

Final Environmental Assessment

Matuu Stream Flood Project

American Samoa Department of Public Works

FEMA-1506-DR-AS, HMGP #1506-6

July 2006



FEMA

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FINAL ENVIRONMENTAL ASSESSMENT

FOR

**MATUU STREAM FLOOD MANAGEMENT PROJECT
MATUU, AMERICAN SAMOA
(FEMA-1506-DR-AS, HMGP #1506-6)**

**Prepared for
Federal Emergency Management Agency**

**Prepared by
URS Corporation, Inc.**

July 2006

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ASCMP	American Samoa Coastal Management Program
ASDOC	American Samoa Department of Commerce
ASDPW	American Samoa Department of Public Works
ASDRO	American Samoa Disaster Relief Office
ASEPA	American Samoa Environmental Protection Agency
ASHPO	American Samoa Historic Preservation Officer
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
DA	Department of the Army
dB _A	decibels A-weighted
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
g	gravitational force
HMGP	Hazard Mitigation Grant Program
L _{eq}	Energy-averaged noise level
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
PM ₁₀	particulate matter less than 10 micrometers in diameter
PNRS	Project Notification and Review System
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

The American Samoa Department of Public Works (ASDPW) has applied, through the American Samoa Disaster Relief Office (ASDRO), to the U.S. Department of Homeland Security Federal Emergency Management Agency (FEMA) for funds to conduct a flood control project. FEMA is proposing to fund the project through the Hazard Mitigation Grant Program (HMGP) under the presidential disaster declaration FEMA-1506-DR-AS for Cyclone Heta, which occurred in January 2004.

FEMA has prepared this Environmental Assessment (EA) to evaluate the impacts of the proposed HMGP project. The EA has been prepared according to the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 of the Code of Federal Regulations [40 CFR] Parts 1500–1508), and FEMA’s implementing regulations (44 CFR Part 10).

The EA process provides steps and procedures to evaluate the potential environmental, social, and economic impacts of a Proposed Action and alternatives as well as an opportunity for the public and local, state/territorial, and other federal agencies to provide input and/or comment through scoping studies and a public comment period. These potential impacts are measured by their context and intensity, as defined in the CEQ regulations.

The objective of FEMA's HMGP is to reduce the loss of life and property due to natural disasters and to enable the implementation of long-term hazard mitigation measures during the immediate recovery from a disaster. Through this program, FEMA provides grants to state, territorial, and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Therefore, the purpose of the project is to provide HMGP funding to ASDPW.

The village of Matuu is located on the island of Tutuila, American Samoa (Figure 1). Afuelo Stream is a meandering stream that originates at Matafao Peak and flows to the South Pacific Ocean. Approximately 1,500 linear feet of the stream flows through Matuu before emptying into the ocean. The portion of the stream that flows through Matuu averages approximately 15 feet wide and 5 feet deep, and is mostly lined with rocks and soil. The channel narrows to approximately 6 feet at some points because of the construction of buildings, bridges, and culverts. Small sections of embankment immediately adjacent to structural foundations are lined with riprap, grouted riprap, or an aging concrete wall. The stream flows through concrete box culverts below bridges at three locations in the village. The level of development adjacent to the stream generally increases as the stream approaches Highway 1, the major roadway on the island. Highway 1 is located near the shoreline, just before the stream outlets to the ocean.

During the presidentially declared disaster of January 2004, Cyclone Heta caused heavy rains and flooding on the island. Afuelo Stream was inundated with storm water and debris, which eroded some of the stream's earthen embankments, especially at bends in the stream. The erosion of the embankment has the potential to threaten homes adjacent to the stream. The storm water and debris flow in the stream also eroded soil around two concrete culverts that were constructed by the local government.

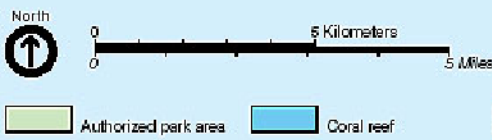
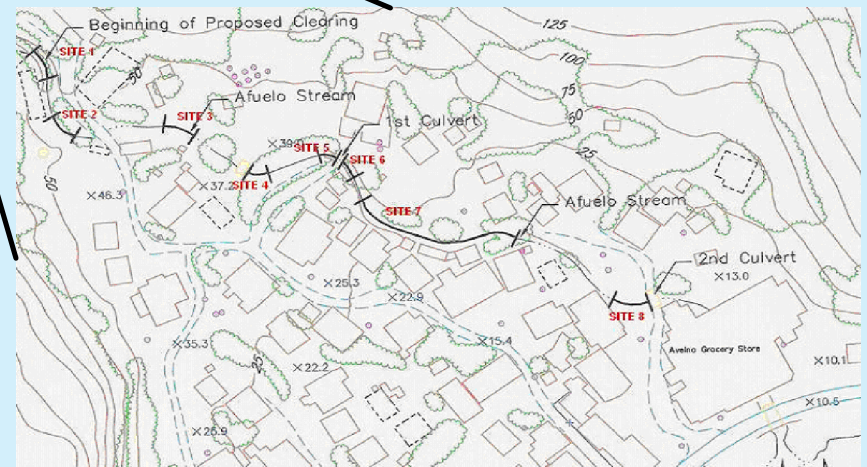
ASDPW has identified the need to reduce the flood hazard caused by the encroachment of Afuelo Stream towards structures in Matuu and the degradation around the culverts that carry the stream through the village. Reducing these flood hazards would help protect villagers and their property from flooding. Therefore, action is needed to reduce the flood hazard of Afuelo Stream in Matuu.

American Samoa

Island of Tutuila



SOUTH PACIFIC OCEAN



source: www.samoanet.com

URS Corporation L:\Project\Matuu_Stream_Flood_Mgt_15707002\MXD\Current Working Documents\figure_1_Project_Location_Map.mxd Date: 5/6/2008 11:23:27 AM Name: kripnopp

ASDPW evaluated several alternatives for reducing the flood hazard caused by Afuelo Stream.

3.1 ALTERNATIVES NOT CARRIED FORWARD

ASDPW considered relocating threatened structures or rerouting Afuelo Stream to reduce the threat to property and public health and safety caused by the erosion within the stream. However, due to topographic and economic constraints, neither of these alternatives was considered feasible.

3.2 ALTERNATIVES CARRIED FORWARD

3.2.1 Alternative 1: No Action

Under NEPA the inclusion of a No Action Alternative is required in the environmental analysis and documentation. The No Action Alternative is defined as maintaining the status quo with no FEMA funding for any alternative action. The No Action Alternative is used to evaluate the effects of not providing eligible assistance for the project, thus providing a benchmark against which the “action alternatives” can be evaluated. For the purpose of this alternative, it is assumed that ASDPW would be unable to implement the Proposed Action for lack of federal assistance, and the flood hazard would remain unmitigated at the project site. Continued erosion could lead to the flooding of homes adjacent to the stream. The adverse environmental, health, safety, and economic effects resulting from flooding would not be mitigated.

3.2.2 Alternative 2: Proposed Action

The Proposed Action would involve the construction of reinforced concrete floodwalls and gabion mats along approximately 520 feet of Afuelo Stream in Matuu, as depicted in Figure 2. The walls and mats would be installed at eight discrete locations along the stream, near the bends. The lengths of the wall sections from Site 1 (upstream) to Site 8 (downstream near Avelina Grocery Store) would be 65, 50, 50, 25, 25, 25, 230, and 50 linear feet, respectively. At each location, the floodwalls would be constructed along the embankment on both sides of the stream. The walls would be 10 inches thick and 5 to 7 feet tall. Footings would extend 2 feet into the streambed.

Two gabion mats, each with a thickness of 1 foot, would cover the width of the streambed between the floodwalls (10 to 15 feet). The rocks in the gabion mats would be 6 to 12 inches in diameter. Concrete cut-off walls would be constructed in the streambed immediately upstream and downstream of each section of gabion construction. The walls would be 4 feet tall, and would be flush with the top surface of the gabion baskets.

Also, wingwalls would be constructed on two of the three existing concrete culverts, as shown in Figure 2. Each wingwall would be 7 feet long, 8 feet high (including a 2-foot footing), and 10 inches thick. Two wingwalls would be constructed at both ends of each culvert, for a total of eight wingwalls. The floodwall, gabion mat, and wingwall designs are shown in Figures 3 and 4.

The construction would require excavation within the streambed using a 20-ton excavator. Material would be moved with a front-end loader and a dump truck. Staging areas would be located within paved and other previously disturbed areas near the project area. The project

would involve the removal of some vegetation along the stream's embankments. Construction would occur during the seasonally dry months (March through October) and would be completed within 90 days.

3.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

For this alternative, the embankments of the Afuelo Stream would be protected at the same locations as described in the Proposed Action. However, this alternative would involve the placement of riprap instead of the construction of floodwalls at Sites 1 to 5. The stream is wider at Sites 1 to 5, and no structures are immediately adjacent to the stream at these locations. The riprap would consist of large rocks, 10 to 36 inches in diameter, placed from the streambed to the top of the existing embankments, 5 to 7 feet above the streambed. The riprap would be placed on the eroding side of the stream at each of the five sites. No gabion mats would be placed along the streambed at these sites.

For this alternative, the embankment protection at Sites 6 to 8 would be exactly as described in the Proposed Action Alternative. Housing structures exist immediately adjacent to the stream at Sites 6 to 8. The culvert wingwalls would also be constructed as described in the Proposed Action Alternative. Machinery, staging areas, and construction times would be similar to those for the Proposed Action Alternative. Alternative 3 would result in a reduction of the flood risk compared to the No Action Alternative but would not be as sturdy and resistant to damage from flooding and debris as the Proposed Action.

URS Corporation L:\Project\Matuu Stream Flood Mgt. 15707002\XDXD\Current Working Documents\figure 2. Project Elements.mxd Date: 5/9/2008 11:23:27 AM Name: kmrnp00

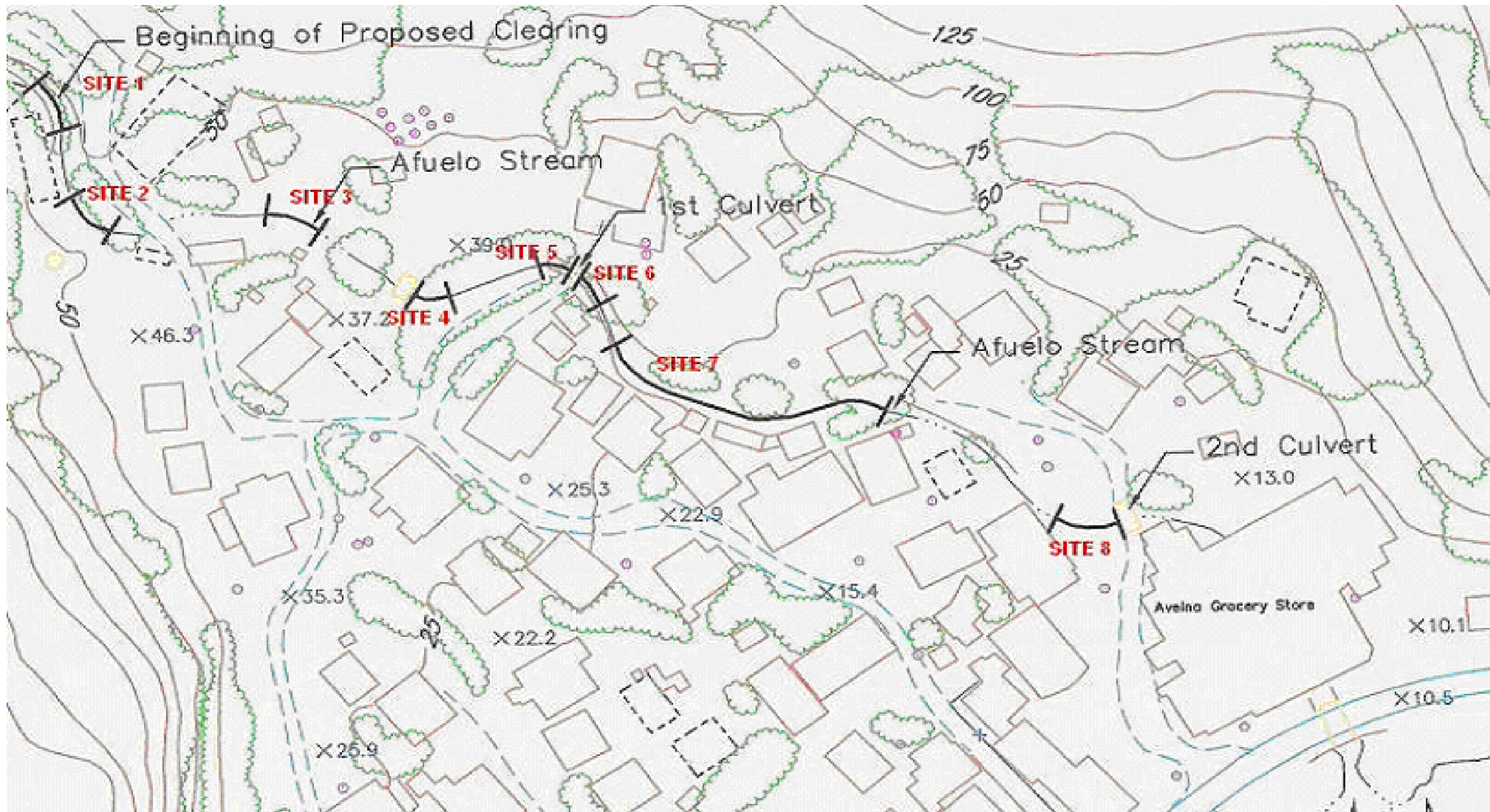
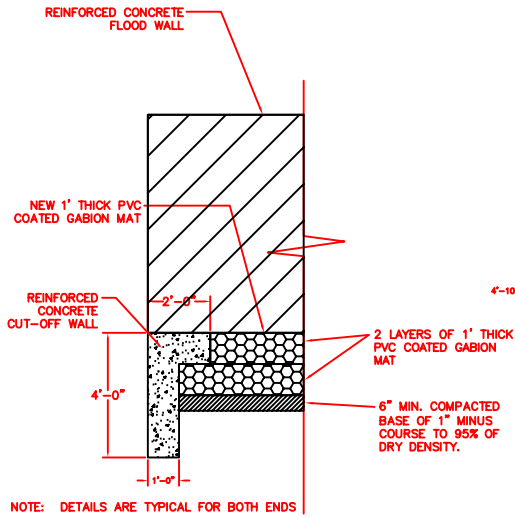
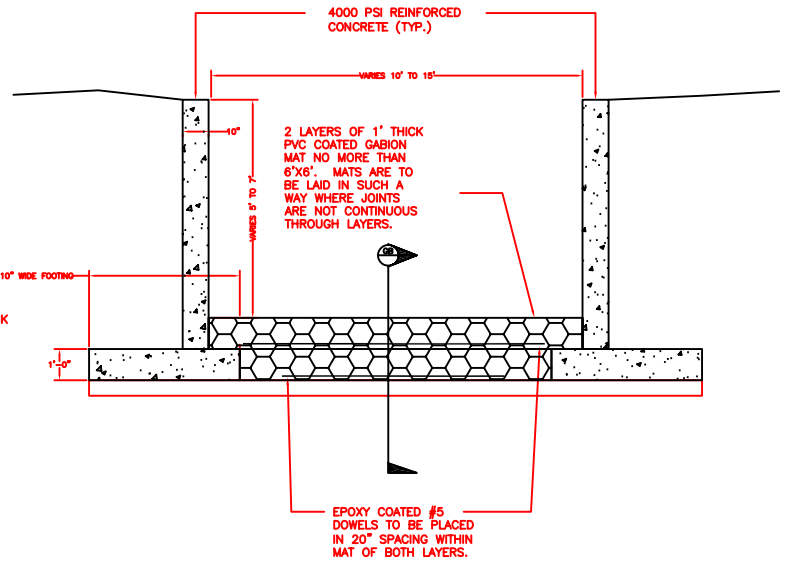


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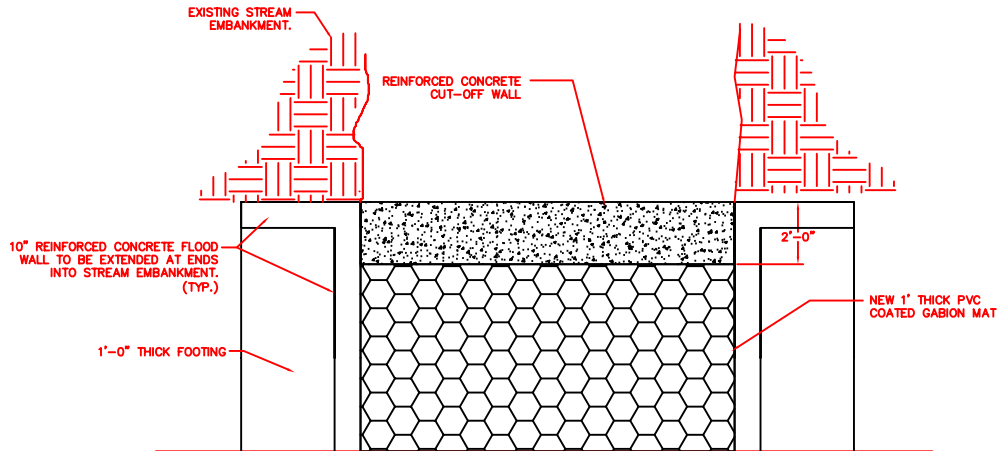




GABION BASKETS CROSS SECTION (TYP.)
SCALE: 1:50



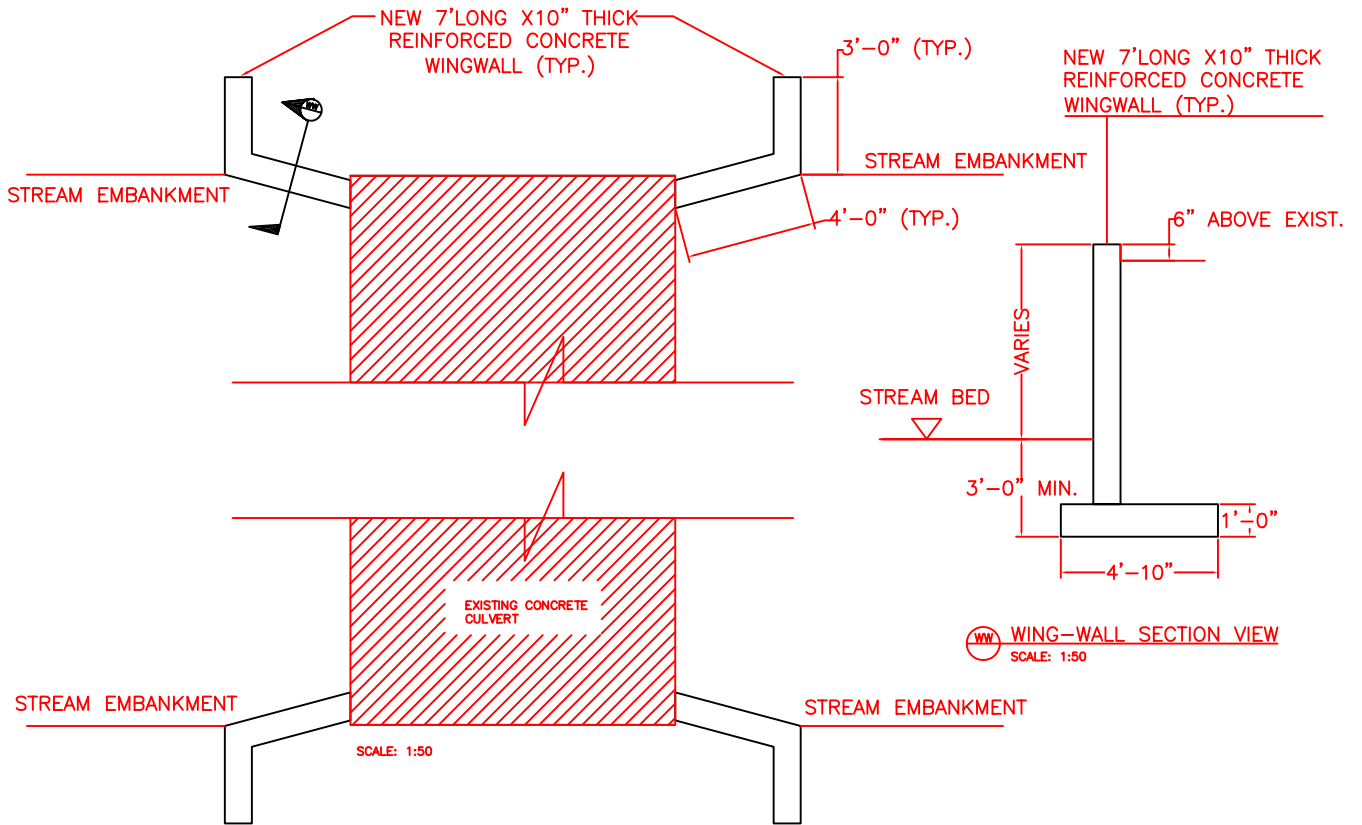
GABION BASKETS FRONTAL VIEW (TYP.)
SCALE: 1:50



NOTE: DETAILS ARE TYPICAL FOR BOTH ENDS

PLAN VIEW
SCALE: 1:40

Y:\FEMA\HMTAP 05 TO 002 - 1506 AS\Project Files\Matuu Stream Flood Mgt\Emailed by Kosi 3-24-06\Figure_3_CROSS SECTION DETAIL2.dwg



NOTE: CONC. CONNECTIONS AND WORKS ARE AS PER FEDERAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES, FP-03

This section describes existing conditions in the project area, evaluates the potential for the three alternatives to result in direct and indirect impacts on the environment, and discusses mitigation measures to avoid or minimize these impacts. This section focuses on the environmental resources for which some level of impact may result: geology, seismicity, and soils; air quality; water resources; biological resources; cultural resources; socioeconomics and safety; land use and planning; transportation; noise; and visual resources. No other resource areas require evaluation pursuant to NEPA.

4.1 GEOLOGY, SEISMICITY, AND SOILS

4.1.1 Geology and Geologic Hazards

The island of Tutuila is of volcanic origin and is characterized by steep mountainsides, small valleys, and a narrow coastal fringe of relatively level land. The island is a narrow mountain range consisting of basic igneous rock, mainly basalt, with small amounts of andesite and trachyte. The mountains extend approximately 20 miles from east to west and have a maximum width of 6 miles and a minimum width of 0.75 mile at Pago Pago Harbor. The highest peak is 2,142 feet, and the land slopes steeply from the tops of the mountain ridges to the ocean. The relief is less than a 5 percent slope in the village of Matuu. The land in this area generally slopes south-southeast toward the South Pacific Ocean.

Geologic hazards on Tutuila include landslides, volcanic eruptions, earthquakes, and tsunamis.

Landslides are primarily caused by gravity acting on overly steep slopes. However, many other factors, such as saturation by rainfall, removal of deep-rooted vegetation, and erosion by water channels, contribute to the occurrence of landslides. On Tutuila, landslides often occur when heavy rainfall saturates unstable earth on the island's steep slopes. As a result of both natural and human-induced factors, landslides have a high potential to occur on Tutuila.

The only active volcano in the American Samoa region is the submarine volcano Vanilulu'u. The Ofu-Olosega volcano last erupted in 1866, and the other volcanoes in the region have been silent for thousands of years.

Earthquakes in American Samoa originate from the Tonga Trench, approximately 100 miles southwest of Tutuila. The Tonga Trench is located where the Pacific and Australian tectonic plates collide. The trench is considered an area of high seismic activity and generates large but distant earthquakes that are felt on Tutuila. Such earthquakes can be precursors to volcanic activity but generally do not present a seismic threat to the islands.

Most tsunamis (huge water waves) that affect Tutuila are generated by earthquakes from fault movements along the Pacific Rim in the Aleutian Islands, South America, the Tonga Trench, and other locations. In 1868 and 1960, tsunamis originating in Chile caused damage in the Samoan Islands. The National Oceanic and Atmospheric Administration National Weather Service operates the Pacific Tsunami Warning Center, which monitors sudden earth movements throughout the Pacific Basin. Warnings are broadcast by the news media on radio and television.

4.1.1.1 Alternative 1: No Action

Under the No Action Alternative, erosion and the resulting loss of soil would continue to occur along the embankments of the Afuelo Stream. The geology and potential for volcanic eruptions, earthquakes, and tsunamis in the project area would not change under the No Action Alternative. However, increased potential for small-scale landslides may result along portions of the stream where continued erosion may decrease the stability of the embankment.

4.1.1.2 Alternative 2: Proposed Action

Under the Proposed Action, the geology and potential for volcanic eruptions, earthquakes, and tsunamis in the project area would remain unchanged. As the construction of floodwalls at Sites 1 to 8 would stabilize the embankment, the potential for small-scale landslides to be caused by erosion of the embankments would be reduced.

4.1.1.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, the geology and potential for volcanic eruptions, earthquakes, and tsunamis in the project area would remain unchanged. As the installation of riprap at Sites 1 to 5 and the construction of floodwalls at Sites 6 to 8 would stabilize the embankment, the potential for small-scale landslides to be caused by erosion of the embankments would be reduced.

4.1.2 Seismicity

FEMA classifies the island of Tutuila as Seismic Zone 3, which means it will experience earthquake ground shaking of approximately 0.2g peak horizontal acceleration (where g is the unit used to express gravitational force) and has a 1 in 500 chance per year of sustaining light to moderate building damage (i.e., a 10 percent probability of experiencing ground shaking of at least 0.2g every 50 years). This Seismic Zone 3 designation considers all probable earthquake sources affecting American Samoa, local and distant, and translates their effects into different estimates of ground shaking.

Executive Order (EO) 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, requires construction of new buildings to meet standards for seismic safety set by the National Earthquake Hazard Reduction Program. However, this EO applies only to the construction of new buildings, which are defined as structures used or intended for sheltering persons or property. As none of the alternatives involves new building construction, EO 12699 does not apply to this project.

4.1.2.1 Alternative 1: No Action

Under the No Action Alternative, no impacts would occur to the existing seismicity.

4.1.2.2 Alternative 2: Proposed Action

Under the Proposed Action, the potential for earthquakes remains unchanged. An earthquake of 0.2g is unlikely to affect the proposed stream channel improvements. Evacuation routes would not be altered by implementation of the Proposed Action.

4.1.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, the potential for earthquakes remains unchanged. An earthquake of 0.2g is unlikely to affect the proposed stream channel improvements. Evacuation routes would not be altered by the implementation of Alternative 3.

4.1.3 Soils

The soils in the project area consist of Aua very stony silty clay loam and Leafu silty clay (U.S. Department of Agriculture 1983). The soils are characterized by high organic matter content in the surface horizon and silty clay loam and silty clay surface textures. The soils are formed in colluvium and alluvium derived dominantly from basic igneous rock, and rooting depths are typically 60 inches or greater. The subsoil may be stony in places. Due to gentle slopes and clay textures, the soils have slow to medium runoff rates and slight to moderate susceptibility to water erosion. The soils are subject to occasional, brief periods of flooding during prolonged, heavy rainfall. The hazard of water erosion is slight to moderate.

4.1.3.1 Alternative 1: No Action

Under the No Action Alternative, erosion and the resulting loss of soil may continue to occur along the embankments of the Afuelo Stream.

4.1.3.2 Alternative 2: Proposed Action

As a result of the construction activities related to the Proposed Action, area soils would be disturbed through excavation within the stream, heavy equipment use in and around the stream, and vegetation removal in the project area. Construction activities could cause compaction and leave soils exposed and susceptible to water and wind erosion.

Areas that would be disturbed by construction activities would be stabilized with erosion control measures to reduce any erosion that might occur. ASDPW would implement Best Management Practices (BMPs) such as developing and implementing an erosion and sedimentation control plan, installing silt fences, or mulching cleared soil to eliminate or reduce soil erosion during construction. ASDPW would implement permanent erosion control measures such as revegetation with native species when construction is completed. ASDPW would be responsible for covering soil that is stockpiled on-site and constructing a sediment barrier around stockpiles to prevent sediment loss.

ASDPW has indicated that construction activities would occur during the seasonally dry months, so erosion due to water would be minimized.

4.1.3.3 Alternative 3: Placement of Riprap at Sites 1 to 5

As a result of construction activities related to Alternative 3, area soils would be disturbed through excavation within the stream, heavy equipment use in and around the stream, and vegetation removal in the project area. Construction activities could cause compaction and leave soils exposed and susceptible to water and wind erosion. However, the level of disturbance would be less compared to the Proposed Action, as excavation for the installation of gabion baskets and floodwall footings would not occur at Sites 1 to 5.

Areas that would be disturbed by construction activities would be stabilized with erosion control measures to reduce any erosion that might occur. ASDPW would implement BMPs such as developing and implementing an erosion and sedimentation control plan, installing silt fences, or mulching cleared soil to eliminate or reduce soil erosion during construction. ASDPW would implement permanent erosion control measures such as revegetation with native species when construction is completed. ASDPW would be responsible for covering soil that is stockpiled on-site and constructing a sediment barrier around stockpiles to prevent sediment loss.

ASDPW has indicated that construction activities would occur during the seasonally dry months, so erosion due to water would be minimized.

4.2 AIR QUALITY

The Clean Air Act is a comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. It authorizes the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQSs) to protect public health and the environment. The NAAQSs include standards for the following five criteria pollutants: nitrogen dioxide, ozone, carbon monoxide, sulfur dioxide, and particulate matter less than 10 micrometers in diameter (PM₁₀). New NAAQSs for ozone and particulate matter less than 2.5 micrometers in diameter have not yet been implemented. Areas where the monitored concentration of a pollutant exceeds the NAAQS are classified as being in nonattainment for that pollutant. If the monitored concentration is below the NAAQS, the area is classified as being in attainment.

American Samoa is classified as being in attainment or is unclassified for nitrogen dioxide, ozone, and carbon monoxide and in attainment for sulfur dioxide. Attainment status for PM₁₀ has not been addressed and is unclassified. Attainment designations for particulate matter less than 2.5 micrometers in diameter have not yet been determined. The air quality district for American Samoa requires preconstruction permits for stationary sources but does not have authority to issue permits for mobile sources such as construction vehicles and equipment.

In 1971, the American Samoa Environmental Quality Commission was established, and a State Implementation Plan was developed. Because American Samoa is in attainment or is unclassified for all criteria pollutants, the plan has not been updated. Also, because American Samoa is in attainment or is unclassified for all criteria pollutants, the General Conformity Rule does not apply.

4.2.1 Alternative 1: No Action

Under the No Action Alternative, air quality standards would not be directly affected. However, minor, short-term increases in particulate matter emissions may occur if future floods leave soils exposed to wind erosion and/or deposit sediment in or around homes adjacent to the stream.

4.2.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would result in minor, short-term deterioration of air quality. The construction-related effects of the project would be limited to increased amounts of fugitive dust and mobile construction equipment emissions during construction.

Construction-related fugitive dust would be generated by the 20-ton excavator, front-end loader, and dump truck operating at and near the construction site. The fugitive dust would result primarily from particulate matter resuspended by excavation, vehicle movement, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from stockpiles and uncovered haul trucks. The construction vehicles would also release minor emissions, such as carbon monoxide and ozone precursors, associated with the burning of fossil fuels.

Due to the proximity of homes and businesses to the project area, emissions during construction activities were calculated. Emissions from construction equipment were estimated using emission factors developed by the South Coast Air Quality Management District (2005). These factors and estimates of equipment usage for the construction period were used to calculate daily emissions. Emission estimates were based on an 8-hour day and assumed a 50 percent load factor (i.e., each piece of equipment would be used 4 hours per day). Annual emission totals assume the project would take 90 days to complete and all equipment would be used for the entire period. Emission estimates are summarized in Table 1.

**Table 1
Air Quality Emissions from Construction Equipment**

Equipment Description	Carbon Monoxide	Nitrogen Oxides	Sulfur Oxides	PM₁₀
Emission Factors (pounds per hour)				
Excavator	0.48	1.23	0.24	0.07
Loader	0.42	0.83	0.12	0.08
Dump truck	0.04	0.08	0.00	0.00
Emissions Estimates (pounds per day)				
Excavator ¹	3.81	9.84	1.94	0.52
Loader ¹	3.37	6.67	0.92	0.67
Dump truck ¹	0.35	0.62	0.00	0.00
Total	7.53	17.13	2.86	1.19
Emissions Estimates (tons per year)				
Total	0.34	0.77	0.13	0.05

¹ Estimate assumes two pieces of equipment.

Under the assumption that construction would continue for 90 days at the daily rates shown in Table 1, total emissions would fall well below the “significant emissions” thresholds established under USEPA’s Prevention of Significant Deterioration program (40 CFR Part 51.166[b][23][i]). Emissions below these thresholds would not cause or contribute to a violation of an NAAQS. To further minimize air quality impacts, ASDPW would employ the following measures to limit emissions, fugitive dust, and exhaust: maintaining and covering spoil piles, covering the load of haul vehicles containing fill or cut, and keeping construction equipment properly tuned.

4.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Implementation of Alternative 3 would result in air quality impacts similar to the Proposed Action, as described in Section 4.2.2.

4.3 WATER RESOURCES

Surface water formations in Tutuila are perennial and ephemeral streams. The streams provide habitat for freshwater fish, plants, and invertebrates, and are a source of drinking water in some remote parts of the island. All surface waters on the island discharge directly into marine water bodies. Groundwater is the principal source of domestic and industrial water supply, as it is more abundant and has a higher quality than surface water.

The primary drainage feature in the Village of Matuu is Afuelo Stream. Afuelo Stream is a meandering, ephemeral stream that originates at Matafao Peak and discharges into the South Pacific Ocean. Approximately 1,500 linear feet of the stream flows through Matuu. The flow of Afuelo Stream is often affected by heavy precipitation events, which are common on Tutuila. American Samoa has a tropical climate with an average year-round temperature of 80 degrees Fahrenheit and an average annual rainfall of 200 inches. The heaviest rainfall occurs from December to March, during which time typhoons are common. Rainfall occurs on the island on about half of the days of the year.

4.3.1 Coastal Zone Management

In recognition of the increasing pressures of overdevelopment on the nation's coastal resources, the United States Congress enacted the Coastal Zone Management Act (CZMA) in 1972 and the Coastal Zone Act Reauthorization Amendments in 1990. These laws make federal funds available to preserve, protect, develop, and, where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs as well as the fish and wildlife using those habitats. The CZMA makes federal financial assistance available to any coastal state or territory that is willing to develop and implement a comprehensive coastal management program (U.S. Department of Energy 2006). These acts apply to all actions within a designated coastal zone, and require that any federal agency whose activities directly affect the coastal zone be consistent, to the maximum extent practicable, with approved state or territory coastal zone management programs.

The entire island of Tutuila and the sea within 3 miles of the shoreline are within the coastal zone designated by the American Samoa Coastal Management Program (ASCMP). The ASCMP is part of the American Samoa Government Department of Commerce. American Samoa faces coastal concerns of fishery habitat loss, coastal hazards (such as hurricanes, flooding, and erosion), marine debris, and solid waste. To help mitigate the effects of human activity, the ASCMP oversees all construction and earth-moving activities on the island. The federal consistency provisions of the CZMA require that all federally funded, licensed, or permitted projects affecting the coastal zone of American Samoa be conducted in a manner that is consistent with the federally approved ASCMP.

4.3.1.1 Alternative 1: No Action

Under the No Action Alternative, no new facilities would be built and existing facilities would not be improved. Therefore, this alternative would not impact the coastal zone, except that erosion may continue to occur along the embankments of Afuelo Stream.

4.3.1.2 Alternative 2: Proposed Action

ASDPW would be responsible for coordinating with the ASCMP and obtaining a federal consistency determination from the ASCMP to comply with the CZMA. Impacts to coastal resources would be minimized by the application of the mitigation measures described in Sections 4.1.3.2 and 4.3.3.2 of this EA.

4.3.1.3 Alternative 3: Placement of Riprap at Sites 1 to 5

ASDPW would be responsible for coordinating with the ASCMP, and obtaining a federal consistency determination from the ASCMP in compliance with the CZMA. Impacts to coastal resources would be minimized by the application of mitigation measures described in Sections 4.1.3.2 and 4.3.3.2 of this EA.

4.3.2 Flood Hazards

Although the Afuelo Stream is a drainage channel that is susceptible to flooding, the FEMA National Flood Insurance Program (NFIP) does not recognize the stream and its vicinity as a special flood hazard area. According to the Flood Insurance Rate Map (FIRM) Community Panel Number 600001 0036B, effective date May 2, 1991, the project area is within Zone C, which is defined as an area of moderate or minimal hazard from the principal source of flood in the area. The FIRM notes that buildings in Zone C could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. No flood elevations or flood discharge values are calculated by the NFIP for areas within Zone C.

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, the short- and long-term adverse impacts associated with the occupancy and modification of floodplains. FEMA's regulations for complying with EO 11988 are found at 44 CFR Part 9, Floodplain Management and Protection of Wetlands.

4.3.2.1 Alternative 1: No Action

Under the No Action Alternative, erosion may continue to occur along the embankments of Afuelo Stream during heavy rainfall and flooding. Therefore, the risk of flooding to structures adjacent to the stream may increase.

4.3.2.2 Alternative 2: Proposed Action

The Proposed Action is expected to reduce or eliminate erosion at the bends (Sites 1 to 8) along Afuelo Stream. Reduced erosion would decrease the flood hazard risk to structures adjacent to the stream. Also, the improved culverts would increase the flow efficiency in the channel.

Improved flow within the channel would help to reduce the risk of flooding to structures around the stream.

The Proposed Action would not change the alignment of Afuelo Stream. The Proposed Action would not substantially change the width, depth, capacity, or flow rates within the stream. As the proposed project area is within Zone C on the FIRM, the floodplain management eight-step decision-making process described in 44 CFR Part 9 is not necessary. Thus, the Proposed Action complies with EO 11988.

4.3.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3 is expected to reduce or eliminate erosion at the bends (Sites 1 to 8) along Afuelo Stream. Reduced erosion would decrease the flood hazard risk to structures adjacent to the stream. Also, the improved culverts would increase the flow efficiency in the channel. Improved flow within the channel would help to reduce the risk of flooding to structures around the stream.

Alternative 3 would not change the alignment of Afuelo Stream. However, the addition of riprap would decrease the width of the channel by 10 to 36 inches at Sites 1 to 5. This would decrease the cross section of the stream at these five locations, but is not expected to substantially decrease the capacity of, or flow rates within, the stream in general. As the proposed project area is within Zone C on the FIRM, the floodplain management eight-step decision-making process described in 44 CFR Part 9 is not necessary. Thus, Alternative 3 complies with EO 11988.

4.3.3 Water Quality

The American Samoa Environmental Protection Agency (ASEPA) maintains programs in water quality and drinking water under the American Samoa Office of the Governor. The ASEPA has identified three major water quality concerns on Tutuila: (1) sediment, generated by improper land use practices, that enters streams and coastal waters after heavy rains; (2) nutrient enrichment from human and animal wastes in populated areas; and (3) contamination in Pago Pago Harbor.

In 2004, nutrient enrichment from animal waste caused the Matuu watershed to be placed on the USEPA's official list of impaired waters in the United States (USEPA 2006). Pig urine and feces contaminated Afuelo Stream as well as streams and coastal waters in many watersheds in American Samoa. An elevated risk of leptospirosis prompted American Samoa to take actions such as relocating pigs away from Afuelo Stream and installing waste treatment systems. Such actions helped reduce the levels of *E. coli* (*Escherichia coli*) and nutrients in the stream.

In 1991, the USEPA determined that elevated levels of various heavy metals and pesticides were present in fish, seawater, and sediment in the inner portion of Pago Pago Harbor. Health advisories have been issued warning residents not to eat fish caught in the inner harbor and to always clean and gut fish that are caught in the outer harbor before eating. The outlet of Afuelo Stream is southwest of Pago Pago Harbor.

Coral reefs surrounding Tutuila are also impacted by poor water quality. Natural phenomena such as hurricanes and disease have always taken their toll on reefs, but their effects are exacerbated by human activities in the ocean and on land. Besides destructive fishing practices and coral collecting, impacts come from sediments eroded from agricultural and construction

operations, sewage, and other effluents. Coral reefs exist within one-quarter mile of where Afuelo Stream flows into the South Pacific Ocean.

Potential groundwater contamination is another concern on Tutuila. Groundwater is the principal source of domestic and industrial water supply because it is more abundant and has a higher quality than surface water (CSREES 2004). However, the volcanic soil and bedrock of the island are highly permeable and do not act as good filters. Therefore, the groundwater is easily threatened by surface contaminants.

Afuelo Stream is considered a tributary to navigable waters of the United States. Section 404 of the Clean Water Act requires that project proponents receive a U.S. Department of the Army (DA) permit for work involving the discharge of dredged or fill materials in waters of the United States. The U.S. Army Corps of Engineers (USACE) is responsible for reviewing projects for DA permits. In addition, Section 401 of the Clean Water Act requires that applicants for federal permits or licenses that are conducting work involving any discharge into waters of the United States receive a Water Quality Certification. ASEPA is responsible for reviewing projects for Water Quality Certification.

4.3.3.1 *Alternative 1: No Action*

Under the No Action Alternative, existing water quality conditions would remain unchanged. Erosion may continue to occur along the embankments of the Afuelo Stream, causing sediment to be washed down the stream and into the ocean.

4.3.3.2 *Alternative 2: Proposed Action*

In the long term, implementation of the Proposed Action would improve water quality due to reduced potential for erosion and sedimentation. It is not anticipated that the Proposed Action would result in impacts to groundwater quality.

ASDPW would implement BMPs including preparing and implementing an erosion control plan to reduce potential erosion from construction activities. Other BMPs may include, but are not limited to, using silt fencing, covering stockpiled soils, mulching cleared areas, and revegetating with native species.

ASDPW would be required to apply for and obtain a DA permit from USACE to comply with Section 404 of the Clean Water Act. In a letter dated April 3, 2006, DA wrote to FEMA and ASDPW explaining this permit requirement for the Proposed Action (Appendix A). ASDPW would also be required to apply for and obtain a Water Quality Certification from ASEPA to comply with Section 401 of the Clean Water Act.

4.3.3.3 *Alternative 3: Placement of Riprap at Sites 1 to 5*

In the long term, implementation of Alternative 3 would improve water quality due to reduced potential for erosion and sedimentation. It is not anticipated that Alternative 3 would result in impacts to groundwater quality.

ASDPW would implement BMPs including preparing and implementing an erosion control plan to reduce potential erosion from construction activities. Other BMPs may include, but are not

limited to, using silt fencing, covering stockpiled soils, mulching cleared areas, and revegetating with native species.

ASDPW would be required to apply for and obtain a DA permit from USACE to comply with Section 404 of the Clean Water Act. ASDPW would also be required to apply for and obtain a Water Quality Certification from ASEPA to comply with Section 401 of the Clean Water Act.

4.4 BIOLOGICAL RESOURCES

Biodiversity of terrestrial species in Tutuila is low due to the island's volcanic origin and remote location, but the marine environment surrounding the island is extremely diverse (Craig 2002). The main vegetation type found on Tutuila is tropical rainforest, but many nonnative plants have outcompeted the native plants in disturbed environments (Whistler 1995). A narrow ring around the island contains shallow coastal habitats that support coral reef ecosystems. Within 0.5 to 2 miles from the coast, the ocean floor falls steeply reaching depths of 2,000 feet (Craig 2002).

The project area consists of an urbanized riparian corridor dominated by nonnative species along Afuelo Stream. The riparian corridor along the stream is narrow and substantially disturbed by residential development. Stream edges in Tutuila are typically dominated by *Brachiaria mutica*, *Coix* sp., and *Canna* sp. as well as many other weedy species found in taro patches (Volk 1991). Urbanized or agricultural areas near streams frequently have mango (*Mangifera indicata*), coconut (*Cocos nucifera*), papaya (*Carica papaya*), banana (*Musa paradisiacal*), and fig (*Ficus* spp.). Most of the areas adjacent to Afuelo Stream consist of private homes and landscaped gardens.

4.4.1 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 establishes a federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. Section 7 of the ESA specifically charges federal agencies with the responsibility of using their authority to conserve threatened and endangered species. All federal agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat for these species.

FEMA obtained information concerning species that are listed as endangered or threatened, proposed for listing as endangered or threatened, or candidates for listing as endangered or threatened under the ESA that may occur in the project area. Table 2 identifies four sea turtle species that are federally listed under the ESA. However, the project area does not provide habitat to support any of these federally listed species. No other species protected under the ESA are known or expected to occur in American Samoa.

**Table 2
Protected Species with Potential to Occur in the Vicinity of American Samoa**

Scientific Name	Common Name	Federal Status	Preferred Habitat	Likelihood of Occurrence in Project Area
<i>Caretta caretta</i>	Loggerhead sea turtle	T	Open ocean. Nests in sandy beaches.	No potential because suitable habitat is not present in the project area. No nesting habitat near the outlet of the stream.
<i>Chelonia mydas</i>	Green sea turtle	T	Open ocean. Nests in sandy beaches.	No potential because suitable habitat is not present in the project area. No nesting habitat near the outlet of the stream.
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	Open ocean. Nests in sandy beaches.	No potential because suitable habitat is not present in the project area. No nesting habitat near the outlet of the stream.
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	E	Open ocean. Nests in sandy beaches.	No potential because suitable habitat is not present in the project area. No nesting habitat near the outlet of the stream.

T = threatened, E = endangered

4.4.1.1 Alternative 1: No Action

Under the No Action Alternative, no new impacts would occur to federally listed, threatened, or endangered species. Erosion may continue to occur along the embankments of Afuelo Stream, causing sediment to be washed down the stream and into the ocean. Sediment would have the potential to adversely affect coral reefs, where protected turtles may forage.

4.4.1.2 Alternative 2: Proposed Action

The Proposed Action would not adversely affect any federally listed species because habitat suitable to support the species identified in Table 2 is not present in the project area. Implementation of mitigation measures, as described in Sections 4.1.3.2 and 4.3.3.2 of this EA, would limit temporary impacts to the marine environment downstream of the project area where protected turtles have the potential to occur. In the long term, the Proposed Action is expected to benefit the marine waters and coral reefs used by protected turtles by reducing deposition of sediment that may come from erosion at Sites 1 to 8 along Afuelo Stream.

In a letter dated May 9, 2006, the U.S. Department of the Interior’s Fish and Wildlife Service (USFWS) concurred with FEMA’s determination that the proposed project is not likely to adversely affect any federally listed species under the ESA (Appendix A). Thus, the Proposed Action complies with Section 7 of the ESA.

4.4.1.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3 would not adversely affect any federally listed species because habitat suitable to support the species identified in Table 2 is not present in the project area. Implementation of mitigation measures, as described in Sections 4.1.3.2 and 4.3.3.2 of this EA, would limit temporary impacts to the marine environment downstream of the project area where protected turtles have the potential to occur. In the long term, Alternative 3 is expected to benefit marine waters and coral reefs used by protected turtles by reducing deposition of sediment that may come from erosion at Sites 1 to 8 along Afuelo Stream. Alternative 3 is expected to comply with Section 7 of the ESA. However, FEMA would consult with USFWS before initiation of Alternative 3 if ASDPW were to select this alternative.

4.4.2 Executive Order 13112: Invasive Species

EO 13112 was created in 1999 to prevent the introduction of invasive species and to provide for their control. Under this order, the federal government may not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to the guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Subject to the availability of appropriations and within administration budgetary limits, federal agencies must use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to, and control, populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; and (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded.

As described in Section 4.4, many invasive (non-native) vegetative species currently occur in the project area.

4.4.2.1 Alternative 1: No Action

Under the No Action Alternative, no impacts would occur to invasive species.

4.4.2.2 Alternative 2: Proposed Action

Under the Proposed Action, some vegetation would be cleared from the construction area. The cleared vegetation would consist of invasive and native species. On completion of the Proposed Action, the cleared areas would be revegetated with native species, thus decreasing the amount of invasive species in the project area. ASDPW would ensure that any imported fill or other construction materials would be certified as being free of invasive species.

4.4.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, some vegetation would be cleared from the construction area. The cleared vegetation would consist of invasive and native species. On completion of Alternative 3, the cleared areas would be revegetated with native species, thus decreasing the amount of invasive

species in the project area. ASDPW would ensure that any imported fill or other construction materials would be certified as being free of invasive species

4.4.3 Executive Order 11990: Protection of Wetlands

EO 11990 requires federal agencies to take action to minimize the destruction or modification of wetlands by considering both direct and indirect impacts to wetlands that may result from federally funded actions. FEMA's regulations for complying with EO 11990 are found at 44 CFR Part 9, Floodplain Management and Protection of Wetlands.

American Samoa has both saltwater and freshwater swamps and marshes, cultivated and ruderal wetlands, and perennial streams. Much of the most important wetlands are the mangrove swamps and coastal freshwater marshes (UNEP 2004). However, according to the American Samoa Geographic Information System Users Group (2005), wetlands are not mapped within the village of Matuu. Also, no wetlands were observed in or near the project area during site reconnaissance on January 18, 2006.

4.4.3.1 Alternative 1: No Action

Under the No Action Alternative, no impacts to wetlands would occur, as no wetlands are present within the project area.

4.4.3.2 Alternative 2: Proposed Action

Under the Proposed Action, no direct or indirect impacts would occur to wetlands as no wetlands are present in or around the project area. Therefore, the eight-step decision-making process described in 44 CFR Part 9 is not necessary.

4.4.3.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, no direct or indirect impacts would occur to wetlands, as no wetlands are present in or around the project area. Therefore, the eight-step decision-making process described in 44 CFR Part 9 is not necessary.

4.4.4 Executive Order 13089: Coral Reef Protection

EO 13089 requires federal agencies to ensure that actions they authorize, fund, or implement will not degrade the conditions of coral reef ecosystems. As mentioned in Section 4.3 and previously in Section 4.4, much of Tutuila, including the offshore area near the confluence of Afuelo Stream and the South Pacific Ocean, is surrounded by a fringing coral reef. Also, coral has historically been used as fill and as aggregate in concrete or asphalt mixes.

4.4.4.1 Alternative 1: No Action

Under the No Action Alternative, no new impacts would occur to coral reefs around the island. Erosion may continue to occur along the embankments of Afuelo Stream, causing sediment to be washed down the stream and into the ocean. Sediment would have the potential to adversely affect coral reefs.

4.4.4.2 Alternative 2: Proposed Action

The Proposed Action has the potential to cause short-term, adverse impacts to coral reefs downstream of the project area. However, the implementation of mitigation measures, as described in Sections 4.1.3.2 and 4.3.3.2 of this EA, would limit the temporary impacts. In the long term, the Proposed Action may benefit coral reefs by reducing the deposition of sediment that may come from erosion at Sites 1 to 8 along Afuelo Stream. Also, ASDPW would ensure that coral is not a component of fill materials or used in the concrete mixture for the Proposed Action. Therefore, the Proposed Action is expected to comply with EO 13089.

4.4.4.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3 has the potential to cause short-term, adverse impacts to coral reefs downstream of the project area. However, the implementation of mitigation measures, as described in Sections 4.1.3.2 and 4.3.3.2, would limit the temporary impacts. In the long term, Alternative 3 may benefit coral reefs by reducing the deposition of sediment that may come from erosion at Sites 1 to 8 along Afuelo Stream. Also, ASDPW would ensure that coral is not a component of fill materials or used in the concrete mixture for the Proposed Action. Therefore, Alternative 3 is expected to comply with EO 13089.

4.5 CULTURAL RESOURCES

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA). Requirements include identifying significant historic properties and districts that may be affected by a federal undertaking and mitigating adverse effects to those resources.

URS, as a consultant to FEMA, conducted a pedestrian archaeological reconnaissance of the project area on January 18, 2006. The survey results were negative for any prehistoric or historic archaeological or built-environment cultural resources. No properties eligible to the National Register of Historic Places were identified through a literature review and pedestrian survey of the project area.

4.5.1 Alternative 1: No Action

Under the No Action Alternative, no impacts would occur to cultural resources, as no cultural resources are expected to occur immediately adjacent to Afuelo Stream in Matuu.

4.5.2 Alternative 2: Proposed Action

Based on the archaeological survey, a letter dated July 12, 2005, from the Deputy American Samoa Historic Preservation Officer (Deputy ASHPO) to the American Samoa Hazard Mitigation Council (Appendix A), and discussions with the Deputy ASHPO, FEMA determined that the Proposed Action would not affect historic properties. In a letter dated February 17, 2006, the ASHPO concurred with FEMA's determination (Appendix A). Therefore, the Proposed Action complies with Section 106 of the NHPA.

However, due to the possibility that previously unidentified archaeological resources could be discovered during project construction, ASDPW would be required to halt work in the event of

an unanticipated discovery and notify FEMA as soon as practicable. FEMA may then require ASDPW to stop construction in the vicinity of the discovery and would require ASDPW to take all reasonable measures to avoid or minimize harm to the property until FEMA concludes consultation with the ASHPO. Should human remains be encountered, ASDPW would be required to halt work in the vicinity and notify the Territorial Coroner.

4.5.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3 would involve disturbance and construction within the same footprint as the Proposed Action. Therefore, Alternative 3 is also not expected to affect historic properties. Similar to the Proposed Action, ASDPW would be required to halt work in the event of an unanticipated discovery and notify FEMA as soon as practicable. Under Alternative 3, ASDPW would be required to halt work in the vicinity and notify the Territorial Coroner if human remains are encountered. Alternative 3 is expected to comply with Section 106 of the NHPA. However, FEMA would consult with ASHPO before initiation of Alternative 3 if ASDPW were to select this alternative.

4.6 SOCIOECONOMICS AND SAFETY

Under NEPA, potential changes to socioeconomic resources include changes to demographics, housing, employment, the local economy, and public safety.

According to the 2000 Census of American Samoa (U.S. Department of Commerce Census Bureau 2004), the population of the village of Matuu is 385, which is 6.7% of the population of American Samoa (57,291). The Census indicates that 51.7% of the village population is male, and 90.9% is ethnic Samoan (one ethnicity). The median age is 21.5 years, with 60.8% of the village population aged 16 or older, and 45.3% of this age group in the labor force. The major industries for the employed population are educational, health and social services (24.0%), and manufacturing (22.1%). The major occupations are management, professional and related occupations (33.7%) and sales and office occupations (26.9%).

There are 71 housing units in the village and the average household size is 5.5 people. The median household income is \$18,125 and the median home cost is \$50,000. Between 1995 and 2000, five homes were built. Over half the homes in the village (37 or 52.1%) were built between 1980 and 1994. Sixty-four (90.1%) of the housing units are detached, one-unit structures. Twenty-two (31.4%) of the households have no vehicles.

4.6.1 Environmental Justice

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed on February 11, 1994. The EO directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high adverse human health, environmental, economic, and social effects of its programs, policies, and activities on minority and low-income populations. The majority of the village of Matuu identifies itself as ethnic Samoan. Therefore, Matuu can be considered a minority community for the purposes of this EO.

4.6.1.1 Alternative 1: No Action

Under the No Action Alternative, erosion may continue to occur along the embankments of the Afuelo Stream, potentially increasing the flood hazard risk to structures adjacent to the stream. However, the No Action Alternative does not involve the implementation of a federal program, policy, or activity. Therefore, EO 12898 does not apply.

4.6.1.2 Alternative 2: Proposed Action

Matuu may be considered a minority community for the purposes of EO 12898. Under the Proposed Action, the community would benefit from increased protection of homes and property from flooding due to the encroachment of Afuelo Stream. The Proposed Action would reduce the risk of the adverse health, environmental, economic, and social effects that are likely to occur during and after flooding of the homes. Therefore, the federally funded action would not cause disproportionately high adverse human health, environmental, economic, or social effects on minority populations and would comply with EO 12898.

4.6.1.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, the community would benefit from increased protection of homes and property from flooding due to the encroachment of Afuelo Stream. Alternative 3 would reduce the risk of the adverse health, environmental, economic, and social effects that are likely to occur during and after flooding of the homes. Therefore, the federally funded action would not cause disproportionately high adverse human health, environmental, economic, or social effects on minority populations and would comply with EO 12898.

4.6.2 Public Safety

During intense storm events, Afuelo Stream is likely to flood, erode its embankments at the bends, and deposit silt, vegetative debris, and boulders in the streambed. In extreme cases, the stream would overflow. The overflow of the stream is a public safety hazard as it could bring contaminated water into homes and expose residents to dangers such as hazardous waste, pathogens, and mould.

Secondary roads crisscross through Matuu and connect residents in the village to the main road that traverses the island, Highway 1. The secondary roads cross Afuelo Stream at three locations in the village. Emergency vehicles use these secondary roads to access the village from Highway 1.

4.6.2.1 Alternative 1: No Action

Under the No Action Alternative, erosion may continue to occur along the embankments of Afuelo Stream. This continued erosion would increase the risk that the people who live adjacent to the stream would be exposed to contaminated floodwater in their homes. Contaminated water in homes would expose residents to dangers such as hazardous waste, pathogens, and mould. Under the No Action Alternative, accessibility to and from the village would not change.

4.6.2.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would stabilize portions of the embankment and reduce the risk of flood damage due to the encroachment of Afuelo Stream onto the properties adjacent to the stream. The Proposed Action would have a positive impact on public safety. During construction, access restrictions may be needed at the bridges over the stream in the project area. However, neither construction nor staging would occur directly on the bridges, and the roads would be accessible in cases of emergency.

4.6.2.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Implementation of Alternative 3 would stabilize portions of the embankment and reduce the risk of flood damage due to the encroachment of Afuelo Stream onto the properties adjacent to the stream. Alternative 3 would have a positive impact on public safety. During construction, access restrictions may be needed at the bridges over the stream in the project area. However, neither construction nor staging would occur directly on the bridges, and the roads would be accessible in cases of emergency.

4.7 LAND USE AND PLANNING

Under NEPA, this resource category involves the evaluation of land uses and land ownership in the area where the action would take place. Impacts can occur if the proposed action changes real or designated use areas or causes imbalanced land use.

The village of Matuu is urbanized, with primarily residential land use. Over 96 percent of the land in American Samoa is owned in a traditional communal manner, where the village chief (*matai*) regulates the occupancy and use of land within his/her village.

In American Samoa, all projects are required to be submitted to the American Samoa Department of Commerce (ASDOC) for review under the Project Notification and Review System (PNRS). As part of its review, ASDOC would ensure that all government land use laws and regulations are met.

4.7.1 Alternative 1: No Action

Because no new facilities would be built and no existing facilities would be modified, the No Action Alternative would not affect land use.

4.7.2 Alternative 2: Proposed Action

The Proposed Action, which includes excavation, construction, and staging, would occur on land held by the village of Matuu. ASDPW would request and obtain permission from the chief of the village of Matuu to complete the Proposed Action. Verbal permission, instead of paper documentation with signatures, is the proper protocol for land use authorization in Samoan culture. No changes in land ownership would occur, and no formal easements or land transfers would be necessary. Implementation of the Proposed Action would not modify existing land use in or around the project area. ASDPW would be responsible for applying for and obtaining PNRS approval for the Proposed Action.

4.7.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3, which includes excavation, construction, and staging, would occur on land held by the village of Matuu. ASDPW would request and obtain permission from the chief of the village of Matuu to complete Alternative 3. Verbal permission, instead of paper documentation with signatures, is the proper protocol for land use authorization in Samoan culture. No changes in land ownership would occur, and no formal easements or land transfers would be necessary. Implementation of Alternative 3 would not modify existing land use in or around the project area. ASDPW would be responsible for applying for and obtaining PNRS approval for Alternative 3.

4.8 TRANSPORTATION

Highway 1 is the main arterial road that connects the east and west sides of the island. Secondary roads crisscross through Matuu and connect residents in the village to the main road that traverses the island, Highway 1. The secondary roads cross Afuelo Stream at three locations in the village. Emergency vehicles use these secondary roads to access the village from Highway 1.

4.8.1 Alternative 1: No Action

Under the No Action Alternative, no impacts would occur to Highway 1 or the secondary roads through the village of Matuu, except in cases where severe flooding would have the potential to disrupt traffic on these roads.

4.8.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would result in temporary, minor impacts to transportation. Construction at the culverts would directly impact the bridges over them. Private residences immediately adjacent to the project area would experience traffic congestion and road blockages, including difficulty parking at their residences during project construction. Some residents would temporarily have to use alternate routes to access their homes and would have to park vehicles at nearby locations during parts of project construction.

To minimize adverse impacts to traffic and circulation, ASDPW would be required to implement the following mitigation measures:

- ASDPW would stage construction equipment and vehicles so as to minimize hindrances to traffic flow.
- ASDPW would provide advance written notice of the construction schedule to all residents who would have limited access to their homes during construction. The written notification would identify a local contact person.
- ASDPW would review traffic patterns to determine if and when traffic restrictions are required during construction. If necessary, traffic would be temporarily rerouted along adjacent roadways during construction activities.

4.8.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Implementation of Alternative 3 would result in temporary, minor impacts to transportation, as described in Section 4.8.2. ASDPW would be required to implement the same mitigation measures as discussed in Section 4.8.2.

4.9 NOISE

Commonly defined as unwanted and/or unwelcome sound, noise is federally regulated by the Noise Control Act of 1972. Although the Noise Control Act tasks the USEPA to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards. By the nature of its mission, FEMA does not have statutes defining noise.

Some land uses are considered sensitive to noise. Noise-sensitive receptors are located at land uses associated with indoor and outdoor activities that may be subject to stress or significant interference from noise. These land uses often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Several residences are present along Afuelo Stream in the village of Matuu.

The area typically experiences noises associated with a residential village, such as sounds from vehicles, televisions, radios, barking dogs, and human voices.

4.9.1 Alternative 1: No Action

Under the No Action Alternative, noise would remain at current levels.

4.9.2 Alternative 2: Proposed Action

Construction noise is unavoidable and could adversely affect nearby residents. However, the noise would be temporary and limited to the duration of project construction, which would occur at eight different locations over 90 days. The combination of noise-producing equipment that would be in use during any particular period is difficult to predict. However, the noise levels from construction activity during various phases of similar construction projects have been evaluated, and their use yields an acceptable prediction of the project's potential noise impacts. Based on USEPA (1971) data of similar public works projects, average noise levels generated by the Proposed Action are estimated to be 88 decibels A-weighted (dBA) L_{eq} (the energy-averaged noise level) at a distance of 50 feet. Noise levels of this magnitude, although temporary, would be readily audible and would dominate the noise environment in the area during construction operations. Typically, the magnitude of construction noise emission varies over time because construction activity is intermittent and power demands on construction equipment (and the resulting noise output) are cyclical.

Noise levels generated at any point source decrease at a rate of approximately 6 decibels per doubling of distance away from the source (Diehl 1973). Therefore, noise levels would be 82 dBA at 100 feet from the center of construction activity, 76 dBA at 200 feet, and 70 dBA at 400 feet. This calculated reduction in noise level is based only on losses resulting from spreading of the sound wave as it leaves the source and travels outward. Shielding, such as buildings, that block the line of sight would attain an additional 5 dBA or more reduction.

ASDPW would be responsible for implementing the following measures to reduce noise levels and their effects to the extent practicable:

1. Construction operations would not occur between 5:00 p.m. and 7:00 a.m. Monday through Friday. Construction operations would not take place on Saturday, Sunday, or holidays. Construction, including noisy maintenance activities and transportation of materials, would be restricted to the periods and days listed.
2. All noise-producing project equipment and vehicles using internal combustion engines (including haul trucks) would be fitted with mufflers, air-inlet silencers, where appropriate, and any other appropriate shrouds, shields, or other noise-reducing features. These devices would be maintained in good operating condition so as to meet or exceed original factory specifications. Mobile or fixed “package” equipment (e.g., arc welders or air compressors) would be equipped with the shrouds and noise control features that are readily available for that type of equipment.
3. All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state/territorial, or federal agency would comply with such regulation while used in the course of project activity.
4. At least 20 days before the commencement of construction, ASDPW would provide written notification to property owners and residents within 500 feet of the project area and to the Matuu Village Chief. A notice would also be posted at the construction site. The notice would provide a construction schedule, required noise conditions applied to the project, and the name and telephone number of the project manager who can address questions and problems that may arise during construction.
5. The use of noise-producing signals, including horns, whistles, alarms, and bells, would be for safety warning purposes only.
6. All project workers exposed to noise levels above 80 dBA would be provided with personal protective equipment for hearing protection (i.e., earplugs and/or earmuffs). Areas where noise levels are routinely expected to exceed 80 dBA would be clearly posted with signs stating “Hearing Protection Required in this Area.”

4.9.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Under Alternative 3, the construction noise would be the same as the Proposed Action for Sites 6 to 8, as discussed in Section 4.9.2. ASDPW would be responsible for implementing the same measures to reduce noise levels and their effects to the extent practicable.

The construction noise at Sites 1 to 5 would be somewhat less, as there would be no excavation or use of the 20-ton excavator at these sites. However, the loader and dump truck would be used to move and place riprap.

4.10 VISUAL RESOURCES

Afuelo Stream is a natural stream that averages approximately 15 feet wide and 5 feet deep in the village of Matuu. The streambed is mostly lined with rocks and soil. Riparian vegetation, as described in Section 4.4, grows along the banks of the stream, except in small portions where grouted riprap or an aging concrete wall replaces the vegetation. Residential structures are

located immediately adjacent to the stream where the grouted riprap or aging concrete walls are present. In other portions, residential structures are located approximately 10 to 20 feet from the stream. The level of development increases downstream, near to Highway 1.

The existing visual character of the stream is typical within the region, and no areas of scenic importance exist. Viewers of the project area consist primarily of the residents of the village.

4.10.1 Alternative 1: No Action

Under the No Action Alternative, no impacts would occur to existing visual resources.

4.10.2 Alternative 2: Proposed Action

The Proposed Action would have a temporary effect on the character of the setting. During construction, existing vegetation, rock, and debris would be removed from the channel and the immediately surrounding areas, and construction activities would be visible from nearby residences and roads.

The visual character of the setting would not permanently change because the modifications to the channel would not substantially degrade or alter the existing visual character or quality of the site surroundings. Implementation of the Proposed Action would not substantially damage scenic resources, including but not limited to vegetation and Afuelo Stream. Removed native and nonnative vegetation would be replaced by native vegetation. Areas of fill and the newly constructed channel would remain at or near the pre-existing elevation of the natural channel and would not obstruct views from nearby residences and roads.

ASDPW would be responsible for implementing mitigation measures, including revegetating and contouring finished surfaces to blend with adjacent natural terrain to achieve a natural appearance when the project is complete.

4.10.3 Alternative 3: Placement of Riprap at Sites 1 to 5

Alternative 3 would have a temporary effect on the character of the setting. During construction, existing vegetation, rock, and debris would be removed from the channel and immediately the surrounding areas, and construction activities would be visible from nearby residences and roads.

The visual character of the setting would not permanently change because modifications to the channel would not substantially degrade or alter the existing visual character or quality of the site surroundings. Implementation of Alternative 3 would not substantially damage scenic resources, including but not limited to vegetation and Afuelo Stream. Removed native and nonnative vegetation would be replaced by native vegetation. Areas of fill and the newly constructed channel would remain at or near the pre-existing elevation of the natural channel and would not obstruct views from nearby residences and roads.

ASDPW would be responsible for implementing mitigation measures, including revegetating and contouring finished surfaces to blend with adjacent natural terrain to achieve a natural appearance when the project is complete.

4.11 CUMULATIVE IMPACTS

CEQ defines a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions...” (40 CFR Part 1508.7). Although FEMA is not aware of planned residential or commercial developments in the vicinity of the project area in the near future, the construction of floodwalls may encourage villagers to build closer to the stream. Therefore, ASDOC and the village of Matuu would have to be vigilant in enforcing the requirement that a 50-foot buffer be left between new construction and an existing water channel.

FEMA is the lead federal agency for conducting the NEPA compliance process for the HMGP project. It is the responsibility of the lead agency to expedite the preparation and review of NEPA documents in a way that is responsive to the needs of Matuu and American Samoa residents while meeting the spirit and intent of NEPA and complying with all NEPA provisions.

FEMA, with the assistance of ASDRO, conducted an informal scoping program at the beginning of the NEPA review process. ASDRO and FEMA met with representatives of the following agencies and organizations to gather their input on this HMGP project: ASDOC Planning Division, ASCMP, ASEPA, ASHPO, and the American Samoa Department of Marine and Wildlife Resources. FEMA also consulted via telephone and written correspondence with USACE and USFWS.

ASDRO and FEMA circulated the Draft EA for a 2-week public comment period. The public was notified of the Draft EA availability via the FEMA web site, direct mailings to known interested parties, and publication of a public notice in the *Samoa Post* on June 29, 2006. During the public comment period, FEMA accepted written comments on the Draft EA addressed to: FEMA Region IX Environmental Officer, 1111 Broadway, Suite 1200, Oakland, California 94607. FEMA received no comments on the Draft EA.

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7.1 FEDERAL EMERGENCY MANAGEMENT AGENCY

- Alessandro Amaglio, Region IX Environmental Officer

7.2 URS CORPORATION

- Morgan Griffin, Senior Project Manager
- Désirée Joseph, Environmental Planner
- Suzanne Loadholt, Soils Scientist
- Lorena Solórzano-Vincent, Senior Biologist
- Bryon Bass, PhD, Senior Archaeologist
- Kenneth Hopper, Geographic Information System (GIS) Specialist

Appendix A
Interagency Consultations



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

April 3, 2006

Regulatory Branch

File No. **POH-2006-133**

Alessandro Amaglio
Environmental Officer
Federal Emergency Management Agency
U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Dear Mr. Amaglio:

This responds to our receipt of a copy of your letter to Mr. Gordon Smith of the U.S. Fish and Wildlife Service, on behalf of the American Samoa Department of Public Works, concerning proposed construction of a flood control project at Afuelo Stream, Matu'u, Tutuila, American Samoa. We have reviewed the preliminary project information included in your letter with respect to the Corps' authority to issue Department of the Army (DA) permits pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

The proposed project would include construction of approximately 1,040 linear feet of reinforced concrete floodwalls and 540 linear feet of gabion baskets within Afuelo Stream. Afuelo Stream is considered to be tributary to navigable waters of the U.S. and thus subject to the regulatory authority of the Corps of Engineers.

Based on the project information you provided, I have tentatively determined that the proposed activity would involve the discharge of dredged or fill material into waters of the United States and that a DA permit will therefore be required. The applicant should contact Mr. Peter Galloway of my staff (contact information provided below) concerning DA permit requirements. A copy of this letter is being sent to the ASG Department of Public Works.

Should you have questions concerning this determination, please contact Mr. Peter Galloway via e-mail (peter.c.galloway@usace.army.mil); by telephone at (808) 438-8416; or by fax at (808) 438-4060). Written inquiries should cite the file number above and be sent to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440.

Sincerely,

A handwritten signature in black ink, appearing to read "George P. Young".

George P. Young, P.E.
Chief, Regulatory Branch



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
1-2-2006-I-209

MAY 09 2006

Alessandro Amaglio
U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, California 94607-4052

Dear Mr. Amaglio:

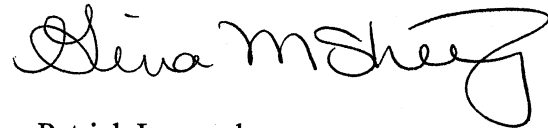
Thank you for your letter dated March 15, 2006, requesting our concurrence with your determination that the construction of approximately 1,040 linear feet of reinforced concrete floodwalls with footings and approximately 540 linear feet of gabion baskets within Afuelo Stream in Matuu is not likely to adversely affect any federally listed species under the Endangered Species Act of 1973, as amended (ESA). The proposal is to erect eight discrete sections of wall and place baskets along the stream, near the bends. The lengths of the wall sections will be between 50 and 460 linear feet, they will be approximately eight feet high, and 10 inches thick. The gabion baskets will be approximately 15 feet wide and one foot thick. We received your letter on March 17, 2006.

Based on our review of the information contained in your letter and in our files, including data compiled by the Hawaii Biodiversity and Mapping Program, the endangered leatherback sea turtle (*Dermochelys coriacea*), endangered hawksbill sea turtle (*Eretmochelys imbricate*), threatened loggerhead sea turtle (*Caretta caretta*), and the threatened green sea turtle (*Chelonia mydas*), may occur within the project area. We agree that there is no nesting habitat near the outlet of the stream and, although proposed project may cause minimal temporary disturbance to foraging opportunities for sea turtles due to erosion and sedimentation from Alfuelo Stream, this potential effect would only last during construction activities. In addition, the project would apply Best Management Practices such as installing silt fences, to minimize any impacts. Because there is no turtle nesting habitat near the outlet of the stream and the project may only cause minimal temporary disturbance to foraging opportunities, we concur with your determination that the proposed project is not likely to adversely affect any federally listed species under the ESA.

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IN AMERICA 

We appreciate the opportunity to provide comments on the proposed project. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Elizabeth Sharpe or Marilet A. Zablan, Program Leader for Endangered Species Recovery, by telephone at (808) 792-9400.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Leonard". The signature is fluid and cursive, with a large, stylized initial "P" and "L".

Patrick Leonard
Field Supervisor



Executive Offices of the Governor
American Samoa Historic Preservation Office
American Samoa
Pago Pago, American Samoa 96799

Hon. Togiola T.A. Tulafono
Governor

Aitofele T.F. Sunia
Lt. Governor


John Enright
Historic Preservation Officer

Phone: (684) 633-2384
Fax: (684) 633-2367

12 July 2005

SERIAL:
119-05HP

TO: Aitofele F. T. Sunia, Lt. Governor / GAR
American Samoa Hazard Mitigation Council

FROM: David J. Herdrich
Deputy Historic Preservation Officer 

RE: Hazard Mitigation Grant Program - FEMA-1506-DR-AS
Application for Hardening of the Afuelo (Matuu) Stream:

This office has conducted a site visit and reviewed the plans and maps for the above cited project. We do not anticipate that the projects will have any effect upon historic properties.

Cc: Kenneth Brown, FEMA Hawaii Office
Jack Kachmarik, ASDRO
Evelyn Stevens, TEMCO
Taeaoitui P. Tilei, DPW
Bonita Tovey, ASDRO
Isaac Untalan, FEMA Guam
Michael San Agustin, FEMA Guam



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Lt. Governor

John Enright
Historic Preservation Officer

Phone: (684) 633-2384
Fax: (684) 633-2367

SERIAL:

036-06

17 February 2006

Alessandro Amaglio, AIA
Environmental Officer
Federal Emergency Management Agency
U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Re: FEMA-1473-DR-As; FEMA-1506-DR-AS; HMGP-1473-1;
HMGP-1506-2. 13, -4, -6, and -7

Dear Mr. Amaglio:

I am in receipt of your letter of February 6 concerning your findings of no effect to historic properties for the above mentioned American Samoa Disaster Relief Office projects.

I concur with your determination of no historic properties effected. Thank you for your time and assistance. This information is being provided to assist FEMA with its Section 106 responsibilities specified in 36 CFR 800.

Sincerely,

A handwritten signature in black ink, appearing to read "John Enright".

John Enright
Historic Preservation Officer

Cc: J. Kachmarik, American Samoa Hazard Mitigation Officer



FEMA

February 6, 2006

Mr. John Enright
Historic Preservation Officer
Executive Offices of the Governor
American Samoa Historic Preservation Office
Pago Pago, AS 96799

Re: Projects with No Effect to Historic Properties
Various Grantees: American Samoa Disaster Relief Office (ASDRO)
FEMA-1473-DR-AS and FEMA-1506-DR-AS; HMGP 1473-1 and 1506-2, -3, -4, -6, and -7

Dear Mr. Enright:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is reviewing various undertakings as required under Section 106 of the National Historic Preservation Act (NHPA) and the implementing regulations at Title 36 of the Code of Federal Regulations (36 CFR) Part 800. Each of the proposed undertakings described below was briefly reviewed at a recent meeting with Mr. David Herdrich, Deputy American Samoa Historic Preservation Officer and Territorial Archaeologist; Mr. David Addison, Archaeologist for American Samoa Power Authority (ASPA); and Dr. Bryon Bass, Senior Archaeologist for URS Corporation (FEMA's archaeological consultant). The meeting was held on January 19, 2006 at the American Samoa Historic Preservation Office. The American Samoa Disaster Relief Office (ASDRO) has applied to FEMA for funding of these undertakings under FEMA's Hazard Mitigation Grant Program (HMGP).

The following discussion provides a brief project description and the area of potential effects (APE) for each project:

HMGP 1473-1: ASPA Underground Power Lines from Power Plant to Airport

ASPA proposes to install underground power lines, vaults, pad mount switches, pad mount transformers, and service connections from Tafuna Power Plant to the Airport and other critical facilities along the way, with a side extension to the School Lunch Warehouse. This project would involve excavating a trench approximately 2 feet wide by 4 feet deep by 7000 feet long. The APE is the proposed trench location from the School Lunch Program Warehouse in Tafuna, along Tafeta Road to the Procurement Warehouse; and from the existing American Samoa Telecommunications Authority (ASTCA) underground vault to the Scrap Metal Yard, along the right-of-way of Airport Road, along the east side of the airport fence to the airport cargo area.

HMGP 1506-2: ASTCA Underground Communication Lines from Route 1 to LBJ Tropical Medical Center

ASTCA proposes to install two 4-inch and one 3-inch PVC underground conduits and 4 vaults at the beginning of an existing ASTCA underground vault next to the Faga'alu Bridge. This project would involve excavating a trench approximately 2 feet wide by 4 feet deep by 2500 feet long from the existing ASTCA underground vault next to the Faga'alu bridge. The trench, to be located approximately 25 feet parallel to the stream, will follow the stream up-gradient, and terminate in the vicinity of the LBJ Tropical Medical Center. The APE is limited to the proposed trench.

HMGP 1506-3: ASTCA Underground Communication Lines from Power Plant to Airport

This project is a joint venture between ASPA and ASTCA. ASTCA proposes to install copper and fiber optic cable underground. This project would use approximately 5000 feet of the trench proposed for HMGP 1473-1.

HMGP 1506-4: Territorial Emergency Management Coordinating Office (TEMCO) Modification of Fagatogo Storm Water Channel

TEMCO proposes to modify existing storm-water drainage channels in the village of Fagatogo. The project would involve excavation and formation of concrete walls and floors within three drainage channels: Stream 1 or Lealao'o Stream (approximately 900 linear feet), Stream 2 that outlets at Metro Store (approximately 750 linear feet) and Stream 3 that outlets at ANZ Bank (approximately 560 linear feet). Therefore, the APE extends approximately 2210 linear feet within the stream system.

HMGP 1506-6: Department of Public Works (DPW) Matu'u Stream Flood Mitigation

This project involves the installation of flood walls and gabion baskets at eight locations within the Afuelo stream in the village of Matu'u. The structures are proposed for locations where the stream course bends and erosion has occurred. The APE will total approximately 1050 linear feet at non-contiguous locations within the stream.

HMGP 1506-7: ASPA Underground Power Lines from Route 1 to LBJ Hospital

This project APE is the same as HMGP 1506-2.

The following transmittals, summarized below, occurred between your office and the Honorable Aitolfele F.T. Sunia regarding the projects described above:

HMGP 1473-1: ASPA Underground Power Lines from Power Plant to Airport

FEMA does not have record of any correspondence from your office on file for this project. However, a brief clearance letter dated July 6, 2005, from you to Lt. Governor Sunia addressed HMGP 1506-3. As projects 1506-3 and 1473-1 are joint ventures between ASPA and ASTCA to convert overhead lines to underground in the vicinity of the Power Plant to the Airport, the APE for the two projects are almost the same. The APE for HMGP 1473-1 comprises the same APE for HMGP 1506-3 plus an additional 2000 feet. Your letter indicated that after review of project plans and maps for HMGP 1506-3, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

HMGP 1506-2: ASTCA Underground Communication Lines from Route 1 to LBJ Hospital

A brief clearance letter dated July 6, 2005, was sent from you to Lt. Governor Sunia. This letter indicated that after review of project plans and maps, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

HMGP 1506-3: ASTCA Underground Communication Lines from Power Plant to Airport

A brief clearance letter dated July 6, 2005, was sent from you to Lt. Governor Sunia. This letter indicated that after review of project plans and maps, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

HMGP 1506-4: Modification of Fagatogo Storm Water Channel

A brief clearance letter dated June 14, 2005, was sent from you to Lt. Governor Sunia. This letter indicated that after review of the project and a field visit by a member of your office to the proposed project location, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

HMGP 1506-6: DPW Matu'u Stream Flood Mitigation

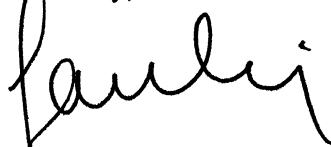
A brief clearance letter dated July 12, 2005, was sent from Mr. Herdich to Lt. Governor Sunia. This letter indicated that after review of the project and a field visit by a member of your office to the proposed project location, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

HMGP 1506-7: ASPA Underground Power Lines from Route 1 to LBJ Hospital

A brief clearance letter dated July 11, 2005, was sent from you to Lt. Governor Sunia. This letter indicated that after review of project plans and maps, your office determined the project is not expected to adversely affect known and/or previously documented historic properties.

Although the communications described above do not fully comprise standard Section 106 consultations for the associated undertakings, FEMA assumes that these clearance letters and your determinations will suffice as your concurrence with FEMA's determination that no historic properties would be affected by any of the undertakings described above, in compliance with Section 106 of the NHPA. If you disagree with FEMA's interpretation of your June and July 2005 letters, please notify me at the earliest opportunity. Should you have any questions or comments, please do not hesitate to contact me at 510-627-7284 or Dr. Bass at 805-455-2418.

Sincerely,



Alessandro Amaglio, AIA
Environmental Officer

Cc:

Jack Kachmarik, American Samoa Hazard Mitigation Officer