STATE LAND USE DISTRICT BOUNDARY REVIEW

Executive Summary

KAUAI

Office of the Governor

OFFICE OF STATE PLANNING

1992

EXECUTIVE CHAMBERS

HONOLULU

JOHN WAIHEE
GOVERNOR

FOREWORD

The State Land Use District Boundary Review takes a bold step toward defining what kind of Hawaii we want to leave as our legacy for future generations. The growth and protection of our precious islands must be planned, and planned carefully.

This review sets forth the direction for urban growth that is needed for housing and economic development in our fair State. Rather than reacting to proposals by landowners and developers, this review has allowed the State to plan for development well into the next century. It provides for an adequate supply of urban lands in locations which can be efficiently serviced by infrastructure and other public facilities and which will not have adverse impacts on our environmental, cultural and agricultural resources.

While economic development is essential, it simply must not threaten our fragile environment. This review identifies the unique and special areas that are part of our heritage. Our native forest, wetland and stream ecosystems and rare flora and fauna habitats must be protected. Significant historic sites, coastal areas and scenic and open space resources are other treasures which must be safeguarded for future generation.

The protection of our watersheds is also critical to assure that we have the groundwater resources to support the growth of our population.

While the final decisions for the reclassification of lands identified in this report are left to the Land Use Commission, the information provided in this review will be the standard by which land use decisions will be judged in the future.

JOHN WAIHEE

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PREFACE

The most recent Five-Year Boundary Review began in 1990 and concluded in 1992. It was an opportune time to conduct an assessment of our State Land Use District boundaries. Hawaii was emerging from a period of intense development pressures and many areas that residents thought were "safe" from development, in fact, were not.

Many were saying that it was time to step back and reassess our lands and their designations before the next wave of investment hit. Many questioned whether we wanted every square inch of these islands developed and asked whether anything would be left for future generations.

Agriculture was changing; a way of life disappearing. The old, large-scale sugar and pineapple plantations were downsizing or closing. The projected outlook for diversified agriculture was mixed. The visitor industry was the State's dominant industry and was largely dependent on Hawaii's natural scenic beauty.

In conducting the boundary review, we turned to the Constitution:

> "For the benefit of present and future generations, the State ... shall conserve and protect Hawaii's natural beauty and all natural resources ..."
>
> Article XI, Sec. 1
> Hawaii State Constitution

Therefore, a major focus of the review was to protect Hawaii's special areas before they were placed in jeopardy or irretrievably lost.

When we examined the actual lands in the districts, we found that many sensitive environmental resources were in the Agricultural District which left them vulnerable to development. Many of the lands in the Agricultural District were agricultural in name only. The boundary review has recommended that sensitive environmental areas be reclassified to the Conservation District or be protected by other means.

The review has also sought to direct growth and provide lands to meet long-range needs for housing and economic development. Some of this has already been addressed in the extensive statewide urbanization of land over the last five years. More land was urbanized during the last five years than during the prior ten-year period, primarily for affordable housing. However, the review has identified areas which are desirable and suitable for urbanization in order to direct growth to these areas.

Finally, we have worked to retain sufficient agricultural lands to meet the industry's changing needs and to provide open space.

The Office of State Planning is deeply appreciative of the many individuals, organizations and agencies that helped in this process and thanks them for their time, advice and concern for Hawaii's limited land resources.

Harold S. Masumoto
Director

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I. INTRODUCTION

Purpose of the Five-Year Boundary Review

The purpose of the Five-Year Boundary Review is to conduct a statewide, comprehensive, policy-oriented examination of State land use district classifications. It provides the Land Use Commission (LUC) the opportunity to review urbanization proposals from a broad, comprehensive and long-range viewpoint rather than incrementally on a case-by-case basis. It also provides an opportunity to identify conservation or agricultural resources which are not in the appropriate land use district and should be reclassified.

Section 205-18, HRS, of the State Land Use Law, requires the Office of State Planning (OSP) to undertake a review of the classification and districting of all land in the State every five years. Upon completion of the Five-Year Boundary Review, a report of findings and recommendations will be submitted to the State Land Use Commission. OSP may then initiate petitions for boundary amendments to implement the report.

The Legislature reinstated the Five-Year Boundary Review in 1985 in order to emphasize long-range planning in the land use decision-making process. The boundary review report provides the basis for recommending changes to existing land use district boundaries during the Five-Year Boundary Review and provides guidance for future land use decisions.

This report summarizes the boundary review for the Island of Kauai. Separate reports have been prepared for Oahu, Hawaii, Maui, Molokai and Lanai.

1991-92 Review - Direction and Scope

The 1969 Five-Year Boundary Review was conducted with the philosophy that "the elements of land, air and sea are resources to be managed for the welfare of present and future generations." The 1991-92 boundary review has been conducted with the same philosophy in mind. Specifically, the Five-Year Boundary Review has been guided by Article XI, Section 1, of the Hawaii State Constitution which states: "For the benefit of present and future generations, the State ... shall conserve and protect Hawaii's natural beauty and all natural resources ..."

Factors that shaped the direction and scope of the 1991-92 Five-Year Boundary Review were:

(1) Statutory provisions which require the review to focus on the Hawaii State Plan and County Plans;

(2) Continuing discussion of constitutional provisions relating to important agricultural lands and the finding that there are significant acreages in the Agricultural District which contain conservation resources;

(3) The need to revise boundaries based on new information and growing public awareness and support for protection of Hawaii's natural resources; national attention which has been focused on Hawaii's native species extinction crisis; and Act 82, SLH 1987, which calls for reclassifying high quality native forests and the habitat of rare native species of flora and fauna into the Conservation District;

(4) Recommendations in the Hawaii Water Resources Protection Plan that call for increased protection of watersheds; and

(5) The need to provide urban land to meet population and economic growth needs and promote infrastructure planning.

A. Statutory Provisions

The Land Use Law provides that OSP shall focus its review on the Hawaii State Plan and County General Plans and County Development and/or Community Plans. The Hawaii State Planning framework includes the State Plan itself as well as State Functional Plans. Seven State Functional Plans relating to physical resource needs and development were approved in 1991. The major theme for these physical resources Functional Plans was "balanced growth" and focused on the promotion of a balanced growth approach in the use of our limited resources. This theme provided direction for the boundary review and weighed heavily in the decision to conduct a physical resources-oriented assessment rather than an administrative or organizational review and to focus on the protection of natural resources.

The County General, Development/Community Plans and specific regional plans were closely examined for policy direction, particularly for the location of urban growth areas. In addition, a technical study was conducted to identify differences between existing State land use districts and County Plan designations. An assessment of these areas of inconsistency was conducted in order to recommend the appropriate State land use designation.

B. Continuing Discussions Over LESA

There have been a number of proposals put forward to implement Article XI, Section 3, of the Hawaii State Constitution which calls for the identification and protection of important agricultural land. One of these proposals recommended by the Land Evaluation and Site Assessment (LESA) Commission would have taken all non-important agricultural land out of the Agricultural District and placed these lands and Urban District lands into a new district under County jurisdiction. Of the approximately 1.9 million agriculture acres in the existing Agricultural District, 700,000 acres would be retained as important agricultural land while 1.2 million acres would go into this new district. The State would still have land use responsibilities in regulating conservation land and important agricultural land. For these conservation and important agricultural lands, the existing dual land management system would apply since both State and County approvals would be required for development.

However, there were a number of reservations regarding the LESA Commission proposal. A major reservation included the concern that there were conservation resources in the Agricultural District which should not go into an urban-type district but instead should be reclassified to the Conservation District. A pilot study undertaken by OSP in 1987 found that there were significant acreages in the Agricultural District with potential conservation value. Thus, it was felt that the Five-Year Boundary Review should specifically examine areas in the Agricultural District which merit reclassification to the Conservation District.

C. Need to Revise Boundaries Based on New Information and Growing Support for Protection of the Environment

The general trend is that lands have been slowly taken out of the Conservation District. There were 2,009,087 acres in Conservation in 1969 and 1,960,976 in 1990. At the same time, there has been a growing awareness of and support for the need to protect Hawaii's natural resources. Further, there has been new information which has been developed since the last boundary review, for example, on the location of rare and endangered species. Rare and endangered species were not specifically addressed during previous reviews. There has also been data and information collected as a result of statewide recreation and water resources planning, stream studies and other studies which serve to identify conservation resources. The Five-Year Boundary Review provides an opportunity to assess this new information and propose areas for reclassification to the Conservation District.

In addition, Hawaii's native species extinction crisis has received national attention. Approximately 75 percent of species extinctions recorded in the U.S. have occurred in Hawaii. Currently, 25 percent of all rare and endangered plants and animals in the U.S. are found in Hawaii. Proper classification of conservation resources is one of many steps which must be taken to affirmatively address this crisis.

Act 82, SLH 1987, states that the Legislature finds that Hawaii has several rare species of plants, animals, and fish that are found nowhere else in the world. The Legislature also finds that Hawaii has sizable areas of high quality native forests which are not in the Conservation District. The Act further states that to the maximum extent practicable, it is the intention of the Legislature to preserve Hawaii's unique native flora and fauna by reclassifying such areas as Conservation Districts.

D. Water Resources Protection Plan

The 1978 Hawaii State Constitutional Convention proposed and the electorate approved a new section on water resources which became Article XI, Section 7. This section in part states that the State has an obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people. The State Water Code, Act 45-87, was adopted pursuant to Article XI, Section 7, of the Hawaii State Constitution. The Hawaii Water Plan and its component Water Resources Protection Plan were prepared as required by the Water Code.

The plan calls for increased protection of watersheds. Therefore, a Watershed Protection Study was conducted for the Five-Year Boundary Review to identify areas which should be protected as important watersheds. High priority areas were identified for study as budgetary limitations precluded a study of the entire State.

E. Urban Land Needs and Infrastructure Planning

Infrastructure is a major limiting factor affecting growth and development in all Counties of the State. In addition, new wastewater rules do not allow individual wastewater systems for developments exceeding 50 dwelling units. As such, infrastructure planning among landowners/developers and between the public and private sector will become even more critical in the years ahead. The Land Use Commission (LUC) can play a major role in promoting infrastructure planning and development by delineating future areas of growth consistent with County and regional plans so that landowners and developers can make long-range commitments for the provision of infrastructure.

In addition, the Land Use Law and Land Use Commission Administrative Rules provide that the Urban District contain sufficient land to meet a ten-year projection. As a result, the boundary review looked at urban land requirements with respect to meeting population and economic needs for the next ten years. A 25 percent surplus factor was added on to account for lands which may be held out of the market for various reasons. The projections are also on the high side because existing densities and a 5 percent vacancy factor were used; household size was projected to decrease significantly and the redevelopment of existing urban areas at higher densities was not taken into account.

The boundary review has recommended the reclassification of lands to the Urban District to meet population and economic growth needs for the next ten years and to assure predictability in infrastructure planning.

Background of the Boundary Review

The 1969 Review

There are no readily available statistics on acreages reclassified during the 1969 boundary review. However, the review found that there was sufficient vacant urban land to meet projected growth for the next ten years on Oahu and Maui County. Additions to the Urban District were primarily made to refine district boundaries to include areas of existing urban use or accommodate public facilities. For Hawaii County, the study found that available vacant urban lands could accommodate three times the anticipated growth of resident population. Changes were made primarily to refine district boundaries. Many resort area proposals were submitted for Hawaii County. Available growth projections did not substantiate the need for redistricting most of the areas at the time of the review. However, some changes were made in response to detailed requests. For Kauai County, although the present Urban Districts were sufficient to accommodate foreseeable growth, the

location and distribution of these areas did not necessarily provide for specific locational needs determined in the County General Plan. Adjustments were made for residential areas, and the proposed resort areas at Princeville and Keoniloa Bay at Poipu were urbanized.

One of the major contributions of the 1969 review was to add certain lands along the shoreline to the Conservation District. The original land use boundaries were based heavily on forest reserve boundaries and steep slopes, although some shoreline/coastline areas were included. The 1969 review specifically examined the shoreline, river valleys and areas of steep topography. Many areas with scenic resources were also added to the Conservation District.

With respect to the Agricultural District, there were relatively minor additions to the Agricultural District on all islands.

The 1974 Review

During the 1974 boundary review, 4,731 acres were reclassified from the Agricultural to Urban District (significantly less than the 13,104 acres that landowners and developers proposed for urbanization).

Areas urbanized included Waipio, Ewa Town and Oneula on Oahu; Waikoloa, Kaupulehu and Kealakehe on Hawaii; Wailuku and Wailuku Heights on Maui; and Kapaa and Nukolii on Kauai.

Approximately 33,278 acres were reclassified from Conservation to Agriculture (primarily from the mauka Kona area in the Keauhou ahupuaa). There were 23,871 acres reclassified from Agriculture to Conservation (15,000 acres of which were in Kapapala, Hawaii). Over 3,000 acres went from Urban to Agriculture (1,680 acres were at Kaluakoi and planned for hotel use) and 679 acres were reclassified from Urban to Conservation. The Urban to Conservation reclassifications included lands at Kahaluu, Heeia Fishpond, and Hawaii Kai on Oahu for open space and at Hapuna and Keei, South Kona in Hawaii for open space.

On Molokai, three areas planned for hotel use, Puaahala, Paialoa, and Kaluakoi were reclassified from the Urban District to the Agricultural and Conservation Districts.

II. STUDY METHODOLOGY

The Five-Year Boundary Review process included reviews of the Hawaii State Plan, State Functional Plans, County General Plan and County Development and/or Community Plans, baseline studies, resource mapping through the State's Geographic Information System, a Public Information and Participation Component, and extensive coordination with State, County and Federal agencies and other public and private organizations and individuals.

Baseline Studies

The following are baseline studies conducted for the State Land Use District Boundary Review:

- County Plans and State Land Use District Review and Mapping Study, PBR, Hawaii, addresses the requirement to review County General Plans and County Development and/or Community Plans. The study examines the relationship between existing State land use district boundaries and County plan designations.

  Development or Community Plan maps were overlayed onto State land use district boundary maps and guidelines were developed to show which classifications were consistent with each of the State's Urban, Rural, Agricultural or Conservation Districts. Areas of inconsistency between State and County land use designations were identified and highlighted so that these areas could be further examined to determine the appropriate State land use classification.

- The Urban Land Requirements Study, Wilson Okamoto & Associates, Inc., examined urban land in the State to determine how much urban zoned land is required to accommodate population and economic growth for the next five, ten and twenty years. Key components of this analysis include determining the existing supply of vacant urban lands in each County, assessing the general suitability of these lands for development, relating the supply to anticipated future demands for urban lands including residential, industrial, commercial, resort and public uses and identifying urban land requirements.

- Infrastructure Constraints and Opportunities Study, Eugene P. Dashiell, AICP, Planning Services, assesses infrastructure constraints and opportunities by County and planning area. Major infrastructure systems including airports, harbors, highways, water systems, sewerage and solid waste are examined.

- Agricultural Resources Study, Deloitte & Touche, analyzes issues and trends in the State's major agricultural industries and assesses their outlook.

- Watershed and Water Recharge Areas, University of Hawaii Water Resources Research Center, identifies high priority watershed and water recharge areas that should be reclassified to the Conservation District. The Hawaii Water Code and Hawaii Water Plan call for increased protection of

our watershed and water recharge areas. The Water Resources Protection Plan recommends that minimum areas of conservation lands for watershed as protected infiltration areas should be set aside. This study serves to address these concerns.

- Proceedings of the Native Ecosystems and Rare Species Workshops records the information gathered from a series of workshops conducted by OSP with the assistance of The Nature Conservancy of Hawaii. The purpose of these workshops was to identify areas that are known or suspected to contain significant biological resources including native forests and shrub lands, rare and endangered species, and unique or important habitats. The report does not contain recommendations and serves primarily as a resource study which identifies the location of these resources like other planning or resource studies which have identified important agricultural lands, historic sites, steep slopes, flood hazard zones, etc. The areas identified were assessed by OSP with the assistance of State and Federal agencies.

- David L. Callies provided overall land use and planning assistance.

Public Information and Participation

A Land Use Stakeholder Survey was conducted by Sunderland Smith Research Associates, Inc., to obtain input on land use issues from individuals and organizations involved in land use throughout the State. In-depth interviews were conducted with 150 community and government leaders and other "stakeholders" to delineate priority goals for land use planning, identify stakeholders' opinions on land use and growth policies and areas that should be protected in the Agricultural and Conservation Districts.

Highlights of the Land Use Stakeholder Survey include the following:

- The major land use concerns and priorities of participants in the survey varied according to the interests and organizational affiliations of the individuals involved. For example, developers and landowners were most concerned with reducing the burden of land use regulations and streamlining the review process, while environmentalists were most interested in protecting natural resources.

  There was a consensus that truly prime agricultural land should continue to be protected.

  Opinions were more divided on the extent to which other land currently classified as agriculture should be made available for housing and other development, maintained as open space or retained for diversified agriculture or other uses.

  A number of individuals expressed a desire to make unused non-prime agricultural land available for urban purposes, especially for housing development.

Other survey participants, however, were more interested in ensuring that undeveloped lands receive protection from urban encroachment. They feared that with the phasing out of sugar, pressures to develop agricultural land would become very great. Environmentalists in particular felt that keeping land in its natural state and ensuring open space should be a basic policy objective.

- Respondents were asked to prioritize the most important goals for land use in the State of Hawaii today. The priority "Guide and direct development to make sure it serves Hawaii's needs" ranked first place overall. By affiliation, the development interests ranked in first place "guide and direct development ..." and in a tie for second "Assure adequate infrastructure" and "Provide land for jobs and economic growth." The two goals of guide and direct development and assure infrastructure were the two picks of the government sector.

  Environmental organization representatives think that keeping Hawaii's air and water clean and pollution-free, and preserving shorelines, coastal areas and open space are the two priority goals.

  Civic organizations put preservation of Hawaii's scenic beauty at the top, followed by guide and direct development to serve Hawaii's needs.

  The preservation of agricultural land was pretty low on the lists of all segments except environmental groups. The only issue that was ranked lower to some groups was preservation of historic and cultural sites.

  While most participants agreed that government policy should provide direction, there was not a consensus on what that direction should be. As discussed earlier, the group's priority goals was to "Guide and direct development to make sure it serves Hawaii's needs." Developers, however, interpreted that objective to mean that growth should continue at a fairly rapid pace to meet expanding needs, whereas environmentalists saw it more as a mandate to slow down and stabilize the rate of growth and development.

- A majority or near majority of every segment except environmental organizations, would like to see some growth and development in Hawaii over the next decade. "Some growth" was the usual choice from the roster of four possibilities that was offered to respondents: "a lot of growth"; "some growth"; "a little growth"; and "no growth at all."

Public informational meetings were conducted in March and April 1991 to solicit general comments and proposals for changes to land use district boundaries from the general public, special interest groups, community organizations, landowners and developers. As a result of this request for input, a number of recommendations for boundary changes were received--approximately 11 on Kauai, 42 on Maui (including Molokai and Lanai), 32 on Hawaii and 41 on Oahu. These were evaluated by OSP within the context of the overall review and baseline studies. Those that have been recommended are included in this report.

Public informational meetings were also conducted statewide from March-June 1992 to solicit comments on the draft report. The Office of State Planning also met with a number of organizations and community groups to present the draft proposals and obtain public input.

Resource Mapping/State Geographic Information System

One of the objectives of the review is to build up long-term capabilities in land use planning. The emphasis on a physical resources-oriented review led to use of the State Geographic Information System for this project.

Data layers added to the system to assist in the boundary review included State land use districts, vegetation maps which identify areas of native vegetative growth, State forest reserves, State natural area reserves, marine life conservation districts, national wildlife refuges and parks, rare and endangered species from the Heritage Program of The Nature Conservancy, native bird habitats, lands in sugar cane and pineapple cultivation and lava flow hazard zones. Overlays of resource information were prepared and examined to identify areas for potential reclassification.

The State Geographic Information System was an invaluable land use planning tool which assisted greatly in the analysis and presentation of complex information.

III. APPROACH

This boundary review places high priority on the protection of Hawaii's conservation resources. Watersheds, habitats of rare and endangered species, wetlands, special streams, historic sites, and coastal, open space and scenic resources are all heritage resources which require protection for the benefit of future generations.

However, there will be opposition to placing lands into the Conservation District. Landowners who have had plans for more intensive use of their properties will object because only certain types of uses are allowed in the Conservation District. Some land use options which would greatly increase the value of these lands may be foreclosed.

Other landowners who may only want to continue existing uses object to the additional regulations and paperwork which may be involved to obtain permits to expand or change uses in the Conservation District.

Objections may also be raised because lands which could have been used to provide some community benefit as a trade-off for urban zoning would already be protected through Conservation districting.

In addition, the Counties raise homerule concerns. Conservation lands fall under the jurisdiction of the Board of Land and Natural Resources rather than the County. The Counties would prefer to retain regulatory control over these lands.

Nonetheless, despite potential opposition, the statute requires that the review be conducted. Further, it is in the long-term interest of the State that these valuable assets be reclassified into the Conservation District.

The reclassification of lands requires review and approval by the Land Use Commission under quasi-judicial proceedings.

Because it can be expected that some petitions to reclassify lands to the Conservation District will be contested, the justification for initiating a petition to reclassify land into the Conservation District must be strong. Therefore, there are two types of recommendations in the report. Priority #1 areas have been identified as top priority recommendations for Conservation reclassification which OSP will initiate petitions for. These are recommendations which have strong justification and can withstand the scrutiny of contested case proceedings.

Priority #2 Conservation recommendations include areas which OSP recommends but will not be initiating petitions because of budgetary constraints. Priority #2 also includes areas which have been identified as containing conservation resources, but documentation of these resources is not strong enough to defend a petition under contested case proceedings. It further includes areas where other methods have been agreed to, to prevent changes in use or in certain instances, to even enhance identified conservation values.

The purpose of identifying Priority #2 Conservation recommendations is to alert State and County agencies, the Land Use Commission (LUC), and the public that the land contains certain conservation values which should be considered in any petition for reclassification. It should also alert the landowner as to the State's position in the event that these areas are proposed for development.

During the review, the question of whether to submit proposed legislation to amend the Land Use Law to allow the Land Use Commission to conduct the boundary review under quasi-legislative rather than quasi-judicial proceedings arose. Under the quasi-legislative process, the LUC would hold hearings on the report and proposed amended land use maps. After the hearing, the LUC would adopt or reject the proposed map amendments.

Under quasi-judicial proceedings, the State would submit a petition to the LUC; the LUC holds a hearing; the landowner may request to intervene; and the LUC may approve, approve with modifications or deny the petition.

The advantage of the quasi-legislative proceedings would be that changes would be more directly based on public input and more policy-oriented in nature. Quasi-judicial proceedings are heavily fact-based. Further, because of the amount of information needed to support a reclassification and the procedures involved, the number of reclassifications that can be considered are limited. Reclassifications under these procedures are also site-specific rather than broad-brush proposals.

The decision was to retain the contested case process as it provides for careful scrutiny of all petitions--urban, agricultural and conservation--and allows the landowner or other affected parties to intervene under contested case procedures. Therefore, no amendments to the statute to change the proceedings have been proposed.

However, because the Five-Year Boundary Review is a comprehensive, overall review, petitions under the Five-Year Boundary Review should be reviewed in the same broad fashion, and OSP may request that the Land Use Commission review petitions by region or subject area, e.g., watersheds.

Land Use Commission Petition Stage

The Office of State Planning will file petitions to reclassify Priority #1 areas with the Land Use Commission. In this case, OSP and the respective County planning departments are mandatory parties to the petition. Landowners, as well as any other parties with standing, may intervene in the proceedings by filing an application with the LUC.

The procedures of the Land Use Commission are guided by Chapter 205, HRS, and the LUC Administrative Rules. The petitioner is required to serve copies of the petition to affected landowners. Public notice of the hearing on the proposed boundary amendment is also required.

The Land Use Commission will conduct a hearing on the proposed boundary amendment. Six affirmative votes are necessary to approve any boundary amendment.

IV. CONSERVATION, AGRICULTURAL, RURAL AND URBAN DISTRICT ISSUES

Conservation District Issues

Management of Conservation Resources. Landowners and environmental groups have both raised the point that proper management is needed to protect Hawaii's rare and endangered species. They contend that zoning is not enough. It is true that zoning is only one element of an array of actions needed to protect conservation resources. Zoning is the allocation of land resources to meet certain desirable community goals, but other things also need to take place to achieve those goals. Just as zoning lands Urban does not guarantee that these lands will be developed and provide houses and jobs, zoning lands Conservation does not guarantee that rare and endangered species will be preserved. For example, reclassification into the Conservation District may not solve the problems of pigs, banana poka and fire.

However, although Conservation designation does not address these natural forces which are so destructive to Hawaii's wildlife, it can protect these lands from man-made intrusions, e.g., construction and development which have also historically eliminated many natural areas. Placing limitations on intensive use of these lands can help to assure that there is a resource left to protect.

If lands remain in the Agricultural District, the potential for more intensive use of the land exists. Within the Agricultural District, agricultural subdivisions and golf courses (on C, D and E lands) are permissible uses.

There are more restrictions on uses within the Conservation District and an environmental assessment is required before lands can be reclassified out of the Conservation District. Therefore, where high quality conservation resources were present, it was determined that the best course of action was to recommend that they be classified in the Conservation District.

Uses Within the Conservation District. From a landowner's perspective, there are too many restrictions on uses in the Conservation District. The permits that are required for uses in the Conservation District are disincentives and cause landowners to object to lands going into the Conservation District. It is acknowledged that restrictions on uses are needed in the Conservation District to protect fragile resources. However, it can be argued that not all uses should have to go through the same scrutiny. For example, why should conservation-oriented organizations such as the U.S. Fish and Wildlife Service have to obtain Conservation District Use Applications (CDUA) for fencing, laying pipes or similar uses in the Conservation District. If taro farming is a compatible use in wetlands because it keeps areas open for waterbirds or aquaculture a compatible use in fishponds, should a CDUA be required for these uses?

From an environmentalist's perspective, Conservation District rules may not be restrictive enough. For example, residences and golf courses may be permitted in certain subzones within the Conservation District.

To address the concern that lands will be reclassified to the Conservation District but not protected, e.g., that residences or golf courses will be permitted, OSP is generally recommending as Priority #1 areas which meet the criteria for the protective, resource or limited subzones. The Office of State Planning will support designation of these areas into the protective, resource or limited subzones.

Existing statutes grandfather non-conforming uses in the Conservation District. Thus, if lands are reclassified to the Conservation District, existing uses are allowed to continue. A CDUA will only be required for an expansion of an existing use or a new use. Grandfathering of existing uses when lands are reclassified to the Conservation District is a way to not adversely impact current landowners while preventing additional harm to the resource and limiting more intensive use of the property. For the County of Kauai, there may be areas within proposed stream corridors which are used for grazing or taro cultivation where the "grandfather" provision would apply.

Both landowners and environmental groups have pointed to a need for examination of Conservation District rules. It may be worthwhile to begin such an examination before the Five-Year Boundary Review is completed.

Scenic, Open Space and Wilderness Resources. The Land Use Law recognizes scenic, open space and wilderness areas as conservation resources. The original delineation of boundaries and the 1969 review included these areas in the Conservation District.

Open space and scenic resources were identified as important topics during the existing boundary review largely because of the debate over LESA and important agricultural lands. Agricultural lands are an open space resource. One of the initial objectives of the review was to identify open space and scenic resources in the Agricultural District which should be reclassified to the Conservation District. This proved to be very difficult to do and has been accomplished only to a very limited extent. The report does contain recommendations to reclassify some of the more outstanding scenic and open space areas in the State to the Conservation District, e.g., Olomana. However, there are many other scenic and open space resources which potentially should be in the Conservation District but have not been recommended for reclassification. This is because such resources are measured and valued qualitatively rather than quantitatively and further studies are needed to determine the significance of specific resources and to justify reclassification by the LUC. It is recommended that such studies be pursued because scenic resources are so important to Hawaii's visitor industry.

Wilderness areas should also be considered. The term "wilderness" here is not meant to denote Federally designated wilderness areas. The term refers to areas which may not contain rare or endangered plants or animals, may not have watershed value or contain steep

slopes, etc., but have value primarily as natural areas. These may, for example, include heavily vegetated areas. These natural areas contribute to the overall landscape and are part of what makes Hawaii an attractive and special place. Care needs to be taken that these areas are not incrementally lost and reclassified to urban or agriculture simply because they do not contain rare and endangered species or are not of watershed value.

However, as with open space resources, OSP did not identify and recommend areas for reclassification during the review solely on wilderness values because the evaluation would have been qualitative in nature and difficult to support before the Land Use Commission.

Retention of Conservation District Boundaries. The review found that with the exception of Oahu and Kauai, large acreages of additional urban lands were not needed. Moreover, urban growth for the next ten years on all islands can be accommodated by the redistricting of agricultural land not needed to sustain sugar, pineapple or diversified agricultural operations. Sufficient important agricultural land will remain to meet agricultural production goals. Redesignation of Conservation District land is not needed to meet urban land requirements for the next ten years or to meet agricultural production goals.

Therefore, except for one area in Hawaii County, the review did not recommend that conservation land be reclassified out of the Conservation District.

In general, it is recommended that lands be retained in the Conservation District unless the Land Use Law is changed to establish an Open Space District, and that any future proposals to reclassify Conservation District land continue to be carefully assessed. If an Open Space District is established, lands which have low value as conservation or agricultural resources but which have open space value and are not needed for urban uses could be included in this district.

Coastal Conservation Issues. At several of the public informational meetings, participants proposed that a continuous greenbelt strip along the coastline be placed into the Conservation District. The Office of State Planning has not included this as a boundary review recommendation because this type of blanket statewide change should be addressed through legislation or by the Counties. The Office of State Planning proposed legislation in 1991 to increase the shoreline setback to 40 feet in the Urban District and 150 feet in non-Urban Districts with exceptions for small lots. This bill did not pass. However, the Counties already have the authority under Chapter 205A to establish setbacks greater than the minimum established in that chapter and thus a more immediate solution to this issue may rest with the County governments.

The boundary review does identify specific areas along the coastline which should be reclassified to Conservation because of their resources or to conform to County plans.

Agricultural District Issues

The existing Agricultural District contains lands with soils which are only marginally good for agriculture as well as lands with good soils. The reasons for this go back to the initial delineation of land use district boundaries. After the Land Use Law was adopted in 1961, the LUC adopted temporary boundaries. Generally, the LUC renamed the forest and water reserve zones as Conservation Districts and divided the remainder of the land into "urban" and "non-urban," temporarily classifying the non-urban as "agriculture."[1]

Upon further and more detailed analysis, permanent boundaries were recommended by the Commission's consultants, Harland Bartholomew and Associates.[2] The Urban District was expanded to include a liberal allocation of land for anticipated population growth. The boundaries of the interim Conservation District were also modified considerably. State land leased for Agriculture was included in the Agricultural District as were lands in the original forest reserve suitable for agriculture. In other locations, the Conservation boundaries were extended to include areas subject to erosion, wilderness areas, unique examples of lava flows, areas of outstanding scenic quality, recreational and historic sites. Agricultural District boundaries were based on the soil classification, existing agricultural land uses, topography, rainfall and consultation with experts.

The Commission conducted meetings and public hearings and modified and subsequently adopted land use district boundaries.

The consultants encountered certain special problems during the course of their study, problems which are still applicable today. One of these problems was the appropriate disposition of so-called "waste lands" which are neither suitable for high-grade agricultural nor urban development, also called "residual" lands. They noted that 1) under the provisions of Act 187, the Land Use Law, there are no unidentifiable land uses or residual lands, 2) "residual" areas are sometimes viewed as land to be considered waste but such areas are also identified as wilderness and may contain plant or animal life, making them appropriate for Conservation designation, 3) the resources at the peripheral boundaries of the Agricultural and Conservation Districts may approach a line of diminishing positive identification, and 4) there is a need for the exercise of value judgements in the delineation of Conservation and Agricultural District boundaries in many parts of the State.[3]

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1 Harland Bartholomew and Associates, Land Use Districts for the State of Hawaii, Recommendations for the Implementation of the State Land Use Law, Act 187, SLH 1961, January 11, 1963, pp. 9-10.

2 Ibid.

3 Ibid., pp. 17-19.

The question of what to do with lands in the Agricultural District that are not suitable for high-grade agricultural use still exists. Moreover, while it is the State's intention to protect important agricultural land pursuant to the Hawaii State Constitution, the future will bring further questions and concerns relating to the entire Agricultural District because of the changing face of agriculture in Hawaii.

Overall, acreages in sugarcane and pineapple are declining and are projected to decline further although there are individual plantations that remain very healthy. Diversified agriculture is growing and over the years, significant acreages have been planted in macadamia nuts. However, diversified agriculture is not expected to be able to utilize all of the lands taken out of sugar and pineapple.

Agricultural use has been one means of keeping areas in open space and providing related open space benefits. Fields of sugarcane, for example, have enhanced the scenic beauty of the islands. However, there is uncertainty as to the nature and strength of the sugar industry in Hawaii. Proponents of open space will no longer be able to rely on sugar or pineapple to provide open space as companies continue to shrink the size of their plantations. Some landowners of former sugar and pineapple lands have gone into alternative crops such as oats and coffee and this should be encouraged.

However, there is a growing recognition that open space is a valuable resource in its own right and should be protected and managed. Open space enhances the value of surrounding communities, provides buffer areas, scenic vistas, and facilitates efforts to manage and direct urban growth.

As stated earlier, this review initially looked at the issue of agriculture and open space but in many ways found it difficult to address under the existing land use categories. The establishment of a new district, an Open Space District, and a tightened-up Agricultural District containing only important agricultural lands has been under discussion by the Legislature and provides a solution to the agriculture/open space dilemma.

Rural and Urban District Issues

The boundary review recommends that certain lands be urbanized to meet urban land requirements for the next ten years and include a 25 percent surplus. Questions have been raised as to whether this land will actually be developed and specifically whether it will be developed to address the need for affordable housing. It has been suggested that taxation be used as an incentive. It has also been proposed that the provisions on agricultural dedication which allows lands in the Urban District to be dedicated to agriculture be reviewed to determine whether this provision has been facilitating the "holding" of lands rather than the development of urbanized lands.

The recently enacted "use it or lose it" provision can also be utilized to promote development of urbanized lands. Affordable housing requirements can be addressed during the petition process.

Expediting the permit process has also been raised as a concern. To facilitate implementation of the review and expedite development in areas which the review has determined are appropriate, the Office of State Planning will be requesting the Land Use Commission to change some of its detailed requirements on the form and content of petitions during the boundary review.

V. TYPES OF RECOMMENDATIONS

The following explains the types of recommendations included in this report.

Reclassifications to the Conservation or Agricultural District

Priority 1. These are areas that OSP will likely petition for in FY 92-93 and beyond. These include areas which require protection, i.e., conservation resources for which there is sufficient documentation and justification to support a petition under contested case proceedings.

Priority 2. These are areas that are recommended as lower priority. They include, for example, conservation resources: a) which are already protected because of government or non-profit ownership with conservation objectives such as national parks; b) that are significant but not of as high quality or abundance as other areas or not as critical to meeting a specific conservation objective such as protecting endangered birds; c) which are believed or known to contain conservation resources but further survey work is necessary to either verify resources or determine appropriate boundary lines; d) which are of high quality but resource constraints limit the number of petitions which can be prepared; e) but other methods are available to protect the identified conservation values.

Reclassifications to the Urban and Rural Districts

Recommendations for areas appropriate for reclassification to the Urban and Rural Districts are identified. OSP may initiate petitions for certain State, County and private lands which are recommended in the State Land Use District Boundary Review reports for reclassification to the Urban and Rural Districts. The decision as to which petitions OSP will initiate will be based on policy considerations, additional information, conditions on development and the availability of manpower and financial resources.

Areas of Critical Concern

Two Areas of Critical Concern have been identified in the report--Hanalei to Waikoko and Mahaulepu. These are areas which contain conservation resources but in both cases on Kauai are being used for agricultural purposes. Taro farming in Hanalei is compatible with waterbird recovery habitat, and sugar at Mahaulepu is compatible with the open space and scenic values of the area. However, these areas are subject to development pressures and more intensive uses which are permitted in the Agricultural District.

These areas require attention and/or alternative methods of regulation or management to protect the resources which are present.

The Areas of Critical Concern are more broadly delineated on the report maps than are specific recommendations such as Priority #1 and #2 Conservation recommendations.

Department of Hawaiian Home Lands (DHHL)

DHHL lands containing conservation resources and lands proposed for urbanization have been identified in the report. However, these lands are not subject to the State Land Use Law according to the Hawaiian Homes Commission Act of 1920, and action will not be taken on these lands.

VI. SUMMARY OF KAUAI COUNTY RECOMMENDATIONS

A. Conservation District

Conservation District designation serves to protect Hawaii's unique and fragile environmental resources. Assuring that these precious resources are included in the Conservation District also helps to reduce future land use conflicts by confirming that it is the State's intent that these resources be protected. For example, conflicts over Heeia Marsh on Oahu may have been avoided if this important wetland and waterbird habitat had been in the Conservation District rather than the Urban District.

The examination of State land use districts in Kauai County found the need to addresss the following critical areas:

1. Forest Reserves
2. Special Streams
3. Wetlands
4. Coastal Areas
5. Scenic and Historic Sites

FOREST RESERVES

Moloaa Forest Reserve Addition: The Department of Land and Natural Resources (DLNR) has added 212 acres to the Moloaa Forest Reserve in Papaa. While most of the land is already in the Conservation District, approximately 16 acres are in the Agricultural District. This 16-acre portion is recommended for reclassification from the Agricultural to Conservation District to allow for watershed protection, reforestation, and recreation and timber resource production.

SPECIAL STREAMS

Streams that have been identified in the Hawaii Stream Assessment as containing outstanding aquatic resources or riparian values that include waterbird recovery habitat, or based on new aquatic information provided by DLNR or the U.S. Fish and Wildlife Service and are in the Agricultural District, have been recommended for inclusion in the Conservation District. These streams provide irreplaceable habitat for aquatic and riparian flora and fauna which are much less abundant now than in the past. Hawaii's streams are simple in structure and are absolutely dependent upon runoff from relatively natural areas. A disturbance at any point in a stream may echo through the ecosystem, causing the ecosystem to collapse. The optimal recommendation is the protection of entire watersheds from activities that lead to increased sediment load, pollution and other harmful changes to the stream. A ridge-to-ridge approach would stabilize these ecosystems and offer native species the greatest chance of survival and has been recommended for streams where

possible. However, in cases where ridge-to-ridge protection is not feasible given existing land use activities, e.g., residences, a 100-foot Conservation District corridor on both sides of the stream as measured from the bank is recommended. Conservation designation would provide for the regulation of uses adjacent to the stream, e.g., grading and construction of structures to help assure stream protection.

On Kauai, these streams are Lumahai, Waipa, Hanalei, Waioli, Kalihiwai, Anahola, Kapaa, Upper Wailua River, and Huleia.

WETLANDS

A number of wetlands not in the Conservation District which have been identified in the State Conservation Lands Functional Plan, State Recreation Functional Plan, State and Federal Recovery Plans, County Community Plans, or by State and County agencies have been recommended for inclusion in the Conservation District. A buffer area around the wetland is recommended in order to regulate uses, e.g., construction of structures adjacent to the wetland which may potentially impact waterbirds.

On Kauai, wetland areas include Huleia Stream and Wetlands, Waita Reservoir, Papalihala Marsh, Puu Poa Marsh, Hanalei Wetlands, and Lumahai Marsh.

COASTAL AREAS

Donkey Beach: Approximately 92 acres of the coastline between Ahihi Point and Paliku Point are being recommended for reclassification from the Agricultural to Conservation District to preserve its scenic, recreational, and open space values.

Kipu Kai Shoreline: The 65 acres being recommended for reclassification from Agricultural to Conservation are a high quality recreational resource on Kauai's southern coast according to the State Recreation Resources Inventory. This area is designated as "Open" in the County General Plan.

Palama Beach: The area surrounding Nomilu Fishpond and Palama Beach is designated "Open" on the County General Plan. In order to protect the scenic and historic value of Nomilu Fishpond, it is recommended that the Conservation District be extended at Palama Beach to meet the present Conservation boundary. The boundary would correspond to the County "Open" designation. This extension encompasses approximately 38 acres.

Salt Pond Park: Approximately 65 acres of this existing County park is being recommended for reclassification from Urban to Conservation. This extension of the Conservation District would include an area presently in use for public recreation and historic salt-making practices.

Kekaha Beach: Approximately 85 acres at Kekaha Beach are being recommended for reclassification from the Agricultural to Conservation District. This area is in close proximity to a developed and growing community, and a Conservation designation would ensure that this scenic and recreational resource remains accessible to the public.

Polihale Dunes: This long, narrow strip north of Barking Sands Pacific Missile Range is part of the existing Polihale State Park. The Division of State Parks, DLNR, has recommended this area for reclassification from Agricultural to Conservation for provision of park lands, wilderness, and beach reserves.

SCENIC AND HISTORIC SITES

A number of areas on Kauai are being recommended for reclassification to the Conservation District because of their scenic, open space and historic site value. These areas include the Hanamaulu Coastline, Aahoaka, Kalepa Ridge, Sleeping Giant Mountain, Russian Fort Elizabeth State Historical Park, and Wailua River State Park.

AREAS OF CRITICAL CONCERN

In addition, two Areas of Critical Concern were identified for Kauai. These areas have natural and environmental resource values but reclassification to Conservatio is not recommended at this time. The areas in Hanalei to Waikoko which are in taro cultivation may not be incompatible with waterbird habitat, and sugarcane cultivation at Mahaulepu is not incompatible with its natural, scenic, open space qualities. However, although reclassification to conservation is not recommended, alternative methods of protection for these areas need to be developed.

Hanalei to Waikoko: The area from Hanalei to Waikoko is identified as an Area of Critical Concern. This area contains wetlands which are endangered waterbird habitat and streams with an abundance of native aquatic species.

Within the Area of Critical Concern, the Hanalei River and Wetlands are identified as a high priority (Priority #1) area because of the multiple resource values there.

Mahaulepu Coastline: This coastline is designated "Open" on the County General Plan. It is a significant undeveloped coastline within close proximity to Kauai's population centers. This area is being identified as an Area of Critical Concern to protect its recreational, biological, physiographic and scenic resources. The landowner has provided assurances that the land will be used for agricultural uses (not including agricultural subdivisions or golf courses) and that a petition for reclassification shall not be initiated for the next five years unless a General Plan amendment or amendment to the regional development plan is obtained.

B. Agricultural District

There are more than enough agricultural lands in the County to meet agricultural production goals. Important agricultural lands should be maintained in the Agricultural District to assure the viability of the sugar and diversified agricultural industries. Agricultural District lands shall also be maintained to provide open space and scenic vistas. No additions to the Agricultural District are recommended for Kauai County. However, Agricultural District lands with high conservation resources have been recommended for reclassification to the Conservation District.

C. Urban and Rural Districts

Despite the pressing needs of additional infrastructure capacities, additional acreages are being recommended for reclassification to the Urban District on Kauai. The primary basis for this decision was an analysis of urban land requirements which found that Kauai County will have a deficit of approximately 1,100 acres of urban lands in the year 2000. However, the areas recommended for urbanization are in close proximity to existing or planned infrastructure facilities.

Urban Land Requirements

The Urban Land Requirements Study, Wilson Okamoto & Associates, 1991, examined the need for urban land based upon a comparison of available developable urban land and projected urban land requirements.

Urbanization Trends

As of January 1990, Kauai County had 12,976 acres in the Urban District. Between 1976 and 1990, 3,911 acres were reclassified to the Urban District. The majority of these reclassifications occurred in three areas: Lihue (2,281 acres), Poipu (748 acres) and North Shore (614 acres). At 1,058 acres, the past five years (1986-1990) represent a decrease in the amount of Urban conversions on Kauai. In the previous five-year period of 1981-1985, 2,023 acres were reclassified to the Urban District.[1]

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[1] Wilson Okamoto & Associates, Inc., Urban Land Requirements Study, 1991, pp. 2-2 to 2-9.

URBAN DISTRICT RECLASSIFICATIONS
COUNTY OF KAUAI
1976-1990, BY PLANNING AREA
(In Acres)

	1976-80	1981-85	1986-90	Total
North Shore	53	561	0	614
Kapaa	25	60	0	85
Lihue	184	1,112	985	2,281
Koloa	458	290	0	748
Waimea	111	0	73	184
TOTAL	831	2,023	1,058	3,912

Source: State Land Use Commission (in Urban Lands Requirement Study, Wilson Okamoto & Associates, 1991).

Developable Urban Land

The study assessed lands in the Urban District to identify developable urban land. These lands were defined as lands which do not contain any permanent development, are relatively level with a slope of less than 20 percent and is otherwise free of readily identifiable environmental constraints. Also excluded from the definition of developable lands were existing golf courses, parks, and roadways.

In Kauai County, the study found that there are 2,303 acres of developable urban lands.

DEVELOPABLE URBAN LAND
COUNTY OF KAUAI[1]

North Shore	339
Kapaa	389
Lihue	605
Koloa	639
Waimea	331
TOTAL	2,303

[1] Excludes lands zoned preservation or conservation.

Source: Wilson Okamoto & Associates, Urban Land Requirements Study, 1991.

Demand for Urban Land

Future demands for urban land were determined through population and employment projections and through estimated urban land area requirements by Wilson Okamoto & Associates. The M-K Series of Population and Economic Projections was utilized. The Office of State Planning

is currently evaluating these projections, particularly the visitor industry projections. There are concerns that the visitor industry projections are too high, reflect an over-reliance on that industry, and may become a self-fulfilling prophecy. However, these projections are still recommended for planning purposes.

Residential area requirements assumed existing densities, declining household size, and no redevelopment of existing urban areas. Census data on household size was not available when the study was conducted and the census data shows a higher household size than that reflected in the study. Revision of the projections will be needed for the next five-year boundary review. A 25 percent flexibility factor was added to the total urban land requirement figure to account for lands which may be held out of use. Such a flexibility factor allows for unanticipated choices of individuals and firms who may acquire land in excess of the estimated need, and it allows for land which may be held out of use because of personal preferences of property owners, unfavorable market conditions, or legal complications which make the land unavailable for immediate development.

Urban Land Requirements

Urban requirements to the year 2000 were projected because of the Land Use Law and Land Use Commission rules which provide that the Urban District shall include sufficient reserve areas for urban growth in appropriate locations based on a ten-year projection.

Based on the above-mentioned assumptions and comparisons of available developable urban lands with projections of urban land needs, Kauai County has a need for an additional 1,102 acres of urban land by the year 2000. The majority of the future deficit is projected to occur in the Lihue and Kapaa planning areas. The North Shore and Waimea regions are actually projected to have a modest excess of urban lands (11 acres and 134 acres, respectively).

The major areas targeted for urban growth during this boundary review include Hanamaulu-Molokoa where approximately 792 acres are being recommended for reclassification from Agricultural to Urban. This project will include residential, commercial and industrial uses. It is in close proximity to the Urban District and to planned infrastructure improvements including an increase in capacity at the Lihue Sewage Treatment Plant. Development in Lihue is logical because it is the economic hub of the island and contains Kauai's principal airport and harbor.

Although the Hanamaulu-Molokoa area is the first priority area recommended to meet urban land needs, Kukuiula Phase II is also recommended to meet the remaining urban land requirements. The Kukuiula Phase II project would be the second phase of A&B's master-planned community and would include single- and multi-family housing, parks, a commercial area, sewage treatment plant, and lodging facilities.

Kukuiula Phase II has County General Plan approval with conditions and is in proximity to existing urbanized areas including Kukuiula Phase I. The developer has proposed to provide infrastructure improvements, i.e., sewerage facilities.

Approximately 240 acres at Kauai Lagoons Resort are also recommended for urbanization as a housekeeping measure. The major part of the area is already in golf course use which is an urban-type use. The area is surrounded by Urban District lands.

VII. PRIORITY LISTING

Site	*Change*	*Acres*	*Map Code*
	Areas of Critical Concern		
Hanalei to Waikoko	--	1,871	2
Mahaulepu	--	1,517	20
	Priority 1 Conservation and Agricultural Recommendations (OSP intends to initiate reclassification petitions)		
Lumahai Stream and Valley	A to C	929	1
Hanalei River and Papalihala Marsh	A to C	761	3
Puu Poa Marsh	U to C	17	4
Kalihiwai Stream	A to C	78	5
Moloaa Forest Reserve Addition	A to C	16	7
Donkey Beach	A to C	92	8
Upper Wailua River	A to C	20	13
Huleia Stream and Wetlands	A to C	807	18
Waita Reservoir	A to C	123	21
	Priority 2 Conservation and Agricultural Recommendations		
Kilauea Pt. NWR	A to C	82	6
Kapaa Stream	A to C	84	9
Sleeping Giant Mountain	A to C	100	10
Wailua River State Park	A to C	55	11
Aahoaka	A to C	128	12
Kalepa Ridge	A to C	89	14
Hanamaulu Coastline	U to C	21	15
Kipu Kai Shoreline	A to C	65	19
Area Surrounding Nomilu Fishpond & Palama Beach	A to C	38	23
Salt Pond Park	U to C	65	24
Russian Fort Elizabeth State Historical Park	A to C	17	25
Kekaha Beach	A, U to C	85	26
Polihale Dunes	A to C	30	27

Urban Recommendations			
Hanamaulu and Molokoa	A to U	792	16
Kauai Lagoons Resort	A to U	240	17
Kukuiula Phase II	A to U	800	22

TOTAL ACREAGES
BY PRIORITY AND ACTION

Priority 1	A to C	2,826 acres
Priority 1	U to C	17 acres
Priority 2	A to C	773 acres
Priority 2	U to C	*86 acres
Urban	A to U	1,832 acres
Areas of Critical Concern	--	3,388 acres

*For recommendations with more than one State land use district being reclassified to the Conservation District, the "U to C" portions have been included with the "A to C" total.

VIII. LISTING OF RECOMMENDATIONS

1. Lumahai Stream and Valley (929 acres) (A to C) Priority 1

   This stream contains an abundance of and spawning areas for native aquatic species, and the presence of all four native aquatic species is indicative of a high quality aquatic ecosystem. The area bordering the stream is designated "Open" in the County General Plan. Reclassification is being recommended to protect stream and wetland resources, provide a buffer area and incorporate steep slopes and ridges.

2. Hanalei to Waikoko (1,871 acres) (Area of Critical Concern)

   The area is being identified to protect habitat for endangered waterbirds, native stream species, and outstanding aquatic and riparian resources. Wetland areas exist in Hanalei, Waioli, Waipa and Waikoko. A majority of the area is within the flood zone. The Hanalei area is an important scenic resource. Portions of this area are designated "Open" by the County General Plan.

3. Hanalei River and Papalihala Marsh (761 acres) (A to C) Priority 1

   The Hanalei River and Wetlands are recommended for reclassification because of the multiple high quality natural resource values the area possesses. Hanalei River has an abundance of and spawning areas for native aquatic species, and the presence of all four native species is indicative of a high quality aquatic ecosystem. It is also associated with a wetland recovery habitat and high quality estuary. The area recommended is designated "Open" in the County General Plan and is in a flood zone. Reclassification will protect aquatic, riparian, and scenic values. The adjacent Papalihala Marsh which is waterbird habitat is also recommended for reclassification.

4. Puu Poa Marsh (17 acres) (U to C) Priority 1

   The U.S. Fish and Wildlife Service has identified Puu Poa Marsh as important habitat for endangered Hawaiian waterbirds. The State DLNR has also identified this as a high priority wetland for protection.

5. Kalihiwai Stream (78 acres) (A to C) Priority 1

   Kalihiwai Stream has an abundance of native aquatic species. Reclassification is also consistent with the County General Plan designation of "Open."

6. Kilauea Point National Wildlife Refuge (82 acres) (A to C) Priority 2

   Reclassification of Kilauea Point NWR is aimed at the preservation of the coastal habitat of threatened and endangered birds. The area is an existing National Wildlife Refuge.

7. Moloaa Forest Reserve Addition (16 acres) (A to C) Priority 1

   This area is part of the 212 acres DLNR has added to the Moloaa Forest Reserve in Papaa and which falls outside of the existing Conservation District. Reclassification is intended to protect the watershed and allow for reforestation, recreation, and timber resource production.

8. Donkey Beach (92 acres) (A to C) Priority 1

   Donkey Beach is a popular recreational site located near a growing urban area. The area offers views of the beach, wooded bluffs, and rocky points and is under consideration to be included as part of DLNR's Na Ala Hele trail program.

9. Kapaa Stream and Tributaries (84 acres) (A to C) Priority 2

   This stream contains an abundance of native aquatic species and the presence of all four native species is indicative of a high quality aquatic ecosystem. Reclassification is also consistent with the County General Plan's designation of "Open" for the stream and areas bordering the stream. Reclassification is recommended to protect aquatic, riparian, and scenic resources.

10. Sleeping Giant Mountain (100 acres) (A to C) Priority 2

    This area lies at the toe of Sleeping Giant Mountain between approximately the 200 and 462-foot elevations. Reclassification would protect steeply sloping areas and important scenic vistas.

11. Wailua River State Park (55 acres) (A to C) Priority 2

    Reclassification of this park area has been recommended by the Division of State Parks, DLNR, in order to provide for parklands and for the preservation of scenic and historic areas.

12. Aahoaka (128 acres) (A to C) Priority 2

    Reclassification is recommended for providing and preserving parklands, wilderness, and beach reserves. Grave sites are present in the southwest corner of the area. This site, adjacent to the Wailua River State Park with elevations up to 802 feet, is designated "Open" in the County General Plan.

13. Upper Wailua River (South Fork) (21 acres) (A to C) Priority 1

    This stream contains outstanding riparian and wetland resources. The area being recommended stretches from the southern fork above Wailua Falls up to the State Conservation District border. Reclassification is also consistent with the County General Plan designation of "Open."

14. Kalepa Ridge (89 acres) (A to C) Priority 2

    Reclassification is recommended to protect scenic, recreational, and open space resources.

15. Hanamaulu Coastline (21 acres) (U to C) Priority 2

Reclassification is recommended to protect significant scenic resources.

16. Hanamaulu and Molokoa (792 acres) (A to U)

Reclassification of this area located inland and south of Hanamaulu Bay is intended to meet future urban land requirements. The project will contain commercial, residential, and industrial uses. This area is in proximity to existing urban areas and planned infrastructure improvements.

17. Kauai Lagoons Resort (240 acres) (A to U)

Reclassification is a housekeeping measure. Portions of this area are already in golf course use which is an urban-type use. The area is surrounded by Urban District lands.

18. Huleia Stream, Tributaries and Wetlands (807 acres) (A to C) Priority 1

Huleia Stream contains outstanding aquatic, riparian, and recreational stream resources. There are wetlands on both sides of the stream. This area is a large portion of the existing Huleia National Wildlife Refuge which is adjacent to the State Conservation District. Reclassification is also consistent with the County General Plan designation of "Open."

19. Kipu Kai Shoreline (65 acres) (A to C) Priority 2

This area is a high quality recreational resource designated "Open" by the County.

20. Mahaulepu Coastline (1,517 acres) (Area of Critical Concern)

This area is being identified to preserve coastal recreational resources, rare flora and fauna, unique limestone caves, lithified sand dunes and scenic, open space resources. The Mahaulepu shoreline is a significant undeveloped shoreline near Kauai's primary population centers and is an important resource for local residents. The sand dunes support some of the best native coastal vegetation on Kauai and include at least three rare native plant species. The coastline is a nesting site for wedge-tailed Shearwaters and white-tailed tropic birds, and a loafing area for Layson albatross. Monk seals and green sea turtles have also been sighted in this area.

21. Waita Reservoir (123 acres) (A to C) Priority 1

Waita Reservoir is a large body of water of which the western portion is a natural wetland and the eastern portion is man-made. The reservoir as well as some of the surrounding lands are designated "Open" in the County General Plan. Waita has been designated a primary waterbird habitat by State and Federal agencies and is used by all four endangered waterbirds in the State, as well as the black-crowned night heron and migratory shorebirds and ducks.

22. Kukuiula Phase II (800 acres) (A to U)

Reclassification is recommended for development of the second phase of Alexander & Baldwin's master-planned community. The proposed development includes single- and multi-family housing units and commercial and recreational facilities. This project has County General Plan approval with conditions and is in proximity to an existing urban area. The developer has proposed to provide infrastructure improvements, i.e., sewerage facilities.

23. Area Surrounding Nomilu Fishpond and Palama Beach (38 acres) (A to C) Priority 2

An extension of the Conservation District boundary is recommended to protect the scenic and historic integrity of Nomilu Fishpond and to protect the coastal resources of Palama Beach. This area is designated "Open" on the County General Plan.

24. Salt Pond Park (65 acres) (U to C) Priority 2

This area is used for public coastal recreation and traditional salt-making practices. Reclassification would extend the existing Conservation District eastward to protect these uses as well as the area's unique tidal pools.

25. Russian Fort Elizabeth State Historical Park (17 acres) (A to C) Priority 2

The Division of State Parks, DLNR, has recommended this park for reclassification to preserve the scenic and historic area located at the mouth of Waimea River. The area is named for the ruins of an old Russian Fort.

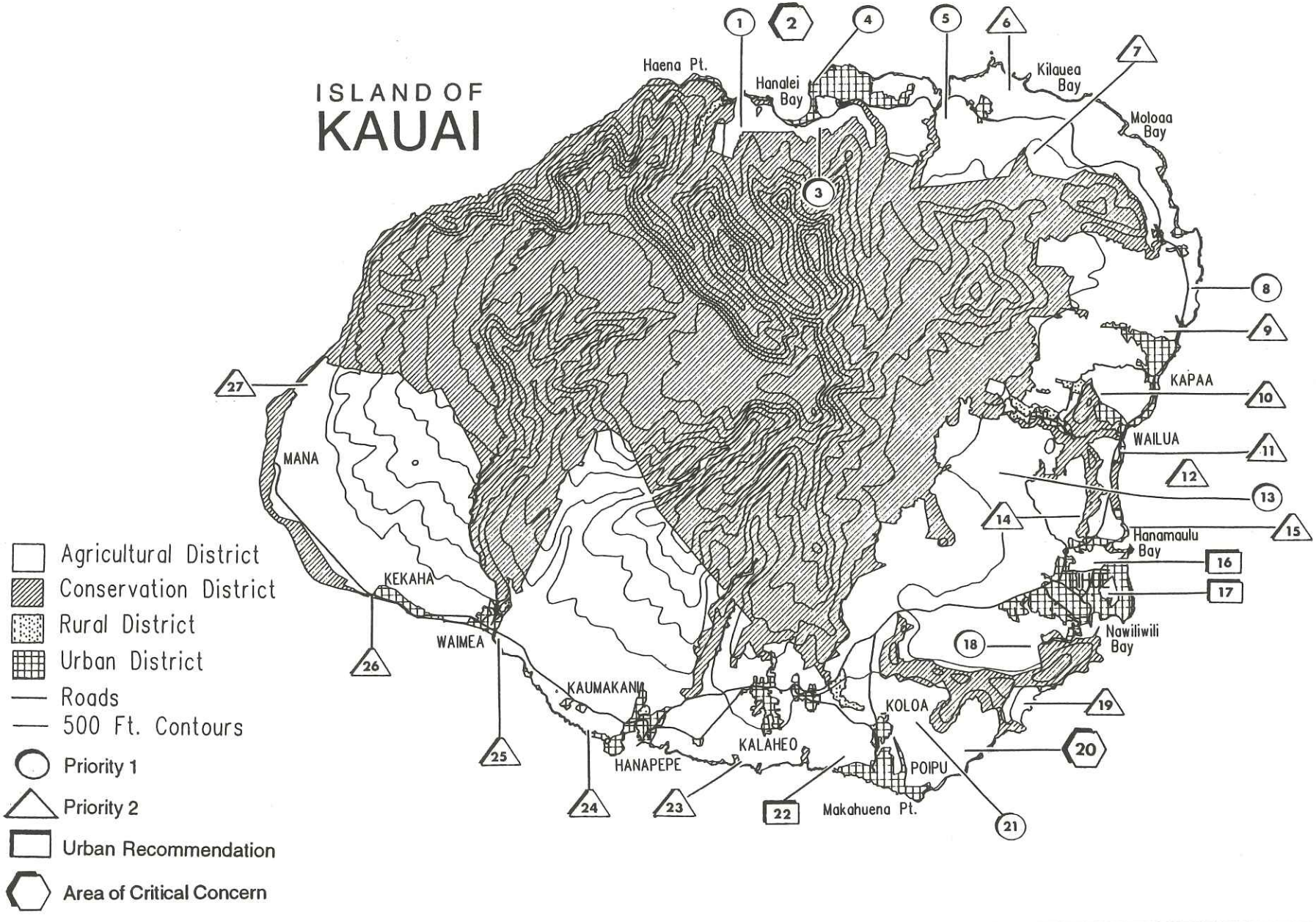
26. Kekaha Beach (85 acres) (A and U to C) Priority 2

This large, sandy beach is adjacent to a developed and growing community, and reclassification would ensure that this recreational and scenic resource remains accessible to the public in the future.

27. Polihale Dunes (30 acres) (A to C) Priority 2

The Division of State Parks, DLNR, has recommended this park for reclassification to provide lands necessary for parks, wilderness, and beach reserves.

FIVE-YEAR BOUNDARY REVIEW RECOMMENDATIONS



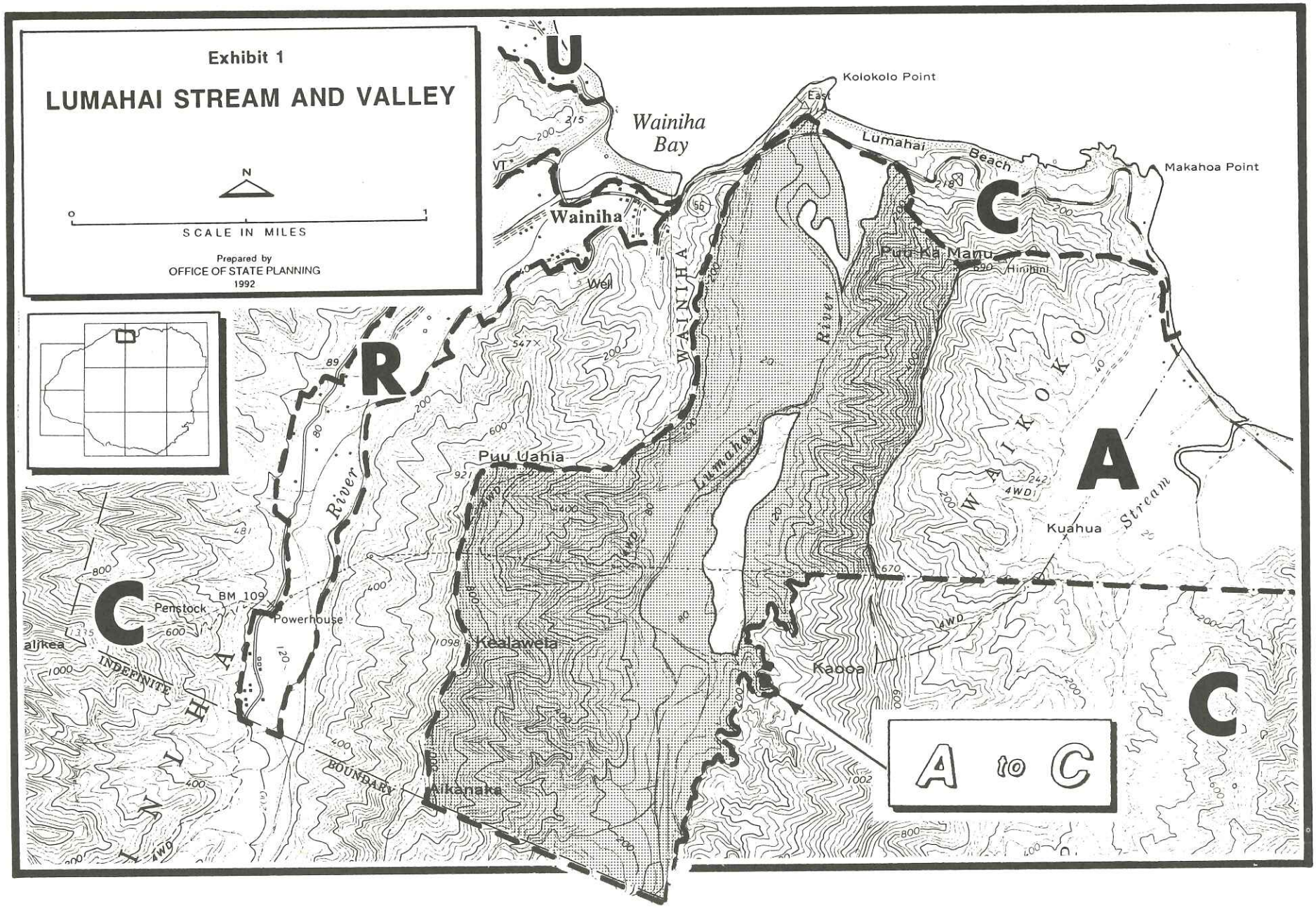


Exhibit 1
LUMAHAI STREAM AND VALLEY
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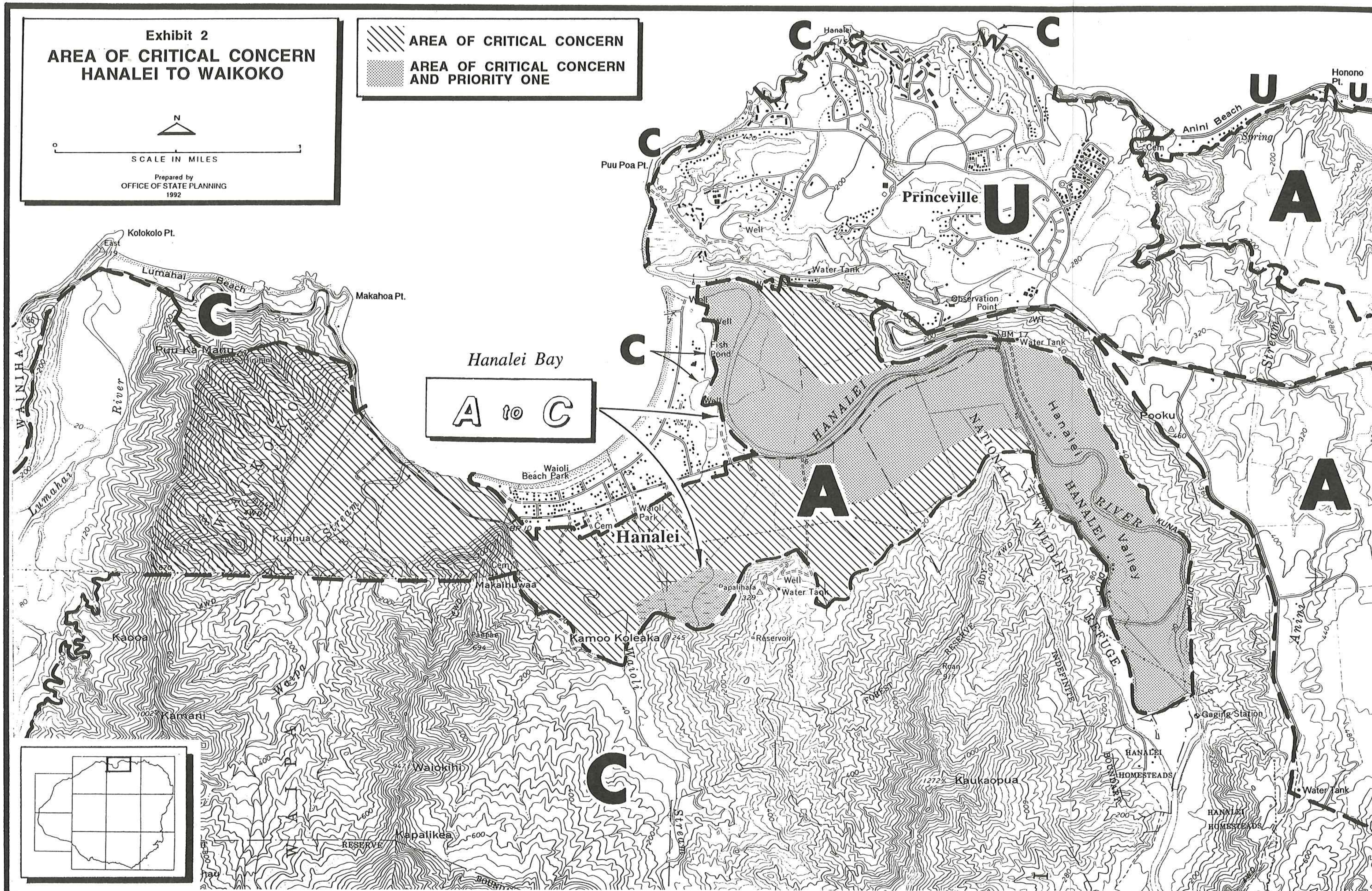
Exhibit 2
AREA OF CRITICAL CONCERN
HANALEI TO WAIKOKO
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SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
AREA OF CRITICAL CONCERN
AREA OF CRITICAL CONCERN
AND PRIORITY ONE
Hanalei Bay
A to C
Princeville
Puu Poa Pt.
Honono Pt.
Anini Beach
Kolokolo Pt.
Lumahai Beach
Makahoa Pt.
Puu Ka Manu
Waioli Beach Park
Waioli Park
Hanalei
Kuahua
Makaihuwaa
Kamoo Koleaka
Observation Point
Water Tank
Fish Pond
Pooku
Gaging Station
Kaukaopua
Kapalikea
Waiokihi
Kamani
Kaooa
HANALEI NATIONAL WILDLIFE REFUGE
Hanalei Valley
HANALEI RIVER
HANALEI HOMESTEADS
C
U
A

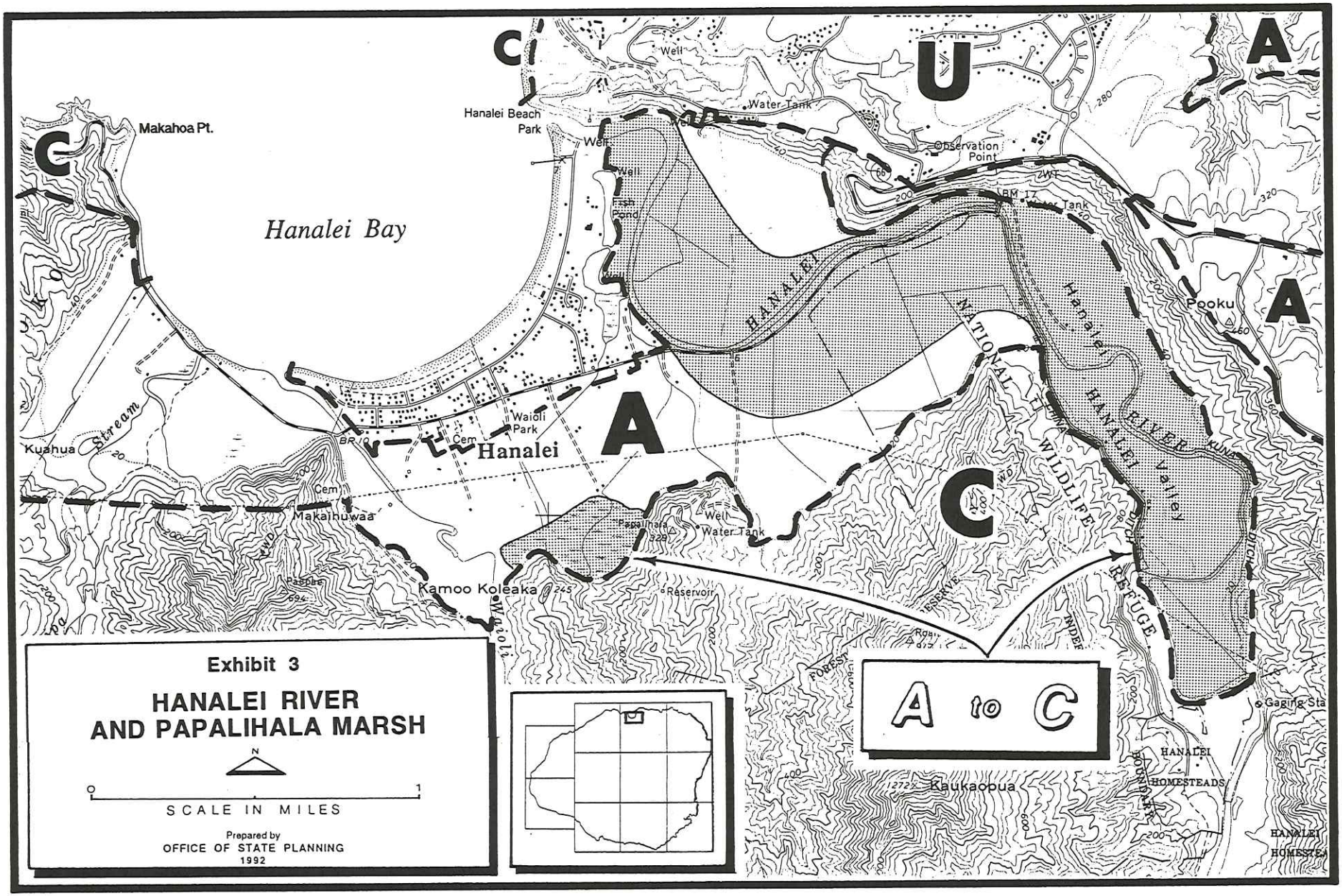


Exhibit 3
HANALEI RIVER
AND PAPALIHALA MARSH
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
A to C
Hanalei Bay
Makahoa Pt.
Hanalei Beach Park
Hanalei
Waioli Park
Kuahua Stream
Makaihuwaa
Papalihala
Kamoo Koleaka
Waioli
Reservoir
Water Tank
Observation Point
Fish Pond
Pooku
Kaukaopua
HANALEI NATIONAL WILDLIFE REFUGE
HANALEI RIVER Valley
HANALEI HOMESTEADS
Gaging Sta
C
U
A
C
A
C

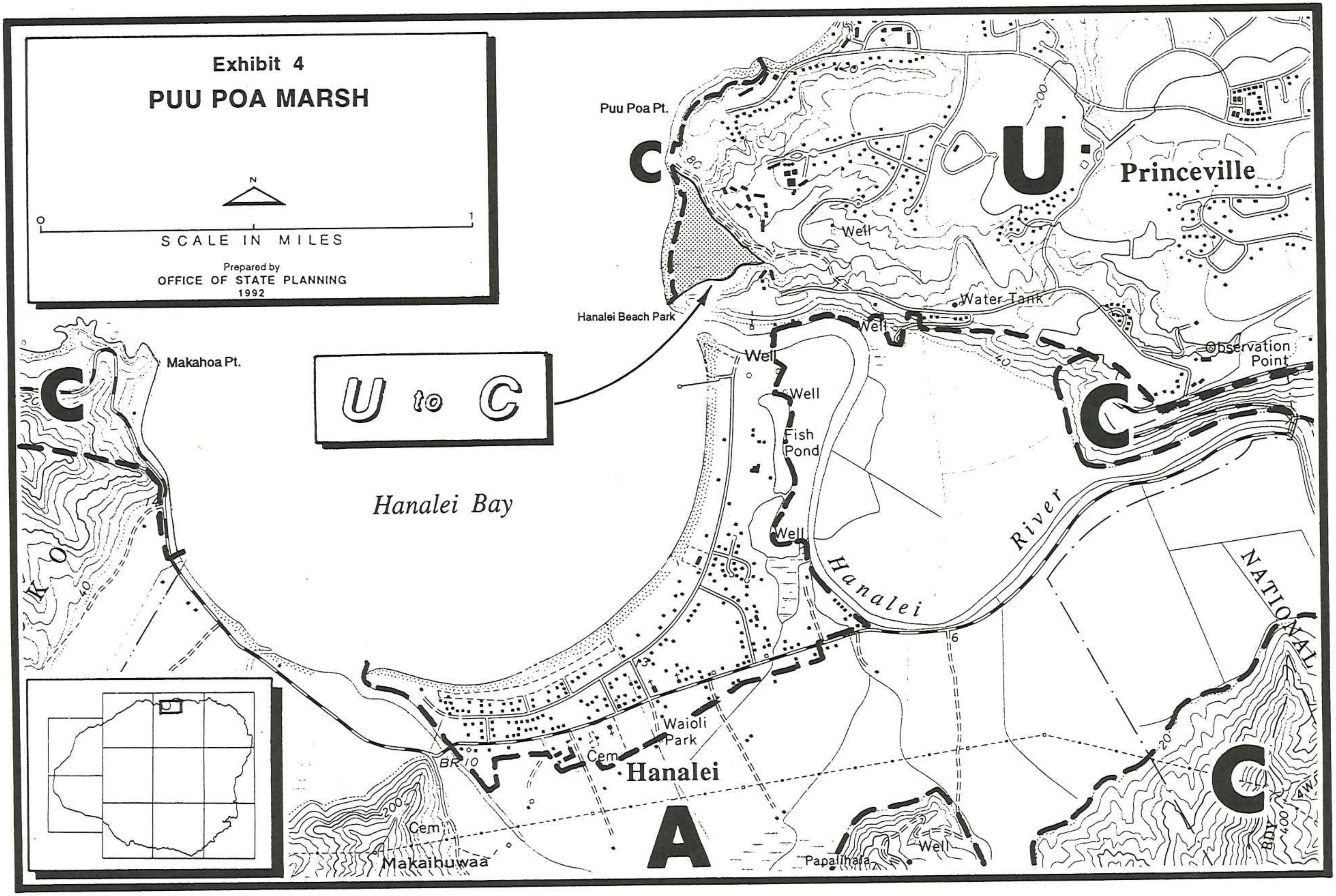


Exhibit 4
PUU POA MARSH
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Puu Poa Pt.
C
U
Princeville
Well
Water Tank
Hanalei Beach Park
Makahoa Pt.
U to C
Observation Point
Fish Pond
Hanalei Bay
Hanalei River
NATIONAL
Waioli Park
Cem
Hanalei
A
Makaihuwaa
Papalihala

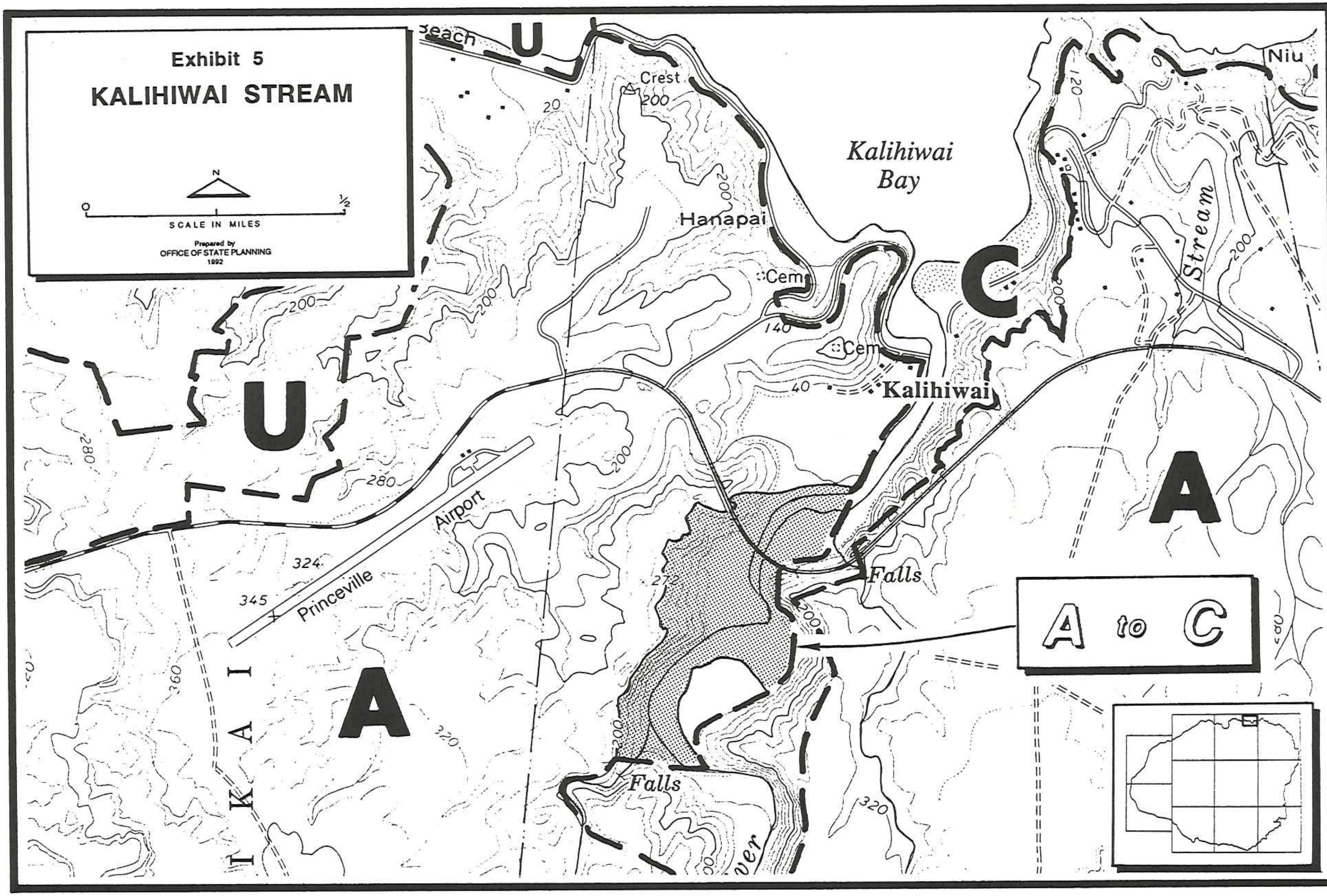


Exhibit 5
KALIHIWAI STREAM
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Beach
U
Crest
200
Kalihiwai
Bay
Niu
Hanapai
Cem
Cem
Kalihiwai
C
Stream
U
A
Airport
Princeville
Falls
A to C
A
Falls
ver
320

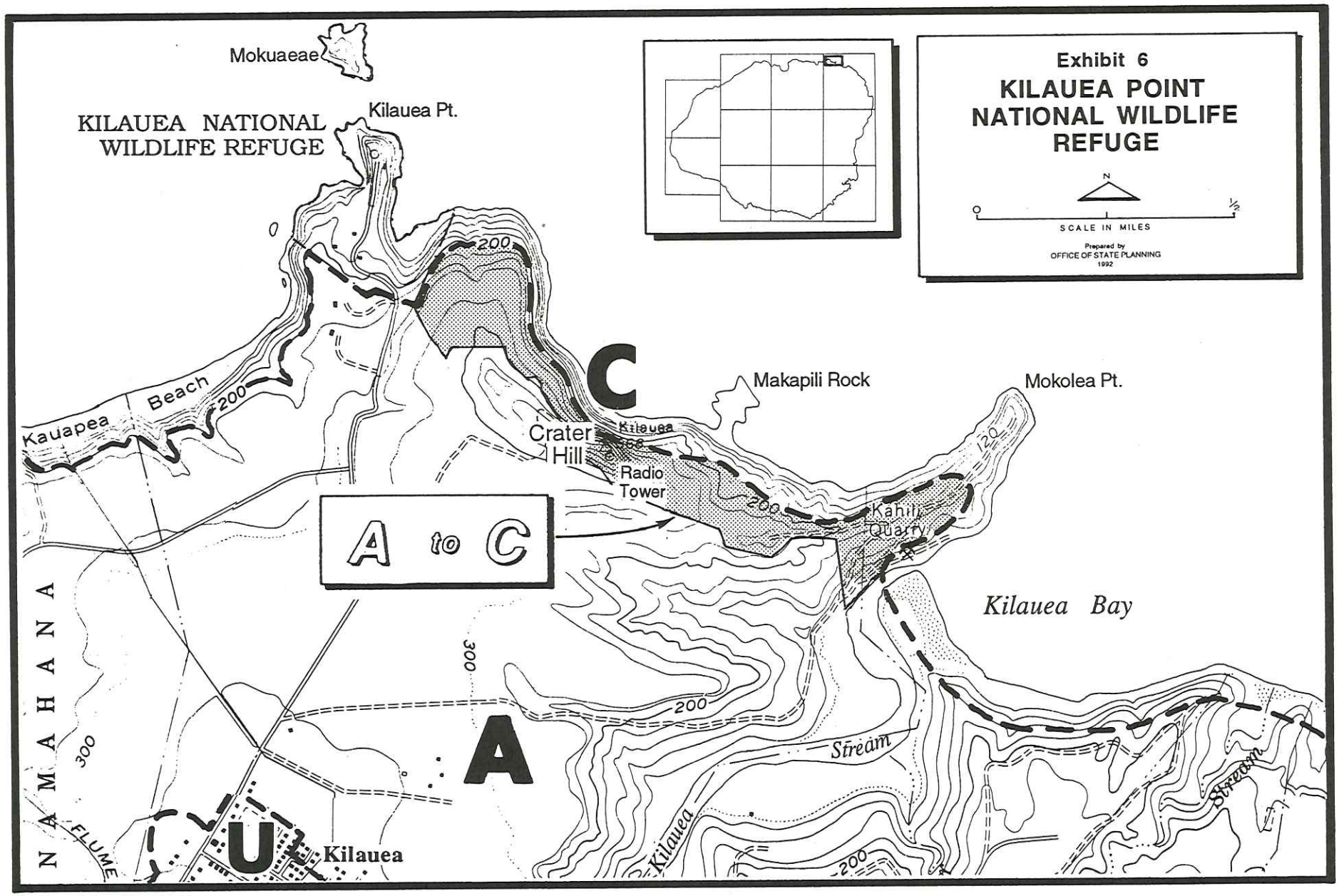
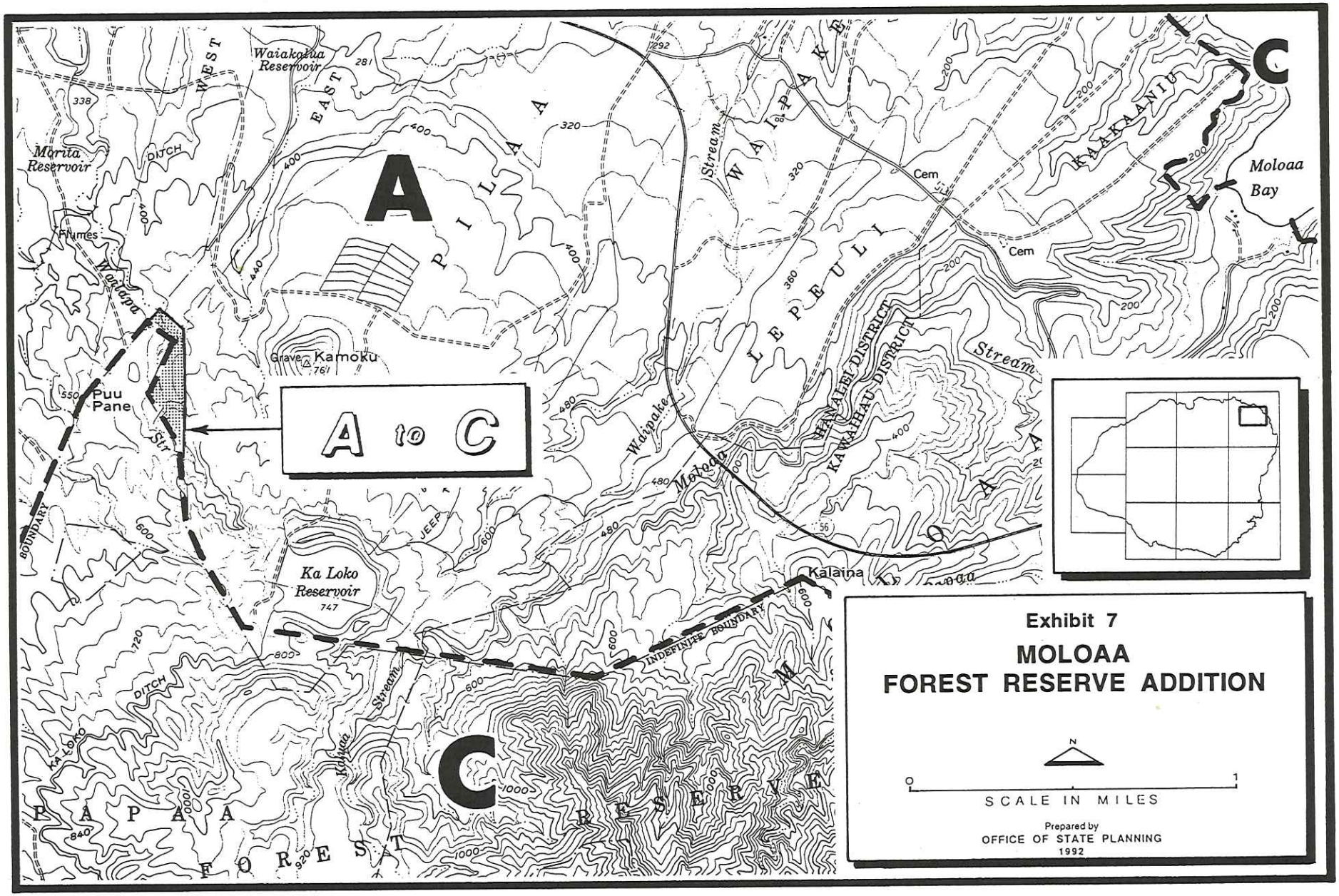


Exhibit 6
KILAUEA POINT
NATIONAL WILDLIFE
REFUGE
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Mokuaeae
KILAUEA NATIONAL
WILDLIFE REFUGE
Kilauea Pt.
200
Kauapea
Beach
200
C
Makapili Rock
Mokolea Pt.
Crater
Hill
Kilauea
Radio
Tower
200
120
Kahili
Quarry
A to C
Kilauea Bay
NAMAHANA
300
300
200
A
Stream
FLUME
U
Kilauea
Kilauea
200
Stream


A
C
A to C
Waiakalua Reservoir
Morita Reservoir
DITCH
WEST
EAST
Flumes
Waiakapu
Stream
WAIPAKE
Cem
KAAKAANUI
Moloaa Bay
PILAA
LEPEULI
HANALEI DISTRICT
KAWAIHAU DISTRICT
Grave
Kamoku
761
Puu Pane
550
Waipake
Moloaa
JEEP
BOUNDARY
Ka Loko Reservoir
747
INDEFINITE BOUNDARY
Kalaina
KALOKO
Kuhuaa
PAPAA FOREST RESERVE
Exhibit 7
MOLOAA
FOREST RESERVE ADDITION
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992

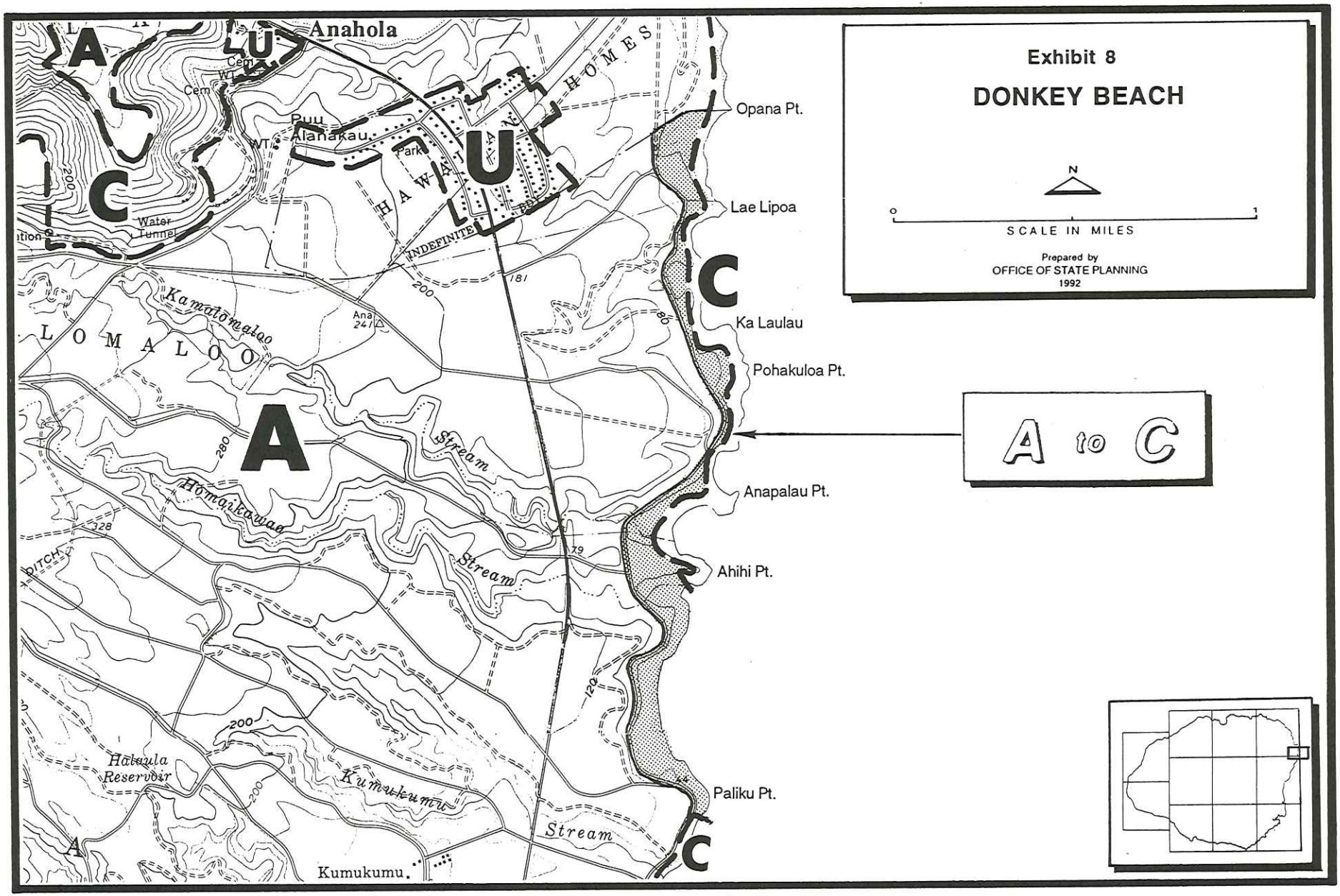
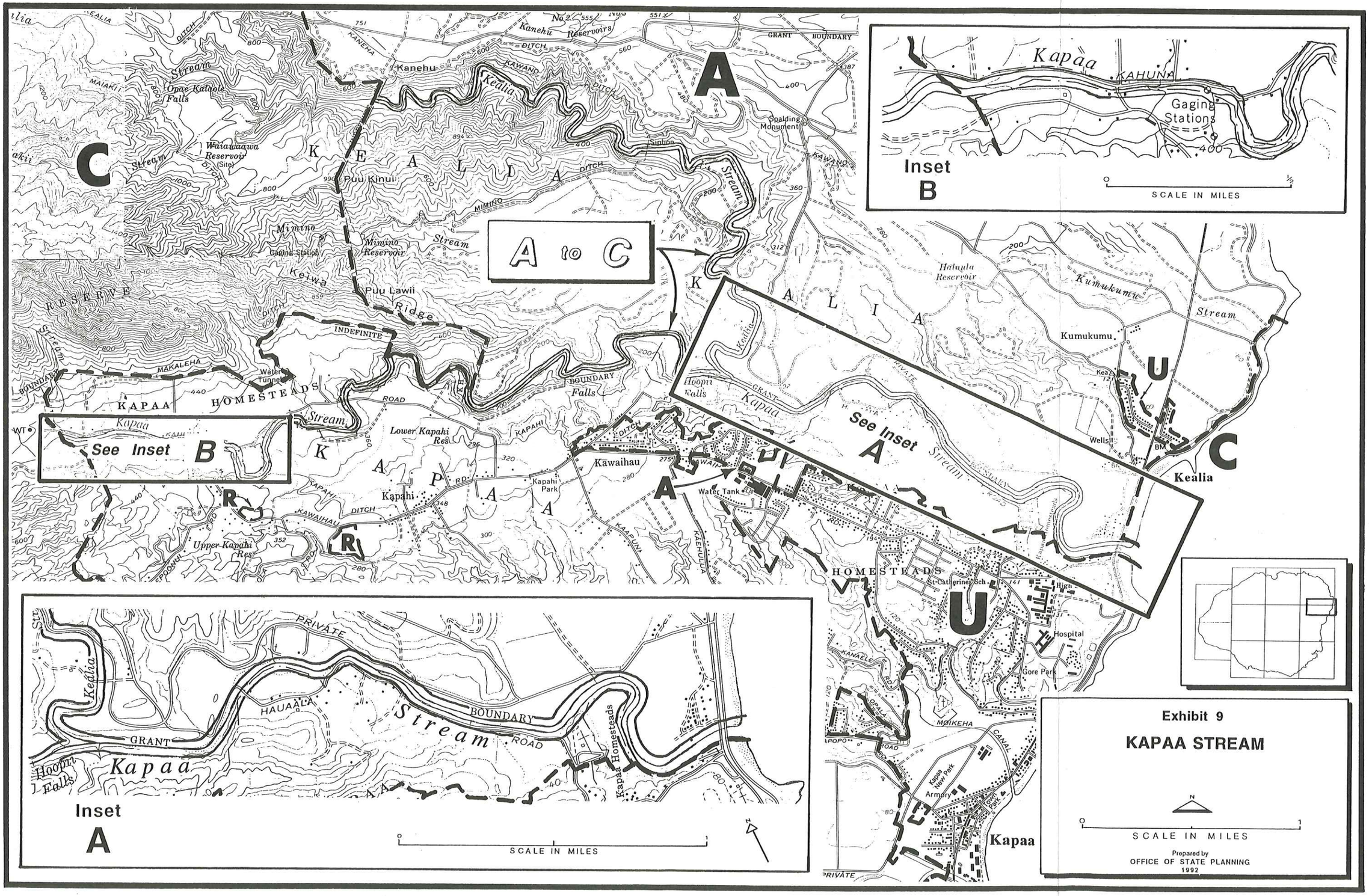


Exhibit 8
DONKEY BEACH
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Anahola
Opana Pt.
Lae Lipoa
Ka Laulau
Pohakuloa Pt.
A to C
Anapalau Pt.
Ahihi Pt.
Paliku Pt.
Puu Alahakau
HAWAIIAN HOMES
INDEFINITE
Water Tunnel
Kamalomaloo
LOMALOO
Ana 241
Stream
Homaikawao
DITCH
Hakula Reservoir
Kumukumu
Kumukumu
A
C
U


A
C
U
R
A to C
See Inset A
See Inset B
Inset B
Kapaa
KAHUNA
Gaging Stations
SCALE IN MILES
Inset A
Kealia
PRIVATE
HAUAALA
Stream
BOUNDARY
GRANT
ROAD
Hoopii Falls
Kapaa Homesteads
SCALE IN MILES
KEALIA
KAPAA HOMESTEADS
Kanehu
Kealia Reservoirs
Kawaihau
Kapahi
Lower Kapahi Res.
Upper Kapahi Res.
Puu Kinui
Puu Lawii Ridge
Mimino Reservoir
Waiawaawa Reservoir (Site)
Opae Kalole Falls
Spalding Monument
Siphon
Halaula Reservoir
Kumukumu
Water Tank
Kapahi Park
Wells
St. Catherine's Sch.
High
Hospital
Gore Park
Kapaa New Park
Armory
Town Park
Kapaa
Exhibit 9
KAPAA STREAM
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992

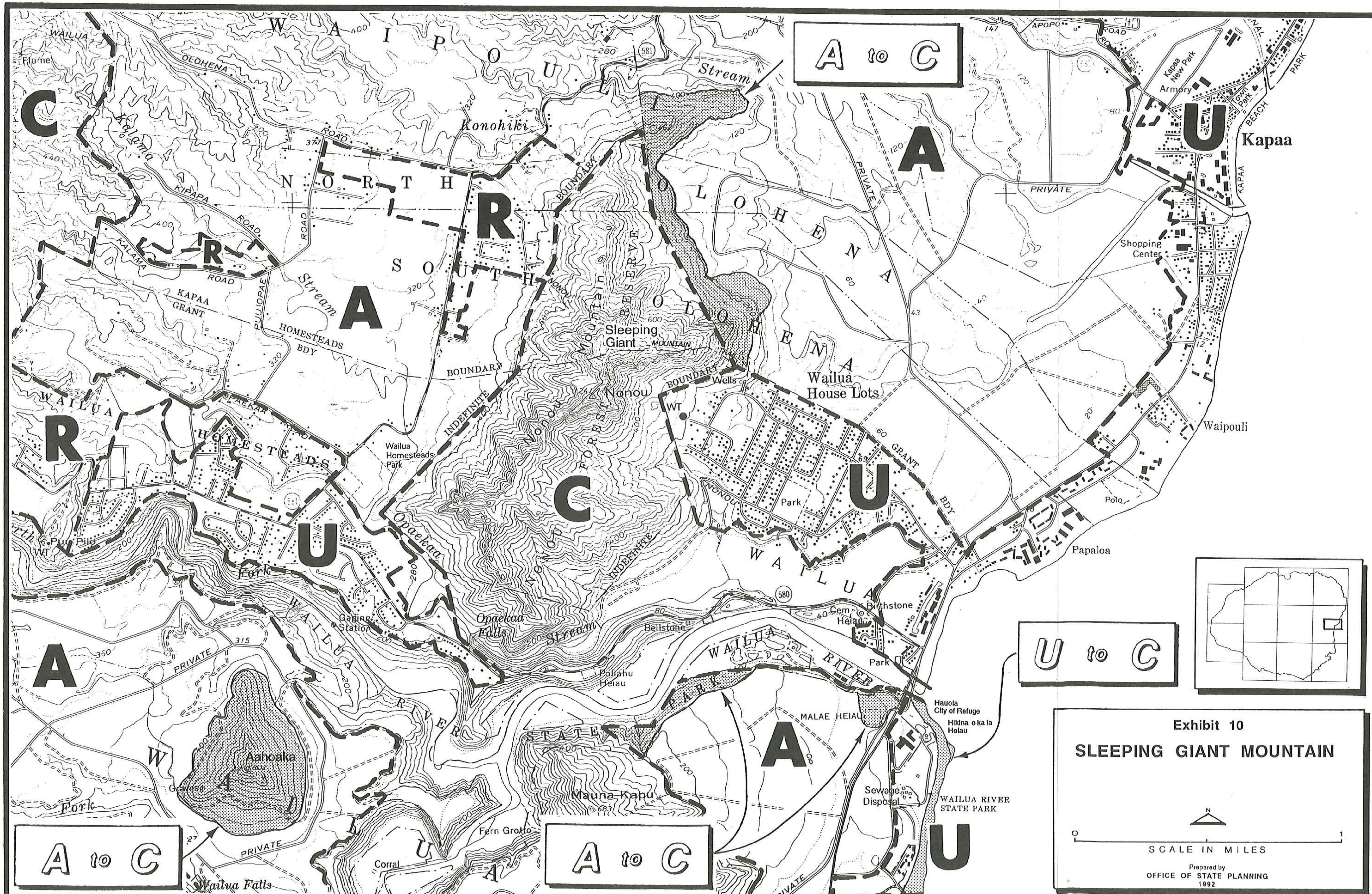


Exhibit 10
SLEEPING GIANT MOUNTAIN
SCALE IN MILES
0
1
N
Prepared by
OFFICE OF STATE PLANNING
1992
A to C
A to C
A to C
U to C
C
R
A
R
R
A
U
C
A
U
A
U
U
Kapaa
Shopping Center
Armory
Kapaa New Park
Town Park
BEACH PARK
Waipouli
Papaloa
Wailua House Lots
Sleeping Giant
Nonou
Wailua Homesteads Park
Opaekaa Falls
Bellstone
Birthstone
Poliahu Heiau
MALAE HEIAU
Hauola City of Refuge
Hikina o ka la Heiau
Sewage Disposal
WAILUA RIVER STATE PARK
Mauna Kapu
Aahoaka
Fern Grotto
Corral
Wailua Falls
Gaging Station
Wells
Flume
Konohiki
NOROTH
SOUTH
OLOHENA
WAIPOULI
KAPAA GRANT
HOMESTEADS BDY
WAILUA HOMESTEADS
NONOU FOREST RESERVE
STATE PARK
WAILUA RIVER
Stream
Fork
PRIVATE

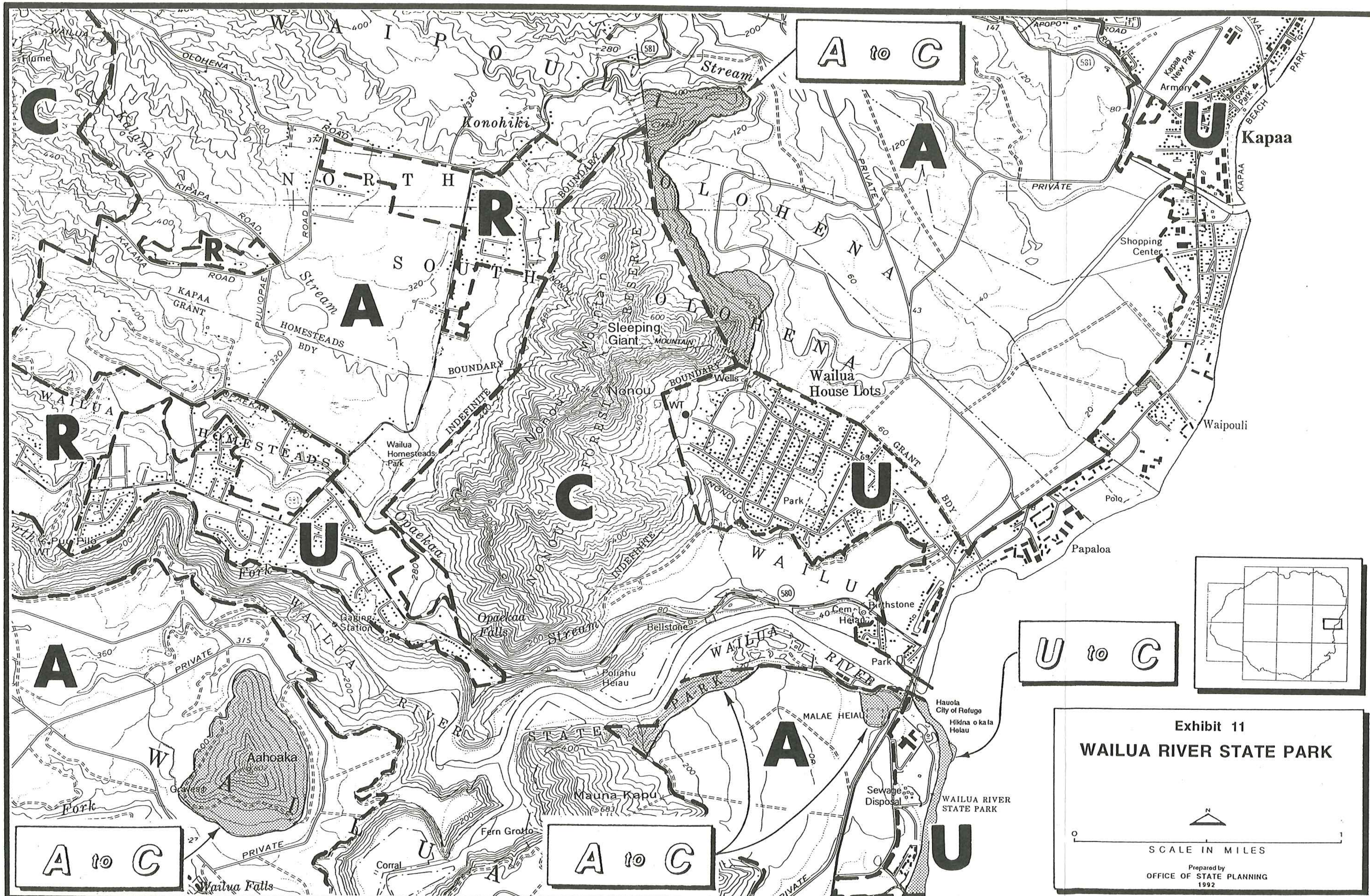


Exhibit 11

WAILUA RIVER STATE PARK

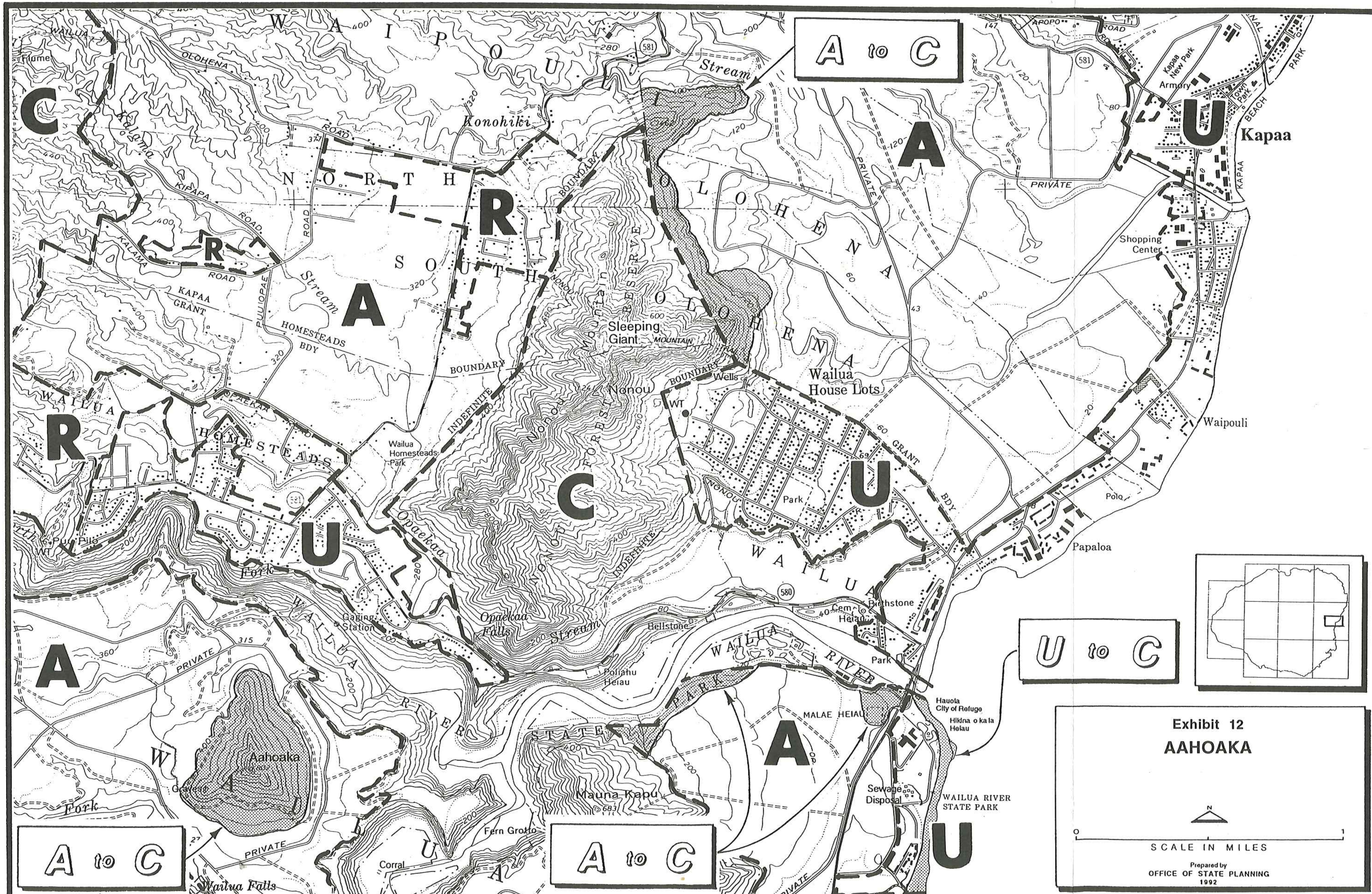


Exhibit 12
AAHOAKA
A to C
A to C
A to C
U to C
Kapaa
Sleeping Giant
Nonou
Wailua House Lots
Waipouli
Papaloa
Shopping Center
Wailua Homesteads Park
Opaekaa Falls
Aahoaka
Mauna Kapu
Fern Grotto
Wailua Falls
Hauola City of Refuge
Hikina o ka la Heiau
Sewage Disposal
WAILUA RIVER STATE PARK
Kapaa New Park
Armory
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992

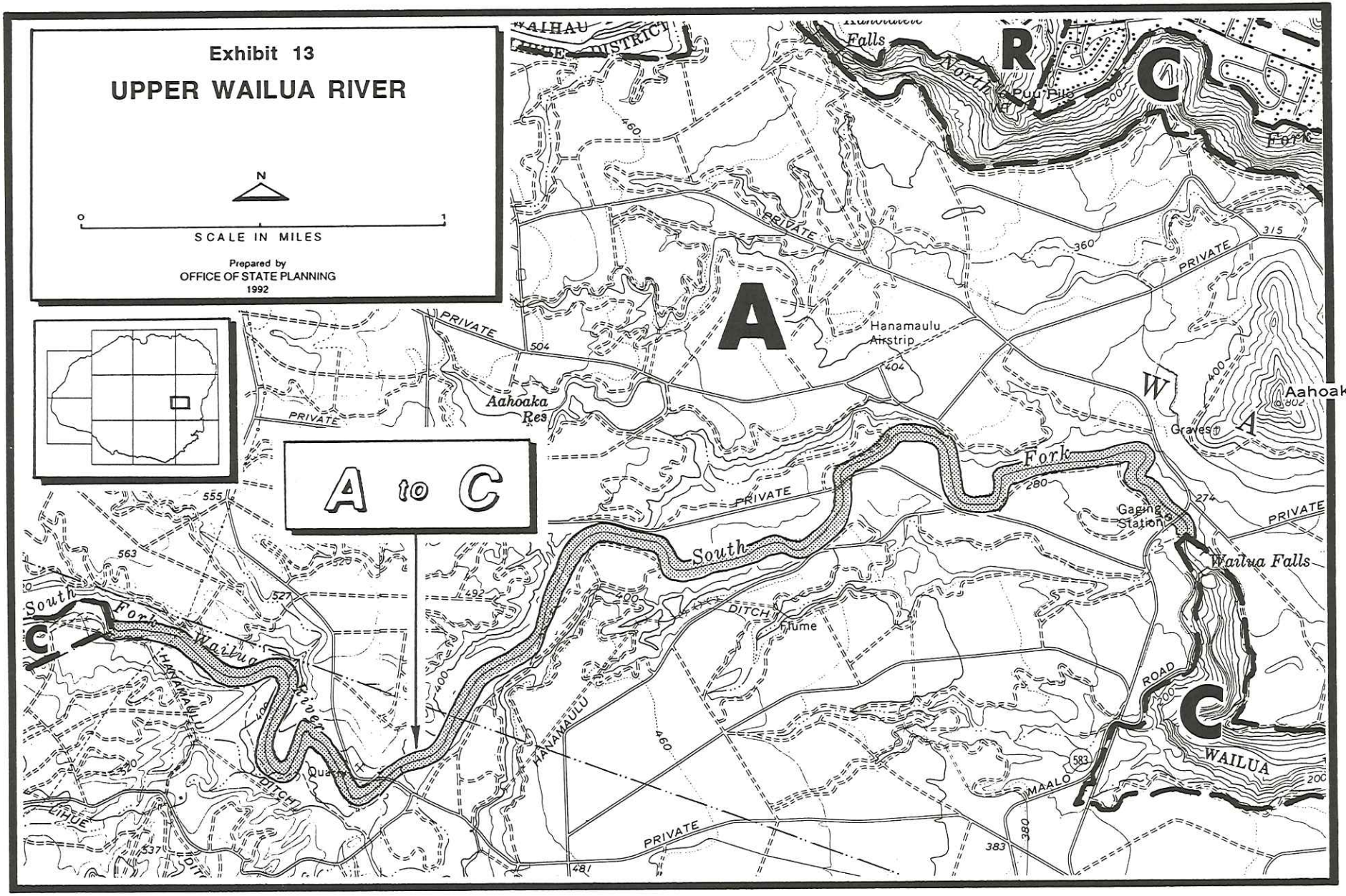


Exhibit 13
UPPER WAILUA RIVER
N
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
A to C
A
R
C
W
A
C
C
Falls
North
Fork
PRIVATE
Hanamaulu
Airstrip
Aahoaka
Res
Aahoaka
Graves
Gaging
Station
South
Fork
Wailua Falls
DITCH
flume
ROAD
WAILUA
MAALO
HANAMAULU
South Fork Wailua
DITCH
Quarry
LIHUE
PRIVATE
504
404
360
315
400
280
274
555
563
527
492
460
537
481
383
380
583

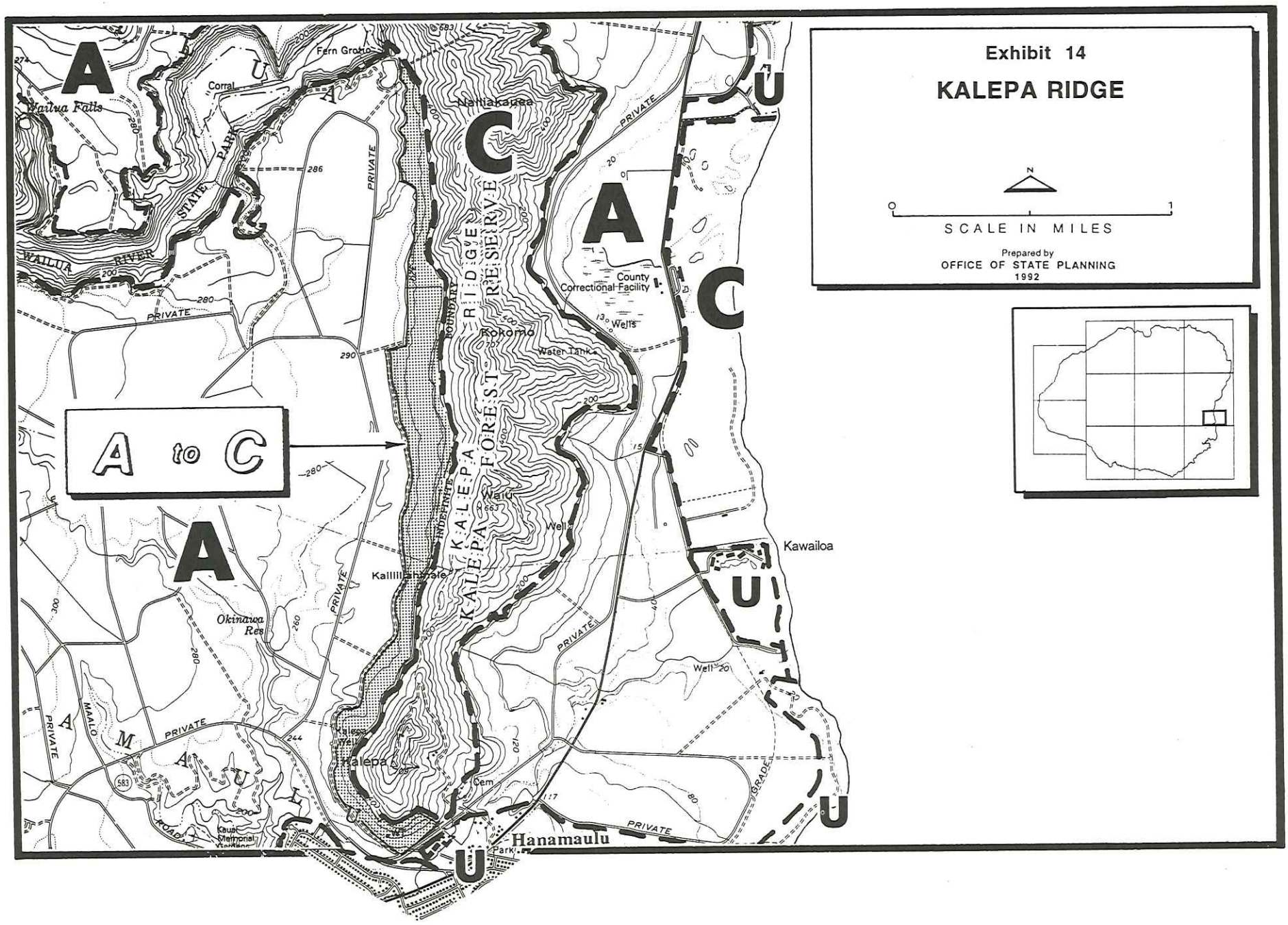


Exhibit 14
KALEPA RIDGE
N
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
A to C
Fern Grotto
Corral
Waiua Falls
STATE PARK
WAILUA RIVER
PRIVATE
KALEPA RIDGE
KALEPA FOREST RESERVE
BOUNDARY
Nahiakaiea
Rokoma
Water Tank
County Correctional Facility
Wells
Kawailoa
Well
Kalllllahiale
Okinawa Res
MAALO
Kalepa
Cem
Kaua'i Memorial Park
Hanamaulu
ROAD
GRADE

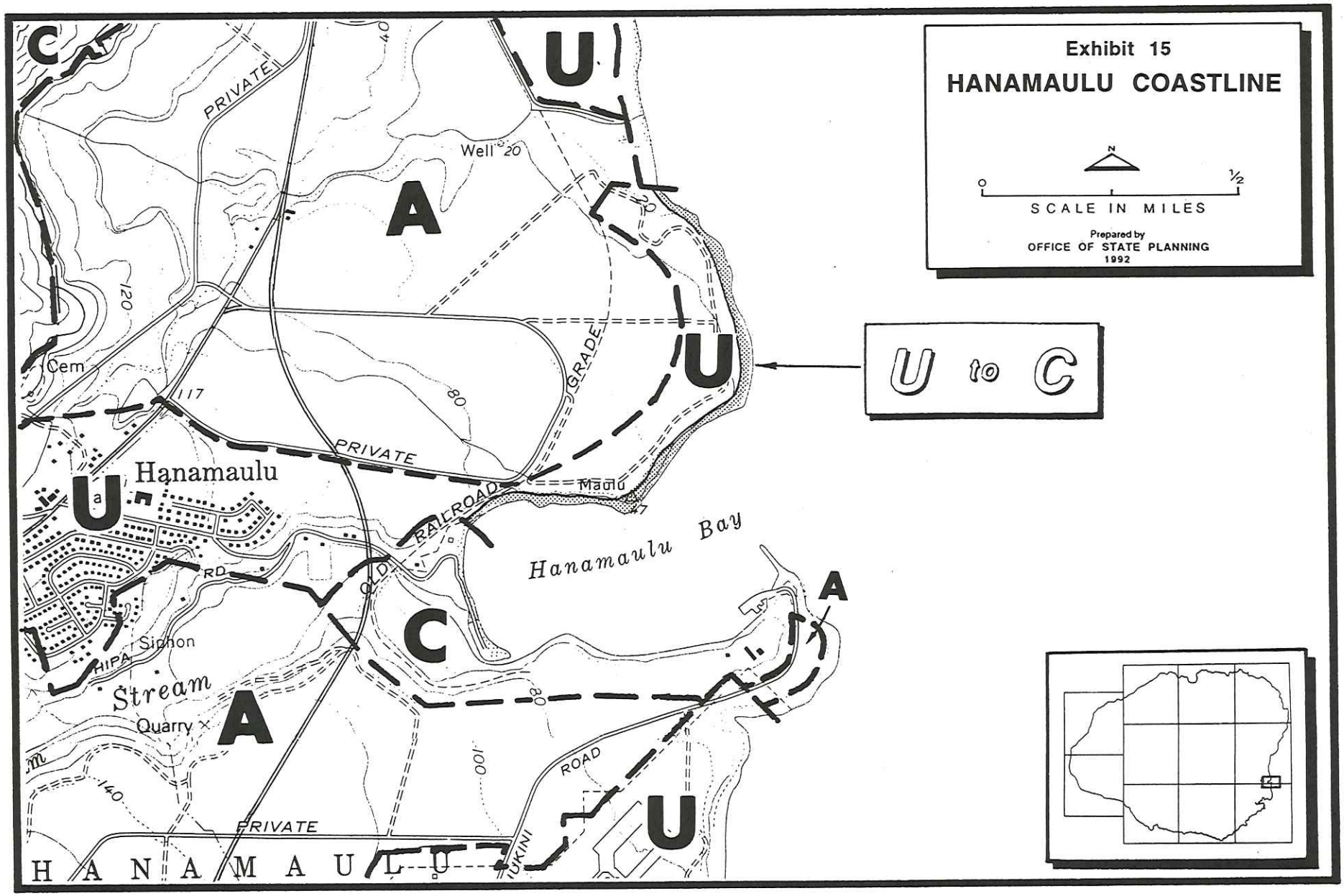
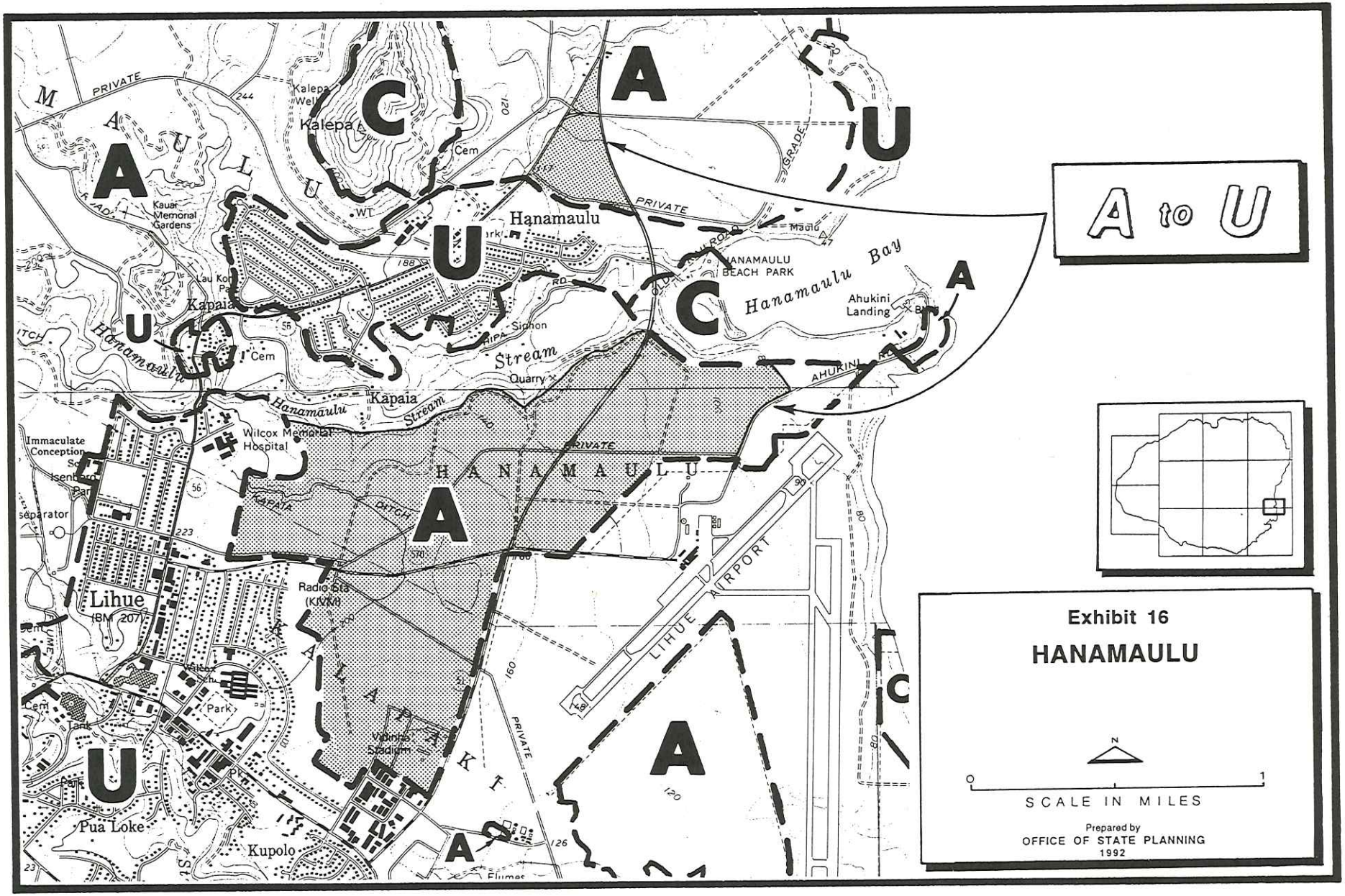


Exhibit 15
HANAMAULU COASTLINE
N
0
½
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
U to C
C
U
A
U
A
C
A
U
U
PRIVATE
Well
20
40
120
Cem
117
80
GRADE
PRIVATE
Hanamaulu
Maulu
RAILROAD
Hanamaulu Bay
OLD
RD
HIPA
Siphon
Stream
Quarry
80
100
140
ROAD
PRIVATE
UKINI
H A N A M A U L U


A to U
Exhibit 16
HANAMAULU
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Hanamaulu
Kapaia
Lihue
Pua Loke
Kupolo
Hanamaulu Bay
Ahukini Landing
HANAMAULU BEACH PARK
Kauai Memorial Gardens
Wilcox Memorial Hospital
Immaculate Conception
Radio Sta (KJVM)
Vidinha Stadium
LIHUE AIRPORT
Hanamaulu Stream
Kapaia Stream
PRIVATE
AHUKINI
KAPAIA DITCH

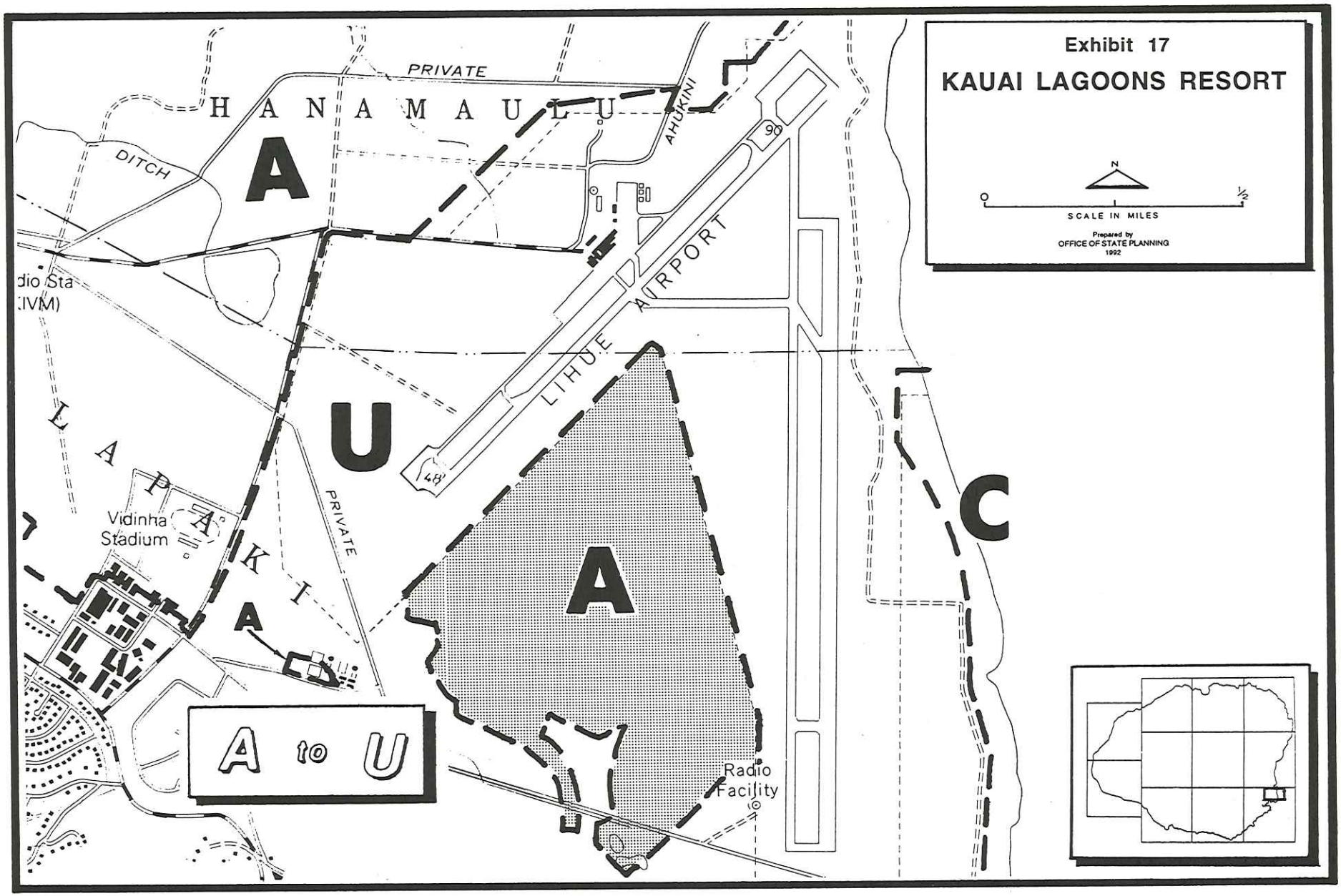


Exhibit 17
KAUAI LAGOONS RESORT
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
PRIVATE
H A N A M A U L U
A
DITCH
AHUKINI
90
dio Sta
IVM)
LIHUE AIRPORT
U
48
L A P A K I
PRIVATE
Vidinha
Stadium
A
C
A to U
Radio
Facility

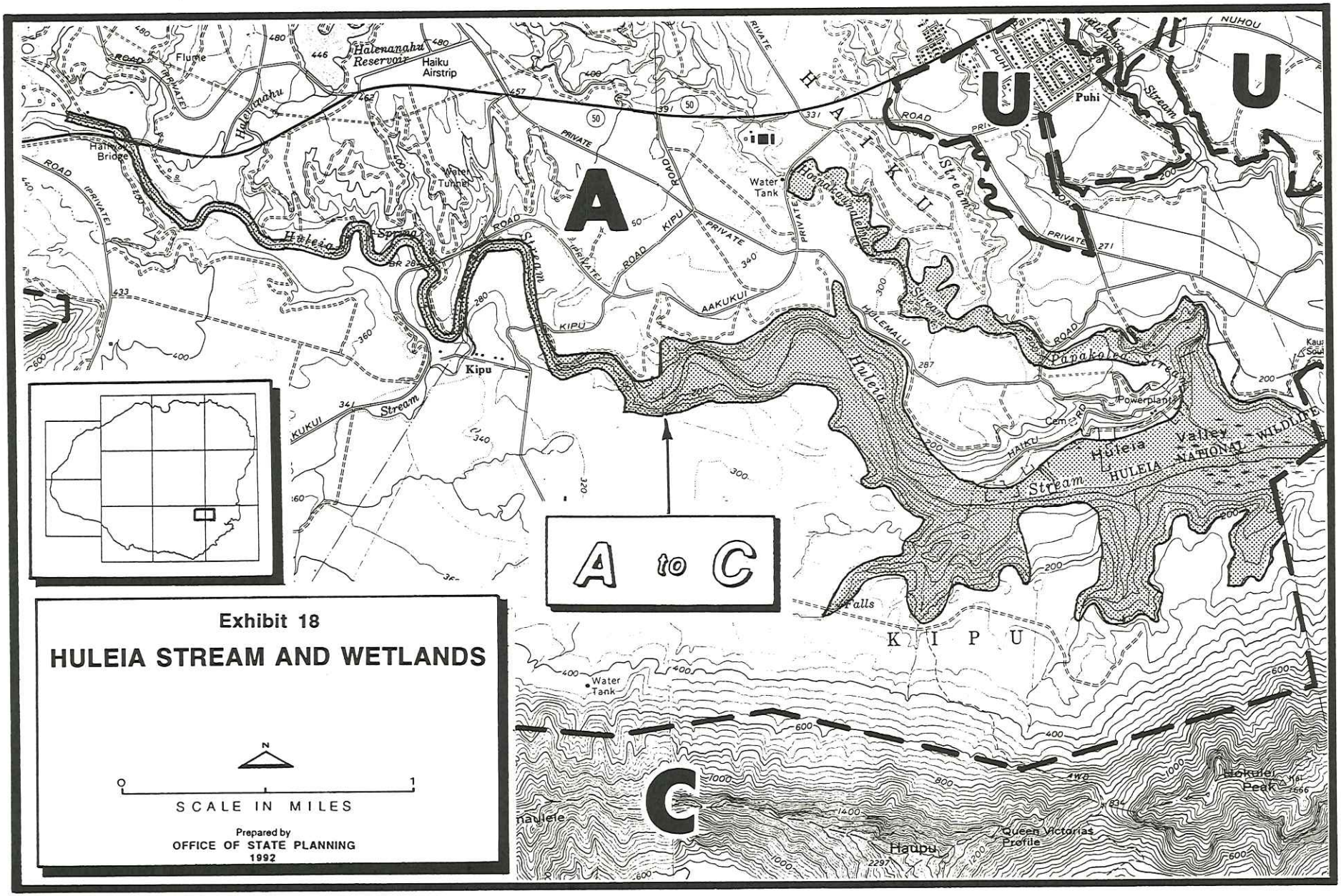
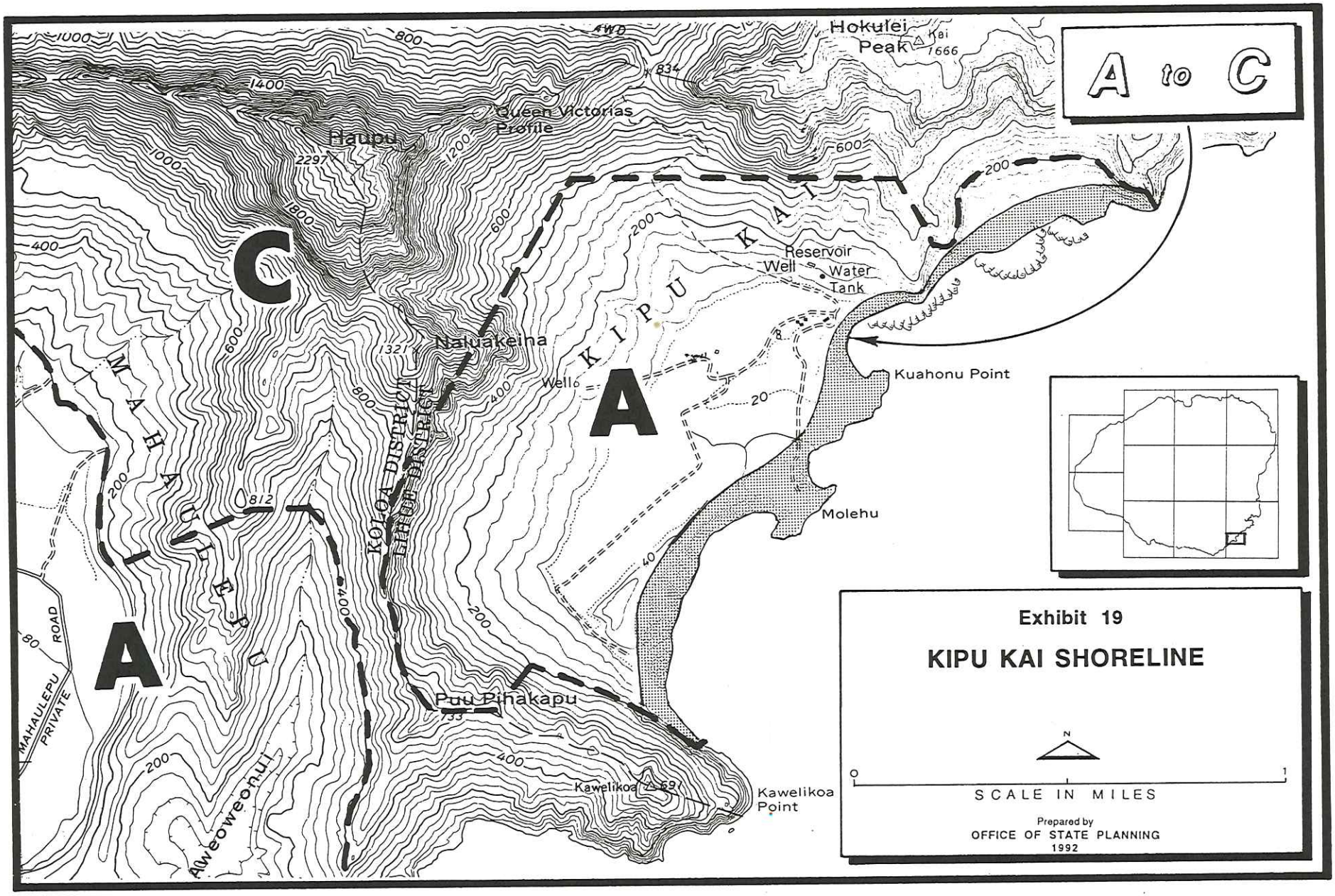
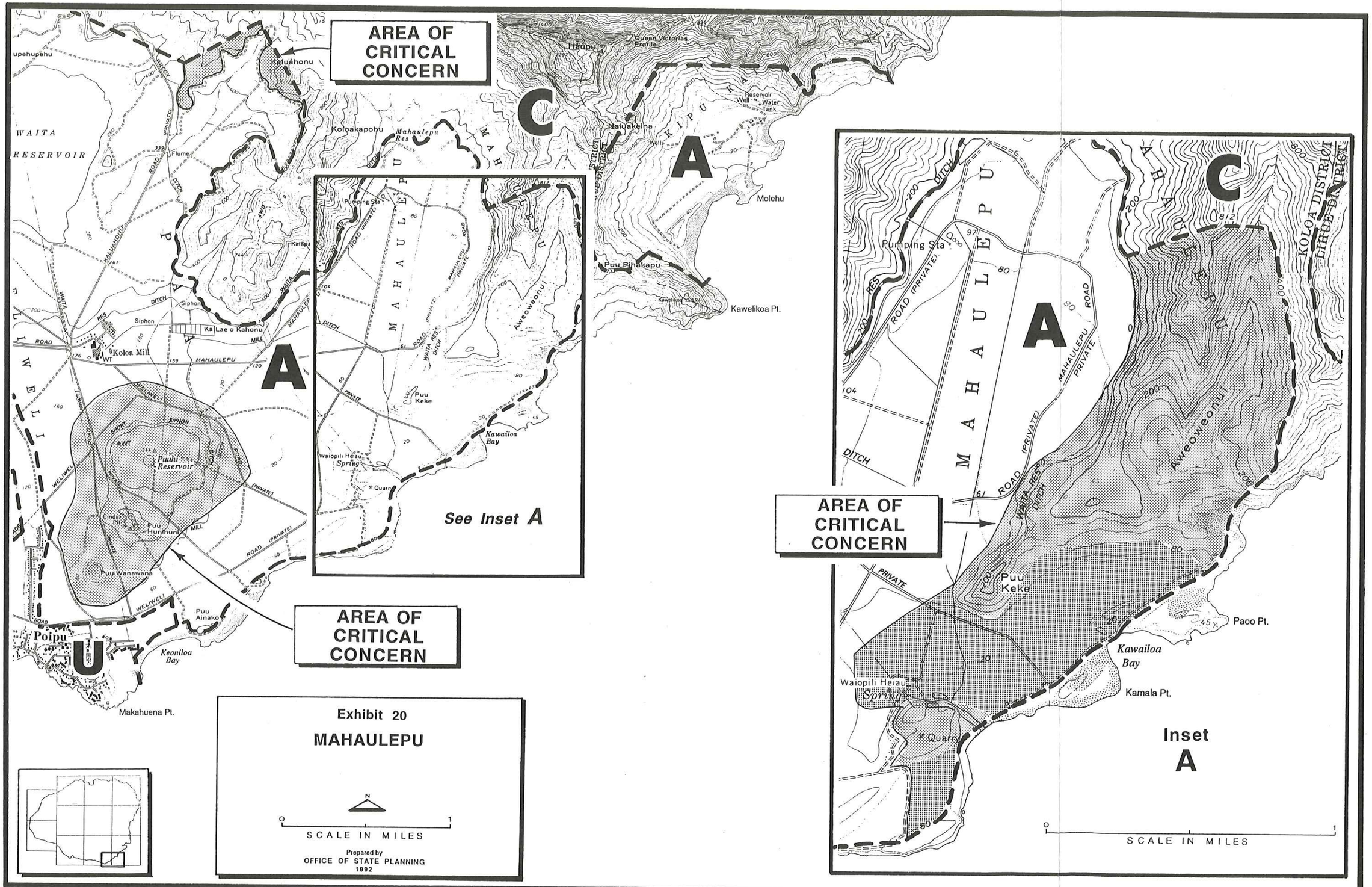


Exhibit 18
HULEIA STREAM AND WETLANDS
A to C
A
C
U
U
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


A to C
Hokulei Peak
Kai
1666
Haupu
Queen Victorias Profile
Reservoir
Well
Water Tank
Naluakeina
Well
Kuahonu Point
Molehu
Puu Pihakapu
Kawelikoa
Kawelikoa Point
MAHAULEPU
KOLOA DISTRICT
LIHUE DISTRICT
KIPU KAI
MAHAULEPU
Aweoweonui
ROAD
PRIVATE
A
C
A
Exhibit 19
KIPU KAI SHORELINE
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


AREA OF CRITICAL CONCERN
upehupehu
Kaluahonu
WAITA RESERVOIR
Koloakapohu
Mahaulepu Res
Flume
Siphon
Ka Lae o Kahonu
Koloa Mill
MAHAULEPU
Puuhi Reservoir
Puu Huihui
Puu Wanawana
Puu Ainako
Poipu
Keoniloa Bay
Makahuena Pt.
See Inset A
Haupu
Queen Victorias Profile
Reservoir
Well
Water Tank
Naiuakeiha
Wells
Molehu
Puu Pihakapu
Kawelikoa Pt.
Pumping Sta
Awaowenui
Puu Keke
Kawailoa Bay
Waiopili Heiau
Spring
Quarry
AREA OF CRITICAL CONCERN
AREA OF CRITICAL CONCERN
Paoo Pt.
Kamala Pt.
Inset A
SCALE IN MILES
Exhibit 20
MAHAULEPU
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992

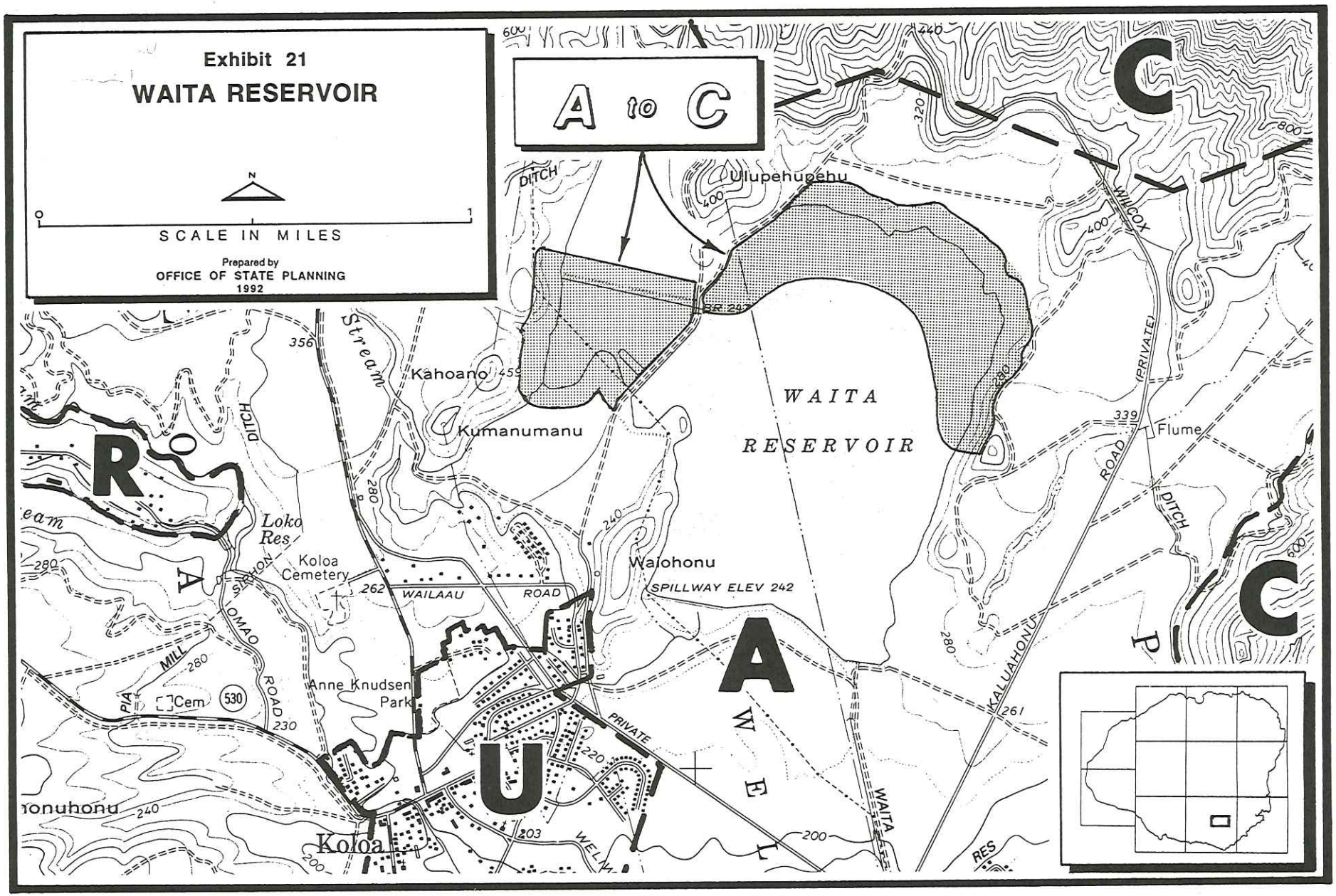
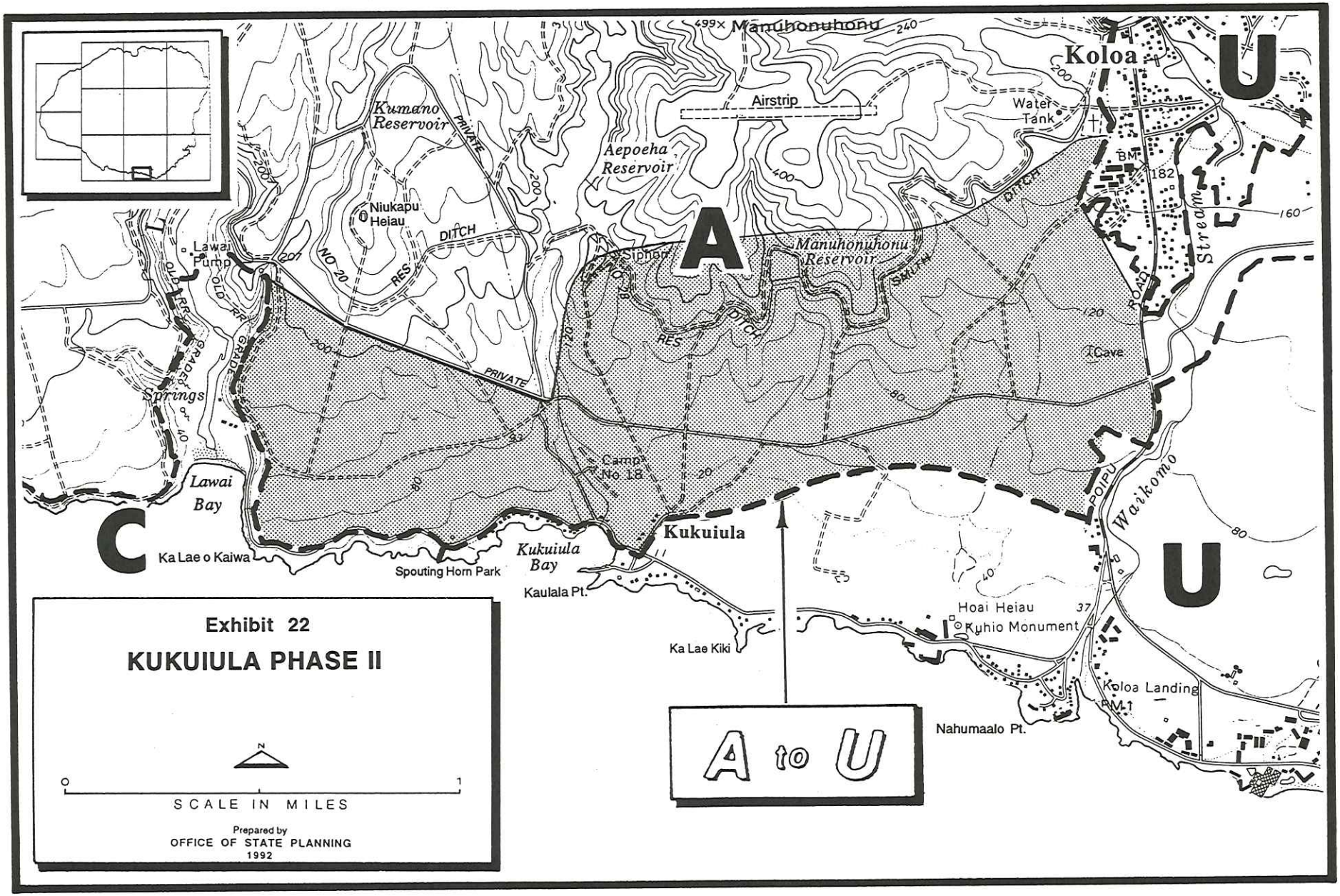
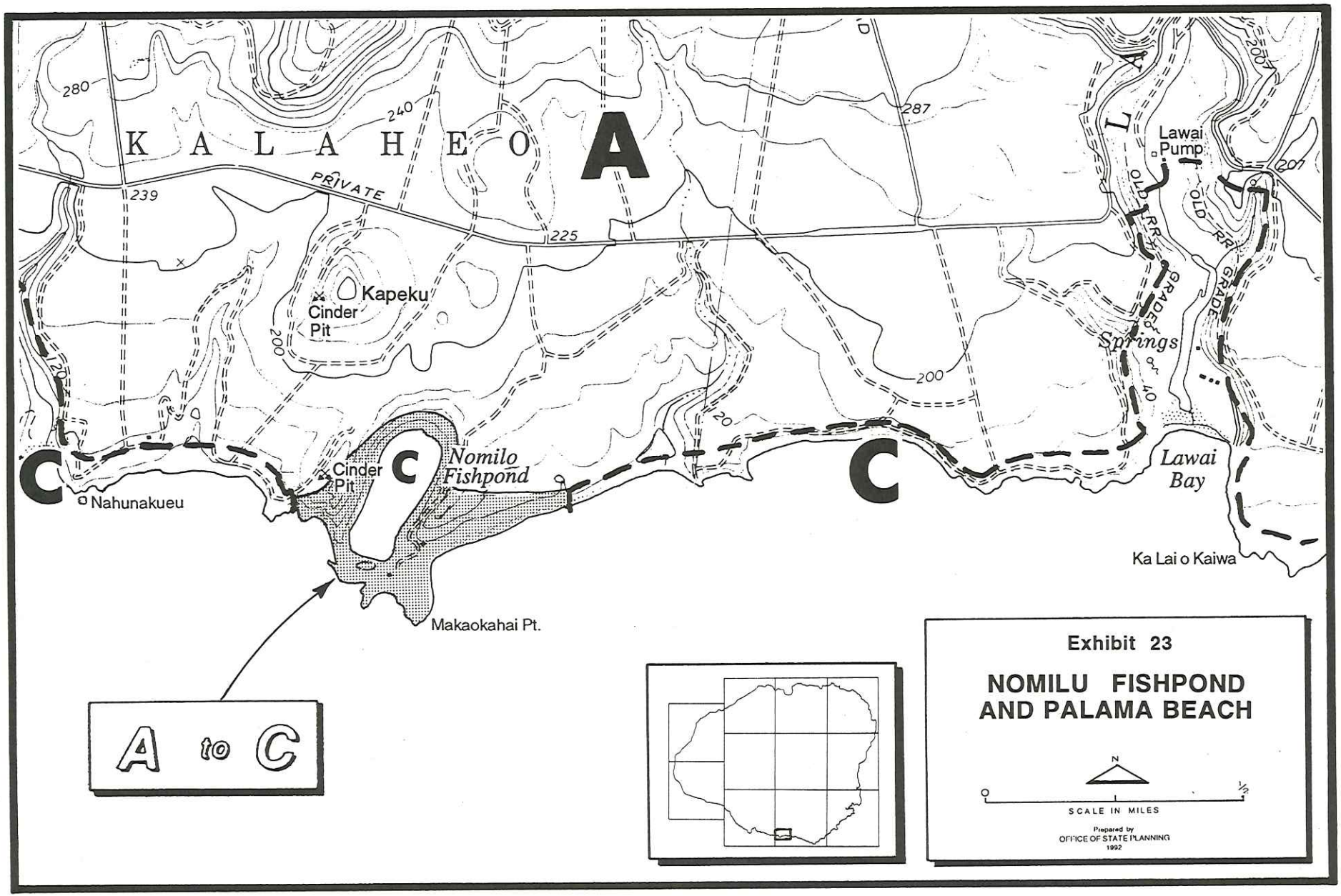
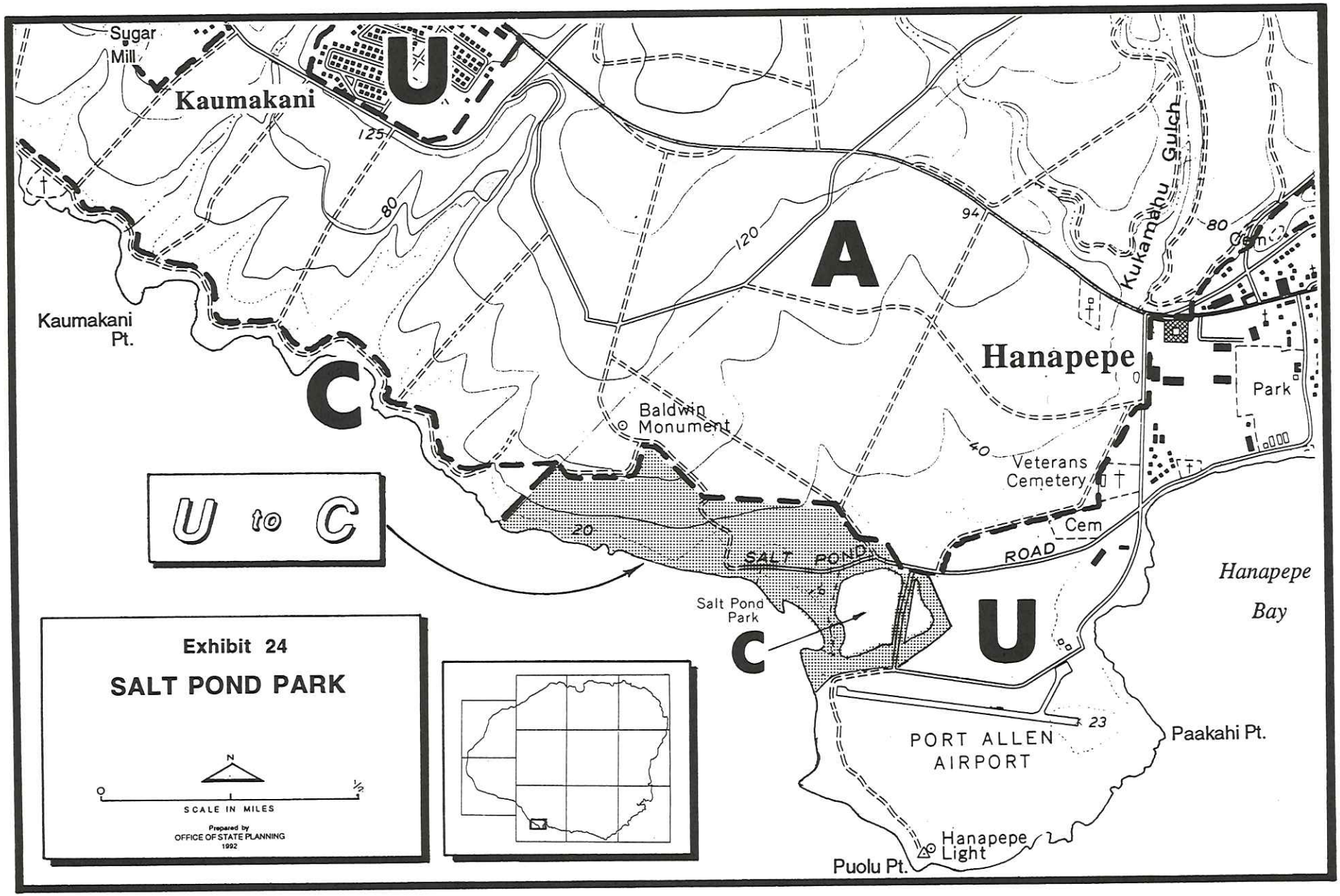
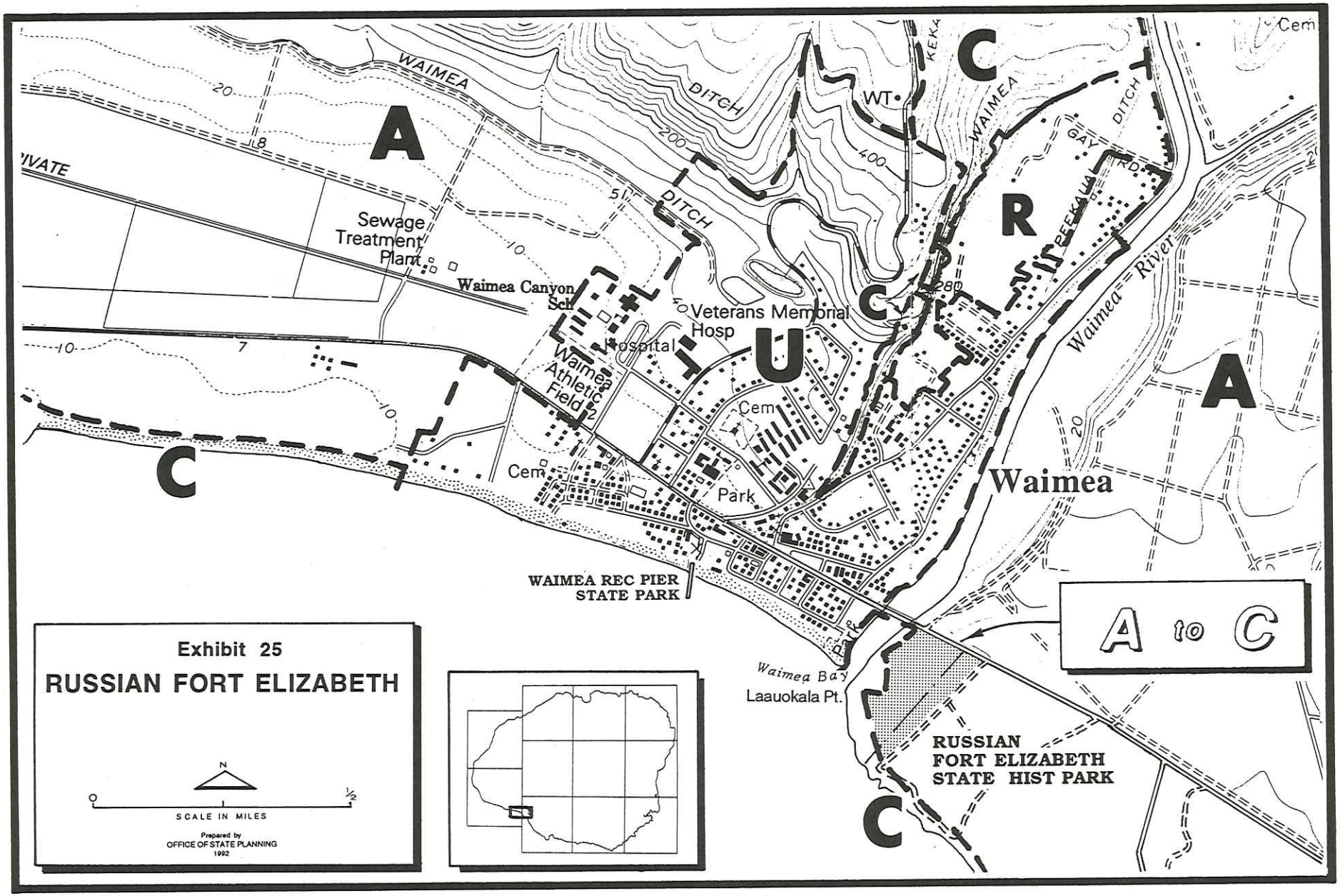


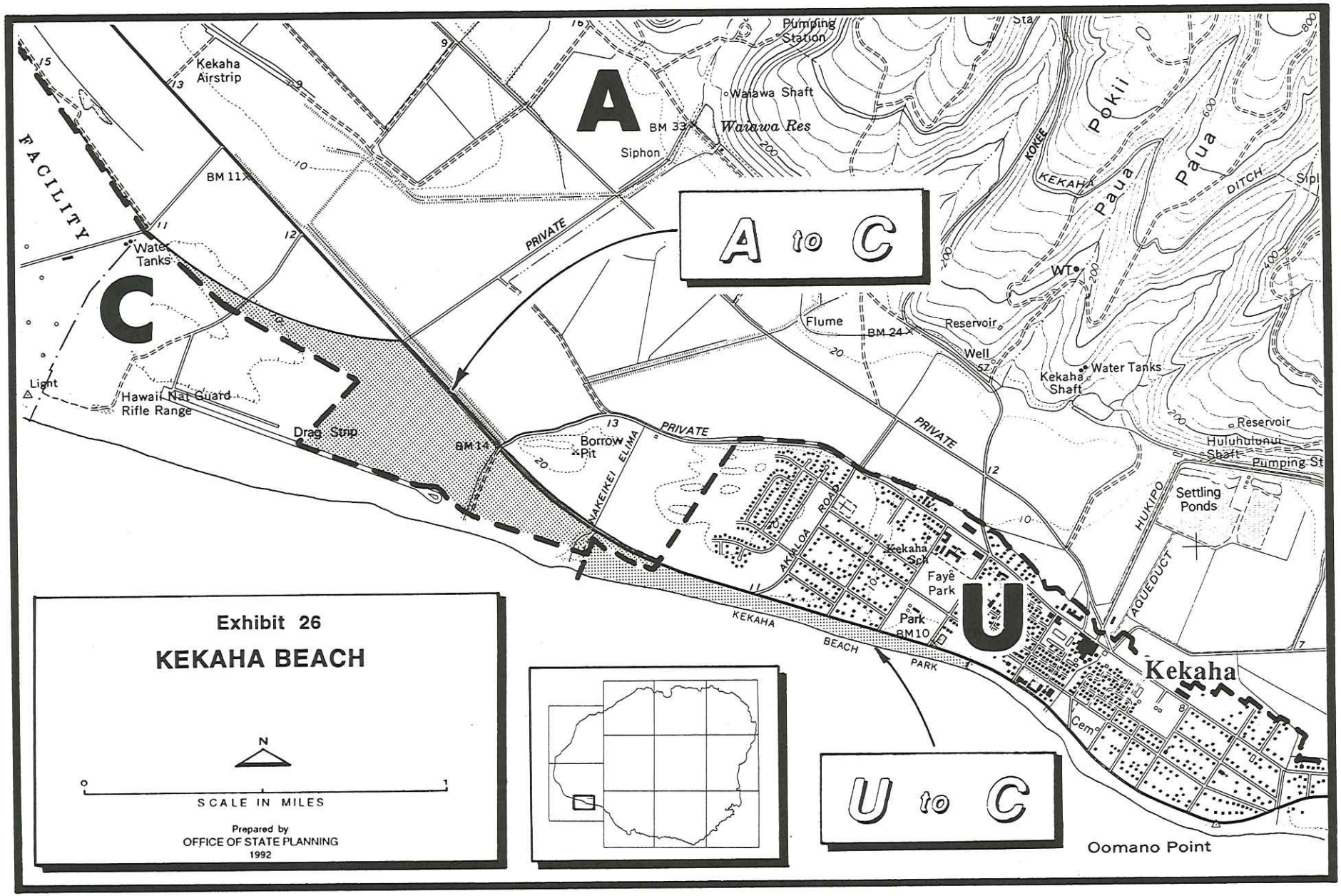
Exhibit 21
WAITA RESERVOIR
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
A to C
C
R
O
A
D
A
U
W
E
L
L
P
I
P
E
WAITA
RESERVOIR
Ulupehupehu
Kahoano
Kumanumanu
Loko
Res
Koloa
Cemetery
Anne Knudsen
Park
Cem
530
Waiohonu
SPILLWAY ELEV 242
WAILAAU
ROAD
OMAO
ROAD
MILL
DITCH
Stream
PRIVATE
ROAD
Flume
KALUAHONU
WAITA
WELL
RES
Koloa
SR 24
WILCOX
(PRIVATE)


Manuhonuhonu
499×
240
Koloa
U
Airstrip
Water Tank
BM
182
Kumano Reservoir
PRIVATE
Aepoeha Reservoir
400
200
DITCH
Niukapu Heiau
Lawai Pump
OLD RR
NO 20
RES
A
Siphon
NO 20
Manuhonuhonu Reservoir
SMUTH
ROAD
Waiakoa Stream
160
120
Cave
Springs
GRADE
PRIVATE
Camp No 18
20
Lawai Bay
C
Ka Lae o Kaiwa
Spouting Horn Park
Kukuiula Bay
Kaulala Pt.
Kukuiula
POIPU
Waikomo
80
U
40
Hoai Heiau
Kuhio Monument
37
Ka Lae Kiki
Koloa Landing
PM 1
Nahumaalo Pt.
A to U
Exhibit 22
KUKUIULA PHASE II
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


K A L A H E O
A
280
240
287
239
PRIVATE
225
Kapeku
Cinder Pit
200
Lawai Pump
OLD RR GRADE
Springs
40
20
C
C
C
Nomilo Fishpond
Cinder Pit
Nahunakueu
Lawai Bay
Ka Lai o Kaiwa
Makaokahai Pt.
A to C
Exhibit 23
NOMILU FISHPOND AND PALAMA BEACH
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


Sugar Mill
Kaumakani
U
125
80
120
A
94
Kukamahu Gulch
80
Cem
Kaumakani Pt.
C
Hanapepe
Park
Baldwin Monument
40
Veterans Cemetery
Cem
U to C
20
SALT POND
ROAD
Hanapepe Bay
Salt Pond Park
C
U
15
80
23
PORT ALLEN AIRPORT
Paakahi Pt.
Hanapepe Light
Puolu Pt.
Exhibit 24
SALT POND PARK
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


WAIMEA
DITCH
KEKA
WT
WAIMEA
GAY
DITCH
RD
REEKAU
Cem
Sewage
Treatment
Plant
Waimea Canyon
Sch
Veterans Memorial
Hosp
Hospital
Waimea
Athletic
Field
Cem
Park
Waimea River
Waimea
WAIMEA REC PIER
STATE PARK
Waimea Bay
Laauokala Pt.
RUSSIAN
FORT ELIZABETH
STATE HIST PARK
A to C
Exhibit 25
RUSSIAN FORT ELIZABETH
N
0
1/2
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992


A
C
U
A to C
U to C
Pumping Station
Kekaha Airstrip
Wahawa Shaft
Waiawa Res
Siphon
BM 33
BM 11
FACILITY
PRIVATE
Water Tanks
Light
Hawaii Nat Guard Rifle Range
Drag Strip
BM 14
Borrow Pit
NAKEIKEI ELIMA
Flume
BM 24
Reservoir
Well 51
Kekaha Shaft
Water Tanks
Pokii
Paua
KOKEE
KEKAHA
DITCH
Reservoir
Huluhulunui Shaft
Pumping St
Settling Ponds
HUKIPO
AQUEDUCT
AKALOA ROAD
Kekaha Sch
Faye Park
Park BM10
KEKAHA BEACH PARK
Kekaha
Cem
Oomano Point
Exhibit 26
KEKAHA BEACH
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992

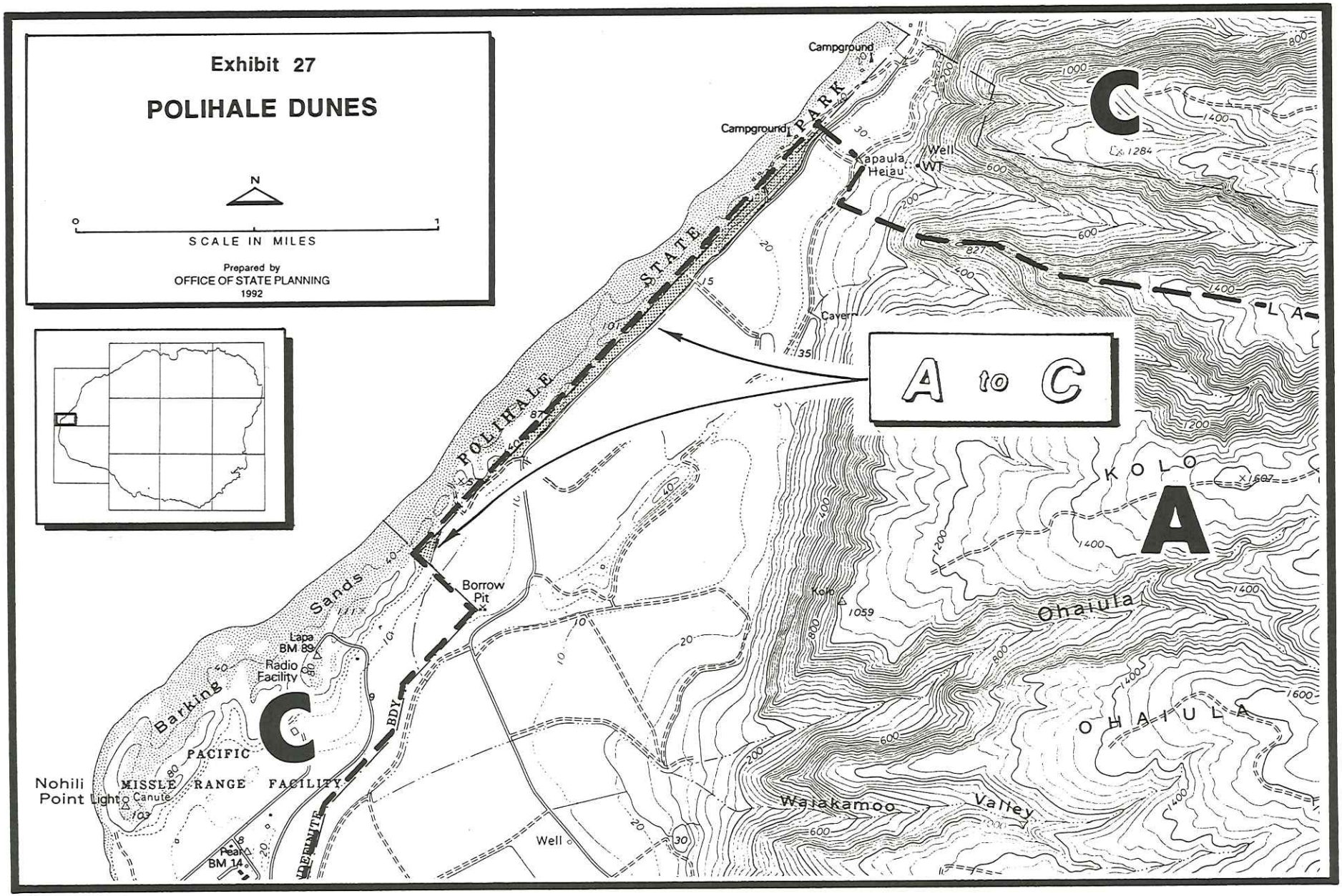


Exhibit 27
POLIHALE DUNES
N
0
1
SCALE IN MILES
Prepared by
OFFICE OF STATE PLANNING
1992
Campground
Campground
PARK
STATE
POLIHALE
Kapaula Heiau
Well
WT
Cavern
A to C
C
A
KOLO
Ohaiula
OHAIULA
Waiakamoo
Valley
Kolo
1059
Borrow Pit
Lapa
BM 89
Radio Facility
Sands
Barking
PACIFIC
MISSLE RANGE FACILITY
Nohili Point Light
Canute
Pear
BM 14
BDY
Well