment shall be scheduled to avoid coral spawning and recruitment periods and sea turtle nesting and hatching periods. (FW 2)

Dredging and filling in the marine/aquatic environment shall be designed to avoid or minimize the loss of special aquatic site habitat (coral reefs, wetlands, etc.) and any ecological functions unavoidably lost as a result of the project shall be replaced. (FW 3)

All project related materials and equipment (dredges, barges, backhoes, etc.) to be placed in the water shall be cleaned of pollutants prior to use. (FW 4)

No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zone, reef flats, stream channels, wetlands, etc. (FW 5)

All debris removed from the marine/aquatic environment shall be disposed of at an approved upland or ocean dumping site. (FW 6)

No contamination (trash or debris disposal, non-native species introductions attraction of non-native pests, etc.) of adjacent marine/aquatic environments (reef flats, channels, open ocean stream channels, wetlands, beaches, forests, etc.) shall result from project-related activities This shall be accomplished by implementing a litter-control plan and developing a hazard analysis and critical control point plan (HACCP-ss http://www.haccp-nrm.org/Wizard/default.asp) to prevent attraction and introduction of non-native species. (FW 7)

Fueling of project-related vehicles and equipment should take place from the water and a contingency plan to control petroleum products accidentally spilled during the project shall be developed. Absorbent pads and contaminant booms shall be stored on-site, if appropriate, to facilitate the clean-up of accidental petroleum releases. (FW 8)

During the construction or repair of armor stone, Samoa stone, tribar, or core-loc unit revetment structure, any under-layer fills used in the project shall be protected from erosion as soon after placement as practicable. (FW 9)

Any soil exposed near water as part of the project shall be protected from erosion (with plastic sheeting, filter fabric, etc.) after exposure and stabilized as soon as praticable [sic] (with native or non-invasive vegetation matting, hydroseeding, etc.). (FW 10)

Whenever construction operations are conducted in-water in an arena whereby protected marine species may be present, the contractor shall maintain a constant vigilance for the presence of ESA listed marine species during all aspects of construction activities. This shall include the designation of an appropriate number of competent observers to survey the marine area adjacent to the construction activity for ESA listed marine species. The surveys shall be made prior to start of work each day and prior to resumption of work following any break of more than one half hour. All in-water work shall be postponed or halted when ESA listed marine species are within 50 yards of the proposed work and shall only begin/resume after the observed species have voluntarily departed the area. If ESA listed species are noticed within 50 yards after work has already begun that work may continue if, in the best judgement of the contracting officer, that there is not [sic] way for the activity to adversely affect the species in question. (FW 11)

BMPs for General In-water Work Activity:

A) Constant vigilance shall be kept for the presence of ESA-listed marine species during all aspects of the proposed action, particularly in-water activities such as boat operations, diving, and deployment of anchors and mooring lines.

1. The project manager shall designate an appropriate number of competent observers to survey the marine areas adjacent to the proposed action for ESA-listed marine species.

2. Surveys shall be made prior to the start of work each day, and prior to resumption of work following any break of more than one half hour. Periodic additional surveys throughout the workday are strongly recommended.

3. All in – water work shall be postponed or halted when ESA-listed marine species are within 50 yards of the proposed work, and shall only begin/resume after the animals have voluntarily departed the area. If ESA-listed marine species are noticed within 50 yards after work has already begun, that work may continue only if, in the best judgment of the project supervisor, that there is no way for the activity to adversely affect the animal(s). For example; diverse performing surveys are underwater work would likely be permissible, whereas operation of heavy equipment is likely not.

4. [duplicate of General In-water Work BMP 3]

5. Do not attempt to feed, touch, right, or otherwise intentionally interact with any ESA-listed marine species.

B. No contamination of the marine environment should result from project related activities.

1. A contingency plan to control toxic materials is required.

2. Appropriate materials to contain and clean potential spills will be stored at the worksite, and be readily available.

3. All project-related materials and equipment placed in the water will be free of pollutants. The project manager and heavy equipment operators will perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations will be postponed or halted should a leak be detected, and will not proceed until the leak is repaired and equipment cleaned.

4. Fueling of land-based vehicles and equipment should take place at least 50 feet away from the water, preferably over an impervious surface. Fueling of vessels should be done at approved fueling facilities.

5. Turbidity and siltation from project related work should be minimized and contained through the appropriate use of effective silt containment devices and the curtailment of work during adverse tidal and weather conditions.

6. A plan will be developed to prevent debris and other wastes from entering or remaining in the marine environment during the project.

# Appendix C. Endangered and Threatened Marine Species around American Samoa and Occurrence in the Project Area

Table C-1. ESA-listed species occurring around American Samoa and likely occurrence in Pago Pago Harbor.

| Common Name | Scientific Name | Listing Status | Date Listed | NMFS Effects Determination (NLAA/LAA, but no jeopardy) | Date ESA Consultation Completed | Likely occurrence in inner Pago Pago Harbor |
|---|---|---|---|---|---|---|
| **Sea Turtles** | | | | | | |
| East Indian West Pacific Green Sea Turtle DPS | *Chelonia mydas* | Threatened | 4/6/2016, 81 FR 20058 | Not applicable (N/A) | N/A | Not confirmed present. (see note 2) |
| Central West Pacific Green Sea Turtle DPS | *C. mydas* | Endangered | 4/6/2016, 81 FR 20058 | N/A | N/A | Not confirmed present. (see note 2) |
| Southwest Pacific Green Sea Turtle DPS | *C. mydas* | Threatened | 4/6/2016, 81 FR 20058 | N/A | N/A | Not confirmed present. (see note 2) |
| Central South Pacific Green Sea Turtle DPS | *C. mydas* | Endangered | 4/6/2016, 81 FR 20058 | May affect, not likely to adversely affect (NLAA) | Informal, July 17, 2019 | Present (see note 2) |
| Central North Pacific Green Sea Turtle DPS | *C. mydas* | Threatened | 4/6/2016, 81 FR 20058 | N/A | N/A | Not confirmed present. (see note 2) |
| East Pacific Green Sea Turtle DPS | *C. mydas* | Threatened | 4/6/2016, 81 FR 20058 | N/A | N/A | Not confirmed present. (see note 2) |

| Common Name | Scientific Name | Listing Status | Date Listed | NMFS Effects Determination (NLAA/LAA, but no jeopardy) | Date ESA Consultation Completed | Likely occurrence in inner Pago Pago Harbor |
|---|---|---|---|---|---|---|
| Hawksbill Sea Turtle | *Eretmochelys imbricata* | Endangered | 7/28/1978, 43 FR 32800 | NLAA | Informal, July 17, 2019 | Not present |
| Leatherback Sea Turtle | *Dermochelys coriacea* | Endangered | 6/2/1970, 35 FR 8491 | No effect (geographic separation) | N/A | Not present |
| Olive Ridley Sea Turtle | *Lepidochelys olivacea* | Threatened [1] | 7/28/1978, 43 FR 32800 | No effect (geographic separation) | N/A | Not present |
| Loggerhead, North Pacific DPS | *Caretta caretta* | Endangered | 9/22/2011, 76 FR 58868 | No effect (geographic separation) | N/A | Not present |
| Loggerhead, South Pacific DPS | *C. caretta* | Endangered | 9/22/2011, 76 FR 58868 | No effect (geographic separation) | N/A | Not present |
| **Marine Mammals** (an asterisk (*) indicates the species has not been confirmed from waters around American Samoa | | | | | | |
| Fin Whale* | *Balaenoptera physalus* | Endangered | 12/2/2011, 35 FR 18319 | No effect (geographic separation) | N/A | Not present |
| Sei Whale* | *B. borealis* | Endangered | 12/2/1970, 35 FR 18319 | No effect (geographic separation) | N/A | Not present |
| Blue Whale* | *B. musculus* | Endangered | 12/2/1970, 35 FR 18319 | No effect (geographic separation) | N/A | Not present |
| Sperm Whale | *Physeter macrocephalus* | Endangered | 12/2/1970, 35 FR 18319 | No effect (geographic separation) | N/A | Not present |

| Common Name | Scientific Name | Listing Status | Date Listed | NMFS Effects Determination (NLAA/LAA, but no jeopardy) | Date ESA Consultation Completed | Likely occurrence in inner Pago Pago Harbor |
|---|---|---|---|---|---|---|
| **Sharks and Rays** | | | | | | |
| Scalloped Hammerhead Shark, Indo-West Pacific DPS | *Sphyrna lewini* | Threatened | 7/3/2014, 79 FR 38213 | NLAA | Informal, July 17, 2019 | Present (See Note 3) |
| Oceanic Whitetip Shark | *Carcharhinus longimanus* | Threatened | 01/30/18, 83 FR 4153 | No effect (geographic separation) | N/A | Not present |
| Giant Manta Ray | *Manta birostris* | Threatened | 01/22/18, 83 FR 2916 | No effect (geographic separation) | N/A | Not present |
| **Reef Corals** | | | | | | |
| Coral (no common name) | *Acropora globiceps* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |
| Coral (no common name) | *A. jacquelineae* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |
| Coral (no common name) | *A. retusa* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |
| Coral (no common name) | *A. speciosa* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |
| Coral (no common name) | *Euphyllia paradivisa* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |

| Common Name | Scientific Name | Listing Status | Date Listed | NMFS Effects Determination (NLAA/LAA, but no jeopardy) | Date ESA Consultation Completed | Likely occurrence in inner Pago Pago Harbor |
|---|---|---|---|---|---|---|
| Coral (no common name) | *Isopora crateriformis* | Threatened | 09/10/2015, 79 FR 53852 | NLAA | Informal, July 17, 2019 | Adults not present, larvae may be |
| **Mollusks** | | | | | | |
| Chambered nautilus | *Nautilus pompilius* | Threatened | 09/28/2018, 83 FR 48976 | No effect (geographic separation) | N/A | Not present |
| **Critical Habitat** | | | | | | |
| None in American Samoa | | | | | | None in American Samoa |

Note 1: The eastern Pacific population of olive ridley turtles includes nesting aggregations on the coast of Mexico, which are listed under the ESA as endangered.

Note 2: While five green turtle DPSs have been encountered in the American Samoa longline fishery – as confirmed by genetic samples – the Central South Pacific DPS is the most commonly encountered green turtle in coastal waters and turtles from this DPS nest at Rose Atoll. NMFS did not consult on the other DPSs as turtles from these population segments have not been confirmed from coastal waters around American Samoa.

Note 3: Neither NMFS nor American Samoa Dept. of Marine and Wildlife Resources has confirmed the presence of *Sphyrna lewini* in Pago Pago Harbor and our assessment of its presence is based on a report of hammerhead shark pupping in Pago Pago Harbor by P. Craig (2009) in the *Natural History Guide to American Samoa*, Vol. 3 (page 37).