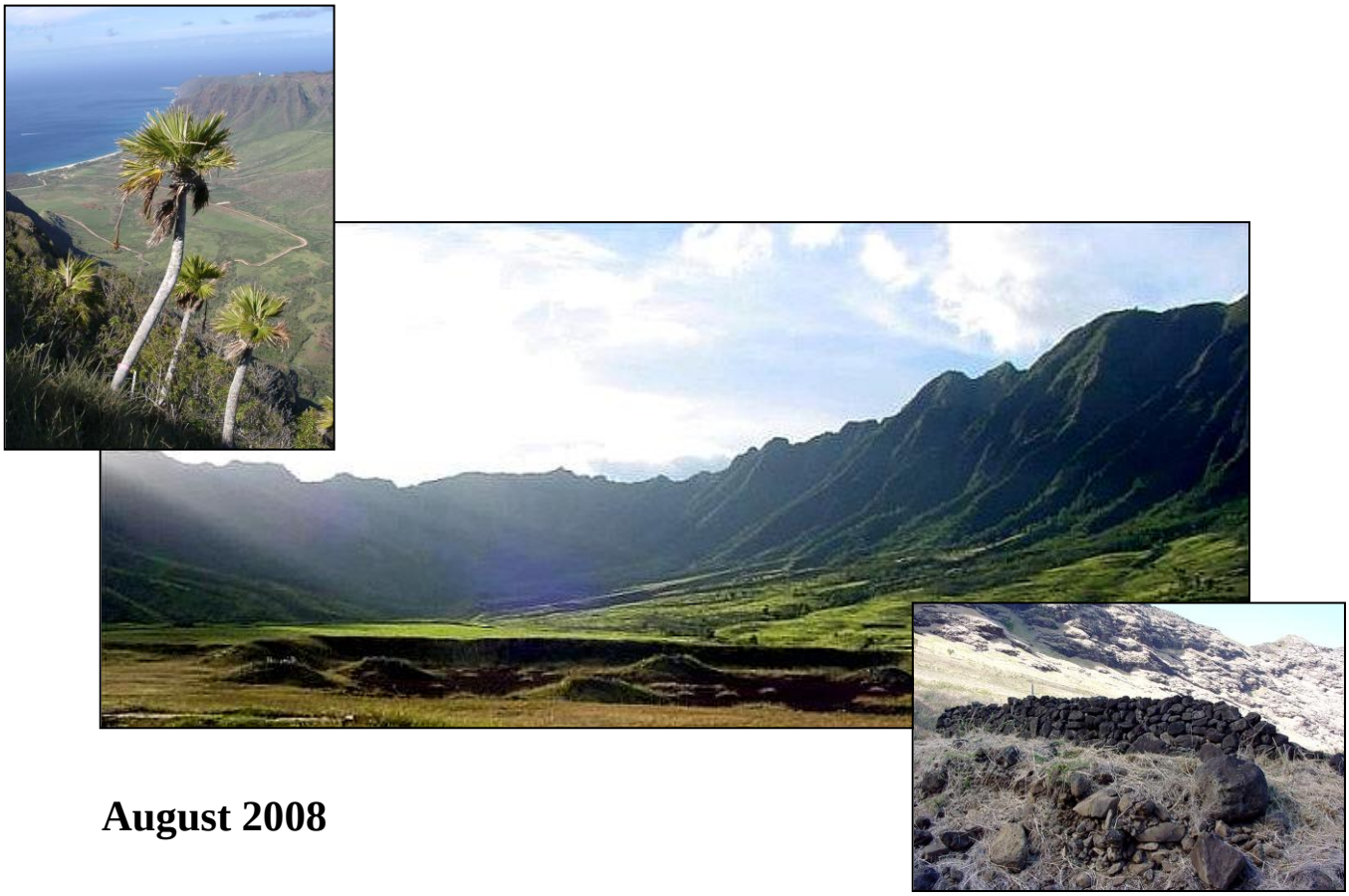
Supplemental Draft Environmental Impact Statement

MILITARY TRAINING ACTIVITIES AT MĀKUA MILITARY RESERVATION, HAWAIʻI

Volume 2 – Appendices A-G



August 2008

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APPENDIX A

STATUTORY AND REGULATORY FRAMEWORK

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APPENDIX A
CHAPTER 3 STATUTORY AND REGULATORY FRAMEWORK

CHAPTER 3 STATUTORY AND REGULATORY FRAMEWORK

This appendix serves as a supplemental guide to Chapter 3 discussions and contains the laws, regulations, and programs associated with the various resources discussed in Chapter 3. Army decisions that affect environmental resources and conditions occur within the framework of numerous laws, regulations, and Executive Orders (EOs). Some of these authorities prescribe standards for compliance. Others require specified planning and management actions, adherence to which protects environmental values potentially affected by Army actions.

The breadth of the subject matter in this EIS and the nature of the environmental resources that could be affected require that the Army consider many laws, regulations, and EOs related to environmental protection. This appendix identifies the principal laws and EOs and how they relate to the Proposed Action. These authorities are addressed at various sections throughout this EIS when they are relevant to particular environmental resources and conditions. Full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange Web site at http://www.denix.osd.mil.

A.1 LAND USE

A.1.1 Federal Land Use Regulations

Coastal Zone Management Act

Federal coastal zone management (CZM) enforcement authority (Public Law 92-583), as amended, has been delegated to the State of Hawai‘i (Chapter 205A, Hawai‘i Revised Statues, as amended). Other than the review of federal applicants, federal permits, or federal activities, state CZM review authority has been delegated to the county level through special management area (SMA) controls. Each federal

agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone must be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of the Federally approved Hawai‘i Coastal Zone Management Program. The CZMA (16 USC 1453(1)) excludes federal lands from the coastal zone and therefore activities which only affect only federal lands are not subject to the above mentioned requirements regarding consistency.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq.) is intended to minimize the extent to which Federal activities contribute to the conversion of farmland to nonagricultural uses. It also stipulates that federal programs be compatible with state, local, and private efforts to protect farmland—for example, Hawai‘i‘s land use law (Act 187) which designates agricultural district lands.

Federal agencies are required to examine the impact of any activity that would convert farmland. Under the FFPA, “farmland” includes all land defined as Prime farmland, Unique farmland, and Other farmland of statewide or local importance. Agencies have the option of determining whether a site contains farmland—and therefore falls under the Act—without input from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), which is charged with FPPA oversight. Because portions of the South Range Acquisition Area, portions of the West PTA Acquisition Area and PTA Trail easement, as well as segments of the Dillingham Trail and Helemanō Trail easements, may be subject to the requirements of the FPPA, the Army submitted a letter to the NRCS requesting farmland identification on these properties. These communications demonstrate that the Army has complied with the FPPA.

Federal Land Policy and Management Act of 1976, 43 USC 1701-1784

Provides for the management of public lands that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values, that, where appropriate, will preserve and protect certain public lands in their natural condition.

Army Regulation 210-21, Army Ranges and Training Land Program

AR 210-21 assigns responsibilities and prescribes policies, procedures, and guidance for determining training land requirements. Documentation required under this regulation includes Land Use Requirement Studies, to determine whether a training land shortfall exists, and Range and Training Land Program (RTLP) Development Plans that compile installation range and training land projects.

The RTLP Land Use Requirement Study (Nakata Planning Group LLC. 2002b) quantifies the 25th ID(L) and USARHAW training land requirements and surveys the sufficiency of lands currently under Army control and available for training. The study analyzes training land requirements for a light division with two

infantry brigades and makes recommendations based on guidance from training circulars, Army regulations, and ARTEP mission training plans. In addition, the study analyzes the impact of transforming one brigade into an Interim Brigade Combat Team, while the remaining brigade transforms as a Legacy Force light infantry brigade.

The RTLP Development Plan (Nakata Planning Group LLC. 2002a) provides a view of available assets, identifies the users (customers), and establishes the training requirements based on Army training doctrine and resource guidance. It establishes current requirements and utilization levels for available training assets, providing a near-term and long-term project plan for training, public works, and environmental planners. The projects identified in the RTLP Development Plan consider the impacts on the 25th ID(L) and USARHAW's mission, economic resources, environmental stewardship, and potential for productivity enhancements.

Integrated Natural Resources Management Plans

Integrated Natural Resources Management Plans (INRMPs) are comprehensive plans for the management of installation resources, including recreation resources. The following plans were reviewed for the recreation section of the document:

> Integrated Natural Resources Management Plan and Environmental Assessment/Finding of No Significant Impact 2002-2006 Oʻahu August 2001a (USARHAW and 25th ID [L] 2001a). This document addresses the following installations: Dillingham Military Reservation, Kahuku Training Area, Kawailoa Training Area, Mākua Military Reservation, Schofield Barracks East Range, and Schofield Barracks Military Reservation.
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> Integrated Natural Resources Management Plan and Environmental Assessment/Finding of No Significant Impact 2002-2006 Pōhakuloa Training Area. August 2001b (USARHAW and 25th ID [L] 2001b).

Army Integrated Training Area Management (ITAM) Program

The Army Integrated Training Area Management (ITAM) program provides a decision-making process and an action-oriented land management program to integrate Army training and other mission requirements for land use with sound natural resource principles. The objectives, responsibilities and policies for the ITAM program are set forth in AR 350-4, ITAM. Within the 25th ID (L) and USARHAW, ITAM is under the direct supervision of the G3-Director of Plans, Training and Mobilization (DPTM), Range Division Hawaiʻi. The ITAM program is used to help balance environmental compliance and natural resources management needs with the installation's mission to provide realistic training lands for active and reserve forces. ITAM is intended to bridge the mission training requirements and the natural and cultural resource compliance and prevention requirements.

A.1.2 State Land Use Regulations

Hawai'i State Plan

In 1978, the state completed a Hawai'i State Plan to improve the planning process, to increase the effectiveness of government and private actions, to improve coordination among agencies and levels of government, to provide for the wise use of Hawai'i's resources, and to guide the future development of the state (HDBEDT 1991).

The legislature adopted the Hawai'i State Planning Act, as Hawai'i Revised Statute Section 226-1. The act consists of a series of broad goals, objectives, and policies that guide future long-term growth and development. The planning act further provides a basis for determining priorities and allocating limited resources, seeks to improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities, and establishes a system for plan formulation and program coordination to integrate all major state and county activities.

State Functional Plans

The Hawai'i State Planning Act called for the creation of functional plans to set specific objectives, to establish policies, and to implement actions for a particular field of activity. These functional plans further identified those organizations responsible for carrying out the actions, the implementing timeframe, and the proposed budgets. The most current functional plans that may be relevant to the proposed projects are discussed below.

The State Agricultural Functional Plan (1991) identified issues vital to the economic growth and success of the agriculture industry. One of the governing policies of the functional plan for agriculture is to develop capabilities to convert Hawai'i-grown crops into potential new value added products for the local, visitor industry, and export markets. The plan encouraged the promotion of effective marketing for Hawai'i's agricultural commodities and the fostering of increased public awareness and understanding of the contribution and benefits of agriculture as a major sector of Hawai'i's economy.

The State Recreation Functional Plan (1991) focused on six areas: ocean and shoreline recreation; Mauka, urban, and other recreation; public access to the shoreline and upland recreation areas; resource conservation and management; management and recreation programs, facilities; and wetlands protection and management. The plan included a technical reference document referred to as the State Comprehensive Outdoor Recreation Plan, which was updated in 1996.

The State Conservation Lands Functional Plan (1991) primarily addressed governmental policies and programs directed at the preservation of conservation lands and the judicious use of the State's natural resources.

State Land Use Districts

The Land Use Law under Hawai‘i Revised Statutes, Section 205, places all lands in one of four land use districts: Urban, Agriculture, Conservation, or Rural. The State Land Use Commission, an agency of the Department of Business, Economic, Development, and Tourism, administers the land use law and periodically updates the land use district maps. The Land Use Commission also reviews applicant-initiated amendments to the district boundaries, pursuant to Hawai‘i Revised Statute Section 205-4 and the Hawai‘i Administrative Rules, Chapter 15-15, Hawai‘i Land Use Commission Rules, as amended.

Hawai‘i Administrative Rules Title 13 Department of Land and Natural Resources (DLNR)

Under this Hawai‘i Administrative Rule, DLNR is charged with regulating land use in the Conservation District for conserving, protecting, and preserving the important natural resources of the state through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. Conservation District subzone designations are Protective, Limited, Resource, General, and Special.

Hawai‘i Coastal Zone Management Program

Enacted as Chapter 205A, Hawai‘i Revised Statute, the Hawai‘i CZM Program was established in 1977 in response to the Federal Coastal Zone Management Act of 1972. The CZM Program encompasses the entire state, including all marine waters seaward to the extent of the state’s police power and management authority, including the 12-mile US territorial sea.

A.1.3 County Land Use Plans and Policies

City and County of Honolulu General Plan Objectives and Policies

The 1992 General Plan for the City and County of Honolulu is a statement of objectives and policies that set forth the long-range aspirations of O‘ahu residents and strategies of action to achieve them. It is the focal point of a comprehensive planning process that addresses various issues affecting the City and County of Honolulu (City and County of Honolulu 1992).

City and County of Honolulu Sustainable Communities Plans

O‘ahu is divided into eight geographic planning regions responding to specific conditions and community values of each region. Most of O‘ahu’s project areas are included in four of the sustainable community plans: Central O‘ahu (City and County of Honolulu 2002a), North Shore (City and County of Honolulu 2000a), Wai‘anae (City and County of Honolulu 2000b), and Ko‘olau Loa (City and County of Honolulu 2002b). These planning regions are envisioned to remain relatively stable. The project area at Hickam AFB is included in the Primary Urban Center, which is composed of communities from Wai‘alae-Kahala to Pearl City. It is the most populated part of the state, and is O‘ahu’s largest employment center.

City and County of Honolulu Land Use Ordinance

The purpose of the ordinance is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the O‘ahu General Plan and Sustainable Community Plans, and to promote and protect the public health, safety, and welfare.

Special Management Area and Shoreline Setback

The SMA and shoreline setback are designated for more intensive management. The SMA originally encompassed all lands extending not less than 100 yards inland from the shoreline. The shoreline is defined as the upper reaches of the wash of the waves at high tide during the season of the year in which the highest wash of the waves occurs (other than storm or seismic waves). The shoreline is usually evidenced by vegetation growth or by the upper limit of debris left by the wash of waves. In some areas, the SMAs currently extend several miles inland to cover areas in which coastal resources are likely to be directly affected by development activities. The shoreline setback is the area between the shoreline and the shoreline setback line. Currently, most shoreline setback lines are set at 40 feet from the shoreline, although in some places the shoreline setback boundaries extend farther inland.

A.2 AIRSPACE

A.2.1 Airspace Regulations

The Federal Aviation Act of 1958

The Federal Aviation Act of 1958 gives the Federal Aviation Administration (FAA) sole responsibility for the safe and efficient management of all airspace within the United States, a responsibility that must be executed in a manner that meets the needs of all airspace users, both civil and military. The FAA’s policy on airspace is implemented by FAA Order 1000.1A and is stated in FAA Handbook 7400.2E, *Procedures for Handling Airspace Matters.*

Part 5 of FAA Handbook 7400.2E

This section contains the policy, procedures, and criteria for the assignment, review, modification, and revocation of special use airspace. Special use airspace, including prohibited areas, restricted areas, military operations areas, alert areas, and controlled firing areas, is airspace of defined dimensions wherein activities must be confined because of their nature, or wherein limitation may be imposed upon aircraft operations that are not a part of those activities, or both. This section also contains the policy, procedures, and criteria for the assignment, review, modification, and revocation of special use airspace overlying water, namely, warning areas. A warning area is airspace of defined dimensions over international waters containing activity that may be hazardous to nonparticipating aircraft. Because international agreements do not provide for prohibition of flight in international airspace, no restriction of flight is imposed. The term “warning area” is synonymous with the International Civil Aviation Organization term “danger area” (FAA 2001).

DOD Policy On The Management Of Special Use Airspace-

This policy is essentially an extension of FAA policy, with additional provisions for planning, coordinating, managing, and controlling those areas set aside for military use. Airspace policy issues or interservice problems that must be addressed at the DOD level are handled by the DOD Policy Board on Federal Aviation, a committee composed of senior representatives from each service. However, airspace action within the DOD is decentralized, with each service having its own central office to set policy and oversee airspace matters.

Executive Order 10854-

This EO extends the responsibility of the FAA to the overlying airspace of those areas of land or water outside the jurisdiction of the United States. Under this order, airspace actions must be consistent with the requirements of national defense, must not be in conflict with any international treaties or agreements made by the United States, nor be inconsistent with the successful conduct of the foreign relations of the United States. Accordingly, actions concerning airspace beyond US jurisdiction (12 miles [19 kilometers]) require coordination with the DOD and State Department, both of which have preemptive authority over the FAA (FAA 2001).

Army Regulation 95-2 Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids-

This regulation covers Army air traffic control general provisions, certification of airfields, airspace, and special military operations requirements, terminal instrument procedures, terminal air navigation, approach facilities, and other matters.

A.3 VISUAL RESOURCES

Army Regulation 200-3 Natural Resources - Land, Forest and Wildlife Management

This regulation provides for maintenance, protection, and improvement of aesthetic values by "protecting and improving the natural beauty of the landscape" and "improving the appearance of installations and facilities in accordance with an approved landscape master plan and through initiatives of the Army Community of Excellence and self-help programs," including the Installation Design Guide (IDG). The IDG provides specific guidelines and information to improve the aesthetics of the installation, including site planning for parking, signs, lighting, and utilities, lists of plants appropriate for planting at specific installation sites, and standards for the planting, maintenance, and protection of trees, shrubs, groundcovers, and turf. All new construction projects are to include provisions for landscaping and aesthetics with appropriate landscape design and funding authorization, including landscaping, buffer zones, screening, parks, and recreational areas, as appropriate.

A.4 AIR QUALITY

Clean Air Act, 42 USC 7401

This Act authorizes adoption of federal ambient air quality standards and emission standards, pre-construction permit review programs, operating permit programs and emissions reduction programs. Also requires states to adopt and implement programs (state implementation plans) to achieve and maintain the federal ambient air quality standards within specified time frames. Requires federal agencies to comply with state and local air pollution control programs. Requires federal agencies to evaluate actions which they undertake or support to ensure that those actions do not interfere with timely attainment of federal ambient air quality standards.

The original 1963 federal Clean Air Act limited federal involvement in air quality programs to research, education, and advisory functions, plus a mediation role for interstate disputes. The federal role was expanded in 1965 with Congressional authorization for uniform federal emission standards for motor vehicles. The 1970 amendments to the Clean Air Act established several regulatory programs, including the following:

Adoption of emission standards for motor vehicles and other types of mobile sources;

Adoption of emission standards for major new industrial facilities as new source performance standards;

Adoption of national emission standards for hazardous air pollutants; and

Preconstruction review of major new industrial facilities or major modifications to existing facilities as the new source review (NSR) program for nonattainment areas and the prevention of significant deterioration (PSD) program for attainment areas.

The 1977 amendments to the Clean Air Act revised and expanded some of the regulatory programs established by the 1970 amendments. The 1990 amendments to the Clean Air Act made further revisions to the established regulatory programs and added some new regulatory programs, as follows:

Operating permits for major industrial facilities (Title V permits);

Additional programs to regulate an extensive list of hazardous air pollutants;

Emissions allocation programs to regulate sulfur emissions from electrical power generation facilities;

Programs to reduce emissions of compounds that deplete stratospheric ozone levels; and

Requirements for federal agencies to demonstrate that actions they undertake are consistent with federally mandated SIPs.

In general, states have assumed primary responsibility for enforcing most industrial source emission standards and industrial source review requirements; the USEPA exercises formal review and oversight. Most states have implemented the NSR, PSD, and Title V requirements as formalized air quality permit programs. Many states have air quality permit programs that extend to emission sources not covered by federal NSR or PSD requirements. State air quality permit requirements generally are integrated with federal NSR and PSD requirements, resulting in a consolidated permit program. Under most consolidated permit programs, basic state permit requirements apply to all sources that are not specifically exempted. Additional NSR and PSD program requirements (including USEPA review of the permit) become applicable if sources exceed various size or emission thresholds.

The State of Hawai‘i has adopted ambient concentration guidelines for hazardous air pollutants which are used as part of the permit review process for emission sources that require state or federal air quality permits. The Hawai’i ambient exposure guidelines for hazardous air pollutants (Hawai‘i Administrative Rules Title 11 Chapter 60.1, Section 179) include the following:

> For noncarcinogenic compounds, an 8-hour average concentration equal to one percent of the corresponding 8-hour threshold level value (TLV) adopted by OSHA;
>
> For noncarcinogenic compounds, an annual average concentration equal to 1/420 (0.238 percent) of the 8-hour TLV value adopted by OSHA;
>
> For noncarcinogenic compounds for which there is no OSHA-adopted TLV, the Director of Health is authorized to set ambient air concentration standards case-by-case to avoid unreasonably endangering public health with an adequate margin of safety; and
>
> For carcinogenic compounds, any ambient air concentration that produces an individual lifetime excess cancer risk of more than 10 in 1 million, assuming continuous exposure for 70 years.

A.5 Noise

Federal Legislation

The Noise Pollution and Abatement Act of 1970 (Title IV of the Clean Air Act, 42 USC 7627) established an Office of Noise Abatement and Control within the US Environmental Protection Agency (EPA). The EPA was directed to investigate and identify the effects of noise levels on public health and welfare, including: psychological and physiological effects on humans; effects of sporadic extreme noise as compared with constant noise; effects on wildlife and property; effects of sonic booms on property; and such other matters as may be of interest in the public welfare. Title IV of the Clean Air Act also requires other federal agencies and departments to consult with EPA regarding methods for abating objectionable or nuisance condition noise impacts that result from activities they carry out or sponsor.

The Noise Control Act of 1972 (42 USC 4901* et seq.*)

This act established a requirement that all federal agencies must administer their programs in a manner that promotes an environment free from noise that jeopardized public health or welfare. EPA was given the responsibility for: providing information to the public regarding identifiable effects of noise on public health or welfare, publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety, coordinating federal research and activities related to noise control, and establishing federal noise emission standards for selected products distributed in interstate commerce (construction equipment; transportation equipment; motors and engines; and electrical or electronic equipment). Aircraft, aircraft engines, military weapons, military combat equipment, rockets and other equipment used by the National Aeronautics and Space Administration, and various other items were excluded from the definition of products distributed in commerce. States and political subdivisions thereof retain the right to establish and enforce controls on environmental noise through the licensing, regulation, or restriction of the use, operation, or movement of products or combinations of products. The federal Noise Control Act also directed all federal agencies to comply with federal, state, interstate, and local noise control and abatement requirements to the same extent that any person is subject to such requirements.

Although the EPA can require other federal agencies to justify their noise regulations with respect to the policy requirements of the federal Noise Control Act, each federal agency retains authority to adopt noise regulations pertaining to agency programs. The Occupational Safety and Health Administration has primary authority for setting workplace noise exposure standards. Due to aviation safety considerations, the Federal Aviation Administration has primary jurisdiction over aircraft noise standards.

Federal Interagency Noise Committees

The Federal Interagency Committee on Urban Noise (FICUN) was formed in 1979 to review various federal agency programs related to noise impacts on land use. The committee included representatives of the Department of Transportation, Department of Housing and Urban Development, Environmental Protection Agency, Department of Defense, and the Veterans Administration. The 1980 report issued by FICUN summarized federal agency noise policies and programs. In addition, it identified the Ldn noise metric as the most appropriate noise descriptor to use for evaluating noise in the context of land use compatibility issues. The 1980 FICUN report also included a chart of compatible and incompatible noise levels for various categories of land use.

The Federal Interagency Committee on Noise (FICON) was formed in 1990 to review federal agency policies concerning the assessment of airport noise issues. Participating agencies included the Department of Transportation, Department of Defense, Department of Justice, Department of Housing and Urban Development, Environmental Protection Agency, Veterans Administration, and the Council on

Environmental Quality. The 1992 report prepared by the committee confirmed the use of the Ldn noise metric as the primary basis for assessing land use compatibility issues, but also recognized that supplementary noise descriptors could be useful to further explain noise impacts on a case-by-case basis. The 1992 FICON report recognized the maximum A-weighted decibel level (Lmax) as useful for evaluating short-term individual aircraft flyover events.

The Federal Interagency Committee on Aviation Noise (FICAN) was established in 1993 to provide an on-going forum for coordination and review of federal agency activities related to aviation noise issues. Agency participation in FICAN includes the Federal Aviation Administration, the Department of Transportation (Office of the Secretary), US Army, US Navy, US Air Force, National Aeronautics and Space Administration, National Park Service, Department of Housing and Urban Development, Environmental Protection Agency, and the Centers for Disease Control and Prevention (National Center for Environmental Health). Periodic reviews conducted by FICAN have continued to support the use of Ldn values as the primary indicator of land use compatibility conditions in terms of aviation noise. FICAN has, however, also supported the use of supplemental noise descriptors (such as Lmax, SEL, or time above a threshold level) to provide information that is not easily communicated by Ldn values (FICAN 2002).

A.6 WATER RESOURCES

Regulations applicable to water resources include the Clean Water Act (and state implementing laws and regulations), Safe Drinking Water Act (and state implementing laws and regulations), Executive Order 11988 (Flood Plain Management), Executive Order 11990 (Wetlands), EO 12088 on Federal Compliance with Pollution Control Standards State Water Code, State Watershed Protection Act (Act 152), and the State Coastal Zone Management Program

A.6.1 Federal Laws and Regulations

Clean Water Act

The federal legislation governing the water quality aspects of the project is the Clean Water Act (CWA), as amended by the Water Quality Act of 1987. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

Congress delegated the permitting of fill material under Section 404 of the CWA to the Department of the Army. The Secretary of the Army has further delegated implementation of the permit program to the Army Corps of Engineers. The purpose of the Section 404 program is to insure that the physical, biological, and chemical quality of our nation's water is protected from unauthorized discharges of dredged or fill material that would alter or destroy its quality, including its resource functions and values. Persons who proposed to place dredged or fill material in waters of the U.S. must first apply for and obtain a permit from the Corps, subject to a public interest review of the proposed activity. Some examples of activities that require

Section 404 permits to place dredged or fill material into waters of the US (jurisdictional waters) include:

Residential, commercial, recreational or other construction activities;

Water dependent activities such as the construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs; and

Road fills and placement of riprap for bank and other stabilization purposes.

Waters of the United States are surface waters including all traditional navigable waters, all interstate waters, all tributaries, impoundments, and adjacent wetlands of these waters, and the territorial seas. Also, agencies shall provide opportunity for early public review of proposals for construction in wetlands, including those projects not requiring an EIS.

Executive Order 11988 of 1977 (Flood Plain Management)

Executive Order 11988 directs all Federal agencies to avoid, if possible, development and other activities in the 100-year base floodplain. Where the base floodplain cannot be avoided, special considerations and studies for new facilities and structures are needed. Design and siting are to be based on scientific, engineering, and architectural studies; consideration of human life, natural processes, and cultural resources; and the planned lifespan of the project. The implementing guidelines are in 40 CFR 6030.

Federal agencies are required to:

Reduce the risk of flood loss;

Minimize the impact of floods on human safety, health, and welfare; and

Restore and preserve the natural and beneficial values served by floodplains in carrying out agency responsibility.

Executive Order 11990 of 1977 (Wetlands)

This order directs all Federal agencies to avoid, if possible, adverse impacts to wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency shall avoid undertaking or assisting in construction projects in wetlands unless the head of the agency determines that there is no practicable alternative to such construction and that the proposed action includes measures to minimize harm.

In general, all waters must be free of substances resulting from domestic, industrial, or other controllable sources of pollution. This includes sediments resulting from erosion caused by construction or agricultural activities, floating or settleable materials, thermal pollutants, pathogens, biocides, excessive nutrients, toxic compounds, and other pollutants. All discharges to state waters are subject to

laboratory testing to determine if the discharge meets standards for acute or chronic toxicity. These standards differ depending on whether the receiving water is classified as freshwater (salinity less than 0.5 parts per thousand [ppt]) or saltwater (salinity greater than 0.5 ppt). Two types of tests are used, including tests to determine if concentrations of individual pollutant chemicals are present above threshold concentrations; and tests that measure the survival of indicator organisms in samples of the water under specific test conditions. These standards are published in HAR Title 11, Chapter 54.

Safe Drinking Water Act

A.6.2 State of Hawai‘i Laws, Regulations, and Policies

In Hawai‘i, several agencies have responsibility for managing water resources. Management of land-based surface and groundwater supplies (quantity) is the responsibility of the State Water Commission. The Coastal Commission is charged with protecting waters within the Coastal Zone. The State Department of Health is responsible for protecting surface and groundwater quality. Each county prepares a County Water Use and Development Plan.

State Water Code

In 1987 the Hawai‘i State Legislature enacted the State Water Code, which is Chapter 174C of the Hawai‘i Revised Statutes. The code established the State Commission on Water Resource Management (Water Commission). The division's primary responsibilities are:

Basic Data Collection and Resource Assessment;

Water Resource Planning;

Regulation of Water Development and Use;

Enforcement and Technical Support Services; and

Protection of Instream Uses.

The Code also called for the preparation of a Hawai‘i Water Plan. The Plan consists of eight parts, including:

Water Resources Protection Plan;

Water Quality Plan;

State Water Projects Plan;

Agricultural Water Use and Development Plan; and

Four County Water Use and Development Plans, for Hawai‘i, Maui, Honolulu, and Kaua‘i Counties.

Under the State Water Code, the Water Commission must establish and administer a state-wide in-stream use protection program. The commission must establish in-stream flow standards on a stream-by-stream basis "whenever necessary to protect the public interest." To preserve a stream environment in a perennial stream, some level of minimum flow is necessary. In establishing the minimum, flow characteristics need to be identified. As a general rule, in-stream values are significant only for perennial streams (Yuen and Associates 1990). (Perennial streams are streams that contain flowing water at all times during the year).

Surface Water Protection and Water Quality Standards

In 1989, environmental management programs of the Department of Health were organized under the Environmental Management Division, with media-specific branches, including the Clean Air Branch, the Clean Water Branch, the Safe Drinking Water Branch, the Solid and Hazardous Waste Branch, and the Wastewater Branch. The Environmental Planning Office revises the state Water Quality Standards every three years, as required by the federal Clean Water Act. The regulations governing water quality are primarily contained in Title 11, Chapter 54 of the Hawai‘i Administrative Rules (HAR Chapter 11-54). The Clean Water Branch administers and enforces state water pollution laws and regulations.

As part of its three-year review process, the state recently reviewed HAR Chapters 11-54 and 11-55, and proposed many revisions needed to comply with federal and state law. The revisions are currently undergoing public review and comment, and the final rules must be approved by the USEPA. Only the current rules, rather than the proposed rules, are addressed in this report.

All waters are subject to an antidegradation policy, which states that "Waters whose quality are higher than established water quality standards shall not be lowered in quality unless it has been affirmatively demonstrated to the director [of the Department of Health] that the change is justifiable as a result of important economic or social development and will not interfere with or become injurious to any assigned uses made of, or presently in, those waters." (HAR Section 11-54-01.1)

In general, all waters must be free substances resulting from domestic, industrial, or other controllable sources of pollution. This includes sediments resulting from erosion caused by construction or agricultural activities, floating or settleable materials, thermal pollutants, pathogens, biocides, excessive nutrients, toxic compounds, and other pollutants. All discharges to state waters are subject to laboratory testing to determine if the discharge meets standards for acute or chronic toxicity. These standards differ depending on whether the receiving water is classified as freshwater (salinity less than 0.5 parts per thousand [ppt]ppt) or saltwater (salinity greater than 0.5 ppt). Two types of tests are used, including tests to determine if concentrations of individual pollutant chemicals are present above threshold concentrations; and tests that measure the survival of indicator organisms in samples of the water under specific test conditions. These standards are published in HAR Title 11, Chapter 54.

Surface Water Classification

In addition to these general standards, additional water quality criteria have been established based on protection of water uses. The Hawaiian water use classification system is based on land use. All state waters are classified as either inland waters or marine waters. Inland waters may be fresh, brackish, or saline. Fresh waters have salinity of less than 0.5 parts per thousand (ppt). Brackish waters have salinity of greater than 0.5 ppt and less than 32 ppt. Saline waters have salinity greater than 32 ppt. Inland fresh water are further subdivided based on whether they are flowing (in streams, springs or seeps, or ditches and flumes), standing (including natural lakes and reservoirs), or wetlands (including elevated wetlands or low wetlands). Inland brackish and saline waters are further subdivided based on whether they are standing, wetlands, or estuaries.

Inland Waters

Inland waters are classified as Class 1a, Class 1b, or Class 2. The objective of Class 1 waters is to minimize human-caused pollution, and to protect the wilderness character of the waters. Waste discharge into Class 1 waters is prohibited, as is any action that results in a demonstrable increase in levels of contamination. Class 1a waters receive the highest level of protection. Class 1b waters are protected as a drinking water source. Class 2 waters are protected for recreational uses, aquatic life, agricultural and industrial water supplies, and shipping and navigation. Industrial, stormwater, or sanitary wastewater may be discharged to Class 2 waters provided the discharge is treated using the best degree of treatment or control compatible with the criteria established for Class 2 waters, and subject to NPDES point or non-point discharge permit requirements. No new treated sewage discharges are permitted within estuaries. No new industrial discharges to estuaries are permitted, except non-contact thermal and drydock discharges or marine railway discharges to Pearl Harbor.

For most inland waters, except streams, elevated wetlands, and estuaries, only the basic water quality standards apply, and waste discharge into these waters is prohibited. For streams, there are also numerical standards for nutrients (nitrogen and phosphorous), suspended solids, turbidity, pH, dissolved oxygen, temperature, and specific conductance, and there are specific standards for bottom sediments. For elevated wetlands, in addition to the basic water quality standards, there is a pH standard. For estuaries other than the Pearl Harbor Estuary, standards are established for nutrients (nitrogen and phosphorous), ammonia, chlorophyll a, tubidity, pH, dissolved oxygen, temperature, and salinity in the water column, and for oxidation-reduction potential in bottom sediments. The standards for Pearl Harbor Estuary apply to the same parameters, but the allowable limits are higher than for other estuaries.

Marine Waters

Marine waters include embayments, open coastal waters, and oceanic waters. Marine waters are classified as either Class AA or Class A. Class AA waters include specific protected bays or segments of coast, and all embayments in preserves, reserves,

sanctuaries, and refuges, or embayments that have been identified as unique or critical habitat for threatened or endangered species. The objective of Class AA waters is that they remain as nearly as possible in their natural pristine state. Mixing zones of wastewater discharges are not allowed within reef areas where the depth is less than 18 meters (59.06 feet), or within 305 meters (1,000 feet) from shore if there is no reef.

Class A marine waters include all marine waters that are not classified as Class AA. The objective of Class A marine waters is to protect recreational and aesthetic uses. As for Class 2 inland waters, only discharges that have received the best degree of treatment or control compatible with the criteria for the waters are allowed. No new industrial discharges are allowed within Class A embayments except for industrial stormwater discharges that meet applicable water quality standards, NPDES-permitted point source discharges, and non-contact thermal and drydock or marine railway discharges to specific water bodies.

Numerical standards established for embayments include standards for nutrients (nitrogen and phosphorous), ammonia, chlorophyll a, turbidity, pH, dissolved oxygen, temperature, and salinity. The standards differ depending on the amount of freshwater inflow. “Wet” criteria apply when freshwater inflow is greater than one percent of the embayment volume per day, and lower “dry” criteria apply at other times.

Standards established for coastal waters and ocean waters address the same parameters as for embayments, except that the standards for coastal waters are more stringent than for embayments, and the standards for ocean waters are more stringent than for coastal waters. Only one area-specific criterion has been established, and that is for the Kona (west) coast of the island of Hawai‘i, excluding some areas such as Kawaihae Harbor.

Finally, two classes of marine bottom ecosystems are provided protective standards. These include water areas associated with these ecosystems. The objective of Class I marine bottom ecosystems is to maintain them as nearly as possible in their natural pristine state with an absolute minimum of pollution from human-induced sources. The objective of Class II marine bottom ecosystems is to protect propagation of fish, shellfish, and wildlife, and recreational uses. For the most part, the standards for marine bottom ecosystems address either sediment deposition or oxidation-reduction potential in the shallow sediment, although the Department of Health may designate other parameters or measures on a site-specific basis. Any action that may permanently alter a Class II marine bottom ecosystem must be approved by the director of the Department of Health.

In addition to the above standards, specific criteria are established for recreational areas. These standards set limits on the quantities of pathogens, such as fecal coliform bacteria allowed in the waters, and prohibit discharge of raw or inadequately treated sewage.

Point Source Discharge Requirements

In November of 1974, the USEPA delegated the administration of the National Pollutant Discharge Elimination System (NPDES) Permit program in Hawai‘i to the Hawai‘i Department of Health. The NPDES program is the national program for controlling both point and non-point source discharges of pollutants to waters of the State and waters of the United States through uniform permitting procedures. For point sources, the permits establish limits on the concentrations and quantities of waste that can be discharged to waters of the state at an outfall, and monitoring requirements to ensure that the limits are not exceeded. Limits are typically based on evaluation of the degree of dispersion of the effluent within a mixing zone, and the permit establishes the allowable size of the mixing zone.

In November of 1990, Hawai‘i’s Nonpoint Source Water Pollution Management Plan and Hawai‘i’s Assessment of Nonpoint Source Pollution Water Quality Problems were completed, and in 1993, a Nonpoint Source Pollution Program was established in the Department of Health.

Impaired Water Bodies

In 1998, in compliance with requirements of Section 303 of the Clean Water Act that require biennial reports identifying impaired water bodies, the State of Hawai’i Department of Health identified 18 impaired water bodies statewide, (Impaired water bodies, or “Water Quality Limited Segments,” are defined in Section 303 of the Clean Water Act as water areas where existing water quality does not meet, and will not meet, applicable water quality standards even after effluent limitation requirements on point source discharges are applied. Thus, impaired water bodies are defined in relation to dispersed, or non-point sources of pollution, rather than point sources.)

Of the impaired water bodies identified by the state, only Pearl Harbor and Kaiaka-Waialua Bay on the Island of O‘ahu, and Hilo Bay on the Big Island, are downstream of SBCT project areas. Hickam AFB is adjacent to Pearl Harbor; Schofield Barracks lies partly within the upper watersheds of Pearl Harbor; Drum Road-Halemanō Trail is in the upper watershed of Kaiaka-Waialua Bay; and the eastern side of Pōhakuloa Training Area is in the upper watershed of Hilo Bay. Pearl Harbor is impaired by nutrients, siltation, turbidity, and organic chemicals; Kaiaka-Waialua Bays are impaired due to turbidity; and Hilo Bay is also impaired because of turbidity.

In 2001, US EPA re-evaluated the 1998 list of impaired waterbodies to identify impaired perennial streams contributing runoff to the impaired waterbodies. Of 57 perennial streams on the Island of O‘ahu, 31 were identified as impaired; and of 108 perennial streams on the Big Island, eight were identified as impaired. Under the Clean Water Act, the state must determine current pollutant loads and establish load reductions necessary to bring the impaired water bodies into attainment. The resulting maximum allowable pollutant loadings are known as Total Maximum Daily

Loads (TMDLs). The state has not yet determined TMDLs for any of the streams in watersheds containing SBCT project actions.

Watershed Classification

In response to the federal Clean Water Action Plan developed in 1998, the State of Hawai'i assigned priorities for restoration of watersheds. The resulting classification scheme identified four categories of watersheds. Category I watersheds are those in need of restoration because they do not meet, or are close to not meeting, clean water and other natural resource goals. Category II watersheds are those that require preventive action to sustain water quality. Category III watersheds have pristine or sensitive aquatic systems on lands administered by federal, state, or tribal governments. Category IV watersheds are those with insufficient data to make an assessment. To date, the State has only identified Category I watersheds, relying mainly on the 303(d) list of impaired water bodies as the basis for classification.

On the Island of O‘ahu, all of the watersheds in the Ko‘olaupoko District, on the windward side of the island, were identified as "tier 1" Category I watersheds. The remaining watersheds containing or drained by 303(d) impaired water bodies were identified as "tier 2" watersheds.

On the leeward coast of the Big Island, the watershed of Pelekane Bay, which comprises intermittent streams draining the west side of the Kohala Mountains, was identified as a Category 1 watershed based on sediment erosion problems, partly due to grazing, that had a potential to impact coral reefs in the bay. It was given a high priority ("tier 1") rating because its restoration was considered to have a high probability of success. Seven additional ("tier 2") Category I watersheds were identified based on containing, or draining into, a 303(d) listed impaired water body. All of these watersheds are on the windward side of the island and drain to Hilo Bay. The upper portion of one of the seven listed watersheds - the upper Wailuku watershed - overlies the eastern side of the PTA.

Watershed Protection Act

In 2000, the state legislature passed Act 152, which created a watershed protection board. The Board included representatives of the Department of Land and Natural Resources, Department of Agriculture, water managers from each of the four counties, and a representative of the U.S. military. The Board was charged with development of a watershed master plan. Act 152 sunset on June 30, 2002, at which time the Board was to have prepared the watershed master plan. The Board did not complete the watershed master plan, but instead recommended that the plan be completed in four phases. Phase I is preparation of the framework for the Watershed Protection Program. Phase 2 is watershed assessment and prioritization in mauka (mountain, or upper watershed) areas. Phase 3 is preparation of a Watershed Master Plan for mauka areas. Phase 4 is preparation of a Watershed Master Plan for mauka and makai (coastal, or lower watershed) areas, based on an ahupua‘a approach to watershed management. The legislature has not acted to continue the existing Board

or appoint a new Board, or to implement the recommendations of the previous Board.

Coastal Zone Management Program

The Hawai‘i Coastal Zone Management Program (HCZMP) was promulgated in 1977 in response to the Federal Coastal Zone Management Act of 1972. The federal law was reauthorized and amended in 1990 in the Coastal Zone Act Reauthorizatoin Amendments (CZARA). The CZM area encompasses the entire state including all marine waters seaward to the extent of the state’s police power and management authority, including the 12-mile (4-meter) US territorial sea and all archipelagic waters. The Program includes a permit system to control development within a SMA managed by the Counties and the Office of Planning; a Shoreline Setback Area which serves as a buffer against coastal hazards and erosion, and protects view-planes; and the Marine and Coastal Affairs. The national CZMA requires direct federal activities and development projects to be consistent with approved state coastal programs to the maximum extent practicable. One objective of the HCZMP is to reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

The SMA originally encompassed all lands extending not less than 100 yards (91 meters) inland from the shoreline. The shoreline is defined as the upper reaches of the wash of the waves (other than storm or seismic waves) at high tide during the season of the year in which the highest wash of the waves occurs. The shoreline is usually evidenced by vegetation growth, or the upper limit of debris left by the wash of waves. Counties may amend the boundaries of the SMAs to achieve the CZM objectives and policies. No development can occur in the SMA unless the appropriate county (or for developments in the Community Development Districts, the Office of Planning) first issues a permit.

The Shoreline Setback Area is the area between the shoreline and the shoreline setback line. Currently, most shoreline setback lines are set at 40 feet (37 meters) from the shoreline, although in some places the Shoreline Setback boundaries extend further inland. The Counties have the authority to set deeper setbacks. Structures or portions of a structure are not permitted in the shoreline setback area without a variance.

In 1991, the Hawai‘i and Marine Resources Council developed the Hawai‘i Ocean Resources Management Plan (ORMP) that contains objectives, policies, implementing actions, and recommendations for a comprehensive, integrated ocean policy and management framework. The 1995 enactment of Act 104, Session Laws of Hawai‘i integrated the ORMP with the Hawai‘i CZM Program to strengthen the state's ability to coordinate marine and coastal policy development and resources management responsibilities. Act 104 also created the Marine and Coastal Zone Management Advisory Group (MACZMAG) which is charged with, among other things, facilitating the implementation of the ORMP. The boundaries addressed by

ORMP are from the coastal zone out to the limit of the 200-mile (183-meter) Exclusive Economic Zone (EEZ).

In compliance with the federal CZARA of 1990, the State of Hawai‘i prepared the Hawai‘i Coastal Nonpoint Pollution Control Program in 1996, which was approved by NOAA and USEPA in the same year. In July 2000, the state completed an Implementation Plan for Polluted Runoff Control, which establishes long and short-term goals and activities to control nonpoint source pollution as required for the implementation of the Coastal Nonpoint Pollution Control Program. It also establishes 5-year implementation plans to address polluted runoff in six categories: agriculture, forestry, urban, marinas and recreational boating, hydromodification, and wetlands and riparian areas. The non-point source pollution control programs are intended to be consistent with the Native Hawaiian ahupua’a approach to resource management.

Traditional Ahupua‘a Watershed Management Structure

Water was an important factor in the organization and administration of communities in pre-territorial Hawai‘i. The ahupua‘a was the basic community land unit in old Hawai‘i. An ahupua‘a was a parcel of land generally conforming to the valley of a natural watershed and the associated coastal plain. It typically extended from the highest point at the head of the watershed to the outer edge of the reef offshore. The boundaries were marked by a heap (ahu) of stones surmounted by an image of a pig (pua‘a). The ahupua‘a was entrusted by the king to a chief (ali‘i), who administered it as a self-sufficient community. The development, distribution, and care of water were administered by a water master (konohiki). The ahupua‘a was not only a land unit but was also a social, economic, and political unit, and by incorporating the watershed and nearshore fishing waters, it provided most of the resources needed by the community.

In 1848, King Kamehameha III adopted a new system of individual land ownership and subdivided the land in what became known as the Great Mehele (land division). At first, the land was divided among the crown, the government, the ali‘i, and the konohiki. Then the Kuleana Act of 1850 enabled commoners to own land and also allowed the government to sell land to foreigners. Over time, thousands of acres were sold or given to foreigners. In 1893 the monarchy was overthrown and the remaining crown lands were confiscated by the government and made part of the public domain.

Ahupua‘a have political, legal, cultural, and hydrologic significance. Current Hawaiian water law recognizes Konohiki rights to particular amounts of water assigned to specific land parcels for taro irrigation (Yamauchi and Hudes 1976). The islands are divided into political districts that comprise groups of ahupua‘a. The names, and in some cases, the boundaries of ahupua‘a are shown on current USGS topographic maps.

A.6.3 Local Regulations

At the local level, water resources are regulated by the counties. On the Island of O‘ahu, this is the City and County of Honolulu, while on the Big Island it is Hawai‘i County. The State Water Code requires the counties to prepare County Water Use and Development Plans to manage their water resources.

City and County of Honolulu

The O‘ahu Integrated Resource Plan (IRP) is a joint project of the Board of Water Supply (BWS), the Department of Planning and Permitting, and the Department of Environmental Services of the City and County of Honolulu, initiated in July 1999. The project is intended to address the water needs of the eight District Planning (DP) areas on O‘ahu. The Board of Water Supply plans to use the IRP process to update the O‘ahu Water Management Plan, which is the name given to the Water Use and Development Plan specified in the Water Code. One of the major new developments proposed in the IRP is to join the now separate water systems on O‘ahu into one combined water system so that in times of excess or shortage, water can be easily transferred from one area to another.

A.7 GEOLOGY

Laws or regulations govern geologic resources at MMR, include EPA Region IX Preliminary Remediation Goals (PRGs), State Coastal Zone Management Program, and the Farmland Protection Act.

A.8 BIOLOGICAL RESOURCES

Natural resources in the project area have been evaluated in accordance with the applicable provisions of numerous statutes, executive orders, permits, and regulations. These are as follows:

- Endangered Species Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act and implementing regulations, 16 USC § 661 – 666c
- Marine Mammal Protection Act
- Magnuson-Stevens Fishery Conservation and Management Act
- National Environmental Policy Act
- Executive Order
- Marine Protection, Research, and Sanctuaries Act (33 USC 1401-1445)
- Clean Water Act (33 USC 1251-1387)
- AR 200-3 Natural Resources-Land, Forest and Wildlife Management
- Executive Order 13089: Coral Reef Protection, and Coral Reef & Coastal Marine Conservation Act of 2001 (HR 22720)

- Executive Order 13112: Invasive Species (February 3, 1999)
- Executive Order 13158: Marine Protected Areas (May 26, 2000)
- Executive Order 13186: Responsibilities of Federal Agencies To Protect Migratory Birds (January 10, 2001)
- Fish and Wildlife Conservation on Military Reservations Act (The Sikes Act)

Endangered Species Act

The ESA (16 USC §§ 1531-1534) protects plant and animal species (and their habitats) that are listed under the act as threatened or endangered. Endangered species are those in danger of extinction throughout all or a significant portion of their ranges; threatened species are those likely to become endangered within the foreseeable future. The ESA also protects designated critical habitat for listed species. This consists of areas on which are found those physical or biological features essential to the conservation of the species, which may require special management considerations. The ESA requires federal agencies to consult with the USFWS or National Marine Fisheries Service (NMFS), as applicable, before initiating any action that may affect a listed species or critical habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC §§ 703-712) prohibits the hunting, taking, killing, possession, and transport of migratory birds as well as their interstate and international trade. The Migratory Bird Conservation Commission is authorized to review the acquisition of land and water for the purpose of conservation (sanctuaries, preservations, refuges).

Fish and Wildlife Coordination Act and implementing regulations, 16 U.S.C. § 661 – 666c

Any federal agency that proposes to control or modify any body of water must first consult with the USFWS or NMFS, as appropriate, and with the head of the appropriate state agency exercising administration over the wildlife resources of the affected state. This act is the primary legal authority behind the Birds of Conservation Concern list as identified in the Birds of Conservation Concern 2002 report, issued on December 2002. This conservation list identifies those migratory and non-migratory birds that are not already Federally listed as threatened or endangered, but that require priority concern and action to avoid future listing.

Fish and Wildlife Conservation Act, 16 USC 2901

Encourages all federal departments and agencies to use their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities, to conserve and promote conservation of nongame fish and wildlife and their habitats

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) (16 USC §§ 1361-1421h) protects and conserves marine mammal species by placing a moratorium on harassing, hunting, capturing, or killing any marine mammal or attempting any of these. If a project proponent determines that an action could incidentally harass marine mammals, the proponent shall consult with either the USFWS or NMFS to determine if a permit to take a marine mammal is required.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) [amended by the Sustainable Fisheries Act of 1996, Pub. L. 104-267, as codified in scattered sections of 16 USC § 1801 et seq.] applies to fisheries resources and fishing activities in federal waters that extend to 200 miles [322 kilometers] offshore. It addresses conserving and managing US fisheries, developing domestic fisheries, and phasing out foreign fishing activities. It also establishes regional fisheries management councils that set fishing quotas and restrictions in US waters in the form of Fishery Management plans (FMPs). All fish included in a FMP are assigned Essential Fish Habitat (EFH) —those waters and substrate necessary for fish to spawn, breed, feed, or grow to maturity. Federal agencies must consult with the NMFS on proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH. The act sets forth the enforcement actions that authorized officers may take, including making arrests, boarding, searching, and inspecting fishing vessels and seizing fishing vessels, fish, and other evidence. For more detailed information on FMPs and EFH, refer to Section 3.8.6.

The National Environmental Policy Act, Public Law 91-190

The National Environmental Policy Act (NEPA) established a national policy to promote harmony between humankind and the environment. It requires Federal agencies to incorporate into their decision-making processes and carefully consider the potential impacts of their proposed actions and alternatives on the human environment, using a systematic, interdisciplinary analytical and scientific approach to impact analysis. It requires Federal agencies to submit their proposals and related impact analyses to the public and to other Federal, State and local agencies for review and comment, in order to assure that they play an important role in the selection and implementation of an a proposed action or alternative. It also established the President's Council on Environmental Quality (CEQ).

EO 11990, Protection of Wetlands

Executive Order 11990 directs all federal agencies to avoid, if possible, adverse effects on wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency shall avoid undertaking or assisting in wetland construction projects unless the head of the agency determines that there is no practicable alternative to such construction and that the Proposed Action includes measures to minimize harm.

EO 11988, Floodplain Management

This EO directs all federal agencies to avoid, if possible, development and other activities in the 100-year base floodplain. Where the base floodplain cannot be avoided, special considerations and studies for new facilities and structures are needed. Design and siting are to be based on scientific, engineering, and architectural studies; consideration of human life, natural processes, and cultural resources; and the planned lifespan of the project. Federal agencies are required to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains in carrying out agency responsibility.

EO 12088, Federal Compliance with Pollution Control Standards

Delegates responsibility to the head of each executive agency for ensuring that all necessary actions are taken for preventing, controlling, and abating environmental pollution. This order gives the EPA authority to conduct reviews and inspections to monitor federal facility compliance with pollution control standards

EO 13112: Invasive Species (February 3, 1999)

Subject to the availability of funds and to the extent practicable and permitted by law, Federal agencies should use their authorities to prevent the introduction of invasive species, and use their authorities to detect, eradicate and control such species in a cost effective and environmentally sound manner. Agencies should not authorize or fund activities they believe will cause the introduction and spread of invasive species in the US unless the benefits of the proposed activity clearly outweigh the harm and all feasible and prudent measures to minimize the harm will be taken in conjunction with the action

EO 13158: Marine Protected Areas (May 26, 2000)

Fish and Wildlife Conservation on Military Reservations Act (The Sikes Act)

The Sikes Act provides for developing cooperative plans for fish and wildlife management on military lands between the US Department of Defense (DOD), the US Department of the Interior (DOI), and states. As amended, the Act requires DOD departments to prepare integrated natural resources management plans (INRMPs) for each of their installations to provide for the conservation and rehabilitation of natural resources on their installations, the sustainable multipurpose use of the resources, and subject to safety requirements and military security, public access to military installations to facilitate the use.

Marine Protection, Research, and Sanctuaries Act (33 USC 1401-1445)

This act establishes regulatory guidelines for marine protected areas and restrictions and permit process for ocean dumping.

Federal Clean Water Act (33 USC §§ 1251-1387)

The Army Corps of Engineers has primary federal responsibility for administering regulations that concern waters and wetlands. The Corps acts according to the Rivers

and Harbors Act (sections 9 and 10), which regulates placement of structures or other work in addition to fill in "navigable waters," and the Clean Water Act (Section 404), which governs fill in "Waters of the United States," including wetlands. A Corps permit is required if a project would place structures within navigable waters, of which there are none in the project area, or if it were to alter waters of the US below the ordinary high water mark in nontidal waters. The Corps does not issue these types of permits in cases where it is the lead agency but instead evaluates the project to determine compliance and acceptability. The primary criteria for evaluating the biological impacts of the Corps permit actions in wetlands is provided by the US EPA, but the mandates of other federal agencies apply as well. Those agencies include, but are not limited to, the USFWS and the NMFS.

Additional enforcement of the Clean Water Act is provided by the State Water Quality Resources Control Board, which must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

AR 200-3 Natural Resources-Land, Forest and Wildlife Management

This regulation prescribes current Army policies, procedures, and standards for conserving, managing, and restoring land and the renewable natural resources consistent with and in support of the military mission and national policies.

Executive Order 13089: Coral Reef Protection, and Coral Reef & Coastal Marine Conservation Act of 2001 (HR 22720)

Executive Order 13089 was signed by President Clinton in order to direct all agencies to increase their efforts to protect our nation's coral reef resources. The executive order calls for the establishment of a US Coral Reef Task Force, co-chaired by the Secretaries of the Interior and of Commerce. The Task Force will develop and implement a comprehensive program of inventory, monitoring, and research, to map and identify the major causes and consequences of degradation of coral reef ecosystems.

Executive Order 13112: Invasive Species (February 3, 1999)

Federal agencies whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, identify such actions (including but not exclusive to); use relevant programs and authorities to: prevent the introduction of invasive species; detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; monitor invasive species populations accurately and reliably; provide for restoration of native species and habitat conditions in ecosystems that have been invaded; and not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. Federal agencies shall pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as

appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.

Executive Order 13158: Marine Protected Areas (May 26, 2000)

Each Federal agency whose authorities provide for the establishment or management of Marine Protected Areas (MPAs) shall take appropriate actions to enhance or expand protection of existing MPAs and establish or recommend, as appropriate, new MPAs. Each Federal agency whose actions affect the natural or cultural resources that are protected by an MPA shall identify such actions. To the extent permitted by law and to the maximum extent practicable, each Federal agency, in taking such actions, shall avoid harm to the natural and cultural resources that are protected by an MPA. Each Federal agency that is required to take actions under this order shall prepare and make public annually a concise description of actions taken by it in the previous year to implement the order, including a description of written comments by any person or organization stating that the agency has not complied with this order and a response to such comments by the agency.

Executive Order 13186: Responsibilities of Federal Agencies To Protect Migratory Birds (January 10, 2001)

Federal agencies taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations is directed to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (USFWS) that shall promote the conservation of migratory bird populations. The conservation intent of the migratory bird conventions should be supported by federal agencies by the following; integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions; and restore and enhance the habitat of migratory birds. Environmental analyses of Federal actions required by the NEPA or other established environmental review processes will evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern.

A.9 CULTURAL RESOURCES

National Historic Preservation Act of 1966 as Amended (NHPA) (16 USC §§ 470-470x-6)

Cultural resources on federal lands are protected primarily through the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations (found at 36 CFR 800). Section 106 of the NHPA requires federal agencies to identify and evaluate the effects of their actions on properties listed in or eligible for listing in the National Register of Historic Places (NRHP). Consultation with the State Historic Preservation Officer (SHPO), Native American tribes, native Hawaiian organizations, the Advisory Council for Historic Preservation, and other interested parties is part of the regulatory process. To be protected under the NHPA, a property must meet specific criteria of significance established under the NHPA's regulations at 36 CFR 60.

Archaeological Resources Protection Act of 1979 (16 USC §§ 470aa – 470mm)
This act requires all archaeological excavations on federal land to be undertaken pursuant to permit issued by the federal land manager. This act also imposes criminal penalties for unauthorized excavations.

Archaeological and Historic Data Preservation Act of 1974 (16 U.S.C. 469-469c)
This act applies to federal dam construction and other federal construction projects. It requires federal agencies to provide notice to the Secretary of the Interior if any project would result in the irreparable loss of significant archaeological data, and to recover, protect, and preserve such data as possible. This act also provides that up to 1 percent of project funds may be used for survey, recovery, analysis, and publication of such archaeological data.

Native American Graves Protection and Repatriation Act of 1990, Pub. L. 101-601 (25 USC §§ 3001-3013)
This act requires federal agencies to identify and inventory possible Native American, native Alaskan, or native Hawaiian human remains, burial goods, or cultural items in their collections and to make them available for repatriation to affiliated tribes or lineal descendants. The act also establishes procedures for handling and disposing of such remains, burial goods, or cultural items discovered on federal lands.

American Indian Religious Freedom Act of 1978, Pub. L. 95-341, as amended (42 USC §§ 1996-1996a)
This act extends First Amendment guarantees regarding free exercise of religion to Native Americans, native Alaskans, and native Hawaiians.

Curation of Federally Owned and Administered Archaeological Collections (36 CFR § 79)
This regulation provides guidance for the appropriate care and management of materials relating to or excavated from archaeological sites on federal lands.

Executive Order 13007, Indian Sacred Sites (May 24, 1996)
EO 13007 requires federal land managers to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoid adversely affecting the physical integrity of such sacred sites. While EO 13007 does not include Native Hawaiian sacred sites in its protections, AR 200-4 extends to Native Hawaiian sacred sites the same level of protection as that granted to Indian sacred sites under the order.

Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601-9675

Requires reporting of releases and cleanup of releases of hazardous substances; also assigns liability for cleanup

Resource Conservation and Recovery Act of 1976, 42 USC 6901-6992k

Regulates collection, storage, transport, and disposal of hazardous and solid waste and regulates underground storage tanks

Federal Facility Compliance Act, 42 USC 6901

This act provides a waiver of sovereign immunity with respect to all procedural requirements relating to Resource Conservation and Recovery Act (RCRA) solid and hazardous waste laws and regulations at federal facilities. FFCA gives any state that has an authorized hazardous waste program the authority to inspect any facility that manages hazardous waste, including federal facilities, for the purpose of enforcing the facilities' compliance with the state's program.

US DOT regulations 49 CFR 100-109

These regulations address the interstate shipment of hazardous substances. These regulations specify the proper shipping name, hazard class, and identification number to be used for each material shipped. This information is necessary to ensure proper handling by shipping personnel and identification by emergency personnel if an accident involving hazardous materials should occur. In addition, DOT regulations set guidelines specifying containers suitable for the quantity and chemical characteristics of the hazardous materials that are used. Hawai‘i incorporates the DOT regulations under its Revised Statute Section 286 Part XI (Motor Carrier Safety Law) and Section 286 Part XII (Transportation of Hazardous Materials, Hazardous Waste, and Etiologic Agents). Public sea shipments in the region of Hawai‘i must be in accordance with Hawai‘i Revised Statute Harbor & Tariffs Title 19, Subtitle 3, para. 42-133, Loading and Unloading Hazardous Materials.

The Hazardous Materials Transportation Act of 1975 (PL 93-633, 49 USC 1801, et seq.)

This act gives the DOT authority to regulate shipments of hazardous substances by air, sea, highway, or rail. These regulations, found at 49 CFR 171-180, may govern any safety aspect of transporting hazardous materials, including packing, repacking, handling, labeling, marking, placarding, and routing (other than with respect to pipelines).

Army Standard Operating Procedures (SOPs)

The US Army follows strict Mākua-specific SOPs for handling, storing and disposing of hazardous materials. All hazardous materials for O‘ahu Army installations are stored at the Hazardous Materials Control Center (HMCC) on

Schofield Barracks East Range. When an Army unit requests use of a hazardous material, the material is picked up from the HMCC and is transferred to a satellite storage area for immediate use. The HMCC is regulated by an EPA-approved spill contingency plan (SCP), which contains information about the emergency response procedures in the event of a spill. This is to minimize hazards to human health or the environment from fires, explosions, or any release of hazardous material or its constituents to air, soil, or surface water. The SCP describes actions that site personnel must take to comply with RCRA's emergency procedures, 40 CFR 265, Subparts C and D, Contingency Plan and Emergency Procedures, and 29 CFR 1910.120, Hazardous Waste Site Operations and Emergency Response. A copy of the facility SCP is submitted to all local or federal police departments, fire departments, hospitals, and state and local emergency response teams that may be called on to provide emergency services. All Army facilities that store or use hazardous substances contain a copy of the SCP, and spill kits available for clean up.

Spill Prevention, Control, And Countermeasure (SPCC) Plans And Pollution Prevention (P2) Plans

Army Regulation (AR) 385-14, Transportation Accident Prevention and Emergency Response Involving Conventional Munitions and Explosives applies to the transportation of DoD conventional munitions and explosives (US Army 1991, 1). The regulation establishes policies, prescribes procedures, and assigns responsibilities for transportation accident prevention and for emergency response measures, when a transportation accident involving DoD conventional munitions and explosives occurs. The regulation applies to all commercial modes of transportation (rail, motor vehicle, air, and water) and all military motor vehicles, both administrative and tactical, transporting munitions and explosives on public highways, including shipments by military carrier. All military vehicles and facilities maintain copies of spill prevention, control, and countermeasure (SPCC) plans and spill kits available for clean up.

Army Pamphlet 385-64, Ammunition and Explosives Safety Standards-explains the Army's safety criteria and standards for operations involving ammunition and explosives prescribed by AR 385-64, US Army Explosives Safety Program (US Army 1999, i-1). The pamphlet addresses a variety of safety criteria, including, but not limited to, fire prevention, protection, and suppression, explosives quantity-distance, transportation of ammunition and explosives, and electrical hazards, including electromagnetic radiation. These procedures are designed to provide for the safe and proper storage and handling of ammunition and explosives.

The distance between the potential explosion site and the exposed site, the ability of the potential explosion site to suppress blast overpressure, fragments, and debris, and the ability of the exposed site to withstand explosion effects normally determine the damage or injury potential of an explosion (US Army 1999, 33). For the safe storage and transportation of ammunition and explosives, explosive safety quantity-distance requirements are established. These requirements are based on records of actual fires and explosions involving ammunition and explosives. In addition to protecting Army

personnel, the requirements also protect nearby communities and private and public property.

AR 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat (and the draft update of this regulation Army Regulation 385-63, Range Safety Program) prescribes general safety precautions to minimize the possibility of accidents in the firing and other uses of ammunition and explosives by troops in training, target practice, and, as much as possible, combat and range operations, including range clearance (US Army 1983, i-1; Sato 1996, 5-8). The regulation addresses a multitude of weapons and safety requirements, such as surface danger zones. For the safe use of ammunition and explosives, surface danger zones are established for training areas. Projectiles or debris caused by firing ammunition or explosives must be contained within the surface danger zone's boundaries (US Army 1983, 2 and 113-114).

HQDA Letter 385-01-1 restricts the use of improved conventional munitions (ICM) and submuntions and restricts access to ranges suspected of containing ICMs and submunitions in order to maintain, characterize or clear the range area (HQDA 2001).

Hazardous Waste Management Program

The US Army follows strict regulations and standard operating procedures for the temporary storage and disposal of hazardous wastes. For example, the Military Munitions Rule (62 FR 6621, 40 CFR 260, et seq.) identifies when military munitions become a hazardous waste under RCRA and provides safe storage and transport of such waste.

MMR is a conditionally exempt small quantity generator in accordance with 40 CFR 261.5. Hazardous wastes generated on Army land are first collected at HWSSPs, which are designated areas at or near the point of waste generation. The only hazardous waste accumulated in the HWSSP on MMR is the burn pan residue, discussed in Section 3.11. The Mākua Range Division Office strictly follows MMR-specific SOPs for handling, storing, and disposing of hazardous waste. Once the HWSSP reaches full capacity (a 55-gallon limit), waste is sampled and profiled to determine the proper disposal method. Waste characterized as hazardous waste is picked up by a Defense Reutilization and Marketing Office, Hawai'i (DRMO-HI) contractor and transported to a treatment storage and disposal facility (TSDF) for ultimate disposal (Akasaki 2003). The DRMO-HI uses a contractor that is authorized and certified to transport hazardous waste from the MMR HWSSP with an EPA transporter identification number. Other wastes generated by contractors (i.e. lawn maintenance) are handled and disposed of by the contractor in accordance with federal, state, and Army regulations and Mākua-specific SOPs.

Hawai'i Hazardous Waste Management Act (HRS Title 19, Health, Chapter 342J)

Under this act, the state hazardous waste management program provides technical assistance to generators of hazardous waste to ensure safe and proper handling. The hazardous waste management program promotes hazardous waste minimization, reduction, recycling, exchange, and treatment as the preferred methods of managing hazardous waste, with disposal used only as a last resort when all other hazardous waste management methods are ineffective or unavailable. The state program is coordinated with Hawai`i's counties, taking into consideration the unique differences and needs of each county

Disposal Of Ordnance Under RCRA

The disposal of ordnance, such as ammunition, is regulated under RCRA. Section 107 of the Federal Facilities Compliance Act of 1992 requires EPA, in consultation with the DOD and the states, to issue a rule identifying when conventional and chemical military munitions become hazardous waste under RCRA, and to provide for protective storage and transportation of that waste. Basically, this rule explains what is considered a solid waste and the rules for handling that waste (i.e. permitting, labeling, storing, transporting, and disposal). The final rule also amends existing regulations regarding emergency responses involving both military and non-military munitions and explosives (USEPA, 2002d).

This rule establishes the regulatory definition of solid waste as it applies to three specific categories of military munitions:

Unused munitions;

Munitions being used for their intended purpose; and

Used or fired munitions (which can then be termed either "exploded," EXO, or "unexploded," UXO, ordnance).

The rule conditionally exempts:

From RCRA Manifest Requirements and Container Marking Requirements, waste non-chemical military munitions that are shipped from one military-owned or –operated Treatment, Storage, or Disposal Facility (TSDF) to another in accordance with DOD military munitions shipping controls;

From RCRA Subtitle C storage regulations, waste non-chemical military munitions subject to the jurisdiction of the DOD Explosives Safety Board storage standards.

Department of the Army UST Program

The Department of the Army UST Program not only requires compliance with Federal regulations, but with the more stringent of Army, Federal, State, or local requirements. Current Army standards are cited in "Environmental Protection and

Enhancement," Army Regulation 200-1, Chapter 5-7, dated April 23, 1990. Army policy provides for the removal, repair, or replacement of damaged, leaking, or improperly functioning USTs, ASTs, or associated pollution prevention devices. USTs and ASTs must include monitoring devices for leak detection and be fitted with cathodic protection, catch basins, and overfill warning devices.

Asbestos Management Program

This program covers hazardous effects from asbestos and includes an annually updated asbestos management plan. The plan contains the USAG-HI Commander's Asbestos Policy, which delegates responsibilities for asbestos management and five standard operating procedures for handling ACM. The objective of the plan is to provide information necessary to manage friable and nonfriable ACM in on-post USAG-HI facilities. A further objective is to identify those procedures that will minimize the release of ACM into the air (USARHAW 2001c). The Army environmental department also maintains a database of asbestos surveys and results. The database is updated as surveys are finalized (Song 2002). The most recent version of the asbestos survey database for Schofield Barracks, Wheeler Army Airfield, Kahuku TA, Mākua MR, Pōhakuloa TA, and Dillingham MR is available through the Army DPW.

Radon Reduction Program

The Army follows a Radon Reduction Program under AR 200-1 to reduce radon exposure of military personnel and civilians. The Army Radon Reduction Program policy ensures that all Army installations and civil works facilities will:

Comply with legal regulations concerning elevated indoor radon levels applicable to Army operations.

Maintain and update records of radon assessments conducted under the Army Radon Reduction Program (as identified in DA PAM 200-1).

Ensure occupants of Priority One facilities which contain elevated radon levels are notified in writing of specific test results, planned or executed mitigation, and results of mitigation efforts. Facility managers will distribute assessment results for Priority Two and Three facilities with elevated radon levels.

Attach radon test results to real property records. Attach complete record when property is transferred.

Measure radon in newly constructed Army facilities.

Measure radon in facilities converted to housing and in continuously occupied structures prior to occupancy.

Identify elevated radon levels to the Installation Medical Officer or the Civil Works District Safety and Occupational Health Officer.

Follow US Army Center for Public Works guidance on mitigation of elevated radon levels.

Use USACE design criteria for radon reduction in new construction.

Designate their facilities as priority 1,2, or 3 in accordance with definitions and parameters in DA PAM 200-1.

Biomedical Program

The Army follows strict guidelines according to AR 200-1 in the handling, use, and disposal of medical, dental, and veterinary supplies. The policy includes:

> Medical, dental, and veterinary supplies or their containers will be disposed of IAW applicable provisions and implementing regulations of the Medical Waste Tracking Act of 1988, state, interstate, and local requirements, and suggested guidelines provided in the Military Item Disposal Instruction (MIDI) System. See DA PAM 200-1 for additional information.
>
> Medical, dental, and veterinary supplies that are in excess of medical facility requirements will be reported through medical supply channels according to AR 40-61.
>
> USACHPPM will issue a method of destruction for medical, dental, and veterinary supplies. If the generator does not possess the technical capability or facilities to dispose of the items, the generator will contact the DRMO for disposal.
>
> Some medical, dental, and veterinary supplies are RCRA listed or characteristic waste. These items must be managed and disposed of as a hazardous waste.
>
> DRMO disposes of all items in Federal supply classes 6505, 6556, 6600 and 6800. This will include routine destruction/disposal of hazardous material and nonhazardous controlled material. DRMO does not accept regulated medical or radioactive waste.
>
> Health care facility wastes will be handled, stored, treated, and disposed of, per AR 40-5, AR 40-61 and other applicable regulations.

A.11 SOCIOECONOMICS

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Requires each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks

Requires each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.