Draft Environmental Assessment

Le'Atele Elementary School Buildings Replacement

Fagasa, American Samoa

Territorial Office of Fiscal Reform
American Samoa Department of Education

May 2013

FEMA

THIS DOCUMENT WAS PREPARED FOR

FEMA

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COVER PHOTO: PROJECT SITE ACROSS FAGASA BAY

DRAFT ENVIRONMENTAL ASSESSMENT

LE'ATELE ELEMENTARY SCHOOL BUILDINGS REPLACEMENT

FAGASA, AMERICAN SAMOA

TERRITORIAL OFFICE OF FISCAL REFORM

AMERICAN SAMOA DEPARTMENT OF EDUCATION

FEMA-1859-DR-AS, PW 193

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Table of Contents

Acronyms and Abbreviations v
Executive Summary vii
1.0 Introduction 1
2.0 Purpose and Need for Proposed Action 5
2.1 Purpose 5
2.2 Need 5
3.0 Alternatives Analysis 7
3.1 Alternative Not Carried Forward 7
3.2 Alternative 1: No Action 9
3.3 Alternative 2: Proposed Action 9
4.0 Affected Environment, Impacts, and Mitigation 13
4.1 Air Quality and Greenhouse Gas Emissions 13
4.1.1 Alternative 1: No Action 14
4.1.2 Alternative 2: Proposed Action 15
4.2 Water Resources 16
4.2.1 Flood Hazards 17
4.2.2 Water Quality 19
4.3 Coastal Resources 21
4.4 Biological Resources 22
4.4.1 Threatened and Endangered Species 23
4.4.2 Invasive Species 25
4.4.3 Protection of Wetlands 26
4.4.4 Coral Reef Protection 26
4.4.5 Wildlife and Vegetation 27
4.5 Cultural Resources 29
4.5.1 Alternative 1: No Action 29
4.5.2 Alternative 2: Proposed Action 30
4.6 Geology, Soils, and Seismicity 30
4.6.1 Geology and Soils 30
4.6.2 Seismicity 32

4.7 Land Use and Planning 33
4.7.1 Alternative 1: No Action 34
4.7.2 Alternative 2: Proposed Action 34
4.8 Transportation 35
4.8.1 Alternative 1: No Action 35
4.8.2 Alternative 2: Proposed Action 35
4.9 Noise 36
4.9.1 Alternative 1: No Action 36
4.9.2 Alternative 2: Proposed Action 36
4.10 Utilities 37
4.10.1 Alternative 1: No Action 37
4.10.2 Alternative 2: Proposed Action 38
4.11 Socioeconomics/Environmental Justice and Public Safety 38
4.11.1 Alternative 1: No Action 39
4.11.2 Alternative 2: Proposed Action 39
4.12 Visual Resources 40
4.12.1 Alternative 1: No Action 40
4.12.2 Alternative 2: Proposed Action 40
4.13 Cumulative Impacts 41
5.0 Public Participation and Agency Coordination 43
6.0 References 45
7.0 List of Preparers 49
7.1 Federal Emergency Management Agency, Region IX 49
7.2 AECOM 49
Appendices 51
Appendix A: Agency Consultation 51
Appendix B: Public Scoping Notices and Agency Distribution List 57
Appendix C: Notice of Availability of Draft Environment Assessment 65
Appendix D: Cultural Resources Inventory Report 67

List of Figures

Figure 1.1: Le'Atele Elementary School Location Map.....2
Figure 3.1: Le'Atele Elementary School Project Site.....8
Figure 3.2: Le'Atele Elementary School Proposed Building 10

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Acronyms and Abbreviations

AMSL	above mean sea level
APE	Area of Potential Effects
ASCMP	American Samoa Coastal Management Program
ASDMWR	American Samoa Department of Marine and Wildlife Resources
ASDOC	American Samoa Department of Commerce
ASDOE	American Samoa Department of Education
ASDPW	American Samoa Department of Public Works
ASEPA	American Samoa Environmental Protection Agency
ASG	American Samoa Government
ASHPO	American Samoa Historic Preservation Office
ASPA	American Samoa Power Authority
BFE	Base Flood Elevation
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
ECE	early childhood education
EO	Executive Order
ESA	Endangered Species Act

FEMA	Federal Emergency Management Agency
FFE	finished floor elevation
FIRM	Flood Insurance Rate Map
GCR	General Conformity Rule
GHG	greenhouse gas
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NRHP	National Register of Historic Places
N_2O	nitrous oxide
O_3	ozone
PA	Public Assistance
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PNRS	Project Notification and Review System
RCRA	Resource Conservation and Recovery Act
SIP	State Implementation Plan
SO_2	sulfur dioxide
TOFR	Territorial Office of Fiscal Reform
U.S.C.	U.S. Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

Executive Summary

Introduction

The American Samoa Department of Education (ASDOE) has applied to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for funds to replace three buildings at the Le'Atele Elementary School in Fagasa Village that were severely damaged by the September 29, 2009, tsunami that caused major devastation in the United States territory of American Samoa. Approval of this funding is a federal action subject to the National Environmental Policy Act (NEPA). FEMA has prepared this Environmental Assessment (EA) in compliance with NEPA.

The Le'Atele Elementary School grounds comprise approximately 2.4 acres adjacent to Fagasa Bay at the western end of the village of Fagasa. The school's previously existing administration building, early childhood education (ECE) building, and kitchen/cafeteria building were damaged beyond repair and have since been demolished because they were deemed a public safety hazard. Temporary structures were erected to accommodate some of the displaced services as an interim solution. The EA examines the potential environmental effects of constructing and operating permanent replacement facilities (the Proposed Action).

Proposed Action

The Proposed Action is to replace the disaster-damaged (and subsequently demolished) administration building, ECE building, and kitchen/cafeteria building with a singular two-story multiuse building constructed to current codes and standards. The new structure would be located on a portion of what is now an approximately 7,000-square-foot level field of turf grass used as an informal play area. The proposed building location would be southwest of and immediately adjacent to the school's existing two-story classroom building.

The proposed location of the replacement building is within FEMA Flood Zone AE, indicating high risk areas with a 1 percent or greater chance of flooding, with a defined base flood elevation (BFE). Because the structure is located in Zone AE, the finished floor elevation (FFE) of the lowest floor must be elevated at or above the BFE per federal and American Samoa floodplain management requirements.

Environmental Analysis and Mitigation

The EA presents an examination of the Proposed Action's environmental effects with respect to the following issue areas: air quality and greenhouse gas emissions; water resources; coastal resources; biological resources; cultural resources; geology, soils, and seismicity; land use and

planning; transportation; noise; utilities; socioeconomics/environmental justice and public safety; and visual resources. The EA identifies several potential adverse effects, but concludes that implementation of best management practices (BMPs) and project-specific mitigation measures would prevent the Proposed Action from resulting in any adverse effects. As discussed in the respective sections of Chapter 4, BMPs or mitigation measures are identified for the following topics: air quality and greenhouse gas emissions; water resources; coastal resources; biological resources; cultural resources; soils; transportation; noise; and public safety. With implementation of BMPs and mitigation measures, the Proposed Action would not result in adverse environmental effects.

1.0 Introduction

On September 29, 2009, a major earthquake occurred beneath the Pacific Ocean in the Tonga Trench, generating a tsunami that caused major devastation in the United States (U.S.) territory of American Samoa (American Samoa), 120 miles to the northeast. A Presidential Disaster (FEMA-1859-DR-AS) was declared, authorizing federal assistance.

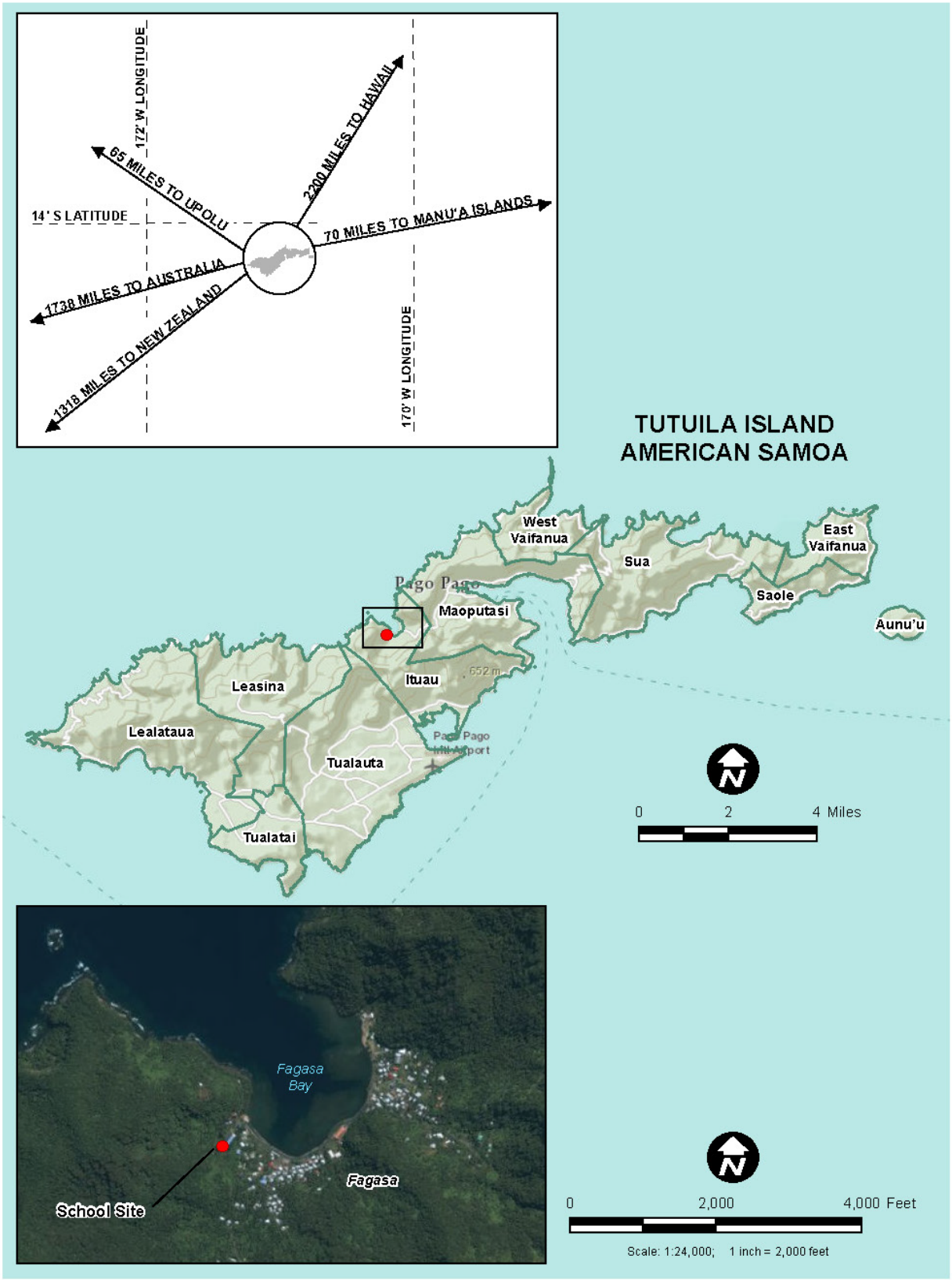
Through the American Samoa Territorial Office of Fiscal Reform (TOFR), the American Samoa Department of Education (ASDOE) has applied to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for funds to replace three buildings severely damaged by the disaster at the Le'Atele Elementary School in Fagasa Village (the Proposed Action). Approval of this funding is a federal action subject to the National Environmental Policy Act (NEPA); thus FEMA has prepared this Environmental Assessment (EA) in compliance with NEPA.

American Samoa is a Pacific Ocean archipelago located approximately 2,600 miles south-southwest of Hawaii and 1,800 miles north-northeast of New Zealand (Figure 1.1). It consists primarily of five volcanic islands and two coral atolls. The Proposed Action is located on Tutuila, by far the largest island of the territory (Image 1). Tutuila is approximately 54 square miles in area and home to approximately 90 percent of the population. American Samoa is an unorganized and unincorporated U.S. territory. As such, American Samoa is partially self-governing and administered by the Office of Insular Affairs, U.S. Department of the Interior. Unlike citizens of other U.S. territories, American Samoans are noncitizen U.S. Nationals.

FEMA proposes to provide federal financial assistance to the American Samoa TOFR pursuant to Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (42 U.S. Code [U.S.C.] § 5172) and Title 44 Code of Federal Regulations (CFR) § 206.

FEMA is the lead agency responsible for the preparation of this EA. This EA has been prepared according to the requirements of NEPA, the Council on Environmental Quality (CEQ) regulations implementing NEPA (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 the Proposed Action and its alternatives. These potential impacts are



Source: American Samoa Department of Commerce Web Portal; FEMA

Figure 1.1
Le'Atele Elementary School Location Map

measured by their context and intensity, as defined in the CEQ regulations. This process includes an opportunity for the public and local, territorial, and federal agencies to provide input and/or submit comments.

Image 1: Le'Atele Elementary School (circled in red) is located on Fagasa Bay at the base of Fuaau Ridge.

Any change to the scope of work for the Proposed Action and its alternatives would require reevaluation for compliance with NEPA, other laws, and Executive Orders (EOs). This EA does not directly address all federal, American Samoa Government (ASG), and local requirements. Acceptance of federal funding requires the recipient (TOFR and ASDOE) to comply with all federal, ASG, and local laws. Failure by TOFR and ASDOE to obtain all appropriate federal, ASG, and local environmental permits and clearances may jeopardize federal funding.

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2.0 Purpose and Need for Proposed Action

2.1 Purpose

The objective of the FEMA Public Assistance (PA) Program is to provide assistance to state, territorial, tribal and local governments, and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President. Through the PA Program, FEMA provides supplemental federal disaster grant assistance for debris removal; emergency protective measures; and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private nonprofit organizations. The PA program also encourages protection of these facilities from future disaster events by providing assistance for hazard mitigation during the recovery process. The purpose of the project is to provide PA funding to the grantee, TOFR, and consequently the sub-grantee, ASDOE.

2.2 Need

The September 29, 2009, earthquake, tsunami, and flooding disaster (FEMA-1859-DR-AS) caused widespread destruction in coastal areas of American Samoa during an incident period lasting until October 6, 2009. Le'Atele Elementary School in Fagasa Village is located adjacent to the shoreline of Fagasa Bay and sustained significant damage (Image 2).

Image 2: View facing southwest shows the sites of the demolished structures in the foreground at left and right.

The approximately 2.4 acre campus increases in elevation from approximately 7 feet to 13 feet above mean sea level (AMSL) as it extends inland to the southwest. Thus, parts of the campus bore the full force of an approximately 12- to 18-foot-high tsunami wave and three school buildings suffered severe structural damage.

The three damaged buildings were located approximately 200 feet from the shoreline. The 880-square-foot administration building constructed in 1966, the 1,120-square-foot early childhood education (ECE) building constructed in 1964, and the 1,502-square-foot kitchen/cafeteria building constructed in 1965 were all damaged beyond repair The disaster event caused walls and doors to break away, floors to be washed out, roofs to collapse, and electrical systems to be destroyed. Due to the extent of the damages and the hazard to public safety, the disaster-damaged buildings were razed and three temporary structures were erected at the center of the campus to house some of the displaced school services (Image 3). Additional school buildings were affected by the tsunami but did not suffer severe damage beyond repair and remain intact.

Image 3: Temporary structures were erected after the disaster to restore partial capacity.

Action is needed to restore the function of the facilities destroyed by the disaster. Restoring the function of these facilities would enable ASDOE to operate Le'Atele Elementary School at full capacity and provide students with administrative, ECE, food preparation, and cafeteria services at pre-disaster levels. Any replacement facilities must be protected from future flood hazards as required by FEMA's regulations and the American Samoa Government (ASG).

3.0 Alternatives Analysis

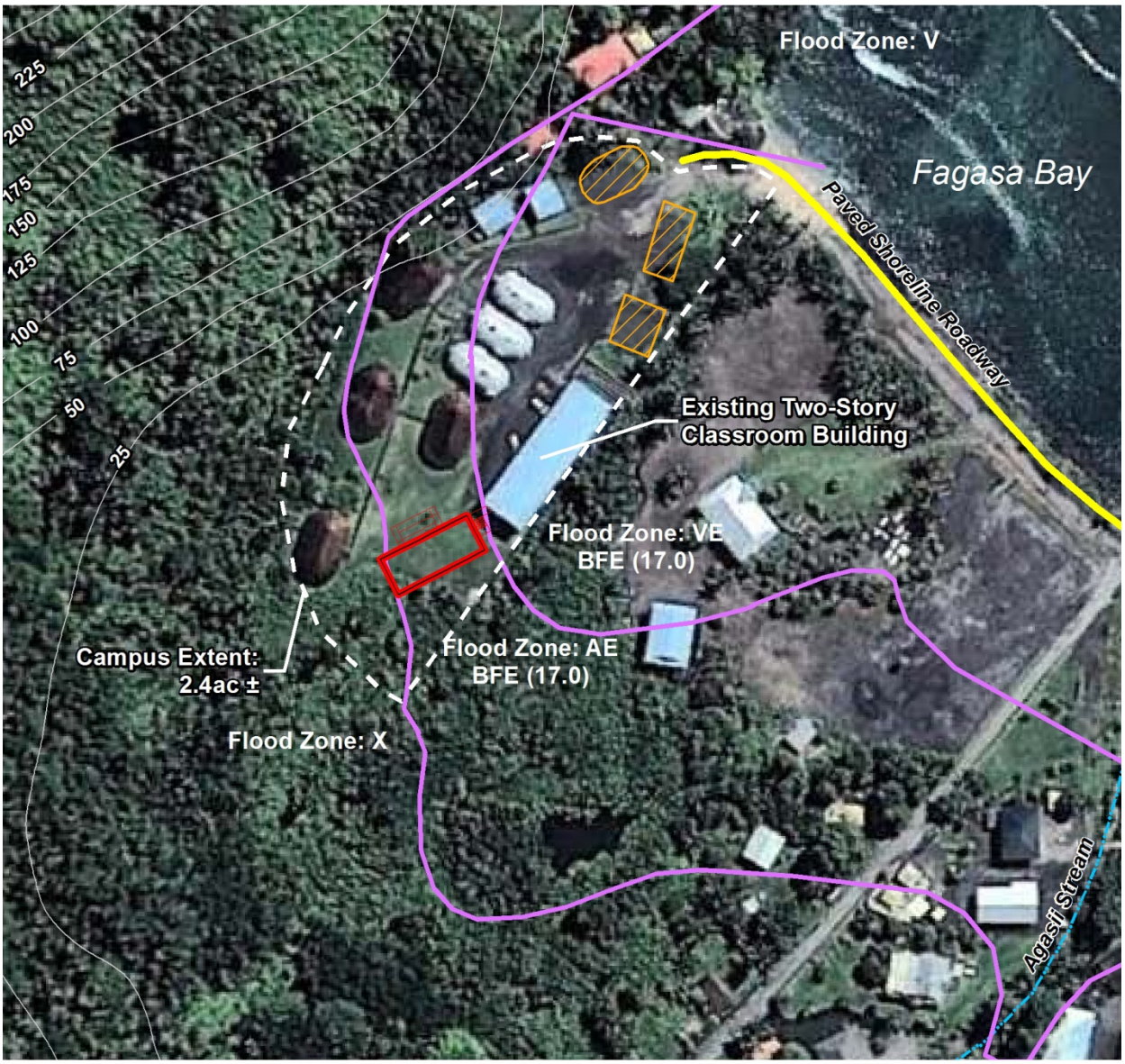
The Le'Atele Elementary School grounds comprise approximately 2.4 acres adjacent to Fagasa Bay at the western end of the village of Fagasa (Figure 3.1). To the west, the grounds abut a drainage ditch running along the base of the steep slope of Fuaau Ridge. This steep slope extends around to the south at the rear of the campus at the base of Taumata Mountain. To the east, the grounds border a low density residential area of informally arranged single-family detached homes. Near the Bay at the north end of the grounds, the previously existing administration building, ECE building, and kitchen/cafeteria building were damaged beyond the scope of repair by the disaster and have since been demolished because they were deemed a hazard to public safety. Temporary structures were erected at the center of the campus to accommodate some of the displaced services.

Three alternatives were initially considered to restore the school facilities to pre-disaster condition and capacity: reconstruct the buildings at the original locations configured within the previous foundation footprints, construct a replacement building(s) at a different location within the school grounds, or take no action to change the current conditions. The alternative of reconstructing the buildings in the original locations was removed from consideration, as discussed below in Section 3.1. Accordingly, the remaining two alternatives carried forward for consideration in this EA are the No Action Alternative (Alternative 1) and the Proposed Action (Alternative 2), as discussed below in Sections 3.2 and 3.3, respectively.

3.1 Alternative Not Carried Forward

An alternative was initially considered that entailed reconstructing the three buildings destroyed by the disaster at the original pre-disaster location within the previous footprints. However, the three buildings were located within FEMA Flood Insurance Rate Map (FIRM) Flood Zone VE (Zone VE). High risk coastal areas with a 1 percent or greater chance of flooding (100-year flood) that are subject to an additional hazard of storm wave action are encompassed by V Zones. Furthermore, in VE Zones the base flood elevation (BFE) derived from in depth analysis is indicated at selected intervals on the FIRM to provide additional detail (FEMA 2006).

FEMA's regulations implementing Executive Order (EO) 11988, Floodplain Management, prohibit the Agency from funding new construction in Zone VE that is not functionally dependent on water or facilitates open space use. The definition of new construction in 44 CFR 9.4



Source: American Samoa Department of Commerce Web Portal; NFIP Flood Insurance Rate Map Number 6000010078C, Panel 78 of 260; American Samoa Department of Education; Google Earth Image Date 4/11/2012; AECOM

LEGEND

- Stream
- Buildings Damaged by Tsunami
- Proposed Two-Story Building
- Flood Zone Boundary
- Paved Shoreline Roadway

0 150 300 Feet

Scale: 1:1,800; 1 inch = 150 feet

Figure 3.1
Le'Atele Elementary School Project Site

includes “the replacement of a structure of facility which has been totally destroyed.” FEMA considers a structure or facility to be “totally destroyed” when its repair costs equal or exceed 90 percent of its replacement costs. Therefore, this alternative was considered infeasible and is not being carried forward in this EA.

3.2 Alternative 1: No Action

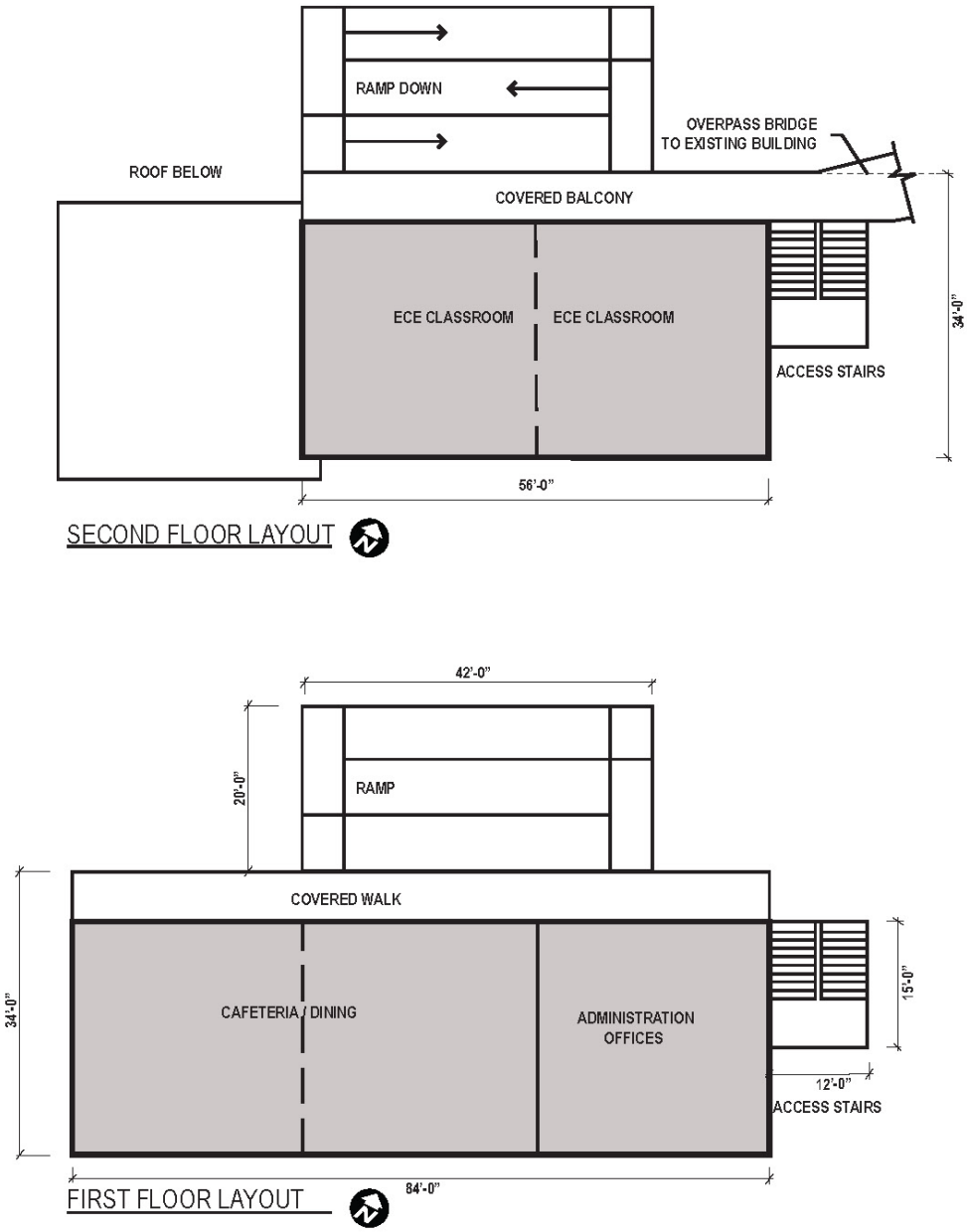
A No Action Alternative is required to be included in the environmental analysis and documentation pursuant to CEQ regulations implementing NEPA. The No Action Alternative maintains the status quo with no project and no federal financial assistance. The No Action Alternative is used to evaluate the effects of not providing assistance for the proposal and provides a benchmark against which other alternatives may be evaluated.

For the purposes of this EA, under the No Action Alternative, it is assumed that the three disaster-damaged (and subsequently demolished) school buildings would not be replaced or rebuilt to pre-disaster functionality and capacity. The functions previously facilitated through the use of the administrative offices, ECE classrooms, and the kitchen/cafeteria facilities would be accommodated within the temporary buildings currently on the campus or these functions would be discontinued. This would reduce the school’s capacity to provide educational services to the children of Fagasa.

3.3 Alternative 2: Proposed Action

The Proposed Action is to replace the disaster-damaged (and subsequently demolished) administration building, ECE building, and kitchen/cafeteria building with a singular two-story multiuse building proposed by ASDOE to be constructed to current codes and standards (FEMA 2009). The new structure would be located on a portion of what is now an approximately 7,000-square-foot level field of turf grass used as an informal play area. The proposed building location would be southwest of and immediately adjacent to the school’s existing two-story classroom building (Figure 3.1).

The proposed building would contain administration offices and a cafeteria/kitchen with dining room totaling approximately 2,352 square feet on the first floor (Figure 3.2). The second floor would contain two ECE classrooms and a restroom totaling approximately 1,568 square feet. A second floor outdoor walkway along the northwest side of the new structure would lead to a similar existing walkway on the second floor of the adjacent existing two-story building. Walkways would provide access between the two buildings at the first floor level as well. An exterior stairway and a handicap-accessible ramp would be constructed to provide access to the second floor of the proposed building (Image 4).



Source: American Samoa Department of Education

Figure 3.2
Le'Atele Elementary School Proposed Building

Image 4: View facing east to the proposed building site adjacent to the existing two-story classroom building. Men in photo are standing at the approximate location of the eastern corners of proposed building.

The proposed location of the replacement building would be within FEMA FIRM Flood Zone AE (Zone AE). Zone AE encompasses high risk areas with a 1 percent or greater chance of flooding (100-year flood) with the BFE indicated at selected intervals on the FIRM (FEMA 2006). Just south of this location the school grounds are within FEMA FIRM Flood Zone X, an area of moderate flood hazard, between the limits of the 100-year and 500-year flood (Figure 3.1).

At the proposed building location within Zone AE, the BFE is 17.0 feet AMSL (FEMA 2006). In Zone AE, the finished bottom of the lowest horizontal member supporting the lowest habitable floor must be at or above the BFE per the floodplain management requirements of 44 CFR 9 as well as ASG EO 004-2006 (Governor of American Samoa, 2006). Concept plans for the proposed building call for the structure to accommodate mitigation of an additional one foot of freeboard above the BFE of 17.0 AMSL. Thus, the finished bottom of the lowest horizontal member supporting the lowest habitable floor of the building would be at an elevation of 18.0 feet AMSL. Assuming a 1-foot vertical dimension between the finished bottom of the horizontal member supporting each floor and the finished floor above as well as a 10-foot ceiling height, the finished floor elevation (FFE) for the first floor would be 19.0 feet AMSL and the second floor FFE would be 30.0 feet AMSL.

The method of elevation proposed for the new building such as open space construction with piers or pilings should allow flood waters to flow freely (FEMA 2005). The existing elevation of the proposed building site must be verified and clearance for all proposed elevations must be

obtained from the appropriate American Samoa Government enforcement agency for floodplain conformance.

The first floor FFE of the existing adjacent building is approximately 12.0 feet AMSL. Due to the required minimum finished floor elevation of the new building, the walkways proposed to provide access between the existing and new buildings would have to accommodate a finished floor elevation difference of several feet; therefore, the design of the new structure would need to take this issue into consideration to resolve the expectation of unimpeded connectivity at both levels between the new and existing buildings.

Furthermore, any new attached structure (or any part thereof) that relies on the structural support of an existing building is considered to be a part of that existing building (FEMA, 2009). Therefore, since the existing two-story classroom building is within Zone VE, in the case that any new attached structure, such as an elevated walkway, would rely on any structural support from the existing building, the entire new structure would be determined within Zone VE as well. This would hold true even if the majority of the new structure would be within Zone AE. This case would not be in compliance with FEMA regulations related to funding of new construction. Therefore, the proposed first and second story walkways providing access between the new and existing buildings must be supported by the walkways' own structure if the new building is to be considered within Zone AE. Specifically, the weight of the walkways cannot be supported by the existing two-story classroom building. The walkway can be secured to the existing two-story classroom building by bolts and screws; however, the support of the walkway cannot be provided by the existing building (FEMA 2009).

As part of the Proposed Action, all utilities, such as power, telephone, water gas, and sewage conveyance or drain field, would be provided via connection points to existing utility services on the school grounds. Some existing power lines on the school grounds would be relocated on-site to accommodate the proposed building.

The Proposed Action would require excavation of soil at the building site for installation of the foundation piers that will support the elevated structure. Additional ground disturbance would occur with the excavation of trenches for connection of lines to the underground utilities. The duration of construction would be approximately 8 months. Staging for construction equipment and materials would occur on disturbed areas within the existing school grounds. Staging areas would potentially include the turf grass area adjacent to the proposed building site, the informal parking area just west of the existing two-story classroom building, or the level gravel areas at the location of the three disaster-damaged (and subsequently demolished) buildings.

4.0 Affected Environment, Impacts, and Mitigation

The assessment of the Proposed Action consists of a description of existing conditions in the project area, discussions of the two alternatives including the potential of each to result in direct and indirect effects on the environment, and, if necessary, a description of mitigation measures or best management practices (BMPs) that would be employed to avoid or minimize these effects. The assessment is focused on the environmental resources for which some level of effect may result: air quality and greenhouse gas emissions, water resources, coastal resources, biological resources, cultural resources, geology, soils and seismicity, land use and planning, transportation, noise, utilities, socioeconomics/environmental justice and public safety, and visual resources.

4.1 Air Quality and Greenhouse Gas Emissions

The Federal Clean Air Act (CAA) of 1970 was enacted to regulate air emissions from area, stationary, and mobile sources. The CAA authorized the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. Six major pollutants of concern or "criteria pollutants" are identified by USEPA: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), particulate matter less than 10 micrometers (PM_{10}) and particulate matter less than 2.5 micrometers ($PM_{2.5}$).

Specific geographic areas or air basins are designated by USEPA as either in "attainment" if they are within or "nonattainment" if they exceed allowable NAAQS for any criteria pollutant, based on air quality monitoring data submitted to USEPA and the number of days in which standards were exceeded. Areas previously designated as nonattainment, but reclassified from nonattainment to attainment, are designated as "attainment/maintenance" areas. The CAA requires each state or territory to develop a State Implementation Plan (SIP) for areas in nonattainment of NAAQS. Pursuant to current USEPA listings, American Samoa is in attainment for all criteria pollutant NAAQS and, as a result, is not required to have a SIP in place for any criteria pollutant.

The CAA requires USEPA to promulgate rules to ensure that federal actions undertaken in nonattainment or maintenance areas are consistent with the CAA and with federally enforceable air quality management plans, including SIPs. These rules, known as the General Conformity

Rule (GCR) (40 CFR Parts 51.850–51.860 and 93.150-93.160) require any federal agency that is responsible for an action in a federal nonattainment or attainment/maintenance area to demonstrate conformity to the applicable SIP, either by determining that the action is exempt from the GCR or by making a formal conformity determination. As stated above, American Samoa is currently classified as in attainment of all NAAQS; therefore, general conformity determination requirements currently do not apply to projects in American Samoa.

In addition to criteria air pollutants of direct concern for human health, other air emissions are the result of natural processes and human activities, including greenhouse gases (GHGs), which trap heat in the atmosphere, regulating the earth's temperature. Water vapor is a naturally occurring GHG that accounts for the largest percentage of the greenhouse effect. Other common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).

Scientific evidence indicates a trend of increasing global temperatures (i.e., global warming) over the past century due to an increase in global GHG emissions. Climate change associated with global warming is predicted to produce negative environmental, economic, and social consequences across the globe. Recent observed environmental changes include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (IPCC 2007). Predictions of long-term negative environmental impacts include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack.

The Governor of American Samoa issued EO 10A-2007 to address the issue of climate change in the territory(Governor of American Samoa 2006). EO 10A-2007 identified the repercussions of global warming and climate change to American Samoa, including loss of land mass and shoreline from sea level rise, increased food cost and dependence on off-island food sources, potential need for population relocation and the resulting loss of spiritual connection to the land, and loss of coral reefs with the resulting increase in mortality and economic loss from lack of reef protection from cyclones.

4.1.1 Alternative 1: No Action

Under the No Action Alternative, no facilities would be built and no construction activities would occur, resulting in no project-related pollutant emissions. Therefore, there would be no effects on air quality and no GHG emissions would occur.

4.1.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would result in a minor amount of pollutants on a temporary basis due to construction-related ground disturbance and vehicle and equipment operation. Impacts would include temporary increases of fugitive dust (PM_{10} and $PM_{2.5}$) and direct emissions related to fossil fuel combustion (CO, NO_2, PM_{10}, $PM_{2.5}$, SO_2, and volatile organic compounds) powering construction equipment and vehicles. Construction of this small-scale project is expected to occur for a period of approximately 8 months. Due to the small scale of the proposed construction, pollutant emissions would not be of a concentration that would create health concerns or affect air quality. To further minimize temporary air quality effects, ASDOE would require contractors to employ the following BMPs to limit emissions, fugitive dust, and exhaust:

- maintain and cover spoils piles,
- cover the load of haul vehicles containing fill or cut soil,
- keep construction equipment properly tuned, and
- enforce a limitation on idling time for construction vehicles.

The Proposed Action does not include any considerable source of direct permanent pollutant emissions, and effects would be limited to the temporary emissions during the small-scale construction project. Once the replacement building is operational, the campus would return to its pre-disaster capacity, thus the Proposed Action would not increase activity on the site, accommodate future growth, or change the function of the campus. Therefore, the Proposed Action would not result in permanent increases in pollutant emissions. Furthermore, general conformity determination requirements do not currently apply to projects in American Samoa due to the territory's NAAQS attainment status as outlined above.

Similarly, the Proposed Action would result in temporary emissions of GHG during construction. The potential effects of proposed GHG emissions are, by nature, global and cumulative effects, as individual projects or sources of GHG emissions are not large enough to have an appreciable effect on climate change. Thus, an appreciable effect on global climate change would only be measurable if proposed GHG emissions were to be considered together with all other GHG emissions from human-made activities across the globe.

To date, there are no formally adopted or published NEPA thresholds of significance for GHG emissions. The *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas* issued by CEQ (CEQ 2010) suggested threshold of 25,000 metric tons of

GHG emissions per year as an indicator for GHG impact assessment. The Proposed Action's GHG emissions would be negligible short-term emissions due to construction activity far below the CEQ threshold. Consequently, the Proposed Action would not contribute substantially to cumulative impacts associated with global climate change. Furthermore, ASDOE would be responsible for complying with ASG climate change and GHG regulations as outlined in ASG EO 10A-2007. The Proposed Action would result in minor and temporary effects related to GHG emissions.

4.2 Water Resources

Surface water on Tutuila is primarily in the form of perennial and ephemeral streams that provide habitat for freshwater fish, plants, and invertebrates. Streams are also 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 the domestic and industrial water supply as it is more abundant and has a higher quality than surface water (FEMA 2010). Groundwater is either impounded behind impermeable or semi-permeable subterranean reservoirs, or migrates below the surface along routes of permeable soils or erosion features, before discharging to the surface (USGS 1963). Groundwater that has migrated downslope at or near the sea is referred to as "basal ground water". The distribution of groundwater on American Samoa is currently being mapped and systematically described (ASEPA 2010). Also, after the disaster, construction of the temporary fabric structures at the Le'Atele school uncovered a vein of basal groundwater running below. The placement of thick concrete pads for the structures spanned the basal groundwater, without disrupting the flow of water toward the sea. The project area experiences a tropical maritime climate with abundant rain and warm, humid days and nights. Rainfall across Tutuila is highly variable due to the effects of the steep mountainous terrain, averaging between 120 and 200 inches annually. The driest period is during winter (June–September) and the wettest is during the summer (December–March) (Clark and Herdrich 1993).

The Le'Atele school site is located in the Fagasa watershed, an area of approximately 1.35 square miles that drains into Fagasa Bay. Eight streams are in the watershed, including Agasii Stream, an ephemeral stream located approximately 500 feet southeast of the proposed site. Agasii Stream is a jurisdictional water of the U.S. (ASEPA and ASCZMP 2000). A review of the wetlands database compiled in the American Samoa Department of Commerce (ASDOC) Geographic Information System (GIS) (ASDOC GIS November, 2012) indicated that no wetlands occur within or adjacent to the school grounds. Field surveys documented an off-site rock/cobble-lined surface water diversion ditch along the western edge of the campus at the base of Fuaau Ridge that provides some storm water management for the sites (FEMA 2012),

but this does not meet the criteria as a wetland or jurisdictional water of the U.S. A marsh area fed by surface drainage from Agasii Stream is located approximately 550 feet southeast of the school grounds, outside the proposed construction area. This marsh does not interchange with the nearby marine waters because of its elevation. The two shallow drainage ditches are located along the east and west edges of the campus, draining surface waters into Fagasa Bay.

4.2.1 Flood Hazards

The FIRM (FEMA, 2006) indicates that the proposed building site is located within Zone AE and the existing temporary structures, shown in Image 2, are located in Zone VE.

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 in 44 CFR Part 9, Floodplain Management and Protection of Wetlands (FEMA 2008). FEMA applies an Eight-Step Decision-Making Process to ensure that funded projects are consistent with EO 11988 and 44 CFR Part 9. The NEPA compliance process involves essentially the same decision-making process. Therefore, the Eight-Step Decision-Making Process has been integrated into the analysis in this EA.

Typically the drainage ditches along the east and west sides of the campus channel storm water runoff effectively from the campus (ASEPA and ASCZMP 2000). However, flooding has occurred at the proposed site following heavy rainfall periods, due to the occasional blockage of an overflow ditch connecting a nearby 2.8-acre wet area resembling a *taufusi* or marsh to the nearshore waters. When these conditions occur, local residents typically remove the blockage by hand. The American Samoa Department of Public Works (ASDPW) sometimes clears larger blockages of this ditch with a backhoe.

Alternative 1: No Action

Under the No Action Alternative, no construction would occur and the existing temporary fabric structures would remain. These slab-on-grade structures are in Zone VE, which would result in a continued floodplain hazard for these structures and the school uses they accommodate.

Alternative 2: Proposed Action

One of the purposes of the Proposed Action is to protect against future flood hazards by locating the replacement facilities outside of Zone VE. However, the proposed construction site is in Zone AE, so the Proposed Action would still need to comply with EO 11988, 44 CFR Part 9, and the Territory of American Samoa Floodplain Management Regulations EO 004-2006, which specifies that the finished bottom of the lowest horizontal member supporting the lowest

habitable floor of structures constructed in Zone AE must be elevated to or above the BFE, with provisions for justifiable variances, if approved by the Floodplain Administrator to the Territorial Registrar (ASG 2008). Under the Proposed Action, the replacement building would be erected in Zone AE on a site with a BFE of 17 feet AMSL (Figure 3.1). Current plans for the elevated building establish a FFE of the first floor at 19.0 feet AMSL. This includes mitigation, consisting of raising the structure an additional one foot above the BFE. Assuming a 1-foot vertical dimension between the finished bottom of the horizontal member supporting each floor and the finished floor above as well as a 10-foot ceiling height, the FFE for the second floor would be at 30.0 feet AMSL. Because of the continued potential for flood hazards on the site, ASDOE must design the structure with consideration of the principles of the "all-hazards approach" outlined in FEMA's Coastal Construction Manual (FEMA 2011). The Proposed Action would result in a beneficial effect with respect to floodplains by constructing a replacement building outside of Zone VE (Image 5). The moderate floodplain effects resulting from construction in Zone AE would be mitigated by mandatory elevation of the structure.

In accordance with the EO 11988 and 44 CFR Part 9, FEMA published a cumulative Initial Public Notice for FEMA-1859-DR-AS. TOFR and ASDOE, with support from FEMA, would be required to publish an individual Final Public Notice before implementation of the Proposed Action.

Image 5: The school grounds within Flood Zone VE slope very gently upward away from Fagasa Bay, barely visible in the background. Viewer is standing next to the south end of the two-story classroom building, approximately on the boundary line between Flood Zone VE and Flood Zone AE (behind viewer).

4.2.2 Water Quality

As noted above, the proposed project site does not contain any surface water or wetlands, but is near waters that flow into Fagasa Bay and are used for drinking water purposes. The American Samoa Environmental Protection Agency (ASEPA) maintains programs to ensure the quality of surface water and drinking water, such as American Samoa Watershed Protection Plan (ASEPA and ASCZMP 2000), Guidance Manual for Runoff Control (ASG and ASEPA 2001), and ASEPA's American Samoa Erosion & Sediment Control Field Guide (ASEPA and ASCZMP 2011). The ASEPA Guidance Manual for Runoff Control provides direction to property owners, construction contractors, government agencies, developers and others who are performing activities that could result in pollution of American Samoa's surface and/or groundwater resources as a result of storm water runoff (ASG and ASEPA 2001).

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. The harbor is geographically separated from the project site; therefore it is not relevant to the alternatives. Additionally, household waste and other human-made debris are frequently found in streams and on beaches.

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. Two wells are located approximately 1,000 feet south of the project site that contribute to the village water supply (ASDOC 2013).

Alternative 1: No Action

The No Action Alternative would not result in any ground disturbance on the site; therefore, existing water quality in the nearby water features and percolated groundwater would remain unchanged.

Alternative 2: Proposed Action

Implementation of the Proposed Action would have the potential for soil erosion and pollutants to indirectly affect off-site surface water (including wetlands) and groundwater on a temporary basis due to construction activity. The campus is near the shoreline of Fagasa Bay, and surface water flows directly into the bay via sheet flow or channelized conveyance (Image 6).

Image 6: View facing east to Fagasa Bay from entry to Le'Atele Elementary School grounds. Storm water drains directly into Fagasa Bay via sheet flow and channelized conveyance.

Current ASG storm water guidelines may require or recommend diversion of storm water from the roof of any new building into an infiltration basin or other storm water detention facility to slow the flow into the bay and improve water quality.

The Proposed Action's temporary effect on water quality would be mitigated by the implementation of an erosion control plan. Prior to construction, ASDOE would require the contractor to prepare and implement an erosion control plan. The erosion control plan would include phased construction to minimize the amount of exposed soil at any given time and would require all work to cease during heavy rains. The plan would require that all soil that is stockpiled on-site for use as fill or that has been excavated from the project area, be covered and surrounded by a sediment barrier to prevent sediment loss. Additionally, the plan would include a debris-disposal plan to ensure that all excavated material is transferred to a designated and preapproved debris disposal site as described in ASEPA's American Samoa Erosion & Sediment Control Field Guide (ASEPA and ASCZMP 2011) and the ASEPA Guidance Manual for Runoff Control (ASG and ASEPA 2001). ASDOE would also implement permanent erosion control measures as described in the American Samoa Erosion & Sediment Control Field Guide, where appropriate, when construction is completed (ASEPA and ASCZMP 2011).

In addition to the erosion control plan, ASDOE would require the construction contractor to implement standard BMPs throughout construction, to follow ASEPA's American Samoa

Erosion & Sediment Control Field Guide (ASEPA and ASCZMP 2011) and the Guidance Manual for Runoff Control (ASG and ASEPA 2001). BMPs would include such measures as vegetative stabilization and physical stabilization.

With the implementation of the erosion control plan and the BMPs stated above, ASDOE would ensure that construction activities would not result in soil, debris, or other fill materials being placed into surface water bodies (including wetlands) and no adverse effects would occur.

4.3 Coastal Resources

American Samoa faces coastal concerns of fishery habitat loss, coral reef health coastal hazards (such as cyclones, flooding, and erosion), marine debris, and solid waste. To help mitigate the effects of human activity, the ASG operates the American Samoa Coastal Management Program (ASCMP) as part of the ASG Department of Commerce (ASDOC). The ASCMP designates the entire island of Tutuila and the sea within 3 miles of the shoreline as a coastal zone. The ASCMP oversees all construction and earth-moving activities on the island to ensure coastal resources are not affected by project work.

The United States Congress enacted the Coastal Zone Management Act (CZMA) in 1972 and the Coastal Zone Act Reauthorization Amendments in 1990 in response to the increasing pressures of overdevelopment on the nation's coastal resources. These laws make federal financial assistance available to any coastal state or territory that is willing to develop and implement a comprehensive coastal management program. These regulations 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 (FEMA 2008). 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 (FEMA 2008).

Alternative 1: No Action

Under the No Action Alternative, no construction would occur, and no effects on the coastal zone would occur.

Alternative 2: Proposed Action

The Proposed Action would entail a minor amount of soil disturbance and construction activity that would occur within the coastal zone, as regulated by the ASCMP. As a result, the Proposed Action would have the potential to affect coastal waters through pollutant runoff and erosion and sediment reaching the nearby bay. As noted above, ASDOE would require the contractor to

prepare and implement an erosion control plan and employ appropriate required and recommended construction BMPs to ensure project construction does not affect nearby waters. With implementation of these measures, the Proposed Action would not result in an adverse effect on coastal waters. ASDOE would be responsible for coordinating with and obtaining a federal consistency determination from the ASCMP to comply with the CZMA.

4.4 Biological Resources

Biodiversity of terrestrial species in Tutuila is low due to the island's volcanic origin and remote location (Craig 2005). The main vegetation type found on Tutuila is that of a tropical rainforest, but many nonnative plants have outcompeted the native plants in disturbed environments (Whistler 1994).

This situation is true in the project area, which consists of a previously disturbed area, currently supporting vegetation consisting primarily of nonnative grasses, and bare ground where the former Le'Atele Elementary School buildings were located. A small area on the southwest side of the school grounds also consists of vegetation dominated by nonnative species, including banana trees (*Musa paradisiacal*), taro plants, and a variety of weedy species.

On April 14, 2012, a natural resource reconnaissance survey was conducted by AECOM as a consultant to FEMA for the project area. While the project area has been previously disturbed and lacks native vegetation communities, the site is contiguous with natural, native vegetation. Vegetation on-site is dominated by invasive, ornamental, or agricultural species. Noted examples of vegetation include para grass (*Brachiaria mutica*), coix [*sanasana*] (*Coix lacryma-jobi*), and Australian pine [*toa*] (*Casuarina equisetifolia*), as well as many other weedy species. Coconut trees [*niu*] (*Cocos nucifera*) and taro plants (*Colocasia esculenta*) occur sporadically in the project area. Two shallow drainage ditches are located along the east and west edges of the campus, draining into Fagasa Bay.

The nonnative cane toad [*lane*] (*Bufo marinus*) was observed in the grassy field within the project area (Image 7).

Other wildlife resources expected to be associated with the project area include a variety of introduced and native bird species. Common nonnative bird species known from the region include jungle myna (*Acridotheres fuscus*), red junglefowl (*Gallus gallus*), and red-vented bulbul [*manu palagi*] (*Pycnonotus cafer*). Resident bird species known from the area include species such as white-tailed tropicbird [*tava'esina*] (*Phaethon rubricauda*) and gray-backed tern [*gogosina*] (*Sterna lunata*).

Image 7: Several nonnative cane toads were observed on the project site.

A narrow ring around Tutuila contains shallow coastal habitats that support coral reef ecosystems. Deepwater habitats around the island reach depths of 2,000 feet and are located between 0.5 and 2 miles from the coast (Craig 2005). Being wholly on land, the project area does not contain either coral reef or deepwater habitat.

4.4.1 Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (ESA) (16 U.S.C. § 1536(a)(2)) requires federal agencies to determine whether projects they propose to carry out or fund have any potential to affect species listed or proposed for listing as threatened or endangered or designated critical habitat.

FEMA obtained a list of species that are listed as endangered, threatened, or proposed for listing as endangered or threatened under the ESA that may occur in the project vicinity. The sources of the information are from USFWS (2011a, 2011b).

Based on the data compilation, FEMA, and AECOM as a consultant to FEMA, conducted biological investigations of the project site. As a result of the field and background review, FEMA made the initial determination that the project area is in proximity to habitats suitable to support

four federally listed or proposed wildlife species regulated by USFWS and National Marine Fisheries Service (NMFS) under the ESA, as follows:

Hawksbill sea turtle [*laumei uga*] (*Eretmochelys imbriacata*) (Endangered): Hawksbill sea turtles are distributed worldwide in tropical seas. The species has been documented throughout the Pacific, frequently associated with deepwater coral and seagrass beds. The sandy beaches on American Samoa provide nesting habitat for the hawksbill sea turtle, including approximately 16 kilometers of sandy beaches on Tutuila Island (Tuato'o-Bartley et al. 1993). Tutuila supports an estimated 50 nesting female hawksbill sea turtles per year (NMFS and USFWS 1998a).

Green sea turtle [*laumei ena'ena* or *fonu*] (*Chelonia mydas*) (Threatened – Pacific Population): The green sea turtle nests on the sandy beaches of American Samoa and forages in the open ocean and coastal waters associated with deepwater coral and seagrass beds. Green sea turtles occur in the waters off Tutuila, with an estimated low nesting population on the island (NMFS and USFWS 1998b).

Leatherback sea turtle (*Dermochelys coriacea*) (Endangered): The leatherback sea turtle has the widest distributional range of all sea turtles. However, the species does not nest on American Samoa. One juvenile leatherback sea turtle has been documented in the waters off of American Samoa, south of Swains Island, caught by a scientific research longline fishing vessel in 1994 (NMFS and USFWS 1998c).

Loggerhead sea turtle (*Caretta caretta*) (Threatened): Loggerhead sea turtles are circumglobal, inhabiting bays, lagoons, and open seas of the Atlantic, Pacific, and Indian oceans. No documented observations of this species have been made on the beaches of American Samoa, or in the waters surrounding the islands (NMFS and USFWS 1998d).

None of these species were observed during biological surveys of the project area.

Alternative 1: No Action

Under the No Action Alternative, no activities would occur and therefore no effects would occur to federally listed or species proposed for federal listing under the ESA.

Alternative 2: Proposed Action

The Proposed Action's development footprint is less than 1 acre in size and is located primarily on previously developed and disturbed land associated with the existing Le'Atele Elementary School campus. No suitable sea turtle nesting beaches are located within the project area. No designated critical habitat for the hawksbill sea turtle, green sea turtle, or leatherback sea turtle

is located in or adjacent to the project area. Neither NMFS nor USFWS has designated or proposed critical habitat for the loggerhead sea turtle.

To avoid any indirect effects to sea turtle foraging habitat in Fagasa Bay, ASDOE would require incorporation of standard BMPs into the project design and construction drawings, including implementation of erosion control measures to prevent construction-related sediment transport into the bay. Standard BMPs would follow ASEPA's *American Samoa Erosion & Sediment Control Field Guide* (ASEPA and ASCZMP 2011) and the ASEPA Guidance Manual for Runoff Control (ASG and ASEPA 2001) as described in Sections 4.2.2 and 4.6.1 of this document. With the implementation of BMP measures to avoid indirect effects, the Proposed Action would not affect any federally listed or proposed threatened or endangered species or designated or proposed critical habitat.

4.4.2 Invasive Species

EO 13112, Invasive Species of 1999, requires federal agencies to prevent the introduction of invasive species; provide for their control; and minimize the economic, ecological, and human health impacts that invasive species cause. EO 13112 requires that federal agencies not authorize, fund, or implement actions that are likely to introduce or spread invasive species unless the agency has determined that the benefits of the action(s) outweigh the potential harm caused by invasive species, and that all feasible and prudent measures to minimize harm caused by invasive species will be implemented in conjunction with the action(s).

Alternative 1: No Action

Under the No Action Alternative, no ground-disturbing activities would occur; therefore, there would be no introduction or spread of invasive species in the project area.

Alternative 2: Proposed Action

The Proposed Action has limited potential to contribute to the spread of invasive species in the project area. The majority of the proposed activities occur in or adjacent to land that has been previously developed or disturbed. All equipment would be staged on previously developed and disturbed areas within the project area. ASDOE would take measures to prevent the introduction of invasive weeds at the construction site, including cleaning all equipment before accessing the site and using only certified weed-free erosion-control materials. On completion of construction, any temporarily cleared areas would be revegetated with appropriate native species, thus decreasing the amount of invasive species in the project area. Exceptions to this requirement would include areas intended for playgrounds or activity fields for the school grounds, which can be vegetated with turf grass. ASDOE would ensure that any imported fill or other construction materials would be certified as being free of invasive species.

The potential for the Proposed Action to contribute to the spread of invasive species is minimal, and this alternative would comply with EO 13112. Therefore, the Proposed Action is anticipated to result in negligible short-term direct and indirect impacts due to invasive species.

4.4.3 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 effects to wetlands that may result from federally funded actions. FEMA's regulations for complying with EO 11990 are found in 44 CFR Part 9, Floodplain Management and Protection of Wetlands.

No wetlands were observed during the site reconnaissance within the Proposed Action project area. The closest jurisdictional drainage is Agasii Stream, approximately 550 feet southeast of the Le'Atele Elementary School site (ASEPA and ASCZMP 2000). The offsite 2.8-acre wet area that resembles a *taufusi* or marsh identified in Section 4.2.1 of this document is located approximately 150 feet southeast of the Le'Atele school campus extents. The *taufusi* is on higher ground than the school campus at an approximate elevation of 12 to 25 feet AMSL, and no activities associated with any of the project alternatives would be expected to impact the *taufusi*. The American Samoa Watershed Protection Plan identifies the offsite *taufusi* adjacent to Agasii Stream as formerly being used for subsistence farming.

Alternative 1: No Action

Under the No Action Alternative no ground-disturbing activities would occur; therefore, no effects to wetlands would occur.

Alternative 2: Proposed Action

A review of the wetlands database compiled in the ASDOC GIS (2012) indicated that no wetlands occur within or adjacent to the project area. Agasii Stream and an associated wet area resembling a swamp [*tafusi*] are located approximately 0.2 mile southeast of the school site (ASEPA and ASCZMP 2000). Field surveys by AECOM as a consultant to FEMA documented an off-site rock/cobble-lined surface water diversion ditch to the west of the project area footprint, but no features that could be considered wetlands or jurisdictional waters of the United States are within the limits of the project area. Therefore, the Proposed Action would not result in the direct or indirect effect to wetlands or jurisdictional waters, and would comply with EO 11990.

4.4.4 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. The island of Tutuila is surrounded by

a fringing coral reef. Coral reefs surrounding Tutuila are impacted by poor water quality (USEPA 2007). 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. The Coral Reef Ecosystem Monitoring Report for American Samoa documents the closest coral reef, relative to the project area, approximately 0.5 mile to the north-northeast of the site, at the mouth of Fagasa Bay (Brainard 2008; ASDOC GIS February, 2012).

Alternative 1: No Action

Under the No Action Alternative, no ground-disturbing activities would occur; therefore, no direct impacts would occur to coral reefs.

Alternative 2: Proposed Action

The Proposed Action would occur on land; thus a distance away from any documented coral reefs. As such, no direct impacts are anticipated to occur. To avoid any indirect impacts to coral reefs, ASDOE would require incorporation of BMPs into the project design and construction drawings, including the implementation of erosion control measures to prevent construction-related sediment transport into the harbor. These BMPs would follow ASEPA's American Samoa Erosion & Sediment Control Field Guide (ASEPA and ASCZMP 2011) and the ASEPA Guidance Manual for Runoff Control (ASG and ASEPA 2001) as described in Sections 4.2.2 and 4.6.1 of this document. With the implementation of measures to avoid indirect impacts, the Proposed Action would not affect any coral reefs. To minimize sedimentation in Fagasa Bay, ASDOE would be responsible for implementing the erosion control project features referenced in this document. ASDOE would also 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 and not result in direct or indirect effects on coral reefs.

4.4.5 Wildlife and Vegetation

The primary special-status biological resources actively monitored on Tutuila by the ASDMWR include colonies of fruit bat [*pe'a*], including Samoan fruit bat [*pe'a vao*] (*Pteropus samoensis*), and white-naped fruit bat [*pe'a fanua*] (*Pteropus tonganus*), as well as the declining populations of several species of endemic land snails. The natural habitat for the fruit bat is the rainforest, roosting in trees during the day, and foraging from dusk until dawn. There are also populations of several species of endemic land snails that also inhabit the rainforest and can be found in other wet, moist habitats such as marshes or other wetlands.

Alternative 1: No Action

Under the No Action Alternative, no ground-disturbing activities would occur; therefore, no direct or indirect impacts would occur to wildlife or vegetation.

Alternative 2: Proposed Action

The Proposed Action may disturb wildlife habitat in the vicinity of the project. Replacement of the disaster-damaged school facilities would involve the pouring of concrete foundation piers and removal of nonnative vegetation in the project area, specifically within a narrow band on the south side of the campus at the site of the proposed building. However, the Proposed Action would not impact any rainforest vegetation or wetlands. Therefore, no fruit bat roosts or populations of endemic land snails would be impacted by the project.

Ground disturbance during construction would result in associated loss of approximately 0.5 acres of vegetation, which may be suitable habitat for wildlife species species, including small mammals, reptiles, amphibians, and insects. During construction, animal species in the vicinity would experience both permanent and short-term loss of habitat. Permanent loss of a small amount of habitat would be associated with the construction of the new school building. Temporary impacts would be associated with the harassment of wildlife species from noise and dust generated by equipment movement.

Several bird species, including jungle myna, red junglefowl, and red-vented bulbul [*manu palagi*] have the potential to occur within and adjacent to the project area. The federal Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703–712) (MBTA) affords protection to a wide variety of both resident and migratory birds. ASDOE would be responsible for complying with the MBTA for all construction-related activities, by minimizing the potential for "take" of MBTA-covered species during the migratory bird breeding season (generally accepted as starting on February 15 and ending on September 15). Impact minimization measures would include scheduling construction outside of the bird nesting season (i.e., avoiding the period from February 15 through September 15). If construction cannot be avoided during the nesting season, preconstruction nesting bird surveys would be required to determine if birds are nesting within the project area and within a 500-foot buffer around the campus boundaries. If nesting is documented, a qualified biologist would be required to monitor any active nests and to coordinate with ASDOE and the construction manager to minimize any potentially adverse effects to MBTA-covered species. The minimization measure would require establishing a nondisturbance buffer around the nest (the size of which will be dependent upon the species, but not greater than 500 feet) until nesting activity has been completed at that location,

The Proposed Action would result in direct permanent impacts to wildlife habitat and vegetation within a narrow band on the south side of the campus, at the edge of the new building location (Figure 3.1). Since the loss of wildlife habitat and vegetation is relatively minor in acreage, the vegetation is composed primarily of nonnative, ornamental, and agricultural species, and ASDOE would ensure compliance with the MBTA and minimization measures, this impact would be negligible.

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 of 1966, as amended and specified in the 36 CFR Part 800 regulations. Requirements include identifying historic properties that may be affected by a federal undertaking and mitigating adverse effects to those resources.

The cultural resources investigation of the Undertaking included consultation with American Samoa Preservation Office (ASHPO), background and archival research as well as an archaeological survey. The cultural resources investigation was conducted by AECOM, as a consultant to FEMA, to identify and evaluate historic properties. The archaeological survey of the 0.55-acre area of potential effects (APE) was conducted on April 14, 2012. The administrative building, ECE building, and kitchen/cafeteria building were identified as demolished and lacking enough integrity to be considered historic properties eligible for the National Register of Historic Places (NRHP) under any criteria. During the cultural resources investigation, no historic properties were identified within the APE. Based on the results of its identification and evaluation effort, FEMA determined that implementation of the Undertaking would result in a finding of “no historic properties affected” under 36 CFR 800.4(d).

The Cultural Resources Inventory Report detailing the results of the surveys and literature search is referenced as Appendix D of this EA.

As documented in the correspondence in Appendix A of this EA, ASHPO is in concurrence with the results of the Cultural Resources Inventory Report. ASHPO concurs with the determination of the APE. ASHPO also concurs with the determination of no effect on historic properties with the proviso that if any subsurface historic properties are discovered during ground-disturbing activities, construction will be stopped and the necessary measures will be taken to avoid or minimize harm to the property in consultation with ASHPO, pursuant to 36 CFR Part 800.13(d).

4.5.1 Alternative 1: No Action

Under the No Action Alternative, no construction would occur; therefore, no impacts on cultural resources would occur.

4.5.2 Alternative 2: Proposed Action

No historic or prehistoric cultural resources were identified during the cultural resources inventory of the APE; therefore, the Proposed Action would not remove or affect any known resources.

Although the potential is low, unexpected subsurface historic properties could be discovered during ground-disturbing activities. Therefore, ASDOE (including its contractors and agents) would be responsible for halting work in the event of an unanticipated discovery during construction, and notifying TOFR and FEMA as soon as practicable. If FEMA determines that the discovery has the potential to be a significant historical property, FEMA would require ASDOE to stop all construction in the vicinity of the discovery and to take all reasonable measures to avoid or minimize harm to the property until FEMA concludes consultation with ASHPO, pursuant to 36 CFR Part 800.13(b). Implementation of the measures stated above will ensure that the Proposed Action would not result in any adverse effects on cultural resources, if discovered.

4.6 Geology, Soils, and Seismicity

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 with small amounts of andesite and trachyte. The mountains extend approximately 20 miles from east to west. The highest peak is approximately 2,142 feet, and the land slopes steeply from the tops of the mountain ridges down to the ocean (FEMA 2008).

4.6.1 Geology and Soils

Geologic hazards on Tutuila include landslides, volcanic eruptions, earthquakes, cyclones, 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 (FEMA 2008).

The only active volcano in the American Samoa region is the volcanic seamount Vanilulu'u located approximately 100 miles east of Tutuila. The Ofu-Olosega volcano last erupted in 1866, and other volcanoes in the region have been silent for thousands of years. No active volcanoes exist on the island; however, many craters are still visible on the landscape (FEMA 2008).

Earthquakes in American Samoa mainly originate from the Tonga Trench, approximately 120 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 (FEMA 2008). Tsunamis (huge water waves) that affect Tutuila are generated by earthquakes from fault movements along the Tonga Trench, the Pacific Rim in the Aleutian Islands, South America, and other locations. In 1868 and 1960, tsunamis originating in Chile caused damage in the Samoan Islands. The tsunami that hit American Samoa in 2009, as a result of an earthquake that occurred along the Tonga Trench, resulted in widespread destruction including severe damage to the existing Le'Atele Elementary School campus. The National Oceanic and Atmospheric Administration and National Weather Service operate 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 (FEMA 2008).

U.S. Soil Conservation Service (National Resources Conservation Service) identified five different soil classifications for lands within the Fagasa watershed, including Aua very stony silty clay loam; Aua very stony silty clay loam – steep; Fagasa family-Lithic Hapludolls – Rock outcrop assoc.; Leafu stony silty clay; and Urban Land-Ngedebus complex (ASEPA and ASCZMP 2000).

A smaller area upslope of Le'Atele Elementary School contains Leafu stony silty clay soil, which is a deep soil typically extending up to 60 inches in depth. Its permeability ranges between 2 and 6 inches per hour and runoff from this soil is generally slow. Although the potential for soil erosion is limited, this soil is typically subject to brief periods of flooding after heavier rainfall periods. Most of the inhabited shoreline and village areas of Fagasa (including the proposed site) are characterized by Urban Land-Aua-Leafu complex soils. This soil type represents a combination of Aua and Leafu soils, and is typically found at depths of 60 inches or more. The permeability of this soil is moderately rapid and ranges between 2 and 6 inches per hour. The soil has limited to moderate potential for runoff and slight to moderate potential for erosion (ASEPA and ASCZMP 2000).

The entire Le'Atele school campus is shown on ASDOC landslide risk maps as having low risk for landslides; but the campus is located just east of a landslide high risk zone on the adjacent slopes of Fuaau Ridge (ASDOC GIS 2013).

Alternative 1: No Action

Under the No Action Alternative, geologic conditions on the project site would remain the same as they are under existing conditions; therefore, no project-related impacts would occur. Additionally, no ground-disturbing activities would occur as a result of the No Action Alternative; therefore, the No Action Alternative would have no direct impacts to existing soils.

Alternative 2: Proposed Action

The Proposed Action would entail soil disturbance through grading and vegetation removal. Construction activities could cause compaction and leave soils exposed and susceptible to water and wind erosion. To minimize potential erosion caused by construction activities, ASDOE would prepare and implement an erosion control plan. The erosion control plan would include phased construction to minimize the amount of exposed soil at any given time and would require all work to cease during heavy rains. The plan would require that all soil stockpiled on-site for use as fill, or that has been excavated from the project area, be covered and surrounded by a sediment barrier to prevent sediment loss.

Additionally, the plan would include a debris disposal plan to ensure that all excavated material is transferred to a designated and preapproved debris disposal site as described in ASEPA's American Samoa Erosion & Sediment Control Field Guide (ASEPA and ASCZMP 2011) and the ASEPA Guidance Manual for Runoff Control (ASG and ASEPA 2001). ASDOE would also implement permanent erosion control measures as described in the American Samoa Erosion & Sediment Control Field Guide, where appropriate, when construction is completed (ASEPA and ASCZMP 2011).

ASDOE would require preparation of an engineering-level geotechnical investigation prior to project design to identify any unforeseen geological conditions such as expansive soils that would affect the Proposed Action. The geotechnical investigation will identify engineering measures in the foundation and structural design needed to account for the presence of erodible or unstable soils. ASDOE would require the project architect and civil engineer to design the project to mitigate any adverse geological or soil conditions identified in the geotechnical report.

Implementation of the measures stated above would ensure that the Proposed Action would not result in any adverse effects on the geology or soils of the project site.

4.6.2 Seismicity

FEMA classifies the island of Tutuila as Seismic Zone 3, meaning 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 (Territorial Emergency Management Coordinating Office 2008). 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. This EO applies to the construction of new buildings, which are defined as structures used or intended for sheltering persons or property.

Alternative 1: No Action

Under the No Action Alternative, no construction would occur and existing site conditions would remain the same as they are under existing conditions; therefore, no impacts would occur. The existing temporary structures would remain subject to seismic conditions.

Alternative 2: Proposed Action

Under the Proposed Action, the potential for volcanic eruptions, earthquakes, and tsunamis in the project area would remain unchanged. An earthquake of 0.2g is unlikely to affect the proposed project. In addition, the proposed structures would be appropriately designed and constructed to current building standards set by the National Earthquake Hazard Reduction Program for local site conditions (including soil type). The proposed structure would be constructed to adhere to the relevant local building codes with respect to seismic safety to minimize potential effects due to strong ground shaking.

4.7 Land Use and Planning

American Samoa's 2003 Territorial General Plan presents a policy agenda for development, but it does not provide geographically specific land uses or prescribe geographically specific land use zones in the manner of a typical city or county comprehensive or master plan. The Territorial General Plan incorporates specific master and comprehensive plans where they exist, such as the 2003 Pago Pago Bay Shoreline Development Plan or the 1999 Port Master Plan (ASG 2008). A major reason for the lack of territory-wide, comprehensive land-use planning and zoning is that 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 (FEMA 2008).

Land use in American Samoa is regulated by the ASCMP, which evaluates and restricts incompatible development in areas subject to natural hazards including flooding, storm surge, tsunami, landslide, coastal erosion, and salt water intrusion (ASG 2008). To determine

compliance with the ASCMP, all projects involving ground disturbance require that a Land Use Permit Application be submitted for review under the Project Notification and Review System (PNRS). In addition to evaluating land use for natural hazards, the PNRS reviews permit applications for compliance with building codes, environmental regulations, infrastructure/utility requirements, historic preservation and public health regulations, and recreational/shoreline accessibility (FEMA 2010).

4.7.1 Alternative 1: No Action

Under the No Action Alternative, no new facilities would be built and no existing facilities would be modified; therefore, no impacts to land use would occur and a PNRS review would not be required.

4.7.2 Alternative 2: Proposed Action

The Proposed Action, which includes excavation, construction, and staging areas associated with the new two-story building, would occur on land held by the village of Fagasa. ASDOE would request and obtain permission from the Fagasa village chief to complete the Proposed Action. ASDOE would be responsible for initiating and facilitating the PNRS approval process, and would coordinate with the village chief to obtain written agreement from all landowners directly affected by the Proposed Action. Since the Proposed Action would occur on ASDOE property, no changes in land ownership would occur, and no land transfers would be necessary (Image 8).

Image 8: View facing southeast to the proposed building site. Men in photo (left to right) are standing at location of northeast, southeast, and southwest corners of proposed building.

Implementation of the Proposed Action would not modify existing land use in or around the project area. In addition, ASDOE would be responsible for applying for and obtaining PNRS approval. The proposed building would be constructed on the eastern portion of a level area of turf grass, which is currently being used for informal recreational purposes by the students. The Proposed Action would displace part of this use, though there would be ample space for some recreational activities on the remainder of the existing grass area, adjacent to the proposed building. Grass area equal to the footprint of the new building could also be provided west or north of the existing two-story classroom building, depending on the school's programmatic needs. With the provision for an area for informal play equivalent to the area that is being displaced by the Proposed Action, no impacts are anticipated.

4.8 Transportation

The site is located at the edge of a low density developed area that does not experience heavy traffic conditions. Most roads in the vicinity of the project area are unpaved. An unnamed paved road abutting the northern edge of the Le'Atele school campus runs along the shoreline of the bay, providing vehicular access to the project area from the village of Fagasa to the east, where it connects to the only paved road leading over a steep mountain ridge to Pago Pago. There are no specifically delineated roads or driveways on the school grounds, and parking areas are not formally defined. Parking occurs informally throughout the school grounds.

4.8.1 Alternative 1: No Action

Under the No Action Alternative, no construction would occur; therefore, no impacts would occur to the existing transportation system.

4.8.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would result in temporary, minor impacts to transportation during the construction of the new school campus. The Proposed Action would result in temporary increases in local traffic due to construction-related traffic. Construction hauling and equipment delivery would occur via the singular paved road between Fagasa and Pago Pago.

To minimize potential adverse impacts to traffic and circulation during construction, ASDOE would require the contractor to implement the following mitigation measures:

- ASDOE would stage construction equipment, materials, and vehicles to minimize hindrances to traffic flow.

- ASDOE would provide advance written notice of the construction schedule to all residents who would have limited access to their homes or driveways during construction. The written notification would identify a local contact person with ASDOE.
- ASDOE would review traffic patterns to determine if and when traffic restrictions would be required during construction.

Implementation of these measures would ensure the Proposed Action would not result in adverse effects with respect to traffic. The Proposed Action would not result in a permanent increase in vehicular traffic associated with the operations of the replacement school buildings, as traffic is expected to be similar to that which existed at the Le'Atele Elementary School prior to the disaster.

4.9 Noise

The project area currently experiences a minor amount of occasional noise typically associated with an elementary school and a small residential village, including from sound generated by vehicular traffic, human voices, and equipment operation. There are no major noise-generating sources in the project area.

4.9.1 Alternative 1: No Action

Under the No Action Alternative, no construction would occur and noise would remain at current levels; therefore, no impacts would occur to existing noise-sensitive receptors.

4.9.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would result in temporary construction noise that could adversely affect nearby sensitive receptors, including residents and students. However, the noise would be temporary and limited to the duration of project construction, which would occur over a period of approximately 8 months. Construction operations, including maintenance activities and transportation of materials, would generally occur between 7:00 a.m. and 5:00 p.m. Monday through Friday, though some work outside those times may be necessary. Any deviation from this schedule would require ASDOE to contact the *matai* of the village of Fagasa and nearby residents within 24 hours of this work to notify them of the anticipated construction schedule.

To reduce the temporary impacts from construction-related noise, ASDOE would require the contractor to implement the following measures to reduce noise levels to the extent practicable:

- 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 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.

- All mobile or fixed noise-producing equipment used on the project site that is regulated for noise output by a local, territorial, or federal agency would comply with such regulation while used in the course of project activity.
- At least 20 days prior to the commencement of construction, ASDOE would provide written notification to property owners and residents within 500 feet of the project area and to the *matai* of the village of Fagasa. A notice would also be posted at the construction site. The notice would provide a construction schedule, the required noise mitigation measures for the project, and the name and telephone number of the project manager who can address questions and problems that may arise during construction.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, would be for safety warning purposes only.

Noise levels would generally return to pre-construction levels after construction is complete. The long-term noise associated with the replacement of school structures would be commensurate with pre-disaster school activities on the campus.

The Proposed Action would therefore result in short-term construction impacts and negligible long-term operational impacts to noise levels that would not be considered significant with implementation of the mitigation measures identified above.

4.10 Utilities

Electricity is provided to the existing school by ASPA via above-ground lines. Water service to the existing school is provided by an ASPA satellite water system serving the village of Fagasa, which is fed by two groundwater wells and Agasii Stream. The village of Fagasa does not have a central sewer system. Wastewater service at the school is provided by a soil-based treatment system maintained by ASDOE.

4.10.1 Alternative 1: No Action

Under the No Action Alternative, no construction would occur; therefore, no impacts would occur to existing utilities. The temporary structures, which lack connection to water and wastewater facilities, would remain in operation.

4.10.2 Alternative 2: Proposed Action

As part of the Proposed Action, all utilities, such as power, telephone, water, and sewer would be provided via connection points to existing utility services on the school campus. The Proposed Action would not result in an increase in demand for these services because the proposed structure would return the school back to its pre-disaster capacity and would not entail increases in student enrollment or staffing. Therefore, there would be no impact on utilities.

4.11 Socioeconomics/Environmental Justice and Public Safety

According to the 2000 Census of American Samoa (U.S. Census Bureau 2012), the population of the village of Fagasa (Census Tract 9509) is 4,312, which is 8 percent of the population of American Samoa (57,291). The Census indicates that 51 percent (2,206) of the village population is male, and 87 percent (3,745) is ethnic Samoan (one ethnicity). The median age is 21.5 years, and 1,253 members of the village population aged 16 or older are employed. The primary industry for the employed population of the territory is manufacturing (28 percent), although a significant section of the population works in educational, health and social services (17 percent), public administration (12 percent), and retail trade (11 percent). The village has 740 housing units, of which 712 are occupied. The average household size is 6.06 people. The median household income is $18,889.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations (FEMA 2008). The population of American Samoa is generally highly homogeneous regarding ethnicity and income levels.

Potential public safety hazards include hazardous materials that pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed. The Resource Conservation and Recovery Act (RCRA) provides USEPA the authority to control hazardous wastes from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of nonhazardous wastes. In addition, the Hazardous Materials Branch of ASEPA regulates the importation, storage, and disposal of hazardous materials and waste. In addition, ASEPA may prohibit such generation, transportation, storage, or disposal if it is determined that these activities will endanger public health and safety or the environment, or where such activities are not

performed in accordance with the regulations set forth in Title 24 of the American Samoa Code Annotated (ASEPA 2011).

American Samoa is subject to natural disasters including cyclones, earthquakes, and tsunamis. Over the past 50 years, seven major cyclones have struck American Samoa, ranging in intensity from Category 2 to Category 5, and resulting in a combined total of 115 fatalities.

4.11.1 Alternative 1: No Action

Under the No Action Alternative, no construction activities would occur and conditions at the project site would remain the same as they are under existing conditions; therefore, there would be no impacts to minority or low-income populations and no changes to the social or economic character of the community. The exiting temporary structures would remain, resulting in potential public safety hazards in the event of a tsunami or cyclone because those structures were not meant for permanent use nor were they installed to meet current codes and standards.

4.11.2 Alternative 2: Proposed Action

Implementation of the Proposed Action would not result in changes to the socioeconomic character of the community. The Proposed Action would replace the damaged school buildings with replacement facilities that would be constructed to current codes and standards at an equivalent size, resulting in the socioeconomic benefit to the village. The Proposed Action would not permanently increase the number of residents in the project vicinity and would not generate additional demand for housing or jobs. Additionally, the Proposed Action would not have disproportionately high and adverse effects on minority or low-income populations. Thus, the Proposed Action would comply with EO 12898 and would not result in long-term adverse socioeconomic and public safety impacts.

Construction activities would involve the limited transportation, storage, usage, and disposal of hazardous, explosive, reactive, or other dangerous materials on a temporary basis. Small quantities of these materials, such as gasoline and diesel fuel, would be used to power equipment during construction and maintenance activities. All construction activities involving the transportation, usage, and disposal of regulated materials would be subject to federal and local health and safety requirements. ASDOE would require the construction contractor to prepare a Minor Spill Response Plan that presents the procedures and protocols utilized in the event of a spill resulting from the activities associated with the construction and installation of the proposed school facilities. The plan would be reviewed and approved by the Hazardous Materials Branch of ASEPA prior to notice to proceed for project construction. Adherence to this plan would ensure that the Proposed Action would not result in an adverse public safety effect due to hazardous or other regulated, dangerous materials.

4.12 Visual Resources

Located across the shoreline road along Fagasa Bay to the north, the project site is currently developed with existing school structures and is bordered by dense vegetation to the south, the steep Fuaau Ridge to the west, and several residential buildings to the east. The existing site of the proposed building is characterized by a level grass field adjacent to an existing two-level school structure. Viewers of the project area consist primarily of the school students and staff, and nearby residents and visitors to the residences in the immediate vicinity (Image 9).

Image 9: Residences to the east of project site are partially obscured by vegetation.

4.12.1 Alternative 1: No Action

Under the No Action Alternative, no construction would occur and no new facilities would be built; therefore, no impacts would occur to existing visual resources.

4.12.2 Alternative 2: Proposed Action

The Proposed Action would have temporary impacts on the visual character of the project area. Construction activities would be visible from nearby residences and roads. The viewers who would be directly affected by the short-term construction activities would be the students and school staff, and the small number of residents located adjacent to the project area and their house guests.

The Proposed Action would have negligible long-term impacts on visual resources, as the general project area is already developed with some existing school structures and is replacing

facilities that were previously located on the school grounds. The visible improvements would include a two-level structure adjacent to an existing two-level structure. The new building and the existing building would be connected by a concrete walkway on the first floor, and an elevated walkway at the second floor level. Additionally, an exterior ramp and stairway leading to the second story would be visible. The proposed structure would not obstruct existing views to Fagasa Bay from nearby residences and to Fuaau Ridge from the paved shoreline roadway, due to the structure's location and distance from these receptors. Therefore, implementation of the Proposed Action would not result in adverse impacts to existing visual resources.

4.13 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). The pace of growth and development in American Samoa has historically been very slow. There are no known development projects that have been proposed or approved for the village of Fagasa. Two additional tsunami-related reconstruction efforts elsewhere on the island are proposed for FEMA funding. These include another school reconstruction project located in Fagali'i, approximately 7 miles west of the Proposed Action, and reconstruction of the Satala power plant at one of five alternative sites on the western side of Pago Pago Harbor, ranging from 1.5 miles to 3 miles northeast of the Proposed Action. Due to the distance and geographical separation of these cumulative projects from the proposed Le'Atele site, there are no cumulative impacts to consider.

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5.0 Public Participation and Agency Coordination

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

FEMA, with the assistance of ASDOE and TOFR, conducted an informal scoping program at the beginning of the NEPA review process. ASDOE and FEMA met with representatives of the following agencies and organizations on April 19, 2012, to gather their input on this project: ASPA, ASEPA, ASHPO, ASDPW, and ASDMWR. Meeting minutes were prepared by TOFR summarizing the agency issues to be addressed in the EA. TOFR, with support from FEMA, also circulated and published a Public Scoping Notice in the Samoa News newspaper (with a circulation area covering all of American Samoa) on August 24 and August 25, 2012. No comments were received by FEMA in response to the Scoping Notice. Copies of the notice and meeting minutes are provided in Appendix B of this EA.

TOFR and FEMA will circulate the Draft EA for a 2-week public comment period. During the public comment period, FEMA will accept written comments on the Draft EA addressed to:

> FEMA EHP Le'Atele, 1111 Broadway, Suite 1200, Oakland, California 94607 or
> email to: fema-rix-ehp-documents@fema.dhs.gov

At the end of this period, FEMA will review all public comments and consider them in the decision-making process before notifying the public of its final determination.

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6.0 References

All photographs in this document are courtesy of AECOM 2011 and 2012 except where otherwise noted.

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7.0 List of Preparers

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Appendices

Appendix A: Agency Consultation

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Hon. Lolo Matalasi Moliga
Governor

Lemanu Peleti Mauga
Lieutenant Governor

Executive Offices of the Governor
American Samoa Historic Preservation Office
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April 29, 2013

068-13HP

Mr. G. Morgan Griffin
Deputy Regional Environmental Officer
U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Re: Le'atele Elementary School
FEMA-1859-DR-AS, PW 193
Subgrantee: American Samoa Department of Education

Dear ~~Mr. Griffin~~ Morgan:

Thank you for your letter dated April 3, 2013 concerning the Federal Emergency Management Agency's (FEMA) an application to provide funding to the Department of Education (Sub-applicant) through the Territorial Office of Fiscal Reform (TOFR) to restore the function of the Le'atele Elementary School's administrative building in Fagasa, Tutuila Island American Samoa (Undertaking). I have reviewed your letter, the attached report, and offer the following comments.

I concur with your determination of the area of potential effects (APE), as per the documentation included with your letter.

I also concur with your determination historic properties are present or likely present within the APE because it has been previously disturbed and the existing concrete slabs to be used as staging areas are not considered historic properties.

In addition, I concur with your determination of no effect on historic properties because, given FEMA's no historic property determination, there are no historic properties to be affected, with the proviso that if any subsurface historic properties are discovered during ground-disturbing activities that FEMA will stop construction and take necessary measures to avoid or minimize harm to the property in consultation with the American Samoa Historic Preservation Office, pursuant to 36 CFR Part 800.13(d).

Thank you for your time and attention. This information has been provided upon the request of the Federal Emergency Management Agency in order to assist FEMA with its

Section 106 responsibilities under the National Historic Preservation Act of 1966, as amended and specified in the 36 CFR § 800 regulations.

If you have any questions concerning this correspondence please do not hesitate to contact me at (684) 699-2316.

Sincerely,

David J. Herdrich
Historic Preservation Officer

cc: Paula Falk Creech, American Samoa and Micronesia Program Manager, NPS
Lima Fiatoa, TOFR

U.S. Department of Homeland Security
Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

April 3, 2013

Mr. David Herdrich
Historic Preservation Officer
American Samoa Historic Preservation Office
Executive Office of the Governor
American Samoa Government
Pago Pago, American Samoa 96799

Re: Le'Atele Elementary School
FEMA-1859-DR-AS, PW 193
Subgrantee: American Samoa Department of Education

Dear Mr. ~~Herdrich~~ David:

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide financial assistance to the American Samoa Department of Education (ASDOE), through the Territorial Office of Fiscal Reform (TOFR), to restore the function of the Le'Atele Elementary School's administration building, early childhood education (ECE) building, and kitchen/cafeteria building in Fagasa, Tutuila, American Samoa (Undertaking). The Le'Atele Elementary School's administrative building, ECE building, and kitchen/cafeteria building were destroyed during the earthquake, tsunami, and flooding designated a Presidentially declared disaster (FEMA-1859-DR-AS). This letter, supported by the enclosed Cultural Resources Inventory Report, serves as FEMA's request for consultation with your office in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR Part 800).

The Undertaking includes construction of a two-story, elevated, multi-use, replacement building within the existing campus and connection to existing utilities. A detailed description of the Undertaking is provided in the enclosed Cultural Resources Inventory Report.

FEMA has determined that the area of potential effects (APE) is defined as a 0.55-acre area potentially subject to ground disturbance. The APE is described in more detail in the enclosed Cultural Resources Inventory Report and shown in Figure 2 of the enclosed Cultural Resources Inventory Report.

FEMA's archaeological consultant, AECOM, conducted background and archival research and an archaeological survey in an effort to identify and evaluate historic properties. No historic properties were identified in the APE. Methods and results are documented in the enclosed Cultural Resources Inventory Report.

Based on the results of its identification and evaluation effort, FEMA has determined that implementation of the Undertaking would result in "no historic properties affected". Although the potential is low, unexpected subsurface historic properties could be discovered during ground-disturbing activities. Therefore, ASDOE (including its contractors and agents) would be responsible for halting work in the event of an unanticipated discovery during construction and notifying TOFR and FEMA as soon as practicable. If FEMA determines that the discovery has the potential to be a significant historical property, FEMA would require ASDOE to stop all construction in the vicinity of the discovery and to take all reasonable measures to avoid or minimize harm to the property until FEMA concludes consultation with your office, pursuant to 36 CFR Part 800.13(b).

FEMA requests your review and concurrence regarding these findings. Unless your office objects to FEMA's determinations within 30 days of receipt of this request, FEMA may consider its responsibilities under Section 106 of the NHPA complete and fund the Undertaking. If you have any questions regarding this request or require additional information, please do not hesitate to contact me at (510) 627-7033, morgan.griffin@fema.dhs.gov, or the letterhead address.

Sincerely,

Digitally signed by Gregory Morgan Griffin
DN: cn=Gregory Morgan Griffin, o=DHS FEMA R9, ou=Recovery - EHP, email=morgan.griffin@fema.dhs.gov, c=US
Date: 2013.04.03 15:07:17 -07'00'

G. Morgan Griffin
Deputy Regional Environmental Officer

Enclosure

cc: Lima Fiatoa, TOFR

Appendix B: Public Scoping Notices and Agency Distribution List

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PUBLIC SCOPING NOTICE

ENVIRONMENTAL ASSESSMENT

Le'Atele Elementary School Building Replacement

FEMA-1859-DR-AS, PW 193

The American Samoa Department of Education's Le'Atele Elementary School in Fagasa Village was severely damaged by the earthquake, tsunami, and flooding that occurred on September 29, 2009, and was declared a Presidential disaster (FEMA-1859-DR-AS). The event caused structural damage beyond repair to the administration building, the Early Childhood Education building, and the kitchen/cafeteria building. Since the disaster, the Le'Atele school has been operating with temporary buildings. To restore the function of the three destroyed buildings, the American Samoa Department of Education (ASDOE) has requested financial assistance from the Department of Homeland Security's Federal Emergency management Agency (FEMA). If approved, FEMA would provide financial assistance to ASDOE, through the Territorial Office of Fiscal Reform (TOFR), under the Public Assistance Program. ASDOE is considering a project to meet the need to replace the three buildings damaged by the disaster by constructing a single new building outside of the 100-year floodplain on school property.

Before making any irreversible decisions regarding the project, FEMA must follow the appropriate environmental and historic preservation (EHP) review processes. These EHP reviews include ensuring that the project complies with the requirements of the National Environmental Policy Act (NEPA), the National Historic Preservation Act, Executive Order 11988 on Floodplain Management, and other laws, regulations and executive orders. To meet its NEPA compliance responsibilities, FEMA has initiated preparation of an Environmental Assessment (EA), which will evaluate potential effects to the environment resulting from the project and share this information with interested parties. Obtaining public input through the EA process is a critical element of FEMA's commitment to meeting its EHP compliance responsibilities. Thus, FEMA is providing other governmental agencies, nongovernmental organizations, businesses, and the public the opportunity to participate in the information gathering (scoping) process regarding this project. Specifically, FEMA is seeking input to determine the scope of the EA (including alternatives) and substantial issues to be analyzed in the EA.

Relevant issues identified during the scoping process will be addressed in a Draft EA. When complete, the Draft EA will be submitted for public review and comment. ASDOE, TOFR, and FEMA will review all comments on the Draft EA before making any irreversible decisions regarding the project.

Comments on this Public Scoping Notice will be accepted until 5:00 p.m. local time on the 30th day following publication of this notice. Comments may be delivered in the following ways:

U.S. Mail and Express Delivery: U.S. Department of Homeland Security
Federal Emergency Management Agency, Region IX
Office of Environmental and Historic Preservation
Attn: Le'atele ES EA
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Email: fema-rix-ehp-documents@fema.dhs.gov

Facsimile: (510) 627-7138

Telephone: (510) 627-7027 (messages only)

FA'ASILASILAGA FA'ALAUAITELE

FUAFUAGA FA'ATATAU I LE SIOSIOMAGA

TOE FAUSIA O FALE A'OGA A LE'ATELE (FAGASA)

FEMA-1859-DR-AS, PW 193

O le A'oga tulaga muamua a Le'atele i le afio'aga o Fagasa, o le Ofisa o A'oga o Amerika Samoa, na matua fa'aleagaina i le mafui'e, ma le galulolo, i le aso 29 o Setema i le tausaga e 2009, ma na fa'alauiloa ai o se fa'alavelave fa'afuase'i. (FEMA-1859-DR-AS). Na 'avea lea ma mafua'aga na matua fa'aleagaina ai le fa'avae o le fale sa i ai le Ofisa o le a'oga, fale mo a'oga fa'ata'ita'i, umukuka ma le fale sa fa'aaoga e taumamafa ai alo ma fanau a le afio'aga o Fagasa. Mai lava i lea taimi, 'ina 'ua mae'a le fa'alavelave fa'afuase'i, sa fa'aaoga e le A'oga ni fale le tumau e fa'aauau ai a'oga 'a le fanau. Mo le toe fausia o falea'oga e tolu sa fa'aleagaina, sa talosagaina e le vaega o A'oga a le malo o Amerika Samoa, se fesoasoani tau tupe e ala i le vaega o le Homeland Security's Federal Emergency Management Agency (FEMA). Afai e talia le talosaga, ona fa'atupeina lea e le (FEMA) le fesoasoani tau tupe ma tu'uina atu loa i le vaega o A'oga a le malo o Amerika Samoa, e ala atu i le Ofisa o le (TOFL) i lalo o le polokalama o alaga manuia lautele. 'Ua fuafua e le Ofisa o A'oga ni falea'oga e fetaui ma le mana'oga, e sui ai falea'oga e tolu na fa'atamai'ia i le fa'alavelave mata'utia, ma o le 'a fausia i luga o 'ele'ele vailaloa o le lotoa a le a'oga.

A 'o le'i faia se l'uga maumauutu o lenei fa'amoemoe, e tatau lava i le FEMA, 'ona amana'ia aiaiga ma fuafuaga ua fa'atulaga ma toe iloiloina e le vaega o le si'osi'omaga o fanua fa'asao mo tala fa'asolopito, (EHP). 'O nei iloiloga e aofia ai le mautinoa, o fa'atautaia lenei galuega, e tusa ma aiaiga fa'a-le-tulafono ua fa'ata'oto e le Ofisa o le fa'atauaina o le Si'osi'omaga, (NEPA), le vaega o nofoaga fa'asao mo tala fa'asolopito (NHPA). Le fa'asinomaga fa'alotoifale (11988) o lau'ele'ele vailaloa, atoa ma isi tulafono ma aiaiga, 'ae maise feutaga'iga ua faia. Ina ia o gatasi ma fuafuaga ma tiute o le Matagaluega(NEPA), 'ua taulamua le (FEMA) i le tapenaina ma fa'atulaga su'esu'ega mo le Si'osi'omaga(EA), 'e an'ili'ili ai a'aflaga patino e mafua mai i lenei galuega, ma fa'asoa atu ia fa'amatalaga 'ia 'i latou e fia maua se malamalamaga i ia mata'upu. 'O le mauaina o fesoasoani ma fautuaga mai i le mafo ma tagata lautele, e fa'ao'o mai i le Ofisa o le (EA), 'o se vaega taua tele i fuafuaga fa'ata'oto'oto a le (FEMA), 'ina 'ia fetaui ma aiaiga ma le fa'atinoga o le tautua a le Ofisa (EHP). Ma, ua fa'amatu'u atu e le (FEMA) ni avanoa taua i Ofisa o le malo, fa'alapotopotoga tuma'oti, ma so'o se pisinisi, 'ina ia 'auai i le tau sa'ilia ma fa'amaopoopoina o fa'amatalaga ma fuafuaga o lenei galuega. 'O lo 'o tausa'ili pea e le (FEMA) ni fautuaga ma ni fesoasoani e fuafua ai se fa'atulagaga sologa lelei 'o iloiloga, fa'atasi ma ni suiga talafeagai i le au'ili'iliga o su'esu'ega a le Ofisa.

O ni mata'upu talafeagai ma logoleleia e mafai 'ona fa'ailoa i le gasologa o le fa'amoemoe, 'o le a fa'alauiloa i le pepa o le iloiloga. A mae'a, 'ona tu'uina atu lea mo se toe iloiloga pe sasa'a fo'i iai le tofa ma le utaga i le mamalu lautele o le atunu'u, mo ni fautuaga ma ni teuteuga. 'O le a iloilo ma silasila toto'a le matagaluega o a'oga, ASDOE, TOFR, ma le FEMA, i fautuaga ma fesoasoani o le a fa'ao'o mai, 'a 'o le'i ta mau se fa'ai'uga mo lenei fa'amoemoe.

O fa'amatalaga ma fautuaga 'ua i lenei polokalama e pei 'ona fa'ailoa atu, o le a talia ma taulimaina, amata mai i le taimi e fa'alauiloa ai lenei fa'amoemoe, se'ia fa'agata i le ta tonu o le lima (5: 00) i le afiafi o le aso tolusefulu o 'Aukuso. E mafai ona tuuina mai fa'amatalaga i auala ia ua ta'ua i lalo:

Meli a le U.S.: U.S. Department of Homeland Security
Federal Emergency Management Agency, Region IX
Office of Environmental and Historic Preservation
Attn: Le'atele ES EA
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Imeli: fema-rix-ehp-documents@fema.dhs.gov

Facsimile: (510) 627-7138

Telefoni: (510) 627-7027 (na'o fa'amatalaga fa'aleo)

PUBLIC SCOPING NOTICE

ENVIRONMENTAL ASSESSMENT

Le'Atele Elementary School Building Replacement

FEMA-1859-DR-AS, PW 193

The American Samoa Department of Education's Le'Atele Elementary School in Fagasa Village was severely damaged by the earthquake, tsunami, and flooding that occurred on September 29, 2009, and was declared a Presidential disaster (FEMA-1859-DR-AS). The event caused structural damage beyond repair to the administration building, the Early Childhood Education building, and the kitchen/cafeteria building. Since the disaster, the Le'Atele school has been operating with temporary buildings. To restore the function of the three destroyed buildings, the American Samoa Department of Education (ASDOE) has requested financial assistance from the Department of Homeland Security's Federal Emergency management Agency (FEMA). If approved, FEMA would provide financial assistance to ASDOE, through the Territorial Office of Fiscal Reform (TOFR), under the Public Assistance Program. ASDOE is considering a project to meet the need to replace the three buildings damaged by the disaster by constructing a single new building outside of the 100-year floodplain on school property.

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Office of Environmental and Historic Preservation
Attn: Le'atele ES EA
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

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Federal Emergency Management Agency, Region IX
Office of Environmental and Historic Preservation
Attn: Le'atele ES EA
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Imeli: fema-rix-ehp-documents@fema.dhs.gov

Facsimile: (510) 627-7138

Telefoni: (510) 627-7027 (na o fa'amatalaga fa'aleo)

Le'Atele Elementary School Buildings Replacement Environmental Assessment Scoping Process Distribution List

Federal Agencies

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United States Environmental Protection Agency Region 9
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United States Environmental Protection Agency Region 9
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American Samoa Government Offices

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Paramount Chief Lefiti A. Pese, Secretary of Samoan Affairs
American Samoa Office of Samoan Affairs
Department of Local Governments, Utulei
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American Samoa Port Administration
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Territorial Office of Fiscal Reform
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HTC Tuaolo M. E. Fruean, Commissioner
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Private Sector/Individuals

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la@southseasbroadcasting.com

Appendix C: Notice of Availability of Draft Environment Assessment

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Appendix D: Cultural Resources Inventory Report

Cultural Resources Inventory Report Bound Separately (RESTRICTED DISTRIBUTION)

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CULTURAL RESOURCES INVENTORY REPORT

LE'ATELE ELEMENTARY SCHOOL BUILDINGS REPLACEMENT

TERRITORIAL OFFICE OF FISCAL REFORM

AMERICAN SAMOA DEPARTMENT OF EDUCATION

FEMA-1859-DR-AS, PW 193

APRIL 2013

FEDERAL EMERGENCY MANAGEMENT AGENCY, REGION IX
DEPARTMENT OF HOMELAND SECURITY
1111 BROADWAY, SUITE 1200
OAKLAND, CA 94607

FEMA

THIS DOCUMENT WAS PREPARED FOR

FEMA

FEDERAL EMERGENCY MANAGEMENT AGENCY, REGION IX
DEPARTMENT OF HOMELAND SECURITY
1111 BROADWAY, SUITE 1200
OAKLAND, CA 94607

THIS DOCUMENT WAS PREPARED BY

AECOM

1420 KETTNER BOULEVARD, SUITE 500
SAN DIEGO, CA 92101

FEMA-1859-DR-AS, PW 193
CONTRACT NO. HSFEHQ-12-D-0879
TASK ORDER HSFE80-12-J-0009
AECOM # 60270080.0000

KEYWORDS: TUTUILA EAST USGS 7.5' QUADRANGLE, TUTUILA WEST USGS 7.5' QUADRANGLE, 0.55 ACRE, INTENSIVE PEDESTRIAN ARCHAEOLOGICAL SURVEY, LE'ATELE ELEMENTARY SCHOOL

COVER PHOTO: PROJECT SITE ACROSS FAGASA BAY