UPDATE TO TRAFFIC ANALYSIS

KAONOULU INDUSTRIAL PARK

Kihei, Maui, Hawaii

Prepared for:

Kaonoulu Ranch

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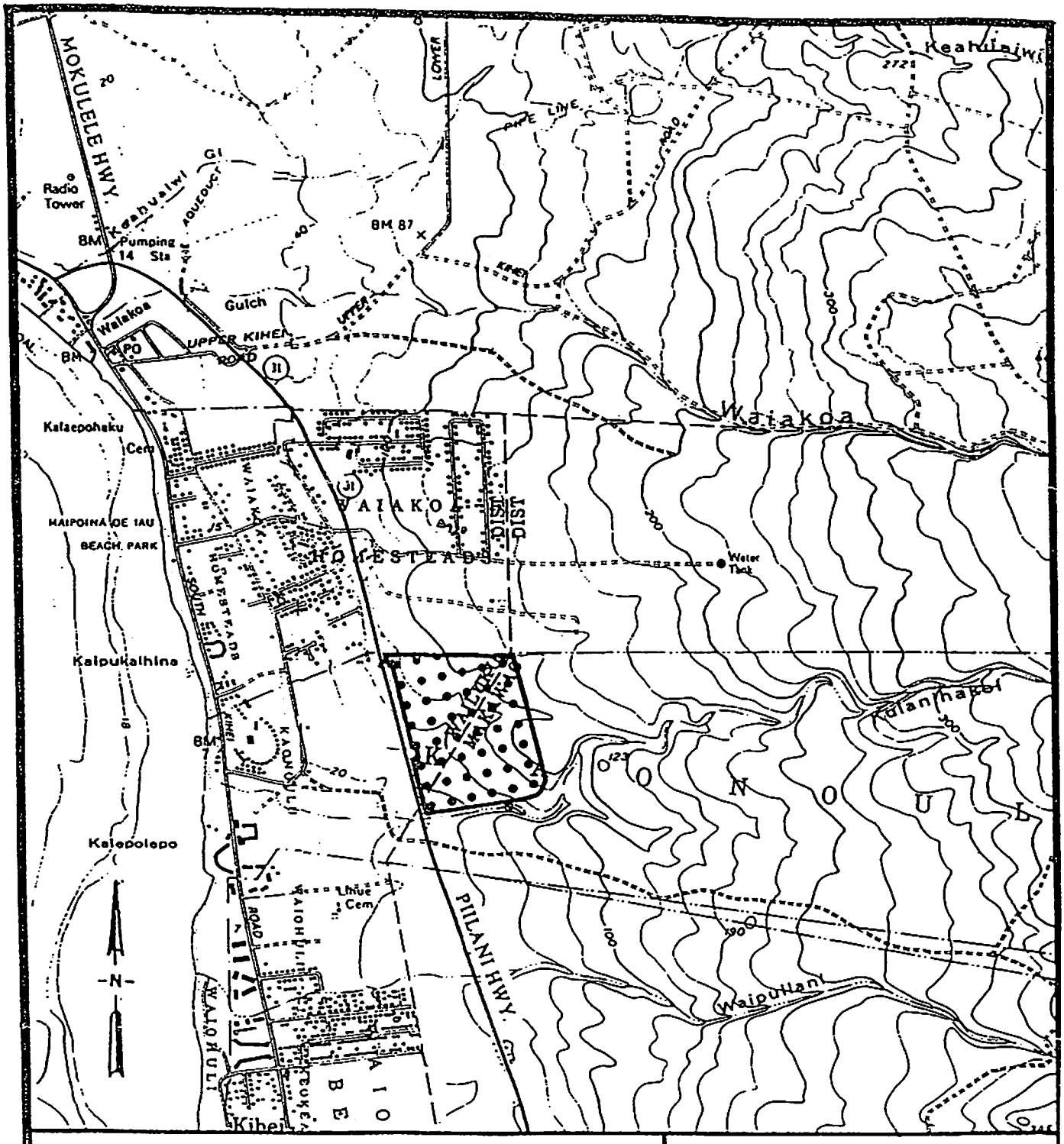
April, 1998

EXHIBIT 27

EXHIBIT I-10



LOCATION MAP

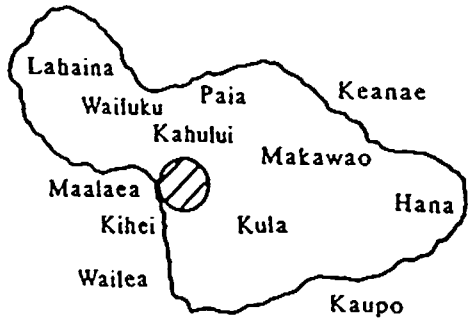
DOCKET NO. A94-706 / KAONOULU RANCH

TAX MAP KEY: 2-2-02: por. 15 & 3-9-01: 16

KAONOULU, MAKAWAO-WAILUKU, MAUI

APPROVED AREA

SCALE: 1" = 2,000 ft. ±



MAUI

EXHIBIT "A"

UPDATE TO TRAFFIC ANALYSIS
Kaonoulu Industrial Park
Kihei, Maui, Hawaii

April, 1998

Kaonoulu Ranch has proposed an 88-acre industrial park in Kihei, east of Piilani Highway across from the Kaonoulu Estates project (Exhibit 1). A report[1] summarizing a traffic impact analysis was prepared in March 1994 as part of the State Land Use petition; the report identified the potential impact of the industrial park and recommended appropriate roadway improvements to provide adequate traffic capacity to serve the industrial park. While the proposed project has not changed, additional traffic data and new analytical procedures are now available. This update reevaluates the traffic impact of the project using the new information as part of the application for a change in zoning.

The proposed project would construct infrastructure and subdivide the land for industrial use. While details of the project have not yet been finalized, vehicular access is proposed from Piilani Highway across from the Kaonoulu Estates project, changing the existing T-intersection of Piilani Highway and Kaonoulu Street to a cross-intersection. The access road would bisect the site, and an extension of this access road farther east could become the proposed roadway between Kihei and Upcountry Maui. Two secondary roadways providing access to the individual lots would cross the Kaonoulu Street extension, forming two additional intersections east of Piilani Highway.

Because the project is expected to provide industrial space in support of resort, residential, and other development in the South Maui area, regional traffic impacts would be positive in that travel into and out of the South Maui area would be lessened. Since occupancy of the proposed project would occur over a period of several years, the traffic impact would not be immediate, but would increase over a number of years. The analysis, however, has assumed full occupancy of the project by the year 2010.

For an industrial park, the greatest traffic impact would occur during weekday peak commuting periods. Because specific uses within the park have not yet been determined, per-acre trip rates from the informational report *Trip Generation*[2] were used to estimate the traffic generated by the project.

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1 Julian Ng, Inc., *Traffic Impact Analysis Report, Kaonoulu Industrial Park*, March 1994.

2 Institute of Transportation Engineers, *Trip Generation, 6th Edition*, 1997.

In the morning peak hour, when traffic entering the project is the greatest, the expected high volume of left turns off the southbound Piilani Highway would be made against a heavy northbound traffic flow on the highway; in the afternoon peak period, left turns out of the site would be made across and into the peak highway traffic. Conditions during these weekday peak hours were analyzed to determine the most critical conditions expected at the intersection of Piilani Highway and Kaonoulu Street; impacts at other times of the weekday, and on weekends, would be less since project traffic will be considerably lower at these times.

The results of the current analyses are also compared with the findings for year 2010 from the 1994 report, for the existing highway network and for a roadway system which includes a Kihei-Upcountry road with its west terminus at Kaonoulu Street.

Analyses were done using methods described in the *Highway Capacity Manual*[3] from the Transportation Research Board. At unsignalized intersections, average delays and a Level of Service (LOS) were identified for each controlled movement. Levels of service were determined for signalized intersections using the Planning Method. Levels of service are described in an attached appendix.

Existing Conditions

The proposed project would have access from Piilani Highway, via a new roadway that will add a fourth leg to the existing T-intersection with Kaonoulu Street. Piilani Highway is a major arterial, two lanes wide, serving through traffic at a posted speed limit of 45 miles per hour. The typical section of the highway includes 12-foot lanes and 10-foot wide paved shoulders, which also serve as bikelanes. At Kaonoulu Street and other major intersections, right turn deceleration and left turn deceleration/storage lanes are provided.

Four intersections along Piilani Highway in the vicinity of the proposed project, at Mokulele Highway, Uwapo Road, Ohukai Street, and Lipoa Street are presently signalized. Other side streets, including Kaonoulu Street, are stop-controlled at their intersections with Piilani Highway. Kaonoulu Street and Kulanihakoi Street to the south, which serve residential subdivisions, form the stop-controlled stem approaches at "T"-intersections with Piilani Highway.

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[3] Transportation Research Board Special Report 209, *Highway Capacity Manual, Third Edition*, 1994.