

HANNIBAL TAVARES
Mayor



CHRISTOPHER L. HART
Planning Director

JOHN E. MIN
Deputy Planning Director

COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RECEIVED

October 31, 1990 '90 NOV -5 P1:42

Mr. Bruce Anderson, Acting Director
Office of Environmental Quality Control
465 S. King Street, #104
Honolulu, Hawaii 96813-2910

OFC. OF ENVIRONMENTAL
QUALITY CONTROL

Dear Mr. Anderson:

Re: Notice of Determination

Mr. B. Martin Luna, on behalf of Lanai Resort Partners, requesting an Environmental Assessment Determination for an Amendment to the Lanai Community Plan and Manele Project District Ordinance and Amendment to the existing Project District boundary by 160 acres for construction of a Golf Course, Tmk: 4-9-02: por. 1, Manele, Lanai.

Please find attached the Notice of Determination and four (4) copies of the environmental assessment relative to the subject matter. The Maui Planning Commission at its October 30, 1990 meeting determined a Negative Declaration for the proposed project.

Should you have any questions on this matter, please contact Mr. Philip Ohta of my staff.

Very truly yours,

A handwritten signature in cursive script that reads "Christopher L. Hart".

CHRISTOPHER L. HART
Planning Director

Attachment

cc: Mr. Thomas Leppert
Mr. Philip Ohta

1990-11-23-LA-FA

TO THE MAUI PLANNING COMMISSION

COUNTY OF MAUI

STATE OF HAWAII

FILE COPY

In the Matter of the Request of)
)
MR. B. MARTIN LUNA,) Docket No. 90/CPA-004
on behalf of Lanai Resort Partners) Mr. B. Martin Luna, on
) behalf of Lanai Resort
) Partners
Requesting An Environmental)
Assessment Determination for an)
Amendment to the Lanai Community)
Plan and Manele Project District)
Ordinance and Amendment to the)
existing Project District Boundary)
by 160 acres for construction of a)
Golf Course TMK 4-9-02:por. 1,)
Manele, Lanai.)

DIRECTOR'S REPORT
for an Environmental Assessment
Determination

October 30, 1990

Planning Department
County of Maui
250 S High Street
Wailuku, Maui, Hawaii 96793

TO THE MAUI PLANNING COMMISSION
COUNTY OF MAUI
STATE OF HAWAII

In the Matter of the Request of)
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by 160 acres for construction of a)
Golf Course, TMK 4-9-02:por. 1,)
Manele, Lanai.)

Director's Report

Pursuant to HRS Chapter 343, a determination as to whether an Environmental Impact Statement (EIS) shall be required for an Amendment to the Lanai Community Plan and Project District Ordinance to expand the existing Manele Project District boundaries for property located at TMK:4-9-02:por. 1, Manele, Lanai.

Location and Description of the Proposed Project Site

1. The subject properties ("Petition Area") are composed of two parcels: a 120 acre Parcel within the State Rural District and a 40 acre parcel within the State Agricultural District. Both parcels are portions of parcel 1 of Tax Map Key No. 4-9-02. Approximately 40 acres in the existing project district will be converted as part of the Golf Course. (Exhibit A)
2. The Lanai Community Plan designates approximately 395 acres for the Manele Project District development. The area classified in the Rural District is directly adjacent and to the West of this Project District. The area classified in the Agricultural District is to the northwest and partly adjacent to this Project District.
3. The proposed amendment to the Lanai Community Plan would expand the area of Manele Project District area by 160 acres with the additional area from the area classified Rural and Agricultural .

4. The Petition area is owned in fee simple by Castle and Cooke, Inc.
5. The Detailed Land Classification of the Land Study Bureau rates the Petition Area "E" as to the overall productivity potential.
6. The land in the Petition Area is rocky. The Soil Survey Interpretations (Lanai USDA Report 44) classify the soil in this area as very stoney land-rock association. The top soil layer is 6 to 30 inches thick and composed of dark, reddish-brown soil material containing many stones and boulders. In the gulches, the rock outcrops and stones cover 60 to 90 percent of the surface.
7. The Manele region is dry and arid. Average annual rainfall is 15 inches, similar to the leeward side of all the Hawaiian islands.
8. According to data compiled by Paul Ekern and Jen-Hu Chang (Pan Evaporation: State of Hawaii, 1894-1983, State of Hawaii, DLNR, DOWALD, August 1985.), the pan evaporation rate for Manele is estimated to be 90 inches per year. The monthly pan evaporation data shows a variation with the summer and winter seasons as follows: 5 inches during the winter months and 10 inches during the summer months. Rainfall is seasonal. Most of the rain occurs in the winter months, November to March. Rainfall in this period can almost account for the entire annual rainfall.
9. Flood events in the leeward area is rare. Storm runoff from extreme storms drains naturally through six major gulches and drainage ways. Storm runoff is estimated to be a total of 3,360 cfs from a drainage area of approximately 1,392 acres based on the County storm drain standards with modification by procedures of the U.S. Soil Conservation Service. The largest single discharge occurs through the gulch most distant from Hulopoe Beach at a rate of 1,320 cfs.
10. The natural slopes of the Petition Area are on the order of 10 to 20 percent. The built-up areas will be served by a drainage system following the natural drainage pattern. Flooding on the subject property is unlikely, given the topography of the project site.
11. Rain-induced erosion is minimal. The analysis made for the Manele Project District indicated a severity rating number of 4,200 compared to the allowable rating of 50,000. The same condition applies to this Petition Area. Moreover, the coastal waters bordering the proposed development are in the open coastal regime. Impact from discharges would be mitigated by the rapid mixing and dispersement of storm runoff.

Description of the Proposed Motion

12. The Petitioner is proposing to construct a portion of the 18-hole golf course and clubhouse. (Exhibit A)
13. Holes 10 through 18, the clubhouse and driving range are proposed within the Rural District petitioned area. A portion of the No. 1 fairway and a portion of the No. 9 fairway and green of the golf course are also proposed in the Rural District petitioned area. Holes #2 through #5 are proposed within the Agricultural District
14. Construction activities will include the following:
 - a. Construction of a 200-acre golf course, clubhouse, and driving range.
 - b. Construction of the infrastructure for the golf course: irrigation water supply and distribution system, roadway network, water reclamation system, drainage facilities and all coordinated offsite support facilities for the golf course infrastructure.
 - c. Landscaping for the golf course.
15. The infrastructure will be coordinated with plans for the existing Manele Project District. Construction is underway at Manele for the hotel and offsite infrastructure. Connections for the roadways will be made to accommodate the traffic within and outside the Manele Project District. The domestic water distribution system will tap off from the existing water distribution network, but additional reservoirs will be required to service the expanded area. The wastewater management facilities, the power and communication facilities, and the drainage system will be coordinated with the ongoing infrastructure work for the Manele Project District.

Assessment

Flora and Fauna

16. According to a Biological Survey performed by Kenneth M. Nagata within the Manele "Rural" Development area, the region was found to be dominated by xerophytic scrub consisting of koa-haole, 'ilima and kiawe which forms closed canopied forests in certain coastal areas. The under layer consisted of such annual grasses as bristly foxtail, feather fingergrass, pili grass, buffleggrass and an unidentified native Panicum. Spanish needles, wild zinnia, hairy merremia, ukaloa, partridge pea and hoary abutilon are also common to the area.

17. A total of forty-four (44) vegetative species were recorded during a surveillance of which fourteen (14) were native species. Four (4) of these native species constitutes a significant portion of the total vegetation cover.
18. Mr. Nagata reported that the vegetation in the "Agricultural" development area was found to be almost identical to that of the lower slopes (rural district). Generally it consists of scrubby kiawe trees, a well developed shrub layer of 'ilima and an under layer of pili and feather fingergrass. Three vegetation types were recognized: kiawe-'ilima scrub, kiawe-'ilima forest and koa-haole scrub.
19. One of the vegetative species (*Canavalia Lanaiensis*) found during the surveillance is considered rare and endangered. But according to Mr. Nagata, recent taxonomic work on the genus has shown that the species is identical to those found on Kauai, Niihau and East Maui and should rightfully be called *C. pubescens*. Consequently, the U.S. Fish and Wildlife Service has re-evaluated the status of the species and in the next Federal Register, *C. pubescens* (including what has been referred to as *C. lanaiensis*) will be downgraded to Category II status (D. Herbst, pers. comm.). Category II plants are those which the U.S.F.W.S. does not have sufficient information to warrant listing as an Endangered Species. Additional information is required of plants in this category before they can be moved up into Category I status or further downgraded into Category III (plants which are no longer being considered for listing). A large population of sixty-three (63) *Canavalia Lanaiensis* was found on the seaward edge of an extensive boulder field approximately 450 meters from the east boundary of the present Project District boundaries.
20. According to the new golf course configuration, the population of *Canavalia* would be situated adjacent to the 16th tee and near the 15th hole. Mr. Nagata recommended that the 15th and 16th holes be re-aligned in such a manner that construction activity and associated rubble would not physically impact the colony or alter its microclimate. A 20-30 meter buffer area between the colony and nearest disturbance is recommended. Also soluble as well as particulate runoff from the golf course and its construction should be channelled away from the colony.
21. Mr. Nagata also stated that unless the present configuration of the golf course is modified to allow for more open space, he strongly recommends that the present 'ilima-ukaloa-pili grass association be preserved in the golf course "rough" and in other appropriate areas. Furthermore, if any archaeological features are to be preserved, the present native species surrounding them should be retained as part of the landscaping. Such native species should also be considered wherever appropriate in the general landscaping of the project.

22. Mr. Nagata's report also states that animal life typical to the area are birds, such as, the common mynah, mouse sparrow, Kentucky cardinal, red-crested cardinal, barred and lace-necked dove, Indian grey francolin and turkeys; and mammals, such as, the axis deer with the possibility of rats and mice also being present. None of these are considered to be rare or endangered.
23. Two (2) seabirds, tentatiely identified as red-tailed tropicbirds and Buliver's petrels were also observed flying along the coastline. Both species as well as the whitetailed shearwater and white-tailed tropicbird are known to nest in the high sea cliffs and/or offshore islets along the southwest coast of Lanai. These seabirds observed are considered transients and not considered residents within the site.

Archaeological Resources

24. An Archaeological Inventory Survey within the Rural District was conducted by Hallet H. Hammatt, Ph. D.; Douglas Borthwick, B.A.; William Falk, B.A.; and Mark Stride.
According to the survey, a total of 22 historic sites and 75 individual features were located within this area. In terms of general distribution, all except three (3) small sites (an Ahu and two (2) shelter sites) are located east of the gully draining into Kaluako'i Bay. Otherwise occupation sites are situated almost exclusively around the makai side of a small gully draining into Kapiha'a Bay.
25. A total of two (2) historic sites and three (3) individual features were located within the Agricultural District.
26. The Department of Land and Natural Resources (DLNR), in their letter, dated March 28, 1990, (Exhibit B) stated that their staff's field inspection of the Rural District found one (1) isolated site and two (2) features in identified sites that had been missed during the survey.
27. DLNR concluded that there is a total of twenty-three (23) significant sites in the Petition Area.
28. To ensure that the proposed action would not have an adverse effect on significant historic sites, DLNR recommends that the following mitigative measures be implemented:

A total of 14 significant historic sites shall undergo data recovery: CS1, 3, 4, 5, 6, 7, 9, 10, 11, 22 and the missed site. A total of 9 significant sites shall be preserved; 1, 12, 13, 14, 17, 18, 19, 20, and 21. The mitigation plan shall be revised and submitted to Historic Preservation Program for approval. Full

execution of the plan shall be verified by Historic Preservation Program prior to the start of any ground disturbing activities.

The Lanai Archaeological Committee, which includes representation from DLNR and OHA, is reviewing the golf course design and residential development, and is expected to make further recommendations on this aspect.

Water Use

29. The sustainable yield for groundwater has been estimated by different hydrologists in the past. Recent works of John Mink and Keith Anderson have independently proposed virtually the same estimate for the sustainable yield at 6.0 million gallons per day (mgd). Anderson derived his estimate by evaluating the hydrologic budget. Mink used hydraulic models for the equilibrium conditions of groundwater flow.
30. The domestic water supply will be drawn from the pipeline currently servicing the Manele Project District.
31. Irrigation for the 200 acre golf course will be limited to between 125 to 150 acres. The design for this golf course can be termed "target golf." It makes for challenging play and more efficient utilization of available resources. The design features of this course and the type of grass and landscaping being planned are suitable to dry climates, requiring limited irrigation water. The Golf Course irrigation will not be by potable water but by an alternate water source. This source is currently being sought by the Petitioner.
32. The current and future projected water demand for the island of Lanai are as follows:

YEAR	PROJECT	POTABLE	ALTERNATE
1988	LANAI CITY	0.40	
	DOLE PLANTATION	1.80	
1989	KOELE HOTEL	0.18	
	LALAKOA III	0.09	
	HULOPOE BEACH	0.07	
	CENTRAL SERVICE FACILITY	0.03	
	COMMUNITY LANDSCAPING	0.03	
	LANAI CITY APTS	0.02	

<u>YEAR</u>	<u>PROJECT</u>	<u>POTABLE</u>	<u>ALTERNATE</u>
1990	KOELE GOLF COURSE	0.40	
	LOWER WAIALUA	0.07	
	WAIALUA MULTI-FAM	0.07	
	MANELE BAY HOTEL	0.23	
	MANELE GOLF COURSE		1.00
	OTHER LANDSCAPING	0.03	0.40
	KOELE SFR	0.02	
	LALAKOA (ADDITIONAL) COMMERCIAL AREA	0.08 0.25	
1991	MANELE RESIDENTIAL	0.25	
	KOELE REDSIDENTIAL	0.20	
<u>TOTAL</u>		4.22	1.40

These figures were obtained from the Commission on Water Resource Management, Department of Land and Natural Resources, through Castle & Cooke, Inc.

33. The Commission has ruled that the Island of Lanai does not qualify as a Water Management Area; but has also recommended that if withdrawal exceeds 4.30 mgd, a water management area designation evaluation will be triggered.

Sewage Disposal

34. A sewer treatment facility is located mauka of the existing project district. This facility has been designed to handle the sewage created by the Manele developments.

Sewage Treatment

35. The golf course activities would generate a minimal demand for sewage disposal.

Traffic

36. Vehicular access to the Manele Resort is from Manele Road. The State maintained highway has two lanes and 19 foot-wide pavement with 6-foot shoulders and a posted speed limit of 35 mph between Mileposts 6 and 10. From Milepost 10 to the end of Manele Road the road is narrow and winding with pavement widths of 12-24 feet and shoulder widths of 2 feet. There are no other major intersections along Manele Road between Kaumalapau Highway and Manele Resort.

37. The existing roadway to Manele (Manele Road) is expected to be upgraded to State Standards. The improvements will include road-widening, realignment and resurfacing along portions of Manele Road. An alternate road in the long run linking Kaunapali Harbor, the Lanai Airport, the Manele Resort and small boat harbor may be eventually constructed.

Marine Environment

38. According to "A Quantitative Assessment of the Marine Communities and Water Quality in an Area Affecting the Proposed Hulopoe-Manele Bay Golf Course Development", by Dr. Richard E. Brock., PH.D., the proposed development will increase the potential for runoff during the construction phase. Runoff into Hulopoe Bay would occur with high rainfall in Hulopoe; however, such events are not common in an area that has a mean rainfall of only 30 cm (12) inches per year (MacDonald 1940). In this low rainfall setting, natural vegetative cover is incomplete and feral animals probably contribute to the ongoing erosion. If prudent construction practices are followed (i.e., not uncovering too much soil at any one time; building temporary catchment and settling basins; etc.) and construction is not hampered by high rainfall events, little or no sediment should be discharged into the ocean. Following project grading, the area would be immediately regrassed or covered, resulting in less sedimentation in off shore waters than occurs under current conditions.
39. Relative to the proposed golf course, the use of brackish water mixed with treated effluent and the application of pesticides and herbicides for golf course maintenance could affect the marine environment since these nutrients and chemicals could leach into the groundwater table and therefore enter into the ocean.
40. The potential for such impact may be compared to conditions on the West Hawaii coast at Waikoloa where a water quality and aquatic community monitoring program is being carried out by the University of Hawaii. A characteristic feature of West Hawaii is its diffuse groundwater discharge at the shoreline due to the island's highly porous lava substrate (Cox et al 1969). In this setting, there are depressions or pools that extend down into the watertable; these ponds are termed anchialine pools.
41. The characteristics of the groundwater entering the ocean at Waikoloa have been described by various studies including Brock and Norris (1987, 1988a) and Brock et al (1988). Since April 1986 a regular program of water quality sampling and monitoring of benthic communities has been undertaken; to monitor tide levels, salinity, nutrient, pesticide and herbicide levels in anchialine pools, the nearshore marine environment and at other West Hawaii locations with no surrounding development.

42. Summarizing the data presented by Brock and Norris (1987, 1988a) and Brock et al. (1988), the concentration of inorganic nutrients is high in inland (mauka) pools and decreases in a seaward direction. Inland of the pools is golf course development; mauka of the golf course and planted grounds are a series of wells dug for irrigation purposes. Nutrient concentrations are low in the wells. Brock and Norris (1988a) concluded that the source of high nutrient levels observed in the pools was from the Waikoloa golf course which is heavily fertilized with sewage enriched irrigation water and commercial fertilizers. It was suggested that leaching of these materials through the thin topsoil to the groundwater beneath was occurring. Brock and Norris (1988a) found no statistically significant changes in water quality from the 1986-1988 period during the operation of the resort but significant changes had occurred in comparing the period prior to resort development (1977) to the 1986-88 period. The observed increases were for nitrate + nitrite nitrogen and orthophosphate. Despite these changes, these authors note that the 1986-88 mean concentrations of nitrate + nitrite nitrogen, ammonia nitrogen, orthophosphate, silicate, total organic carbon in the waters from the developed Waikoloa setting fall well within the range of values measured in anchialine and shoreline areas along the West Hawaii coast with no surrounding development. Furthermore, the concentration gradient in nutrients at Waikoloa is minimal at the shoreline and is undetectable at 100m seaward of the shore (Brock and Norris 1988a). Other than arsenic, pesticides and herbicides applied at Waikoloa are not from either developed or control areas (with no surrounding development) suggesting that low levels of arsenic contamination are natural in Kona coast groundwater (Brock and Norris 1988a).
43. Periodic sampling of the aquatic biota of the anchialine pools at Waikoloa since 1972 (Maciolek and Brock 1974) to present have yielded no obvious change in ponds where exotic fish (i.e., non-native species such as topminnows and tilapia) have been introduced. Brock and Norris (1988a) point out that the aquatic biota is unaffected by the nutrient loading, due to insensitivity of the aquatic biota to the excess nutrients presence of large numbers of the herbivorous shrimp (opae'ula). Through their grazing, these crustaceans appear to keep macrothalloid algal species and possibly phytoplankton from otherwise dominating the marine sea system. Also, the insensitivity of the biota to high nutrient levels may be a reflection of their living in a habitat that naturally has a highly variable nutrient chemistry; thus they are preadapted to such a system.

44. The longterm studies at Waikoloa suggest that coastal resort development (in particular, golf courses) may increase the concentration of inorganic nutrients in the underlying groundwater but that these changes are not chemically detectable outside of 100m of the shore, and do not manifest any discernible change in the aquatic communities whether these communities are in brackish or marine waters. The Waikoloa development is situated on a very porous substrate of pahoehoe and a'a lava located just a few meters above mean sealevel and have only a thin (about 30cm) layer of soil for planting. Due to its greater age, there is more soil (greater thickness) in the proposed Hulopoe course area and much of the proposed golf course lies at elevations greater than 30m. Thus the opportunity for leaching of materials to the watertable at Hulopoe is probably less than that at Waikoloa. Furthermore, if leaching of materials does occur, a greater period of time would pass prior to detection.

The data suggest that the proposed development at Hulopoe may, over a long period of time, increase the concentration of inorganic nutrients in the underlying watertable but that the increases would be less than that observed in other comparable natural systems in Hawaii.

Public Shoreline Access and Setback Areas

45. The Petition proposes to provide a 50 ft. setback zone for the Petition Area with the exception of the Number 16 Hole where a setback of less than 50 ft. is desirable. As of now, no setback has been determined for this area.

No improvements will be constructed within a 75 ft. area from the shoreline, with the exception of three (3) signature holes. This 75 ft. area will be maintained in its natural state.

No vertical improvements will be constructed within 150 ft. of the cliff with the exception of unenclosed patios, pools and fences; provided, however that these exceptions shall not exceed below the present Project District setback zone of 90 ft. for building structures along a rocky coastline.

The Petition also proposes to provide mauka pathways to provide alternate access routes to the cliff coastline area.

Significance Criteria

46. Section 11-200-12 Environmental Impact Rules specifies criteria for determining whether an action may have significant effects on the environment. The proposed action relates to these criteria, as follows:

- a. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

The Petition Area is presently zoned in the State Rural and Agricultural Districts and lying fallow. The Detailed Land Classification of the Land Study Bureau rates the Petition Area "E" (poor) as to the overall productivity potential. Archaeological surveys have been completed and significant sites would be preserved in compliance with the recommendations of the Department of Land and Natural Resources, Historic Preservation Program. Endangered species of plants have been identified and measures would be taken for preservation and ongoing maintenance. Water resources for golf course irrigation will be drawn from alternate sources and will not adversely affect the existing high level aquifers, based on findings of the State Water Commission. Shoreline access will be preserved for recreational purposes.

According to a report on "The Quantitative Assessment of the Marine Communities and Water Quality Affecting the Hulopoe-Manele Bay Golf Course Development" by Richard E. Brock, Ph. D., the proposed development of Hulopoe, may, over a long period of time, increase the concentration of inorganic nutrients in the underlying watertables but the increases will be less than observed in other comparable natural systems in Hawaii. Dr. Brock also stated that data from Waikoloa suggests that there should be no discernible impact on the nearshore communities, due to changes in nutrient chemistry.

b. Curtails the range of beneficial uses of the environment;

The proposed project will not adversely affect public facilities and services. Drainage will follow the natural drainage ways. Sheet flows throughout the golf course will be reduced with the off-site diversion of storm water. Wastewater will ultimately be transmitted to the existing water reclamation plant or by an on-site treatment plant. Access to Hulopoe and the shoreline fronting the golf course will be provided for public use.

c. Conflicts with State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions or executive orders;

The proposed project does not conflict with State environmental goals, objectives and policies. The Quantitative Assessment of Marine Communities and Water Quality report by Dr. Richard E. Brock, as previously mentioned in this report states that the proposed development should have no discernable impact on the nearshore communities.

d. Substantially affects the economic or social welfare of the community or state;

The golf course project is an integral part in the marketing and viability of the resort development at Manele. The Community Plan for Lanai emphasizes the need to diversify the economy of the island. The proposed golf course is a needed amenity to promote the Manele Resort in a highly competitive resort facility market.

e. Substantially affects health;

Public health will not be affected. Wastewater disposal will be accomplished with the water reclamation plant being constructed; and sewage disposal, solid waste disposal and construction practices will conform to all applicable State, County and Federal regulations. The Petitioner is also required to comply with the Department of Health's "Eight (8) Conditions Applicable to Golf Course Development (Exhibit B).

f. Involves substantial secondary impacts, such as population changes or affects on public facilities;

The proposed action would result in minimal population changes, in terms of the current Manele Project District regulations pursuant to the Lanai Community Plan. Infrastructure serving the city would not be overloaded by the proposed action, provided that necessary improvements are implemented. There is a regional water reclamation plant being constructed. Water supply and distribution for domestic purposes will connect to the Manele Hotel system. The golf course will use alternate water sources, namely brackish water or treated effluent. The Petitioner will also meet all County and State requirements.

g. Involves a substantial degradation of environmental quality;

The site of the proposed golf course is arid and fallow land. Golf course activity will not adversely affect air quality.

The golf course construction will not encroach in the coastal zone and will be consistent with set back requirements in the project district ordinance and/or Special Management Area Use Permit.

- h. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed action will be a part of the approved Manele Project District, pursuant to the adopted Lanai Community Plan.

- i. Substantially affects a rare, threatened or endangered species, or its habitat;

According to the Biological Survey by Mr. Kenneth Nagata, one vegetative species (Canavalia Pubescens) was identified as being rare and endangered. Mr. Nagata added that the U.S. Fish and Wildlife Service has re-evaluated the status of this species and in their next Federal Register, proposes to downgrade the Canavalia Pubescens to a category where the U.S. Fish and Wildlife Service does not have sufficient information to warrant listing as an Endangered Species. Mr. Nagata's survey also recommends mitigative measures to protect these plants within the Project District expansion.

- j. Detrimentially affects air or water quality or ambient noise levels; or

Increased ambient noise would not be significantly adverse. Noise impacts will occur during construction from heavy equipment.

- k. Affects an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters;

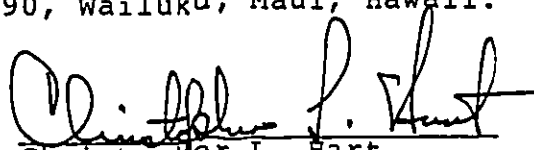
The project abuts the shoreline but will be protected, since no construction will be allowed within the shoreline setback boundaries unless warranted for public purposes, such as, access trails, etc. Storm runoff from extreme rainfall will follow the natural drainage pattern.

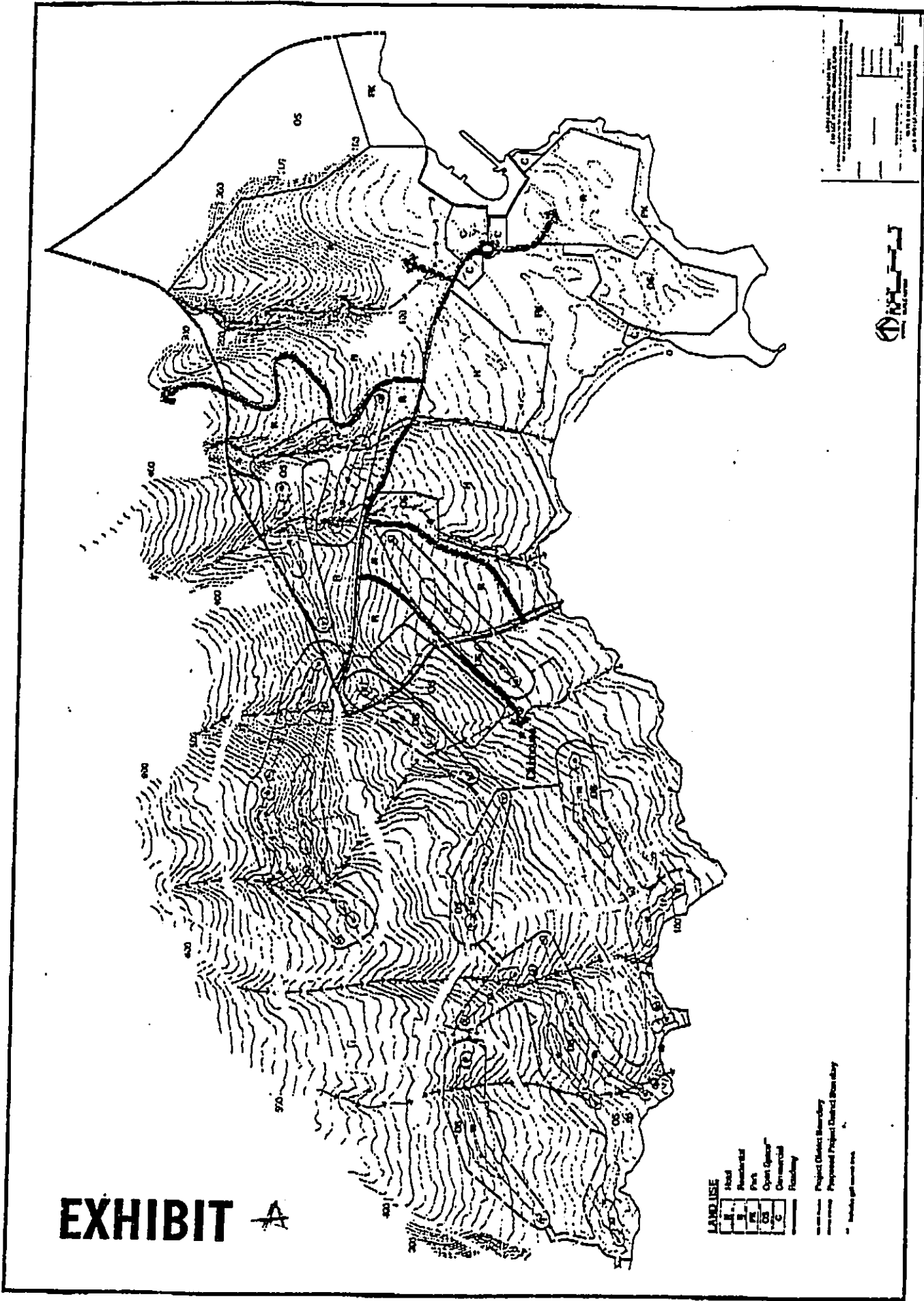
47. The following government agencies were requested to review and comment on the original proposed amendment. Due to the time restraints of the new amended amendment, no transmittals were forwarded to these agencies regarding the new proposals.

- a. Department of Public Works
- b. Department of Water Supply
- c. Department of Land and Natural Resources
- d. State Commission on Water Resource Management
- e. Department of Transportation (Highways Division)
- f. Department of Agriculture

48. Lanaians for Sensible Growth has previously expressed their concern for an Environmental Impact Statement on the proposed Golf Course and Residential Developments at Manele. Exhibit "C" of this report contains a withdrawal of opposition by Lanaians for Sensible Growth to allow the processing of the Gold Course only.

Dated this 30th day of October 1990, Wailuku, Maui, Hawaii.


Christopher L. Hart
Planning Director



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April 7, 1989

EIGHT (8) CONDITIONS APPLICABLE TO THIS NEW GOLF COURSE DEVELOPMENT

Conditions:

1. The owner/developer and all subsequent owners shall establish a groundwater monitoring plan and system which shall be presented to the State Department of Health for its approval. The groundwater monitoring plan and system shall minimally describe the following components:
 - a. A system of monitoring wells constructed throughout the site. These monitoring wells shall extend approximately ten (10) feet below the water table.
 - b. A routine groundwater monitoring schedule of at least once every six (6) months and more frequently, as required by the State Department of Health, in the event that the monitoring data indicates a need for more frequent monitoring.
 - c. A list of compounds which shall be tested for as agreed to by the State Department of Health. This list may include, but not be limited to the following: total dissolved solids; chlorides; PH; nitrogen; phosphorus; or any other compounds associated with fertilizers, biocides or effluent irrigation.
2. A baseline groundwater data shall be established as described in this paragraph. Once the test well sites and list of compounds to be monitored for have been determined and approved by the State Department of Health, the owner/developer shall contract with an independent third-party professional (approved by the State Department of Health) to have the groundwater sampled and its data reported to the State Department of Health. Testing of the groundwater shall be done by a certified laboratory.
3. If the data from the monitoring wells indicate the presence of the measured compound and/or the increased level of such compound, the State Department of Health can require the owner/developer or subsequent owner to take immediate mitigating action to stop the cause of the contamination. Subsequently, the developer/owner or subsequent owner shall mitigate any adverse effects caused by the contamination.
4. Owner/developer shall provide sewage disposal by means of connection to the public sewer system; or by means of a wastewater treatment works providing treatment to a secondary level with chlorination. Effluent from this wastewater treatment works may be used for golf course irrigation, subject to Condition #3. The entire system shall be approved by the State Department of Health in conformance with Administrative Rules Title 11, Chapter 62, Wastewater Treatment Systems, effective December 10, 1988.

EXHIBIT **B**

DOCUMENT CAPTURED AS RECEIVED

5. If a wastewater treatment works with effluent reuse becomes the choice of wastewater disposal, then the owner/developer and all subsequent owners shall develop and adhere to a Wastewater Reuse Plan which shall address as a minimum, the following items:
 - a. Management Responsibility. The managers of the irrigation system using reclaiming wastewater shall be aware of the possible hazards and shall evaluate their system for public health, safety, and efficiency. They must recognize that contact with the reclaimed wastewater from treated domestic sewage poses potential exposure to pathogenic organisms which commonly cause infectious diseases (bacteria, viruses, protozoa, and helminths or worms).
 - b. General Recommendations
 - 1) Irrigated areas should be no closer than 500 feet from potable water wells and reservoirs.
 - 2) Irrigated areas should be no closer than 100 feet from any private residence.
 - 3) Application rates should be controlled to minimize ponding. Excess irrigation tailwater in the reclaimed wastewater irrigation area shall be contained and properly disposed. An assessment should be made of the acceptable time and rate of application based on factors such as type of vegetation, soil, topography, climate and seasonal variations.
 - 4) Effluent holding/mixing ponds shall be designed to prevent the infiltration of the wastewater into the subsurface. The holding/mixing ponds shall be made impervious.
 - 5) Irrigation shall be scheduled such that the public is not in the vicinity and the soil is sufficiently dry to accept the irrigation water.
 - 6) Permanent fencing or barriers shall be erected around polishing or holding ponds to prevent public entry or stray feral and tame animals from gaining access to the ponds.
 - 7) Adequate irrigation records shall be maintained. Records should include dates when the fields are irrigated, rate of application, total application and climatic conditions. Records should also include any operational problems, diversions to emergency storage or safe disposal and corrective or preventive action taken.
 - 8) The holding/mixing ponds shall be periodically monitored for the purpose of detecting leakage into the subsurface. If leakage is detected, corrective action shall be immediately taken.
 - c. Adequate Notice. Appropriate means of notification shall be provided to inform the employees and public that reclaimed wastewater is being used for irrigation on the site.

- 1) Posting of conspicuous signs with sufficient letter size for clear visibility with proper wording should be distributed around the use areas.
 - 2) Signs shall be securely fastened. Periodic surveillance shall be conducted to assure permanent posting at all times. Immediate replacements shall be made when necessitated by deterioration, vandalism or misuse.
- d. Adequate Employee Education. Employees or users should be cautioned and warned of the potential health hazards associated with the ingestion of reclaimed wastewater being used at the site.
- 1) Employees should be warned that the ingestion of reclaimed wastewater is unsafe.
 - 2) Employees should be protected from direct contact of the reclaimed wastewater. If necessary, protective clothing should be provided.
 - 3) Employees should be informed of the following:
 - o The irrigation water is unsafe for drinking or washing.
 - o Avoid contact of the water or soil with any open cuts or wounds.
 - o Avoid touching the mouth, nose, ear or eyes with soiled hands, clothes or any other contaminated objects.
 - o Be aware that inanimate objects such as clothes or tools can transport pathogenic organisms.
 - o Always wear shoes or boots to protect feet from the pathogenic organisms in the soil or irrigation water.
6. Use of electrical golf carts is recommended. It is recognized that underground storage tank(s) to store gasoline for gas driven golf carts will impose potential risks to the groundwater. If gasoline-driven golf carts are to be utilized, the developer/owner must meet all federal requirements in the installation of any underground storage tank.
7. Buildings designated to house the fertilizer and biocides shall be bermed to a height sufficient to contain a catastrophic leak of all fluid containers. It is also recommended that the floor of this room be made waterproof so that all leaks can be contained within the structure for cleanup.
8. A golf course maintenance plan and program will be established based on "Best Management Practices (BMP)" in regards to utilization of fertilizers and biocides as well as the irrigation schedule. BMP's will be revised as an ongoing measure. The golf course maintenance plan will be reviewed by the State Department of Health prior to implementation.

If there are any questions regarding the eight (8) conditions mentioned here, please contact Mr. James K. Ikeda at 548-6455. We ask your cooperation in the protection of Hawaii's valuable groundwater resource.

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LANAI/90.051
NATIVE HAWAIIAN LEGAL CORPORATION
1270 Queen Emma Street, Suite 1004
Honolulu, Hawaii 96813

ALAN T. MURAKAMI 2285
LIVIA WANG 4054

SIERRA CLUB LEGAL DEFENSE FUND, INC.
212 Merchant Street, Suite 202
Honolulu, Hawaii 96813

ARNOLD L. LUM 3523

ISAAC D. HALL 2238
2087 Wells Street
Wailuku, Hawaii 96793

Attorneys for
LANAIANS FOR SENSIBLE GROWTH

BEFORE THE PLANNING COMMISSION OF THE
COUNTY OF MAUI

In the Matter of the Request by)	Docket No. 90/CPA-004
B. MARTIN LUNA, Attorney on behalf)	WITHDRAWAL OF OPPOSITION
of Lanai Company, Inc.)	TO PETITION FOR
)	RECONSIDERATION
For a Community Plan Amendment)	
and Project District Development)	
Approval for an Expansion of the)	
Boundaries of the Manele Project)	
District; TMK No. 4-9-02:por.)	
of 1; Manele, Lanai, Hawaii.)	

WITHDRAWAL OF OPPOSITION TO PETITION FOR RECONSIDERATION

Lanaians for Sensible Growth (LSG), by and through

EXHIBIT c

(CERTIFICATE OF SERVICE ATTACHED)

its undersigned attorneys, hereby withdraws its Objections to Applicant's Petition for Reconsideration dated July 20, 1990.

DATED: Honolulu, Hawaii OCTOBER 19, 1990



ALAN T. MURAKAMI
LIVIA WANG
ARNOLD L. LUM
ISAAC D. HALL
Attorneys for
LANAIANS FOR SENSIBLE GROWTH