DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

FILE COPY NOV 08 2011

RECEIVED

ALAN M. ARAKAWA
Mayor

JO-ANN T. RIDAO
Director

JAN SHISHIDO
Deputy Director

2200 MAIN STREET • SUITE 546 • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165
MAILING ADDRESS: 200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • EMAIL: director.hhc@mauicounty.gov

'11 OCT 21 P12:34

October 17, 2011

OFC. OF ENVIRONMENTAL QUALITY CONTROL

Mr. Gary Hooser, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Hooser:

SUBJECT: Draft Environmental Assessment for the Proposed Imi Ikena Affordable Housing Project at TMK: (2) 3-8-037:028 Wailuku, Maui, Hawaii

The County of Maui's Department of Housing and Human Concerns has reviewed the Draft Environmental Assessment for the subject project and anticipates a Finding of No Significant Impact. Please publish notice in the next available OEQC Environmental Notice. The tentative date of distribution is Friday, November 4, 2011.

We have enclosed a completed OEQC Publication Form, one (1) copy of the document in pdf format on a CD, and one (1) hardcopy of the Draft EA. Please contact me at (808) 270-7805 or via e-mail at joann.ridao@mauicounty.gov if you have any questions.

Sincerely,

JO-ANN T. RIDAO
Director of Housing and Human Concerns

Enclosures

cc: Mr. Chris Hart
Mr. David Billings

Project Name: Imi Ikena Affordable Housing Project

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OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Publication Form
The Environmental Notice
Office of Environmental Quality Control

Instructions: Please submit one hardcopy of the document along a with determination letter from the agency. On a compact disk, put an electronic copy of this publication form in MS Word and a PDF of the EA or EIS. Please make sure that your PDF documents are ADA compliant. Mahalo.

Applicable Law:	**HRS Chapter 343**
Type of Document:	**Draft Environmental Assessment**
Island:	**Maui**
District:	**Wailuku**
TMK:	**(2) 3-8-037:028**
Permits Required:	**Building, Grading, Electrical, Plumbing, NPDES, Noise Permit**
Applicant or Proposing Agency:	**Department of Housing & Human Concerns, County of Maui**
Address	2200 Main St. One Main Plaza Bldg., Ste 546, Wailuku, Hawaii 96793
Contact & Phone	Ms. Jo-Ann T. Ridao, Director (808) 270-7805
Approving Agency/ Accepting Authority:	**Imi Ikena Housing Partners, LLC**
Address	990 Highland Drive, Suite 110J, Solana Beach, CA 92075
Contact & Phone	Mr. David Billings (760) 579-3191
Consultant:	**Chris Hart & Partners, Inc.**
Address	115 North Market Street, Wailuku, Hawaii 96793
Contact & Phone	Mr. Chris Hart, (808) 270-1955

Project Summary: Summary of the direct, indirect, secondary, and cumulative impacts of the proposed action (less than 200 words). Please keep the summary brief and on this one page.

The applicant proposes to develop a 28-unit, four-story affordable apartment complex on a vacant urban lot within Wailuku. All units will be targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD with rents restricted in perpetuity. The Imi Ikena Affordable Housing Project is intended to provide workforce housing in character with the existing urban development in the Sand Hills area. The apartment complex will be accessed by three driveways, two off of Pio Place and one off of Imi Place. Apartment units will range from two to three bedrooms and will range in size from 981 square feet to 1,133 square feet.

There are no long-term impacts associated with the proposed project. Short-term impacts are associated with construction related activities, and include noise and air impacts from construction vehicles.

Please correct and Resubmit to OEQC

DRAFT ENVIRONMENTAL ASSESSMENT

FOR

PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT

TMK: (2) 3-8-037:028

Wailuku, Maui, Hawaii

CHRIS HART & PARTNERS, INC.

October 2011

DRAFT ENVIRONMENTAL ASSESSMENT

FOR

PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT

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1. LANDOWNERSHIP DOCUMENTATION

PRELIMINARY REPORT

(No Liability Hereunder)

This report (and any revisions thereto) is issued solely for the convenience of the titleholder, the titleholder's agent, counsel, purchaser or mortgagee, or the person ordering it for the purpose of facilitating the issuance of a policy of title insurance by Title Guaranty of Hawaii and no liability will arise under this report.

SCHEDULE A

Title Guaranty of Hawaii, Incorporated, hereby reports that, subject to those matters set forth in Schedule "B" hereof, the title to the estate or interest to the land described in Schedule "C" hereof is vested in:

SAND HILL PROPERTIES, LLC,
a California limited liability company,
as Fee Owner

This report is dated as of January 22, 2010 at 8:00 a.m.

Inquiries concerning this report should be directed to
LISA NAGATA.
Email lnagata@tghawaii.com.
Fax (808) 521-0287.
Telephone (808) 533-5821.
Refer to Order No. 200841224.

Inquiries concerning Escrow should be directed to
BARBARA PAULO.
MAIN OFFICE
Email bpaulo@tghawaii.com.
Fax (808) 521-0280.
Telephone (808) 521-0209.
Escrow No. A81012947

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SCHEDULE B
EXCEPTIONS

1. Real Property Taxes, if any, that may be due and owing.

   Tax Key: (2) 3-8-037-028 Area Assessed: 32,953 sq. ft.

2. Reservation in favor of the State of Hawaii of all mineral and metallic mines.

3. SETBACK (15 feet wide)

   PURPOSE : building
   SHOWN : on File Plan No. 709

4. GRANT

   TO : MAUI ELECTRIC COMPANY, LIMITED and GTE HAWAIIAN TELEPHONE COMPANY INCORPORATED, now known as HAWAIIAN TELCOM, INC.

   DATED : December 4, 1961
   RECORDED : Liber 4181 Page 276
   GRANTING : an easement for utility purposes

5. The terms and provisions contained in the following:

   INSTRUMENT : DEED

   DATED : June 28, 1971
   RECORDED : Liber 7658 Page 233

6. The terms and provisions contained in the following:

   INSTRUMENT : DEED

   DATED : July 22, 1971
   RECORDED : Liber 7768 Page 141

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7. MORTGAGE, SECURITY AGREEMENT AND FINANCING STATEMENT (FIXTURE FILING)

MORTGAGOR : SAND HILL PROPERTIES LLC, a California limited liability company

MORTGAGEE : ANGELICA FOUNDATION, a California not for profit corporation

DATED : April 22, 2005
RECORDED : Document No. 2005-086975
AMOUNT : $1,100,000.00

8. Encroachments or any other matters as shown on survey map prepared by Randall Sherman, Land Surveyor, with Valley Isle Surveyors, Inc., dated April 20, 2005.

9. Encroachments or any other matters which a survey prepared after April 20, 2005 would disclose.

10. Any unrecorded leases and matters arising from or affecting the same.

11. Any lien (or claim of lien) for services, labor or material arising from an improvement or work related to the land described in Schedule C herein.

END OF SCHEDULE B

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SCHEDULE C

All of that certain parcel of land (being portion(s) of the land(s) described in and covered by Royal Patent Grant 1996, Land Commission Award 420 to Kuihelani) situate, lying and being on the southerly side of Pio Place (Lot 114) approximately 250 feet from its junction with Nana Street at Owa, Wailuku, Island and County of Maui, State of Hawaii, being LOT 97-A of the consolidation of Lots 97, 101 & 102 of the Puuone Tract - Unit 2 (File Plan 709), and thus bounded and described as per survey dated March 28, 2005, to-wit:

Beginning at a 1/2 inch pipe (found) the northwesterly corner of this parcel of land, being also a northerly corner of TMK: (2) 3-8-037-035 and being also a point on the easterly side of Pio Place right-of-way (44 feet wide), the coordinates of said point of beginning referred to Government Survey Triangulation Station "LUKE" being 7,152.40 feet north and 2,989.98 feet east and running by azimuths measured clockwise from true South; thence,

1.	218°	46'		97.58	feet along Pio Place right-of-way (44 feet wide) to a 1/2 inch pipe (found); thence,
2.	Following along the same along a curve to the right with a radius of 478.00 feet, the chord azimuth and distance being:				
	226°	55'	52"	135.76	feet to a 3/4 inch pipe (found); thence,
3.	328°	00'		109.39	feet along Lot 100 of the Puuone Tract - Unit 2 (File Plan 709) to a nail (found on top of wall); thence,
4.	56°	46'		88.33	feet along Lot 98 of the Puuone Tract - Unit 2 (File Plan 709) to a 3/4 inch pipe (found); thence,
5.	38°	46'		30.00	feet along the same to a 3/4 inch pipe (found); thence,

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6.	311°	17'		90.67	feet along the same to a 1/2 inch pipe (set); thence,
7.	Following along Imi Place right-of-way (44 feet wide) along a curve to the left with a radius of 35.00 feet, the chord azimuth and distance being:				
	5°	36'	50"	40.00	feet to a 1/2 inch pipe (found); thence,
8.	45°	41'		104.12	feet along Lot 96 of the Puuone Tract - Unit 2 (File Plan 709) to a 1/2 inch pipe (found); thence,
9.	159°	17'		115.97	feet along TMK: (2) 3-8-037-035 to a 1/2 inch pipe (found); thence,
10.	128°	47'		95.28	feet along the same to the point of beginning and containing an area of 32,955 square feet, more or less.

BEING THE PREMISES ACQUIRED BY WARRANTY DEED

GRANTOR : ELLEAIR HAWAII, INC., a Hawaii corporation

GRANTEE : SAND HILL PROPERTIES, LLC, a California limited liability company

DATED : April 25, 2005
RECORDED : Document No. 2005-086974

END OF SCHEDULE C

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GENERAL NOTES

1. There is hereby omitted from any covenants, conditions and reservations contained herein any covenant or restriction based on race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law. Lawful restrictions under state or federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.

BUYER(S) LIEN INFORMATION

1. Title Guaranty of Hawaii, Incorporated, finds no liens docketed against DBR DEVELOPMENT LLC, the proposed purchaser(s).

2. There is no evidence of DBR DEVELOPMENT LLC having been formed or registered with the Department of Commerce and Consumer Affairs of the State of Hawaii.

   We will require evidence of formation or registration prior to the issuance of a title insurance policy.

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GUIDELINES FOR THE ISSUANCE OF INSURANCE

A. Taxes shown in Schedule B are as of the date such information is available from the taxing authority. Evidence of payment of all taxes and assessments subsequent to such date must be provided prior to recordation.

B. Evidence of authority regarding the execution of all documents pertaining to the transaction is required prior to recordation. This includes corporate resolutions, copies of partnership agreements, powers of attorney and trust instruments.

C. If an entity (corporation, partnership, limited liability company, etc.) is not registered in Hawaii, evidence of its formation and existence under the laws where such entity is formed must be presented prior to recordation.

D. If the transaction involves a construction loan, the following is required:

   (1) a letter confirming that there is no construction prior to recordation; or

   (2) if there is such construction, appropriate indemnity agreements, financial statements and other relevant information from the owner, developer, general contractor and major sub-contractors must be submitted to the Title Company for approval at least one week prior to the anticipated date of recordation.

   Forms are available upon request from Title Guaranty of Hawaii.

E. Chapter 669, Hawaii Revised Statutes, sets forth acceptable tolerances for discrepancies in structures or improvements relative to private property boundaries for various classes of real property. If your survey map shows a position discrepancy that falls within the tolerances of Chapter 669, call your title officer as affirmative coverage may be available to insured lenders.

F. The right is reserved to make additional exceptions and/or requirements upon examination of all documents submitted in connection with this transaction.

G. If a policy of title insurance is issued, it will exclude from coverage all matters set forth in Schedule B of this report and in the printed Exclusions from Coverage contained in an ALTA policy or in the Hawaii Standard Owner's Policy, as applicable. Different forms may have different exclusions and should be reviewed. Copies of the policy forms are available upon request from Title Guaranty of Hawaii or on our website at www.tghawaii.com.

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DATE PRINTED: 1/27/2010

STATEMENT OF ASSESSED VALUES AND REAL PROPERTY TAXES DUE

NAME OF OWNER: SAND HILL PROPERTIES,LLC
LEASED TO :

TAX MAP KEY

DIVISION	ZONE	SECTION	PLAT	PARCEL	HPR NO.
(2)	3	8	037	028	0000

CLASS: 2 AREA ASSESSED: 32,953 SF

ASSESSED VALUES FOR CURRENT YEAR TAXES: 2009

The records of this division show the assessed values and taxes on the property designated by Tax Key shown above are as follows:

BUILDING	$	0
EXEMPTION	$	0
NET VALUE	$	0
LAND	$	1,214,300
EXEMPTION	$	0
NET VALUE	$	1,214,300
TOTAL NET VALUE	$	1,214,300

Installment (1 - due 8/20; 2 - due 2/20) Tax Info As Of - 9/30/2009

Tax Year	Installment	Tax Amount	Penalty Amount	Interest Amount	Other Amount	Total Amount	
2009	2	2,762.53				2,762.53	PENDING
2009	1	2,762.54		5.53		281.78	DELINQUENT
2008	2	3,092.41	.01			3,092.42	PAID
2008	1	3,092.41	309.24	68.03		3,469.68	PAID

Total Amount Due: 3,044.31

Penalty and Interest Computed to: 9/30/2009

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2. LETTER OF AUTHORIZATION

October 5, 2011

Jo-Ann T. Ridao, Director
Department of Housing & Human Concerns
County of Maui
2200 Main Plaza Bldg., Ste 546
Wailuku, HI 96793

SUBJECT: Imi Ikena Affordable Housing Project
Wailuku, Maui, Hawaii
TMK (2) 3-8-037:028

Dear Ms. Ridao,

Imi Ikena Housing Partners, LLC, the owner of the above-referenced property, authorizes Chris Hart & Partners, Inc., to prepare, file, process, and obtain all necessary permits and approvals, including but not limited to, a Draft Environmental Assessment (EA) and Final EA, for the proposed Imi Ikena Affordable Housing Project.

Very truly yours,

Imi Ikena Housing Partners, LLC

Name
Title

cc: Chris Hart & Partners, Inc.

Subscribed and sworn to before me this

14th day of Oct., 2011

Notary Public

Notary Public, State of California

My commission expires: 1/16/15

Kelli J. Elliott-Crisostomo
COMM. #1920555
Notary Public-California
SAN DIEGO COUNTY
My Comm. Exp. JAN 16, 2015

3. LIST OF OWNERS/LESSEES OF PARCELS WITHIN 500 FT. OF THE SUBJECT PROPERTY

TMK	CPR	Owner	C/O	Street	City/Zip
234025002	0	KIM,KUK JIN		1004-A LOWER MAIN ST	WAILUKU HI 96793
234025017	0	TOM,ADRIAN WAH TONG TRS		P O BOX 1121	WAILUKU HI 96793
234025020	0	MAUI FARMERS COOP EXC		970 B LOWER MAIN STREET	WAILUKU HI 96793 0000
234025028	0	ANTES,ESTRELITA CORPUZ	C/O PALOMA,EFELIA CORPUZ ET AL	45 HOAUNA ST	WAILUKU HI 96793
234025029	0	KAYA,RUTH T. TRUST		978 LEKEONA LP	WAILUKU HI 96793
234025029	0	NAGATA,JUANITA ETSUKO REVOC LIVING TRUST		791 HOALOHA PL	KAHULUI HI 96732
234025047	0	MAUI SODA & ICE WORKS LTD		PO BOX 1170	WAILUKU HI 96793 0000
234025052	0	YAMADA,REGINALD/CLARA K FAMILY TRUST		955 LEKEONA LP	WAILUKU HI 96793
234026003	0	HHH HUI		PO BOX 424	KAHULUI HI 96733 6924
234026004	0	GLAD NO KA OI LLC		420 POLULANI DR	WAILUKU HI 96793 0000
234026005	0	KODAMA HUI		890 LOWER MAIN ST	WAILUKU HI 96793 0000
234026006	0	I L W U MEMORIAL ASSN		451 ATKINSON DR	HONOLULU HI 96814 0000
238025042	0	MIRZAI,JUDITH D TRUST		453 LIHI ST	KAHULUI HI 96732
238025043	0	DELAPINIA,CONSTANCIO & SEGUNDENA TRUST		450 LIHI ST	KAHULUI HI 96732
238025044	0	YAHIRO,SHIRLEY M		PO BOX 2964	WAILUKU HI 96793 7964
238036011	0	SHIMABUKURO,VELMA TRUST		544 LIHOLIHO ST	WAILUKU HI 96793
238036012	0	TAGGESELL ROBERT/PAULINE		PO BOX 252	KAHULUI HI 96732 0000
238036013	0	KIBE,RICHARD M TRUST		44 KANAWAI ST	WAILUKU HI 96793
238036014	0	TANOUE,CATHERINE E TRUST		1684 NANA ST	WAILUKU HI 96793 0000
238036015	0	IGARTA, BERNARD B ETAL		2218 MOKUHAU RD	WAILUKU HI 96793 0000
238036016	0	CHING,STANLEY/BERTHA TR		P O BOX 806	WAILUKU HI 96793 0000
238036027	0	BROWN,MACRENE C		566 IMI DR	WAILUKU HI 96793 2655
238036028	0	ARAKAWA,PATRICK J TRUST		558 IMI DR	WAILUKU HI 96793
238036029	0	FUKUGAWA, YOSUKE/MARY		548 IMI DRIVE	WAILUKU HI 96793 0000
238036030	0	KODAMA,YOSHINOBU LIV TR		1698 NANA STREET	WAILUKU HI 96793 0000
238036031	0	HONDA,MELVIN S TRUST		541 IMI DR	WAILUKU HI 96793
238036032	0	BUSH,ROGER F		549 IMI DR	WAILUKU HI 96793
238036033	0	DRAYER,MARY LOUISE TRUST		557 IMI DR	WAILUKU HI 96793 0000
238036034	0	FUJII,2002 JEANETTE HISAYO TRUST		565 IMI DR	WAILUKU HI 96793
238036035	0	HELM, BARBARA J TRS		573 IMI DR	WAILUKU HI 96793 0000
238036059	0	KIRLAND,ROSE C TRUST		24 KAIKAI ST	WAILUKU HI 96793 8322
238036060	0	OLSTEN,BRUCE HAROLD TRUST		564 PIO DR	WAILUKU HI 96793 0000
238036061	0	POKIPALA, CARL V W TRS ETAL		556 PIO DRIVE	WAILUKU HI 96793 0000
238036062	0	HONDA, SHUFFLO S/GERALDINE M		548 PIO DRIVE	WAILUKU HI 96793 0000
238036063	0	KADONO,LENARD M		1742 NANA ST	WAILUKU HI 96793
238036064	0	KONO,HARUE ARAI		539 PIO DR	WAILUKU HI 96793 0000
238036064	0	KONO,LESLIE Y & JO-ANN S REVC LVG TR		P O BOX 288	WAILUKU HI 96793
238036065	0	MATSUURA,HOWARD H TR		547 PIO DR	WAILUKU HI 96793 0000
238036066	0	FUKUNAGA, RIKIO TRS ETAL		557 PIO DR	WAILUKU HI 96793 0000

238036067	0	SHIMA, BRIAN H		565 PIO DR	WAILUKU HI 96793 0000
238036068	0	FUKUNAGA, ALVIN K		573 PIO DR	WAILUKU HI 96793 0000
238036091	0	TANG,ROBERT KAM SUNG	C/O ROBERT TANG- COMMERCIAL PROP OF M	1962 B WELLS ST	WAILUKU HI 96793
238036092	0	KODAMA HUI		890 LOWER MAIN ST	WAILUKU HI 96793 0000
238036093	0	CARINO,WARLITO TRUST		2006 OMAOPIO RD	KULA HI 96790
238037001	0	NAPIHAA,YOSHIKO HIGA TRUST		1532 PIIHANA RD	WAILUKU HI 96793
238037002	0	ARAKI,FAYE S 2004 TR		1122 KINAU ST #906	HONOLULU HI 96821 2237
238037002	0	ISHIKAWA,SALLY SATSUKI		491 LIHI ST	WAILUKU HI 96793
238037003	0	MARCIEL,ERNEST C		95-215 ANUANU PL	MILILANI HI 96789 5576
238037004	0	TAVARES,MARGIT R TR		496 LIHOLIHO ST	WAILUKU HI 96793 0000
238037005	0	KOBAYASHI,WAYNE A		486 LIHOLIHO ST	WAILUKU HI 96793
238037006	0	HEW,AH KEWN TRUST		75 KAMALEI CIR	KAHULUI HI 96732 0000
238037007	0	UNEMORI, WARREN S TRS		468 LIHOLIHO ST	WAILUKU HI 96793 0000
238037008	0	ROBERTS,MARILYN MICHIKO NIWAO		460 LIHOLIHO ST	WAILUKU HI 96793 0000
238037017	0	CAIMI,JOSEPH JAMES		451 LIHOLIHO ST	WAILUKU HI 96793
238037019	0	PUUONE GARDENS - CONDO MASTER	NOE PROPERTIES LLC - C/O SHORE TO SHOR	331 HOOKAHI ST, #2002	WAILUKU HI 96793
238037019	1	PASCUAL,ANTHONY L		1188 LOWER MAIN ST	WAILUKU HI 96793
238037019	2	FUKAWA LLC		25 HAKALANI PL	WAILUKU HI 96793
238037019	3	ISBELL,ALAN		1465 ILIMOE PL	WAILUKU HI 96793
238037019	4	KIMURA,HOWARD		580 KULAIWAI DR	WAILUKU HI 96793
238037019	5	SAITO,STEVEN S		667 MAALAHI ST	WAILUKU HI 96793
238037019	6	FILIMOE'ATU,HANITELI IMW		P O BOX 492	KAHULUI HI 96733
238037019	7	SAKI,CHAD		PO BOX 1163	WAILUKU HI 96793
238037019	8	VAN AMMERS,FIONA K		PO BOX 791691	PAIA HI 96779
238037019	9	LEE,JOEY		40 N HIENA PL	MAKAWAO HI 96768
238037019	10	WAKI,VAN		PO BOX 1650	WAILUKU HI 96793
238037019	11	KOMINE,ELAINE		471 LIHOLIHO ST APT 11	WAILUKU HI 96793 2638
238037019	12	KALAIWAA,DERECK A.		67 NOHO PL	MAKAWAO HI 96768
238037019	13	SAKI,CHAD		PO BOX 1163	WAILUKU HI 96793
238037019	14	MATSUDA,ERIC M. REVOC TRUST		162 W LANAI ST	KAHULUI HI 96732
238037019	15	AMADO,DEBRA		33 W PAPA AVE	KAHULUI HI 96732
238037019	16	WAKI,DANIEL I		453 KUIKAHI DR	WAILUKU HI 96793
238037019	17	KUROHARA,DARREN T		555 LII WAY	WAILUKU HI 96793
238037019	18	SAKI,CHAD		PO BOX 1163	WAILUKU HI 96793
238037019	19	RAMOS,DAVID BRUCE		P O BOX 437418	KAMUELA HI 96743
238037019	20	SNEDICOR,H. T. TRUST		360 HIGH ST	WAILUKU HI 96793
238037019	21	CHIN,1998 FAMILY TRUST	CHIN,DANIEL W/MONA R TTEES	3104 PELLARO CT	PLEASANTON CA 94566
238037019	22	WAKI,DANIEL I		453 KUIKAHI DR	WAILUKU HI 96793
238037019	23	SASADA,CHARLES S.		112 KAIEMI ST	KAHULUI HI 96732
238037019	24	FUKAWA LLC		25 HAKALANI PL	WAILUKU HI 96793

238037019	25	WAKI,VAN		331 HOOKAHI ST 202	WAILUKU HI 96793
238037019	26	SHIBATA,RAYMOND		620 KAIAULU LP	MAKAWAO HI 96768
238037020	1	MIURA,BLAINE M		495 LIHOLIHO ST #101	WAILUKU HI 96793
238037020	2	RICH,JON C		495 LIHOLIHO ST #102	WAILUKU HI 96793
238037020	3	BOGUNOVICH,LESTER L		6278 S BOSTON CT	ENGLEWOOD CO 80111
238037020	4	THOMAS,EDGAR A		5956 SO FAIRFAX COURT	CENTENNIAL CO 80121
238037020	5	NAGATA, LEONARD A ETAL		P O BOX 330213	KAHULUI HI 96732 0000
238037020	6	QUINTERO,JAVIER E		495 LIHOLIHO STREET #106	WAILUKU HI 96793
238037020	7	MUSSELMAN,MARK		828 PELTON AVE	SANTA CRUZ CA 95060 641
238037020	8	VICTOR DAVID H		495 LIHOLIHO ST #108	WAILUKU HI 96793 0000
238037020	9	MUSSELMAN,MARK		828 PELTON AVE	SANTA CRUZ CA 95060 641
238037020	10	SAKADO,ROBERT K		495 LIHOLIHO ST #202	WAILUKU HI 96793
238037020	11	PECHIN,NICHOLAS HUNTER TRUST	1288 KAPIOLANI BLVD	WEST TOWER, 4607	HONOLULU HI 96814
238037020	12	GOMES,MARSHALL E		1024 INDUSTRIAL WAY UNIT	LODI CA 95240
238037020	13	SOONG, LILLIAN Y ETAL		999 KAHILI ST	KAILUA HI 96734 0000
238037020	14	DANSE,S W		P O BOX 11053	LAHAINA HI 96761
238037020	15	FUKUOKA, KEN R ETAL		P O BOX 477	WAILUKU HI 96793 0000
238037020	16	PACHECO, WALTER H ETAL		495 LIHOLIHO ST #208	WAILUKU HI 96793 0000
238037020	17	DURANT,ROBERT W.		495 LIHOLIHO ST #301	WAILUKU HI 96793
238037020	18	MORTGAGE GUARANTEE INSURANCE CORP		270 E KILBOURN AVE	MILWAUKEE WI 53202
238037020	19	DURANT,ROBERT WILLIAM		495 LIHOLIHO ST #303	WAILUKU HI 96793
238037020	20	NIKAIDO,JEREL T		495 LIHOLIHO ST #304	WAILUKU HI 96793
238037020	21	RODRIGUES,EMMETT L		P O BOX 96	WAILUKU HI 96793
238037020	22	FUJINAKA, ROBERT/JERI-JOAN		P O BOX 14	KAHULUI HI 96732 0000
238037020	23	HIRAI,JERI-JOAN K		PO BOX 14	KAHULUI HI 96732
238037020	24	BROWN,MATTHEW GERARD		495 LIHOLIHO ST APT 308	WAILUKU HI 96793
238037020	25	OUCHI,SANDRA FUSAE REVOC LIVING TR	C/O HIGA,SANDRA F.	495 LIHOLIHO ST #PH-1	WAILUKU HI 96793
238037020	26	NICKLAW,DEAN		P O BOX 2751	WAILUKU HI 96793
238037020	27	ANDERSON,MARTIN C.		PO BOX 6272	KAHULUI HI 96733
238037020	28	DAVIS,CECILIA FAMILY PARTNERSHIP	C/O DANA SOUZA	22 MOOLELO PL	MAKAWAO HI 96768
238037020	29	KNUE,GREGORY M TRUST		PO BOX 711	WAILUKU HI 96793
238037020	30	MATAYOSHI, NILTON/CHERYL		2476-B N SCHOOL ST	HONOLULU HI 96819 0000
238037020	31	ADAMS,JEREMY BLACK		1427 POLIPOLI RD	KULA HI 96790 7522
238037020	32	LIHOLIHO PS HOLDINGS LLC		495 LIHOLIHO ST PH 8	WAILUKU HI 96793 2678
238037022	0	LIHOLIHO MAUI LLC		7360 ATOLL AVE	NORTH HOLLYWOOD CA 91
238037023	1	TARPLEY, MICHAEL L		P O BOX 324	POLLOCK LA 71467 0324
238037023	2	PUHA,MORALES L TRUST		222 KUPAA ST	PAIA HI 96779
238037023	3	PUHA,MORALES L TRUST		222 KUPAA ST	PAIA HI 96779
238037023	4	BENAVIDES, ANIBAL J		155 WAILEA IKE PL #28	KIHEI HI 96753 0000
238037023	5	GLASS FAMILY TRUST		151 TAMALPAIS AVENUE	MILL VALLEY CA 94941

238037023	6	ARUDA,AARON KALANI		PO BOX 791803	PAIA HI 96779
238037023	7	ALEXANDER,JOSEPH LEROY JR		P O BOX 44	WAILUKU HI 96793 0044
238037023	8	TASSILL,EMMALINE L		815 AKULIKULI WAY	WAILUKU HI 96793 1370
238037023	9	FUKUMOTO,RONALD M TR		543 POHAKU ST	KAHULUI HI 96732
238037023	10	DOWNING,JAMES L. REVOC TRUST		515 LIHOLIHO ST #10	WAILUKU HI 96793
238037024	0	JD 2 LLC	JD2 LLC	500 WELAKAHAO RD	KIHEI HI 96753
238037024	1	JD 2 LLC		PO BOX 598	WENATCHEE WA 98807
238037025	0	AUWAE, WARREN W TRUSTEE ETAL		909 ANOHEA WY	WAILUKU HI 96793 9663
238037026	0	SAND HILL VIEW LLC	C/O SPIERO,DALYCE	514 IMI PL #9	WAILUKU HI 96793 0000
238037027	1	UEHARA,NAOMI RIYUKO		510 IMI PL #101	WAILUKU HI 96793
238037027	2	MASUDA,KOKI & RENE A TRUST		585 LAAU ST	KAHULUI HI 96732 0000
238037027	3	FERNANDEZ & HANSEN FAMILY TRUST		235 ULANA ST	MAKAWAO HI 96768
238037027	4	TAMANAHA LAURA E		510 IMI PL #201	WAILUKU HI 96793 0000
238037027	5	LONEY,SARAH		510 IMI PL #202	WAILUKU HI 96793
238037027	6	ODA,AILEEN M		291 HOOKAHI ST #107	WAILUKU HI 96793
238037027	7	FUKUSHIMA,RONALD MICHIO		P O BOX 1848	WAILUKU HI 96793
238037027	8	TAKAKURA,ANN K		PO BOX 1584	KAHULUI HI 96732
238037027	9	MURAOKA, GUY T & EUNICE T TR		PO BOX 330118	KAHULUI HI 96733 0000
238037027	10	MA, KIT CHEE/ALYCE M L Y		PO BOX 26092	HONOLULU HI 96825 0000
238037027	11	CAYWOOD,KIMBERLY C		515 S ALU RD	WAILUKU HI 96793 1563
238037028	0	SAND HILL PROPERTIES,LLC	C/O CARY LEFTON,MANAGER, SAND HILL PRC	15206 VENTURA BLVD, SUIT	SHERMAN OAKS CA 91403
238037029	0	GOMES, FRANK & WF		959 HAO ST	HONOLULU HI 96821 0000
238037030	0	T M W INC		P O BOX 1163	WAILUKU HI 96793 0000
238037031	0	CARMEL APTS		CONDO MASTER	00000 0000
238037031	1	SILVA,RAYMOND A 1969 TRUST	SILVA,RAYMOND A & CAROLYN A TRS	185 SURMONT CT	LOS GATOS CA 95032
238037031	2	FUKUOKA, KEN R ETAL		P O BOX 477	WAILUKU HI 96793 0000
238037031	3	VITALE,ANTHONY V		P O BOX 3059	KAHULUI HI 96733 0000
238037031	4	PRATT,STEPHANIE K		1743 NANA ST #104	WAILUKU HI 96793
238037031	5	FUKUOKA, KEN R ETAL		P O BOX 477	WAILUKU HI 96793 0000
238037031	6	FUKUOKA, KEN R ETAL		P O BOX 477	WAILUKU HI 96793 0000
238037031	7	PARRISH,TOMMY LEONARD		PO BOX 2773	WAILUKU HI 96793
238037031	8	CHAN,HENRY H TR		P O BOX 4028	KAHULUI HI 96732
238037035	1	HOOKANO,ROBERT KEOUA		620 ONEHEE AVE	KAHULUI HI 96732
238037035	2	IKEDA, RICHARD Y TRS		PO BOX 790337	PAIA HI 96779
238037035	3	OKAMURA, RON M		480 PIO DR #301	WAILUKU HI 96793 0000
238037035	4	TENJOMA,PATRICIA S		P O BOX 583	WAILUKU HI 96793 0000
238037035	5	BAXTER RONALD L		8 ADMIRAL DR A 129	EMERYVILLE CA 94608 000
238037035	6	TAMURA,KENNETH T		1225 LOLA PL	KAILUA HI 96734 4531
238037035	7	FEITEIRA GERTRUDE L		480 PIO DR APT 103	WAILUKU HI 96793 0000
238037035	8	LANDECKER,BRUCE		P O BOX 40483	SANTA BARBARA CA 93140

238037035	9	SHIMABUKURO,FUKUSEI		480 PIO DR #303	WAILUKU HI 96793 0000
238037035	10	NUESCA,RANA LEIMOMI		409 PUOLO PL	KAHULUI HI 96732
238037035	11	STUPPLEBEEN,ELROY T		P O BOX 1467	WAILUKU HI 96793 0000
238037035	12	TOKUDA,KENNETH K TRUST		1603 MONTE STREET	HONOLULU HI 96819
238037035	13	TOKUHISA,TSUNEYO	C/O COLLEEN TOKUHISA PESTANA	6854 CEDAR BLVD	NEWARK CA 94560
238037035	14	VORA,ARUNA INTERVIVOS TRUST		PO BOX 791686	PAIA HI 96779
238037035	15	CHUN, ALBERT S C		521 ULULANI ST	KAILUA HI 96734 0000
238037035	16	OHASHI,LARRY M TRUST		480 PIO DR APT 106	WAILUKU HI 96793
238037035	17	CERVANTES,JUAN CARLOS		28 PALEKAIKO PL	WAILUKU HI 96793
238037035	18	CECILIA DAVIS FAMILY PARTNERSHIP		22 MOOLELO PL	MAKAWAO HI 96768
238037035	19	KALEIOPU,JULIAN K		180 HALE ST	LAHAINA HI 96761 0000
238037035	20	MCGRATH PROPERTIES II LLC	SUZANNE MCGRATH-KITAMURA	P O BOX 681	WAIMEA HI 96796
238037035	21	CABLAY,YVONNE R		3647 ALIAMANU ST	HONOLULU HI 96818
238037035	22	VIRGENIZA,FLORENTINO P		480 PIO DR 108	WAILUKU HI 96793
238037035	23	EDQUIBAN CONSUELO		480 PIO DR APT 208	WAILUKU HI 96793 0000
238037035	24	MURAOKA, GUY T & EUNICE T TR		PO BOX 330118	KAHULUI HI 96733 0000
238037035	25	A A ELECTRIC LTD		500 ALA KAWA ST #100	HONOLULU HI 96817 0000
238037035	26	TERUYA, JANICE KAYOKO		480 PIO DR #209	WAILUKU HI 96793 0000
238037035	27	BAKER,WILLIAM		5 LAUREL HILL COURT	GETTYSBURG PA 17325
238037035	28	KUSHIYAMA,MELVIN S & GAIL M TR		40 KAPI LN #101	WAILUKU HI 96793
238037035	29	NOVIKOFF,ALEXANDER KAPALA C M		PO BOX 573	HANA HI 96713
238037035	30	KYHN,JERRY LEE		890 Alua St # 5	WAILUKU HI 96793
238037038	0	WAKI,VAN		PO BOX 1163	WAILUKU HI 96793 0000
238037039	1	SAT MON LLC		285 S. MARKET ST	WAILUKU HI 96793
238037039	2	ROMENA,AGNES PATRICIA	C/O APRIL PARKER	PO BOX 1221	KULA HI 96790
238037039	2	ROMENA,GEORGE GREGORIO		PO BOX 1101	KULA HI 96790
238037039	3	ACIDERA,HARRY R		911 KUALOA PL	WAILUKU HI 96793 0000
238037039	4	MATSUI,DONALD K		P O BOX 53	LANAI CITY HI 96763 0000
238037039	5	NGUYEN,QUYNH N		622 SUNSET HILL DR	ROCKWALL TX 75087
238037039	6	DAVID,MICHAEL J		12-316 MAPUANA AVE	PAHOA HI 96778 7843
238037039	7	AOAO PUUONE TERRACE		P O BOX 41	WAILUKU HI 96793 0000
238037039	8	SAIKI,BEVERLY SETSUKO		C/O 25 EAST KUULA ST	KAHULUI HI 96732
238037039	9	MUKAI,KATHI M REV LIVING TRUST		477 PALANI PL	WAILUKU HI 96793
238037039	10	ZOFI,TAMARA		P O BOX 6247	KAHULUI HI 96733
238037039	11	KAMAI,WILLIAM A		330 HOOKAHI ST	WAILUKU HI 96793
238037039	12	EVANS,ROBERT H		1787 WILI PA LP STE 9	WAILUKU HI 96793 1271
238037039	13	MANI,SAID		PO BOX 714	KIHEI HI 96753
238037039	14	LEOGITE,JEFFREY	C/O MR JEFFREY LEOGITE C/O SAKI,CHAD	331 HOOKAHI ST #105	WAILUKU HI 96793
238037039	15	LAVELL,LYNNE A		P O BOX 1621	WAILUKU HI 96793
238037039	16	SIY,JAIME		493 PIO DR #209	WAILUKU HI 96793

238037039	17	MASUNAGA,GERALDINE		PO BOX 1061	WAILUKU HI 96793
238037039	18	ORIAN,TRAVIS-KYLE KAIMANU		P O BOX 1350	WAILUKU HI 96793
238037039	19	WATANABE,ELENA CABANIT TRUST		225 KAIWAHINE ST	KIHEI HI 96753
238037039	20	WEBB,STEVEN C		493 PIO PL APT 213	WAILUKU HI 96793
238037039	21	SALINAS,RICHARD J		20 AO HOKU PL	KAHULUI HI 96732
238037039	22	AUWAE,FAMILY TRUST		925 STONEWOOD CT	VACAVILLE CA 95687 0000
238037039	23	REDELL,ANNABELLE/JOHN FAMILY TRUST		421 NOBEL DR	SANTA CRUZ CA 95060
238037039	23	YEN,FLORETTE		1857 CHURCH ST	SAN FRANCISCO CA 94131
238037039	24	USHIGOME,WYNNE M ETAL		P O BOX 524	ELEELE HI 96705 0524
238037039	25	GOSHI,CALVIN I & HARRIET H REV TRUST		1525 RIDGECREST WAY	MONTEREY PARK CA 9175
238037039	26	HOPKINS,CYNTHIA CHASE TR		493 PIO DR #219	WAILUKU HI 96793 2642
238037039	27	LARKIN,JOHN ERIC		33 WALKER RD	NORTH ANDOVER MA 0184
238037039	28	TOLLEFSON,SUSAN JANE		1002 S 96 ST	TACOMA WA 98444
238037039	29	NISHIHARA,DENIS YOSHIO		493 PIO DR, #302	WAILUKU HI 96793
238037039	30	THOMSEN,BRIAN		PO BOX 366	MAKAWAO HI 96768
238037039	31	BOSKOFF,WALLACE G	BOSKOFF,JACKIE	PO BOX 1208	LAHAINA HI 96767
238037039	32	TENDO, RAYMOND M SR TRS ETAL		290 AINAHOU DR	WAILUKU HI 96793 0000
238037039	33	SUZUKI ROY T TRS ETAL		327 HOLOLANI ST	MAKAWAO HI 96768 0000
238037039	34	YAP,MICHAEL LAWRENCE		550 POLULANI DR	WAILUKU HI 96793
238037039	35	MATSUURA,NAOMI Y TRUST		60 KAIEMI ST	KAHULUI HI 96732
238037039	36	TAKAYESU,JAMES B		1130 PUANA PL	MAKAWAO HI 96768
238037039	37	HELEKAHI,MATTHEW-JOHN K		493 PIO DR, #310	WAILUKU HI 96793
238037039	38	COCCA,J J K		PO BOX 953	WAILUKU HI 96793
238037039	39	KUBOTA JANET E		493 PIO DR #312	WAILUKU HI 96793 0000
238037039	40	KOBASHIGAWA, LYLE/WENDY		45 ILI KUPONO ST	WAILUKU HI 96793 0000
238037039	41	NAKAMOTO,GLENN S TRS		728 OCEAN VIEW DR APT A	HONOLULU HI 96816 3602
238037039	42	GOSHI,CALVIN I & HARRIET H REV TRUST		1525 RIDGECREST WY	MONTEREY PARK CA 9175
238037039	43	FUJIMOTO,RAYMOND T		P O BOX 945	WAILUKU HI 96793
238037039	44	WEINGARTNER,MELISSA LYNN		493 PIO DR #317	WAILUKU HI 96793 2607
238037039	45	RITCHIE,EUGENE DONALD		700 YUBA ST	RICHMOND CA 94805
238037039	46	DELLAGATTA,TASHA		4264 LYCEUM AVE	LOS ANGELES CA 90066
238037039	47	CHINEN, KARLEEN CHIEKO		1560 HALEKOA DR	HONOLULU HI 96821 0000
238037039	48	TIMMS, POLLY VIVIAN TRUST		493 PIO DR #401	WAILUKU HI 96793 0000
238037039	49	BROWN,LINDA R REV LIVING TRUST		PO BOX 12636	LAHAINA HI 96761
238037039	50	TIMMS, POLLY VIVIAN TRUST		493 PIO DR #401	WAILUKU HI 96793 0000
238037039	51	LEBEAU,GEORGE		2737 MONROE ST	CARLSBAD CA 92008
238037039	52	CETTO,MARA G		P O BOX 1274	PUUNENE HI 96784 1274
238037039	53	AUWAE,FAMILY TRUST		925 STONEWOOD CT	VACAVILLE CA 95687 0000
238037039	54	SEATON,LAURA FRANCES		P O BOX 6358	KAHULUI HI 96733
238037039	55	CORDEIRO,DENISE M		P O BOX 3258	WAILUKU HI 96793

238037039	56	MURAKAMI,ROY S & MARGARET S TRUST		724 ONIPAA PL	MAKAWAO HI 96768
238037039	57	AUWAE, RODNEY A		925 STONEWOOD CT	VACAVILLE CA 95687 0000
238037039	58	IZUMIGAWA,STANLEY YUTAKA REV LIV TRUST		4090 LOWER KULA RD	KULA HI 96790 8117
238037039	59	FLORES,SHARON KAY		11502 CELESTINE DR	WHITTIER CA 90604
238037039	59	RODRIGUEZ,CARLOS M		687 KALILI WAY	KAHULUI HI 96732
238037039	60	ARAKAKI, ALVIN H		PO BOX 1112	WAILUKU HI 96793 0000
238037039	61	YANAGIDA,LISA ANN		493 PIO DR APT 414	WAILUKU HI 96793
238037039	62	CHANTHATHEP,OUDONE		357 KAMAOLE RD	KULA HI 96790
238037039	63	LETNEY,DONALD GENE		PO BOX 373	PUUNENE HI 96784 0373
238037039	64	LLOYD,MICHAEL D		611 IMI DRIVE	WAILUKU HI 96793
238037039	65	VIERRA,LEAH KAIMILANI		PO BOX 674	HAIKU HI 96708
238037039	66	VIERRA,LEAH K		PO BOX 674	HAIKU HI 96708
238037039	67	JIMENO,GERONIMO J		493 PIO DR #420	WAILUKU HI 96793
238037043	0	THE PIO OCEAN VIEW APARTMENTS - CONDO	FANTAN LLC	1805 WILLOW TREE LN	RENO NV 89509
238037045	0	SEAVIEW APARTMENTS LLC		P O BOX 1163	WAILUKU HI 96793 0000
238037047	0	HABITAT FOR HUMANITY MAUI INC	C/O DODSON,SHERI C/O HABITAT FOR HUMAN	PO BOX 5034	KAHULUI HI 96733
238037048	0	HOMEMAID BAKERY INC		1005 LOWER MAIN ST	WAILUKU HI 96793 0000
238037050	1	NITTA,PATRICK Y P		1063 LOWER MAIN #201	WAILUKU HI 96793
238037050	2	PAGAMPAO FERNANDO JR/EDITH		1063 LOWER MAIN #202	WAILUKU HI 96793 0000
238037050	3	HUNT,JEFFERY ALLEN		1063 L MAIN ST #203	WAILUKU HI 96793 0000
238037050	4	TAMASHIRO,CAROLINE Y TRUST	1063 L MAIN ST	PUUONE TOWERS #204	WAILUKU HI 96793
238037050	5	LAU HEE ANDREW G		852 PALOMA ST	WAILUKU HI 96793 0000
238037050	6	GORDON,DOUGLAS ALEX		5095 TARNYARD RD	YELLOW SPRINGS OH 4538
238037050	7	MILLER,FAMILY REV LIVING TRUST	MILLER,VERNON R/CONNIE F TRS	P O BOX 211	KIHEI HI 96753 0000
238037050	8	YOKOYAMA,HISAKO 1999 TRUST		1222 ARLINGTON LN	SAN JOSE CA 95129
238037050	9	PUUONE LOWER MAIN LLC		PO BOX 1775	WAILUKU HI 96793 6775
238037050	10	HEW,RAYMOND		75 KAMALEI CIRCLE	KAHULUI HI 96732
238037050	11	JOAQUIN,VICTORIA V		PO BOX 6047	KAHULUI HI 96733
238037050	12	KAWAUCHI,BRIAN T		1063 L MAIN ST #212	WAILUKU HI 96793
238037050	13	RODRIGUES,MICHAEL ANDREW TRUST		PO BOX 601	KULA HI 96790
238037050	14	FACURI,SIMEON S		957 PAUAHI PL	KIHEI HI 96753 0000
238037050	15	KANESHIRO,RICHARD K		91-222 PILIPILI ULA PL	KAPOLEI HI 96707
238037050	16	KAYA,KYOHEE		978 LEKEONA LP	WAILUKU HI 96793
238037050	17	KIYABU DENNIS M		PO BOX 326	WAILUKU HI 96793 0000
238037050	18	JN TRANSPORT INC		PO BOX 1762	WAILUKU HI 96793
238037050	19	HEW,RAYMOND		75 KAMALEI CIRCLE	KAHULUI HI 96732
238037050	20	SIMAS,JEFFERY P		5414 VICTORIA LN	EL SOBRANTE CA 94803
238037050	21	WILLIAMS,ESTHER THERESA		1063 L MAIN ST, #303	WAILUKU HI 96793
238037050	22	VENTURA,SUSAN S TRUST		1063 LOWER MAIN ST #304	WAILUKU HI 96793 2001
238037050	23	BUCKMASTER,GEORGE E		3320 WRAY CT	LOVELAND CO 80538

238037050	24	HANADA,GEORGE SHIGEO		1177 QUEEN ST APT 2107	HONOLULU HI 96814
238037050	25	INOUYE, CALVIN H ETAL		1063 L MAIN ST #307	WAILUKU HI 96793 0000
238037050	26	FERNANDEZ,MICHAEL JAMES		1063 L MAIN ST #308	WAILUKU HI 96793
238037050	27	BAILEY,JOHN LIVINGSTON		1063 L MAIN ST #309	WAILUKU HI 96793
238037050	28	DUNAWAY,DAVID L		6411 COUNTRY CLUB DR	GREENVILLE OH 45331
238037050	29	TANAKA, GLENN K/JANIS H		1063 LOWER MAIN ST APT 3	WAILUKU HI 96793 0000
238037050	30	MATSUOKA,JANICE E		220 S MOKAPU ST	KAHULUI HI 96732
238037050	31	IGE,EDWIN T JR		PO BOX 7	KAHULUI HI 96732
238037050	32	NAGAI,PAEK H		1063 LOWER MAIN ST #314	WAILUKU HI 96793
238037050	33	EZAKI,GEORGE TRUST		PO BOX 1062	WAILUKU HI 96793 0000
238037050	34	YOSHINO,ROBERT S TRUST		85 HAUNANI PL	WAILUKU HI 96793
238037050	35	FM KATO LIMITED PTNSHP		98-1437 KULAWAI ST	AIEA HI 96701 0000
238037050	36	NAKASHIMA,MICHAEL B H		771 AUKAI STREET	WAILUKU HI 96793
238037050	37	HOPE BARBARA HENDERSON		1527 MONA LP	HILO HI 96720 0000
238037050	37	HOPE,BARBARA HENDERSON	HEE SUE KIM	1596 6TH ST	SAN LUIS OBISPO CA 93402
238037050	38	IKEDA, DENNIS M/SOONHEE		2800 LEOLANI ST	MAKAWAO HI 96768 0000
238037050	39	OKUMURA,YUN KYUNG	C/O MACKAY,BYUNG HUI	714 L MAIN ST APT D	WAILUKU HI 96793
238037050	40	ABE,JOHN J		1063 LOWER MAIN ST #404	WAILUKU HI 96793 0000
238037050	41	WIDMER,DEON L		1063 L MAIN #405	WAILUKU HI 96793
238037050	42	LANDT,SU POK		253 HOLUA DR	KAHULUI HI 96732
238037050	43	STRAUSS,PAUL FARLEY		1202 S WASHINGTON ST AP	ALEXANDRIA VA 22314 4445
238037050	44	AMIGONE WILLIAM G		1630 KEWALO ST #206	HONOLULU HI 96822 0000
238037050	45	ARAKAKI,KARL Y TRUST		1063 L MAIN ST APT #615	WAILUKU HI 96793 2029
238037050	46	FUJIWARA,HERBERT N & TAKAKO TRUST		829 AUKAI PL	WAILUKU HI 96793
238037050	47	MARTINEZ,RICHARD		1063 LOWER MAIN ST #411	WAILUKU HI 96793
238037050	48	VICENS,RONALD GABRIEL II		1063 L MAIN ST #412	WAILUKU HI 96793
238037050	49	INOUYE,BRANDON ASHLEY		215 W HAWAII ST	KAHULUI HI 96732
238037050	50	ASAHI,RICHARD S		3 BRAGDON DR	ROCHESTER NY 14618 3755
238037050	50	PAGUIRIGAN,MARCELO MARK		P O BOX 2004	KAHULUI HI 96732
238037050	51	KAYA,HAROLD M		P O BOX 773	WAILUKU HI 96793
238037050	52	HANLON,AMELIA ELSA		1063 LOWER MAIN 416	WAILUKU HI 96793
238037050	53	ESTRELLA,MARY R TRUST		P O BOX 26	HANA HI 96713
238037050	54	KUAANA,MYRA J		1063 E MAIN ST #418	WAILUKU HI 96793
238037050	55	SAITO,JEFFREY TSUGIIO		290 MOKUAHI ST	MAKAWAO HI 96768
238037050	56	KOMODA,HIDEYUKI TRUST		1063 LOWER MAIN ST #502	WAILUKU HI 96793 0000
238037050	57	TAKAHASHI,GLENN HISASHI		1063 LOWER MAIN ST #503	WAILUKU HI 96793
238037050	58	SANDI,CATHLEEN C M		1063 LOWER MAIN ST APT 3	WAILUKU HI 96793
238037050	59	ARQUERO,JOSHUA P		PO BOX 330327	KAHULUI HI 96733
238037050	60	TSUCHIYAMA,GLENN T		1063 LOWER MAIN ST #506	WAILUKU HI 96793
238037050	61	YAMASHIRO,BURTON J		1063 LOWER MAIN ST #507	WAILUKU HI 96793

238037050	62	SHIROMA, LYNETTE Y TR		1981 KALAWI DR	WAILUKU HI 96793 0000
238037050	63	ROBELLO,HELEN K		P O BOX 1995	WAILUKU HI 96793
238037050	64	KAMIBAYASHI,JACOB J TR		1063 L MAIN ST #510	WAILUKU HI 96793 0000
238037050	65	COLLINS,STANLEY WAYNE		1063 E LOWER MAIN ST #51	WAILUKU HI 96793
238037050	66	CAMPBELL,SOK YE		1063 L MAIN ST #512	WAILUKU HI 96793
238037050	67	WHITNEY,FAMILY TRUST	MILDRED WHITNEY	606 KAILANA ST	WAILUKU HI 96793
238037050	68	SEGUNDO,NESTOR E.		PO BOX 433	KAHULUI HI 96733
238037050	69	MERCADO,ORLANDO S		1063 L MAIN ST #505	WAILUKU HI 96793
238037050	70	FERNANDEZ,BRYAN SCOTT		1063 L MAIN ST #516	WAILUKU HI 96793
238037050	71	KAMIBAYASHI,JACOB J		1063 L MAIN ST #517	WAILUKU HI 96793
238037050	72	SAITO, NORMAN M TRS		2609 WEST MAIN ST	WAILUKU HI 96793 0000
238037050	73	LONG,KATHLEEN JOANNE		1550 POINT FOSDICK DR, N	GIG HARBOR WA 98335
238037050	74	IGE, KIYOSHI TRS ETAL		2475 VINEYARD ST	WAILUKU HI 96793 0000
238037050	75	KAOHELAULII, SANDRA K TRS		1063 LOWER MAIN ST APT 6	WAILUKU HI 96793 0000
238037050	76	CHAN,HENRY H TRUST		PO BOX 4028	KAHULUI HI 96733 8428
238037050	77	KIM,KUM SUN REVOC LIVING TRUST		871 HAUNANI PL	WAILUKU HI 96793
238037050	78	MORIMOTO EDWIN S		2201 SONBRIA	TUSTIN CA 92680 0000
238037050	79	KIM,CARROLL RIKERT		P O BOX 741	WAILUKU HI 96793 0000
238037050	80	ELIZARES,KATHERINE R		440 PUALANI ST	WAILUKU HI 96793
238037050	81	UEKI,MARK T		535 KUNU PL	KAHULUI HI 96732
238037050	82	ISOKANE,RODNEY		15-2794 NEHU RD	PAHOA HI 96778 0000
238037050	83	YOGI,WALTER TOSHIAKI		1618 UA DR	HONOLULU HI 96816 2825
238037050	84	IRWIN,MYONG SON		1063 L MAIN ST APT 612	WAILUKU HI 96793
238037050	85	TAMAO,WALTER T TRUST		1063 E MAIN ST #613	WAILUKU HI 96793
238037050	86	WILSON,DAVID ERWIN		1063 LOWER MAIN ST APT 6	WAILUKU HI 96793
238037050	87	ARAKAKI,KARL Y TRUST		1063 L MAIN ST #615	WAILUKU HI 96793
238037050	88	NAKASHIMA, ANN TSUKIE	KIMIE NAKASHIMA	128 W KANE ST	KAHULUI HI 96732 0000
238037050	89	YOUNG,STEVEN A		1840 WYSONG CT	RALEIGH NC 27612
238037050	90	IGE,ASA T		1129 L MAIN ST #407	WAILUKU HI 96793
238037050	91	PUUONE DEVELOPMENT		P O BOX 7	KAHULUI HI 96732 0000
238037050	100	HCY INC		829 AUKAI PLACE	WAILUKU HI 96793 0000
238037050	104	NORMAN M SAITO		2609 MAIN ST	WAILUKU HI 96793 0000
238037050	124	RASMUSSEN,RICHARD A DDS		1063 LOWER MAIN ST C221	WAILUKU HI 96793
238037050	129	RANDALL D J YEE DDS INC		1063 E LOWER MAIN C224	WAILUKU HI 96793 0000
238037050	130	MCCURDY,JOHN A JR		1063 E MAIN ST STE C225	WAILUKU HI 96793
238037050	131	NAZO'S RESTAURANT INC		1063 LOWER MAIN ST #C-22	WAILUKU HI 96793 0000
238037050	131	PUUONE DEVELOPMENT		P O BOX 7	KAHULUI HI 96732 0000
238037051	0	MOODY,KAREN C TRUST		2814 KALIALANI CIRCLE	MAKAWAO HI 96768 8454
238037052	0	CAIMI,JOSEPH		451 LIHOLIHO ST	WAILUKU HI 96793
238072023	0	CRISTE ARTHUR K/DONNA L		379 MIKOHU LP	KAHULUI HI 96732 0000

238072024	0	SUMERA, EILEEN K TRS	385 MIKOHU LP	KAHULUI HI 96732 0000
238072025	0	PERRY, THOMAS M/WENDY L	393 MIKOHU LP	KAHULUI HI 96732 0000
238072026	0	TORRECER-JONES,BERNADETTE	399 MIKOHU LP	KAHULUI HI 96732 0000
238072027	0	HIGGINS,PAULINE TORRECER	403 MIKOHU LP	KAHULUI HI 96732

KAILANA ST
KAIKOO ST
LINEKONA PL
KAINALU PL
ELIENE PL
WAILEA BEACH RD
KOLIKO ST
HOOKAHUA ST
ALUA ST
ERA ST
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KAPILI
KOPILAI
MOMI PL
MIKONI
PUA PL
HALA PL
KAHILI BEACH RD
NUDA ST
PUAMAKA
MIKOHILI PL
MOHALI ST
KANAILOA ST
HOLOHOLO ST
KAHILANI PL
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4. REPORT

DRAFT ENVIRONMENTAL ASSESSMENT

FOR

PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT

Prepared for:
Imi Ikena Housing Partners, LLC
990 Highland Drive, Suite 110J
Solana Beach, CA 92075

Prepared by:
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793

October 2011

EXECUTIVE SUMMARY

Project Name:	Proposed Imi Ikena Affordable Housing Project
Type of Document:	Draft Environmental Assessment
Applicable Chapter 343 Review "Trigger":	Use of State or County funds
Approving Agency:	County of Maui Department of Housing and Human Concerns
Agency Determination:	FONSI
Applicant:	Imi Ikena Housing Partners, LLC Contact: Mr. David Billings (760.579.3191)
Consultant:	Chris Hart & Partners, Inc. Contact: Mr. Chris Hart (808.242.1955)
Property:	Wailuku, Maui TMK (2) 3-8-037:028 (32,953 SF)
Land Use Controls:	State Land Use: Urban (U) Community Plan: Multi Family (MF) County Zoning: Apartment (A-2)
Project Summary:	The applicant is proposing the development of a 28 unit affordable rental housing project.
Anticipated Impacts:	There are no long-term impacts associated with the proposed project. Short-term impacts are associated with construction related activities, and include noise and air impacts from construction vehicles.

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I. PROJECT OVERVIEW

Property Location

The subject property is located at 511 Imi Place, Wailuku, Maui. The property is located in the Sand Hills area, north of Keopulani Park and off of Liholiho Street. **See: Figure 1, Regional Location Map**. The property is further identified by Tax Map Key (2) 3-8-037:028 (32,955 SF). **See: Figure 2, Tax Map**. The subject property is situated within an existing urbanized residential area. **See: Figure 3, Aerial Map**.

Existing Land Use

The subject parcel is currently undeveloped and is covered with various trees, shrubs and grasses. The property generally slopes down in the west to east direction with the elevations on the site ranging from 245 feet at the mauka boundary to 115 feet at the makai boundary, averaging about 13.5%. **See: Figure 4, Site Photographs**.

Land Ownership and Project Applicant

The subject property is owned in fee simple by Imi Ikena Housing Partners, LLC. The land owner is the applicant for the project.

Proposed Action

The applicant proposes to develop a 28-unit affordable apartment complex on a vacant urban lot within Wailuku. **See: Figure 4, Site Plan**. All units will be targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD with rents restricted in perpetuity.

The Imi Ikena Affordable Housing Project is intended to provide workforce housing in character with the existing urban development in the Sand Hills area. The apartment complex will be accessed by three driveways, two off of Pio Place

and one off of Imi Place. Apartment units will range from two to three bedrooms and will range in size from 981 square feet to 1,133 square feet.

The proposed action is estimated to cost approximately $6.8 million. A grant from the County of Maui, Department of Housing and Human Concerns' Affordable Housing Fund will contribute to financing the project. Development of the Imi Ikena Affordable Housing Project is projected to be completed by February 2012 after obtaining all necessary government approvals.

Alternatives

Three (3) alternatives to the Imi Ikena Affordable Housing Project were considered. These alternatives are discussed below.

1. No Action

Under the No Action Alternative, the Imi Ikena Affordable Housing Project would not be built and the property would remain vacant and undeveloped under this alternative.

2. Market Priced Apartment Complex

The Market Priced Apartment Complex Alternative would see the property developed as an apartment complex rented at market rates. This alternative would contribute to the region's supply of multi-family housing units; however the rental rates would likely be at levels unaffordable to much of the Island's workforce and would not address the critical need for affordable housing.

3. Preferred Action

The Preferred Action is the project as described in this Draft EA.

Entitlements and Approvals

1. Environmental Assessment

The proposed project is required to undergo review pursuant to Chapter 343, Hawaii Revised Statutes (HRS), for the following reason:

a. Use of State or County funds

The proposed project will be partially funded by a grant from the County of Maui, Department of Housing and Human Concerns' Affordable Housing Fund.

2. Grading, Building, Electrical, and Plumbing Permits

The proposed project will require a permit for mass grading, as well as building, electrical and plumbing permits from the County of Maui.

3. National Pollutant Discharge Elimination System (NPDES) Permit

A National Pollutant Discharge Elimination System (NPDES) permit for construction storm water activities will be required from the State of Hawaii Department of Health (DOH).

4. Community Noise Permit

A Community Noise Permit from DOH will be required during the construction phase of the project.

II. AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. Physical Environment

1. Surrounding Land Uses

Existing Conditions. The subject property is situated in a developed residential area and is bordered by Pio Place to the north, the Wailuku Manor condominium to the south, Imi Place and apartment buildings to the east, and the Puuone Hale Alii condominium to the west. The surrounding condos and apartments range form two (2) to four (4) stories. The remainder of the immediate neighborhood is single-family.

Potential Impacts and Mitigation Measures. The proposed Imi Ikena Affordable Housing Project is consistent with adjacent and nearby multi-family residential land uses. Development of the 28-unit apartment complex would be a reasonable infill development and is consistent with the property's existing entitlements.

2. Topography and Soils

Existing Conditions. The site of the Imi Ikena Affordable Housing Project includes one soil type, as described in the *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* **See: Figure 6, Soils Map**. Under the Soil Conservation Service's Land Capability Grouping, soil types are rated according to eight levels, ranging from the highest classification level, I, to the lowest level, VIII. Lower case letters following the classification level indicate specific subclasses. A brief description of the site's soil type, along with its Land Capability Grouping rating follows:

Puuone Sand (PZUE), 7-30 percent slopes. This series consists of somewhat excessively drained soils on low uplands on the island of Maui. These soils developed in material derived from coral and seashells.

They are moderately sloping to moderately steep. The surface layer is grayish-brown, calcareous sand about 20 inches thick. This is underlain by grayish-brown, cemented sand. The soil is moderately alkaline in the surface layer. Permeability is rapid above the cemented layer. Runoff is slow, and the hazard of wind erosion is moderate to severe. These soils are used for pasture and homesites.

PZUE soils are rated VIIe, nonirrigated. Class IIV soils have very sever limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat. Subclass VIIe soils are very severely limited by risk of erosion.

Potential Impacts and Mitigation Measures. No significant impacts on the geology and topography are anticipated as a result of developing the community.

A National Pollutant Discharge Elimination System (NPDES) permit for Construction Storm Water Activities will be required from the State of Hawaii Department of Health (DOH). During site preparation, storm runoff from the community site will be controlled in compliance with the County's "Soil Erosion and Sediment Control Standards." Typical mitigation measures include appropriately stockpiling materials on-site to prevent runoff and building over or establishing landscaping as early as possible on disturbed soils to minimize length of exposure.

Impacts to the soils include the potential for soil erosion and the generation of dust during construction. Clearing and grubbing activities will temporarily disturb the soil retention values of the existing vegetation and expose soils to erosion forces. Some wind erosion of soils could occur without a proper watering and re-vegetation program. Heavy rainfall could also cause erosion of soils within disturbed areas of land.

To the extent possible, improvements will conform to the contours of the land, further limiting the need for extensive grading of the site. In addition, graded areas will be limited to specific areas for short periods of time.

Measures taken to control erosion during the site development period will include:

- Minimizing the time of construction;
- Retaining existing ground cover as long as possible;
- Constructing drainage control features early;
- Using temporary area sprinklers in non-active construction areas when ground cover is removed;
- Providing a water truck on-site during the construction period to provide for immediate sprinkling as needed;
- Using temporary berms and cut-off ditches, where needed, for control of erosion;
- Watering graded areas when construction activity for each day has ceased;
- Grassing or planting all cut and fill slopes immediately after grading work has been completed; and
- Installing silt screens where appropriate.

All construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. Before issuance of a grading permit by the County of Maui, the final erosion control plan and best management practices required for the NPDES permit will be completed. All construction activities will also comply with the provisions of Chapter 11-60.1, HAR, Section 11-60.1-33, Fugitive Dust.

After construction, the establishment of permanent landscape planting and irrigation will provide long-term erosion control.

3. Natural Hazards

Existing Conditions. Natural hazards impacting the Hawaiian Islands include hurricanes, tsunamis, volcanic eruptions, earthquakes, and flooding.

Devastating hurricanes have impacted Hawaii twice since 1980: Hurricane Iwa in 1982 and Hurricane Iniki in 1992. While it is difficult to

predict these natural occurrences, it is reasonable to assume that future events could be likely given the recent record.

Tsunamis are large, rapidly moving ocean waves triggered by a major disturbance of the ocean floor, which is usually caused by an earthquake but sometimes can be produced by a submarine landslide or a volcanic eruption. About 50 tsunamis have been reported in the Hawaiian Islands since the early 1800s. Seven caused major damage, and two of these were locally generated. The project site is outside of the Civil Defense Tsunami Evacuation Zone.

Volcanic hazards in the Wailuku area are considered extremely minimal due to the extinct status of the volcano that formed the West Maui Mountains and the distance of the area from the dormant Haleakala Volcano, which last erupted in 1700 (MacDonald, Abbott, and Peterson 1983).

In Hawaii, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawaii, the vast majority of them so small they are detectable only with highly sensitive instruments. However, moderate and disastrous earthquakes have rocked the islands.

The October 15, 2006 earthquake, with a magnitude of 6.7 on the Richter Scale and an offshore epicenter six (6) miles southwest of Puakō on the island of Hawaii, created blackouts and landslides and forced the closure of the road to Hana.

Flood hazards are primarily identified by the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program. According to the FIRM, the Imi Ikena Affordable Housing Project is located in Zone C, areas of minimal flooding. **See: Figure 7, Flood Map**.

Potential Impacts and Mitigation Measures. The Imi Ikena Affordable Housing Project will not exacerbate any hazardous conditions. All structures will be constructed for protection from earthquakes and the

destructive winds and torrential rainfall of tropical hurricanes in accordance with the Building Code adopted by the County of Maui.

All work will comply with applicable flood zone standards, such as set forth in Chapter 19.62, "Flood Hazard Areas", Maui County Code. The proposed project is not anticipated to impact the neighboring properties with regard to flood hazard potential.

4. Flora and Fauna

Existing Conditions. The project site is extensively disturbed and existing vegetation is minimal and includes primarily non-natives, common wayside plants like bufflegrass and *koa haole*. Onsite fauna include rats, mice, mongoose, francolins, and mynah.

No endangered or threatened species, or candidates for listing as endangered or threatened species, or any critical habitat for any such species exist on the subject property.

Potential Impacts and Mitigation Measures. There are no significant impacts to flora or fauna from the proposed project. The Imi Ikena apartment complex is not expected to have a significant negative impact on botanical or wildlife resources since no endangered or threatened species, or candidates for listing as endangered or threatened species of concern, or any critical habitat for any such species are known to occur on the site.

5. Air Quality

Existing Conditions. Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. The impact of land development activities on air quality in a proposed development's locale differs by project phase (site preparation, construction, occupancy) and project type. In general, air quality in Kahului is considered relatively good. Non-point source emissions (automobile) are not significant to generate a high concentration of pollutants. The relatively

high quality of air can also be attributed to the region's exposure to wind, which quickly disperses concentrations of emissions. The Kahului area is currently in compliance with standards established by the Clean Air Act, as well as the State of Hawaii Air Quality Standards.

Potential Impacts and Mitigation Measures. Air quality impacts attributed to the proposed project could include dust generated by the short-term construction related activities. Site work such as grading and building construction, for example, will generate airborne particulate. Adequate dust control measures that comply with the provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control, " Section 11-60.1-33, Fugitive Dust, will be implemented during all phases of construction. Some of these measures will include:

- Focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular routes, and locating potentially dusty equipment in areas of least impact.

- Providing an adequate water source on site prior to start-up of construction activities so that the project site can be regularly sprinkled to keep dust down.

- Onsite dirt piles or other stockpiled particulate matter will be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind blown dust emissions.

- Landscaping and rapid covering of bare areas, including slopes, beginning with the initial grading phase.

- Installation of temporary silt screens and a 12-feet high geo-textile dust fence around the perimeter of the project site.

- Controlling of dust from shoulders, project entrances, and access roads.

- Providing adequate dust control during weekends, after hours, and prior to daily start-up of construction activities. Controlling of dust from debris hauled away from project site.

6. Noise Quality

Existing Conditions. The dominant noise sources in the vicinity of the Imi Ikena apartment complex site are from traffic on Kahului Beach Road (Highway 340). Other noise sources include vehicular traffic on residential roads in the area, occasional aircraft flyovers, wind, ocean waves, and birds.

Potential Impacts. Potential impacts on the ambient quality of the site and surrounding area due to the creation of the Imi Ikena apartment complex are primarily limited to short-term construction activity and, in the long-term, human activity within the apartment complex grounds and increases in ambient traffic.

Construction Noise. Creation of the Imi Ikena apartment complex will involve excavation, grading, and construction of new buildings and infrastructure. Earthmoving equipment, such as bulldozers and diesel trucks, will likely be the dominant noise sources during construction. Typical road construction equipment, such as asphalt or concrete paving machines will also be required. Nearby residences may be impacted by construction noise depending on proximity to the site. The actual noise levels produced during construction will be a function of the methods employed during each stage of the construction process. Construction activity will occur during daytime hours. Noise from construction activity will be short-term and will comply with DOH noise regulations.

Traffic Noise. Traffic-generated noise impacts on the surrounding community and the Imi Ikena apartment complex are not expected. While vehicular traffic volumes in the area will increase, the increase in noise due to traffic from the project is expected to be insignificant.

Mechanical Noise. The apartment complex will incorporate stationary mechanical equipment typical for residential housing such as air conditioning units.

Human Activity. After the completion of the Imi Ikena apartment complex, the ambient quality of the site will contribute to the typical residential sound patterns already experienced in the area. These include, people talking, children playing, cars entering and exiting the community, and other sounds from human habitation.

Mitigative Measures. All Imi Ikena apartment complex activities will comply with HAR, Chapter 11-46, Community Noise Control.

Construction Noise. Proper mitigative measures will be employed to minimize construction-related noise impacts and comply with all Federal and State noise control regulations. Increased noise activity due to construction will be limited to daytime hours and persist only during the construction period. Noise from construction activities will be short-term and will comply with DOH noise regulations (HAR, Chapter 11-46, Community Noise Control). When construction noise exceeds, or is expected to exceed the DOH's allowable limits, a permit must be obtained from the DOH.

Specific permit restrictions for construction activities are:

- No permit shall allow any construction activities that emit noise in excess of the maximum permissible sound levels before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday.
- No permit shall allow any construction activities that emit noise in excess of the maximum permissible sound levels before 9:00 a.m. and after 6:00 p.m. on Saturday.
- No permit shall allow any construction activities that would emit noise in excess of the maximum permissible sound levels on Sundays and holidays.

The use of pile drivers, hoe rams, jack hammers 25 pounds or larger, high-pressure sprayers, and chain saws may be restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday.

Traffic Noise. The increase in traffic-related noise due to the Imi Ikena apartment complex is not anticipated to be significant and will not be perceptible to most people. Therefore mitigation measures related to increases in traffic noise are not proposed.

Mechanical Noise. The design of the apartment complex will give consideration to controlling noise emanating from any stationary mechanical equipment, such air conditioning, so as to comply with the DOH *Community Noise Control* rules. Noisy equipment will be located away from neighbors and residential units, as much as is practical.

Human Activity. Noise levels generated by residential uses within the Imi Ikena apartment complex will conform to DOH rules and regulations, which state maximum permissible noise limits at individual property lines.

7. Historical and Archaeological Resources

Existing Conditions. Scientific Consultant Services conducted an archaeological assessment of the Imi Ikena apartment complex site in April 2005. **See: Appendix A, Archaeological Assessment.** Research was conducted in three stages: 1) research of archaeological and historical literature for background information and to enhance site predictability and interpretation; 2) a surface survey; and 3) subsurface testing.

A total of 14 randomly placed trenches were excavated on the subject site. No cultural remains were encountered during the surface survey or in any of the trenches. However, sand deposits extending to depths greater than two meters are an indicator that cultural deposits may be found on the subject site in the future.

Potential Impacts and Mitigation Measures. Although the 14 excavated trenches did not reveal any cultural material, given past discovery of archaeological findings near the project area in conjunction with the depth of sand deposits on site, it is probable that archaeological materials

are present on the project site in subsurface contexts. The sand deposits indicate a high probability that human burials and/or associated historic properties (e.g. trash deposits, hearths) would be encountered.

Archaeological monitoring is recommended by the project archaeologist during initial construction activities to ensure that any subsurface cultural remains or deposits underlying the till zone are properly documented. The archaeological inventory survey and it's recommendations have been reviewed and approved by the State Historic Preservation Division. **See: Appendix B, SHPD Approval.** An archaeological monitoring plan will be submitted to the State Historic Preservation Division and ground-altering activities will not occur until the plan has been reviewed and approved by SHPD.

All construction plans will include the following language as normally recommended by the State Historic Preservation Division:
Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during the construction activities, work shall cease immediately in the immediate vicinity of the find and the find shall be protected from further damage. The contractor shall immediately contact the State Historic Preservation Division at 692-8015 which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary.

8. Cultural Resources

Existing Conditions. A cultural Impact assessment was prepared for the Imi Ikena apartment complex in September 2011 by Jill Engledow. **See: Appendix C, Cultural Impact Assessment Report.** The assessment included a site inspection, historical research and interviews with people knowledgeable of the area.

The assessment concludes "There appear to be no cultural resources that might be impacted by the building on the site."

Imi Ikena is located in the *'ili* of 'Owā, which is in the *ahupua'a* of Wailuku, within the Wailuku district. The report identified several areas

of cultural importance in the Wailuku area. However based on historical maps and the archaeological finding of no cultural materials, it seems likely that there was little human activity atop the sand dune on which the subject property lies. Pihana, across the ʻĪao Stream on the sandstone ridge to the northwest of the subject property was the site of two important heiau, Halekiʻi and Pihana, remnants of which still exist.

Wailuku was an attractive area for powerful chiefs. With the ʻĪao Stream providing plentiful water, much of what is now the city of Wailuku once was leveled and terraced to produce kalo. Wailuku was also the site of several important battles, including the Battle of Kakanilua and Kepaniwai. The ridge where Halekiʻi and Pihana are located, and possibly the ridge where the subject property is located, could have allowed surveillance of the whole northeast coast, as well as a view south to detect invaders coming from the Kīhei-Māʻalaea area.

Records from the Mahele and the land grants and royal patents show that portions of ʻOwa were given to several different individuals in the second half of the 19th century. According to the Monsarrat map, this section appears to have been given to Kuihelani. Later it became part of the land grant to sugar baron Claus Spreckels. On both sides of the ʻĪao Stream, from the mouth of ʻĪao Valley to the shoreline just below the subject property, dozens of kuleana line the shore. Development of housing in the area around the dune started underway by the 1960s, with the apartment sat the top developed beginning in the 1970s.

Potential Impacts and Mitigation Measures. Based on the lack of any identified cultural or traditional practices or resources on the property, no cultural impacts are anticipated to result from the proposed project.

No impacts to cultural resources, practices, and beliefs are anticipated as a result of the proposed community. The cultural assessment concludes "There are no native plants suitable for gathering and no shoreline access. It appears that the proposed action does not interfere with any known Hawaiian or non-Hawaiian gathering, practices, protocols or access." Thus the development will not affect any exercise of Hawaiian customary and traditional rights under Article XII, Section 7 of the Hawaii State Constitution. Although the broader Wailuku area is associated with

important historical events, no significant cultural resources or ongoing cultural practices are associated with the Imi Ikena site. Imi Ikena will not substantially affect the economic welfare, social welfare, and cultural practices of the community or State.

9. Visual Resources

Existing Conditions. The subject property is located n the Sand Hills area, north of Keopualani Park and off Liholiho Street in Central Maui. Notable visual resources in the area include the Pacific Ocean to the east, Haleakala to the south, and the West Maui Mountains to the west. Public views of these resources exist in various locations from Kahului Beach Road. There are no publicly-identified and protected viewplanes in the project vicinity.

Potential Impacts and Mitigation Measures. The proposed project will not impact public views along the area roadways. Due to the slope of the project site, private views from adjacent and nearby residential developments are anticipated to have some moderate, but not extreme, decrease.

10. Agricultural Resources

Existing Conditions. The Imi Ikena apartment complex site is located in an existing urban area and does not encompass any agricultural resources.

Potential Impacts and Mitigation Measures. There will be no impacts to agricultural resources from development of the proposed project. The creation of the Imi Ikena apartment complex will not require the withdrawal of any lands from agricultural production.

11. Hazardous Substances

Existing Conditions. A Phase I, Environmental Site Assessment was conducted for the property in February 2009 by EAC Pacific. **See: Appendix D, Phase I, Environmental Site Assessment.**

A search of property records indicates that the subject property has been in the urban district for over 25 years and there is no indication that the property was ever in agricultural use or used for storage of hazardous materials.

Potential Impacts and Mitigative Measures. Based on the land use history of the subject property, there is no concern of hazardous substances existing in the soil due to agricultural activities and therefore soil testing is not necessary prior to construction.

B. Socio-Economic Environment

1. Population

Existing Conditions. Resident population in Maui County has experienced rapid growth, nearly doubling in the last approximately 30 years. The Year 2009 resident population expanded from 1980's 70,991 to 145,240. This represents a 104 percent increase (Maui County Data Book [MCD], 2010. Population projections calculated by the Hawaii State Department of Business, Economic Development and Tourism, Research and Economic Analysis Division estimate that Maui County population will reach 199,550 people in 2030.

According to the Maui County Planning Department's Socio-Economic Forecast (2006), the 2005 Wailuku-Kahului population was 46,626 people and is forecasted to be 60,877 people by the year 2020.

Currently the Imi Ikena apartment complex site does not contain any residents.

Potential Impacts and Mitigation Measures. Using national demographic multipliers of standard housing types for total household size (The Urban Land Institute, 1994), the population of the Imi Ikena apartment complex is estimated to be approximately 80 persons (2.8659 multiplier x 28 units = 80.25 or ≈ 80), comprised of all full-time residents.

This represents an approximately 0.13 percent of the projected 2020 Wailuku-Kahului population.

Upon completion and occupancy of the units, the residents will contribute to the long-term support of the local economy through the payment of income and sales taxes, as well as via the purchase of goods and services from local businesses.

As the proposed project is not expected to have a significant impact on population levels, no mitigative measures relating to population are planned.

2. Housing

Existing Conditions. Median home prices have decreased over the last few years after peaking in 2006 and 2007. In August 2011, the median sales price of a single-family home on Maui was $410,000, a 12 percent decrease from the August 2011 median sales price of $460,000. In the central Maui area, median home prices have generally followed the same downward trend, decreasing 19 percent from $430,000 in August 2010 to $348,500 in August 2011 (Realtors Association of Maui, August 2011).

Although median home prices on Maui are decreasing, there remains a large disparity between median home prices and median family income. As of July 2011, the median family income for the island of Maui (except for Hana) is $76,000 based on income data provided by the U.S. Department of Housing and Urban Development and adjusted by the County of Maui.

Potential Impacts and Mitigative Measures. The Imi Ikena apartment complex will contain a total of 28 rental units targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD with rents restricted in perpetuity.

Since all units in the apartment complex will be offered as "residential workforce housing units" as defined by Chapter 2.96 of the Maui County

Code, "Residential Workforce Housing Policy", the project is in compliance with this ordinance.

3. Economy

Existing Conditions. Tourism and agriculture are the predominant components of Maui County's economy. The Wailuku-Kahului economy is based primarily around commerce, the visitor industry, plantation agriculture, and the provision of regional services. The region encompasses the island's civic and business centers and the major seaport and airport. Kahului functions as the island's primary shipping and industrial center.

As of August 2011, unemployment in Maui County was 7.5 percent. This is a decrease from August 2010, when the County's unemployment rate was 8.2 percent.

Potential Impacts and Mitigation Measures. The project will generate construction-phase economic impacts that are generally short-term effects. They include employment, income, and expenditure impacts that are created by on-site and off-site construction employment, on-site and off-site trade/transportation/service employment, and manufacturing employment in support of construction. The proposed project will produce a limited number of full and part-time jobs during the construction phase of the development. The project will also generate a small amount of long-term employment during the operation phase.

C. Public Services

1. Recreational Facilities.

Existing Conditions. According to the County's *Public Facilities Assessment Update, March 9, 2007*, the Wailuku-Kahului region has 35 County parks totaling 185.6 acres, providing a wide variety of facilities for the recreational needs of the community. Larger sub-regional park facilities include the Maui High playfields, Hoaloa Park and Kahului Community Park. Wailuku-Kahului is also the center of regional park

facilities for the Island of Maui, such as the Maui War Memorial Complex, the Iron Maehara Baseball Stadium, Keopuolani Park and the Waiehu Golf Course.

Potential Impacts and Mitigation Measures. The project is not anticipated to significantly increase demand on area recreational facilities. Since Imi Ikena is a 100% affordable housing project it is not subject to the County's park dedication requirements.

2. Medical Facilities

Existing Conditions. Maui Memorial Medical Center, located in Wailuku, is the island's only acute care hospital. It is a 240 bed hospital. Various private medical offices and facilities are also located in the Wailuku-Kahului area.

Potential Impacts and Mitigation Measures. In the context of the overall growth of the Wailuku-Kahului area, the proposed project is not anticipated to substantially increase demand for medical services.

3. Police and Fire Protection Services

Existing Conditions. The County of Maui's Police Department is headquartered in Wailuku. The project site is served by the Wailuku Patrol, District I. The Department of Fire Control provides fire prevention, suppression, and protection services and is headquartered in Kahului. The project site is served by the Wailuku Station, No.1.

Potential Impacts and Mitigation Measures. In the context of the overall growth of the Wailuku-Kahului area, the proposed project is not anticipated to substantially increase demand for emergency services nor extend emergency service area limits.

4. Schools

Existing Conditions. The proposed Imi Ikena apartment complex is located within the State Department of Education's (DOE) Baldwin

Complex which is part of the larger Baldwin-Kekaulike-Maui Complex Area. Schools in the Baldwin Complex include Waihee Elementary, Wailuku Elementary, Iao Intermediate, and Baldwin High School. Many of these schools are near or over ideal capacity. Private schools in the Wailuku-Kahului area include Christ the King, Emmanuel Lutheran, Ka'ahumanu Hou Christian, Maui Adventist, St Anthony Jr.-Sr. High School, and St. Anthony Grade School.

The DOE Facilities Division last compiled school enrollment for the 2010 – 2011 school year. All schools in the area are currently near or over capacity and projected enrollment for the 2016 - 2017 school year are expected to continue the existing trend. Current and projected enrollments and capacities for area schools are given in Table 1 below.

Table 1. DOE School Capacity: Baldwin Complex	**2010-2011 Enrollment**	**2010-2011 Capacity**	**2016-17 Projected Enrollment**
Waihee Elementary	746	765	821
Wailuku Elementary	871	1078	726
Iao Intermediate	884	767	945
Baldwin High	1592	1669	1677

Potential Impacts and Mitigation Measures. In 2007, the Hawaii Legislature enacted Act 245 as Section 302A, HRS, "School Impact Fees". Based upon this legislation, the Department of Education will be enacting impact fees for residential developments that occur within indentified school impact districts. Based upon projected enrollments and capacities, the project area is not anticipated to be designated as a school impact district. Should the area be so designated prior to final subdivision approval, the applicant will coordinate with the DOE to determine the appropriate measures to be taken as required by the Section 302A-1603(b), HRS.

The proposed project will not result in significant population increase and a commensurate demand on the educational facilities in the Wailuku-Kahului area.

5. Solid Waste

Existing Conditions. Weekly, residential, solid-waste collection in the area is provided by the County of Maui, Department of Public Works. The Central Maui Landfill, which is located in the Wailuku-Kahului Community Plan region, receives residential solid waste from the area. Green waste is collected by Eko Compost, which is located at the Central Maui Landfill. Construction and demolition (C&D) waste is accepted at the privately operated C&D Landfill in Ma'alaea.

Plastic, glass, metal, cardboard, and newspaper can be recycled when left at various drop-boxes throughout the County. Green waste recycling is provided by several private organizations.

Potential Impacts and Mitigation Measures. The proposed project will not impact substantially County solid-waste services.

In the *Public Facilities Assessment Update County of Maui* (2007), R.M. Towill Corporation projected that the Central Maui Landfill will have adequate capacity to accommodate residential and commercial waste through the year 2025. This projection was arrived at by multiplying the Maui County's de facto population projections by an estimated number of pounds per person per day of waste generated, and assumes that solid waste generated by commercial and industrial growth will be captured by a corresponding trend in projected population growth.

The County of Maui's Solid Waste Division estimates that households on Maui generate approximately nine (9) pounds of solid waste per day. Using this estimate, after build-out of the project, total waste from all units in the complex would be approximately 252 pounds per day (nine pounds x 28 units).

Waste generated by site preparation will primarily consist of vegetation, rocks, and debris from clearing, grubbing, and grading. No demolition material is expected, as the site is vacant.

During the short term, construction activities will require the disposal of the existing onsite waste, as well as cleared vegetation and construction-related solid waste.

From a long-range perspective, waste generated by the project is not expected to have an adverse effect on County solid waste disposal facilities or service. Provisions for recycling, such as collection systems and space for bins for recyclables, will be incorporated into the apartment complex. After the apartment complex is occupied by residents, to the extent practical, wastes such as aluminum, paper, newspaper, glass, and plastic containers will be recycled. Waste that cannot be recycled will be disposed of in the County's Central Maui Landfill in Puunene.

D. Infrastructure

1. Roadways

Existing Conditions. A Traffic Impact Analysis Report (TIAR) was prepared by Phillip Rowell and Associates for the Imi Ikena apartment complex in September 2011 which describes the traffic characteristics of the proposed project and likely impacts to the adjacent roadway network **See: Appendix E, Traffic Impact Analysis Report**.

All project traffic will access and egress the project via the intersection of Kanaloa Avenue at Lihi Street. Lihi Street is a two-lane, two-way County street connecting the project with Kanaloa Avenue. In the vicinity of Lihi Street, Kanaloa Avenue is a two-lane, two-way roadway. There is also a bike land along both sides of Kanaloa Avenue and there is parallel parking along both sides of the street. The posted speed limit is 20 miles per hour.

The intersection of Kanaloa Avenue at Lihi Street is an unsignalized, T-intersection. Kanaloa Avenue is the major street. The STOP sign is along the Lihi Street approach, which is the north leg of the intersection. There is a separate left turn lane for traffic turning from Kanaloa Avenue into Lihi
Street. The Lihi Street approach has one lane for both left and right turns.

Traffic will approach from and depart to the north toward Kahului Beach Road via Kanaloa Avenue. Kahului Beach Road is a major State roadway connecting Kahului with Wailuku. In the vicinity of Kanaloa Avenue, Kahului Beach Road is a four-lane, State highway. The intersection with Kanaloa Avenue is signalized with protected left turns from Kahului Beach Road to Kanaloa Avenue.

Traffic will approach from and depart to the south toward Kaahumanu Avenue via Kanaloa Avenue. In the vicinity of Kanaloa Avenue, Kaahumanu is a four-lane, divided State highway. The intersection with Kanaloa Avenue is signalized. The eastbound and westbound left turns are protected. The northbound and southbound movements are split phases.

The TIAR studied the following intersections:

1. Kanaloa Avenue at Kaahumanu Avenue;
2. Kanaloa Avenue at Kahului Beach Road; and
3. Kanaloa Avenue at Lihi Street.

Highway Capacity Analysis. A highway capacity analysis was conducted for the above intersections using data from: 1) manual traffic counts during AM and PM peak traffic times; and 2) other related development projects within and adjacent to the study area.

The analysis indicates that no existing deficiencies were identified at any of the study intersections.

Potential Impacts and Mitigation Measures. The TIAR was performed with the assumption that other, related projects will be developed within the horizon year of 2015. These projects include the Maui Family YMCA Exapansion, Ka Lima O Maui Affordable Housing Project, and Maui Lani Master Planned Community. These projects represent additional trip generation as well as associated roadway improvements.

The TIAR projects that the project will generate 4 inbound and 11 outbound trips during the morning peak hour, and 12 inbound and 7 outbound trips during the afternoon peak hour.

Level-of-service analyses were performed for the above-referenced intersections for the year 2015, both with and without project development. **See: Appendix E, pg. 10, Table 5.** In general, project development is not anticipated to result in substantial impacts to roadway conditions. The analysis indicates that there will be no changes in the level-of-service as a result of project generated traffic at any of the three studied intersections. Given that no deficiencies were identified, the report concludes that no mitigation will be required.

2. Utilities

Existing Conditions. The existing electrical distribution system services the subject property from Pio Place. The installation of electrical, telephone, communication, and cable TV systems for the project will be coordinated with Maui Electric Company, Hawaiian Telcom, and Oceanic Time-Warner Cable of Hawaii.

Potential Impacts and Mitigation Measures. The proposed Imi Ikena project will not place substantial demand upon utility services or expand service areas.

3. Drainage

Existing Conditions. A Preliminary Engineering Report was prepared for the project by Otomo Engineering in September 2011. **See: Appendix F, Preliminary Engineering Report**.

The Imi Ikena site generally slopes down in the west to east direction with the elevations on the site ranging from 245 feet at the mauka boundary to 115 feet at the makai boundary, averaging about 13.5%. It is estimated that the existing 50-year storm runoff from the project site is 0.83 cfs with a runoff volume of approximately 546 cf. Presently, onsite runoff sheet flows across the project site in the west to east direction towards the downstream properties as well as Imi Place and Pio Place. Approximate 0.1 cfs exits the project site in the direction of Imi Place. Approximately 0.2 cfs exit the project site in the downstream apartment

buildings. Approximately 0.5 cfs exits the project site in the direction of Pio Place. Surface runoff that exits the project site continues downstream and enters the existing drainage system in the surrounding area.

Potential Impacts and Mitigation Measures. After the development of the proposed project, it is estimated that the 50-year storm runoff will be 3.27 cfs with a runoff volume of approximately 1,764 cf, producing a net increase of approximately 2.44 cfs of surface runoff and 1,218 cf of runoff volume. Surface runoff from the project site will be intercepted by grated catch basins located around the proposed building and parking areas and conveyed to three proposed onsite subsurface drainage systems. There will be one subsurface drainage system in each of the three parking areas, providing approximately1,825 cf of storage volume to store the additional surface runoff created from the project and prevent the surface runoff from continuing downstream. The subsurface drainage system will consist of a perforated drainline embedded in crushed rock that will be wrapped with a layer of filter fabric. Surface runoff entering the perforated pipe will be allowed to exfiltrate into the ground. It will be sized to accommodate the increase in runoff volume from the project site for a 50-year 1-hour storm. There will be no additional runoff from the project sit onto adjacent properties. The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff.

Imi Ikean will not have an adverse effect on the adjoining or downstream properties. All drainage improvements will be developed in accordance with applicable DOH and County of Maui drainage requirements and standards.

Storm runoff during site preparation will be controlled in compliance with the County Code Chapter 20.08 "Soil Erosion and Sediment Control Minimum BMPs". Typical mitigation measures are appropriately stockpiling materials on-site to prevent runoff and building over or establishing landscaping as early as possible on disturbed soils to minimize length of exposure.

4. Water

Existing Conditions. A Preliminary Engineering Report was prepared for the project by Otomo Engineering in September 2011. **See: Appendix F, Preliminary Engineering Report.**

Domestic water and fire flow for this area are serviced from the 3.0 MG Mokuhau tank and wells in Happy Valley. There is an existing 12-inch waterline on Lower Main Street that feeds an existing 6-inch waterline along Pio Place and Imi Place. There are existing fire hydrants fronting the property on Pio Place and Imi Place.

Potential Impacts and Mitigation Measures. In accordance with the Department of Water Supply's Domestic Consumption Guidelines for a multi-family development, the maximum daily demand for the project is approximately 23,520 gallons per day. A new 2" water meter will be requested as part of the building permit process to service the parcel. A new reduced pressure backflow preventer will be installed to meet DWS standards. Fire-flow demand for a multi-family development is 2,000 gallons per minute for a 2-hour duration and will be met by the existing fire hydrants along the street and the installation of an onsite fire sprinkler system.

To reduce and conserve the consumption of potable water, within Imi Ikena:

- Low-flow fixtures and devices will be used pursuant to Maui County Code Section 16.20A.680;
- Individual homeowners and businesses will be encouraged to maintain fixtures to prevent leaks;
- Climate-adapted native and other appropriate plants will be used in landscaping as practical; and
- Best management practices designed to minimize runoff from daily operations will be implemented.

Development of the Imi Ikena affordable housing project is not anticipated to have an adverse effect on water sources, storage facilities, and distribution and transmission systems.

5. Wastewater

Existing Conditions. A Preliminary Engineering Report was prepared for the project by Otomo Engineering in September 2011. **See: Appendix F, Preliminary Engineering Report.**

There is an existing 8-inch sewer line n Pio Place and Imi Place that services the property. Wastewater generated in the Wailuku area is transmitted to the Kahului Wastewater Reclamation Facility which has a capacity of 7.9 million gallons per day (mgd). As of March 2010, the average daily flow into the Kahului Wastewater Reclamation Facility was approximately 4.9 mgd. However, according to the Wastewater Division, County of Maui, the total allocation, including projects already permitted, is 6.95 mgd.

Potential Impacts and Mitigative Measure. Based on the Wastewater Division's "Wastewater System Standards," the Imi Ikena project will generate approximately 17,850 gallons per day of wastewater. A new service lateral and service manhole will be constructed along Pio Drive to meet current standards and requirements.

Development of the Imi Ikena affordable housing project is not anticipated to have an adverse effect on County wastewater transmission systems and treatment facilities.

E. Cumulative and Secondary Impacts

Cumulative impacts are defined as the impact on the environment, which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

The proposed Imi Ikena apartment complex is an infill project in an existing muli-family neighborhood. The proposed project is not part of a larger action nor will it significantly contribute to Wailuku-Kahului population expansion.

Secondary impacts are those that have the potential to occur later in time or farther in distance, but which are reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project. Secondary impacts from highway projects, for example, can occur because they can induce development by removing transportation impediments to growth.

There are no substantial, adverse, secondary impacts associated with the proposed project. The build-out of the 28-unit apartment complex will not have significant impacts upon area infrastructure or the environment.

F. Summary of Unavoidable Impacts on the Environment and Resources

Construction-related activities will generate moderate, unavoidable, short-term impacts. Once the development is completed, the project is not anticipated to have substantial adverse impacts upon the environment or residents of the area. The following mitigation measures could reduce impacts to air quality, and reduce noise, and vector impacts.

- Provide vector control before construction activities in accordance with the rules and regulations of the Department of Health
- Provide Best-Management-Practices (BMPs) to contain dust and runoff from the project area. Such measures could include dust and silt screens, construction watering, covering disturbed and loose soils, and covering vehicular loads of materials leaving and entering the project site.
- Provide environmental noise control by limiting construction activities to daylight hours, requiring engine-driven machinery to have the appropriate mufflers, and obtaining a construction noise permit, if required, from the Department of Health
- Properly disposing of demolition wastes in a designated landfill and/or recycling construction materials

The project will require the irretrievable commitment of time, energy, and land.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. State Land Use

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission (LUC), establishes four (4) major land use districts in which all lands in the state are placed. These districts are designated as "Urban", "Rural", "Agricultural", and "Conservation". The subject property is located within the Urban District. **See**: **Figure 8, State Land Use Map**. The proposed improvements are permitted within the Urban District.

B. Hawaii State Plan

Chapter 226, HRS, also known as the *Hawaii State Plan*, is a long-range comprehensive plan that serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The proposed project is in conformance with the following objectives and policies of the *Hawaii State Plan*.

Chapter 226-5, HRS, Objective and Policies for Population

226-5(b)(3), HRS: *Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.*

Chapter 226-6, HRS, Objectives and Policies for the Economy – in General

226-6(b)(6), HRS: *Strive to achieve a level of construction activity responsive to, and consistent with, State growth objectives.*

Chapter 226-11, HRS, Objectives and Policies for the Physical Environment – Land Based, Shoreline, and Marine Resources

226-11(b)(3), HRS: *Take into account the physical attributes of areas when planning and designing activities and facilities.*

226-11(b)(8), HRS: *Pursue compatible relationships among activities, facilities, and natural resources.*

Chapter 226-13, Hawaii Revised Statutes, Objectives and Policies for the Physical Environment – Land, Air, and Water Quality

226-13(b)(6), HRS: *Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.*

226-13(b)(7), HRS: *Encourage urban developments in close proximity to existing services and facilities.*

Chapter 226-19, HRS, Objectives and Policies for Socio-Cultural Advancement – Housing

226-19(a)(1), HRS: *Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.*

226-19(a)(2), HRS: *The orderly development of residential areas sensitive to community needs and other land uses.*

226-19(b)(1), HRS: *Effectively accommodate the housing needs of Hawaii's people.*

226-19(b)(2), HRS: *Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.*

226-19(b)(3), HRS: *Increase home ownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.*

226-19(b)(5), HRS: *Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.*

226-19(b)(6), HRS: *Facilitate the use of available vacant, developable, and underutilized urban lands for housing.*

226-19(b)(7), HRS: *Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.*

The Imi Ikena affordable housing project complies with the following priority guidelines of the *Hawaii State Plan*.

Chapter 226-104, HRS, Population Growth and Land Resources Priority Guidelines

226-104(b)(1), HRS: *Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.*

226-106(4), HRS: *Create incentives for development which would increase home ownership and rental opportunities for Hawaii's low-and moderate-income households, gap-group households, and residents with special needs.*

226-106(6), HRS: *Encourage public and private sector cooperation in the development of rental housing alternatives.*

226-106(8), HRS: *Give higher priority to the provision of quality housing that is affordable for Hawaii's residents and less priority to development of housing intended primarily for individuals outside of Hawaii.*

D. Maui County General Plan

The General Plan of the County of Maui refers to a hierarchy of planning documents that together set forth future growth and policy direction in the

County. The General Plan is comprised of the following documents: 1) County-wide Policy Plan; 2) Maui Island Plan; and 3) nine community plans.

The County-wide Policy Plan was adopted in March 2010 and is a broad policy document that identifies a vision for the future of Maui County. It establishes a set of guiding principles and provides comprehensive goals, objectives, policies and implementing actions that portray the desired direction of the County's future. The County-wide Policy Plan provides the policy framework for the development of the Maui Island Plan and nine Community Plans.

The Maui Island Plan functions as a regional plan and addresses the policies and issued that are not confined to just one community plan area, including regional systems such as transportation, utilities and growth management, for the Island of Maui. Together, the Island and Community Plans develop strategies with respect to population density, land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design and other matters related to development. **The draft Maui Island Plan is currently under review by the County Council.**

The proposed action is in accord with the following County-wide Policy Plan objectives and policies:

A. Protect the Natural Environment

Objective 2: *Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.*

Policy e: *Mitigate the negative effects of upland uses on coastal wetlands, marine life, and coral reefs.*

Impacts from the proposed project, such as site grading, increased runoff, and use of resources, are not expected to be significant and can be mitigated with proper management techniques. As such, the project is not anticipated to have any significant adverse effects on the County's land and ocean ecological resources.

E. Expand Housing Opportunities for Residents

Objective 1: *Reduce the affordable housing deficit for residents.*

Policy a: *Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.*

The Imi Ikena Affordable Housing Project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by the U.S. Department of Housing and Urban Development. The goal of the project is to address the critical need for affordable housing on Maui by providing quality affordable rental housing for the island's workforce. Rental rates will be restricted in perpetuity and a local, on-site property management firm will manage the day-to-day operation of the property to maintain the financial and physical integrity of the rental units and grounds.

Objective 2: *Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and small-town character.*

Policy c: *Encourage a mix of social, economic, and age groups within neighborhoods.*

Policy d: *Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patters of development.*

Policy e: *Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.*

Policy f: *Develop workforce housing in proximity to job centers and transit facilities.*

The Imi Ikena apartment complex will utilize undeveloped urban infill land and provide affordable multi-family rental housing in character with the Wailuku-Kahului region and immediate Sand Hills neighborhood. The design of the Imi Ikena apartment complex will be sensitive to the site on which it is located, and will be constructed in such a way as to minimize the impacts to the environment.

The proposed project promotes the use of alternative modes of transportation and a healthy job/housing balance by providing housing in an existing urban area proximate to employment and services.

I. Improve Physical Infrastructure

Objective 4: *Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.*

Policy a: *Capitalize on existing infrastructure capacity as a priority over infrastructure expansion.*

The Imi Ikena apartment complex will utilize undeveloped urban infill land where infrastructure capacity is available and will not require any expansion.

J. Promote Sustainable Land Use and Growth Management

Objective 1: *Improve land use management and implement a directed-growth strategy.*

Policy e: *Encourage redevelopment in and around communities on lands intended for urban use to protect productive farm land and open-space resources.*

Policy h: *Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources.*

The Imi Ikena apartment complex will utilize undeveloped urban infill land where infrastructure capacity is available and will not require any expansion. The proposed project will not impact productive farm land, open-space resources, or natural resources. Impacts, such as site grading, increased runoff, and use of resources, will not be significant and can be mitigated with proper management techniques.

Objective 3: *Design all developments to be in harmony with the environment and to protect each community's sense of place.*

Policy f: *Use trees and other forms of landscaping along rights-of-way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.*

The project site will be landscaped to control erosion and add beauty and a Hawaiian sense of place to the property. Drought tolerant native species will be planted to minimize irrigation requirements. Shade trees will be planted in and around parking lots and other paved areas to provide shade and cooling.

E. Wailuku-Kahului Community Plan

Within Maui County, there are nine (9) community plan regions. From a General Plan implementation standpoint, each region is governed by a Community Plan which sets forth desired land use patterns, as well as goals, objectives, policies, and implementing actions for a number of functional areas including infrastructure-related parameters.

The project site is located within the Wailuku-Kahului Community Plan region. The *Wailuku-Kahului Community Plan* was adopted in 1987, amended in 1992 and recently updated in 2002. The project site is designated for "Multi-Family" residential uses in the Community Plan. **See: Figure 9, Community Plan Map**.

The proposed project is compatible with its Multi-Family designation and is further in accord with the following *Wailuku-Kahului Community Plan* objectives and policies:

HOUSING

Goal: *A sufficient supply and choice of attractive, sanitary and affordable housing accommodations for the broad section of residents, including the elderly.*

Objective 3: *Seek alternative residential growth areas within the planning region, with high priority given to the Wailuku and Kahului areas. This action should recognize the crucial issues of maintaining important agricultural lands, achieving efficient patterns of growth, and providing adequate housing supply and choice of price and location must be addressed and resolved.*

The proposed project will provide affordable housing in the Wailuku area in an existing urban area, avoiding important agricultural lands.

LAND USE

Goal: *An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the future needs of residents and visitors in a manner that provides for the social and economic well-being of residents and the preservation and enhancement of the region's environmental resources and traditional towns and villages.*

Objective 10: *All zoning applications and/or proposed land uses and developments shall conform with the planned use designations, as specified in the adopted Community Plan Land Use Map, and be consistent with the Community Plan policies.*

The proposed project conforms with the planned use designation for the subject site of "Multi-Family" as specified in the Wailuku-Kahului Community Plan Land Use Map and is consistent with Community Plan policies.

Objective 16: *Upon adoption of this plan, allow no further development unless infrastructure, public facilities, and services needed to service new development are available prior to or concurrent with the impacts of new development.*

Infrastructure, public facilities, and services needed to service the Imi Ikena apartment complex are currently adequate.

INFRASTRUCTURE - DRAINAGE

Goal: *Timely and environmentally sound planning, development and maintenance of infrastructure systems which serve to protect and preserve the safety and health of the region's residents, commuters and visitors through the provision of clean water, effective waste disposal and drainage systems, and efficient transportation systems which meet the needs of the community.*

Objective 4: *Ensure that storm water run-off and siltation from proposed development will not adversely affect the marine environment and nearshore and offshore water quality. Minimize the increase in discharge of storm water runoff to coastal waters by preserving flood storage capacity in low-lying areas, and encouraging infiltration of runoff.*

On-site drainage improvements will ensure that runoff is maintained at predevelopment levels and sediment is captured and prevented from entering neighboring properties or coastal waters.

F. County Zoning

The project site is zoned "A2, Apartment District" by the County of Maui. **See: Figure 11, County Zoning Map**. The proposed Imi Ikena apartment complex is in accordance with requirements of Chapter 19.12, Apartment District, Maui County Code.

G. Coastal Zone Management

The project site is not located within the Special Management Area (SMA) boundary, pursuant to HRS Chapter 205 A and the Special Management Area Rules for the Maui Planning Commission (Chapter 202). However, the following is a review of the proposed action, in accordance with the objectives, policies, and guidelines, pursuant to HRS Chapter 205A-2.

1. Recreational Resources

Objective: *Provide coastal recreational resources accessible to the public.*

Policies:

- *(a) Improve coordination and funding of coastal recreational planning and management; and*
- *(b) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
  - *(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
  - *(ii) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or require reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;*

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing;

(viii) Encourage reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS.

Analysis. The project site is not near the shoreline and its development will not impact coastal recreational opportunities or affect existing public access to the shoreline.

2. Historical/Cultural Resources

Objective: Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

(a) Identify and analyze significant archeological resources;

(b) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(c) Support state goals for protection, restoration, interpretation, and display of historic structures.

Analysis. There are no known historical or archaeological resources on the subject property. Nevertheless, archaeological monitoring will be conducted during site excavation and the applicant and its contractors will comply with all laws and rules regarding the preservation of archaeological, cultural, and historic sites should any sites be found during construction.

The proposed project is not expected to impact cultural resources as no cultural resources have been identified on the property; there is no evidence of past or present use for Hawaiian cultural practices, resources, or beliefs.

3. Scenic and Open Space Resources

Objective: *Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

Policies:

(a) Identify valued scenic resources in the coastal zone management area;

(b) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(c) Preserve, maintain, and where desirable, improve and restore shoreline open space and scenic resources; and

(d) Encourage those developments that are not coastal dependent to locate in inland areas.

Analysis. The project site is not near the shoreline and its development will not impact coastal scenic and open space resources.

4. Coastal Ecosystems

Objective: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

Policies:

(a) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(b) Improve the technical basis for natural resource management;

(c) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(d) *Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*

(e) *Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and non-point source water pollution control measures.*

Analysis. No direct impacts to the coastal or marine environment are anticipated. Appropriate Best Management Practices (BMP) will be utilized during site excavation activities to ensure that there is no substantial, adverse impact to coastal ecosystems. The project site's drainage system will be designed in accordance with applicable regulatory standards to assure that there are no adverse effects to adjacent or downstream properties.

5. Economic Use

Objective: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

Policies:

(a) *Concentrate coastal dependent development in appropriate areas;*

(b) *Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area;*

(c) *Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:*

(i) *Use of presently designated locations is not feasible;*

(ii) *Adverse environmental impacts are minimized; and*

(iii) *The development is important to the State's economy.*

Analysis. The proposed construction is not a coastal dependant development. As represented by the "Multi-Family" designation on *Wailuku-Kahului Community Plan,* residential uses on the site are appropriate and represent the desires of the community. Development is anticipated to generate economic benefits in the from of property taxes and construction-related employment.

6. Coastal Hazards

Objective: *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.*

Policies:

(a) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

(b) Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and non-point pollution hazards;

(c) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(d) Prevent coastal flooding from inland projects.

Analysis. The proposed construction is not anticipated to impact the region's susceptibility to coastal hazards. The project site is not within the tsunami inundation zone and is reasonably free from danger of flood, unstable soil conditions and other adverse environmental effects.

The project's drainage system will be designed in accordance with the Drainage Standards of the County of Maui to ensure that surface runoff from the site will not adversely affect downstream and adjoining properties.

7. Managing Development

Objective: *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

Policies:

(a) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(b) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

(c) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Analysis. Imi Ikena apartment complex will be developed in conformance with all applicable, laws, regulations, and requirements.

8. Public Participation

Objective: *Stimulate public awareness, education, and participation in coastal management.*

Policies:

(a) Promote public involvement in coastal zone management processes;

(b) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(c) Organize workshops, policy dialogues, and site-specific medications to respond to coastal issues and conflicts.

Analysis. The proposed project is subject to an agency and public review process as required by the filing and processing of this HRS Chapter 343 Environmental Assessment. Prior to filing of the subject Environmental Assessment, there was pre-consultation with various public agencies and officials and neighbors. These activates included a mail out and informational meeting in order to describe the proposed project and solicit issues that need to be addressed.

9. Beach Protection

Objective: *Protect beaches for public use and recreation.*

Policies:

(a) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(b) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(c) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Analysis. The project site is not located near the shoreline and therefore this development is not expected to have adverse impacts on beaches, natural

shoreline processes, or existing recreational and waterline activities. Appropriate BMP's will be utilized during site excavation activities to ensure that there is no substantial, adverse impact to coastal ecosystems.

10. Marine Resources

Objective: *Promote the protection, use, and development of marine and coastal resources to assure their sustainability.*

Policies:

(a) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(b) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(c) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

(d) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

(e) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Analysis. No direct impact to the coastal or marine environment is anticipated as the project is located inland.

The project will include mitigation measures aimed at protecting marine resources by containing dust and project runoff during the construction period. The anticipated method of containment will be to enclose the project area with a combination dust/silt fence. Additional measures could include project watering for dust control, promptly vegetating bared areas, and controlling dust from equipment by covering truckloads. A BMP plan will be developed in conjunction with the project's grading plans, which will detail the physical protective measures used at the project site, the locations of such measures, and other intermittent requirements such as project watering. Prior to construction the BMP plan will be reviewed by the County engineering division of the Development Services Administration of the Department of Public Works and

Environmental Management, and the State Clean Water Branch (as part of the NPDES general permit).

IV. FINDINGS AND CONCLUSIONS

The accepting authority anticipates a Finding of No Significant Impact (FONSI). A final declaration will be made after the authority has considered all agency and public comments on the Draft Environmental Assessment.

According to the Department of Health Rules (HAR §11-200-12(b)), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur.

1. **The proposed action will *not* result in an irrevocable commitment to loss or destruction of natural or cultural resources.**
   Analysis. As previously noted, the proposed project will not involve the loss or destruction of any natural or cultural resources (See Section II.A.B.C).

2. **The proposed action will *not* curtail the range of beneficial uses of the environment.**

   Analysis. The subject property is within the State's Urban District and is zoned and community planned for residential development. The proposed action will not curtail the range of beneficial uses of the environment.

3. **The proposed action will *not* conflict with State or County long-term environmental policies and goals as expressed in Chapter 344, HRS.**

   Analysis. The proposed project is compatible with surrounding land uses in the State Urban District, in relation to the adopted Wailuku-Kahului Community Plan. The proposed project will be subject to agency

and public review and comment, as part of the HRS 343 Environmental Assessment approval process. Subsequently, the proposed project will be subject to more detailed review of construction plans, in conjunction with grading, grubbing, building and other construction permit approvals. All of these requirements are part of the State's comprehensive management system under its approved Federal Coastal Zone Management Program to insure that proposed actions do not conflict with State or County long-term environmental policies and goals.

4. The proposed action will *not* substantially affect the economic or social welfare and activities of the community, county or state.

Analysis. Short-term economic impacts from the proposed project will result from the increase in activity associated with the construction of the project. Full and part-time jobs will also be created during the operation phase of the development.

5. The proposed action will *not* substantially affect public health.

Analysis. There are no special or unique aspects of the project that will have a direct impact on public health. It is anticipated that occupants of the project will utilize existing medical facilities located in Kahului and Wailuku and that these facilities will not be significantly impacted by the project.

6. The proposed action will *not* result in substantial secondary impacts.

Analysis. The proposed project will not result in significant population increase, demands for housing, and burdens on infrastructure and public services and facilities.

7. The proposed action will *not* involve substantial degradation of environmental quality.

Analysis. Mitigation measures will be implemented during the construction phase in order to minimize dust, noise and soil erosion. The project site is not located on the shoreline and significant impacts on shoreline and coastal resources are unlikely. The project will comply with

County building and grading requirements. The project will include an onsite drainage system designed to retain additional runoff generated by the project. Other environmental resources such as endangered species of flora and fauna, air and water quality, and archeological resources will not be significantly impacted by the subject project.

8. **The proposed project will not produce cumulative impacts and does *not* have considerable effect upon the environment or involve a commitment for larger actions.**

   Analysis. The proposed Imi Ikena apartment complex will not involve a commitment for larger actions. The subject property is State and County zoned and community planned for urban development, and as such, is part of the planned future growth for the region. As described in this report, the project will not significantly impact public infrastructure and services including roadways, drainage facilities, water systems, sewers, educational facilities, and parks. In addition, the project is not anticipated to induce significant population growth and will therefore not produce considerable effect on the environment nor require a commitment for larger actions by governmental agencies.

9. **The proposed project will *not* affect a rare, threatened, or endangered species, or its habitat.**

   Analysis. As described in Section II.A.4 of this report, there are no known rare, threatened, or endangered species of flora and fauna at the project site.

10. **The proposed action will *not* substantially or adversely affect air and water quality or ambient noise levels.**

    Analysis. As described in Section II.A.5 and 6 and II.D.3 of this report, there is a potential for negative impacts to air or water quality and ambient noise levels related to short-term construction activities. Air, noise and dust impacts will be mitigated through implementation of standard mitigation measures, as previously discussed in this report. It is not anticipated that there will be significant long-term impacts to air or

water quality and ambient noise levels due to the operation phase of the project.

11. The proposed action will *not* substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically land or coastal waters.

Analysis. As previously discussed, the project site is not located within an area prone to flooding, unstable soil conditions, tsunami inundation or storm wave damage, and other environmental hazards.

12. The proposed action will *not* substantially affect scenic vistas or view planes identified in county or state plans or studies.

Analysis. The project site is not identified as a scenic vista or view plane in County plans. The proposed project will not impact public views along the area roadways.

13. The proposed action will not require substantial energy consumption.

Analysis. Upon build-out of the project, energy consumption will be increased above existing and historic levels of usage in the area, since the project is a more intensive use of the currently vacant site. However, the proposed residential project is within close proximity to employment, recreation facilities and other services which can be accessed via alternative modes of transportation. Thus, it is not anticipated that the resultant increase in energy consumption will be significant in the context of existing levels of energy usage in the region, and on Maui.

Based on the foregoing findings, it is anticipated that the Imi Ikena apartment complex will not result in any significant impacts.

V. CONSULTATION AND REVIEW

A. Early Consultation

The following agencies were requested to provide early consultation comments regarding the proposed project. **See Appendix H, Early Consultation Comment and Response.**

Federal

1. U.S.D.A Natural Resources Conservation Service
2. U.S. Fish and Wildlife Service

State of Hawaii

3. Department of Business Economic Development & Tourism, Office of State Planning
4. Department of Health
5. Department of Health, Clean Air Branch
6. Department of Health, Clean Water Branch
7. Department of Health, Environmental Planning Office
8. Department of Health, Maui District Health Office
9. Department of Education
10. Department of Land & Natural Resources
11. Department of Land & Natural Resources, Historic Preservation Division
12. Department of Land & Natural Resources, Land Division
13. Department of Transportation
14. Office of Hawaiian Affairs

County of Maui

15. Department of Environmental Management
16. Department of Fire Control & Public Safety
17. Department of Parks & Recreation
18. Department of Planning
19. Department of Public Works
20. Department of Water Supply
21. Police Department

Local Utilities

22. Maui Electric Company

VII. REFERENCES

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Figures

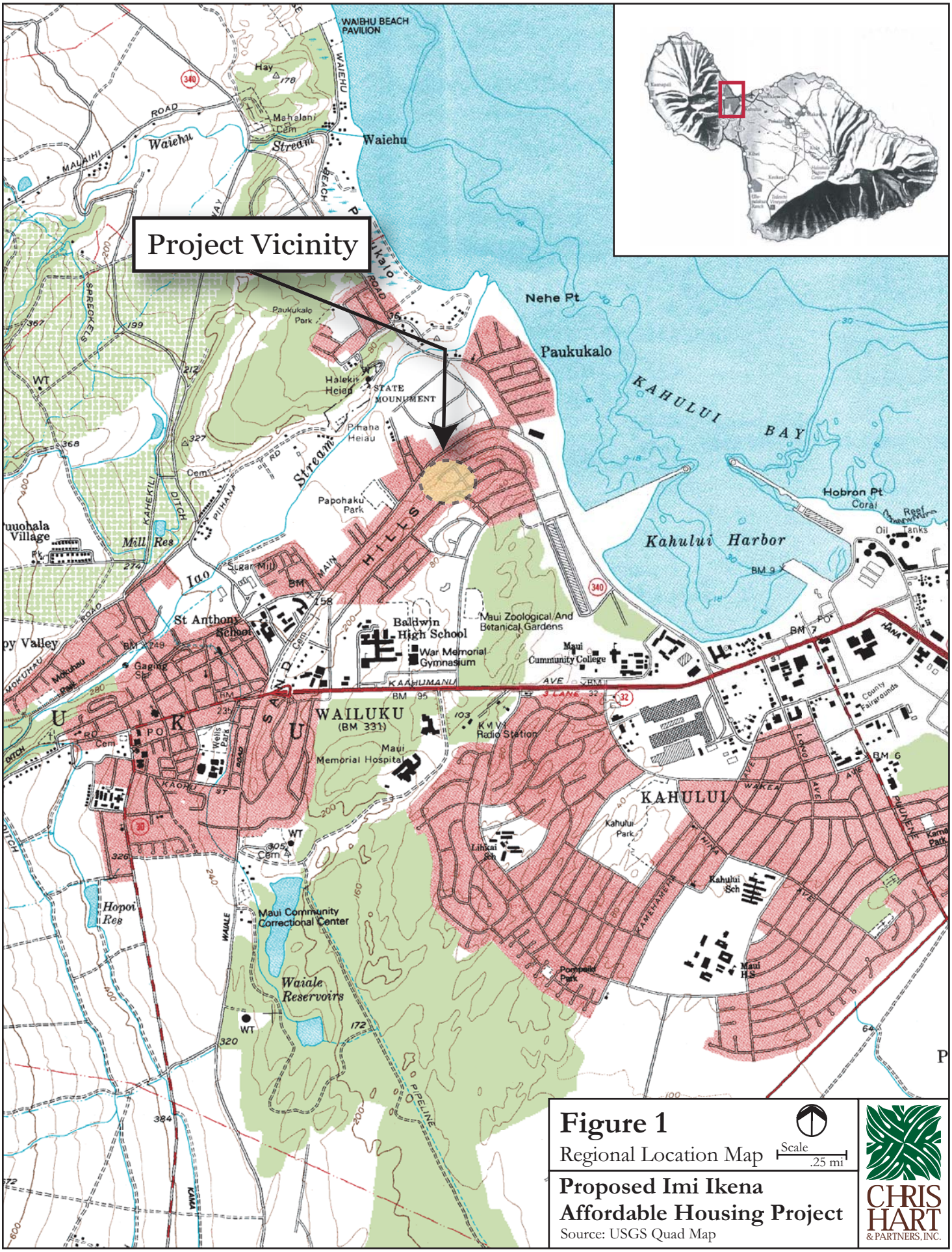

Figure 1

Regional Location Map

Scale .25 mi

Proposed Imi Ikena Affordable Housing Project

Source: USGS Quad Map

CHRIS HART & PARTNERS, INC.

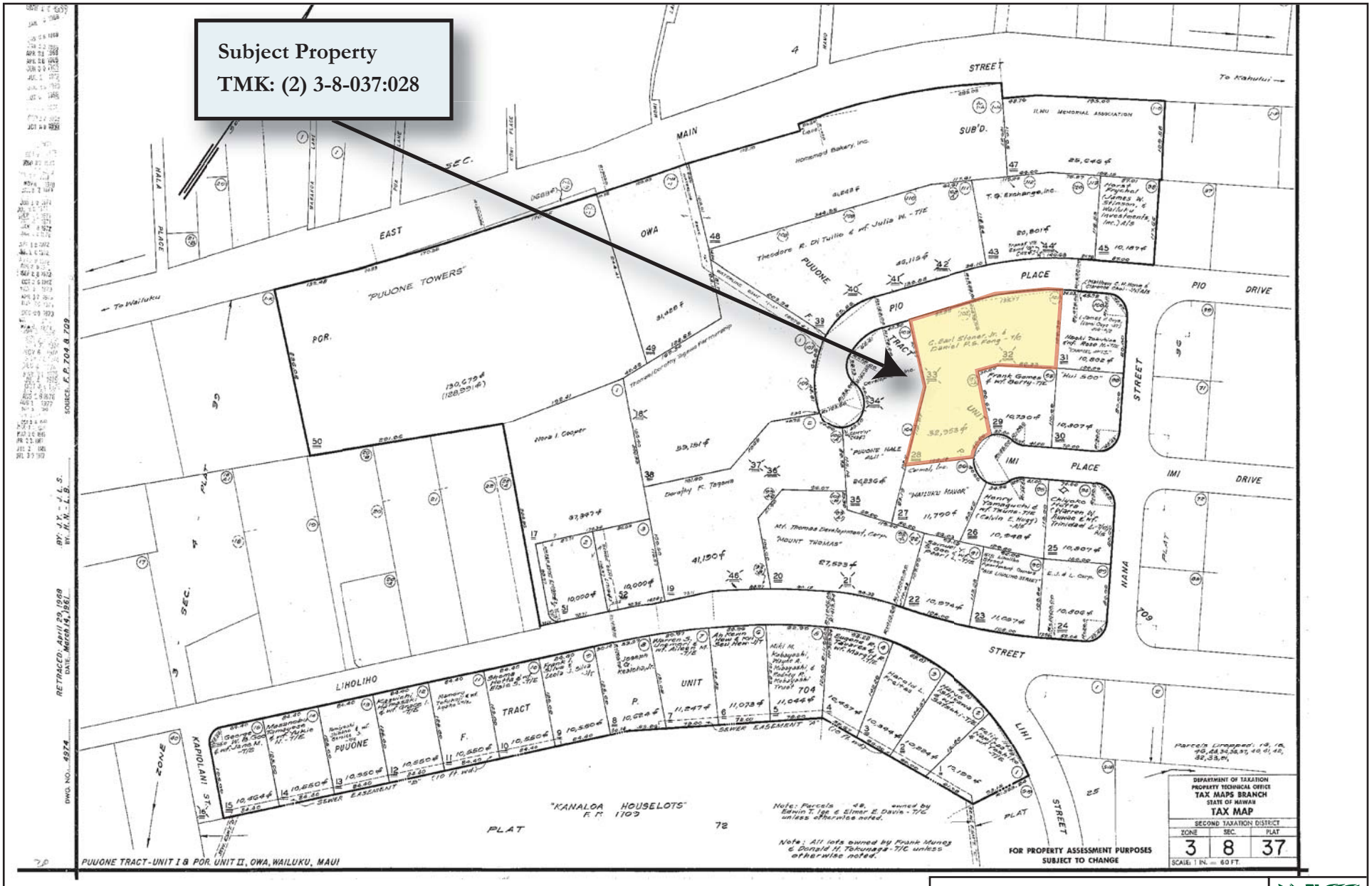

Figure 2

Tax Map

Not to Scale

Proposed Imi Ikena Affordable Housing Project

Source: Territory of Hawaii, Taxation Map Bureau

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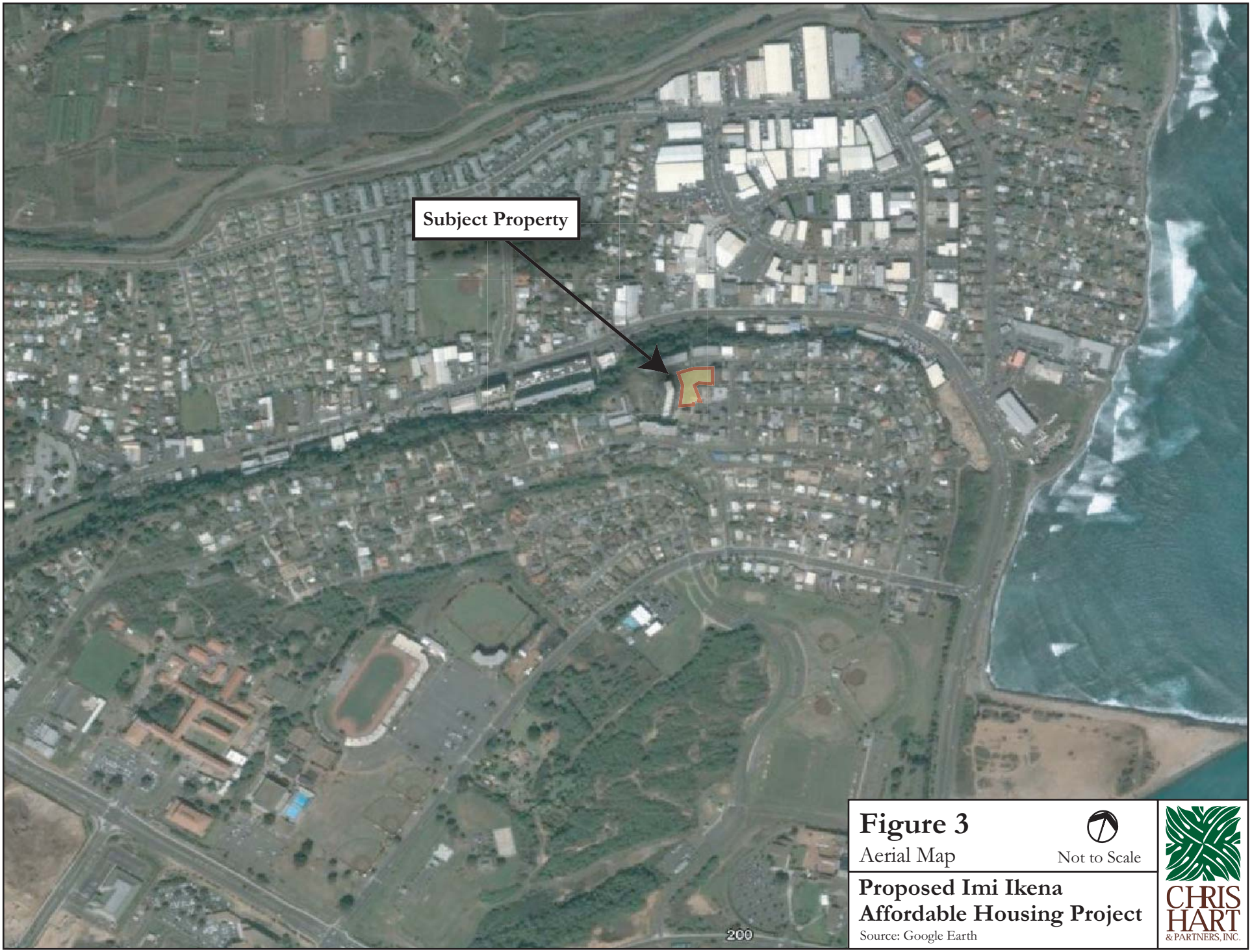


Figure 3
Aerial Map

Not to Scale

Proposed Imi Ikena Affordable Housing Project
Source: Google Earth

CHRIS HART & PARTNERS, INC.

A. Approximate location of project site from Kanalao Avenue

B. Approximate location of project site from Keopuolani Park

C. Project site from Nana Street & Imi Drive intersection

D. Project site from Pio Place

E. Project site from Puuone Hale Alii

F. Project site from Imi Place

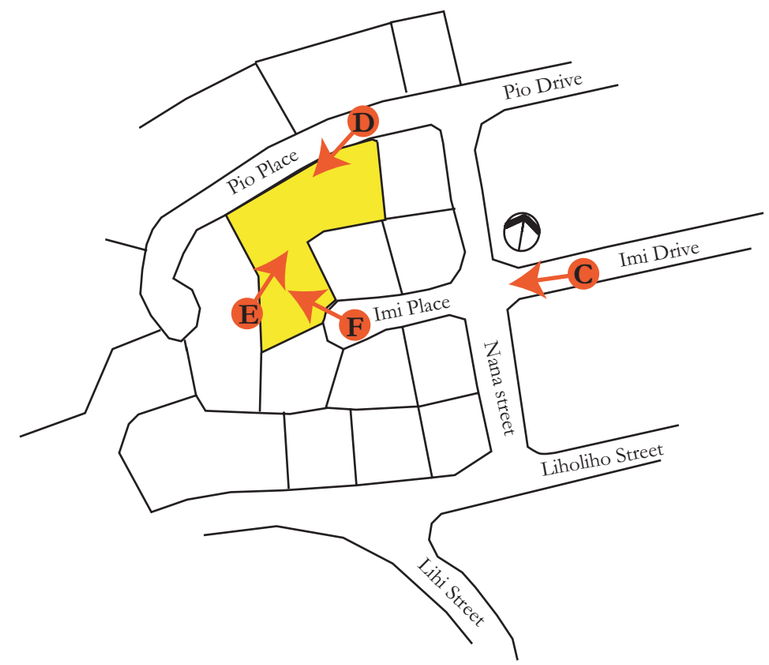


Figure 4a Site Photographs
Project Site from Surrounding Area

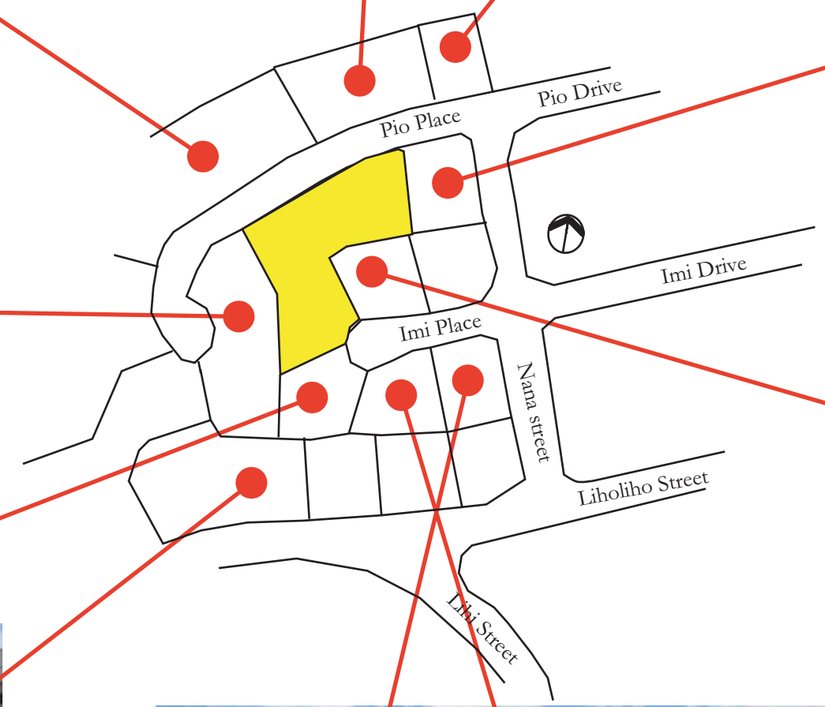
Proposed Imi Ikena Affordable Housing Project

CHRIS HART & PARTNERS, INC.

509 Pio Place & Sea View Appartments

Puuone Terrace

1743 Nana Street



Puuone Hale Alii

Harbor View Appartments

Wailuku Manor & Mount Thomas

1697 Nana Street & Ocean View Appartments

Figure 4b Site Photographs
Surrounding Multi-Family Complexes

Proposed Imi Ikena Affordable Housing Project

CHRIS HART & PARTNERS, INC.

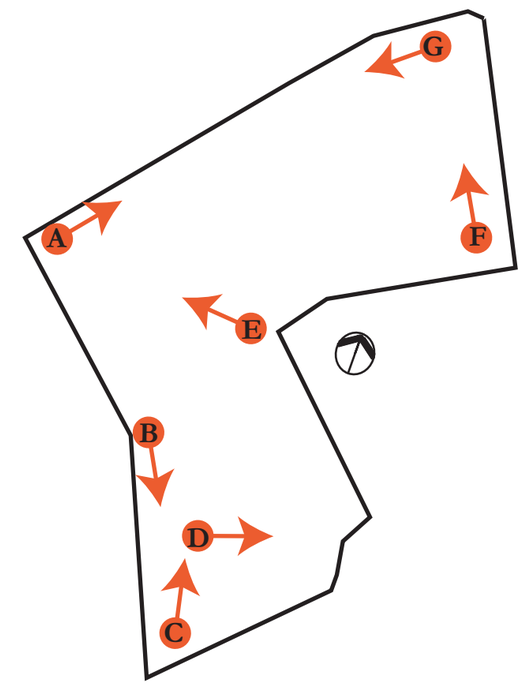
A. Northeastern view accross subject property western boarder toward 1743 Nana Street

B. Southeastern view toward Wailuku Manor & Mount Thomas

C. Northern view accross subject property toward Harbor View Appartments

D. Eastern view toward Imi Place cul-de-sac

E. Western view accross subject property toward Puuone Hale Alii & Puuone Terrace



F. Northwestern view toward 509 Pio Place

G. Southwestern view accross subject property western boundary toward Puuone Hale Alii & Puuone Terrace

Figure 4c
Site Photographs

Proposed Imi Ikena Affordable Housing Project

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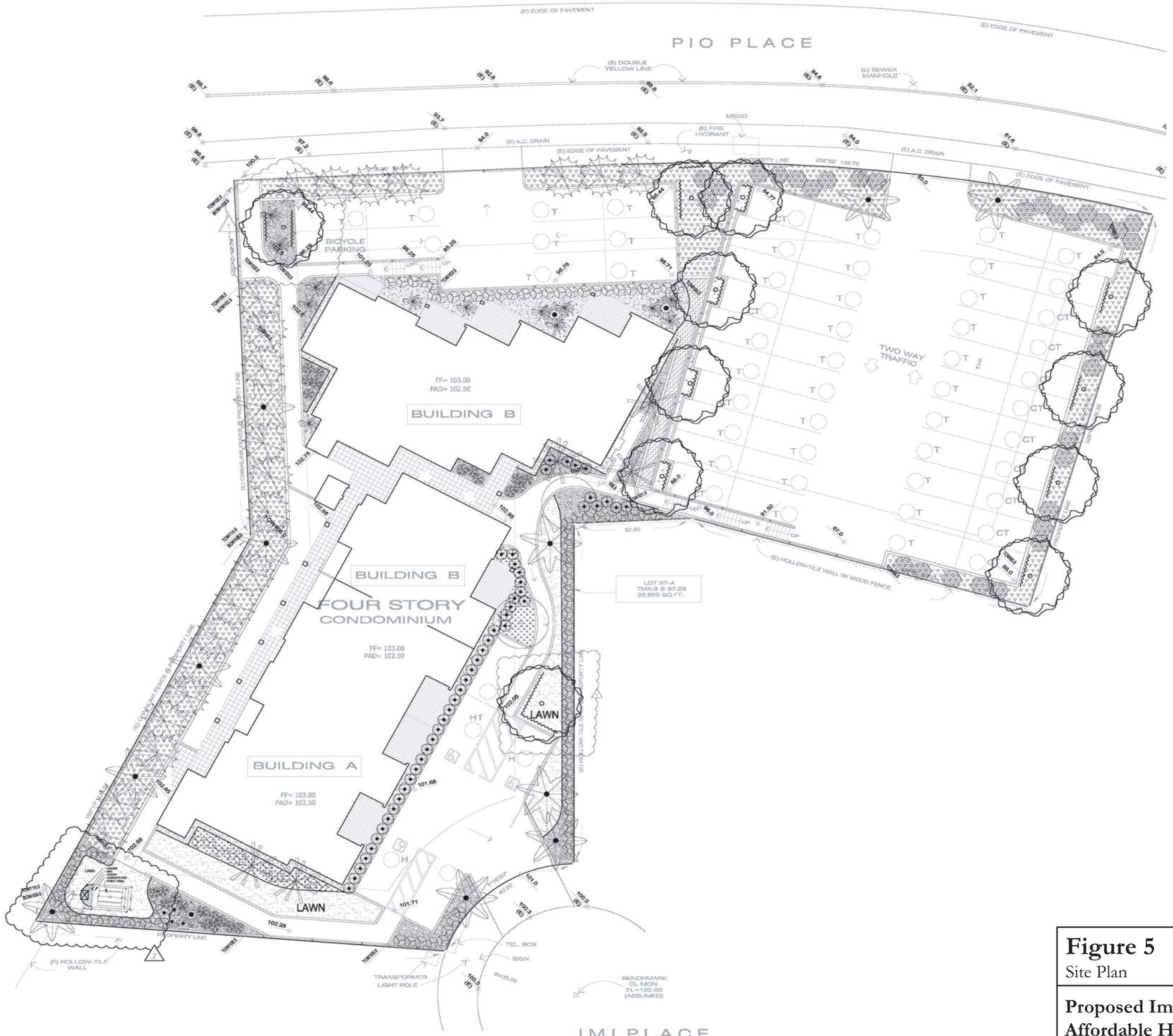

Figure 5
Site Plan

Not to Scale

Proposed Imi Ikena Affordable Housing Project

CHRIS HART & PARTNERS, INC.

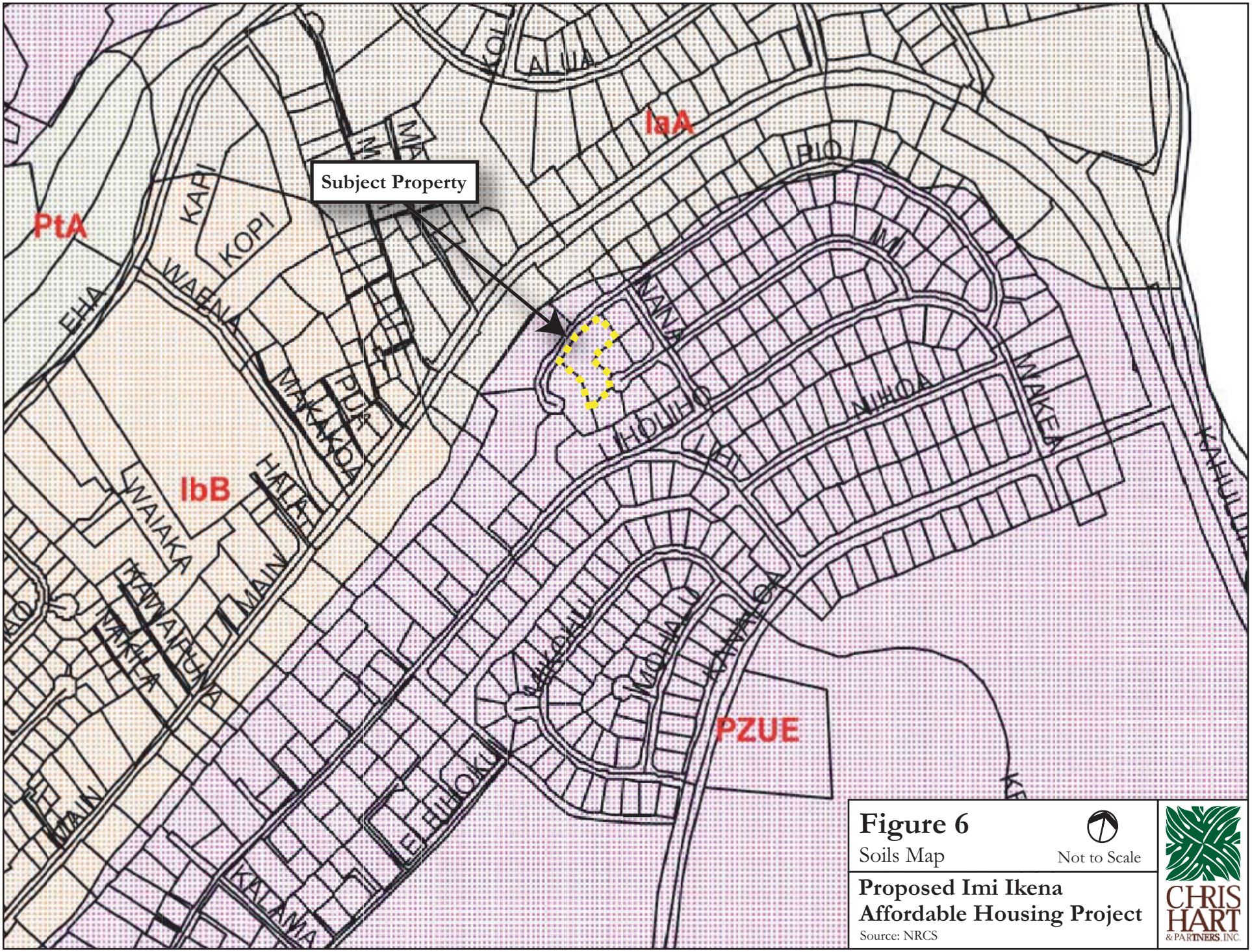

Figure 6
Soils Map

Not to Scale

Proposed Imi Ikena Affordable Housing Project
Source: NRCS

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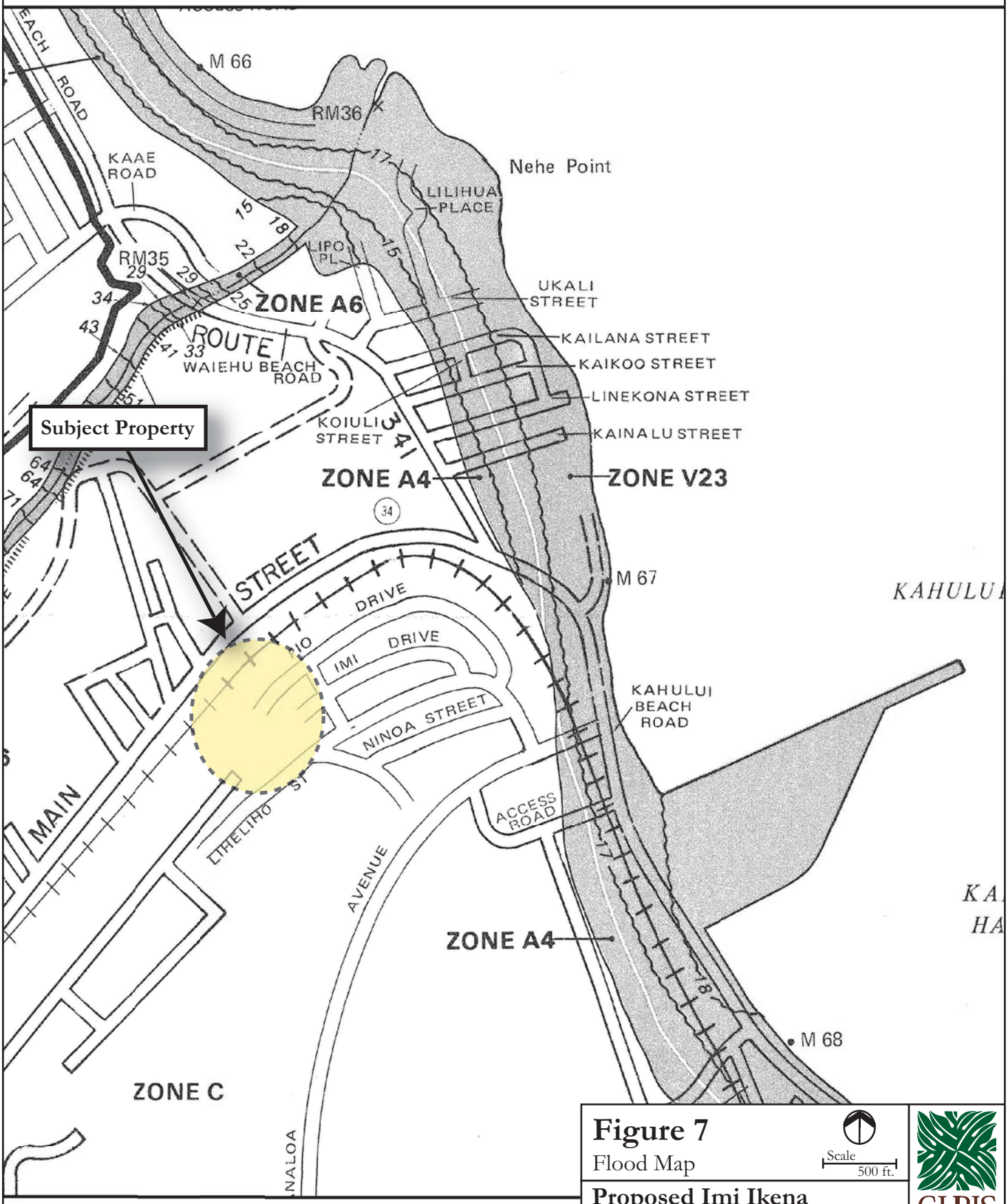

Figure 7
Flood Map

Scale
500 ft.

Proposed Imi Ikena Affordable Housing Project
Source: FEMA

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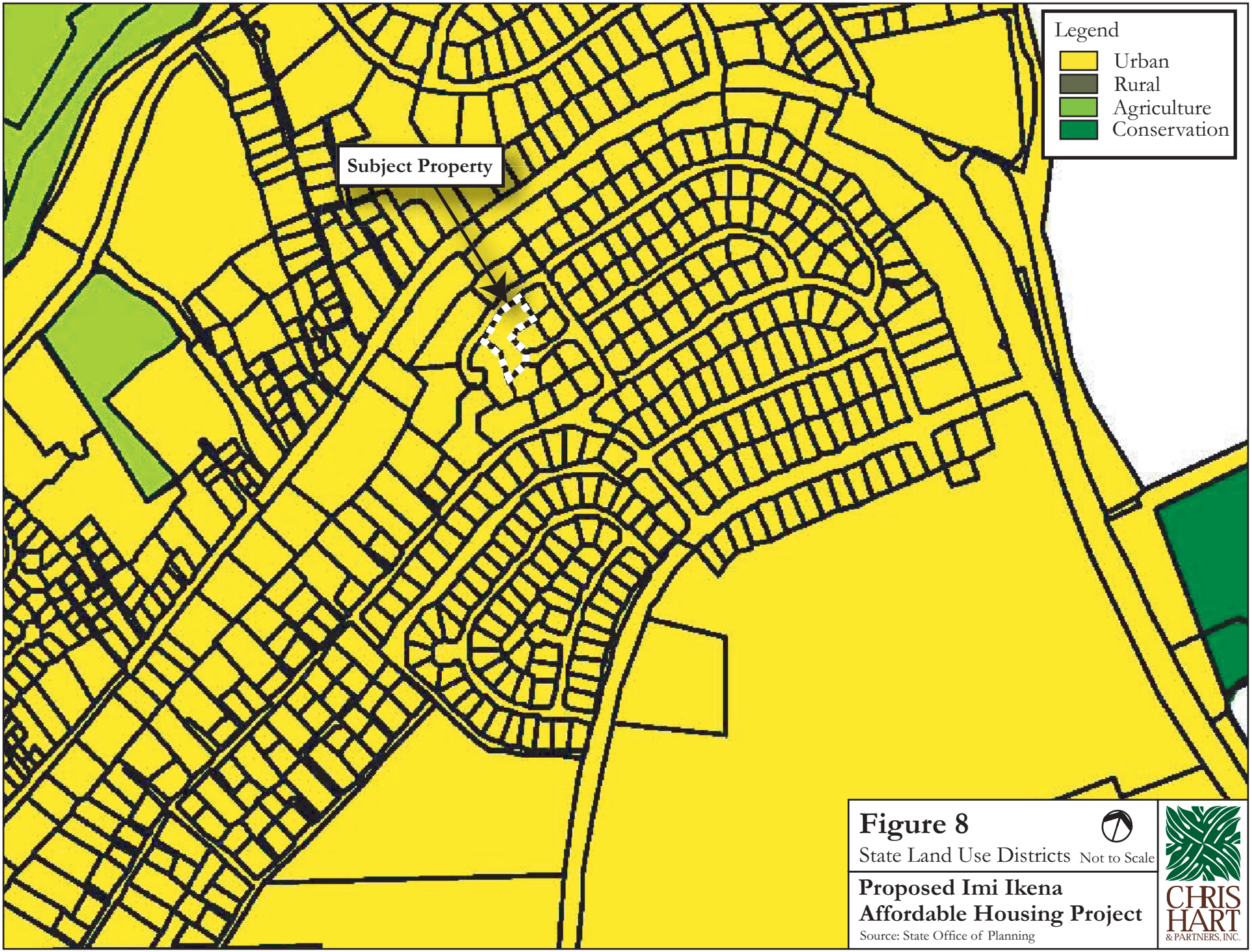

Figure 8

State Land Use Districts Not to Scale

Proposed Imi Ikena Affordable Housing Project

Source: State Office of Planning

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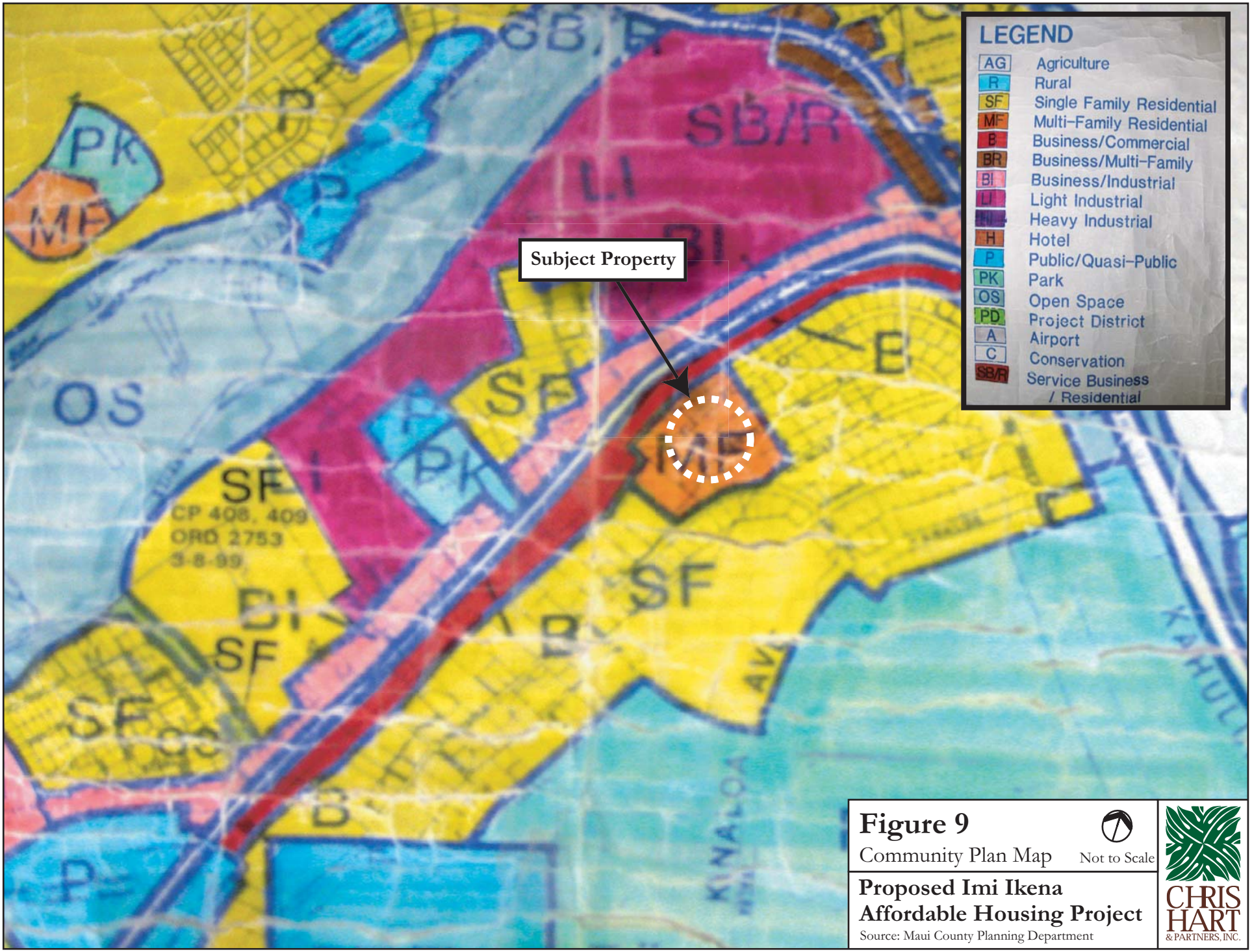

Figure 9

Community Plan Map

Not to Scale

Proposed Imi Ikena Affordable Housing Project

Source: Maui County Planning Department

CHRIS HART & PARTNERS, INC.

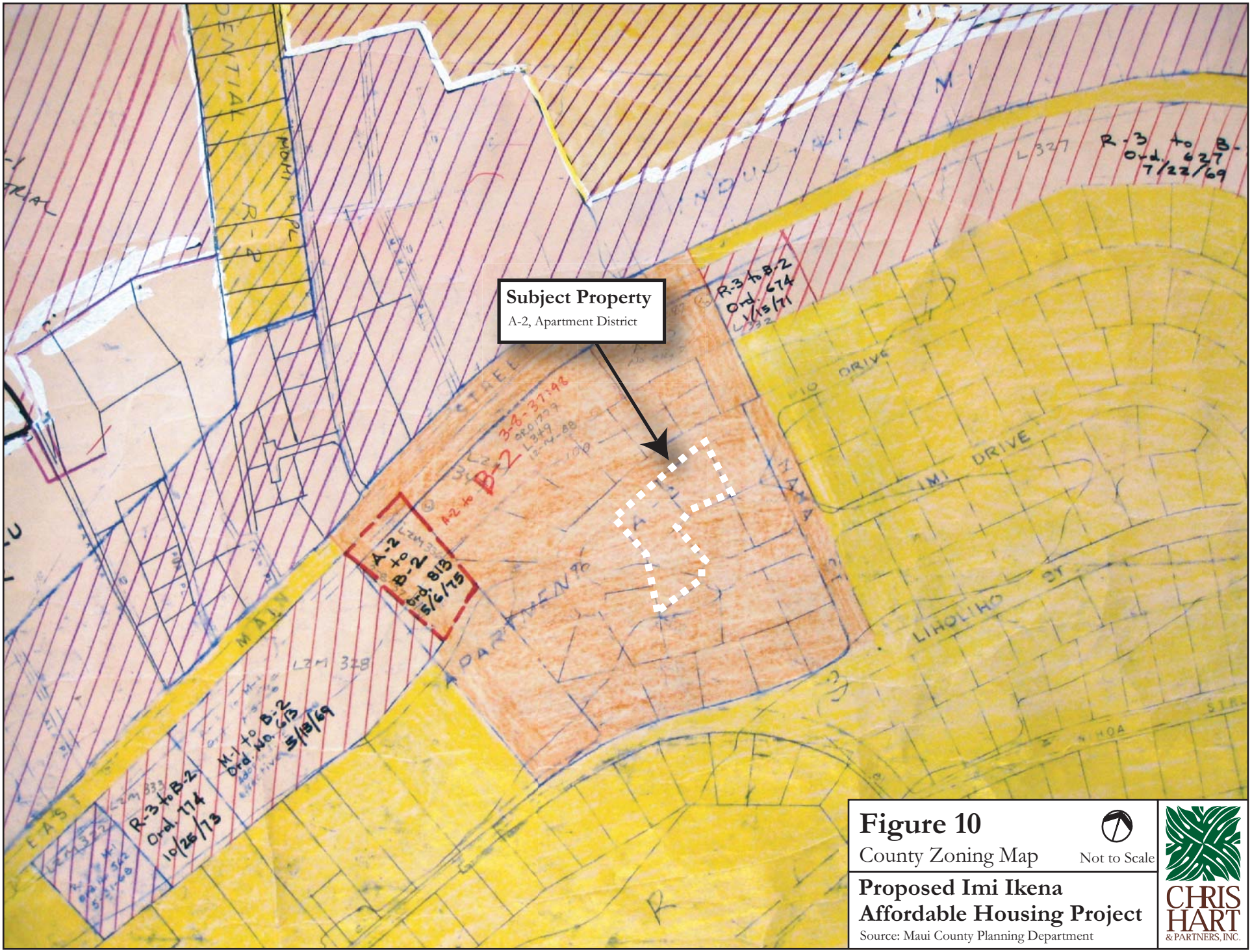

Figure 10

County Zoning Map

Not to Scale

Proposed Imi Ikena Affordable Housing Project

Source: Maui County Planning Department

CHRIS HART & PARTNERS, INC.

Appendix A:
Archaeological Inventory Survey

SCS Project Number 55[illegible]

AN ARCHAEOLOGICAL ASSESSMENT OF 0.76-ACRES IN WAILUKU, WAILUKU AHUPUA`A, WAILUKU DISTRICT, ISLAND OF MAUI, HAWAI`I [TMK: 3-8-37:28]

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April 2005

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ABSTRACT

An Archaeological Assessment of 0.76-acres was conducted on TMK: 3-8-37:28 in Wailuku, Wailuku Ahupua'a, Wailuku District, Island of Maui, Hawai'i. A total of fourteen stratigraphic trenches totaling an excavation sample area of 339.44 m^3 revealed no archaeological deposits and that minor amounts of imported silty clay fill, possibly from construction activities in the vicinity, was deposited on the visibly barren parcel as extra material. The skeleton of a mammalian quadruped was found in one of the stratigraphic trenches (ST-3) at a depth of approximately 1.9 meters and relayed that cultural deposits could exist at such depths. Based on the depth of osteological material within the stratigraphic trench in conjunction with the subject parcel sand matrices, known in nearby locations to contain human burials and associated cultural material, Archaeological Monitoring is required for any subsurface work on the subject parcel.

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INTRODUCTION

At the request of Michael Bollenbacher of Agora Realty and Management, Scientific Consultant Services (SCS), Inc. performed an Inventory Survey on an L-shaped land parcel totaling 0.76 acres in Wailuku, Wailuku Ahupua'a, Wailuku District, Island of Maui, Hawai'i [TMK: 3-8-37:28] (Figures 1 and 2). Inventory Survey consisted of a systematic pedestrian survey as well as subsurface testing for archaeological materials. The focus of this work was to investigate the parcel for the presence/absence of archaeological structures or artifacts on the parcel's surface or subsurface. Because no cultural materials were found, this report has been renamed an Archaeological Assessment instead of an Inventory Survey Report. The subject parcel is being purchased by Agora Realty and Management for residential development[1]. Under the direction of the Principal Investigator, Michael Dega, Ph.D., SCS archaeologists Alison Chun, Ph.D., and Guerin Tome, B.A., conducted the pedestrian survey on March 23, 2005 and the mechanical subsurface testing on the 23rd and 24th of March.

ENVIRONMENTAL SETTING

The 0.76-acre, sloped (≈ 5 degrees south/north) land parcel is located on the isthmus of windward Maui at approximately 160 meters above mean sea level (amsl) and approximately 0.65 km from the Wailuku Ahupua'a coastline (see Figures 1 and 2). Apartment complexes and paved roads border the subject parcel's perimeters (Figure 3). The combined synopsis of sediment research completed in the area by Foote *et al.* (1972), Donham (1994), and the current survey indicate that matrices in the project area are predominantly composed of the Puuone Sand Series (Pzue) and derived from coral and marine shells. Additional descriptions of the Puuone Sand Series state that they are found on moderately sloping to moderately steep surfaces, and they are "somewhat excessively drained on low uplands" (Foote *et al.* 1972:117). During subsurface testing for archaeological materials, lenses of silty clay fill were also observed.

Vegetation reflective of an open environment was found on the parcel and consisted of grasses such as bufflegrass (*Cenchrus ciliaris*) and natal redtop (*Rhynchelytrum repens*). Other vegetation on the project area included beggar's tick (*Biden alba*), *koa haole* (*Leucaena leucocephala*), golden crown beard (*Verbesina encelioides*), spiny amaranth (*Amaranthus spinosus*), Jamaica vervain (*Stachytarpheta jamaicensis*), Flora's paintbrush (*Emilia fosbergii*), cow pea (*Macroptilium lathyroides*), *'uhaloa* (*Waltheria indica*), Chinese violet (*Asystasia gangetica*), *kiawe* (*Prosopis pallida*), castor bean (*Ricinus communis*), sourbush (*Pluchea*

[1] Although a Real Real Estate Information Service 2004 edition of the tax map key lists the subject parcel under C. Earl Stoner, Jr. and Daniel P.S. Fong, an internet resource (www.mauipropertytax.com) identifies the TMK fee owner as Elleair Hawaii Inc.

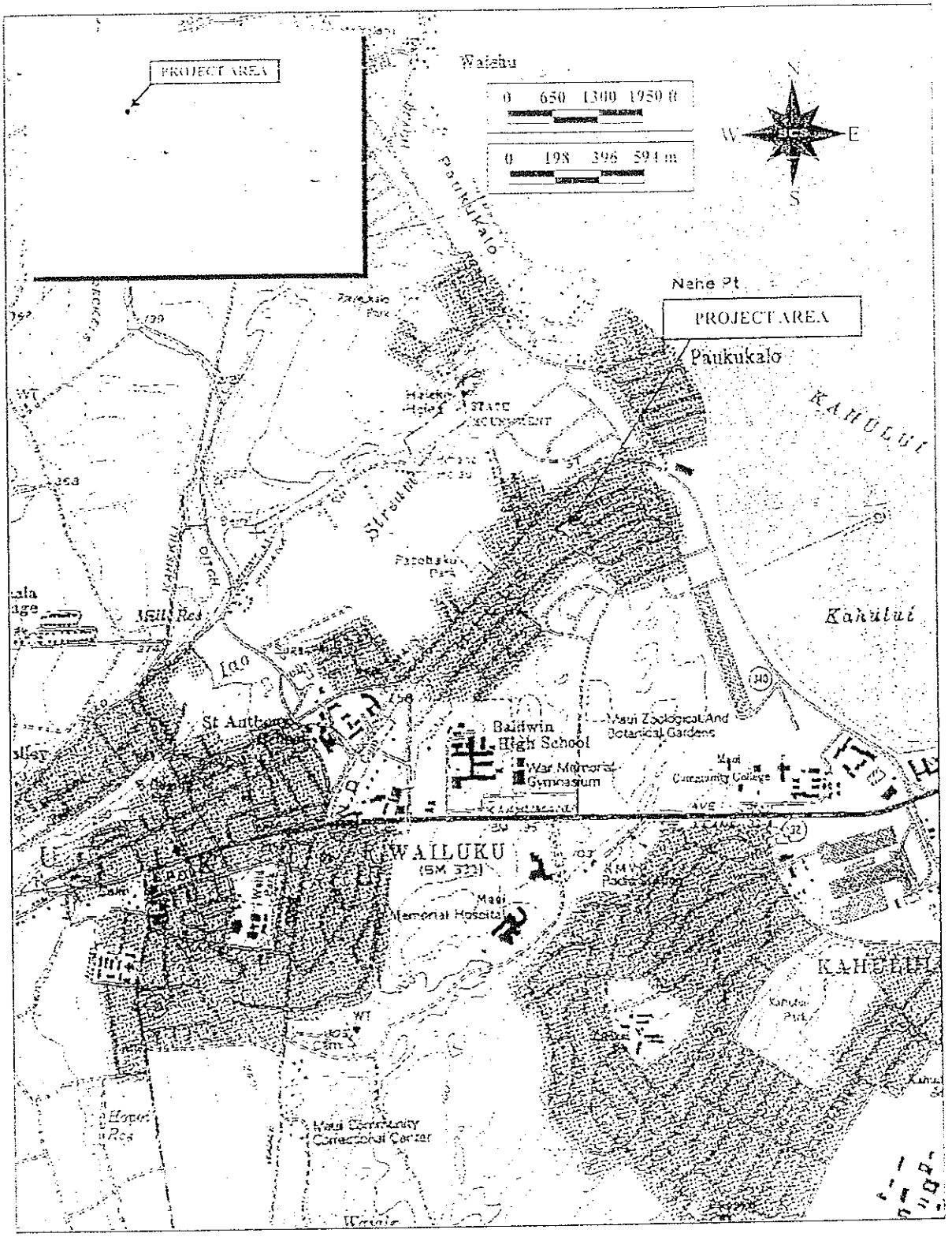

Figure 1: USGS Wailuku Quadrangle Map Showing Project Area Location.

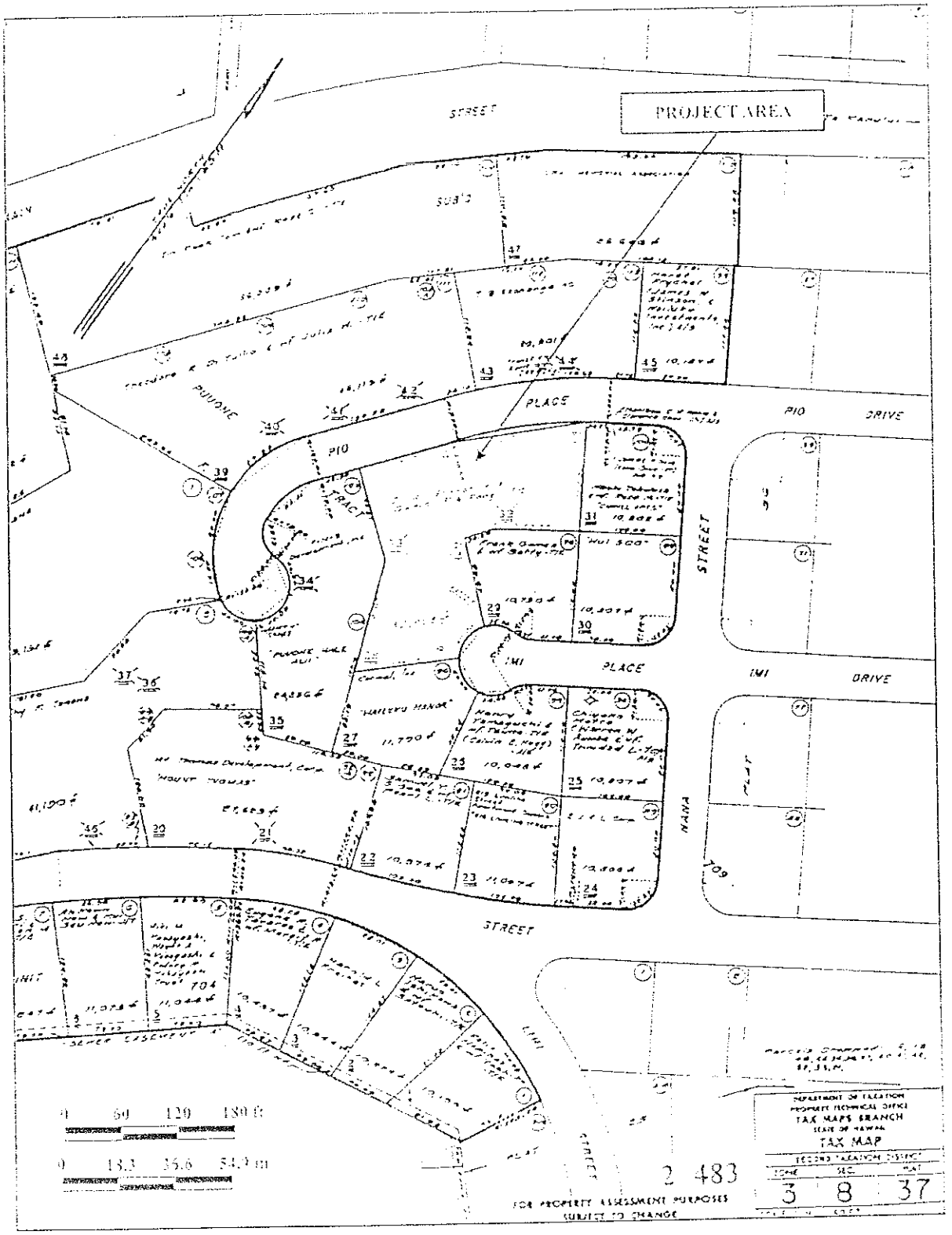

Figure 2: Tax Map Key [TMK 3-8-37:28] Showing Project Area.

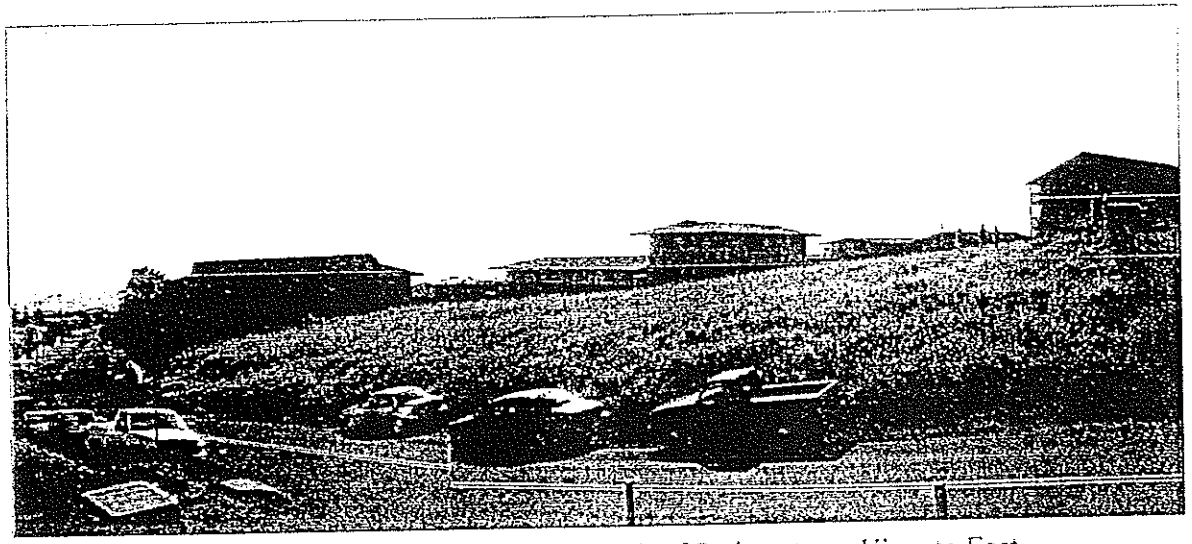

Figure 3: Project Area Overview Photos (Conjoined) of Project Area. View to East.

carolinensis), garden spurge (*Chamaesyce hirta*), rattle pod (*Crotalaria assamica*), prickly pear (*Opuntia ficus-indica*), and partridge pea (*Chamaecrista nicritans*). On the perimeter of the 0.76-acre parcel decorative flora such as wedelia (*Wedelia trilobata*), Christmas berry (*Schinus terebinthifolius*), aloe (*Aloe vera*), sweet potato (*Ipomea* sp.), and a lime tree were observed. The only native plant species identified was *'ilima* (*Sida fallax*). The parcel did not contain any over-story plants.

TRADITIONAL AND HISTORIC SETTING

The *ahupua'a* of Wailuku is located on the northeastern side of West Maui in the district of Wailuku. The project area is situated near the lower southeastern slope of Maui's second largest volcano, Pu'u Kukui, which rises to over 1,764 m amsl. Sterling (1998:74) states that *Wailuku* translates to "water of destruction" in the Hawaiian language. Pukui and Elbert (1981) submit that *Wailuku* was the reported name "for an *ulua* fishing line" and for the name of chrysanthemum.

'Īao Valley, and by extension, Wailuku Ahupua'a and Wailuku District, are frequently mentioned in historical texts and traditional oral accounts as being politically, ceremonially, and geographically important areas during traditional times (Cordy 1981, 1996; Kirch 1985). Wailuku was considered a "chiefly center" (Sterling 1998:90) with many of the chiefs and much of the area's population residing near or within portions of 'Īao Valley. The numerous *heiau* constructed in the area suggest the ceremonial and or religious importance of the area during pre-Contact times. During historic times, the large concentration of Land Commission Awards

(LCAs) granted in lower 'Īao Valley attest to a sizeable population base and the importance of the lands for cultivation through time. More recent land use in Wailuku Ahupua'a included sugar cane cultivation during the late 19th century, military use during World War II, residential housing, and light industrial and water channels (Spreckels Ditch, Kama Ditch etc.) at present.

PREHISTORY

Archaeological settlement data indicates that initial colonization and occupation of the Hawaiian Islands first occurred on the windward sides of the main islands, with populations eventually settling into drier, leeward areas at later periods (Kirch 1985). In the Waihe'e and Waiehu areas of Maui, northwest of the current project area, Kirch (1985:87) notes that "a number of coastal dune midden sites have been reported, and at least one of these contained pearl-shell fishhooks similar to those from the Bellows Site, eroding from the wave-cut midden." (The Bellows site, located on the windward coast of O'ahu, has yielded dates of occupation, albeit controversial, from A.D. 300–600 [Pearson *et al.* 1971], one of the earliest dated sites in the Hawaiian Islands.) Research within Wailuku Ahupua'a—especially near 'Īao Valley (windward locations)—indicates that the area was likely settled between *c.* A.D. 1100 (Kirch 1985:142) and A.D. 1200 (Fredericksen and Fredericksen 1996).

One of the earliest references for 'Īao Valley itself refers to a Maui king in power during the A.D. 1400s (Sterling 1998:84). The king, Kaka'e, was held in such reverence that commoners could not look upon him without suffering punishment by death. King Kaka'e thus became a hermit within 'Īao Valley during the 1400s so that his subjects could live without fear. It was supposed that this king also created a royal burial grounds (*Kapela*), an enigmatic place that was designated for himself and for worthy successors as a sacred burial area.

Connolly (1974:5) states that pre-Contact 'Īao valley had a large population base with "most people residing in a settlement near 'Īao Needle." Supposedly, the subsistence base of this population consisted of fish and *kalo* (*i.e.*, taro), with Kahului Harbor and the coast close by and *lo'i* systems lining 'Īao Valley's stream banks. Prehistoric ditches or *'auwai* were utilized in *kalo* cultivation (Connolly 1974:5). Sterling (1998:86) adds that two *'auwai* within the valley "have existed immemorially and were evidently constructed for the purpose of irrigating *kalo* on the plains which stretch away to the northward and southward of the ['Īao] river. Several minor *'auwai* have, since ancient times, tapped the river at different points lower down and spread the water through the lands in the gulch on either side of the river bed." Handy (in Sterling 1998:63) further notes that "from Waihee and Wailuku Valley, in ancient times, was the largest continuous area of wet *kalo* cultivation in the islands." Cheever (1851:124) writes: "The whole valley of

Wailuku, cultivated terrace after terrace, gleaming with running waters and standing pools, is a spectacle of uncommon beauty to one that has a position a little above it."

Recent archaeological research (Fredericksen and Fredericksen 1996:52) has revealed that habitation sites along what is now Lower Main Street in Wailuku, "are associated with the rich *kalo* producing lands in the Lower 'Īao River flood plain, and the extensive cultivation systems present in 'Īao Valley." These habitation sites have been dated to the A.D. 15th through 17th centuries. The 'Īao Valley area was not only renowned for its agricultural base during prehistoric times but its ceremonial and political base as well (see also Cordy 1996; Donham 1996).

Halekii Heiau, part of the Halekii-Pihana Heiau complex, was constructed during the mid and late 18th century (Sterling 1998:89). These monuments (State Site Number 50-50-04-522) are located along the northeastern side of the current project area and are described as very important to Hawaiian history. Yent (1983:7) noted an interesting life cycle for the *ali'i* who lived nearby. Kamehameha I's wife was born there, Kahekili lived there, and Kekaulike died there. Thrum (1909:46) reported that Kamehameha I evoked his war god at Pihana Heiau after his warriors defeated Kalanikupuli's forces during the Battle of 'Īao in 1790. The two *heiau* are primarily associated with Kahekili, who is connected with the Halekii-Pihana complex between A.D. 1765 and 1790, and Kamehameha, during his conquering of Maui in 1792 (Yent 1983:18).

Importantly, Halekii and Pihana Heiau are the only remaining pre-Contact Hawaiian structures of religious and historical importance in the Wailuku-Kahului area that are easily accessible to the public (Estioko-Griffin and Yent 1986:3). As stated, the area within and adjacent to the current project is known not only for its religious and/or ceremonial significance, but for its political prominence as well.

The Fredericksens' (1996:52) report that politically, Wailuku [village] was known as a central settlement for high ranking chiefs and their retinue. The Wailuku area was also witness to many battles, from the Battles of 'Īao and Sand Hill to the Battles of Kepaniwai and Kakanilua. The most famous battle was at Kepaniwai where in July 1790, Kamehameha I finally wrested control of Maui Island. Kamehameha I and his warriors landed at the Kawela portion of Kahului Bay and proceeded up 'Īao and other valleys to score a decisive victory. *Wailuku*, meaning "water of destruction," succinctly describes the area in which many of these major battles occurred. Warriors apparently dwelt in the Kauahea area of 'Īao Valley (southeast of 'Īao

Stream below Pihana Helau, and were "trained in war skills and there was a boxing site in the time of Kahekili" (Sterling 1998:89)

Just southwest of the project area, Creed (1993) has written extensively on the traditional background of the Waikapu area. Many classes of sites are found or may have existed in the Waikapu-Wailuku area during traditional times. Creed (1993:19–21) provides an extensive list, including some site types that would not apply to the current parcel due to its distance from major drainages, the coastline, and its open land classification. Traditional sites that would apply include agricultural sites (*i.e.*, *kula* lands, *wauke* patches, *hala* trees, pigs, and potato patches), boundary walls, burials (sometimes located in habitation terraces), feather gathering areas (particularly in the mountains to the west), habitation loci, and *pohaku* (an adze stone marks the border between Wailuku and Waikapu). While populations were predominantly centered in 'Īao Valley and Waikapu Valley, there was agricultural and habitation activity in the open grasslands above the coastal flats. Evidence for such activities has not yet been found through archaeological means, a situation that places much culpability on historic land use that may have erased or scattered this evidence. As such, there is much more evidence for historic activities occurring in the area.

HISTORICAL WAILUKU AND 'ĪAO VALLEY

The Wailuku area, as Kirch (1985:134) also notes, was an important center of political development during late prehistoric and early historic times and was the seat of powerful chiefs, including Kahekili, arch-rival of Kamehameha. Kamehameha I's unification of the Hawaiian Islands in 1790 brought Maui under the political control of its first non-Maui chief during July of that year. The last king of Maui was Kahekili II, son of King Kekaulike, both who are supposedly interred at the sacred burial grounds in upper 'Īao Valley. By the early historic period, significant natural and cultural changes had taken place, not only due to contact with westerners, but also because of internal social and environmental restructuring and external social and environmental factors (*e.g.*, foreign species being introduced as well as foreign ideologies). These combined to have a severe impact on Hawaiian environments, land-tenure, and social structures.

Several periods of various land utilization strategies occurred within 'Īao Valley and down below on the floodplains. Between 1778 and 1848, traditional land use occurred within 'Īao Valley, albeit on a smaller scale, as the "Conquest" period began and the Sandalwood and whaling trades dominated political and commercial activity within the Islands (Kirch and Sahlins 1992). Quite another conspicuous effect of the growing influence of foreigners in the Hawaiian Islands was the systematic division of lands, the Great Māhele of 1848. The Land Commission

overseas land divisions of three groups: Crown Lands (kings), Konohiki Lands, and Government Lands, all of which were, in theory, open to the prerogative of native tenants. The awarded land claims, known as Land Commission Awards (LCA), bordered 'Īao Valley. They were numerous in quantity and concentrated on the plateau above the stream valley, along the top of its sidewalls. Burgett and Spear (2003) and Tome and Dega (2004) both conducted studies adjacent to that area.

Sterling (1998:86) notes that "the district of Wailuku was once thickly settled, *kuleanas* to the number of over 400 were granted to natives and others. A large portion of these cultivated *kalo* with the aid of water from the river." Tome and Dega's (2004) project area contained multiple LCA with some also being *po'alima* lands. *Po'alima* lands were lands farmed by commoners for chiefs, and these lands were worked only on Fridays (Pukui and Elbert 1986:158, 334). For Tome and Dega, research revealed most of the claimants of those particular LCAs stated their lands were used for the cultivation of *kalo* and that additional information concerning *po'alima* lands was not available. Thus, the name of the chief overseeing those *po'alima* parcels was not traceable. In a study of land use near the 'Īao Stream, Burgett and Spear (2003) noted that Wailuku area residents submitted 199 land claims of which 127 of these were awarded by the Land Commission in 1848 (Waihona 'Aina 1998).

PREVIOUS ARCHAEOLOGICAL RESEARCH

Prior to the current project, no formal archaeological research had previously been conducted on the subject parcel. However, several archaeological projects have occurred within the greater of Wailuku, all of which are important in determining traditional and historic-period settlement patterns within the general area of Wailuku (see Donham 1996).

Thrum (1909) conducted the first archaeological survey within Wailuku Ahupua'a. He first identified the much investigated Halekii and Pihana Heiau. In addition to Thrum's work at the monumental structures, Stokes mapped the site in 1916. Walker also recorded the site in 1931, after his island-wide survey of Maui in which he identified many *heiau* within Wailuku Ahupua'a. Kenneth P. Emory in 1959 was the next archaeologist working at this important site. During this time he reconstructed portions of Halekii and rendered another map of the *heiau*. The most recent work at the site was conducted by Yent (1983, 1984, 1995) who undertook systematic survey, mapping, and excavations as part of a restoration plan. Yent's (1995) work yielded plan views of the site and detailed profiles of the *heiau*, as well as revealed construction techniques utilized to build the features.

Prior to the modern era, the only large-scale survey of Wailuku Ahupua'a and environs, albeit biased towards coastal structures, was conducted by Walker (1931). Recently, many other archaeological projects have been conducted in the area and have yielded much data regarding settlement pattern and land utilization within the *ahupua'a*. Kirch (1985:144) notes, however, that a "more intensive study of these important regions will help to unravel the sequence of economic, social, and political change that led to the development of the powerful Maui chiefdoms witnessed by Cook and others."

Connolly (1974), as part of the initial 'Īao Valley Flood Control Project (Phase I), conducted archaeological survey on a parcel located upvalley from the present project area. Connolly's survey augmented a preliminary reconnaissance of the study area by K. Moore of Bishop Museum in April 1974, the latter noting the presence of stone structural remains thought to be *kalo* or *lo'i* terraces. During the survey, Connolly recorded two historic complexes composed of a substantial amount of terraces, free-standing walls, ditches, historic house foundations, and several stone mounds.

Identified by Connolly (1974) and distinguished as State Site No. 50-50-04-2978 (Wallace System Complex) and 50-50-04-2979 (North Terrace System Complex), the former sites, located on the south stream bank of 'Īao Valley, contained a site composed of twenty terraces; two irrigation ditches; one free-standing, diversionary wall; and two house foundations. The North Terrace System Complex consisted of a wetland *kalo* system represented by six *kalo* terraces, two free-standing walls, and two stone mounds of unknown function. Connolly (1974) believed both sites (and all features) to have been constructed during historic times, the sites presumably constructed by Portuguese workers living in a camp within the valley. Several artifacts were also recovered during the survey and represent traditional *kalo* processing such as a fractured basalt *poi* pounder and one unfinished basalt *poi* pounder. Connolly's (1974) work in the 'Īao Valley streambed set a precedent for anticipated findings during the other studies in 'Īao Valley.

During the 1990s, the intensity of archaeological work conducted in Wailuku rose. In 1990, Rotunno and Cleghorn located human burials on TMK: 3-8-07: 2 and 110 in an area known as the Maui Lani Development Property. The human burials found on this tax map key were designated as State Site 50-50-04-2797 (Rotunno and Cleghorn 1990). In 1992, archaeological work on grounds of the Nisei Veterans Memorial Center (TMK: 3-8-07:123) located pre-Contact habitation sites (Site 50-50-04-3120) with associated human burials along with a portion Site 50-50-04-3112 identified as the Kahului Railroad (Fredericksen and

Fredericksen 1992). Also in 1992, more human burials were found during construction on the property of the Maui Homeless Shelter (TMK: 3-8-46:21, [Donham 1992]). The year 1994 saw more human burials uncovered. At the Maui Lani Development Property (Rotunno-Hazuka *et al.* 1994) multiple human burials were found. They were designated State Site 50-50-04-2797. At the site of the Home Maid Bakery (TMK: 3-8-37:49) on Lower Main Street in Wailuku, Donham (1994) discovered both historic and pre-Contact human burials. The site number assigned to these particular burials was Site 50-50-04-3556.

Further from the current project area, Dunn *et al.* (1995; 2004) identified three pre-Contact sites in sand along the Waiale Road during Archaeological Monitoring for the installation of a sewer pipeline. Site 50-50-04-4005 consisted of a single, disturbed human burial located in fill material; Site 50-50-04-4067 was a hearth and Site 50-50-04-4068 was an assemblage of 34 features that included 13 human burials and 21 habitational features. A single radiocarbon sample obtained from the hearth provided a radiocarbon date of A.D. 1434 to 1669 (98%) and A.D. 1772 to 1794 (2%) at 2 Sigma.

On Lower Main Street and Mill Street in Wailuku the Fredericksens (1996) conducted Data Recovery on TMK 3-4-39: portion 81 and 82. There, excavations at State Site 50-50-04-4127 revealed two extensive, subsurface cultural deposits, both "overlain by fill from historic earthmoving activities associated with the construction of the Kahului Railroad and Lower Main Street" (Fredericksen and Fredericksen 1996). While the upper cultural deposit was disturbed by the aforementioned activities, the lower layer contained intact pre-Contact features and artifacts associated with habitation. Artifacts associated with fishhook manufacture, lithic tool utilization and production, and food preparation were recovered from Layer II deposits. The deposits were dated and results suggested the site was occupied during the late pre-Contact period (A.D. 1570–1780). Importantly, this habitation site is likely associated with the lower 'Īao River flood plain in which *kalo* was presumably produced. Thus, habitation occurred above the valley floor while *kalo* production for households occurred on the rich but narrow alluvial flood plains of 'Īao Valley.

Finally, Cordy (1996) and Donham (1996) provide overview studies of prior archaeological work conducted in the area. Cordy (1996) discussed an overview of *Māhele* documents on land patterns in 'Īao Valley that clearly showed the lower valley region contained irrigated *kalo* fields throughout the flood plain and houses and associated grave sites at the base of the sand dunes bordering the sides of the flood plain. Donham (1996) also summarized that

house sites occur along the base of the sand dunes although the population did move makai through time.

A year later, Fredericksen and Fredericksen (1997) conducted an Archaeological Inventory Survey on TMK: 3-4-39:82 that identified an undocumented cultural deposit interpreted as a habitation site (State Site Number 50-50-14-4414) and an extension of their 1996 cultural deposit (State Site Number 50-50-04-4127). A single radiocarbon sample obtained from the former provided a calibrated date of A.D. 1325 to 1340 and A.D. 1390 to 1670 at 2 Sigma with a 95 percent probability rate.

On an Inventory Survey on TMK: 3-3-02: portion of 001 and 3-4-32: portion of 001, Tome and Dega (2004) identified a total of four archaeological sites of which Site -1508 (the Spreckels Ditch) was previously recorded. Site 50-50-04-5564 was the historic bridge constructed and used for the transportation of Wailuku's sugar cane industry; Site 50-50-04-5565 was the former *lo'i* fields used during pre-Contact into early post-Contact times; Site 50-50-04-5566 was a small, concrete-lined irrigation ditch also constructed and used during the sugar cane industry that most likely stemmed into aiding the macadamia nut industry. A supplement of eleven stratigraphic trenches was placed at various points along the proposed routes that tested subsurface soil deposits for human alteration and influence. Three stratigraphic trenches aided the confirmation that the former *lo'i* fields, once abundant in the lower portions of Iao Valley, still exist and that they were under fill. With the exception of the former *lo'i* fields that were once used in pre-Contact times, no traditional archaeological sites were found thus, attributing the intensive cultivation of sugar cane and macadamia nuts to the destruction and removal of such sites (Tome and Dega 2004).

These sampled archaeological studies provide much insight into the nature of traditional and historical activities occurring within and near the current 'Īao Valley project area. Through past archaeological research, oral traditions, and historical records, the chronology and settlement pattern of the valley may be brought into focus.

The settlement pattern and timing of land utilization may be conveniently (and arbitrarily) divided into several general periods: traditional/pre-Contact settlement, the early historic period early post-Contact, the recent historic and present land use. Together, these periods create a synthesis of land use in and near the project area as well as provide a basis on which researchers explored succinct research questions during reconnaissance and sampling work.

SETTLEMENT PATTERN AND LAND UTILIZATION

Wailuku Ahupua'a and its coastal environs are thought to have been initially settled around A.D. 1100 to 1200. Through time, settlement expanded to more inland locales, such as various portions of 'Īao Valley itself. The Wailuku area is considered to have been a chiefly and ceremonial center during pre-Contact times. Settlement, burial grounds, coastal exploitation of marine resources, and *lo'i* systems in 'Īao Valley were supposedly common during pre-Contact times. Between A.D. 1500 and 1700, archaeological data indicates that habitation occurred near 'Īao Valley, with the valley itself utilized as *kalo*-producing lands. The massive sand dunes of Wailuku in which the project area is situated, is known for the multiple archaeological sites containing human burial and habitational features. The numerous *heiau* attest to the significance of the area (*e.g.*, Halekii and Pihana Heiau) and war gods were invoked by Hawaiians at the temples (*e.g.*, by Kamehameha I, for example). Many battles were fought within 'Īao Valley, most poignantly the Battle of 'Īao in which Kamehameha I gained complete control of the island, displacing the Maui chief before him. The unification of the Hawaiian Islands by Kamehameha I, coupled with an increasing influx of foreigners in the islands, ushered in the early historic period.

EARLY HISTORIC PERIOD

In addition to the unification of the islands, perhaps the most significant development following contact with Westerners was the Great Māhele of 1848. Based on observations of LCA claims in the vicinity of the project area, few LCAs were awarded on the east side of Lower Main Street while many LCAs were distributed in areas on the west side of Lower Main Street especially those lands bordering 'Īao Valley and the 'Īao Valley Stream. Most lands bordering 'Īao Valley and the 'Īao Valley Stream were utilized for the cultivation of *kalo* and *hala* trees, and for house sites resting near agricultural production areas. There, the LCAs listed were likely used on a continuous basis from pre-Kamehameha I times at least through the middle to late 19th century. Of the few LCAs (420 and 7713; Figure 4) on the east side of Lower Main Street and in the vicinity of the project area, only LCA 420 provided limited description of how the award was utilized. Based on database information from the Waihona 'Aina Corporation, LCA 420 had two *apana* (*i.e.*, slices of land) of which one was utilized as a house lot. With observations of TMK: 3-8-07, it must also be mentioned that while LCA 420 is in the vicinity of the project area, it is not clear that the LCA is in the project area. Post 1848 awarding of land parcels and the subdividing of such, likely contributed to the distortion of LCA boundaries.

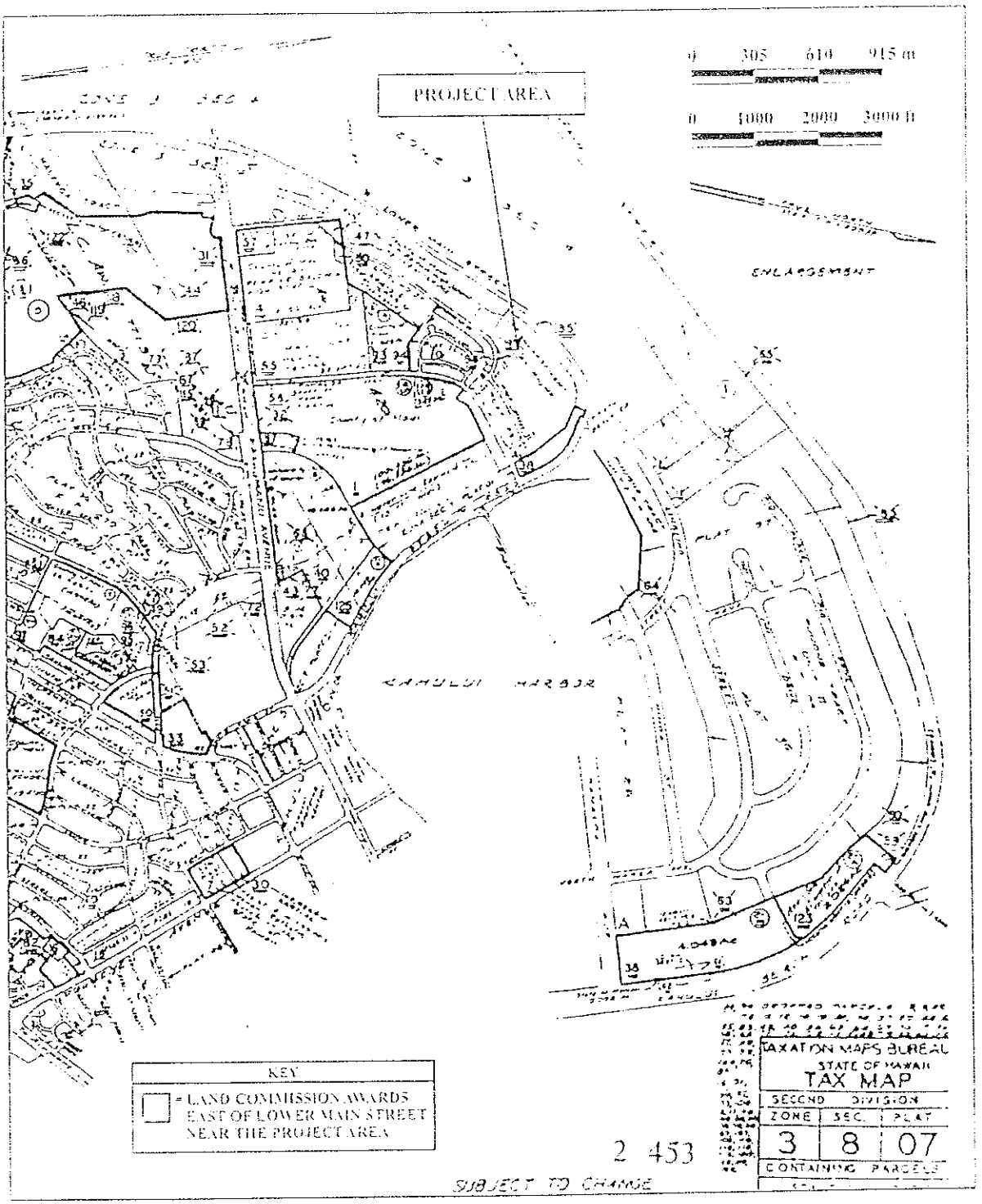

Figure 4: TMK: 3-8-07 Showing Land Commission Award Locations East of Lower Main Street and Near the Project Area.

Another significant development was the cultivation of sugar cane, which began in the 'Īao Valley area during the 1850s. Sugar cane became the dominant crop cultivated in the area and provided occupational opportunities for both local and non-local residents. With sugar cane cultivation came irrigation and processing structures across the landscape like irrigation ditches, mills, and other infrastructures supporting the cash crop production. Sugar cane cultivation continued through the 20th century.

RECENT HISTORIC PERIOD AND PRESENT LAND USE

During the 20th century, sugar cane cultivation continued on an intensive scale. A Portuguese worker camp providing a residence for plantation workers was located in 'Īao Valley. The 1916 flood destroyed this camp and a nearby rock crusher. After the flood, the sugar cane plantations rebuilt many of the irrigation ditches and mill stations that were wiped out in the flood. Sugar cane continued to be the dominant activity in the 'Īao Valley area, although small *kalo* plots were still being cultivated. To the west and *mauka* of the current project area, land was utilized during World War II as a military training area. In addition, ranching became a viable activity in the 'Īao Valley area, particularly in *mauka* areas below the precipitous cliffs of the West Maui mountain range. At present, lands surrounding the project area are utilized for apartment housing. The Halekii and Pihana Heiau area has been preserved and restored. The project area mainly displays a low growth of grasses and remains non-utilized.

Overall, the settlement pattern of the project area and environs suggests a range of site types associated with various landforms (see Cordy 1996 and Donham 1996 for settlement pattern summaries). For instance, irrigated *kalo* fields would occur on the flood plains where alluvial soil and hydrological output are both present in sufficient quantities (and quality) to allow for successful cultivation. Related to a wholly different soil type, traditional subsurface habitation deposits with associated burial loci occur at the base of sand dunes adjacent to the flood plains (e.g., sand dunes located in and across Waiale Road from the project area). Sand dunes occur on both sides of the stream valley flood plain. Traditional activity areas were also utilized during historic times. For example, sugar cane cultivation occurred on an industrial level in flood plain reaches from the 1850s. Even later, portions of the valley were utilized during World War II as training areas. A survey of all topographic features associated with the valley has yielded variable land use patterns through time.

METHODOLOGY

FIELD METHODOLOGY

Multiple field tasks were completed during this survey. First, a brief pedestrian survey was conducted in order to identify archaeological sites and assess project area geographical features. Second, vegetation within the project area was identified using Pratt (1998), Wagner *et al.* (1990), and Whistler (1995). Interval spacing of five meters between SCS personnel was employed to ensure adequate coverage during the survey. During the pedestrian survey, results were complied on standard graphing paper as well as with digital photography. All measurements were recorded in metric units. Finally, a mechanical backhoe with a 0.7 m wide (exterior measurement) bucket was employed to mechanically excavate stratigraphic trenches (STs) to locate and investigate (when present) the vertical depth of subsurface archaeological deposits. Soil stratigraphy encountered during excavation was documented utilizing metric graph paper and United States Department of Agriculture (USDA) Munsell soil color charts. Once found, portable archaeological materials—soils sampled included—were collected and recorded with applicable provenience and placed in plastic and paper bags for laboratory analysis.

LABORATORY METHODOLOGY

All field notes, digital photographs, and collected archaeological materials were curated at the SCS laboratory in Honolulu. All stratigraphic profiles were drafted for presentation within this report. Representative plan view sketches showing location and morphology of identified sites/features/deposits were illustrated. All retrieved artifact and midden samples were cleaned, sorted, and analyzed. Marine gastropods and bivalves were identified using applicable references. Significant artifacts were scanned or photographed and classified for qualitative analysis. All metric measurements and weights were also recorded for quantitative analysis. Midden samples were minimally identified to the lowest possible taxonomic classification (*e.g.*, bivalve, gastropod mollusk, echinoderm, fish, bird, and mammal). All data were clearly recorded on standard laboratory forms that included numbers and weights (as appropriate) of each constituent category.

FIELDWORK RESULTS

Through pedestrian survey and subsurface testing, the Archaeological Assessment failed to reveal any archaeological deposits on 0.67-acres of land on TMK: 3-8-37:28. The ground surface of the project area was visible for an area of approximately 50 percent and the remainder was covered with tall grasses, although the grasses were parted for further inspection. Fourteen

randomly placed stratigraphic trenches totaling an excavation area of approximately 339.44 m³ confirmed the project area matrix was mostly sand with intermittent observations of imported silty clay lenses (Figure 5). Stratigraphic trenches were terminated at an approximate depth of 3.0 m or upon contact with cemented sand (which ever came first). During the mechanical trenching, locations of silty sand overlying concreted sand were revealed in four of the stratigraphic trenches (ST-6, 7, 8, and 14). The oldest cultural material found during excavation of the project area was a glass soft drink bottle that was identified in the field as being produced in the 1970s. Otherwise, no archaeological materials were observed on the project area's surface or in the stratigraphic trenches. The stratigraphic trench results are summarized in Table 1, followed by examples of stratigraphic sectional profiles showing matrix composition variation and anomalies.

TABLE 1: STRATIGRAPHIC TRENCH SUMMARY

ST Number	Matrix Composition Variation (colors excluded)	Present Anomalies	ST Dimensions (m) L x W x D	Meters Excavated (m³)
1	1	Silty Clay Lens (Fill)	48 x 0.7 x 3	100.80
2	1	None	39 x 0.7 x 3.1	84.63
3	1	Silty Clay Lens (Fill)	40 x 0.7 x 2.8	78.40
4	1	None	4.5 x 0.7 x 2.2	6.93
5	1	None	5 x 0.7 x 2	7.00
6	2	None	5.8 x 0.7 x 2.7	1.36
7	2	None	5.5 x 0.7 x 2.4	9.24
8	2	Silty Clay Lens (Fill)	6.2 x 0.7 x 2.4	10.41
9	1	None	5 x 0.7 x 1.9	6.65
10	1	None	3.8 x 0.7 x 1.7	4.52
11	1	None	6 x 0.7 x 1.2	5.04
12	1	None	5.4 x 0.7 x 2.2	8.31
13	1	None	4.7 x 0.7 x 2	6.58
14	2	None	5.7 x 0.7 x 2.4	9.57
TOTAL EXCAVATED AREA				339.44 m³

Overall, all of the stratigraphic trenches revealed sandy matrices with the first 10 centimeters below surface (cmbs) being a vegetative root occupation zone. In most stratigraphic trenches, Layer I was a semi-compact, very fine granular structured, very pale brown (10YR 7/3, dry) sand. Exceptions to this rule were ST-9 and 10, which displayed an alternate sand color. For both trenches, Layer I was a semi-compact, very fine granular structured, pinkish gray (7.5YR 6/2, dry) sand with the first 10 cmbs being a vegetative root occupation zone. The color

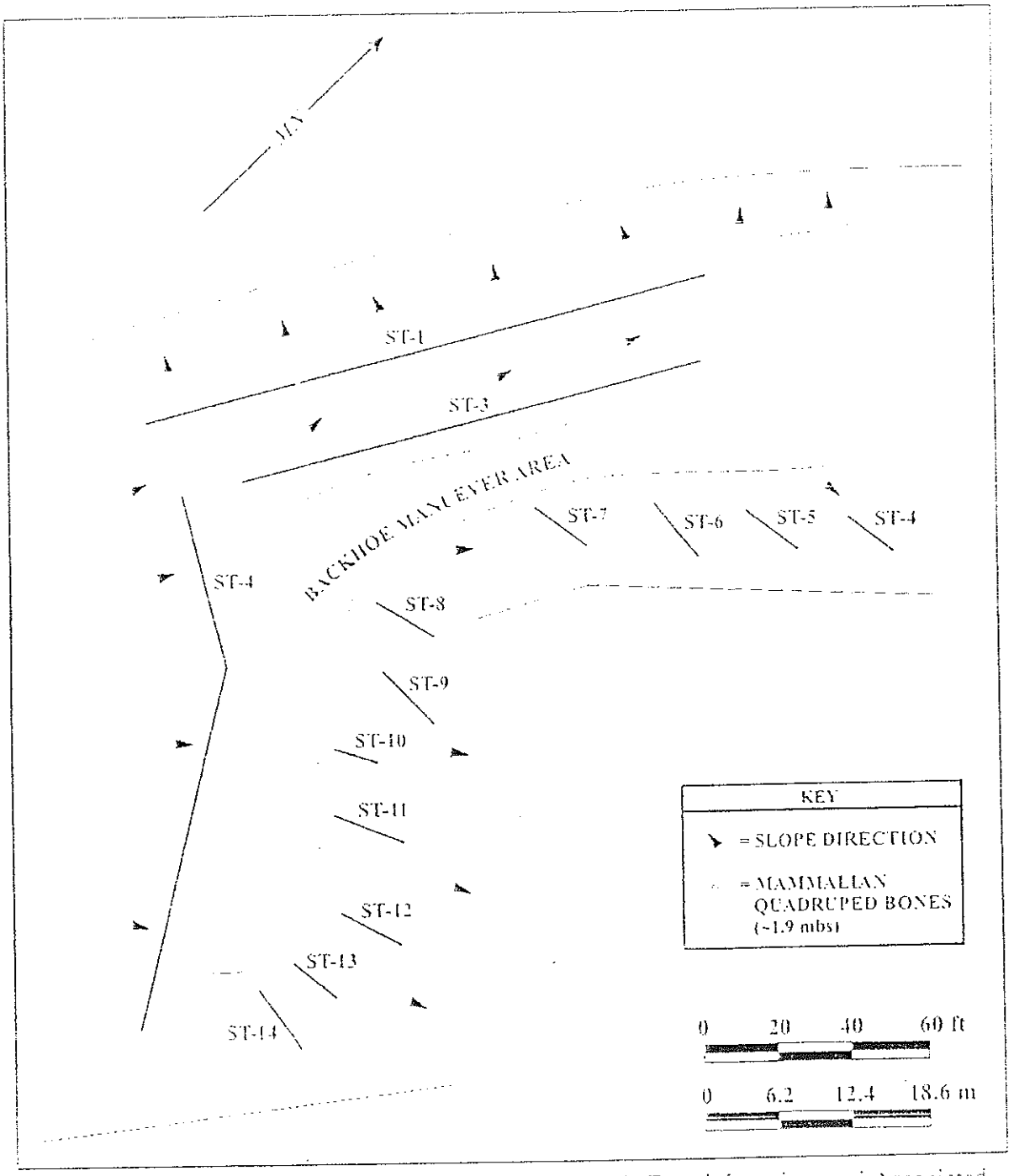

Figure 5: TMK: 3-8-33:28 Plan View Showing Stratigraphic Trench Locations and Associated Anomalies.

variation among trenches with very pale brown sand and those with pinkish gray sand were not seen as deciding factors of human alteration of the project area: the color was inconsequential.

However, matrix composition variations (colors excluded) of sandy matrices were observed with several trench walls displaying silty clay lenses (Figure 6). The silty clay lens observed in ST-1 displayed non-diagnostic iron that strongly suggested the silty clay was probably discarded as extra material from construction activities that occurred surrounding the project area. Other trenches (*i.e.*, ST-6, 7, 8, and 14) revealed a pre-termination layer of semi-compact, very fine (less than 1 mm diameter) granular structured dark brown (7.5YR 3/2, dry) silty sand with few vegetative roots of less than 1 cm diameter (Figures 7, 8, and 9). Trenches excavated higher in elevation were observed to have gray sand matrices (*i.e.*, portion of ST-2 and 10, all of ST-9 [Figure 10]). ST-9 and 10 gray matrices was a semi-compact, very fine granular structured, pinkish gray (7.5YR 6/2, dry) sand.

Also noticeable was the presence of the cemented sand that is part of the sand dunes in Wailuku. ST-2, located near the southern perimeter of the project area, displayed a length of approximately 24.0 m of cemented and sometimes stratified sand layers (Figures 11 and 12). In ST-3, the skeleton of a quadruped mammal was discovered at approximately 1.9 m below surface and 13.1 m from ST-3's south wall. A few osteological samples were recovered to represent a relative depth in which cultural materials could be found. Field analysis of the sampled osteological remains identified the mammal as a sub-adult based on a non-fused femoral epiphysis. No cultural material was observed in association with the mammalian skeleton.

No subterranean architecture, midden deposits, or topographical changes indicative of earlier (*i.e.*, +50 years ago) land use were observed. The assessment that the entire 0.76-acre could contain historic properties (human burials, habitation areas etc.) was demonstrated by the depth (1.9 mbs) at which the quadruped mammal skeleton was found. The presence of the silty clay lenses suggests the parcel was utilized as an informal depositional area for unused, imported fill while the silty sand found pre-termination in ST-6, 7, 8, and 14 suggest a portion of the project area may have been subjected to minor land alteration for construction development purposes. Although these particular trenches did not reveal cultural material, the area's overall potential to do so is extremely high. Sand deposits extending to depths greater than two meters are the indicator that cultural deposits might be found in the future.

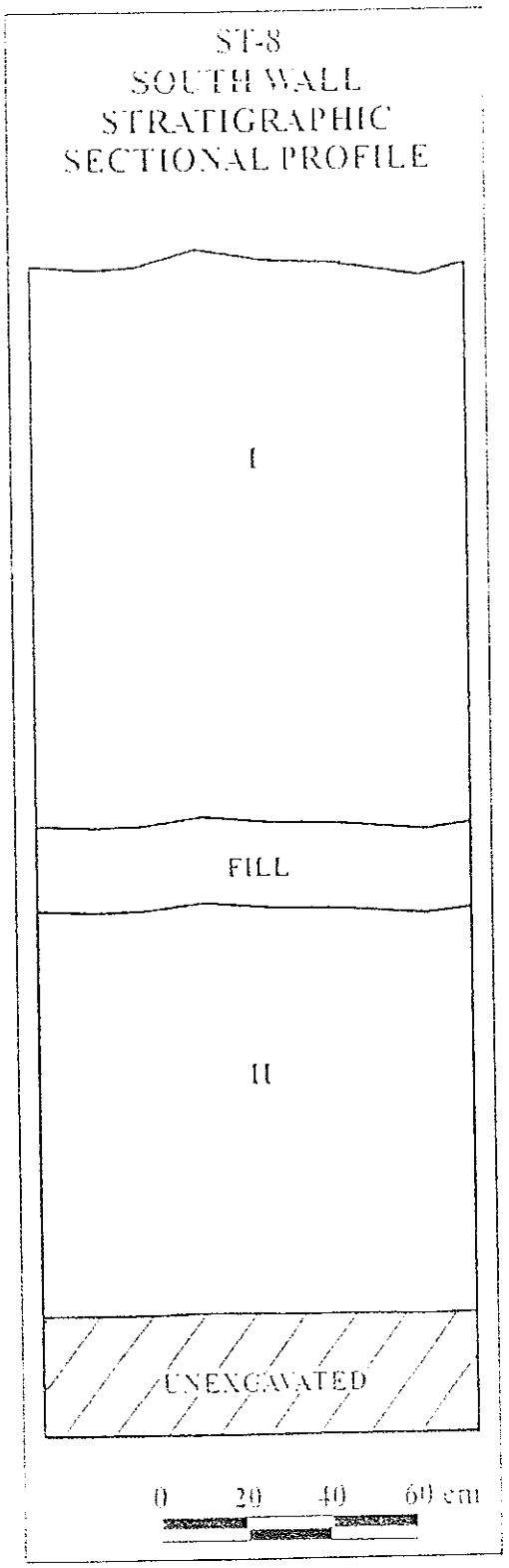

Figure 6: ST-8 Stratigraphic Sectional Profile Drawing.

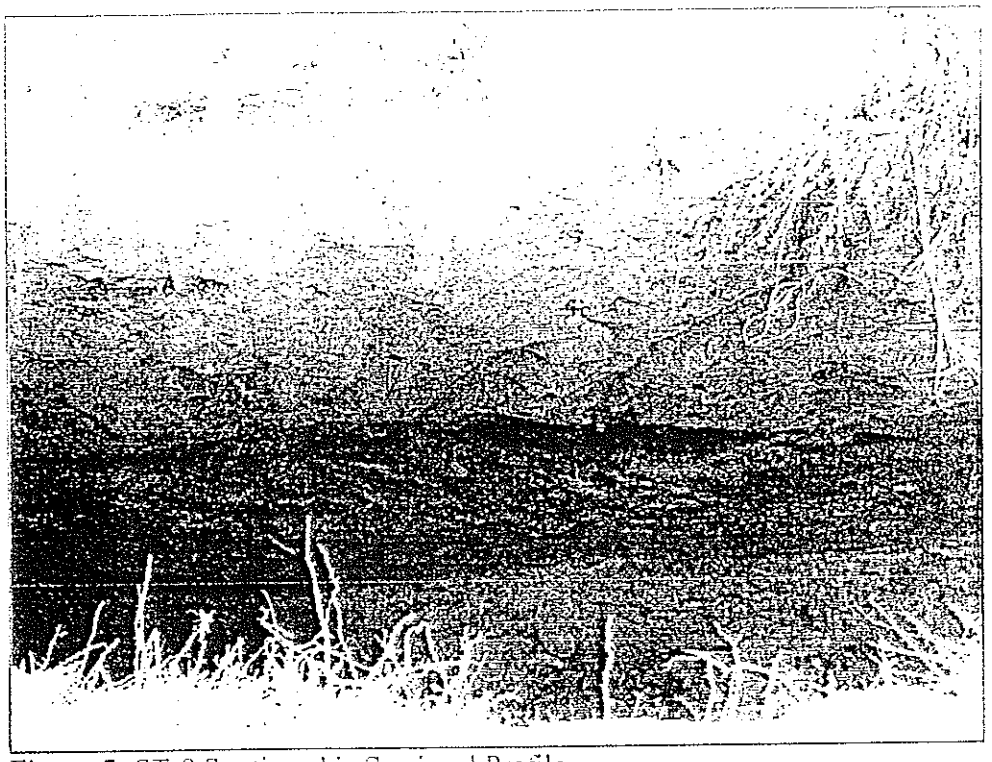

Figure 7: ST-8 Stratigraphic Sectional Profile.

Figure 8: ST-7 Stratigraphic Sectional Profile Photo.

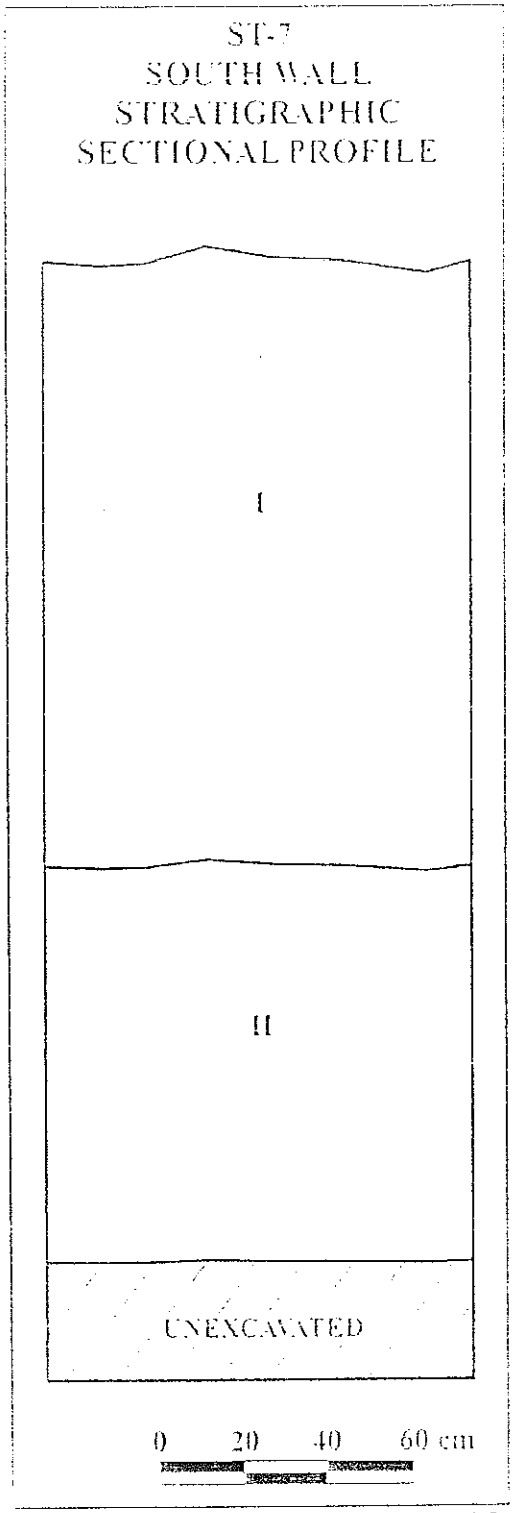

Figure 9: ST-7 Stratigraphic Sectional Profile Drawing.

Figure 10: ST-9 Overview.

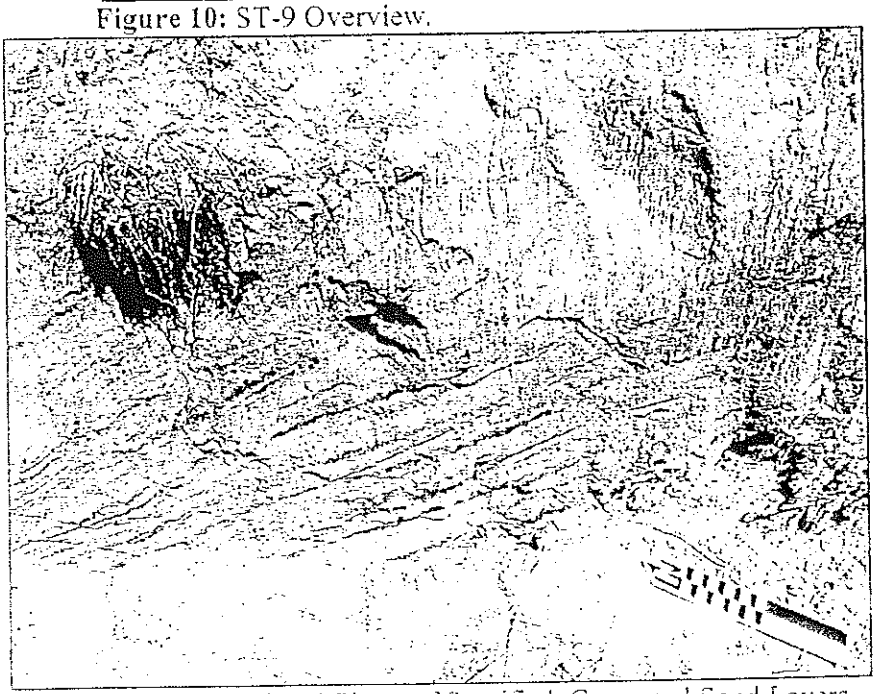

Figure 11: ST-2 Sectional Photo of Stratified, Cemented Sand Layers.

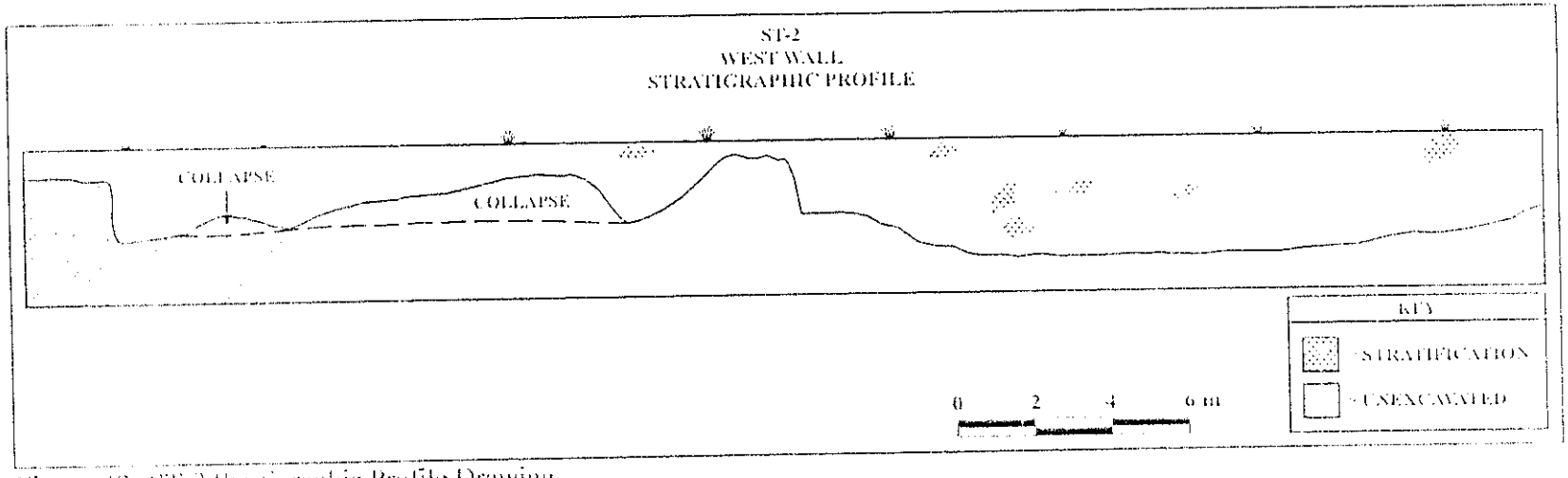

Figure 12: ST-2 Stratigraphic Profile Drawing.

RECOMMENDATIONS

Based on the above information, in conjunction with archaeological findings near the project area (e.g., Home Maid Bakery), it is probable that archaeological materials are present on the single 0.76-acre parcel in subsurface contexts. It appears likely, although not definite, that any subsurface work on the parcel may lead to the unveiling of such materials. As sandy contexts are present on the parcel, there is a high probability that human burials and/or associated historic properties (e.g., trash deposits, hearths) would be encountered. Thus, Archaeological Monitoring is recommended for this parcel (TMK: 3-8-37:28).

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Appendix B:
SHPD Approval Letter

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

June 22, 2005

Michael Dega, Ph.D.
Scientific Consultant Services
711 Kapiolani Blvd. Suite 975
Honolulu, HI 96813

LOG NO: 2005.1187
DOC NO: 0506MK15

Dear Dr. Dega:

SUBJECT: Historic Preservation Review 6E-42 - Archaeological Assessment Survey 0.76 Acres in Wailuku for Mr. Michael Bollenbacher Wailuku District, Wailuku District, Island of Maui TMK (2) 3-8-37: 28

Thank you for the opportunity to review this report which our staff received on May 2, 2005 (Tome and Dega 2005, *An Archaeological Assessment of 0.76 in Wailuku, Wailuku Ahupua'a, Wailuku District, Island of Maui, Hawai'i, [TMK3-8-37:28])*...Scientific Consultant Services, Inc., ms. As indicated above, the parcel consists of 0.76 acres located within the Pu'uone Dune system, nearly at the apex.

The background section acceptably establishes the ahupua'a settlement pattern and predicts the likely site pattern in the project area. The historical information provided summarizes the history of the post-contact period land uses. The summary of previous archaeological work in the area provides a baseline for the current work. It was anticipated that burials and/or cultural deposits might be encountered in the dune system.

The survey has adequately covered the project area documenting no historic properties. Subsurface testing (fourteen backhoe trenches) were also negative for evidence of cultural deposits. A total of 339.44 m^3 evidenced minor amounts of imported silty clay fill.

We concur with the mitigation recommendations that archaeological monitoring is warranted in the subject parcel during all ground altering disturbance. The parcel's location in the sand dune suggests a high probability that subsurface deposits may yet be identified within. Please specify in

550

We find this report to be acceptable. We will await the submittal of an archaeological monitoring plan following any request for determination from the county to SHPD. As always, if you disagree with our comments or have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

MELANIE A. CHINEN, Administrator
State Historic Preservation Division

MK: kf

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept. of Plng, 250 S. High St, Wailuku, HI 96793

Appendix C: Cultural Impact Assessment Report

Imi Ikena Affordable Housing Project

Cultural Impact Assessment

for

511 Imi Place
Wailuku, Maui, Hawai‘i
TMK (2) 3-8-037:028

by

Jill Engledow
Historical Consultant
Wailuku, Maui

September 2011

Prepared for
Imi Ikena Housing Partners
DBR Development LLC
990 Highland Drive
Solana Beach, CA 92075

Imi Ikena Affordable Housing Project
Cultural Impact Assessment
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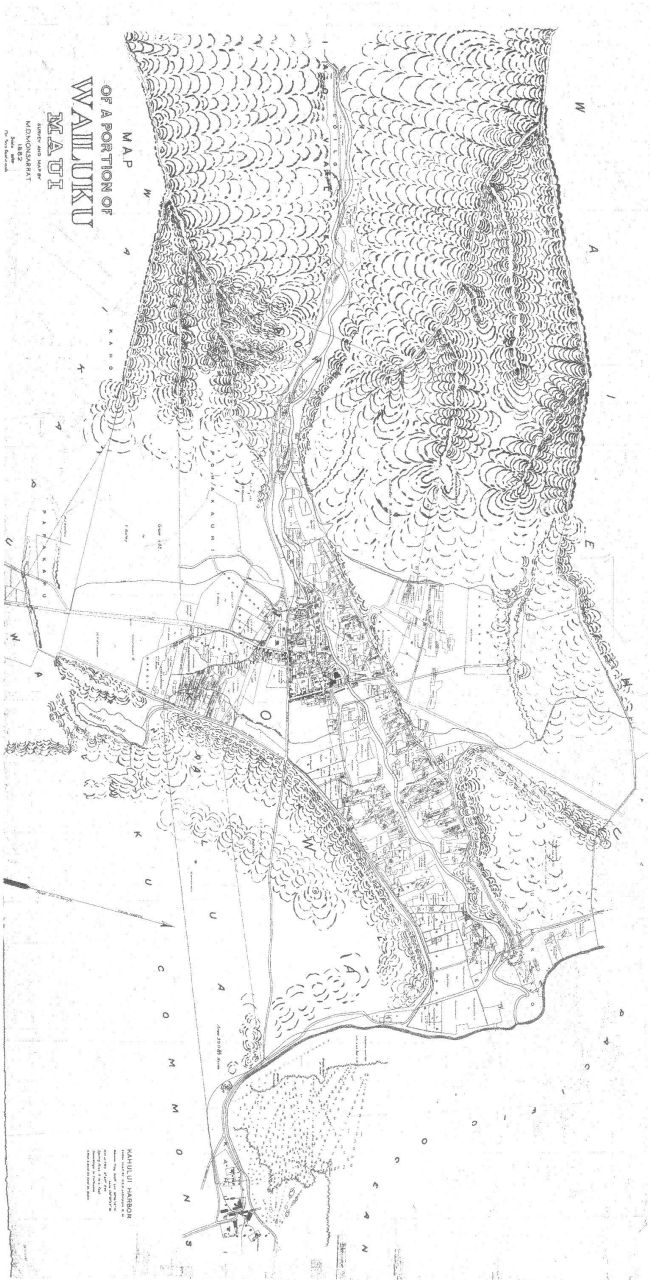

Fig. 1 Map of a Portion of Wailuku, Maui. M.D. Monsarrat, 1882

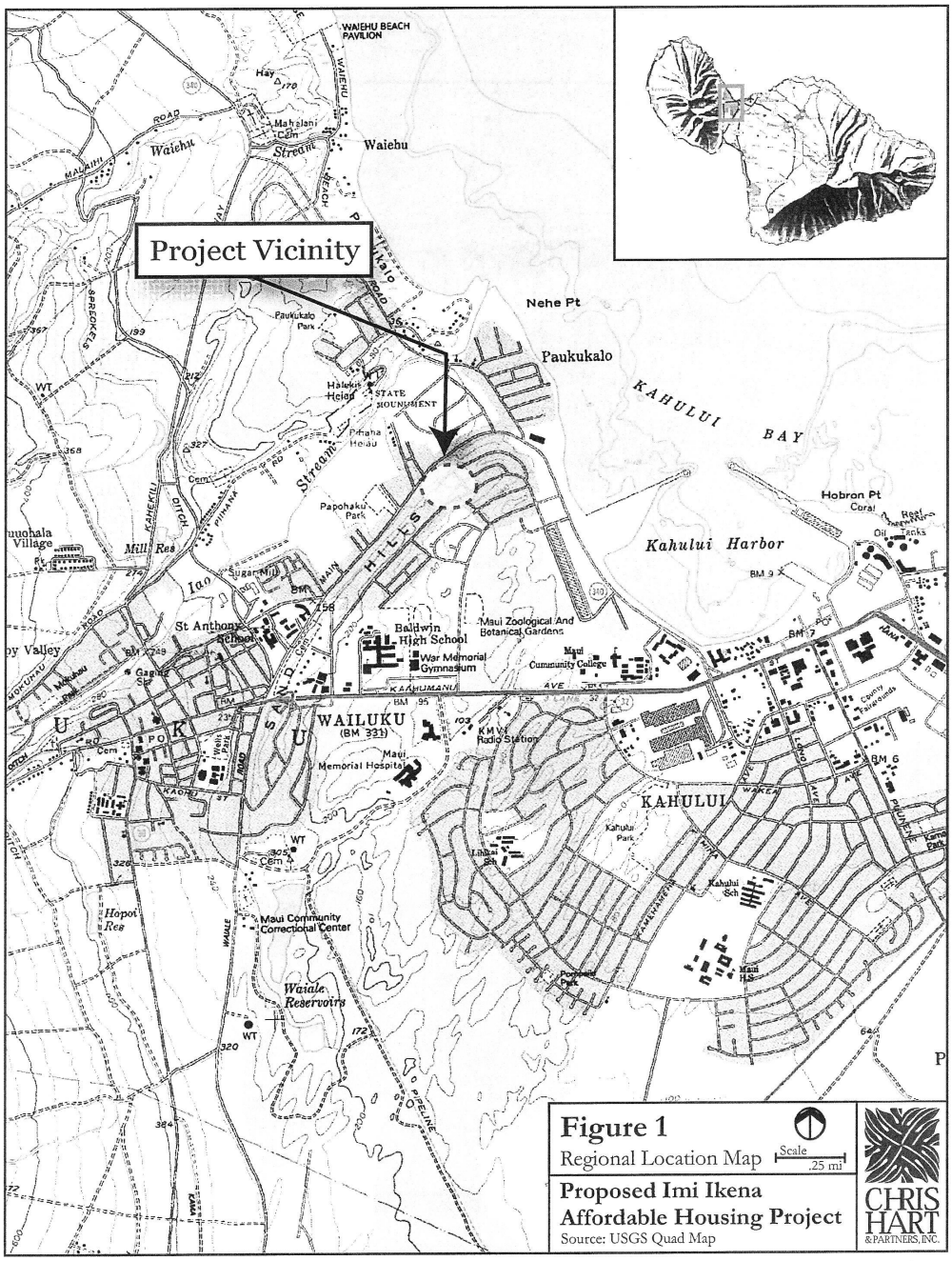

Fig. 2 Regional Location Map of proposed project

Fig. 3. West Maui. This is a portion of a map of Maui by W.D. Alexander.*1885 Hawaiian Government Survey Map.* Brought up to date in 1903 by John M. Donn.

Fig. 4. The Makawela fishery is visible around neighboring buildings from the mauka boundary of the subject parcel. Engledow photo 9/11

Fig. 5. Pihana and Haleki‘i Heiau are on a ridge across the ‘Īao Stream from the subject parcel. Engledow photo 9/11

Imi Ikena Affordable Housing Project

Cultural Impact Assessment

I. Introduction

At the request of Chris Hart & Partners, Inc., researcher and writer Jill Engledow prepared this Cultural Impact Assessment of the proposed Imi Ikena Affordable Housing Project at 511 Imi Place, TMK (2) 3-8-037:028. This 32,953-square-foot property is located at the top of a long sand dune running more or less perpendicular to the shoreline of Kahului Harbor. The property is about 160 m. above sea level and 0.65 km from the shoreline.

This project will be developed with the Affordable Housing Fund of the County of Maui Department of Housing and Human Concerns. The use of county funds requires the preparation of an Environmental Assessment, which must include a Cultural Impact Assessment to identify and address effects on Hawaii's culture and traditional customary rights. This Cultural Impact Assessment was prepared in accordance with the Guidelines for Assessing Cultural Impacts (Office of Environmental Quality Control 1997).

II. Report Methodology/Resource Materials Reviewed

Sources sited in archival research are listed in the attached bibliography. Additional searches included the Internet and the indexes of a variety of books on Hawaiian culture and history. Engledow also conducted interviews with one resident who remembers the area over the past 50 years and one Hawaiian cultural expert.

III. Study Area Description

This site is located on the top of a sand dune in an area which is almost entirely developed as a residential neighborhood. The site is surrounded by apartment buildings and paved roads. It overlooks Kahului Harbor and the northern-central coast of Maui. Plants on the site are primarily non-natives, common wayside plants like bufflegrass and *koa haole.* (Fig. 4)

IV. Study Area History

The subject property is located in the ʻili of ʻOwā, which is in the *ahupuaʻa* of Wailuku, within the Wailuku district. This place name is not in Pukui's *Place Names of Hawaii,* but is visible on a map drawn by Monsarrat in 1882. (Fig. 1) The diacritical markings used in this report are based on the usage in *Ruling Chiefs of Hawaii*. (Kamakau, page 229)

The Monsarrat map shows how the geography of Wailuku shaped its settlement. On both sides of the ʻĪao Stream, from the mouth of ʻĪao Valley to the shoreline just below the subject property, dozens of kuleana line the shore. The settlement areas run up against Wailuku's famous puʻuone, or sand dunes. Close inspection of a digital copy of this map using the "zoom" feature shows no evidence of development on the long dune that includes the subject property, stretching from the shore to the area of Waiʻale Pond. The only exception is the road whose configuration on this old map matches that of Main Street/Kaʻahumanu Avenue on Fig. 2, Regional Location Map.

The steep edge of the dune on the northwestern side is bordered by railroad tracks, a newcomer to the neighborhood when the map was made. Kahului & Wailuku Railroad laid its first tracks in 1879, with "the first locomotive ever put in motion in these islands" "whistling as if with joy" as it ran up and down the track on the July 2, 1879. At the time, a quarter-mile toward Wailuku had been laid. (McKinney, in Condé, page 118) The track reached the Wailuku Depot on September 10, presumably the depot seen on the Monsarrat map near the corner where Mill Street today joins Lower Main Street, roads which apparently were also in existence in 1882.

In the times before Western contact, the Wailuku district was a center of political power. The district included ʻĪao Valley, where chiefs were buried in ancient times, the locations of their graves kept carefully secret. (Walker in Sterling, page 80) At the other end of the district, in the place we now call Kahului, were two great fishponds, Kanahā and Mauʻoni. Only Kanahā still exists.

Around the end of the 18th century, paramount chief Kahekʻili resided with his entourage in Wailuku. "Kahekʻiliwas living at Pihana, at Paukukalo, and at Wailuku with the chiefs, his companions and favorites, and his warriors. . ." (Kamakau, page 83) Pihana, across the ʻĪao Stream on the sandstone ridge to the northwest of the subject property, was the site of two important heiau. On that sand dune were located Halekiʻi and Pihana, remnants of which still exist. (Fig.5)

Wailuku was an attractive area for powerful chiefs. With the ʻĪao Stream providing

plentiful water, much of what is now the city of Wailuku once was leveled and terraced to produce kalo. "The whole valley of Wailuku, cultivated terrace after terrace, gleaming with running waters and standing pools, is a spectacle of uncommon beauty to one that has a position a little above it," the Rev. Henry T. Cheever wrote in 1851. (Cheever in Sterling, page 75.) The Alexander map shown in Fig.3 indicates by blue striping that kalo farming took place even in 1884 along the borders of the stream. It seems likely that there was little human activity atop this sand dune, however, based on the 1882 map, and the archaeological findings of no cultural materials. (Dega and Guerin, page 2)

Wailuku also was the site of several important battles. In 1776, Kalaniopu‘u, paramount chief of Hawai‘i Island, dispatched a fleet of canoes to the south shore of the central isthmus and sent his most high-ranking warriors across the sand hills to attack Kahekili, paramount chief of Maui. Maui warriors hiding among the dunes slaughtered the Big Island invaders in the Battle of Kakanilua. (Kamakau, pages 85-86)

Perhaps the most famous battle to take place in this area was Kepaniwai. This battle, in which the Hawai‘i Island chief Kamehameha used Western armaments to defeat the army of Kalanikupule, son of Kahekili, began with the arrival of a great fleet of canoes filled with warriors that lined the shores of Kahului Bay. The Big Island warriors drove the Maui army through Wailuku and into ‘Īao Valley, where cannon handled by Western sailors John Young and Isaac Davis slaughtered so many that the stream was dammed, resulting in the name "Kepaniwai"-- the damming of the waters. One can imagine Maui lookouts observing the arriving war canoes from the top of this ‘Owā sand dune, or even civilians scrambling to its heights to avoid the battle below.

The sand dunes of the Wailuku district and the great isthmus known as Kama‘oma‘o and later as the Wailuku and Waikapū Commons clearly provided a military advantage that probably helped attract high chiefs to set up their headquarters there. While everyday life and farming took place in the lowlands along the stream bed, the dunes could serve as hiding places for ambush, as at the Battle of Kakanilua, or as lookout points. The ridge where Pihana and Haleki‘i are located, and possibly the ridge where the subject property is located, could have allowed surveillance of the whole northeast coast, as well as a view south to detect invaders coming from the Kīhei-Mā‘alaea area.

The ‘ili of ‘Owā is shown on the Monsarrat map as including the makai end of this long sand dune as well as part of the flatter lands between the edge of the dune and the stream. According to researcher Hokuao Pellegrino, ‘Owā includes Sand Hills, Baldwin High School, Maui Arts & Cultural Center and the University of Hawai‘i Maui College. (Enomoto) The ‘ili is mentioned once in Kamakau's *Ruling Chiefs of Hawaii,* where he describes the deathbed advice of the Wailuku konohiki, Noa Auwae. Auwae warned his

family of the potential for the land where they lived being taken away on the whim of the king, and advised them to "'go to the chief Ka-lani-kau-i-ke-aouli and buy the land of Owa so that it may not be taken away from you; and if Wailuku is taken, Owa will be left and you can live there securely.' It was this advice of Noa Auwae that made H. Kawailepolepo go to Oahu and buy the land of Owa." (Kamakau, page 229) It is not clear how Kawailepolepo could have "bought" this land in 1834, before private property ownership became possible after the Māhele ʻĀina, but missionary Rev. Jonathan Green also recorded this transfer of power at the death of Noa Auwae, whom he characterized as a man of great dignity of character and wisdom. (Green)

Records from the Māhele and of land grants and royal patents show that portions of ʻOwā were given to several different individuals in the second half of the 19th century. The online database ulukau.org also lists several Hawaiian-language newspaper articles mentioning ʻOwā (including the Noa Auwae story above, later included in *Ruling Chiefs*), some of which include the names of those individuals--Kuihelani and Kaauwai, for example. According to the Monsarrat map, this section appears to have been given to Kuihelani. Later it became part of the land grant to sugar baron Claus Spreckels

Development of housing in the area around this dune started was underway by the 1960s, with the apartments at the top developed beginning in the 1970s.

V. Oral Interviews

Two individuals shared their personal knowledge of this area in the preparation of this Cultural Impact Assessment. A legal ad in *The Maui News* requested information from anyone with knowledge of cultural practices around this parcel; no replies were received.

Leslie Kuloloio

Leslie Kuloloio, a longtime resident of Kahului and a recognized Hawaiian cultural expert, has been involved with archaeological and cultural studies in Central Maui since 1967. He has worked with archaeologists and landowners seeking evidence of habitation, burials and other archaeological sites in Waiheʻe, Waiehu, Paukūkalo, Keopuolani Park and Maui Lani, among others. Mr. Kuloloio also has made a personal study of the geographical formation of Maui, and in particular of Central Maui.

On September 19, 2011, Mr. Kuloloio took the writer of this report on a drive around this area, following the length of the ʻOwā sand dune on which the subject property is located. Mr. Kuloloio said that, in all of the studies he has been a part of, there have been virtually no signs of villages or habitation sites on the sandy areas of Central Maui.

Clearly this area was too dry, and the sandstone of the dunes too hard, to support human life, he said. There are burials in many places in Central Maui, mostly scattered, but with a couple of areas of concentration. One is at the Nisei Veterans Memorial Center near the makai end of the ʻOwā dune. Like that one, most burial sites are along the bottom edge of the dunes. Mr. Kuloloio said he would not expect to see any human burials at the top of the dune in the area where the subject property is located.

While the land in these sand dunes would not have held human habitation, the area offshore was a well-known fishery. The fishery directly in front of the ʻOwā sand dune was known as Makawela -- "burning eyes." Like other fisheries along this coast, it extended a mile into the ocean. It is possible that fishermen climbed up onto this dune and looked out to sea in search of schools of fish, but the name Makawela indicates the glaring sun those fishermen would face, reflecting off of the ocean and the white sand dune around them.

Mr. Kuloloio did not think there would be any cultural impact from the proposed development of an apartment building atop this sand dune.

Greg Wick

Greg Wick of Kula was interviewed by telephone September 12, 2011. Mr. Wick grew up on Pio Drive, near the subject property. Born in 1947 at Puʻunēnē Hospital, he was the son of Erling P. Wick, whose Ready Mix Concrete & Aggregates provided the cement for the building of Kahului's "Dream City." Greg Wick remembers riding bicycles to the end of the "sand dirt road" in his neighborhood to the area of the subject property. "It was all just wild stuff," he said, and all the way to Kahului was sandstone and kiawe. It was "a pretty harsh place, windy and salty," he said. He remembers there being old burials in the general area. Mr. Wick expressed surprise that this one parcel was still undeveloped, and said "I think it should be developed."

VII. Confidential information withheld; Conflicts in information or data

No confidential information was withheld. There were no conflicts in information or data within the reports consulted for this Cultural Impact Assessment.

VIII. Conclusion

After making site inspections, interviewing knowledgeable people of the area and conducting documentary research on the subject property and the area around it, it

appears that the proposed action does not interfere with any known Hawaiian or non-Hawaiian gathering, practices, protocols or access.

The subject property is the last vacant lot in an area that has long been developed for residential use. Based on the 1882 map, the historical information provided by Leslie Kuloloio and the archaeological findings of only a single skeletal remain of a quadruped, it is possible that this high sand dune area held little human activity in ancient times. There are no native plants suitable for gathering and no shoreline access. There appear to be no other cultural resources that might be impacted by the building on the site.

###

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Appendix

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII,
County of Maui. } ss.

Rhonda M. Kurohara being duly sworn deposes and says,that she is in Advertising Sales of the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a newspaper published in Wailuku, County of Maui, State of Hawaii; that the ordered publication as to Information Wanted for Cultural Impact Assessment

of which the annexed is a true and correct printed notice, was published 2 times in THE MAUI NEWS, aforesaid, commencing on the 20th day of September, 2011, and ending on the 21st day of September, 2011, (both days inclusive), to-wit: on September 20, 21, 2011

and that affiant is not a party to or in any way interested in the above entitled matter.

This 1 page Information Wanted, dated September 20, 21, 2011, was subscribed and sworn to before me this 21st day of September, 2011, in the Second Circuit of the State of Hawaii, by Rhonda M. Kurohara

Notary Public, Second Judicial Circuit, State of Hawaii

BETTY E. UEHARA

BETTY E. UEHARA NOTARY PUBLIC No. 83-344 STATE OF HAWAII

Information Wanted for Cultural Impact Assessment

Maui Island Press requests information on cultural resources or activities on or near this parcel in Owa, Wailuku, Maui: TMK (2) 3-8-037:028

Please contact MIP within 15 days at (808) 242-5459

(MN: Sept. 20, 21, 2011)

Affidavit of Publication for "Information Wanted" ad, *The Maui News*, Sept. 20 and 21, 2011.

Appendix D:
Phase I Environmental Site Assessment

EAC Pacific
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Mililani, Hawaii 96789
Tel/Fax: (808) 626-7706
www.eacpacific.com

EAC Pacific

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

AT

511 IMI PLACE
WAILUKU, HAWAII

FOR

DBR DEVELOPMENT LLC
P.O. BOX 235511
ENCINITAS, CA

FEBRUARY 2009
9BDBR003

prepared for

DBR DEVELOPMENT LLC
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PHASE I
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Project No: 9BDBR003
February 2009

RECOGNIZED ENVIRONMENTAL CONDITIONS
and
PROJECT SUMMARY

Project: ***9BDBR003*** Date: ***February 2009***

511 Imi Place, Wailuku, Hawaii, TMK (2) 38037028

ASSESSMENT COMPONENT	REC	[1]NFA	PROPOSED ACTIONS/ SOLUTIONS	[2]COST RANGE	REFERENCE SECTION
HISTORICAL REVIEW					
Ownership/Past Use		√			
Records/Maps		√			
Previous Reports		√			
REGULATORY REVIEW					
Federal Databases		√			
State Databases		√			
SITE RECONNAISSANCE					
Operational Activities		√			
Hazardous Materials		√			
Hazardous Waste		√			
PCB		√			
UST/LUST		√			
Surface Areas		√			
Adjacent Properties		√			
Asbestos		n/a			
Lead		n/a			
Other		n/a			

REC = *Recognized Environmental Condition as defined by ASTM E1527-05, §3.2.74.*
NFA = *No further action.*
n/a = *Not Applicable or not within the scope of this project.*

[1] *Based on this preliminary assessment, further investigation in this area is not a priority concern for this site at the present time.*

[2] *Costs depicted are for investigation/remediation program development activities. Remediation costs, if required, will be identified as a result of the program development activities,*

Proposed Actions/Solutions:

De minimis = *Identified as a potential REC, which upon further investigation was determined for the purposes of this assessment not to be a REC as defined by ASTM E1527-05.*

Routine = *Common solution that can be implemented or continued by the project site tenant or owner.*

Phase II = *Site characterization performed by a certified Environmental Professional.*

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1.0 CERTIFICATION

EAC Pacific has completed a Phase I Environmental Site Assessment of the project site. The assessment followed the methods and procedures consistent with good commercial and customary practice designed to conform to accepted industry standards and USEPA's *All Appropriate Inquires* rule. Any exceptions or deletions to this practice are described herein. This report is exclusively for the use and benefit of the Client identified on the first page of the report and is not for the use or benefit of, nor may it be relied upon, by any other person or entity. The contents of this report may not be quoted in whole or in part or distributed to any person or entity other than the Client hereof in any format without, in each case, the written consent of EAC Pacific.

The undersigned certifies that he is recognized by the USEPA as a qualified Environmental Professional due to substantially exceeding the regulatory requirements for education, training, and experience and complies with the mandated inclusion statement printed below.

2/17/09

Robert Weber, MPH, CHMM, REM — Date
Principal, Project Manager

"I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of this part. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312." (40 CFR § 312.21(d))

2.0 EXECUTIVE SUMMARY AND CONCLUSION

EAC Pacific performed a Phase I Environmental Site Assessment of the project site located at 511 Imi Place, Wailuku, Maui, Hawaii, TMK (2) 38037028 during February 2009. The following summarizes the findings of the investigation and the assessment conclusions representing EAC Pacific's professional opinion. Information regarding operational conditions and data provided by the Client, owner, or their representatives, interviewees, and contracted database transcription companies was assumed to be factually correct and complete, except as noted. The conclusions presented are based on the conditions that existed at the time of the site inspection and on information and data procured or provided during the time frame of this project.

- ◊ The project site area was previously undeveloped sand dunes, known as Sand Hills, and may have support livestock grazing further inland. Development of a residential community began in the late 1950s. Topographic maps and aerial photographs indicate the project site property is one of the last remaining undeveloped lots in the residential community.

- ◊ Review of available regulatory agency data indicated that the project site was not listed on any of the reviewed government environmental databases.

- ◊ Review of the available regulatory agency data concerning adjacent and nearby properties identified several nearby listed sites within the surrounding property search radii. Evaluation of the agency data suggests *de minimis* potential impact on the project site.

- ◊ No surface indicators of current underground storage tank systems were observed. No USTs were reported by interviewees or registered to the site.

- ◊ RCRA regulated hazardous wastes were not observed generated, accumulated, stored, transported, or disposed on

the subject site during the site inspection. No visual evidence of gross contamination was observed. No activities were observed on site that would inherently generate hazardous waste.

◊ No electrical transformers or other equipment like to contain PCBs were observed on the property.

◊ Based on visual site inspection, the project site does not exhibit any *recognized environmental condition* (REC), as defined by the ASTM E-1527 Standard, discovered within the scope and time frame of this assessment that requires further action.

◊ Based on review of historical and regulatory information, the site does not exhibit any RECs, as defined by the ASTM E-1527-05 Standard that, upon evaluation and assessment, require further action.

Based on the evaluation of the findings of this investigation, EAC Pacific provides the following statement from the ASTM Standard Practice (ASTM E-1527-05 12.8.2) as the conclusion of this assessment:

CONCLUSION

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E-1527 of **511 Imi Place, Wailuku, Hawaii, TMK (2) 38037028*****, the property. Any exceptions to, or deletions from, this practice are described in Section 8.0 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property.*** *(ASTM E-1527-05 12.8.1)*

3.0 PURPOSE AND METHOD

3.1 General

The Phase I Environmental Site Assessment was initiated by DBR Development LLC on 9 February 2009. The project site inspection was performed on 12 February 2009. The scope of the on-site inspection consisted of a walk-through visual reconnaissance for hazardous substances, indicators of underground storage tanks, obvious chemical or petroleum contamination, and PCB containing electrical transformers and capacitors. The project site consisted of vacant land overgrown with feral vegetation. There were no encumbrances to accessing and inspecting the property, except for a few areas of dense vegetation that hindered visual observations.

EAC Pacific also performed a visual observation of the adjacent properties from the subject site or public roadways to identify high-risk neighbors and the potential for a contaminant to migrate to the project property. To identify sites of known hazardous waste activity or recognized environmental conditions located at or near the site which could have an adverse impact on the project site, EAC Pacific reviewed available federal and state government regulatory agency databases. In an attempt to determine whether historical uses of the property and adjacent properties have had an environmental impact on the site, EAC conducted interviews and reviewed available real property records, maps, and other documents. This assessment is based on the evaluation of the information gathered and site observations on the date of the inspection.

The objective of this environmental site assessment is to provide an independent, professional opinion regarding recognized environmental conditions, as defined by the American Society for Testing and Materials (ASTM), associated with the subject property. The term *recognized environmental conditions* (RECs) is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground,

groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with environmental regulations. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not considered RECs.

The purpose of this report is limited to providing the Client an assessment concerning *recognized environmental conditions* (limited to those issues identified in the report) as they currently exist at the project site. This assessment was conducted using generally accepted Phase I Environmental Site Assessment industry protocol as described in the ASTM E-1527-05 standard in compliance with the USEPA's All Appropriate Inquiries rule 40 CFR 312 Subpart C. The scope of the work included an evaluation of the site background, physical characteristics of the site, historical site conditions, and current site conditions (as applicable) through records review, interviews, and visual site inspection. Any exceptions or deletions to this practice are described herein.

The regulatory agency data evaluation is based on a transcription of the data collected and compiled by a contracted data research company. The report is a radius search report, which focuses on both the project site and adjacent sites which may physically impact the project site. Adjacent sites listed in governmental environmental records are identified within a specific search distance. The search distance varies depending on the specific record being researched. The search is designed to meet the requirements of the current industry approach and the ASTM E-1527 standard. The information provided is assumed to be correct and complete, unless noted otherwise.

3.2 Sources of Information

As a matter of necessity and punctual performance, EAC Pacific relies largely on readily available sources of information such as the Client, public records, interviews, and contracted database research firms for recognizing potential environmental liabilities at a subject property/facility. Requests from information resources are made to collect relevant data on

current and past practices conducted at the subject property/facility. EAC Pacific may not receive all information requested or be able to confirm received information during the course and limited time frame of the environmental site assessment. Therefore, EAC Pacific shall not be held responsible for errors, omissions, or misrepresentations resulting from missing documentation or from inaccurate information provided by such sources.

4.0 SITE DESCRIPTION

4.1 Location and General Description

The subject site was located north shore of the central plain of the island of Maui west of Kahului Harbor, in the Puuone Tract of the Sand Hills area of the town of Wailuku. The project site consisted of 32,953 square feet of land which comprised a roughly "L"-shaped parcel designated as Tax Map Key (TMK) number (2) 38037028 addressed as 511 Imi Place. The parcel was alternately addressed as 502 Pio Drive.

The parcel was accessed from the west end of Imi Place where it fronted 40 linear feet of the radius of the cul-de-sac. The property is also accessible from the north side where it fronts approximately 234 linear feet of Pio Drive. The remaining segments of the parcel boundary adjoin the fences and walls of neighboring residential property.

The property was undeveloped, consisting of sandy open dune land overgrown with grasses and brush. A moderate slope declines from the southwest corner to the northeast corner of the parcel. Surrounding the project site were residential properties. Adjoining to the north were Pio Drive and several low-rise apartment building, including Puuone Terrace, fronting the north side of Pio Drive. Further north was steeply descending terrain, beyond which were East Main Street and several commercial properties. To the east were a couple of two-story apartment buildings, Nana Street, and a residential neighborhood of single-family dwellings. South of the project site were Ocean View Apartments, several other low-rise apartment buildings, and Liholiho Street. To the west was Puuone Hale Alii, a massive three-story apartment building.

Photographs of the project site and significant features are provided in Appendix A. Location maps are provided in Appendix C. Zoning information is presented in Table 1.

4.2 Structures and Tenants

There were no structures or tenants on the project site at the time of the site inspection.

Table 1
Project Site Zoning TMK (2) 38037028

CODE TYPE	DESCRIPTION
Flood Zone	C – areas of minimal flooding
Height Limit	
Historic Site Register	
Lot Restrictions	
SMA/Shoreline	Not in Special Management Area
Special District	
State Land Use	Urban district
Street Setback	
Zoning (LUO)	A-2
Facility Code	
Activity Code	

4.2.1 Water Systems

No water systems were installed on the project site. No drinking water wells were installed on the project site. Information on regional water supply wells is available in Appendix B. No wastewater was discharged from the property. No storm water drains were present on the property. Storm water percolates rapidly into sandy soil on site or drains by sheet flow to roadways to the east and north.

4.3 Topographic Mapping

The project site was situated on the north coast of the Island of Maui, in the high development density Sand Hills area of Wailuku, west of

Kahului Bay at an elevation ranging from 164 to 142 feet above mean sea level (see USGS topographic map in Appendix C). No structures were mapped on the subject site or adjoining sites, which was coded in gray omission tint indicating extensive, urban development. The project site regional surface topography gently declined to the west. The nearest significant bodies of surface waters were Iao Stream, 1,848 feet to the northwest, and Kahului Bay, 2,215 feet to the east.

4.4 Geology, Soil, and Hydrogeology

4.4.1 Regional Geology

Maui, the second youngest of the main Hawaiian Islands, was formed from the erosional remnants of two shield volcanoes. These are the West Maui Volcano to the west and Haleakala to the east. The West Maui Volcano is estimated to have reach sea level less than 2 million years ago. Haleakala, the youngest volcano on the island of Maui, last erupted in 1790. The initial shield stage of the volcano reached sea level about 900,000 years ago. The narrow Isthmus of Maui that connects the two volcanoes was initially formed from lava erupted from Haleakala that piled up against the eastern flank of the West Maui Volcano. During the last ice age when sea level was several hundred feet lower, strong winds piled calcite sand on the isthmus from the exposed reef. Although there are a few active dunes still shifting around the north coast of Maui in the vicinity of the project site, most of the dunes have been solidified due to acidic rainwater dissolving and re-precipitating the calcite into limestone. (Hazlett and Hyndman, 1996).

4.4.2 Soil Morphology and Taxonomy

The project site, and surrounding property, was situated near the northern edge of an approximately eight square mile area of soil-type classified as *puuone sand, 7 to 30 percent slopes* (PZUE). Puuone series soils consist of excessively drained soils on the low uplands of the island of Maui. Derived from coral and seashells, these soils are typically moderately sloping to moderately steep, occurring at elevations ranging from 50 to 350 feet above mean sea level in areas in 20 to 30 inches of annual rainfall. PZUE soil occurs on sand hills near the ocean and exhibits

a representative profile of a 20 inch thick, grayish-brown, calcareous sand surface layer, underlain by grayish-brown cemented sand. Runoff is slow, permeability is rapid above the cemented layer, wind erosion hazard is moderate to severe, and the pH is moderately alkaline. Typically, areas with PZUE soil-type are utilized for pasture and urban development. (USDA, 1972)

4.4.3 Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is drawn from basal groundwater. Basal groundwater was formed by rainwater percolating down through permeable volcanic rock. The entire island mass situated below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water which forms the lower boundary of a basal lens of fresh water (known as the *Ghyben-Herzberg* lens). Tidal fluctuations, seasonal fluctuations in recharge and discharge, and aquifer development, all contribute to a zone of transition between the fresh groundwater and the ocean salt water that is in constant flux. (Macdonald, et al., 1983)

Downward percolation of rainwater may be halted by impermeable layers such as dense lava flows, alluvial clay layers, and volcanic ash. The groundwater then forms a perched or high level aquifer, which is not in contact with the deeper salt water. Recharge of the aquifer occurs in areas of high rainfall, which are primarily the interior mountainous areas. The groundwater flows from the interior recharge areas to the areas of discharge along the shoreline. Frictional resistance to groundwater flow causes it to pile up within the island (forming the upper boundary of the *Gyben-Herzberg* lens) until it attains sufficient hydraulic head to overcome friction. Basal groundwater altitude tends to decline toward the shoreline (Macdonald, et al., 1983).

4.4.3 Site Hydrogeology

Groundwater beneath the project site occurs under unconfined conditions within the stratified sedimentary deposits along Maui's northern coastal isthmus classified as the Iao Aquifer System, which is part of the Wailuku Aquifer Sector. Known as *caprock*, the coastal

sediments are relatively impermeable compared to the underlying basalt. Groundwater in the caprock is in contact with the ocean, and consequently is brackish to salty. This type of groundwater has potential use, but not as a drinking water source, and is considered ecologically important with a high vulnerability to contamination (Mink and Lau, 1990). The groundwater beneath the project site is expected to flow toward the north and west following the regionally declining surface topography.

The basaltic rock beneath the caprock is part of the Wailuku Aquifer Sector confined basal aquifer, which serves as an irreplaceable potential drinking water source (fresh water with a salinity of <250 mg/L Cl^-). The deeper aquifer is confined to extensive, horizontal, flank lavas. Leakage between the basal aquifer and the caprock is toward the surface since the basal aquifer is under artesian conditions. Therefore, the basal aquifer has a low vulnerability to contamination (Mink and Lau, 1990). The expected hydrogeologic gradient under the project site would be trending toward the north and west.

5.0 HISTORICAL REVIEW

Historical uses of the project site were investigated through the review of documentation available from real property tax assessment records, historical maps, public and private archived information, and interviews with persons familiar with the project site. Additionally, available aerial photography, property tax maps, topographic maps, and EAC Pacific's extensive in-house library were reviewed.

5.1 Title History

The review of available real property information indicated several transaction of ownership of the project site. Historical deeds and titles, or other real property records reviewed are summarized in the following paragraph and in Appendix E of this document.

Prior to 1970, the parcel (TMK (2)38037028) consisted of 32,953 square feet owned by Frank Munoz and Donald Tokunaga. An agreement of sale to William and Patsy Ikehara was recorded in January 1970. Subsequently, several deeds to various individuals were recorded during the early 1970s until the property was purchased by Earl Stoner and Daniel Fong in July 1976. Elleair Hawaii, Inc. acquired the parcel in July 1990. The parcel was sold to the current owner, Sand Hill Properties, LLC in April 2005.

5.2 Building Permits

A review of the database of building permits issued by the County of Maui indicated no permits had been issued for the project site.

5.3 Interviews

Previous interviews conducted regarding the project site included a current and former property owner representative. Attempts to reach other previous owners were unsuccessful within the time frame of this assessment. Interviews conducted during the site inspection are reported in Section 7.8.

Mr. Cary Lefton of Sand Hill Properties, LLC current owner of the project site since 2005, provided information on the recent site history. Mr. Lefton reported the property had never been developed. No known dumping or contamination issues were present on the property.

Mr. Earl Stoner, currently of L&S Properties, was half owner of the project site from 1972 to 1990. Mr. Stoner stated the property had never been developed to his knowledge. No grading or other work was done on the property during his ownership. Former associate and part owner Daniel Fong had considered constructing an apartment building on the site, having successfully constructed another nearby apartment building. However, Mr. Fong died in the early 1990s. The area mauka (west) of the project site along Liholiho Street was first developed in the 1950s. The neighborhood makai (east) of the project site was developed substantially later, beginning in the late 1960s and into in the 1990s.

5.4 Sanborn Maps

Sanborn fire insurance map coverage of the project site was not available. A complete search of the holdings of the Sanborn Library LLC was conducted by EDR and mapping of the project site was not found (see Appendix C).

5.5 Historical Aerial Photographs and Maps

The oldest aerial photograph reviewed was a composite aerial photograph from the U.S. Department of Agriculture Soil Conservation Service dated 1962 to 1965. The photo revealed the general area was

significantly developed. Commercial and residential development was present throughout Wailuku. The Sand Hills area appeared to be residentially developed, except in the area of the project site. East of Nana Street were single-family residences. Liholiho Street terminated west of the project site. An undeveloped area, which included the project site, existed between the former terminus of Liholiho Street and Nana Street. It appeared that portions of the undeveloped area had been cleared in preparation for construction of some of the residential buildings which currently populate the parcels adjacent to the project site. Details of the project site were obscured by poor photographic resolution.

An aerial photograph prepared by REDI Real Estate Data, dated January 1976, indicated the project site was undeveloped land. However, it appeared some activity associated with the construction of an adjacent property to the west may have occurred on the project site. Cleared area at the southwest corner of the parcel appears to have been used for contractor access and, perhaps, temporary storage of construction materials.

Aerial photographs dated 1975 and 1992 prepared by EDR are consistent with the above described photos. Copies are provided in Appendix C.

Historic USGS topographic maps (1:24,000 scale, 7.5 minute topographic quadrangle) were reviewed. The oldest map, dated 1955, indicated the project site area was sparsely developed with only major roads and thoroughfares in the same configuration as currently observed. Development was limited to the area along Main Street to the north and a few residential dwellings to the southwest. Imi Place and intersecting roads had not yet been constructed. The project site and adjoining properties were mapped in white and/or green tint indicating open and grass land, respectively.

The next edition, dated 1983, indicated the current roadway configuration had been constructed. The project site and surrounding property were mapped in pink omission tint, indicating high density urban development. No significant changes were mapped for the project site on subsequent 1997 edition; the site remained mapped in omission tint, though the color used by the USGS was changed to gray.

Historical USGS topographical maps reviewed are provided in Appendix C.

5.6 Previous Reports Reviewed

No previous environmental due diligence reports from other sources were available for review within the time frame of this assessment.

5.7 Other Historical Sources

Only standard historical sources were reviewed.

6.0 REGULATORY REVIEW

Databases created by various Federal and State of Hawaii environmental regulatory programs provided reporting and compliance information for the project site and surrounding sites, when listed. Information collected from the databases was compiled by a contracted database management company. By cross-referencing both the site owner and/or tenant name and site location, it was determined whether the project site or nearby sites with the potential to impact the project site were listed on the reviewed databases. Listed sites were geographically encoded and plotted on a radius map (see Appendix B). Geographic Information System (GIS) data was used to determine the distance and direction of listed sites, relative to the project site, regional topography, and hydrogeologic gradients.

In addition to recommending specific databases to review, ASTM E-1527 protocol also states the acceptable *shelf-life* requirements for the databases. In an attempt to ensure inclusion of the most recent data available, requests to government agencies responsible for a particular database are made by the database management company on at least a quarterly basis to incorporate any updates. Information on the update of specific databases is provided in Appendix B. Presented below is a summary of standard and supplemental databases reviewed and sites listed within the defined search radii.

6.1 Federal Databases

The project site was not listed on any of the reviewed standard and supplemental federal databases. The area search for nearby sites listed on these databases identified multiple federal listed facilities within the ASTM defined radii. The distance and direction of the other facilities or current status of hazard mitigation actions implied the listed sites represent only a *de minimis* potential impact on the project site. *Orphan* sites (sites with inadequate or missing GIS data) were reviewed and determined to be out of range or *de minimis*.

NPL Listing: The National Priorities List (Superfund) is USEPA's database of uncontrolled or abandoned hazardous waste sites which are considered to pose an immediate threat to human health and the environment. These sites are identified for priority remedial response actions under the Superfund Program.

No NPL sites were identified within one mile of the project site.

CERCLIS Listing: The Superfund database which contains information on various aspects of potential uncontrolled or abandoned hazardous waste sites from initial discovery to listing on the National Priorities List. CERCLIS-NFRAP (no further remedial action planned) sites are also included. The decision by USEPA for no further remedial action does not necessarily mean that there is no hazard associated with a given site; only that, based upon available information, the location is not judged to be a potential NPL site.

No CERCLIS site listings were identified within the one-half mile search radius around the project site.

ERNS Database: The Emergency Response Notification Systems tracks the initial notification of reported oil and hazardous material spills. The database contains information regarding the discharger, release date, material, amount released, incident location and response action taken.

The project site was not listed on the ERNS database. No listings were identified for immediately adjacent sites.

RCRA Facility Listing: The RCRAInfo database is a compilation by USEPA of reporting facilities that generate, transport, store, treat, and/or dispose of Resource Conservation and Recovery Act (RCRA) regulated quantities of hazardous waste. CORRACTS is the USEPA database of RCRA sites that

have been ordered to perform corrective action of RCRA violations.

No TSD (treatment, storage, and disposal) facilities were listed within the one mile search radius around the project site. No RCRA large quantity generators were listed within one-half mile of the project site. No RCRA small quantity generators were listed within one-quarter mile of the project site. Two former RCRA generators that are not currently generating reportable quantities of hazardous waste were listed. The listed facilities and addresses are presented in Table 2. Additional facility information is provided in Appendix B. No RCRA CORRACTS sites were listed within one mile of the project site.

Table 2

RCRAInfo Listed Sites in the Vicinity of the Project Site

FACILITY	ADDRESS	RANGE (miles) and BEARING	RCRA STATUS
JST Automotive	986A Lower Main St	0.11 W	Non-gen
Sam's Service	736 Lower Main St	0.25 NE	Non-gen

RCRA STATUS: TSD = treatment, storage, and disposal facility (within one mile); LQG = large quantity generator (within one-half mile); SQG = small quantity generator (within one-quarter mile); CESQG = conditionally exempt small quantity generator (within one-quarter mile); COR = CORRACTS (RCRA Corrective Action Site) federal corrective action event has occurred (within one mile). Non-gen = registered but not currently a generator of RCRA regulated wastes (site or adjacent properties).

ASTM Supplemental Federal Database Listings: In addition to the ASTM Standard Federal Databases described above and in the next section, supplemental federal databases are sometimes available. These databases include CONSENT, FINDS, ROD, Brownfield Sites, delisted NPL sites, HMIRS, MLTS, NPL Liens, PADS, UMTRA, FUDS, Indian Reservations, RAATS, TRIS, TSCA, SSTS FTTS, and others. More information on these databases and their agency release dates are provided in Appendix B.

The project site was not included on any of the supplemental databases available for review.

6.2 State of Hawaii Databases

The project site was not listed on any of the State of Hawaii databases reviewed. The area search for sites listed on State databases identified several other facilities within the defined radii. The distance and direction of the other facilities, or remediation and management of contaminated sites, either completed or ongoing, indicate the listed sites likely represent only a *de minimis* potential impact on the project site. *Orphan* sites (sites with inadequate or missing GIS data) were reviewed and determined to be either out of range or *de minimis*.

State Hazardous Waste Sites (SHWS): Hawaii used the federal CERCLIS list as the initial source of the state hazardous waste site list. Additional sites were those that have or may be investigated by the State of Hawaii Department of Health (HIDOH), Office of Hazard Evaluation and Emergency Response (HEER) under HRS 128D.

The project site was not listed as a SHWS. Four SHWS sites were identified within a one mile radius search. Table 3 presents a summary of the listed facilities identification and location. Additional details are provided in Appendix B.

Table 3

SHWS Listed Sites Within One Mile of the Project Site

FACILITY	ADDRESS	RANGE (miles) and BEARING
Maui Sandtorches	46 Ting Dr	0.88 SW
Rex Tire & Supply	1728 Kaahumanu Ave	0.92 SW
Yee-Maui Terminix	283 Waiehu Beach Rd	0.35 NE
Y. Hata-Maui	200 Waiehu Beach Road	Orphan

Orphan = Inadequate GIS data to accurately plot location.

Registered Underground Storage Tanks (UST): The State of Hawaii Department of Health Underground Storage Tank Program registration system tracks known and registered underground storage tank (UST) systems.

No UST systems were registered to the project site. Eight UST systems were reported within one-quarter mile of the project site. The facility names and addresses are presented in Table 4. Additional information is provided in Appendix B.

Table 4

UST Listed Sites Within One-Quarter Mile of the Project Site

FACILITY	ADDRESS	RANGE (miles) and BEARING
Endo Painting Service	841 Alua St	0.21 NNW
Stanely-Kopke Partners	775 Lower Main St	0.20 NNE
Clifford Koki	240 Makakoa Place	0.23 WSW
Minit Stop	745 Lower Main St	0.24 NE
Shishido Manju Shop, Inc.	758 Lower Main St	0.22 NE
Japo I. Yokoyama	801 Alua St	0.24 NNW
Patao Gas & Go	744 Lower Main St	0.24 NE
Sam's Service	736 Lower Main St	0.25 NE

Leaking Underground Storage Tanks (LUST): The State of Hawaii Department of Health Underground Storage Tank Program also maintains a listing of all reported leaks and releases from underground storage tanks.

No leaking underground storage tank (LUST) systems were registered to the project site. Six LUST systems were identified within one-half mile of the project site. Facility owner or operator and location are summarized in Table 5, with additional details provided in Appendix B. Site status for all six of the listed facilities was *site cleanup completed*.

Table 5

LUST Listed Sites Within One-Half Mile of the Project Site

FACILITY	ADDRESS	RANGE (miles) and BEARING
Patao Gas & Go	744 Lower Main St	0.24 NE
Shell Service Station	700 Lower Main St	0.31 ENE
Nakamura Mortuary, Inc	1218 Lower Main St	0.32 WSW
Maui Soda & Ice Works, Ltd.	918 A Lower Main St	0.32 WSW
900 Eha Corporation	900 Eha St	0.36 NNW
Valley Isle Express Ltd.	860 Eha St	0.37 N

SWLF Listing: The State of Hawaii records all facilities that have received a solid waste management permit, including solid waste landfills.

No landfills were registered to the project site or sites within one-half mile.

VRP, INST Controls, AUL, VCP Sites: The Hawaii Voluntary Response Program (VRP) provides relief from certain liabilities for eligible parties who have not contributed to existing conditions on a specific site, who desire to acquire an interest in that site as an owner or operator, and who conduct an adequate HIDOH-approved response action. The relief from liability applies to the media, land areas, and contaminants cleaned up to a risk-based standard of not more than 1×10^{-6}. The program is under direction of the Hawaii Department of Health Office of Hazard Evaluation and Emergency Response (HEER). The program may include federal Brownfields sites managed by HIDOH under a cooperative agreement.

Activity and Use Limitation (AUL) sites are typically VRP or Brownfields sites where institutional (INST Controls) or

engineering controls have been installed that limit the use or access of a site or facility. The restrictions are designed to prevent exposure to, or further release of contaminants, or prevent interference with the effectiveness of an ongoing response action.

The purpose of the Voluntary Cleanup Program (VCP) is to streamline the cleanup process in a way that will encourage prospective developers, lenders, and purchasers to voluntarily cleanup properties.

The project site is not listed with the Voluntary Response Program. Two VRP sites were identified within a one-half mile radius search. Table 6 presents a summary of the listed facilities identification and location. Additional details are provided in Appendix B.

Table 6

VRP Listed Sites Within One-Half Mile of the Project Site

FACILITY	ADDRESS	RANGE (miles) and BEARING	STATUS
Yee-Maui Terminix	283 Waiehu Beach Rd	0.35 NE	INST
Waiale Ash Pile	Mahalani St	Orphan	INST

INST = Institutional controls in place.
Orphan = Inadequate GIS data to accurately plot location.

7.0 SITE RECONNAISSANCE

7.1 Operational Activities and Noteworthy Tenants

The project site was vacant land. No operational activities or noteworthy tenants, within the scope of this assessment, were observed on the project property.

7.2 Hazardous Materials and Hazardous Wastes

Visual observation for the use and/or storage of chemicals, hazardous materials, and hazardous wastes was performed. No RCRA (Resource Conservation and Recovery Act) regulated hazardous wastes were observed generated, accumulated, stored, transported, or disposed on the subject site during the site inspection. No site activities were observed that would inherently generate regulated hazardous wastes. No visual indications of spills or releases were observed.

7.3 Dielectric Fluid Containing Equipment (PCBs)

Visual observations for electrical equipment or electrical components that use dielectric fluid that potentially contains a TSCA reportable quantity (one pound or more) of PCBs were conducted. PCBs (polychlorinated biphenyls) are regulated under the Toxic Substances Control Act (TSCA) which obligates a property owner to clean up any spills or releases occurring on their property.

No transformers, capacitors, or hydraulic equipment was observed on the site.

7.4 Underground Storage Tanks

A visual inspection for vent pipes, fill connections, access hatches, concrete pressure dispersion pads, and dispenser pumps was conducted

and did not reveal surface conditions indicating the current existence of underground storage tank installations on the project site. A review of current and historic property uses did not reveal activities typically associated with UST installations. A review of HIDOH records for the project site indicated there were no UST systems registered to the project site. Interviews with former site owners did not indicate the presence of any underground storage tanks.

7.5 Bulk Storage Containers

Visual observation for above ground storage tanks or portable bulk storage containers of 55-gallon capacity or larger did not reveal the presence of any on the project site.

7.6 Storm Water Control/Management Systems

No storm drains were observed on the project site. The project site surface grade exhibited a visually discernable slope to the north. Most storm water likely percolates into the sandy soil. Some run off to the down gradient roadways to the north (Pio Drive) and east (Imi Place) may occur during significant precipitation events. Masonry walls and elevation gradients reduce run on from adjoining developed property to the south and west. Elevation gradients prevent run on from adjoining property to the north and east. Some run on may occur from the south during sufficiently heavy precipitation events.

7.7 Surface Areas and Adjacent Properties

The project site was vacant land. Direct observation of project site soils was possible, except in a few areas with dense vegetation. No stains, stressed vegetation, or other visual indicators of site surface contamination was apparent. No conditions conducive to run on of contaminants or hazardous materials from adjacent properties were observed.

7.8 Field Interviews

The project site was vacant land. No tenants or occupants were available for interview. An interview with area resident and potential future construction contractor for the site, Darryl Banks, Vice-President of Betsill Brothers Construction Inc., provided current information on the project site. Mr. Banks reported the site has not been previously developed. Intended future development was planned as affordable housing units.

Previous interviews conducted regarding the project site are summarized in Section 5.3

8.0 LIMITATIONS

8.1 Special Circumstances

Significant observations and assessments were reported throughout this document in the assigned reporting categories. No special circumstances were noted for the project site.

8.2 Data Gaps

No data gaps considered significant enough to impact the performance or conclusion of this assessment were encountered.

8.3 Deviations

No deviations from the standards and practices impacted the performance or conclusion of this assessment.

8.4 Limitations of ASTM E-1527

This Phase I Environmental Site Assessment is limited to issues addressed by ASTM E-1527-05. The following limitations are from the ASTM Standard and apply to this assessment:

> 4.5.1 Uncertainty Not Eliminated- *No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property, and this practice recognize reasonable limits of time and cost.*
>
> 4.5.2 Not Exhaustive- *All appropriate inquiry does not mean an exhaustive assessment of a clean property. There is a point at which the cost of information obtained or the time required to gather it*

outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information.

4.5.3 Level of Inquiry Is Variable- *Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the User, and the information developed in the course of the inquiry.*

4.5.4 Comparison With Subsequent Inquiry- *It should not be concluded or assumed that an inquiry was not appropriate inquiry merely because the inquiry did not identify recognized environmental conditions in connection with a property. Environmental site assessments must be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made. Subsequent environmental site assessments should not be considered valid standards to judge the appropriateness of any prior assessment based on hindsight, new information, use of developing technology or analytical techniques, or other factors.*

13.1.5 List of Additional Issues- *Following are several non-scope considerations that persons may want to assess in connection with commercial real estate. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive:*

13.1.5.1 Asbestos-Containing Building Materials,
13.1.5.2 Radon,
13.1.5.3 Lead-Based Paint,
13.1.5.4 Lead in Drinking Water,
13.1.5.5 Wetlands,
13.1.5.6 Regulatory Compliance,
13.1.5.7 Cultural and Historical Resources,
13.1.5.8 Industrial Hygiene,
13.1.5.9 Health and Safety,
13.1.5.10 Ecological Resources,
13.1.5.11 Endangered Species,
13.1.5.12 Indoor Air Quality [including vapor intrusion],
13.1.5.13 Biological Agents, and
13.1.5.14 Mold.

9.0 REFERENCES

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10.0 APPENDICES

Appendix A Site Photographs

Appendix B Regulatory Program Databases

Appendix C Maps

- Topographic Location Map
- Real Property Tax Map Key
- Sanborn Maps
- Historical Topographic Maps
- Historical Aerial Photographs

Appendix D Glossary

Appendix E Supporting Documentation

- User/Client Questionnaire
- Real Property Title History Sheets
- City Directory Abstract
- Principal Résumé

Appendix A

Site Photographs

Photo No. 1. Project site at 511 Imi Place, Wailuku, Hawaii, TMK (2)38037028. View is toward the southwest from Imi Place.

Photo No. 2. North side of the parcel from the center west. View is toward the northeast.

Photo No. 3. Northeast corner of the parcel viewed toward the southwest.

Photo No. 4. Sandy soil over grown with grasses (typical).

Photo No. 5. Abandoned tires on the northeast corner of the parcel.

Photo No. 6. Project site viewed from adjoining Pio Drive toward the south.

Appendix B

Regulatory Program Databases

TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Inquiry Number: 2417109.2s
February 10, 2009

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

511 IMI PLACE
WAILUKU, HI 96793

COORDINATES

Latitude (North):	20.899800 - 20˚ 53' 59.3''
Longitude (West):	156.487000 - 156˚ 29' 13.2''
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	761414.0
UTM Y (Meters):	2312967.8
Elevation:	157 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	20156-H4 KAHAKULOA, HI
Most Recent Revision:	Not reported
West Map:	20156-H5 NAPILI, HI
Most Recent Revision:	Not reported

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

EXECUTIVE SUMMARY

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Transporters, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Permitted Landfills in the State of Hawaii

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Response Program Sites

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
SPILLS ..... Release Notifications

Other Ascertainable Records

DOT OPS ..... Incident and Accident Data
DOD ..... Department of Defense Sites
FUDS ..... Formerly Used Defense Sites
CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
UMTRA ..... Uranium Mill Tailings Sites
MINES ..... Mines Master Index File
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ..... Section 7 Tracking Systems
ICIS ..... Integrated Compliance Information System
PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
FINDS ..... Facility Index System/Facility Registry System
RAATS ..... RCRA Administrative Action Tracking System
DRYCLEANERS ..... Permitted Drycleaner Facility Listing
AIRS ..... List of Permitted Facilities
INDIAN RESERV ..... Indian Reservations
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
PWS ..... Public Water System Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants ..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health.

A review of the SHWS list, as provided by EDR, and dated 04/04/2008 has revealed that there are 3 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MAUI SANDTORCHES	46 TING DR	SW 1/2 - 1 (0.878 mi.)	18	18
REX TIRE & SUPPLY, DIESEL	***1728 KAAHUMANU AVE***	***SW 1/2 - 1 (0.915 mi.)***	***19***	***18***

Lower Elevation	Address	Direction / Distance	Map ID	Page
YEE-MAUI TERMINIX	***283 WAIEHU BEACH RD***	***NE 1/4 - 1/2 (0.345 mi.)***	***15***	***16***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Active Leaking Underground Storage Tank Log Listing.

A review of the LUST list, as provided by EDR, and dated 06/30/2008 has revealed that there are 6 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PATAO GAS & GO Facility Status: Site Cleanup Completed (NFA)	***744 LOWER MAIN ST***	***NE 1/8 - 1/4 (0.236 mi.)***	***B6***	***10***
SHELL SERVICE STATION Facility Status: Site Cleanup Completed (NFA)	***700 LOWER MAIN ST***	***ENE 1/4 - 1/2 (0.310 mi.)***	***12***	***14***
NAKAMURA MORTUARY, INC Facility Status: Site Cleanup Completed (NFA)	***1218 LOWER MAIN ST***	***WSW 1/4 - 1/2 (0.320 mi.)***	***C13***	***15***
MAUI SODA & ICE WORKS, LTD. Facility Status: Site Cleanup Completed (NFA)	***918 A LOWER MAIN ST***	***WSW 1/4 - 1/2 (0.324 mi.)***	***C14***	***15***
900 EHA CORPORATION Facility Status: Site Cleanup Completed (NFA)	***900 EHA ST***	***NNW 1/4 - 1/2 (0.357 mi.)***	***16***	***17***

Lower Elevation	Address	Direction / Distance	Map ID	Page
VALLEY ISLE EXPRESS LTD.	***860 EHA ST***	***N 1/4 - 1/2 (0.373 mi.)***	***17***	***17***
Facility Status: Site Cleanup Completed (NFA)				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health's Listing of Underground Storage Tanks.

A review of the UST list, as provided by EDR, and dated 06/30/2008 has revealed that there are 8 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
STANELY-KOPKE PARTNERS	775 LOWER MAIN ST	NNE 1/8 - 1/4 (0.204 mi.)	A2	8
ENDO PAINTING SERVICE	841 ALUA ST	NNW 1/8 - 1/4 (0.214 mi.)	3	8
SHISHIDO MANJU SHOP, INC.	758 LOWER MAIN ST	NE 1/8 - 1/4 (0.221 mi.)	A4	9
CLIFFORD KOKI	240 MAKAKOA PLACE	WSW 1/8 - 1/4 (0.225 mi.)	5	9
MINIT STOP	745 LOWER MAIN ST	NE 1/8 - 1/4 (0.236 mi.)	B7	10
PATAO GAS & GO	744 LOWER MAIN ST	NE 1/8 - 1/4 (0.236 mi.)	B8	11
JAPO I. YOKOYAMA BDG.CONTR'S I	801 ALUA ST	NNW 1/8 - 1/4 (0.237 mi.)	9	11
SAM'S SERVICE	736 LOWER MAIN ST	NE 1/8 - 1/4 (0.245 mi.)	B11	13

State and tribal institutional control / engineering control registries

Voluntary Remediation Program and Brownfields sites with institutional controls in place.

A review of the INST CONTROL list, as provided by EDR, and dated 04/04/2008 has revealed that there is 1 INST CONTROL site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
YEE-MAUI TERMINIX	***283 WAIEHU BEACH RD***	***NE 1/4 - 1/2 (0.345 mi.)***	***15***	***16***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA-NonGen: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA-NonGen list, as provided by EDR, and dated 09/10/2008 has revealed that there are 2 RCRA-NonGen sites within approximately 0.25 miles of the target property.

EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
JST AUTOMOTIVE	*986 A LOWER MAIN ST*	*W 0 - 1/8 (0.113 mi.)*	*1*	*7*
SAMS SERVICE	*736 LOWER MAIN ST*	*NE 1/8 - 1/4 (0.245 mi.)*	*B10*	*12*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
KANAHA POND EAST	SHWS, CERC-NFRAP, INST CONTROL
RAINBOW HAULING	SHWS, FINDS, INST CONTROL
E & E BLACK CONTRACTORS	SHWS, FINDS, INST CONTROL
BIRD BUILDERS	SHWS, INST CONTROL
F & M CONTRACTORS	SHWS, INST CONTROL
KING'S TOWING	SHWS, INST CONTROL
SMILE'S AUTO SPECIALISTS	SHWS, INST CONTROL
VECTOR CONTROL BRANCH, MAUI	SHWS
MAUI PETROLEUM HOBRON AVENUE	SHWS, INST CONTROL
HOBRON AVE AREA (KAHULUI)	SHWS, FINDS, INST CONTROL
FONG CONSTRUCTION	SHWS
MCC-AUTOMOTIVE TECHNOLOGY BUILDING	SHWS, FINDS, SPILLS
MAUI PALMS HOTEL UST	SHWS
A&B DUMP SITE	SHWS, FINDS, INST CONTROL
MAUI MEAT COMPANY FACILITY (FORMER	SHWS, SPILLS
WAIKAPU DUMP-MAUI COUNTY DUMP	SHWS, FINDS
KALAMAULA LANDFILL	SHWS, INST CONTROL
WAIALE ASH PILE	SHWS, FINDS, INST CONTROL
Y HATA- MAUI	SHWS
WAIMALUHIA MAUI METH / DRUG LAB AC	SHWS, SPILLS, INST CONTROL
HANA LANDFILL	SWF/LF
CENTRAL MAUI LANDFILL	SWF/LF
FAA - AIRPORT TRAF CONT TOWER (PMI	LUST
FAA -ASR-7 KAHULUI AIRPORT (PMID O	FINDS, LUST
DOT - AIRPORTS DIVISION MCA YARD	LUST, UST
ROBERT'S HAWAII (PMID OGG002105)	LUST, UST
DAVID PICO CESSPOOL DIGGING	FINDS, LUST
MARK MILL34	LUST
HAWAIIAN CEMENT - WAIKAPU QUARRY	FINDS, LUST
DAVID PICO CESSPOOL DIGGING	UST
MARK MILL34	UST
FORMER MAUI SCRAP METAL LICENSE AR	RCRA-SQG
VACANT LAND TMK NO (2) 3-8-7:101	RCRA-CESQG
FORMER MAUI SCRAP METAL LICENSE AR	FINDS

OVERVIEW MAP - 2417109.2s

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

0 1/4 1/2 1 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku HI 96793 LAT/LONG: 20.8998 / 156.4870	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY #: 2417109.2s DATE: February 10, 2009 1:17 pm

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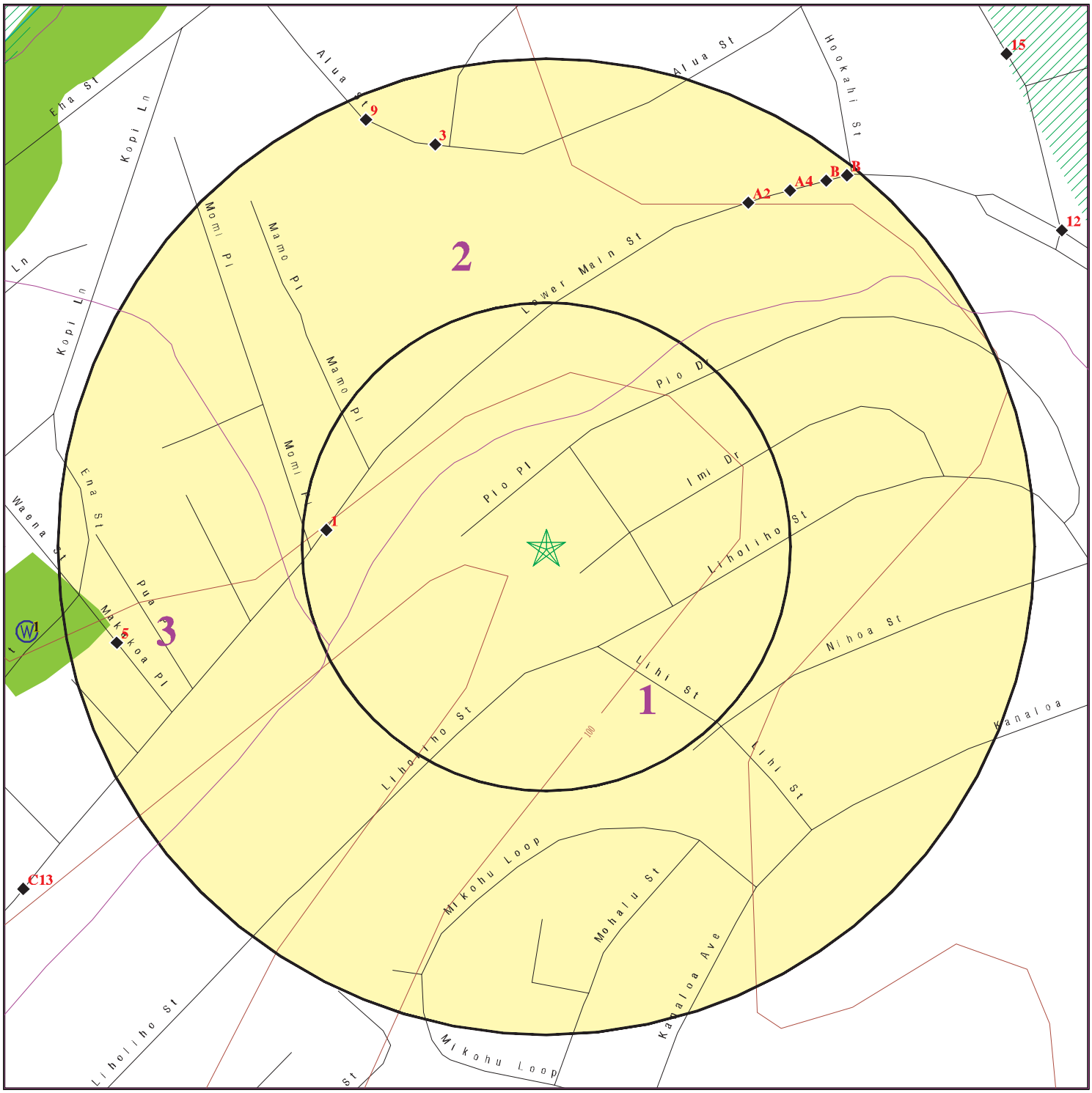
DETAIL MAP - 2417109.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku HI 96793 LAT/LONG: 20.8998 / 156.4870	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY #: 2417109.2s DATE: February 10, 2009 1:17 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS		1.000	0	0	1	2	NR	3
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	1	5	NR	NR	6
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	8	NR	NR	NR	8
INDIAN UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal institutional control / engineering control registries								
INST CONTROL		0.500	0	0	1	NR	NR	1
State and tribal voluntary cleanup sites								
INDIAN VCP		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	1	1	NR	NR	NR	2
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
PWS		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 West < 1/8 0.113 mi. 596 ft. | **JST AUTOMOTIVE**
986 A LOWER MAIN ST
WAILUKU, HI 96793 | **FINDS**
RCRA-NonGen | **1000103392**
HID981437841

Relative: Lower

Actual: 88 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

RCRA-NonGen:

Date form received by agency:	08/19/1986
Facility name:	JST AUTOMOTIVE
Facility address:	986 A LOWER MAIN ST WAILUKU, HI 96793
EPA ID:	HID981437841
Contact:	ENVIRONMENTAL MANAGER
Contact address:	986 A LOWER MAIN ST WAILUKU, HI 96793
Contact country:	US
Contact telephone:	(808) 244-3233
Contact email:	Not reported
EPA Region:	09
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	JST AUTOMOTIVE
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported
Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown

JST AUTOMOTIVE (Continued) **1000103392**

Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 01/17/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

A2
NNE
1/8-1/4
0.204 mi.
1080 ft.

STANELY-KOPKE PARTNERS **UST** **U003222244**
775 LOWER MAIN ST **N/A**
KAHULUI, HI 96732

Site 1 of 2 in cluster A

Relative:
Lower

Actual:
41 ft.

UST:
Facility ID: 9-501737
Owner: STANELY-KOPKE PARTNERS
Owner Address: 1001 DILLINGHAM BLVE, STE 208
Ownder City,St,Zip: Kahului, 96732 96732

Tank ID: R-1
Date Installed: 12/30/1983
Tank Status: **Permanently Out of Use**
Date Closed: 6/29/1993
Tank Capacity: 2000
Substance: Gasoline

3
NNW
1/8-1/4
0.214 mi.
1128 ft.

ENDO PAINTING SERVICE **UST** **U001236758**
841 ALUA ST **N/A**
WAILUKU, HI 96793

Relative:
Lower

Actual:
56 ft.

UST:
Facility ID: 9-501567
Owner: ENDO PAINTING SERVICE
Owner Address: 841 ALUA ST
Ownder City,St,Zip: Wailuku, 96793 96793

Tank ID: R-1
Date Installed: 3/27/1982

ENDO PAINTING SERVICE (Continued) **U001236758**

Tank Status:	**Permanently Out of Use**
Date Closed:	4/6/1992
Tank Capacity:	2000
Substance:	Gasoline

Tank ID:	R-2
Date Installed:	3/27/1982
Tank Status:	**Permanently Out of Use**
Date Closed:	4/16/1992
Tank Capacity:	2000
Substance:	Gasoline

A4 NE 1/8-1/4 0.221 mi. 1168 ft. | **SHISHIDO MANJU SHOP, INC.** | **UST** | **U001236663**
758 LOWER MAIN ST | **N/A**
WAILUKU, HI 96793

Site 2 of 2 in cluster A

Relative: Lower
Actual: 44 ft.

UST:

Facility ID:	9-500413
Owner:	SHISHIDO MANJU SHOP, INC.
Owner Address:	758 LOWER MAIN ST
Ownder City,St,Zip:	Wailuku, 96793 96793

Tank ID:	R-1
Date Installed:	3/21/1976
Tank Status:	**Permanently Out of Use**
Date Closed:	Not reported
Tank Capacity:	1000
Substance:	Diesel

---

5 WSW 1/8-1/4 0.225 mi. 1189 ft. | **CLIFFORD KOKI** | **UST** | **U003986428**
240 MAKAKOA PLACE | **N/A**
WAILUKU, HI 96793

Relative: Lower
Actual: 105 ft.

UST:

Facility ID:	9-503789
Owner:	Clifford Koki
Owner Address:	240 Makakoa Place
Ownder City,St,Zip:	Wailuku, 96793 96793

Tank ID:	R-1
Date Installed:	Not reported
Tank Status:	**Permanently Out of Use**
Date Closed:	2/17/2005
Tank Capacity:	1000
Substance:	Gasoline

B6 NE 1/8-1/4 0.236 mi. 1247 ft. — **PATAO GAS & GO**, **744 LOWER MAIN ST**, **WAILUKU, HI 96793** — **FINDS** **1006841739**, **LUST** **110014030930**

Site 1 of 5 in cluster B

Relative: Lower

Actual: 44 ft.

FINDS:

Other Pertinent Environmental Activity Identified at Site

HI-UST (Hawaii - Underground Storage Tank). Hawaii Underground Storage Tank Program regulates underground storage tanks which store petroleum or hazardous substances and offers documents and data products for downloading.

LUST:

Facility ID:	9-502418
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	20-Jul-99
Release ID:	990153
Project Officer:	Jeffrey Ung

B7 NE 1/8-1/4 0.236 mi. 1247 ft. — **MINIT STOP**, **745 LOWER MAIN ST**, **WAILUKU, HI 96793** — **UST** **U003402957**, **N/A**

Site 2 of 5 in cluster B

Relative: Lower

Actual: 44 ft.

UST:

Facility ID:	9-503506
Owner:	MAUI PETROLEUM, Inc.
Owner Address:	385 HUKILIKE ST, SUITE 200
Ownder City,St,Zip:	Wailuku, 96793 96793
Tank ID:	R-1
Date Installed:	1/1/1983
Tank Status:	**Permanently Out of Use**
Date Closed:	8/16/1999
Tank Capacity:	10000
Substance:	Gasoline
Tank ID:	R-2
Date Installed:	1/1/1983
Tank Status:	**Permanently Out of Use**
Date Closed:	8/16/1999
Tank Capacity:	10000
Substance:	Diesel

B8
NE
1/8-1/4
0.236 mi.
1247 ft.

PATAO GAS & GO
744 LOWER MAIN ST
WAILUKU, HI 96793

Site 3 of 5 in cluster B

UST **U001236829**
N/A

Relative:
Lower

Actual:
44 ft.

UST:

Facility ID:	9-502418
Owner:	HASHIRO RITSUYO
Owner Address:	744 LOWER MAIN
Ownder City,St,Zip:	Wailuku, 96793 96793
Tank ID:	R-1
Date Installed:	12/31/1947
Tank Status:	**Permanently Out of Use**
Date Closed:	2/8/1999
Tank Capacity:	1500
Substance:	Gasoline
Tank ID:	R-2
Date Installed:	12/31/1947
Tank Status:	**Permanently Out of Use**
Date Closed:	2/8/1999
Tank Capacity:	1500
Substance:	Gasoline
Tank ID:	R-3
Date Installed:	12/31/1960
Tank Status:	**Permanently Out of Use**
Date Closed:	2/8/1999
Tank Capacity:	3000
Substance:	Gasoline
Tank ID:	R-4
Date Installed:	Not reported
Tank Status:	**Permanently Out of Use**
Date Closed:	12/1/1960
Tank Capacity:	300
Substance:	Other

9
NNW
1/8-1/4
0.237 mi.
1254 ft.

JAPO I. YOKOYAMA BDG.CONTR'S INC
801 ALUA ST
WAILUKU, HI 96793

UST **U001236644**
N/A

Relative:
Lower

Actual:
62 ft.

UST:

Facility ID:	9-500388
Owner:	JAPO I. YOKOYAMA BDG.CONTR'S INC
Owner Address:	801 ALUA ST
Ownder City,St,Zip:	Wailuku, 96793 96793
Tank ID:	R-1
Date Installed:	4/10/1985
Tank Status:	**Permanently Out of Use**
Date Closed:	5/24/1994
Tank Capacity:	2000

JAPO I. YOKOYAMA BDG.CONTR'S INC (Continued) **U001236644**

Substance: Gasoline

B10 **SAMS SERVICE** **FINDS** **1000601532**
NE **736 LOWER MAIN ST** **RCRA-NonGen** **HID984467688**
1/8-1/4 **WAILUKU, HI 96793**
0.245 mi.
1293 ft. **Site 4 of 5 in cluster B**

Relative:
Lower

Actual:
40 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

HI-UST (Hawaii - Underground Storage Tank). Hawaii Underground Storage Tank Program regulates underground storage tanks which store petroleum or hazardous substances and offers documents and data products for downloading.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

RCRA-NonGen:

Date form received by agency:	01/07/1992
Facility name:	SAMS SERVICE
Facility address:	736 LOWER MAIN ST WAILUKU, HI 96793
EPA ID:	HID984467688
Mailing address:	LOWER MAIN ST WAILUKU, HI 96793
Contact:	JAY ARAKAWA
Contact address:	736 LOWER MAIN ST WAILUKU, HI 96793
Contact country:	US
Contact telephone:	(808) 244-3334
Contact email:	Not reported
EPA Region:	09
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	LILLIAN AND JAY ARAKAWA
Owner/operator address:	736 LOWER MAIN ST WAILUKU, HI 96793
Owner/operator country:	Not reported
Owner/operator telephone:	(808) 244-3334
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown

SAMS SERVICE (Continued) **1000601532**

Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 01/17/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

B11
NE
1/8-1/4
0.245 mi.
1293 ft.

SAM'S SERVICE **UST** **U003222242**
736 LOWER MAIN ST **N/A**
WAILUKU, HI 96793

Site 5 of 5 in cluster B

Relative:
Lower

Actual:
40 ft.

UST:
Facility ID: 9-501685
Owner: JAY M. ARAKAWA
Owner Address: 736 LOWER MAIN ST
Ownder City,St,Zip: Wailuku, 96793 96793

Tank ID: 87
Date Installed: 2/1/1992
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: 92
Date Installed: 2/1/1992
Tank Status: **Currently In Use**
Date Closed: Not reported
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-1
Date Installed: 4/7/1973
Tank Status: **Permanently Out of Use**
Date Closed: 2/1/1991
Tank Capacity: 10000

SAM'S SERVICE (Continued) **U003222242**

Substance: Gasoline

Tank ID: R-2
Date Installed: 4/7/1973
Tank Status: Permanently Out of Use
Date Closed: 2/1/1991
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-3
Date Installed: 4/7/1973
Tank Status: Permanently Out of Use
Date Closed: 2/1/1991
Tank Capacity: 5000
Substance: Gasoline

12
ENE
1/4-1/2
0.310 mi.
1636 ft.

SHELL SERVICE STATION
700 LOWER MAIN ST
WAILUKU, HI 96793

LUST **U003222213**
UST **N/A**

Relative:
Lower

Actual:
29 ft.

LUST:
Facility ID: 9-501007
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 12-Oct-98
Release ID: 940198
Project Officer: Eric Sadoyama

UST:
Facility ID: 9-501007
Owner: SHELL OIL COMPANY
Owner Address: 789 NIMITZ HWY
Owndder City,St,Zip: Wailuku, 96793 96793

Tank ID: R-1
Date Installed: 4/18/1985
Tank Status: Permanently Out of Use
Date Closed: 2/6/1998
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-2
Date Installed: 4/18/1985
Tank Status: Permanently Out of Use
Date Closed: 2/6/1998
Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-3
Date Installed: 4/18/1985
Tank Status: Permanently Out of Use
Date Closed: 2/6/1998

SHELL SERVICE STATION (Continued) **U003222213**

Tank Capacity: 10000
Substance: Gasoline

Tank ID: R-4
Date Installed: 4/18/1985
Tank Status: Permanently Out of Use
Date Closed: 2/6/1998
Tank Capacity: 500
Substance: Used Oil

C13 WSW 1/4-1/2 0.320 mi. 1688 ft. | **NAKAMURA MORTUARY, INC** | **FINDS** **1006841796**
1218 LOWER MAIN ST | **LUST** **110014031546**
WAILUKU, HI 96793

Site 1 of 2 in cluster C

Relative: Lower

Actual: 122 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

HI-UST (Hawaii - Underground Storage Tank). Hawaii Underground Storage Tank Program regulates underground storage tanks which store petroleum or hazardous substances and offers documents and data products for downloading.

LUST:
Facility ID: 9-502437
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 24-May-99
Release ID: 990198
Project Officer: Renato Maniulit

C14 WSW 1/4-1/2 0.324 mi. 1711 ft. | **MAUI SODA & ICE WORKS, LTD.** | **LUST** **U003222187**
918 A LOWER MAIN ST | **UST** **N/A**
WAILUKU, HI 96793

Site 2 of 2 in cluster C

Relative: Lower

Actual: 113 ft.

LUST:
Facility ID: 9-500407
Facility Status: Site Cleanup Completed (NFA)
Facility Status Date: 05-Jul-96
Release ID: 950049
Project Officer: Jose Ruiz

UST:
Facility ID: 9-500407
Owner: MAUI SODA & ICE WORKS, LTD.
Owner Address: 918 A LOWER MAIN
Ownder City,St,Zip: Wailuku, 96793 96793

Tank ID: R-2
Date Installed: 3/25/1984
Tank Status: Permanently Out of Use

MAUI SODA & ICE WORKS, LTD. (Continued) **U003222187**

Date Closed: 11/7/1994
Tank Capacity: 2000
Substance: Diesel

Tank ID: R-3
Date Installed: 3/30/1970
Tank Status: Permanently Out of Use
Date Closed: 11/7/1994
Tank Capacity: 1000
Substance: Gasoline

Tank ID: R-4
Date Installed: 3/26/1983
Tank Status: Permanently Out of Use
Date Closed: 11/17/1994
Tank Capacity: 1000
Substance: Gasoline

---

15 NE 1/4-1/2 0.345 mi. 1823 ft. | **YEE-MAUI TERMINIX**
283 WAIEHU BEACH RD
WAILUKU, HI 96793 | **SHWS 1006819623**
FINDS 110013774594
INST CONTROL

Relative: Lower

Actual: 17 ft.

SHWS:

File Under:	Terminix
Supplement:	Not reported
Restricted Use:	This facility is available for unrestricted use.
Restricted Use Comm:	Soil is below Tier I levels.
Ic Relied On In Remedy:	Not reported
Unit:	Yee-Maui Terminix
Fed Id:	Not reported
Funding:	LMB
Agreement/program:	State Site
Sitelist Name:	Yee-Maui Terminix
Activity Type:	File Review
Assignment Date:	10/1/2007
Activity Lead:	Lynn Bailey
Assignment End Date:	10/1/2007
End fill:	10/1/2007
Result fill:	Status Update
Overall Status:	Complete NFA Letter on File

FINDS:

Other Pertinent Environmental Activity Identified at Site

Not reported

The HI-ECS (Hawaii Environmental Compliance Program) is the Hawaii state regulatory program relating to environmental compliance and hazardous materials that ensures that program areas and facilities are in compliance with environmental regulations

YEE-MAUI TERMINIX (Continued) **1006819623**

HI INSTUTIONAL CONTROL:

Restricted Use:	This facility is available for unrestricted use.
Comments on Restricted Use:	Soil is below Tier I levels.
IC Relied on in Remedy:	Not reported
File Under:	Terminix

16
NNW
1/4-1/2
0.357 mi.
1885 ft.

900 EHA CORPORATION **FINDS** **1006844061**
900 EHA ST **LUST** **110014056822**
WAILUKU, HI 96793

Relative:
Lower

Actual:
55 ft.

FINDS:
Other Pertinent Environmental Activity Identified at Site

HI-UST (Hawaii - Underground Storage Tank). Hawaii Underground Storage Tank Program regulates underground storage tanks which store petroleum or hazardous substances and offers documents and data products for downloading.

LUST:

Facility ID:	9-503023
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	14-Oct-05
Release ID:	040052
Project Officer:	Richard Takaba

17
North
1/4-1/2
0.373 mi.
1968 ft.

VALLEY ISLE EXPRESS LTD. **LUST** **1000283446**
860 EHA ST **UST** **N/A**
WAILUKU, HI 96793

Relative:
Lower

Actual:
51 ft.

LUST:

Facility ID:	9-500426
Facility Status:	Site Cleanup Completed (NFA)
Facility Status Date:	16-Jun-99
Release ID:	980249
Project Officer:	David Hodges

UST:

Facility ID:	9-500426
Owner:	TRI ISLE INC
Owner Address:	860 EHA ST
Ownder City,St,Zip:	Wailuku, 96793 96793
Tank ID:	R-1
Date Installed:	4/18/1985
Tank Status:	**Permanently Out of Use**
Date Closed:	6/8/1998
Tank Capacity:	8000
Substance:	Gasoline

VALLEY ISLE EXPRESS LTD. (Continued) **1000283446**

Tank ID:	R-2
Date Installed:	4/18/1985
Tank Status:	**Permanently Out of Use**
Date Closed:	6/8/1998
Tank Capacity:	4000
Substance:	Diesel

18
SW
1/2-1
0.878 mi.
4638 ft.

MAUI SANDTORCHES **SHWS** **S106819015**
46 TING DR **N/A**
WAILUKU, HI 96793

Relative:
Higher

Actual:
243 ft.

SHWS:

File Under:	Jacqueline Carlin (Former Operator)
Supplement:	Not reported
Restricted Use:	Not reported
Restricted Use Comm:	Not reported
Ic Relied On In Remedy:	Not reported
Unit:	Maui Sandtorches
Fed Id:	HID077670842
Funding:	LMB
Agreement/program:	State Site
Sitelist Name:	Maui Sandtorches
Activity Type:	File Review
Assignment Date:	10/1/2007
Activity Lead:	Lynn Bailey
Assignment End Date:	10/1/2007
End fill:	10/1/2007
Result fill:	Status Update
Overall Status:	Complete NFA (No Further Action)

19
SW
1/2-1
0.915 mi.
4833 ft.

REX TIRE & SUPPLY, DIESEL **SHWS** **S106820230**
1728 KAAHUMANU AVE **INST CONTROL** **N/A**
KAHULUI, HI 96732

Relative:
Higher

Actual:
212 ft.

SHWS:

File Under:	Rex Tire & Supply
Supplement:	Not reported
Restricted Use:	This facility is available for unrestricted use.
Restricted Use Comm:	Not reported
Ic Relied On In Remedy:	Not reported
Unit:	Rex Tire Diesel
Fed Id:	Not reported
Funding:	LMB
Agreement/program:	State Site
Sitelist Name:	Rex Tire Diesel
Activity Type:	File Review
Assignment Date:	10/1/2007
Activity Lead:	Lynn Bailey
Assignment End Date:	10/1/2007
End fill:	10/1/2007
Result fill:	Status Update
Overall Status:	Complete NFA Letter on File

REX TIRE & SUPPLY, DIESEL (Continued) **S106820230**

HI INSTUTIONAL CONTROL:

Restricted Use:	This facility is available for unrestricted use.
Comments on Restricted Use:	Not reported
IC Relied on in Remedy:	Not reported
File Under:	Rex Tire & Supply

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HANA, MAUI	S106401332	HANA LANDFILL	HANA MAUI	96793	SWF/LF
KAHULUI	1001475719	KANAHA POND EAST	AMALA PLACE	96732	SHWS, CERC-NFRAP, INST CONTRC
KAHULUI	1006819968	RAINBOW HAULING	AMALA PL	96732	SHWS, FINDS, INST CONTROL
KAHULUI	1006820295	E & E BLACK CONTRACTORS	AMALA PL	96732	SHWS, FINDS, INST CONTROL
KAHULUI	S106816558	BIRD BUILDERS	AMALA PL	96732	SHWS, INST CONTROL
KAHULUI	S106817019	F & M CONTRACTORS	AMALA PL	96732	SHWS, INST CONTROL
KAHULUI	S106818550	KING'S TOWING	AMALA PL	96732	SHWS, INST CONTROL
KAHULUI	S106820468	SMILE'S AUTO SPECIALISTS	AMALA PL	96732	SHWS, INST CONTROL
KAHULUI	S106982451	FAA - AIRPORT TRAF CONT TOWER (PMI	EENA RD KAHULUI AIRPORT	96732	LUST
KAHULUI	S106820852	VECTOR CONTROL BRANCH, MAUI	54 HIGH ST, 641 MUA ST, KAHALE	96793	SHWS
KAHULUI	1006818919	MAUI PETROLEUM HOBRON AVENUE	HOBRON AVE	96732	SHWS, INST CONTROL
KAHULUI	1006820577	HOBRON AVE AREA (KAHULUI)	HOBRON AVE	96732	SHWS, FINDS, INST CONTROL
KAHULUI	S106817098	FONG CONSTRUCTION	HUKILIKI ST	96732	SHWS
KAHULUI	1006818999	MCC-AUTOMOTIVE TECHNOLOGY BUILDING	310 KAAHUMANU AVE	96732	SHWS, FINDS, SPILLS
KAHULUI	S104534290	MAUI PALMS HOTEL UST	150 KAAHUMANU AVE	96732	SHWS
KAHULUI	1006843496	FAA -ASR-7 KAHULUI AIRPORT (PMID O	KAHULUI AIRPORT	96732	FINDS, LUST
KAHULUI	U003541903	DOT - AIRPORTS DIVISION MCA YARD	KAHULUI AIRPORT	96732	LUST, UST
KAHULUI	U003346417	ROBERT'S HAWAII (PMID OGG002105)	747 KAONAWAI ST (KAHULUI AIRPO	96732	LUST, UST
KAHULUI	1006841969	DAVID PICO CESSPOOL DIGGING	OLD HALEAKALA HWY	96732	FINDS, LUST
KAHULUI	U001236769	DAVID PICO CESSPOOL DIGGING	OLD HALEAKALA HWY	96732	UST
KAHULUI	1006820345	A&B DUMP SITE	W PAPA AVE	96732	SHWS, FINDS, INST CONTROL
KAHULUI	S106819004	MAUI MEAT COMPANY FACILITY (FORMER	601 2ND ST	96732	SHWS, SPILLS
KAHULUI	1006819647	WAIKAPU DUMP-MAUI COUNTY DUMP	WAIKAPU RD	96732	SHWS, FINDS
KANUNAKAKAI	S108859913	KALAMAULA LANDFILL	HOAWA RD	96793	SHWS, INST CONTROL
PUUNENE, MAUI	S103763652	CENTRAL MAUI LANDFILL	PUNENE, MAUI	96793	SWF/LF
WAIKAPU	S109096050	MARK MILL34	1487 / 1488 HONOAPIILANI HWY	96793	LUST
WAIKAPU	U004120867	MARK MILL34	1487 / 1488 HONOAPIILANI HWY	96793	UST
WAIKAPU	1008194955	VACANT LAND TMK NO (2) 3-8-7:101	KUIHELANI HWY NEAR WAIKO RD	96793	RCRA-CESQG
WAIKAPU	1010696372	FORMER MAUI SCRAP METAL LICENSE AR	WAIKO RD NEAR HCS FIELD 920	96793	FINDS
WAIKAPU	1010563215	FORMER MAUI SCRAP METAL LICENSE AR	WAIKO RD NEAR HCS FIELD 920	96793	RCRA-SQG
WAILUKU	1006842014	HAWAIIAN CEMENT - WAIKAPU QUARRY	HONOAPIILANI HWY	96793	FINDS, LUST
WAILUKU	1006819707	WAIALE ASH PILE	MAHALANI ST	96793	SHWS, FINDS, INST CONTROL
WAILUKU	S108008644	Y HATA- MAUI	200 WAIEHU BEACH RD AND KAHULU	96793	SHWS
WAILUKU	S108859869	WAIMALUHIA MAUI METH / DRUG LAB AC	115 WAIMALUHIA LANE	96793	SHWS, SPILLS, INST CONTROL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/29/2008	Source: EPA
Date Data Arrived at EDR: 10/10/2008	Telephone: N/A
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 01/26/2009
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/07/2008	Source: EPA
Date Data Arrived at EDR: 10/16/2008	Telephone: 703-412-9810
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 01/30/2009
Number of Days to Update: 53	Next Scheduled EDR Contact: 04/13/2009
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007	Source: EPA
Date Data Arrived at EDR: 12/06/2007	Telephone: 703-412-9810
Date Made Active in Reports: 02/20/2008	Last EDR Contact: 01/26/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/16/2009
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/11/2008	Source: EPA
Date Data Arrived at EDR: 09/19/2008	Telephone: 800-424-9346
Date Made Active in Reports: 10/16/2008	Last EDR Contact: 12/01/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/02/2009
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Sites List

Facilities, sites or areas in which the Office of Hazard Evaluation and Emergency Response has an interest, has investigated or may investigate under HRS 128D (includes CERCLIS sites).

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 34

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 12/18/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Landfills in the State of Hawaii

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/19/2004
Date Data Arrived at EDR: 05/20/2004
Date Made Active in Reports: 06/22/2004
Number of Days to Update: 33

Source: Department of Health
Telephone: 808-586-4245
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/30/2008
Date Data Arrived at EDR: 07/02/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 20

Source: Department of Health
Telephone: 808-586-4228
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/03/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 20

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/19/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/18/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/02/2008
Date Data Arrived at EDR: 12/04/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 19

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/25/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 27

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/30/2008	Source: Department of Health
Date Data Arrived at EDR: 07/02/2008	Telephone: 808-586-4228
Date Made Active in Reports: 07/24/2008	Last EDR Contact: 12/23/2008
Number of Days to Update: 22	Next Scheduled EDR Contact: 03/23/2009
	Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/18/2008	Source: EPA Region 10
Date Data Arrived at EDR: 11/19/2008	Telephone: 206-553-2857
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 11/17/2008
Number of Days to Update: 34	Next Scheduled EDR Contact: 02/16/2009
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 09/05/2008	Source: EPA Region 9
Date Data Arrived at EDR: 09/19/2008	Telephone: 415-972-3368
Date Made Active in Reports: 10/16/2008	Last EDR Contact: 11/17/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 02/16/2009
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 12/01/2008	Source: EPA Region 8
Date Data Arrived at EDR: 12/04/2008	Telephone: 303-312-6137
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 11/17/2008
Number of Days to Update: 19	Next Scheduled EDR Contact: 02/16/2009
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2007	Source: EPA Region 7
Date Data Arrived at EDR: 06/14/2007	Telephone: 913-551-7003
Date Made Active in Reports: 07/05/2007	Last EDR Contact: 11/19/2008
Number of Days to Update: 21	Next Scheduled EDR Contact: 02/16/2009
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/25/2008	Source: EPA Region 6
Date Data Arrived at EDR: 11/26/2008	Telephone: 214-665-7591
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 11/17/2008
Number of Days to Update: 27	Next Scheduled EDR Contact: 02/16/2009
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

INST CONTROL: Sites with Institutional Controls
Voluntary Remediation Program and Brownfields sites with institutional controls in place.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 34

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 12/18/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

VCP: Voluntary Response Program Sites
Sites participating in the Voluntary Response Program. The purpose of the VRP is to streamline the cleanup process in a way that will encourage prospective developers, lenders, and purchasers to voluntarily cleanup properties.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 34

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 12/18/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites
With certain legal exclusions and additions, the term 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 34

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 12/18/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 02/10/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/24/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 10/31/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 08/19/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 12/08/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 34

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Annually

SPILLS: Release Notifications
Releases of hazardous substances to the environment reported to the Office of Hazard Evaluation and Emergency Response since 1988.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 07/22/2008
Number of Days to Update: 34

Source: Department of Health
Telephone: 808-586-4249
Last EDR Contact: 12/18/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/15/2008
Date Data Arrived at EDR: 10/22/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 62

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/21/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 55

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/19/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 08/13/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/03/2008
Date Data Arrived at EDR: 10/15/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 35

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/30/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/09/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Biennially

DRYCLEANERS: Permitted Drycleaner Facility Listing

A listing of permitted drycleaner facilities in the state.

Date of Government Version: 03/28/2008
Date Data Arrived at EDR: 03/28/2008
Date Made Active in Reports: 04/24/2008
Number of Days to Update: 27

Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Varies

AIRS: List of Permitted Facilities

A listing of permitted facilities in the state.

Date of Government Version: 03/28/2008
Date Data Arrived at EDR: 03/28/2008
Date Made Active in Reports: 04/24/2008
Number of Days to Update: 27

Source: Department of Health
Telephone: 808-586-4200
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/10/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: N/A

PWS: Public Water System Data

This Safe Drinking Water Information System (SDWIS) file contains public water systems name and address, population served and the primary source of water

Date of Government Version: 02/24/2000
Date Data Arrived at EDR: 04/27/2005
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA
Telephone: N/A
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: N/A

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 09/30/2008
Date Made Active in Reports: 10/07/2008
Number of Days to Update: 7

Source: EPA
Telephone: 202-564-6064
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TMK (2) 38037028
511 IMI PLACE
WAILUKU, HI 96793

TARGET PROPERTY COORDINATES

Latitude (North):	20.89980 - 20˚ 53' 59.3''
Longitude (West):	156.487 - 156˚ 29' 13.2''
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	761414.0
UTM Y (Meters):	2312967.8
Elevation:	157 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	20156-H4 KAHAKULOA, HI
Most Recent Revision:	Not reported
West Map:	20156-H5 NAPILI, HI
Most Recent Revision:	Not reported

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

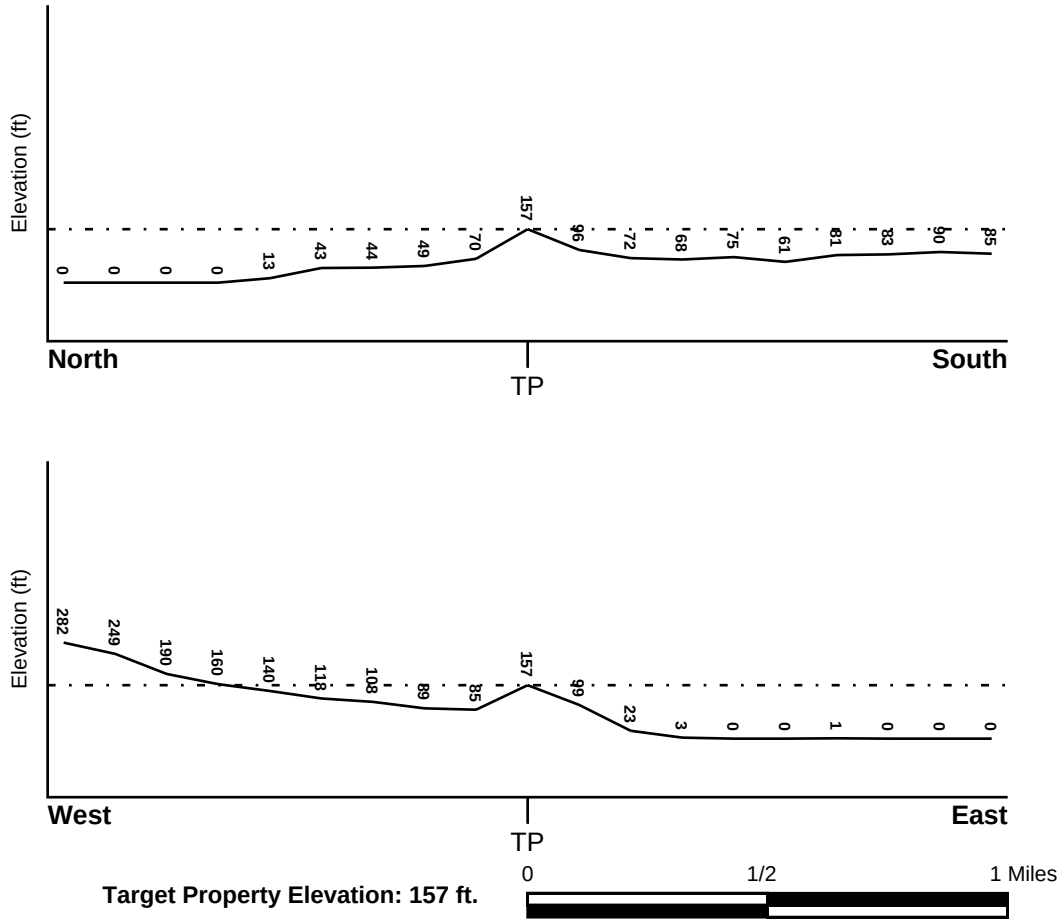
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ENE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 157 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MAUI, HI	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 1500030190D

Additional Panels in search area: 1500030180B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

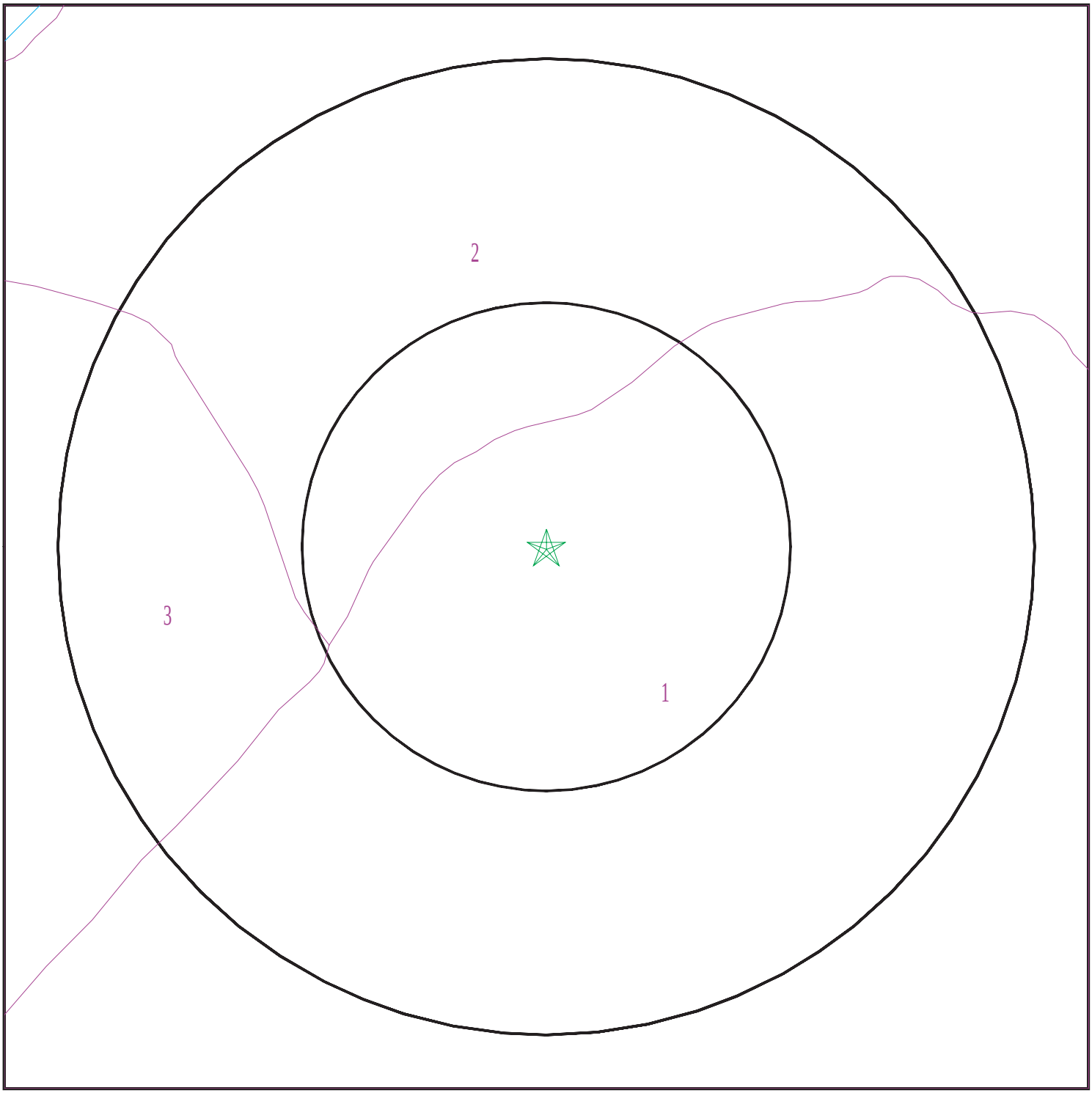
Era:	-
System:	-
Series:	-
Code:	N/A *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2417109.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku HI 96793 LAT/LONG: 20.8998 / 156.4870	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY #: 2417109.2s DATE: February 10, 2009 1:17 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Puuone

Soil Surface Texture: sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.5 Min: 8
2	20 inches	40 inches	cemented material	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 4.23	Max: 8.5 Min: 8

Soil Map ID: 2

Soil Component Name: Iao

Soil Surface Texture: silty clay

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	14 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6
2	14 inches	48 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6
3	48 inches	59 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6

Soil Map ID: 3

Soil Component Name: Iao

Soil Surface Texture: cobbly silty clay

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	14 inches	cobbly silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6
2	14 inches	48 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6
3	48 inches	59 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 1.41	Max: 7.3 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	HI3000000001297	1/4 - 1/2 Mile West
A2	HI3000000001285	1/4 - 1/2 Mile SSE
A3	HI3000000001284	1/4 - 1/2 Mile SSE
4	HI3000000001277	1/2 - 1 Mile South
5	HI3000000001326	1/2 - 1 Mile North
6	HI3000000001280	1/2 - 1 Mile SSW
7	HI3000000001274	1/2 - 1 Mile SSW
8	HI3000000001268	1/2 - 1 Mile South
B9	HI3000000001266	1/2 - 1 Mile SSW
B10	HI3000000001265	1/2 - 1 Mile SSW
B11	HI3000000001264	1/2 - 1 Mile SSW
12	HI3000000001257	1/2 - 1 Mile SSE
13	HI3000000001286	1/2 - 1 Mile WSW

PHYSICAL SETTING SOURCE MAP - 2417109.2s

County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku HI 96793 LAT/LONG: 20.8998 / 156.4870	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY #: 2417109.2s DATE: February 10, 2009 1:17 pm

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Map ID Direction Distance Elevation		Database	EDR ID Number
1 **West** **1/4 - 1/2 Mile** **Lower**		**HI WELLS**	**HI3000000001297**

Wid:	6-5429-002	Island:	6
Well no:	5429-02	Well name:	Papohaku Park
Old name:	Not Reported	Yr drilled:	1991
Driller:	ROSCOE MOSS	Quad map:	05
Longitude2:	1562938	Latitude27:	205409
Longitude8:	1562928	Latitude83:	205357
Lat83d:	20	Lat83m:	53
Lat83s:	57	Lon83d:	156
Lon83m:	29	Lon83s:	28
Lat83dd:	20.89917		
Lon83dd:	-156.49111		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	92	Lon83d 1:	205
Lon83m 1:	35	Lon83s 1:	7
Lat83dd 1:	16.05889		
Lon83dd 1:	-205.58528		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	92	Lon83d 12:	205
Lon83m 12:	35	Lon83s 12:	7
Lat83dd 12:	16.05889		
Lon83dd 12:	-205.58528		
Long83dd:	-156.49111		
Lat83dd 13:	20.89917		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	Not Reported
Well type:	PER	Casing dia:	8
Ground el:	85	Well depth:	140
Solid case:	80	Perf case:	110
Use:	IRRPA	Use year:	91
Init water:	24.7	Init head:	24.71000
Init chlor:	60		
Init cl:	60		
Test date:	6/4/1991	Test gpm:	150
Test ddown:	0.5	Test chlor:	60
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	150.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	RA
Pump yr:	91	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-55
Bot solid:	5	Bot perf:	-25
Spec capac:	300	Pump mgd:	0.210
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	3-4-030:015	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	6/7/1991
Pir:	7/7/1991	Surveyor:	Not Reported

T:	140.00000	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001297

A2
SSE
1/4 - 1/2 Mile
Lower

HI WELLS **HI3000000001285**

Wid:	6-5329-015	Island:	6
Well no:	5329-15	Well name:	Maui Comm Col
Old name:	Not Reported	Yr drilled:	1970
Driller:	OCEAN VIEW	Quad map:	05
Longitude2:	1562912	Latitude27:	205351
Longitude8:	1562902	Latitude83:	205339
Lat83d:	20	Lat83m:	53
Lat83s:	39	Lon83d:	156
Lon83m:	29	Lon83s:	02
Lat83dd:	20.89417		
Lon83dd:	-156.48389		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	90	Lon83d 1:	205
Lon83m 1:	33	Lon83s 1:	9
Lat83dd 1:	16.05833		
Lon83dd 1:	-205.5525		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	90	Lon83d 12:	205
Lon83m 12:	33	Lon83s 12:	9
Lat83dd 12:	16.05833		
Lon83dd 12:	-205.5525		
Long83dd:	-156.48389		
Lat83dd 13:	20.89417		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	17-2
Well type:	ROT	Casing dia:	6
Ground el:	37	Well depth:	68
Solid case:	68	Perf case:	Not Reported
Use:	IRRSC	Use year:	71
Init water:	16.0	Init head:	16.00000
Init chlor:	394		
Init cl:	394		
Test date:	Not Reported	Test gpm:	300
Test ddown:	4.0	Test chlor:	417
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	200.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	-31
Bot solid:	-31	Bot perf:	Not Reported
Spec capac:	75	Pump mgd:	0.288
Draft mgd:	Not Reported	Aquifer:	60301
Tmk:	3-8-007:001	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1970
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001285

A3
SSE **HI WELLS** **HI3000000001284**
1/4 - 1/2 Mile
Lower

Wid:	6-5329-021	Island:	6
Well no:	5329-21	Well name:	Maui Cent Park 3
Old name:	Not Reported	Yr drilled:	1997
Driller:	WAILANI DRLG	Quad map:	05
Longitude2:	1562911	Latitude27:	205348
Longitude8:	1562901	Latitude83:	205336
Lat83d:	20	Lat83m:	53
Lat83s:	36	Lon83d:	156
Lon83m:	29	Lon83s:	01
Lat83dd:	20.89333		
Lon83dd:	-156.48361		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	90	Lon83d 1:	205
Lon83m 1:	33	Lon83s 1:	6
Lat83dd 1:	16.05833		
Lon83dd 1:	-205.55167		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	90	Lon83d 12:	205
Lon83m 12:	33	Lon83s 12:	6
Lat83dd 12:	16.05833		
Lon83dd 12:	-205.55167		
Long83dd:	-156.48361		
Lat83dd 13:	20.89333		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	Not Reported
Well type:	ROT	Casing dia:	14
Ground el:	52	Well depth:	85
Solid case:	65	Perf case:	80
Use:	IRRPA	Use year:	98
Init water:	Not Reported	Init head:	2.50000
Init chlor:	Not Reported		
Init cl:	460		
Test date:	########	Test gpm:	270
Test ddown:	3.7	Test chlor:	560
Test temp:	22.2	Temp unit:	C
Pump gpm:	270.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	98	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-33
Bot solid:	-13	Bot perf:	-28
Spec capac:	73	Pump mgd:	0.389
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	3-8-007:001	Old aqui:	Not Reported
Aqui code:	60301	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	########
Pir:	2/5/1998	Surveyor:	S D DUPONTE

T:	80735.00000	Pump elev:	-12
Pump depth:	64	Site id:	HI3000000001284

4
South **HI WELLS** **HI3000000001277**
1/2 - 1 Mile
Lower

Wid:	6-5329-020	Island:	6
Well no:	5329-20	Well name:	Maui Cent Park 2
Old name:	Not Reported	Yr drilled:	Not Reported
Driller:	WAILANI DRLG	Quad map:	05
Longitude2:	1562920	Latitude27:	205343
Longitude8:	1562910	Latitude83:	205331
Lat83d:	20	Lat83m:	53
Lat83s:	31	Lon83d:	156
Lon83m:	29	Lon83s:	10
Lat83dd:	20.89194		
Lon83dd:	-156.48611		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	91	Lon83d 1:	205
Lon83m 1:	33	Lon83s 1:	1
Lat83dd 1:	16.05861		
Lon83dd 1:	-205.55028		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	91	Lon83d 12:	205
Lon83m 12:	33	Lon83s 12:	1
Lat83dd 12:	16.05861		
Lon83dd 12:	-205.55028		
Long83dd:	-156.48611		
Lat83dd 13:	20.89194		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	Not Reported
Well type:	ROT	Casing dia:	10
Ground el:	71	Well depth:	110
Solid case:	80	Perf case:	95
Use:	IRRPA	Use year:	98
Init water:	Not Reported	Init head:	1.90000
Init chlor:	Not Reported		
Init cl:	260		
Test date:	########	Test gpm:	300
Test ddown:	6.3	Test chlor:	260
Test temp:	23.9	Temp unit:	C
Pump gpm:	230.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	-39
Bot solid:	-9	Bot perf:	-24
Spec capac:	48	Pump mgd:	0.331
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	3-8-007:001	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	########
Pir:	########	Surveyor:	S D DUPONTE

T:	60357.00000	Pump elev:	-12
Pump depth:	83	Site id:	HI3000000001277

5
North **HI WELLS** **HI3000000001326**
1/2 - 1 Mile
Lower

Wid:	6-5429-001	Island:	6
Well no:	5429-01	Well name:	De Lara
Old name:	Not Reported	Yr drilled:	1947
Driller:	VENTURA J	Quad map:	05
Longitude2:	1562918	Latitude27:	205440
Longitude8:	1562908	Latitude83:	205428
Lat83d:	20	Lat83m:	54
Lat83s:	28	Lon83d:	156
Lon83m:	29	Lon83s:	08
Lat83dd:	20.90778		
Lon83dd:	-156.48556		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	90	Lon83d 1:	205
Lon83m 1:	42	Lon83s 1:	8
Lat83dd 1:	16.05833		
Lon83dd 1:	-205.70222		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	90	Lon83d 12:	205
Lon83m 12:	42	Lon83s 12:	8
Lat83dd 12:	16.05833		
Lon83dd 12:	-205.70222		
Long83dd:	-156.48556		
Lat83dd 13:	20.90778		
Gps:	0	Utm:	1
Owner user:	De Lara J	Old number:	18-
Well type:	Not Reported	Casing dia:	8
Ground el:	Not Reported	Well depth:	31
Solid case:	22	Perf case:	Not Reported
Use:	IRR	Use year:	56
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	528		
Init cl:	528		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	3.0	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	Not Reported	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	528
Min chlor:	45	Geology:	RA
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	47	Maxchl:	1/1/1947
Maxchl yr:	47	Minchl:	1/1/1948
Minchl yr:	48	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	3-4-029:031	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1947
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001326

6
SSW **HI WELLS** **HI3000000001280**
1/2 - 1 Mile
Higher

Wid:	6-5329-017	Island:	6
Well no:	5329-17	Well name:	Wailuku Arm
Old name:	Not Reported	Yr drilled:	1969
Driller:	ROSCOE MOSS	Quad map:	05
Longitude2:	1562941	Latitude27:	205344
Longitude8:	1562931	Latitude83:	205332
Lat83d:	20	Lat83m:	53
Lat83s:	32	Lon83d:	156
Lon83m:	29	Lon83s:	31
Lat83dd:	20.89222		
Lon83dd:	-156.49194		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	93	Lon83d 1:	205
Lon83m 1:	33	Lon83s 1:	2
Lat83dd 1:	16.05917		
Lon83dd 1:	-205.55056		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	93	Lon83d 12:	205
Lon83m 12:	33	Lon83s 12:	2
Lat83dd 12:	16.05917		
Lon83dd 12:	-205.55056		
Long83dd:	-156.49194		
Lat83dd 13:	20.89222		
Gps:	0	Utm:	1
Owner user:	U S Army	Old number:	Not Reported
Well type:	PER	Casing dia:	8
Ground el:	180	Well depth:	122
Solid case:	102	Perf case:	Not Reported
Use:	UNU	Use year:	69
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	Not Reported	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	Not Reported
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	58
Bot solid:	78	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	Not Reported	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	4/4/1969
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001280

7
SSW **HI WELLS** **HI3000000001274**
1/2 - 1 Mile
Lower

Wid:	6-5329-014	Island:	6
Well no:	5329-14	Well name:	Maui Stadium
Old name:	Not Reported	Yr drilled:	1970
Driller:	OCEAN VIEW	Quad map:	05
Longitude2:	1562931	Latitude27:	205338
Longitude8:	1562921	Latitude83:	205326
Lat83d:	20	Lat83m:	53
Lat83s:	26	Lon83d:	156
Lon83m:	29	Lon83s:	21
Lat83dd:	20.89056		
Lon83dd:	-156.48917		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	92	Lon83d 1:	205
Lon83m 1:	32	Lon83s 1:	6
Lat83dd 1:	16.05889		
Lon83dd 1:	-205.535		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	92	Lon83d 12:	205
Lon83m 12:	32	Lon83s 12:	6
Lat83dd 12:	16.05889		
Lon83dd 12:	-205.535		
Long83dd:	-156.48917		
Lat83dd 13:	20.89056		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	17-1
Well type:	ROT	Casing dia:	Not Reported
Ground el:	120	Well depth:	128
Solid case:	106	Perf case:	Not Reported
Use:	IRRPA	Use year:	71
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	285		
Init cl:	285		
Test date:	Not Reported	Test gpm:	300
Test ddown:	Not Reported	Test chlor:	74
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	200.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-8
Bot solid:	14	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	0.288
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	Not Reported	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1970
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001274

8
South **HI WELLS** **HI3000000001268**
1/2 - 1 Mile
Lower

Wid:	6-5329-019	Island:	6
Well no:	5329-19	Well name:	Maui Cent Park 1
Old name:	Not Reported	Yr drilled:	1997
Driller:	WAILANI DRLG	Quad map:	05
Longitude2:	1562920	Latitude27:	205334
Longitude8:	1562910	Latitude83:	205322
Lat83d:	20	Lat83m:	53
Lat83s:	22	Lon83d:	156
Lon83m:	29	Lon83s:	10
Lat83dd:	20.88944		
Lon83dd:	-156.48611		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	91	Lon83d 1:	205
Lon83m 1:	32	Lon83s 1:	2
Lat83dd 1:	16.05861		
Lon83dd 1:	-205.53389		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	91	Lon83d 12:	205
Lon83m 12:	32	Lon83s 12:	2
Lat83dd 12:	16.05861		
Lon83dd 12:	-205.53389		
Long83dd:	-156.48611		
Lat83dd 13:	20.88944		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	Not Reported
Well type:	ROT	Casing dia:	10
Ground el:	76	Well depth:	110
Solid case:	80	Perf case:	95
Use:	IRRPA	Use year:	98
Init water:	Not Reported	Init head:	2.50000
Init chlor:	Not Reported		
Init cl:	240		
Test date:	########	Test gpm:	300
Test ddown:	1.0	Test chlor:	260
Test temp:	23.9	Temp unit:	C
Pump gpm:	230.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	98	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-34
Bot solid:	-4	Bot perf:	-19
Spec capac:	300	Pump mgd:	0.331
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	3-8-007:001	Old aqui:	Not Reported
Aqui code:	60301	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	########
Pir:	########	Surveyor:	S D DUPONTE

T:	267200.00000	Pump elev:	-7
Pump depth:	83	Site id:	HI3000000001268

B9
SSW
1/2 - 1 Mile
Lower

HI WELLS **HI3000000001266**

Wid:	6-5329-004	Island:	6
Well no:	5329-04	Well name:	War Memorial Stadium
Old name:	Not Reported	Yr drilled:	1971
Driller:	PAUL SMITH	Quad map:	05
Longitude2:	1562933	Latitude27:	205333
Longitude8:	1562923	Latitude83:	205321
Lat83d:	20	Lat83m:	53
Lat83s:	21	Lon83d:	156
Lon83m:	29	Lon83s:	23
Lat83dd:	20.88917		
Lon83dd:	-156.48972		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	92	Lon83d 1:	205
Lon83m 1:	32	Lon83s 1:	1
Lat83dd 1:	16.05889		
Lon83dd 1:	-205.53361		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	92	Lon83d 12:	205
Lon83m 12:	32	Lon83s 12:	1
Lat83dd 12:	16.05889		
Lon83dd 12:	-205.53361		
Long83dd:	-156.48972		
Lat83dd 13:	20.88917		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	Not Reported
Well type:	ROT	Casing dia:	8
Ground el:	80	Well depth:	110
Solid case:	Not Reported	Perf case:	Not Reported
Use:	UNU	Use year:	Not Reported
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	250.00000	Draft mgy:	44
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	71
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-30
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	0.360
Draft mgd:	0.1	Aquifer:	60102
Tmk:	3-8-007:055	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	Not Reported
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001266

B10
SSW
1/2 - 1 Mile
Lower

HI WELLS **HI3000000001265**

Wid:	6-5329-005	Island:	6
Well no:	5329-05	Well name:	Baldwin High Sch
Old name:	Not Reported	Yr drilled:	1971
Driller:	Not Reported	Quad map:	05
Longitude2:	1562936	Latitude27:	205333
Longitude8:	1562926	Latitude83:	205321
Lat83d:	20	Lat83m:	53
Lat83s:	21	Lon83d:	156
Lon83m:	29	Lon83s:	26
Lat83dd:	20.88917		
Lon83dd:	-156.49056		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	92	Lon83d 1:	205
Lon83m 1:	32	Lon83s 1:	1
Lat83dd 1:	16.05889		
Lon83dd 1:	-205.53361		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	92	Lon83d 12:	205
Lon83m 12:	32	Lon83s 12:	1
Lat83dd 12:	16.05889		
Lon83dd 12:	-205.53361		
Long83dd:	-156.49056		
Lat83dd 13:	20.88917		
Gps:	0	Utm:	1
Owner user:	Maui Pks & Rec	Old number:	19-B
Well type:	Not Reported	Casing dia:	Not Reported
Ground el:	120	Well depth:	Not Reported
Solid case:	Not Reported	Perf case:	Not Reported
Use:	IRRSC	Use year:	71
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	280.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	3-8-007:055	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	Not Reported
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001265

B11
SSW
1/2 - 1 Mile
Lower

HI WELLS **HI3000000001264**

Wid:	6-5329-006	Island:	6
Well no:	5329-06	Well name:	Baldwin High TH
Old name:	Not Reported	Yr drilled:	1939
Driller:	JM HEIZER	Quad map:	05
Longitude2:	1562937	Latitude27:	205333
Longitude8:	1562927	Latitude83:	205321
Lat83d:	20	Lat83m:	53
Lat83s:	21	Lon83d:	156
Lon83m:	29	Lon83s:	27
Lat83dd:	20.88917		
Lon83dd:	-156.49083		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	92	Lon83d 1:	205
Lon83m 1:	32	Lon83s 1:	1
Lat83dd 1:	16.05889		
Lon83dd 1:	-205.53361		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	92	Lon83d 12:	205
Lon83m 12:	32	Lon83s 12:	1
Lat83dd 12:	16.05889		
Lon83dd 12:	-205.53361		
Long83dd:	-156.49083		
Lat83dd 13:	20.88917		
Gps:	0	Utm:	1
Owner user:	Maui County	Old number:	105-TH
Well type:	ROT	Casing dia:	1
Ground el:	120	Well depth:	131
Solid case:	131	Perf case:	Not Reported
Use:	UNU	Use year:	71
Init water:	5.9	Init head:	5.90000
Init chlor:	152		
Init cl:	152		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	Not Reported	Draft mgy:	Not Reported
Head feet:	5.9	Max chlor:	167
Min chlor:	91	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	39	Maxchl:	1/1/1939
Maxchl yr:	39	Minchl:	1/1/1939
Minchl yr:	39	Bot hole:	-11
Bot solid:	-11	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	Not Reported	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	5.90000
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1939
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001264

12
SSE **HI WELLS** **HI3000000001257**
1/2 - 1 Mile
Lower

Wid:	6-5329-016	Island:	6
Well no:	5329-16	Well name:	Papa Ave
Old name:	Not Reported	Yr drilled:	1971
Driller:	OCEAN VIEW	Quad map:	05
Longitude2:	1562911	Latitude27:	205330
Longitude8:	1562901	Latitude83:	205318
Lat83d:	20	Lat83m:	53
Lat83s:	18	Lon83d:	156
Lon83m:	29	Lon83s:	01
Lat83dd:	20.88833		
Lon83dd:	-156.48361		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	90	Lon83d 1:	205
Lon83m 1:	31	Lon83s 1:	8
Lat83dd 1:	16.05833		
Lon83dd 1:	-205.51889		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	90	Lon83d 12:	205
Lon83m 12:	31	Lon83s 12:	8
Lat83dd 12:	16.05833		
Lon83dd 12:	-205.51889		
Long83dd:	-156.48361		
Lat83dd 13:	20.88833		
Gps:	0	Utm:	1
Owner user:	Alalani Met Ch	Old number:	20-6
Well type:	ROT	Casing dia:	4
Ground el:	52	Well depth:	98
Solid case:	Not Reported	Perf case:	Not Reported
Use:	IRR	Use year:	71
Init water:	Not Reported	Init head:	Not Reported
Init chlor:	Not Reported		
Init cl:	0		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	Not Reported	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	THO
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	0	Minchl:	Not Reported
Minchl yr:	0	Bot hole:	-46
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60301
Tmk:	Not Reported	Old aqui:	Not Reported
Aqui code:	60301	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1971
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001257

13
WSW **HI WELLS** **HI3000000001286**
1/2 - 1 Mile
Higher

Wid:	6-5330-004	Island:	6
Well no:	5330-04	Well name:	Wailuku Mill TH
Old name:	Not Reported	Yr drilled:	1945
Driller:	MULLIN	Quad map:	05
Longitude2:	1563005	Latitude27:	205354
Longitude8:	1562955	Latitude83:	205342
Lat83d:	20	Lat83m:	53
Lat83s:	42	Lon83d:	156
Lon83m:	29	Lon83s:	55
Lat83dd:	20.895		
Lon83dd:	-156.49861		
Lat83d 1:	15	Lat83m 1:	62
Lat83s 1:	95	Lon83d 1:	205
Lon83m 1:	34	Lon83s 1:	2
Lat83dd 1:	16.05972		
Lon83dd 1:	-205.56722		
Lat83d 12:	15	Lat83m 12:	62
Lat83s 12:	95	Lon83d 12:	205
Lon83m 12:	34	Lon83s 12:	2
Lat83dd 12:	16.05972		
Lon83dd 12:	-205.56722		
Long83dd:	-156.49861		
Lat83dd 13:	20.895		
Gps:	0	Utm:	1
Owner user:	Wailuku Sugar	Old number:	113-TH
Well type:	ROT	Casing dia:	1
Ground el:	180	Well depth:	705
Solid case:	663	Perf case:	705
Use:	OBS	Use year:	45
Init water:	16.4	Init head:	16.40000
Init chlor:	22		
Init cl:	22		
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	Not Reported	Draft mgy:	Not Reported
Head feet:	16.4	Max chlor:	135
Min chlor:	25	Geology:	TW
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	56	Maxchl:	1/1/1953
Maxchl yr:	53	Minchl:	1/1/1956
Minchl yr:	56	Bot hole:	-525
Bot solid:	-483	Bot perf:	-525
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	60102
Tmk:	Not Reported	Old aqui:	Not Reported
Aqui code:	60102	Latest hd:	16.40000
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	1/1/1945
Pir:	Not Reported	Surveyor:	Not Reported

T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI3000000001286

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MAUI County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96793

Number of sites tested: 11

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.291 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Well Index Database
Source: Department of Land and Natural Resources
Telephone: 808-587-0214
CWRM maintains a Well Index Database to track specific information pertaining to the construction and installation of production wells in Hawaii

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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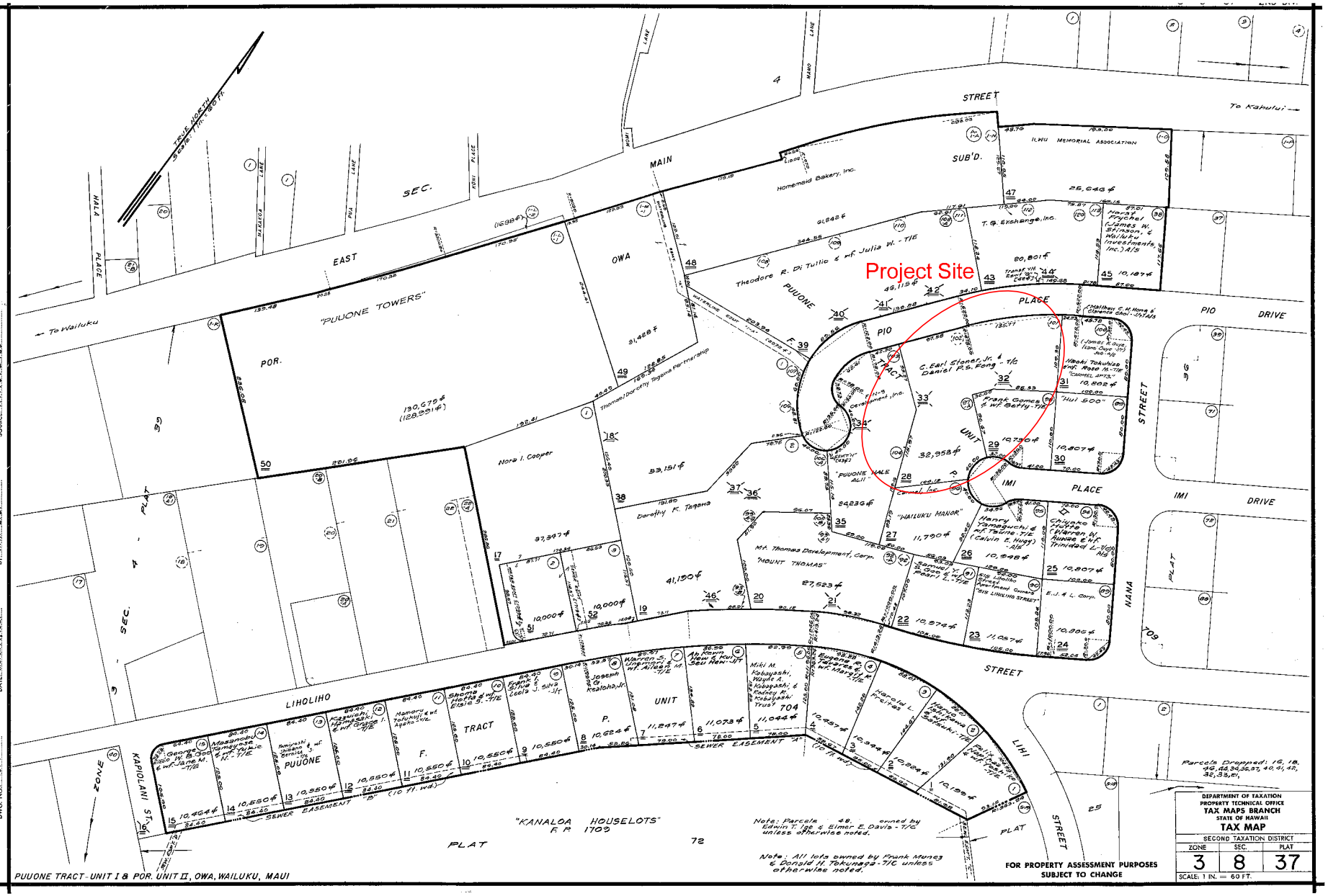
Appendix C

Maps

project: 9BDBR003 site: 511 Imi Place for: DBR Development LLC by: EAC Pacific

Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)


Project Site
MAIN STREET
To Kahului
To Wailuku
EAST
SEC.
HALA PLACE
"PUUONE TOWERS"
POR.
OWA
SUB'D.
Homemaid Bakery, Inc.
Theodore R. Di Tullio & wf Julia W. - T/E
T. G. Exchange, Inc.
ILWU MEMORIAL ASSOCIATION
PUUONE PLACE
PIO DRIVE
IMI PLACE
IMI DRIVE
"HAILUKU MANOR"
Mt. Thomas Development Corp.
"MOUNT THOMAS"
Nora I. Cooper
Dorothy K. Tagawa
Thomas/Dorothy Tagawa Partnership
LIHOLIHO STREET
KAPIOLANI ST.
LIHI STREET
MAINA STREET
SEWER EASEMENT "A" (10 ft. wd.)
SEWER EASEMENT "B" (10 ft. wd.)
"KANALOA HOUSELOTS" F.P. 1709
PLAT 72
Parcels Dropped: 16, 18, 46, 48, 34, 36, 37, 40, 41, 42, 32, 33, 51.
Note: Parcels 48, 49 owned by Edwin T. Ige & Elmer E. Davis - T/C unless otherwise noted.
Note: All lots owned by Frank Munes & Donald H. Tokunaga - T/C unless otherwise noted.
FOR PROPERTY ASSESSMENT PURPOSES SUBJECT TO CHANGE
DEPARTMENT OF TAXATION
PROPERTY TECHNICAL OFFICE
TAX MAPS BRANCH
STATE OF HAWAII
TAX MAP
SECOND TAXATION DISTRICT
ZONE 3 SEC. 8 PLAT 37
SCALE: 1 IN. = 60 FT.
PUUONE TRACT - UNIT I & POR. UNIT II, OWA, WAILUKU, MAUI
DWG. NO. 4974
RETRACED: April 29, 1988
DATE: March 14, 1961
BY: J.Y. - J.L.S.
BY: H.N. - L.B.
SOURCE: F.P. 104, 8, 109

TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Inquiry Number: 2417109.3
February 10, 2009

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

2/10/09

Site Name:
TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Client Name:
EAC Pacific
P.O. Box 894203
Mililani, HI 96789

EDR Inquiry # 2417109.3

Contact: Robert Weber

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by EAC Pacific were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name:	TMK (2) 38037028
Address:	511 Imi Place
City, State, Zip:	Wailuku, HI 96793
Cross Street:	
P.O. #	9BDBR003
Project:	9BDBR003
Certification #	F6E8-4C13-954F

Sanborn® Library search results
Certification # F6E8-4C13-954F

UNMAPPED PROPERTY

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The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

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TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Inquiry Number: 2417109.4
February 10, 2009

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

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Thank you for your business.
Please contact EDR at 1-800-352-0050
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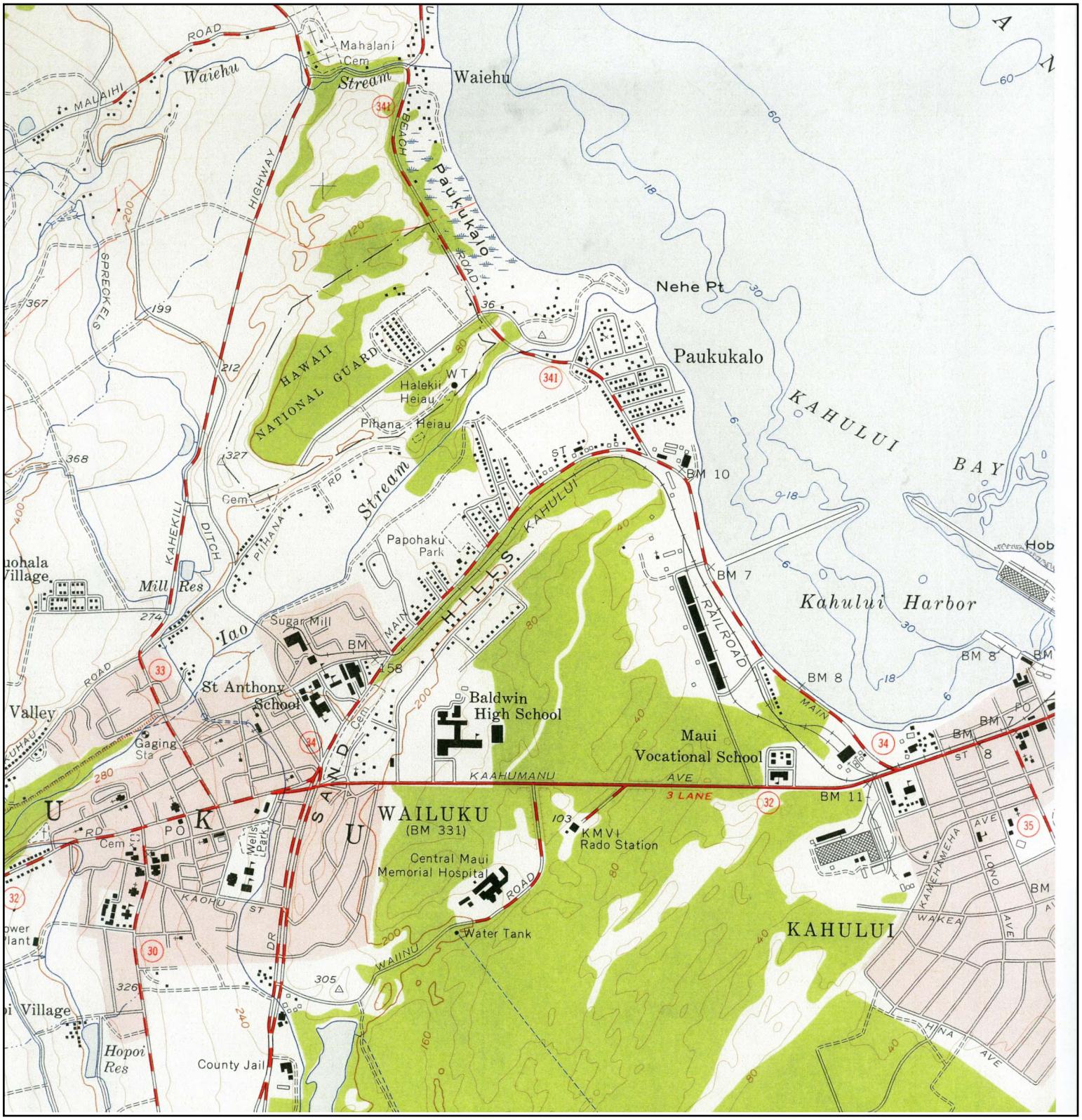
Historical Topographic Map



N	TARGET QUAD NAME: Wailuku, HI MAP YEAR: 1955 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku, HI 96793 LAT/LONG: 20.8998 / 156.487	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY#: 2417109.4 RESEARCH DATE: 02/10/2009

Historical Topographic Map

N	TARGET QUAD NAME: Wailuku, HI MAP YEAR: 1983 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku, HI 96793 LAT/LONG: 20.8998 / 156.487	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY#: 2417109.4 RESEARCH DATE: 02/10/2009

Historical Topographic Map

N	TARGET QUAD NAME: Wailuku, HI MAP YEAR: 1997 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: TMK (2) 38037028 ADDRESS: 511 Imi Place Wailuku, HI 96793 LAT/LONG: 20.8998 / 156.487	CLIENT: EAC Pacific CONTACT: Robert Weber INQUIRY#: 2417109.4 RESEARCH DATE: 02/10/2009

TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Inquiry Number: 2417109.5
February 10, 2009

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography February 10, 2009

Target Property:

511 Imi Place

Wailuku, HI 96793

Year	***Scale***	***Details***	***Source***
1975	Aerial Photograph. Scale: 1"=1000'	Panel #: 2430088-D8/Flight Date: July 22, 1975	EDR
1975	Aerial Photograph. Scale: 1"=1000'	Panel #: 2430088-D8/Flight Date: July 15, 1975	EDR
1992	Aerial Photograph. Scale: 1"=1000'	Panel #: 2430088-D8/Flight Date: September 23, 1992	EDR

INQUIRY #: 2417109.5
YEAR: 1975
= 1000'
N
EDR Environmental Data Resources Inc

INQUIRY #: 2417109.5
YEAR: 1975
= 1000'
N

INQUIRY #: 2417109.5
YEAR: 1992
= 1000'
N

Appendix D

Glossary

GLOSSARY

Definitions

Activity and Use Limitation – An AUL is a legal or physical limitation to the use or access to a site or facility, typically by *institutional controls* or *engineering controls*.

Actual Knowledge - The knowledge actually possessed by an individual who is a real person, rather than an entity. Actual knowledge is to be distinguished from constructive knowledge that is knowledge imputed to an individual or entity.

Air Emissions - Any physical, chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air surrounding a property and which contains air pollutants as defined in Section 302 of the Clean Air Act, as amended, 42 U.S.C. 7602.

Aerial Photography Review – An examination of aerial photographs of a site to ascertain site development, activities, and features, and to serve as a source of historic site information.

All Appropriate Inquiries - That inquiry into the previous ownership and uses of a property consistent with good commercial or customary practice, as defined in 42 U.S.C. 9601 (35)(B), that will qualify a party to a real estate transaction for the Landowner Liability Protections (*LLP*s) to CERCLA liability provided by 42 U.S.C. 9601 (35)(A) and (B) and 9607(b), assuming compliance with other elements of the defense. Standards and practices are codified in Title 40 CFR Part 312.

Asbestos - Six naturally occurring fibrous minerals found in certain types of rock formations. Of the six, the minerals chrysotile, amosite and crocidolite have been most commonly used in U.S. building products. Due to its high tensile strength, incombustibility, and corrosion-resistance, asbestos was used in many commercial products beginning early in the 1900s and peaking in the period from World War II into the 1970s.

Asbestos Containing Materials (ACM) - Any material or product which contains more than one percent asbestos as visually determined by microscopy.

As-Built Plan - A drawing which covers property boundaries, streets bordering the site, building layouts, and renovations and additions as they actually exist.

Client - Purchaser of project services and most important member of the project team. May also be the *User*.

Comprehensive Environmental Response and Liability Information System (CERCLIS) - The list of sites compiled by EPA that EPA has investigated or is currently investigating for potential hazardous substance contamination for possible inclusion on the National Priorities List.

Commercial Real Estate - Any real *Property* except a dwelling or property with no more than four dwelling units for residential use. The term "commercial real estate" includes but is not limited to properties used for industrial, commercial, retail, office, agricultural, medical, or educational purposes and properties used for residential purposes which have more than four residential dwelling units.

Commercial Real Estate Transaction - A transfer of title to or possession of real *Property* or receipt of a security interest in real property, except that it does not include transfer of title to or possession of real property or the receipt of a security interest in real property with respect to an individual dwelling or a building containing less than five dwelling units, nor does it include the purchase of a lot or lots to construct a dwelling for occupancy by a purchaser, but a commercial real estate transaction does not include real property purchased or leased by persons or entities in the business of building or developing dwelling units.

Construction Debris - Concrete, brick, asphalt, and other material discarded in the construction or demolition of an improvement to real property.

Data gap – A lack of or inability to obtain information required by the AAI process despite good faith efforts by the *environmental professional* to gather such information.

De minimis – Conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions* (RECs).

Docket - Docket of civil actions filed by the Department of Justice for EPA since 1972.

Drum - A container (typically of 55 gallon capacity) which is used to store hazardous substances, hazardous wastes or other regulated materials.

Dwelling - Structure or portion thereof used for residential habitation.

EAC Pacific – Environmental assessment and consulting by a locally owned and operated consulting company. 808-626-7706, www.eacpacific.com, PO Box 894203, Mililani, HI 96789. Quality products and services from an experienced, registered, and certified *Environmental Professional*. Hawaii's most experience environmental due diligence.

Emergency Response Notification System (ERNS) - ERNS contains over spill records and stores information on reported releases of oil and hazardous substances. The data are collected from spills reported to EPA and the Coast Guard (National Response Center).

Engineering Controls – A physical restriction, or *activity and use limitation (AUL),* to a site to prevent exposure to contaminants or release of contaminants to the soil or groundwater.

Environmental Audit - An investigative process to determine if an active facility is in compliance with applicable environmental laws and regulations.

Environmental Due Diligence - The process of assessing the environmental characteristics of a parcel of *commercial real estate*, usually in connection with a real estate transaction. The degree and kind of due diligence vary for different properties and differing purposes. To meet one of the requirements for landowner liability protections (LLPs), the scope is defined by CERCLA and industry standard ASTM E-1527. Standards and practices for *All Appropriate Inquiries* are codified in Title 40 CFR Part 312.

Environmental Liens - A lien, which is a charge, security or encumbrance upon *Property*, imposed on a *Property* to secure the payment of a debt, obligation or duty arising out of an environmental release, contamination, or cleanup of a hazardous substance, including but not limited to liens imposed pursuant to CERCLA 42 U.S.C. 9607(1) and similar state or local statutes.

Environmental Professional - A person possessing sufficient education, training, and experience necessary to perform a records review, chronicle a site history, conduct a site reconnaissance, and other activities, and from this information, having the ability to develop conclusions regarding the environmental status of the real *Property* in question. (40 CFR § 312.10(b)(1))

Environmental Site Assessment (ESA) - The process by which certain levels of *All Appropriate Inquiry* or *Environmental Due Diligence* are conducted for a *Property*. At the option of the *User*, an environmental site assessment may include more inquiry than that required to constitute *All Appropriate Inquiries*.

Facility Index System - A list compiled by EPA of all facilities identified by EPA for regulation under one or more environmental programs.

Federal Register - Publication of the United States government published daily (except federal holidays and weekends) containing all proposed and final regulations of the federal government. When regulations become final, they are included in the Code of Federal Regulations (CFR), as well as published in the *Federal Register*.

Fill Material - Dirt, soil, sand or other earth, which is obtained off-site, that is used to fill holes or depressions, create mounds, or otherwise artificially change the grade or elevation of real property. It does not include material that is used in limited quantities for normal aesthetic landscaping activities.

Friable Asbestos Material - Any material that contains asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. This may also include previously non-friable material, which becomes broken or damaged by mechanical force.

Geographic Information System (GIS) – A technology of encoding data to analyze it from a geographic perspective. For example, addresses may be stored in a database and retrieved plotted in a map view.

Hazardous Chemicals - Chemicals or materials used in the work place that are regulated under the OSHA Hazard

Communication Standard or the "right-to-know" regulations in Title 29 CFR 1910.1200.

Hazardous Material - A hazardous material (HazMat) is any substance or mixture of substances having properties capable of producing adverse effects on the health and safety or the environment of a human being. Legal definitions are found in numerous individual regulations pertinent to storage, handling, transportation, etc. See also *Hazardous Substances*.

Hazardous Material Incident Report System (HMIRS) - HMIRS contains hazardous material spill incidents reported to the Department of Transportation. These spill incidents are not necessarily listed in ERNS.

Hazardous Substances - Chemicals, mixtures of chemicals, or materials subject to the regulations contained in Title 40 CFR. For transportation purposes, means a material, and its mixtures or solution, identified by the letter "E" in Title 49 CFR 172.010 when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity (RQ). For details, refer to Title 49 CFR 171.8 and Title 49 CFR 172.101.

Hazardous Waste - Any material listed as such in Title 40 CFR 261, Subpart D, or that possesses any of the hazard characteristics of corrosivity, ignitability, reactivity, or toxicity as defined in Title 40 CFR 261, Subpart C, or that is contaminated by or mixed with any of the previously mentioned materials (see Title 40 CFR 261.3).

Hazardous Waste Generator – A person or entity that produces *Hazardous Waste*.

Hazardous Waste Management - Systematic control of the collection, source separation storage, transportation, processing, treatment, recovery, and disposal of *Hazardous Wastes*.

Hazardous Waste Manifest, Uniform (EPA Usage) - The shipping document, originated and signed by the *Hazardous Waste Generator* or his authorized representative, that contains the information required by Title 40 CFR 262, Subpart B.

Hazardous Waste Site - A location where *Hazardous Wastes* are stored, treated, incinerated, or otherwise disposed.

Inaccessible Area - Space enclosed with wall board or other similar material; locked area; space which would require destructive measures (i.e., cutting, hammering, removing, etc.) to gain access; etc., or requires special equipment to access such as ladders, cranes, etc.

Institutional Controls – A legal or administrative restriction, or *activity and use limitation (AUL),* on the use or access to a site to prevent exposure to contaminants or prevent activities that interfere with a response action.

Infectious Waste - Waste that contains pathogens or consists of tissues, organs, body parts, blood, and body fluids that are removed during surgery or other procedures. See Title 42 CFR Part 72.

Lead-Based Paint Hazard - A lead content of 1.0 milligrams or higher per square centimeter of painted surface, per HUD Regulations, 24 CFR 200.820 as delineated in the Architect's Analysis and Inspection for Project Mortgage Insurance Handbook No. 4680.1 Rev. 1.

Landowner Liability Protections (LLPs) – Under CERCLA, these protections include the bona fide prospective purchaser liability protection, contiguous property owner liability protection, and the innocent landowner defense from CERCLA liability.

Lead-Based Paint - The U.S. Department of Housing and Urban Development (HUD) has defined a lead based painted surface as one of the following (lead-containing paint exhibits a lead concentration less than the following):

- ◊ A surface coating material containing more than one milligram per centimeter squared (1.0 mg/cm^2) of lead as determined by utilizing the X-ray fluorescence analysis method; or
- ◊ A surface coating material containing greater than 0.5% lead concentration by weight utilizing the flame atomic absorption spectrophotometry analysis method.

Local Government Agencies - Those agencies of city or county government having jurisdiction over the *Property*. City and county government agencies include but are not limited to parishes, townships and similar terms.

Manifest, Uniform Hazardous Waste - Shipping papers when properly prepared and distributed, provides a tracking system that consists of forms originating with the generator or shipper and following from the generator to disposal in a permitted TSDF.

Material Safety Data Sheet (MSDS) - Written or printed material concerning a hazardous substance which is prepared by chemical manufacturers, importers and employers for hazardous chemicals pursuant to OSHA's Hazard Communication System, 29 CFR 1910.1200(g).

National Priorities List (NPL) - List complied by EPA pursuant to CERCLA 42 U.S.C. 9605(a)(8)(B) of properties with the highest priority for cleanup pursuant to EPA's Hazard Ranking System. See 40 CFR Part 300.

NESHAPs - National Emission Standards for Hazardous Air Pollutants. CAA Section 112 also refers to chemicals regulated under this program.

NIOSH - National Institute for Occupational Safety and Health of the Public Health Service, United States Department of Health and Human Services (DHHS). Federal agency which, among other activities, tests and certifies respiratory protective devices and air sampling detector tubes, recommends occupational exposure limits for various substances and assists OSHA and MSHA in occupational safety and health investigations and research.

Non-friable Asbestos Material - Any material that contains more than one percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Non-PCB Transformer - Any transformer that contains less than 50 ppm PCB.

Operator - Person or entity occupying or using *Commercial Real Estate.*

Owner - Holder of legal or equitable title to real *Property.*

PCB Activity Database (PADS) - EPA regulates under TSCA the storage and disposal of PCBs. Those who handle PCBs (generators, transporters, commercial storers and/or brokers and disposers) are required to notify EPA of their PCB waste activities. PADS contains this list of notifiers.

PCB-Contaminated Transformer - Any transformer that contains 50 ppm PCB or greater, but less than 500 ppm PCB.

PCB Transformer - Any transformer that contains 500 ppm PCB or greater.

Phase I Environmental Site Assessment - The process of evaluating a *Property* which typically includes:

- ◊ review of records, both public and private
- ◊ site reconnaissance of the *Property*
- ◊ interviews with current owners and operators of the *Property*, and
- ◊ evaluation and report preparation

Pits, Ponds or Lagoons - Man-made or natural depressions in a ground surface that are likely to hold liquids or sludge containing hazardous substances or petroleum products. The likelihood of such liquids or sludge being present is determined by evidence of factors associated with the pit, pond or lagoon, including, but not limited to, discolored water, distressed vegetation or the presence of an obvious wastewater discharge.

Potentially Responsible Party – A person or entity that could be found to be legally and/or financial responsible for damages and remediation of a contaminated *Property.*

Project - Scope of services to be performed in conjunction with a specific *Property.*

Property - The real property which is the subject of the inquiry. Real property includes buildings and other fixtures and improvements located upon the property and affixed to the land.

Radon - A radioactive gas which occurs from the natural breakdown (radioactive decay) of uranium. Radon cannot be seen, smelled or tasted. Radon can be found in high concentrations in soils and rocks whether from natural sources, industrial wastes or by-products of uranium or phosphate mining. Outdoor air contains such low concentrations of radon that there is generally not a health problem. However, in an enclosed space, such as a home, radon can become concentrated in higher levels that may cause health concerns.

Readily Available - Information that is obtainable from researching accessible sources commonly known to *Environmental Professionals* obtainable upon request within a reasonable time and at a reasonable cost in the context of a *Commercial Real Estate Transaction*. The period of time that is reasonable will vary depending upon the circumstances and time frame of the project.

Recognized Environmental Conditions (RECs) – The presence or likely presence of any hazardous substances or

petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the property or into the ground, ground water, or surface water of the property that would be subject to enforcement action if brought to the attention of appropriate government agencies.

SETS - SETS identifies Superfund sites where a particular company has been identified by EPA as a *Potentially Responsible Party* (PRP). SETS also identifies all PRPs identified by EPA at any specific Superfund site.

Small Quantity Generators (SQGs) - Defined as facilities producing less than 1,000 kilograms of hazardous waste per calendar month (kilograms per month), or less than 1 kilogram of acutely toxic waste.

Soil and Groundwater Analysis - Tests used to determine the presence of surface or subsurface contamination and concentration levels; may involve soil borings and installations of test pits and/or observation wells.

Soil Vapor Surveys - Surveys using gas chromatography, photo ionization, or similar equipment to map potential soil and groundwater contamination.

Solid Waste Facilities/Landfill Sites (SWF/LS) - SWF/LS type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities. The Federal Open Dump Inventory has been incorporated into SWF/LS.

Solvent - An organic chemical-based liquid that is capable of dissolving another substance and is itself a hazardous substance; used in a number of manufacturing/industrial processes including the manufacture of paints and coatings for industrial and household purposes, equipment clean-up and surface degreasing in metal fabricating industries

State Hazardous Waste Sites (SHWS) - State hazardous waste site records are the state's equivalent to CERCLIS. These sites may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified, along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Topography - The configuration of the land surface area, including its relative elevations and the position of natural and artificial features.

TSD Facility - A facility that treats, stores and/or disposes of hazardous waste.

Toxic Release Inventory System (TRIS) - TRIS includes all facilities which release toxic chemicals in reportable quantities to the air, water or land as required under SARA (Superfund Amendments and Reauthorization of 1986), Title III, Section 313. Reporting covers approximately 20,000 sites and is required (Form R) each July 1st for the previous year.

Toxic Substances Control Act (TSCA) - TSCA promulgated a rule requiring manufacturers and importers of certain chemical substances included on the TSCA Chemical Substance Inventory list to report current data on the production volume of these substances by plant site. After initial reporting in 1986, recurring reporting is required every 4 years.

Underground Storage Tank (UST) - Any tank, including underground piping connected to the tank, which is or has been used to contain a hazardous substance or petroleum, and the volume of which is ten percent or more beneath the surface of the ground.

User - The party seeking to use the *Phase I Environmental Assessment* to perform *Appropriate Inquiry* with respect to the *Property*. A User may include, without limitation, a purchaser of the property, a potential tenant of the property, an owner of property, a lender, or a property manager.

Wastewater - Water that (i) is or has been used in an industrial or manufacturing process, (ii) conveys or has conveyed sewage, or (iii) is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Wastewater does not include water originating on or passing through or adjacent to a site, such as storm water flows, that (i) has not been used in industrial or manufacturing processes, (ii) has not been combined with sewage, or (iii) is not directly related to manufacturing, processing or raw materials storage areas at an industrial plant.

Acronyms

AAI – All Appropriate Inquiries, 40 CFR Part 312

ACM - Asbestos- Containing Material

AHERA - Asbestos Hazard Emergency Response Act

AST - Aboveground Storage Tank

ASTM - American Society for Testing and Materials

AUL – Activity and Use Limitation

CAA - Clean Air Act

CEA - Certified Environmental Auditor

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq. as amended

CERCLIS - Comprehensive Environmental Response and Liability Information System

CFR - Code of Federal Regulations

CHCM - Certified Hazard Control Manager

CHMM - Certified Hazardous Materials Manager

CWA - Clean Water Act

DOH - State of Hawaii Department of Health

DOT - Department of Transportation

EAC – Environmental Assessment and Consulting from EAC Pacific, 808-626-7706, PO Box 894203, Mililani, HI 96789, www.eacpacific.com

EP – Environmental Professional as defined by 40CFR § 312.10(b).

EPA - Environmental Protection Agency

EPCRA - Emergency Planning and Community Right-to-Know Act

ERNS - Emergency Response Notification System

ESA - Environmental Site Assessment (different than an environmental audit; see Definitions)

FASA - Flame Atomic Spectrophotometry Analysis (Lead paint bulk)

FINDS - Facility Index System

FOIA - Freedom of Information Act

FR - Federal Register

GIS – Geographic Information System

HAR – Hawaii Administrative Rule

HCS - Hazard Communication Standard (OSHA)

HEER – the Hazard Evaluation and Emergency Response office of HIDOH

HIDOH - State of Hawaii Department of Health

HM - Hazardous Material

HMIRS - Hazardous Material Incident Report System

HWDMS - Hazardous Waste Data Management System

IC/EC – Institutional Controls or Engineering Controls

LLP – Landowner Liability Protections

LUST - Leaking Underground Storing Tank

mg/kg – milligrams per kilogram, equivalent to parts per million solid measure

mg/L – milligrams per liter, equivalent to parts per million liquid measure

MSDS - Material Safety Date Sheet

MSHA - Mine Safety and Health Administration of the U.S. Department of Interior

NCP - National Contingency Plan

NESHAPs - National Emission Standard for Hazardous Air Pollutants

NIOSH - National Institute for Occupational Safety and Health

NPDES - National Pollution Discharge Elimination System

NPL - National Priority List

O&M - Operation and Maintenance

OSH Act - Occupational Safety and Health Act

OSHA - Occupational Safety and Health Administration

PADS - PCB Activity Database

PCBs - Polychlorinated Biphenyls

PCM - Phase Contrast Microscopy (Asbestos Air)

PLM - Polarized Light Microscopy (Asbestos Bulk)

POTWs - Publicly-owned Treatment Works

ppm - parts per million

PRP - Potentially Responsible Party pursuant to CERCLA 42 U.S.C. 9607(a)

QA - Quality Assurance

QC - Quality Control

RCRA - Resource Conservation and Recovery Act as amended, 42 U.S.C. 6901 et seq.

RCRIS - Resource Conservation and Recovery Information System

REC – Recognized Environmental Condition

REM - Registered Environmental Manager

REP - Registered Environmental Professional

RQ - Reportable Quantity

SARA - Superfund Amendments and Reauthorization Act of 1986

SDWA - Safe Drinking Water Act

SETS - Superfund Enforcement Tracking System

SHWB – the Solid and Hazardous Waste Branch of HIDOH

SHWS - State Hazardous Waste Sites

SPCC - Spill Prevention Control and Countermeasure

SQG - Small Quantity Generator

SWF/LS - Solid Waste Facilities/Landfill Sites

SWMU - Solid Waste Management Unit

TPH - Total Petroleum Hydrocarbons

TRIS - Toxic Release Inventory System

TSCA - Toxic Substance Control Act

TSDF - Treatment, Storage, or Disposal Facility

USC -United States Code

USGS - United States Geological Survey

UST - Underground Storage Tank

VOC - Volatile Organic Compound

XRF - X-ray Fluorescence Analyzer

Appendix E

Supporting Documentation

E A C *Pacific*

CLIENT/USER QUESTIONNAIRE

INTRODUCTION: In order to qualify for one of the *Landowner Liability Protections* * offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the *Client* and/or *User* of the environmental site assessment must provide (if available) the following information. Failure to provide this information could result in a determination that *all appropriate inquiries* have not been completed.

Project Site: **511 Imi Place, Wailuku, Hawaii, TMK (2) 38037028**
EAC Pacific Project No. 9BDBR003

1] Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? (40 CFR 312.25)

No

2] Are you aware of any *activity and use limitations* (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the site with regard to environmental issues and/or have been filed or recorded in a registry under federal, tribal, state or local law? (40 CFR 312.26)

No

3) As the *User* of the Phase I Environmental Site Assessment, do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the *property* or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? (40 CFR 312.28)

No

4] If you conclude that there is a difference between the purchase price being paid for this *property* and the fair market value of the *property*, is the lower purchase price because contamination is known or believed to be present at the *property*? (40 CFR 312.29)

N/A

5] As the *User* of the Phase I Environmental Site Assessment, based on your knowledge and experience related to the *property* are there any obvious indicators that point to the presence or likely presence of contamination at the *property*? (40 CFR 312.31)

No

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6) Are you aware of commonly known or reasonably ascertainable information about the *property* that would help to identify conditions indicative of releases or threatened releases? (40 CFR 312.30) For example, as the *User* of the Phase I Environmental Site Assessment,

No

[a.] Do you know the past uses of the *property*? Vacant

[b.] Do you know of any hazardous substances or petroleum products that are present or were previously present at the *property*? No

[c.] Do you know of spills or releases of hazardous substances or petroleum products that have taken place at the *property*? No

[d.] Do you know of any environmental cleanups that have taken place at the *property*?

No

Completed By:

Signature 2/10/09 Date

David Billings, Member, DBR Investments LLC

Name (print or type)

Member

Relationship to property

* *Landowner Liability Protections*, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability ("Common Elements"* Guide) issued on March 6, 2003.

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RESIDENTIAL APPRAISAL CARD

CARD	OF	CARDS
ZONE SEC.	PLAT	PARCEL
3 8	37	28

6.
7.
ADDR
8. ZONING
9. MOD. FACTOR
ST. DEPTH CORNER
OTHER

1. TOPOGRAPHY	2. ST. IMPVTS	3. UTILITIES	4. USE	5. ADD'L L. IMPVTS
LEVEL ☐	GRAVEL ☐	WATER ☐	RES. ☐	PAVED AREAS ☐
SLOPING FT.	PAVED ☐	ELEC. ☐	COM'L ☐	RET. WALLS ☐ TERR/PATIOS ____ SQ. FT.
GRADE "	CURB ☐	GAS ☐	IND. ☐	LAWN-LDSC. ☐ FENCES ____ LIN. FT.
H ☐ L ☐	GUTTER ☐	SEWER ☐	AGR. ☐	WALK WAYS ☐ BARBEC. ____ CU. FT.
	SIDE WK ☐	UNDERG'D ☐	INST. ☐	SPRINKLERS ☐ SWIM. POOL ____ SQ. FT.
				SHAPE ____

DESCRIPTION: Lot 97, PuuoneTr. Unit I, Wailuku

OWNER	TITLE HISTORY	NET AREA
~~MUNOZ, Frank & TOKUNAGA, Donald H~~	A/S 1/2/70 fr Munoz etal SCT 7.15 Cons 14300 Int rt 7% DP 8600 M/R $198.02	
~~(IKEHARA, William K/Betsy J/T)~~	4/10/70 Bk 6959/1	
~~FONG, Daniel P S/Aileen L T/E~~	D: 7/22/71 frMunoz etal SCT- A/S out 9/1/71 Bk 7768/141	
FUJITOMO, Haruo/Matsue J/T	D: 8/9/71 fr Ikehara SCT 14.00 8/16/71 Bk 7736/376	
~~STONER, C Earl Jr; LIESE, Grover J;~~	D: 3/1/72 frFong SCT - Cons 10 3/15/72 Bk8188/237	
~~PETERS, Gary D; FONG, Daniel P S; MEYER~~,	TMB 1744'72-73 D 10/6/72 fr Fong etal SCT 17.15 cons 10 to Stoner etal	
Harry K; ~~SCHNEIDER, Barbara F; PETERS,~~	10/6/72 Bk8652/468	
Jack ~~E;~~ MORI, Arthur Y T/C		
STONER, C. Earl Jr. (m)	TMB 668 1976 D: 7/22/76 fr Stoner etal to Stoner etal SCT $20.65 7/30/76	32,953 F
FONG, Daniel P. S. (m) T/C	Bk 11563/428	

C A M A

YEAR										YEAR
AREA										AREA

MAUI COUNTY PARCEL HISTORY (TT102) FOR:

TMK: 3-8-037-028-0000 PAGE:1

05/02/2005 ----------

INSTR-DESC:WARNT DEED **TRANS NO:**266322

INSTR_NO:05-086974 **INSTR-DATE:**04/25/2005

REC-DATE:05/02/2005

AMOUNT:$1,100,000.00

AREA:32,953 SQ.FT. **STATE-CONV-TAX: $** 1100

FROM: ELLEAIR HAWAII, INC.

TO: SAND HILL PROPERTIES, LLC

LOT 97-A TAX KEY DESIGNATION (2) 3-8-037-028

32,953 SF NO DES POR FP 709, LOTS 97, 101 & 102

SUBJ/ES

GROUP#	NAME	F	TC	%-OWNER	TITLE-DESC
2	0011 SAND HILL PROPERTIES,LLC				

08/03/1990 ----------

INSTR-DESC:WARRANTY DEED **TRANS NO:**69266

INSTR_NO:9000118865 **INSTR-DATE:**07/25/1990

REC-DATE:08/03/1990

AMOUNT:$575,000.00 **ACK/EFF DATE:**08/03/1990

STATE-CONV-TAX: $ 287.50

FROM: C EARL STONER JR AND DANIEL P S FONG

TO: ELLEAIR HAWAII INC

LOTS: 97 - 11,441 SF, 101 - 10,680 SF AND 102 - 10,832 SF

GROUP#	NAME	F	TC	%-OWNER	TITLE-DESC
2	0011 ELLEAIR HAWAII INC				

10/07/1987 ----------

GROUP#	NAME	F	TC	%-OWNER	TITLE-DESC
2	0011 STONER,C EARL JR		3TC		
2	0021 FONG,DANIEL P S		3TC		

----------SEE HISTORY SHEET FOR MORE INFORMATION----------

TMK (2) 38037028
511 Imi Place
Wailuku, HI 96793

Inquiry Number: 2417109.6
February 11, 2009

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening report designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1995 through 2009. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

Date EDR Searched Historical Sources: February 11, 2009

Target Property:
511 Imi Place
Wailuku, HI 96793

Year	***Uses***	***Source***
1995	Address Not Listed in Research Source	Polk's City Directory
1998	Address Not Listed in Research Source	Polk's City Directory
2003	Address Not Listed in Research Source	Polk's City Directory
2009	Address Not Listed in Research Source	Polk's City Directory

Adjoining Properties

SURROUNDING

Multiple Addresses
Wailuku, HI 96793

Year	***Uses***	***Source***
1995	****IMI PLACE****	Polk's City Directory
	Apts (510)	Polk's City Directory
	Apts (514)	Polk's City Directory
	Apts (517)	Polk's City Directory
	Residence (525)	Polk's City Directory
	No addresses listed prior to 510	Polk's City Directory
	****IMI DR****	Polk's City Directory
	Address not listed in research source (626)	Polk's City Directory
	Not Verified (631)	Polk's City Directory
	****NANA ST****	Polk's City Directory
	Apts (1697)	Polk's City Directory
	Residence (1698)	Polk's City Directory
	Residence (1742)	Polk's City Directory
	Apts (1743)	Polk's City Directory

Year	Uses	Source
1998	**IMI PLACE**	Polk's City Directory
	Apts (510)	Polk's City Directory
	Apts (514)	Polk's City Directory
	Residence (517)	Polk's City Directory
	Address not listed in research source (525)	Polk's City Directory
	No addresses listed prior to 510	Polk's City Directory
	IMI DR	Polk's City Directory
	Residence (626)	Polk's City Directory
	Kanae Boy (mgmt consulting) (631)	Polk's City Directory
	NANA ST	Polk's City Directory
	Apts (1697)	Polk's City Directory
	Residence (1698)	Polk's City Directory
	Residence (1742)	Polk's City Directory
	Apts (1743)	Polk's City Directory
2003	**IMI PLACE**	Polk's City Directory
	Apts (510)	Polk's City Directory
	Apts (514)	Polk's City Directory
	Address not listed in research source (517)	Polk's City Directory
	Address not listed in research source (525)	Polk's City Directory
	No addresses listed prior to 510	Polk's City Directory
	IMI DR	Polk's City Directory
	Residence (626)	Polk's City Directory
	Residence (631)	Polk's City Directory
	NANA ST	Polk's City Directory

Year	***Uses***	***Source***
2003	Apts (1697)	Polk's City Directory
	Residence (1698)	Polk's City Directory
	Residence (1742)	Polk's City Directory
	Apts (1743)	Polk's City Directory
2009	****IMI PLACE****	Polk's City Directory
	Apts (510)	Polk's City Directory
	Apts (514)	Polk's City Directory
	Apts (517)	Polk's City Directory
	No current listing (525)	Polk's City Directory
	No addresses listed prior to 510	Polk's City Directory
	****IMI DR****	Polk's City Directory
	No current listing (626)	Polk's City Directory
	No current listing (631)	Polk's City Directory
	****NANA ST****	Polk's City Directory
	Apts (1697)	Polk's City Directory
	Residence (1698)	Polk's City Directory
	No current listing (1742)	Polk's City Directory
	Apts (1743)	Polk's City Directory

ROBERT D WEBER

EAC Pacific

PO Box 894203, Mililani, Hawaii 96789
Tel/Fax: (808) 626-7706 www.eacpacific.com

CAREER HISTORY Twenty-three years of program development, project execution, and leadership in environmental issues in Hawaii. Provided environmental services and consultation to businesses and governments in the Pacific region since 1985. Developed and implemented programs and projects demonstrating extensive technical expertise in EPA, OSHA, HIDOH, and commercial protocol and methodology. Established a proven track record of providing simple, yet optimal, solutions for environmental impact mitigation. Principal of EAC Pacific since January 1995.

PROJECT MANAGEMENT Developed and managed teams of professional scientists, engineers, and technical specialists that successfully completed thousands of Phase I environmental site assessments, asbestos and lead paint surveys, permit applications, regulatory assistance audits, industrial hygiene surveys, air quality studies, hazardous waste minimization, risk assessment, UST/LUST closures, and site characterizations in a technically and legally defensible manner within the time and budgetary constraints of the client.

PROFESSIONAL AFFILIATIONS/CERTIFICATIONS

USEPA Qualified Environmental Professional
Registered Environmental Manager - National Registry of Environmental Professionals
Certified Hazardous Materials Manager – Institute of Hazardous Materials Management
Secretary, Hawaii Chapter of the Academy of Hazardous Materials Managers
State of Hawaii Certified Asbestos Inspector
State of Hawaii Certified Asbestos Management Planner
State of Hawaii Certified Asbestos Project Designer

EDUCATION

BA, Zoology, University of Hawaii, 1985
MPH, Environmental Health, University of Hawaii, 1992

GEOGRAPHIC EXPERIENCE Successfully accomplished projects throughout the major Hawaiian Islands, Guam, and the Republic of Korea.

EAC

PACIFIC

Environmental Assessment & Consulting

Providing Hawaii's most experienced Environmental Due Diligence.

Appendix E:
Traffic Impact Analysis Report

Phillip Rowell and Associates
47-273 'D' Hui Iwa Street Kaneohe, Hawaii 96744 Phone: (808) 239-8206 FAX: (808) 239-4175 Email:prowell@hawiiantel.net

September 30, 2011

Mr. David Billings
Imi Ikena Housing Partners, LLC
c/o Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Maui, HI 96793-1717

Re: **Traffic Impact Assessment Report**
Imi Ikena Affordable Housing Project
TMK: (2) 3-8-037:028
Wailuku, Maui, Hawaii

Dear Mr. Billings:

Phillip Rowell and Associates have completed the following Traffic Impact Analysis Report (TIAR) for proposed Imi Ikena Affordable Housing Project in Wailuku, Maui. The report is presented in the following format:

A. Project Location and Description
B. Purpose and Objective of Study
C. Study Approach
D. Description of Existing Streets and Intersection Controls
E. Existing Peak Hour Traffic Volumes
F. Level-of-Service Concept
G. Existing Levels-of-Service
H. Existing Deficiencies
I. Background Traffic Projections
J. Project Trip Generation
K. Background Plus Project Projections
L. Traffic Impact Assessment
M. Mitigation
N. Other Traffic Related Issues
O. Summary and Recommendations

A. Project Location and Description

The proposed project is located at 511 Imi Place in Wailuku. Imi Place is a cul-de-sac.

The development will consist of 28 affordable rental units, or apartments. Primary access and egress will be via a driveway along the south side of Pio Drive to the project's main parking lot. Secondary access and egress will be via a driveway at the end of Imi Place, which will serve the main entrance to the project.

There will be a total of 56 parking spaces: 42 spaces in the main parking lot along Pio Place, nine (9) spaces in a secondary parking lot along Pio Place and five (5) spaces in a parking lot along Imi Place.

A location map and preliminary site plan is provided as Attachment A.

B. Purpose and Objective of Study

1. Quantify and describe the traffic related characteristics of the proposed project.

2. Identify potential deficiencies adjacent to the project that will impact traffic operations in the vicinity of the proposed project.

C. Study Approach

1. A field reconnaissance was performed to identify existing roadway cross-sections, intersection lane configurations, traffic control devices, and surrounding land uses.

2. Existing weekday peak hour traffic volumes were obtained for the following intersections:

   a. Kanaloa Avenue at Kaahumanu Avenue
   b. Kanaloa Avenue at Kahului Beach Road
   c. Kanaloa Avenue at Lihi Street

3. Existing levels-of-service were determined using the methodology described in the *2000 Highway Capacity Manual*.

4. A list of related development projects within and adjacent to the study area that will impact traffic conditions at the study intersections was compiled.

5. Future background traffic volumes without traffic generated by the study project were estimated. A level-of-service analysis was performed to determine traffic operating conditions and levels-of-service as a result of background growth and traffic generated by other known future development projects.

6. Peak hour traffic that the proposed project will generate was estimated using trip generation analysis procedures recommended by the Institute of Transportation Engineers. Project generated traffic was distributed and assigned to the adjacent roadway network.

7. A level-of-service analysis for future traffic conditions with traffic generated by the study project was performed.

8. The impacts of traffic generated by the proposed project were quantified and summarized.

9. Improvements or modifications necessary to mitigate the traffic impacts of the project and to provide adequate access to and egress from the site were identified and analyzed.

10. A report documenting the conclusions of the analyses performed and recommendations was prepared.

D. Description of Existing Streets and Intersection Controls

All project traffic will access and egress the project via the intersection of Kanaloa Avenue at Lihi Street. Lihi Street is a two-lane, two-way County street connecting the project with Kanaloa Avenue. In the vicinity of Lihi Street, Kanaloa Avenue is a two-lane, two-way roadway. There is

also a bike lane along both sides of Kanaloa Avenue and there is parallel parking along both sides of the street. The posted speed limit is 20 miles per hour.

The intersection of Kanaloa Avenue at Lihi Street is an unsignalized, T-intersection. Kanaloa Avenue is the major street. The STOP sign is along the Lihi Street approach, which is the north leg of the intersection. There is a separate left turn lane for traffic turning from Kanaloa Avenue into Lihi Street. The Lihi Street approach has one lane for both left and right turns.

Traffic will approach from and depart to the north toward Kahului Beach Road via Kanaloa Avenue. Kahului Beach Road is a major State roadway connecting Kahului with Wailuku. In the vicinity of Kanaloa Avenue, Kahului Beach Road is a four-lane, State highway. The intersection with Kanaloa Avenue is signalized with protected left turns from Kahului Beach Road to Kanaloa Avenue.

Traffic will approach from and depart to the south toward Kaahumanu Avenue via Kanaloa Avenue. In the vicinity of Kanaloa Avenue, Kaahumanu Avenue is a four-lane, divided State highway. The intersection with Kanaloa Avenue is signalized. The eastbound and westbound left turns are protected. The northbound and southbound movements are split phases.

Attachment B is a schematic drawing indicating the existing lane configurations and right-of-way controls.

E. Existing Peak Hour Traffic Volumes

The existing peak hour traffic volumes at the study intersections are shown in Attachment C.

1. The traffic counts include buses, trucks, motorcycles, mopeds and other large vehicles. Bicycles and pedestrians were not counted.

2. All intersections were counted from 6:30 AM to 9:00 AM and from 3:30 PM to 6:00 PM on weekdays (Tuesday or Thursday).

3. The traffic volumes of adjacent intersections may not match the volumes shown for an adjacent intersection because the peak hours of the adjacent intersections may not coincide and there are driveways between the intersections.

4. Pedestrian activity was negligible during the traffic counts.

F. Level-of-Service Concept

"Level-of-Service" is a term which denotes any of an infinite number of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. Level-of-service (LOS) is a qualitative measure of the effect of a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

There are six levels-of-service, A through F, which relate to the driving conditions from best to worst, respectively. The characteristics of traffic operations for each level-of-service are summarized in Table 1. In general, LOS A represents free-flow conditions with no congestion. LOS F, on the other hand, represents severe congestion with stop-and-go conditions. *Level-of-Service D is typically considered acceptable for peak hour conditions in urban areas.*[1]

Corresponding to each level-of-service shown in the table is a volume/capacity ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time. The capacity of a particular roadway is dependent upon its physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

Table 1 Level-of-Service Definitions for Signalized Intersections(1)

Level of Service	Interpretation	Volume-to-Capacity Ratio(2)	Stopped Delay (Seconds)
A, B	Uncongested operations; all vehicles clear in a single cycle.	0.000-0.700	<20.0
C	Light congestion; occasional backups on critical approaches	0.701-0.800	20.1-35.0
D	Congestion on critical approaches but intersection functional. Vehicles must wait through more than one cycle during short periods. No long standing lines formed.	0.801-0.900	35.1-55.0
E	Severe congestion with some standing lines on critical approaches. Blockage of intersection may occur if signal does not provide protected turning movements.	0.901-1.000	55.1-80.0
F	Total breakdown with stop-and-go operation	>1.001	>80.0

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) This is the ratio of the calculated critical volume to Level-of-Service E Capacity.

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a level-of-service from A to F. However, the method for determining level-of-service for unsignalized intersections is based on the use of gaps in traffic on the major street by vehicles crossing or turning through that stream. Specifically, the capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgement in selecting gaps through which to execute a desired maneuver. The criteria for level-of-service at an unsignalized intersection is therefore based on delay of each turning movement. Table 2 summarizes the definitions for level-of-service and the corresponding delay.

[1] Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60

Table 2 Level-of-Service Definitions for Unsignalized Intersections[1]

Level-of-Service	Expected Delay to Minor Street Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See note (2) below	>50.1

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.

G. Existing Levels-of-Service

The results of the level-of-service analysis are summarized in Table 3. For the signalized intersections of Kanaloa Avenue at Kaahumanu Avenue and Kanaloa Avenue at Kahului Beach Road, volume-to-capacity ratios, control delays and levels-of-service of the overall intersection and each controlled lane group are shown.

For the unsignalized intersection of Kanaloa Avenue at Lihi Street, delays and levels-of-service of the controlled lane groups are shown. The *Highway Capacity Manual* methodology does not calculate volume-to-capacity ratios for uncontrolled lane groups of unsignalized intersections. The HCS methodology calculates the delays, which define the level-of-service, of controlled lane groups only. Since the southbound through and right turn lane group is uncontrolled, delays are not calculated and levels-of-service are not provided.

H. Existing Deficiencies

We have used the Institute of Transportation Engineers standard that Level-of-Service D is the minimum acceptable Level-of-Service and that the criteria is applicable to the overall intersection rather than each controlled lane group. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and major movements along the major highway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less.

Using this standard, no existing deficiencies were identified at the study intersections.

Table 3 Existing (2011) Levels-of-Service

Intersection, Approach and Movement	AM Peak Hour			PM Peak Hour		
	V/C	Delay [1]	LOS [2]	V/C	Delay	LOS
Kanaloa Avenue at Kaahumanu Avenue	***0.71***	***37.7***	***D***	***0.86***	***47.9***	***D***
Eastbound Left	0.68	82.3	F	0.71	86.1	F
Eastbound Thru	0.57	34.7	C	0.80	43.5	D
Eastbound Right	0.07	26.2	C	0.02	25.0	C
Westbound Left	0.90	70.9	E	0.49	55.6	E
Westbound Thru	0.54	15.7	B	0.48	18.8	B
Westbound Right	0.10	10.9	B	0.13	14.5	B
Northbound Left	0.24	67.1	E	0.34	72.8	E
Northbound Thru	0.65	79.6	E	0.80	97.0	F
Northbound Right	0.57	40.7	D	0.92	72.5	E
Southbound Left	0.43	61.7	E	0.75	91.4	F
Southbound Thru	0.74	75.5	E	0.77	93.7	F
Southbound Right	0.04	57.4	E	0.06	69.8	E
Kanaloa Avenue at Kahului Beach Road	***0.70***	***14.1***	***B***	***0.79***	***17.5***	***B***
Eastbound Left	0.72	37.5	D	0.80	41.0	D
Eastbound Right	0.08	26.4	C	0.06	25.0	C
Northbound Left	0.71	45.6	D	0.73	42.7	D
Northbound Thru	0.53	6.1	A	0.59	7.4	A
Southbound Thru	0.69	14.9	B	0.80	20.4	C
Southbound Right	0.37	11.1	B	0.19	11.4	B
Kanaloa Avenue at Lihi Street	***NC***	***2.4***	***A***	***NC***	***1.7***	***A***
Eastbound Left	NC	1.4	A	NC	8.6	A
Southbound Left & Right	NC	16.1	C	NC	15.0	C

NOTES:
(1) Delay in seconds per vehicle.
(2) LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.
(3) NC = Not Calculated. The *Highway Capacity Manual* methodology does not calculate volume-to-capacity ratios, delay or levels-of-service for the uncontrolled lane groups for unsignalized intersections.
(4) See Attachment D for Level-of-Service Worksheets.

I. Background Traffic Projections

Background traffic projections are defined as future background traffic conditions without proposed project generated traffic. Future traffic growth consists of ambient background growth that is a result of regional growth and cannot be attributed to a specific project. This background growth rate will also compensate for any small development projects that are not identified as a related project.

Background Growth

The *Maui Long Range Transportation Plan*[2] concluded that traffic in Maui would increase an average of 1.6% per year from 1990 to 2020. This growth rate was used to estimate the background growth between 2011 and 2015, which is the design year for this project. The growth factor was calculated using the following formula:

[2] Kaku Associates, *Maui Long Range Land Transportation Plan*, February 1997

$$F = (1 + i)^n$$

where F = Growth Factor
i = Average annual growth rate, or 0.016
n = Growth period in years

Related Projects

The second component in estimating background traffic volumes is traffic resulting from related projects. Related projects are defined as those projects in the immediate vicinity of the study project that would significantly impact traffic at the study intersections. Related projects may be development projects or roadway improvements.

Three related projects were identified:

Maui Family YMCA Expansion

This project is the expansion of the existing Maui Family YMCA facility located at 250 Kanaloa Avenue, which is along the east side of Kanaloa Avenue. The existing facility is 17,000 square feet. A new 35,000 square foot facility will be constructed adjacent to the existing building and the parking lot will be expanded. Access and egress will be via an existing driveway along the east side of Kanaloa Avenue.

Traffic assignments were obtained from the traffic study for the project[3].

Ka Lima O Maui Affordable Housing Project

The proposed Ka Lima O Maui Affordable Housing Project is located at 95 Mahalani Street in Wailuku. The project is the construction of 16 apartments, 3,600 square feet of office space, and 3,600 square feet of storage and garage space, and the renovation on an existing 2,500 square foot office building.

Access and egress will be via the existing driveway serving the J. Walter Cameron Center, which is along the west side of Mahalani Street.

Traffic assignments were obtained from the traffic study for the project[4].

Maui Lani

Maui Lani is a master planned community currently under development. Upon completion, it will include residential, commercial, recreation, public and quasi-public uses. Maui Lani is located south and west of existing Wailuku development is generally located between Kuihelani Highway and Waiale Drive. As part of the project, 120,000 square feet of retail space, including a Safeway grocery store, will be located in the southwest quadrant of the intersection of Kaahumanu Avenue at Maui Lani Parkway.

---

[3] Phillip Rowell and Associates, *Traffic Impact Assessment for Maui Family YMCA Expansion*, June 19, 2007

[4] Phillip Rowell and Associates, *Traffic Impact Assessment Proposed Ka Lima O Maui Affordable Housing Project*, March 29, 2010

Traffic assignments were obtained from the traffic study for the project[5].

Traffic from these projects was assigned to the appropriate traffic movements at the study intersections. The related projects' trip assignments are summarized as Attachment E. The estimated 2015 background traffic projections for 2015 are shown in Attachment F.

J. Project Trip Generation

Future traffic volumes generated by the project were estimated using the methodology described in the *Trip Generation Handbook*[6] and data provided in *Trip Generation*[7]. This method uses trip generation equations or rates to estimate the number of trips that the project will generate during the peak hours of the project and along the adjacent street.

The proposed project is the construction of 28 affordable multifamily units. Trip generation rates for apartments were used for the trip generation analysis. Trip generation rates for the peak hour of the generator were used. The peak hours of residential projects typically coincide with the peak hours of the adjacent street.

The trip generation analysis is summarized in Table 4. The proposed project will generate 4 inbound and 11 outbound trips during the morning peak hour. During the afternoon peak hour, the project will generate 12 inbound and 7 outbound trips.

Table 4 Trip Generation Analysis

Period & Direction		Multi-Family (Apartment) Units		
		Trips per Unit or Percent(1)	Units	Trips
AM Peak Hour	Total	0.55	28	15
	Inbound	29%		4
	Outbound	71%		11
PM Peak Hour	Total	0.67		19
	Inbound	61%		12
	Outbound	39%		7

Notes:
(10 Trip generation rates for the peak hour of the generator are used.

Project trips were distributed and assigned based on existing traffic approach and departure patterns of traffic into and out of the study area as estimated from the traffic counts. Based on these counts, the approach and departure patterns are summarized in Attachment F. The resulting project trip assignments are shown in Attachment G.

[5] Parsons Brinckerhoff, *Traffic Study Maui Lani Development Roadway Master Plan*, November 2002

[6] Institute of Transportation Engineers, *Trip Generation Handbook*, Washington, D.C., 1998, p. 7-12

[7] Institute of Transportation Engineers, *Trip Generation, 7th Edition,* Washington, D.C., 2003

K. Background Plus Project Projections

Background plus project traffic projections were estimated by superimposing the peak hourly traffic generated by the proposed project on the background (without project) peak hour traffic projections. This assumes that the peak hourly trips generated by the project coincide with the peak hour of the adjacent street. This represents a worse-case condition as it assumes that the peak hours of all the intersection approaches and the peak hour of the study project coincide. The resulting background plus project peak hour traffic projections are shown in Attachment H.

L. Traffic Impact Assessment

A level-of-service analysis was performed for "without project" and "with project" conditions. The results of the level-of-service analysis are summarized in Table 5. For the signalized intersections of Kanaloa Avenue at Kaahumanu Avenue and Kanaloa Avenue at Kahului Beach Road, volume-to-capacity ratios, control delays and levels-of-service of the overall intersection and each controlled lane group are shown.

For the unsignalized intersection of Kanaloa Avenue at Lihi Street, delays and levels-of-service of the controlled lane groups are shown. The *Highway Capacity Manual* methodology does not calculate volume-to-capacity ratios for uncontrolled lane groups of unsignalized intersections. The HCS methodology calculates the delays, which define the level-of-service, of controlled lane groups only. Since the southbound through and right turn lane group is uncontrolled, delays are not calculated and levels-of-service are not provided.

The conclusions of the level-of-service are;

1. The intersection of Kanaloa Avenue at Kaahumanu Avenue will operate at Level-of-Service D during the morning and afternoon peak hours, without and with project generated traffic. There are no changes in the level-of-service of any group as a result or project generated traffic. All changes in volume-to-capacity ratios are 0.01 or less. The changes in delay are 0.8 second, or less, per vehicle during the morning peak hour. During the afternoon peak hour, the delay of the northbound through lane group increases 3.4 seconds per vehicle and the delay of the southbound left turn increases 2.3 seconds per vehicle. The delays of the remaining lane groups increase 0.3 seconds, or less, per vehicle.

2. The intersection of Kanaloa Avenue at Kahului Beach Road will operate at Level-of-Service B during the morning peak hour and Level-of-Service C during the afternoon peak hour. There are no changes in the level-of-service of any group as a result or project generated traffic. All changes in volume-to-capacity ratio are 0.1, or less, and all increases in delays are 0.7 seconds, or less, per vehicle.

3. At the intersection of Kanaloa Avenue at Lihi Street, the eastbound left turn will operate at Level-of-Service A, without and with project generated traffic. There will be no increase in delay during the morning peak hour. The delay will increase 0.1 second per vehicle during the afternoon peak hour. This implies that project generated traffic will have minimal impact on traffic along Kanaloa Avenue at this location. Traffic along Lihi Street will operate at Level-of-Service C during both peak periods, without and with project generated traffic. The delay will increase 1.1 seconds per vehicle during the morning peak hour and 1.0 second per vehicle during the afternoon peak hour. The eastbound through movement and the

westbound through and right turn movements are uncontrolled. Since these are uncontrolled movements, HCS does not calculated delays. Therefore, there are no levels-of-service for these lane groups.

Table 5 2015 Intersection Levels-of-Service

	AM Peak Hour						PM Peak Hour					
	Without Project			With Project			Without Project			With Project		
Intersection and Movement	V/C	Delay [1]	LOS [2]	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
Kanaloa Av. at Kaahumanu Av.	***0.78***	***44.5***	***D***	***0.79***	***44.8***	***D***	***0.92***	***54.5***	***D***	***0.92***	***55.0***	***D***
Eastbound Left	0.71	81.3	F	0.71	82.1	F	0.77	91.7	F	0.77	92.0	F
Eastbound Thru	0.69	43.8	D	0.69	44.1	D	0.90	53.1	D	0.90	53.3	D
Eastbound Right	0.08	31.5	C	0.08	31.7	C	0.02	27.0	C	0.02	27.1	C
Westbound Left	0.90	74.1	E	0.90	74.2	E	0.50	56.9	E	0.50	57.0	E
Westbound Thru	0.65	24.4	C	0.66	24.5	C	0.54	22.1	C	0.54	22.3	C
Westbound Right	0.14	16.3	B	0.15	16.4	B	0.18	16.8	B	0.19	17.0	B
Northbound Left	0.16	65.8	E	0.16	65.9	E	0.34	74.2	E	0.34	74.2	E
Northbound Thru	0.72	81.9	F	0.73	82.7	F	0.86	107.0	F	0.87	110.4	F
Northbound Right	0.59	40.5	D	0.60	40.7	D	0.93	76.2	E	0.93	76.4	E
Southbound Left	0.56	66.7	E	0.57	67.4	E	0.86	108.5	F	0.87	110.8	F
Southbound Thru	0.80	82.6	F	0.80	83.4	F	0.89	114.3	F	0.89	114.4	F
Southbound Right	0.06	59.5	E	0.06	59.5	E	0.07	70.3	E	0.07	70.3	E
Kanaloa Av. at Kahului Beach Rd.	***0.81***	***16.6***	***B***	***0.81***	***16.8***	***B***	***0.89***	***22.4***	***C***	***0.89***	***22.5***	***C***
Eastbound Left	0.78	39.5	D	0.78	39.5	D	0.90	52.9	D	0.90	53.6	D
Eastbound Right	0.09	25.4	C	0.09	25.4	C	0.08	24.7	C	0.08	24.7	C
Northbound Left	0.71	41.8	D	0.71	42.1	D	0.88	58.9	E	0.88	59.4	E
Northbound Thru	0.57	7.0	A	0.58	7.1	A	0.64	8.5	A	0.64	8.5	A
Southbound Thru	0.80	19.3	B	0.80	19.5	B	0.89	26.0	C	0.89	26.0	C
Southbound Right	0.44	13.6	B	0.44	13.7	B	0.23	12.8	B	0.23	12.8	B
Kanaloa Av at Lihi St.	***NC***	***2.4***	***A***	***NC***	***2.8***	***A***	***NC***	***1.6***	***A***	***NC***	***1.9***	***A***
Eastbound Left	NC	8.9	A	NC	8.9	A	NC	9.1	A	NC	9.2	A
Southbound Left & Right	NC	19.3	C	NC	20.4	C	NC	18.8	C	NC	19.8	C

NOTES:
(1) Delay is in seconds per vehicle.
(2) Denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.
(3) NC = Not Calculated. The *Highway Capacity Manual* methodology does not calculate volume-to-capacity ratios, delay or levels-of-service for the uncontrolled lane groups for unsignalized intersections.
(4) See Attachment D for Level-of-Service Worksheets.

M. Mitigation

As previously discussed, we have used the Institute of Transportation Engineers standard that Level-of-Service D is considered to be the minimum acceptable peak hour level-of-service for urban intersections [8] and that the criteria is applicable to the overall intersection rather than each controlled lane group. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and major movements along the major highway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less.

Using this standard, no deficiencies were identified at the study intersections and therefore no mitigation is recommended.

[8] Institute of Traffic Engineers *Transportation Impact Analyses for Site Development, A Recommended Practice,* Washington, D.C., 2006, p 60.

N. Other Traffic Related Issues

Public Transportation

Maui Public Bus Transit System operates the Wailuku Loop Routes 1 and 2 along Kanaloa Avenue. A copy of the route map is provided as Attachment I. There is a bus stop on both sides of KAnaloa Avenue at Lihi Street. The bus operates at 60-minute intervals.

Bicycles

Bicycle parking is provided in the secondary parking lot along Pio Place.

O. Summary and Recommendations

1. The development will consist of 28 affordable rental units, or apartments. Primary access and egress will be via a driveway along the south side of Pio Drive to the project's main parking lot. Secondary access and egress will be via a driveway at the end of Imi Place, which will serve the main entrance to the project.

2. There will be a total of 56 parking spaces: 42 spaces in the main parking lot along Pio Place, nine (9) spaces in a secondary parking lot along Pio Place and five (5) spaces in a parking lot along Imi Place.

3. The proposed project will generate 4 inbound and 11 outbound trips during the morning peak hour. During the afternoon peak hour, the project will generate 12 inbound and 7 outbound trips.

4. The level-of-service analysis concluded that the intersection of Kanaloa Avenue at Kaahumanu Avenue will operate at Level-of-Service D during the morning and afternoon peak hours, without and with project generated traffic. There are no changes in the level-of-service of any group as a result or project generated traffic. All changes in volume-to-capacity ratios are 0.01 or less. The changes in delay are 0.8 second, or less, per vehicle during the morning peak hour. During the afternoon peak hour, the delay of the northbound through lane group increases 3.4 seconds per vehicle and the delay of the southbound left turn increases 2.3 seconds per vehicle. The delays of the remaining lane groups increase 0.3 seconds, or less, per vehicle.

5. The level-of-service analysis also concluded that the intersection of Kanaloa Avenue at Kahului Beach Road will operate at Level-of-Service B during the morning peak hour and Level-of-Service C during the afternoon peak hour. There are no changes in the level-of-service of any group as a result or project generated traffic. All changes in volume-to-capacity ratio are 0.1, or less, and all increases in delays are 0.7 seconds, or less, per vehicle.

6. At the intersection of Kanaloa Avenue at Lihi Street, the eastbound left turn will operate at Level-of-Service A, without and with project generated traffic. There will be no increase in delay during the morning peak hour. The delay will increase 0.1 second per vehicle during the afternoon peak hour. The implies that project generated traffic will have minimal impact on traffic along Kanaloa Avenue at this location. Traffic along Lihi Street will operate at Level-of-Service C during both peak periods, without and with project generated traffic. The delay will

increase 1.1 seconds per vehicle during the morning peak hour and 1.0 second per vehicle during the afternoon peak hour. The eastbound through movement and the westbound through and right turn movements are uncontrolled. Since these are uncontrolled movements, HCS does not calculated delays. Therefore, there are no levels-of-service for these lane groups.

7. The need for mitigation was assessed using the Institute of Transportation Engineers standard that Level-of-Service D is considered to be the minimum acceptable peak hour level-of-service for urban intersections [9] and that the criteria is applicable to the overall intersection and major movements rather than to each controlled lane group. Minor movements, such as left turns, and minor side street approaches may operate at Level-of-Service E or F for short periods of time during the peak hours so that the overall intersection and major movements along the major highway will operate at Level-of-Service D, or better. All volume-to-capacity ratios must be 1.00 or less. Using this standard, no deficiencies were identified at the study intersections and therefore no mitigation is recommended.

Respectfully submitted,
PHILLIP ROWELL AND ASSOCIATES

Phillip J. Rowell, P.E.
Principal

[9] Institute of Traffic Engineers *Transportation Impact Analyses for Site Development, A Recommended Practice,* Washington, D.C., 2006, p 60.

List of Attachments

A. Project Location Mao and Preliminary Site Plan (Provided by Chris Hart & Partners, Inc.)

B. Existing Lane Configurations

C. Existing (2011) Peak Hour Traffic Volumes

D. Level-of-Service Worksheets

E. Related Projects' Trip Assignments

F. 2015 Background Peak Hour Traffic Projections

G. Project Trip Assignments

H. 2015 Background Plus Project Peak Hour Traffic Projections

I. The Maui Bus Route Map for Wailuku Loop Routes 1 and 2

Attachment A

Project Location Map and Preliminary Site Plan

(Provided by Chris Hart & Partners, Inc.)

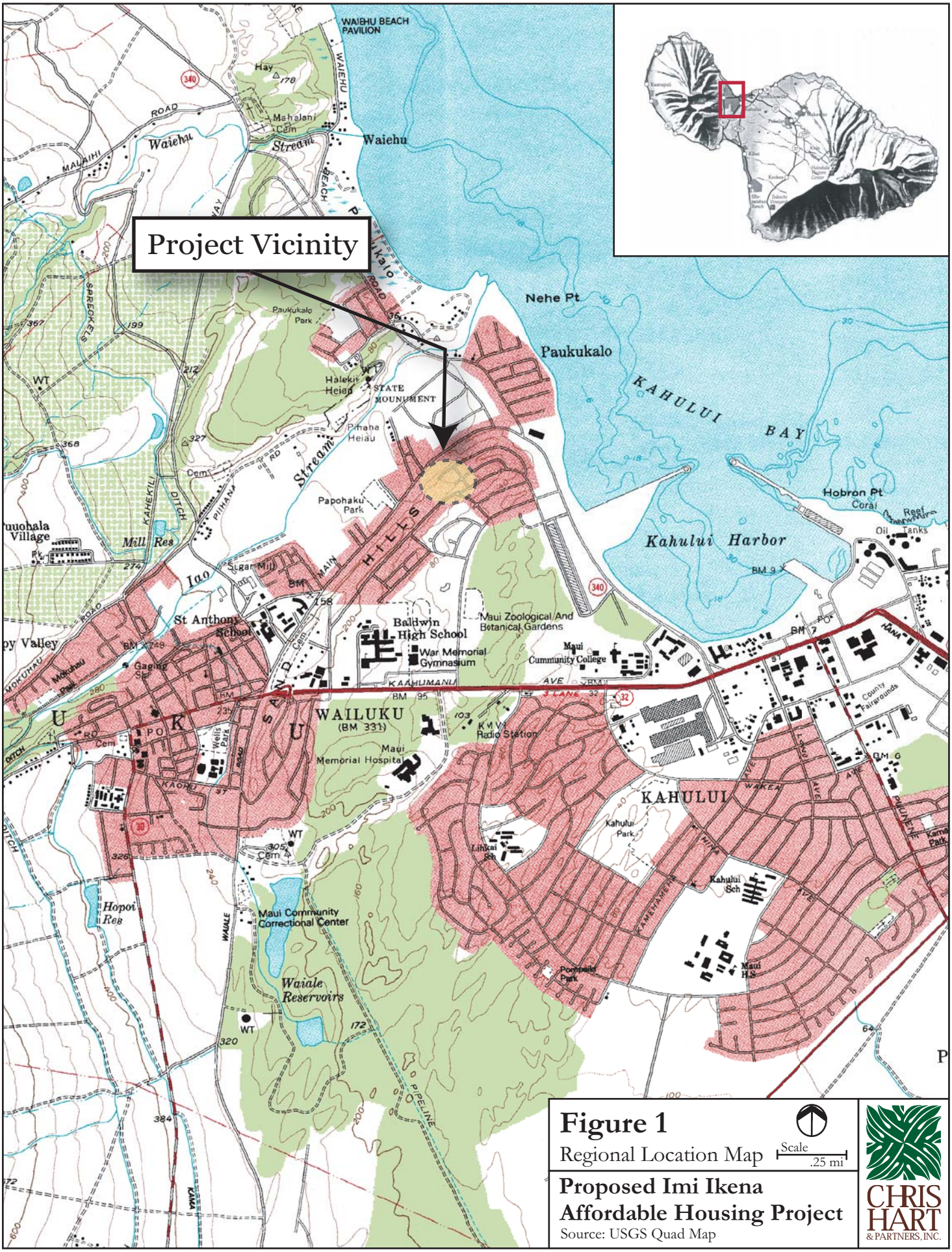


Figure 1

Regional Location Map

Scale .25 mi

Proposed Imi Ikena Affordable Housing Project

Source: USGS Quad Map

CHRIS HART & PARTNERS, INC.

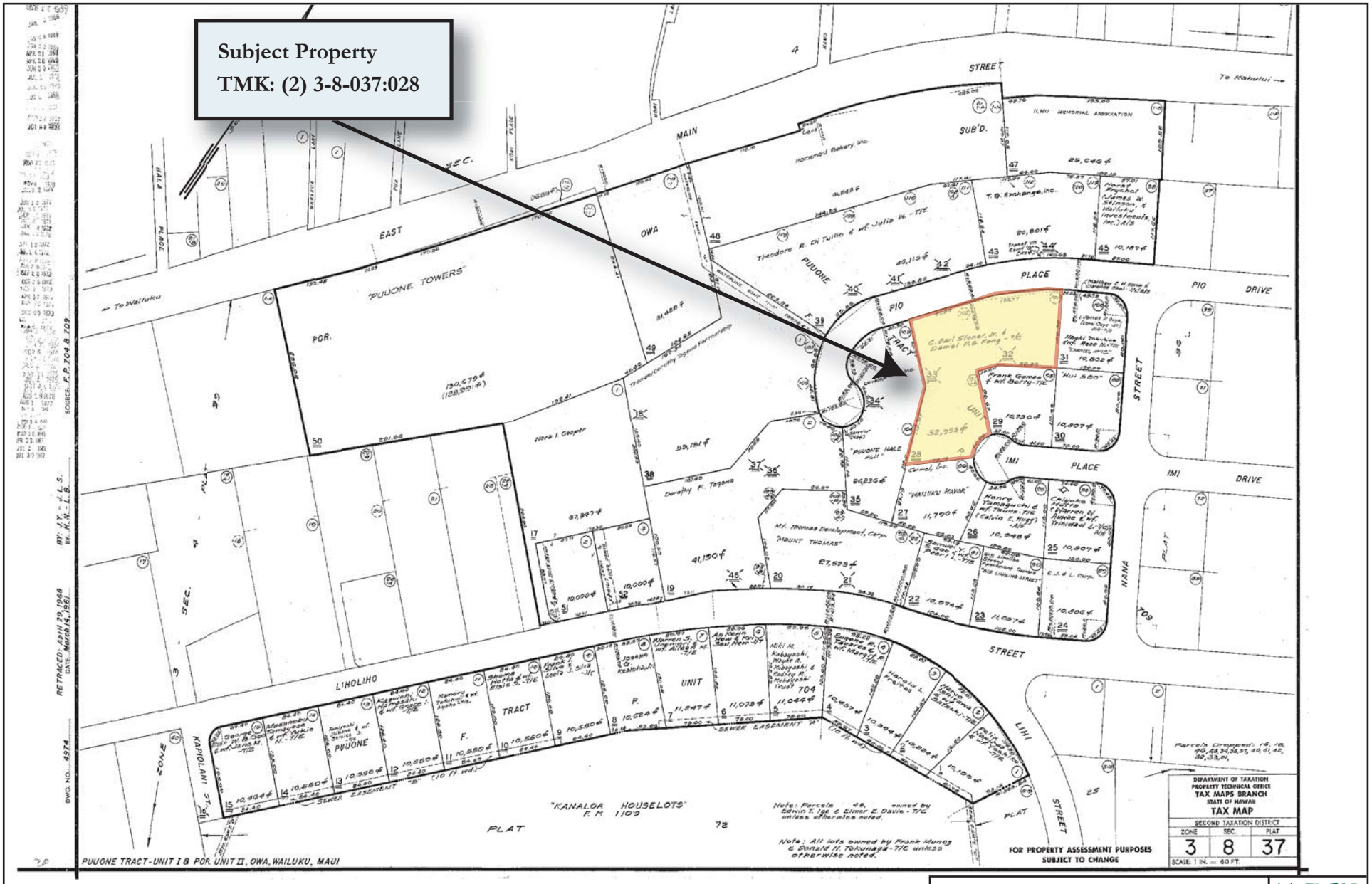


Figure 2

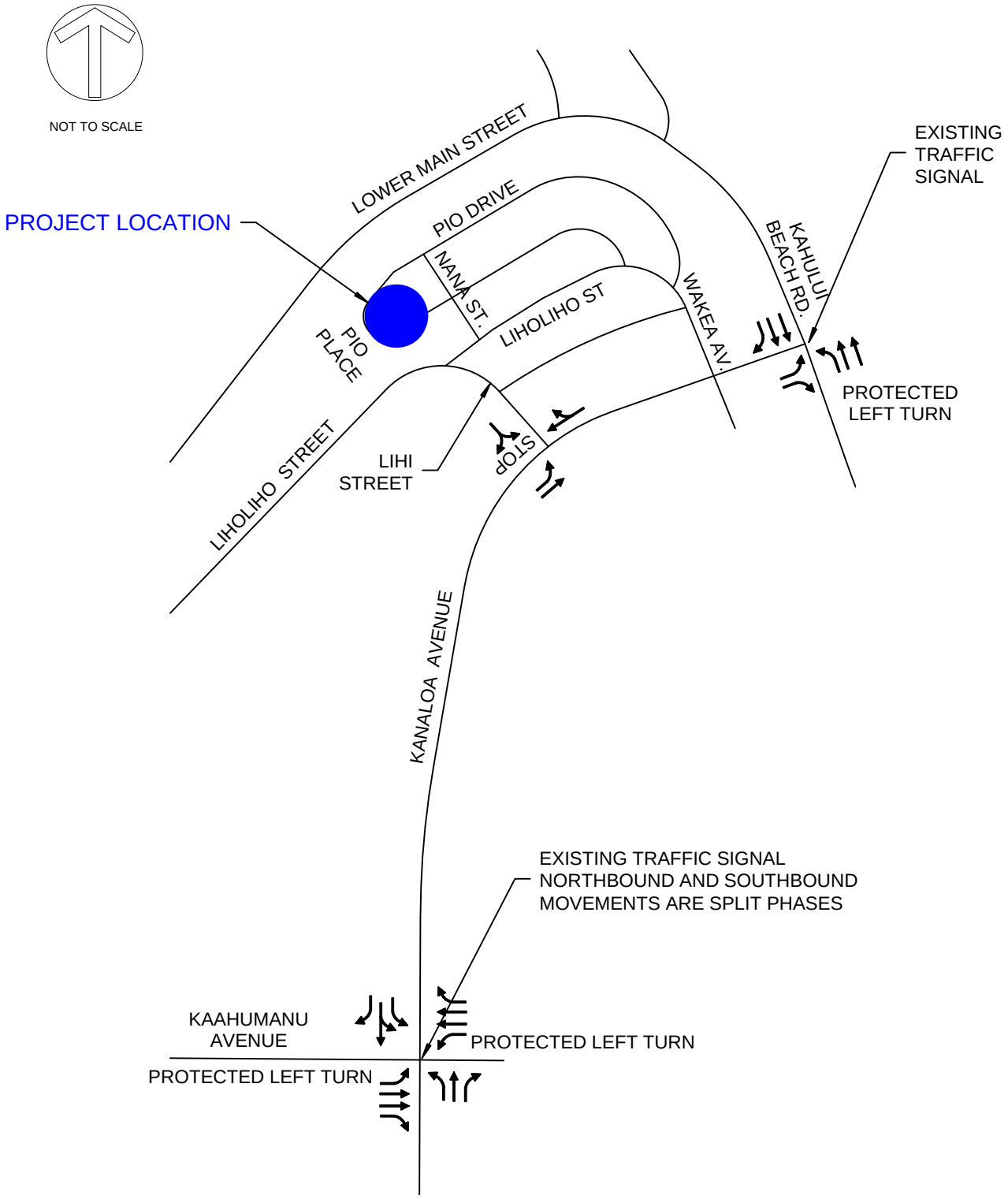
Tax Map

Not to Scale

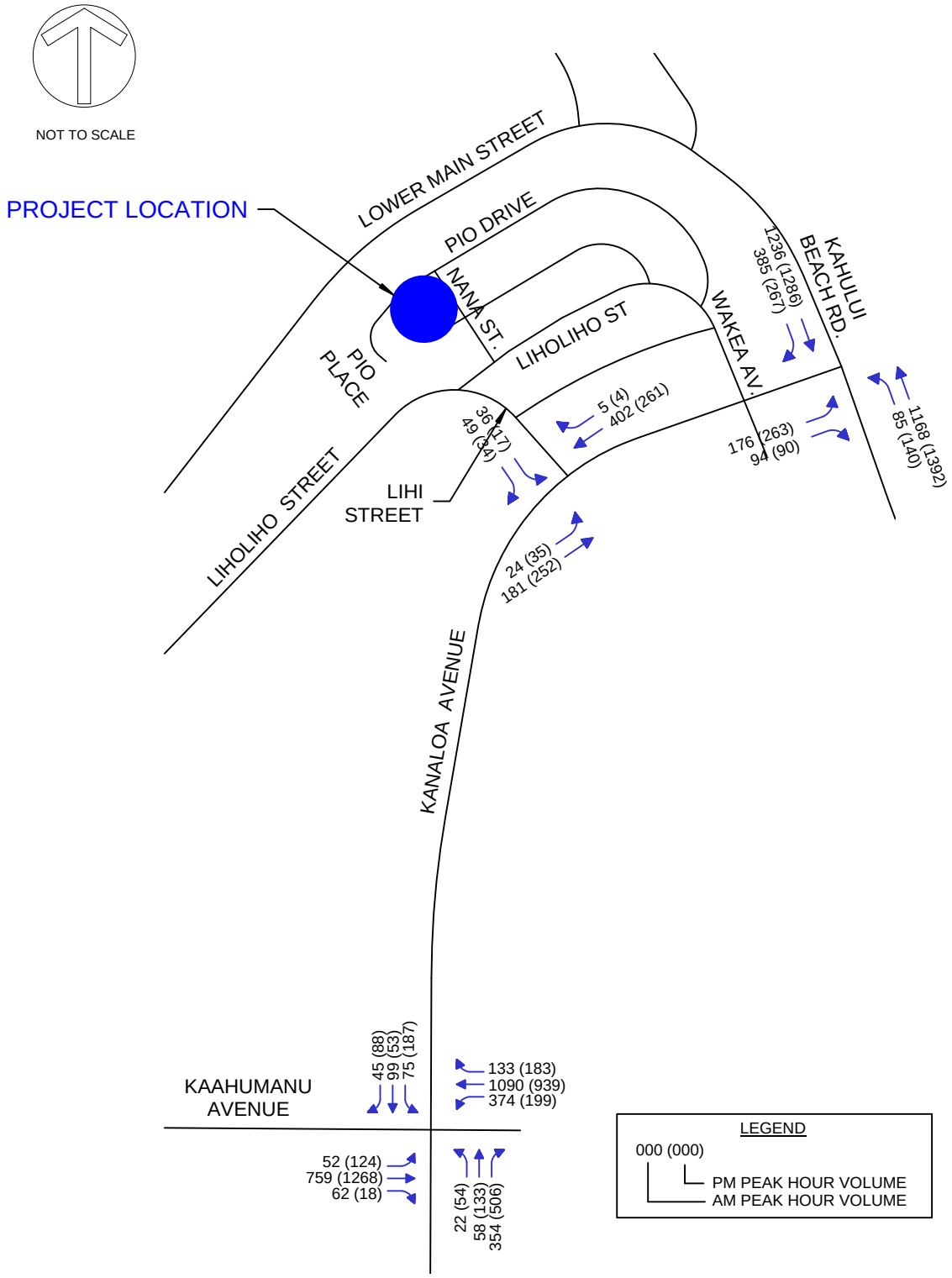
Proposed Imi Ikena Affordable Housing Project

Source: Territory of Hawaii, Taxation Map Bureau

CHRIS HART & PARTNERS, INC.



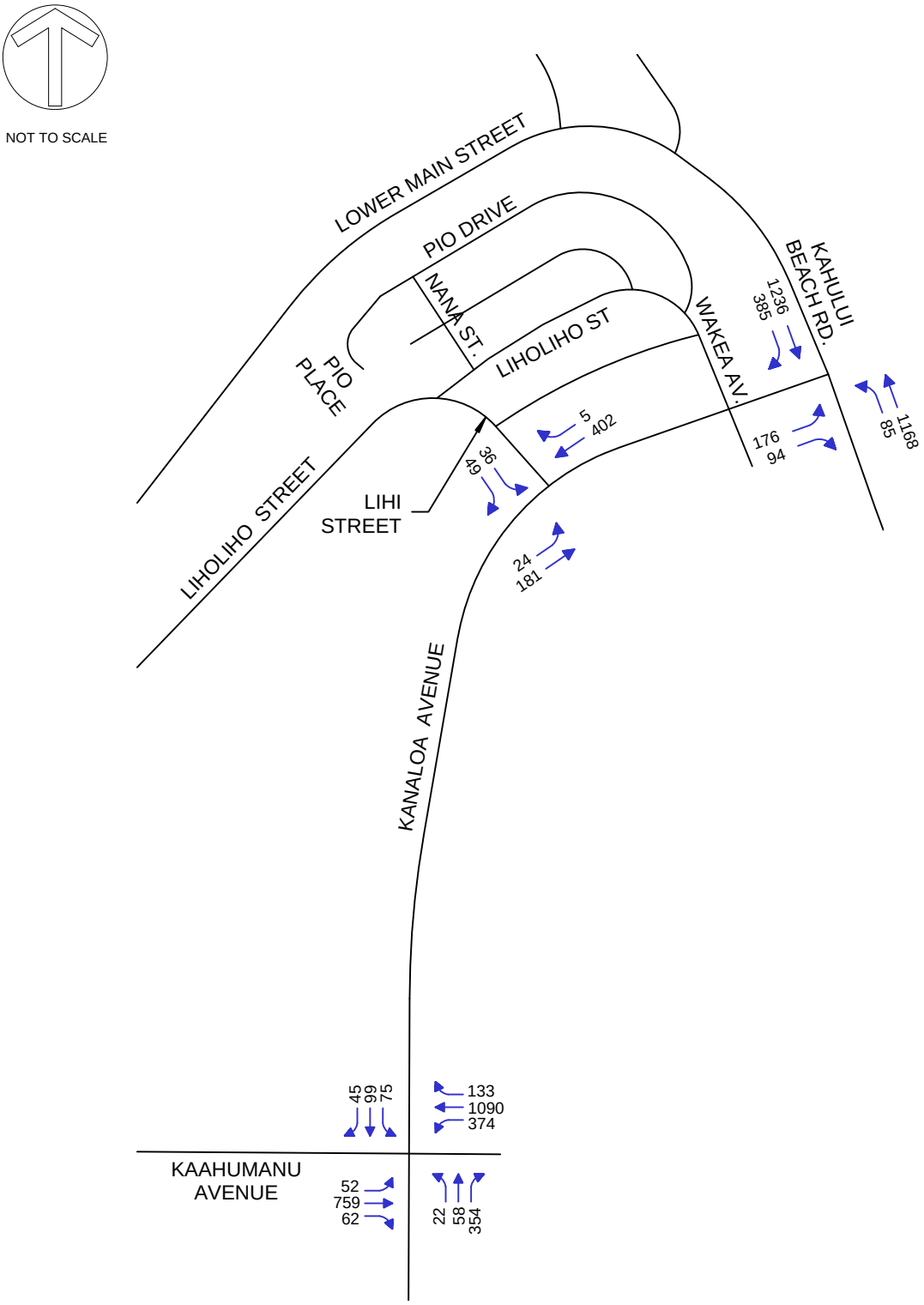
Attachment B
EXISTING LANE CONFIGURATIONS



Attachment C
EXISTING PEAK HOUR TRAFFIC VOLUMES

Attachment D

Level-of-Service Worksheets



Case1am
EXISTING AM PEAK HOUR TRAFFIC VOLUMES

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	176	94	85	1168	1236	385
Peak-hour factor, PHF	0.73	0.78	0.64	0.88	0.91	0.66
Adj. Flow (vph)	241	121	133	1327	1358	583
RTOR Reduction (vph)	0	98	0	0	0	261
Lane Group Flow (vph)	241	23	133	1327	1358	322
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	14.9	14.9	8.4	56.0	43.6	43.6
Effective Green, g (s)	14.9	14.9	8.4	56.0	43.6	43.6
Actuated g/C Ratio	0.19	0.19	0.11	0.71	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	334	299	188	2512	1956	875
v/s Ratio Prot	c0.14		c0.08	0.37	c0.38	
v/s Ratio Perm		0.08				0.37
v/c Ratio	0.72	0.08	0.71	0.53	0.69	0.37
Uniform Delay, d1	30.1	26.3	34.1	5.3	12.8	9.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.1	11.5	0.8	2.1	1.2
Delay (s)	37.5	26.4	45.6	6.1	14.9	11.1
Level of Service	D	C	D	A	B	B
Approach Delay (s)	33.8			9.7	13.7	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

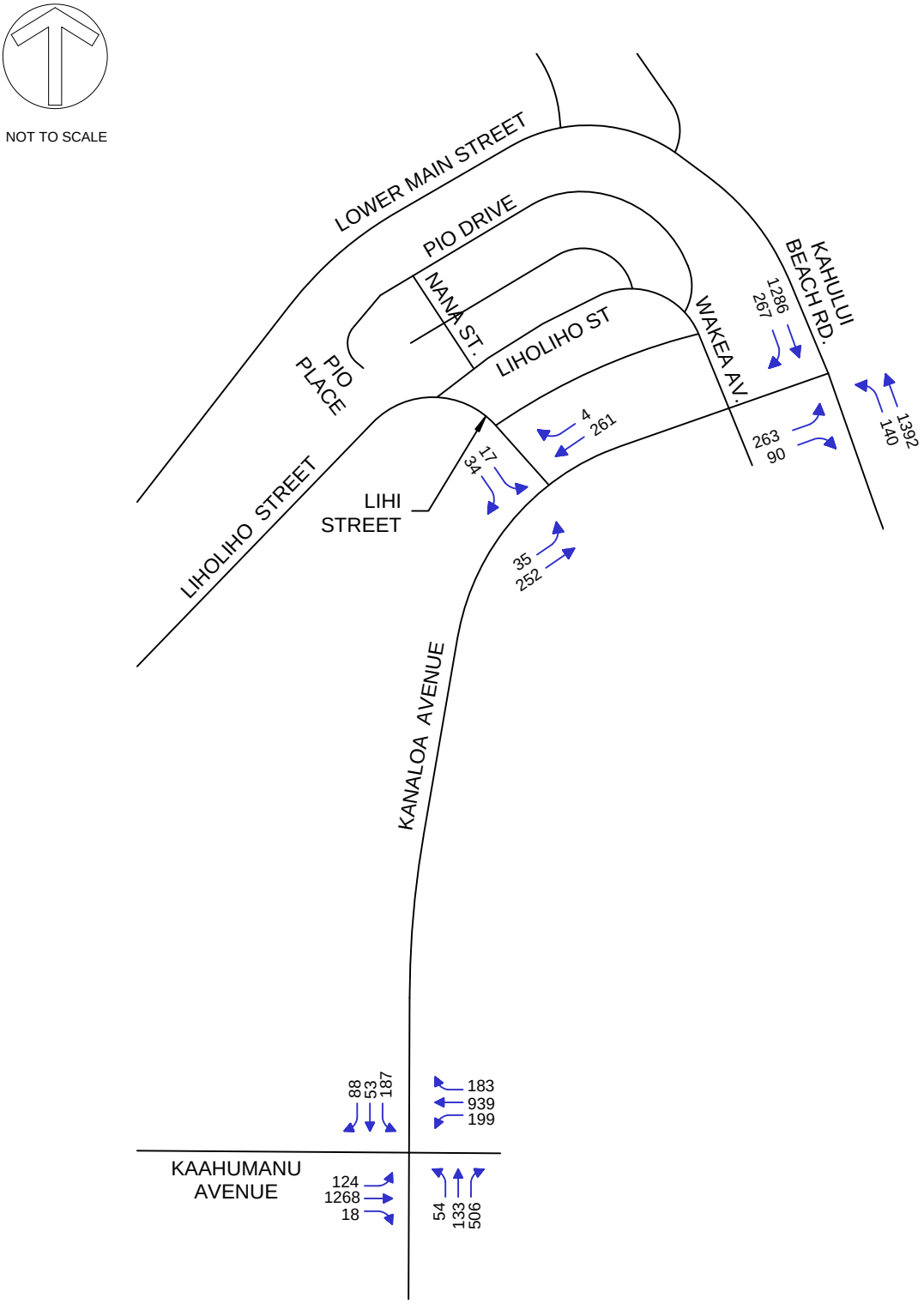
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Volume (vph)	52	759	62	374	1090	133	22	58	354	75	99	45
Peak-hour factor, PHF	0.62	0.90	0.74	0.83	0.90	0.95	0.79	0.72	0.76	0.82	0.60	0.65
Adj. Flow (vph)	84	843	84	451	1211	140	28	81	466	91	165	69
RTOR Reduction (vph)	0	0	36	0	0	37	0	0	128	0	0	60
Lane Group Flow (vph)	84	843	48	451	1211	103	28	81	338	91	165	9
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	10.4	62.4	62.4	42.1	94.1	94.1	9.9	9.9	52.0	18.7	18.7	18.7
Effective Green, g (s)	10.4	62.4	62.4	42.1	94.1	94.1	9.9	9.9	52.0	18.7	18.7	18.7
Actuated g/C Ratio	0.07	0.42	0.42	0.28	0.63	0.63	0.07	0.07	0.35	0.13	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	123	1481	663	500	2234	999	118	124	595	211	222	199
v/s Ratio Prot	0.05	c0.24		c0.25	0.34		0.02	0.04	c0.22	0.05	c0.09	
v/s Ratio Perm			0.05			0.09			0.07			0.04
v/c Ratio	0.68	0.57	0.07	0.90	0.54	0.10	0.24	0.65	0.57	0.43	0.74	0.04
Uniform Delay, d1	67.7	33.1	26.0	51.5	15.4	10.8	66.0	67.9	39.4	60.3	62.9	57.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.5	1.6	0.2	19.3	0.3	0.0	1.0	11.7	1.2	1.4	12.6	0.1
Delay (s)	82.3	34.7	26.2	70.9	15.7	10.9	67.1	79.6	40.7	61.7	75.5	57.4
Level of Service	F	C	C	E	B	B	E	E	D	E	E	E
Approach Delay (s)		37.9			29.1			47.4			67.8	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	149.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	24	181	402	5	36	49
Peak Hour Factor	0.55	0.81	0.80	0.63	0.75	0.77
Hourly flow rate (vph)	44	223	502	8	48	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			886			
pX, platoon unblocked						
vC, conflicting volume	510				817	506
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	510				817	506
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	89
cM capacity (veh/h)	1055				332	566

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	44	223	510	112
Volume Left	44	0	0	48
Volume Right	0	0	8	64
cSH	1055	1700	1700	434
Volume to Capacity	0.04	0.13	0.30	0.26
Queue Length 95th (ft)	3	0	0	25
Control Delay (s)	8.6	0.0	0.0	16.1
Lane LOS	A			C
Approach Delay (s)	1.4		0.0	16.1
Approach LOS				C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		



Case1pm
EXISTING PM PEAK HOUR TRAFFIC VOLUMES

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	263	90	140	1392	1286	267
Peak-hour factor, PHF	0.90	0.90	0.76	0.96	0.91	0.88
Adj. Flow (vph)	292	100	184	1450	1413	303
RTOR Reduction (vph)	0	79	0	0	0	152
Lane Group Flow (vph)	292	21	184	1450	1413	151
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	16.2	16.2	11.1	54.1	39.0	39.0
Effective Green, g (s)	16.2	16.2	11.1	54.1	39.0	39.0
Actuated g/C Ratio	0.21	0.21	0.14	0.69	0.50	0.50
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	366	328	251	2445	1763	788
v/s Ratio Prot	c0.17		c0.10	0.41	c0.40	
v/s Ratio Perm		0.06				0.19
v/c Ratio	0.80	0.06	0.73	0.59	0.80	0.19
Uniform Delay, d1	29.5	25.0	32.2	6.3	16.4	10.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	0.1	10.5	1.1	3.9	0.5
Delay (s)	41.0	25.0	42.7	7.4	20.4	11.4
Level of Service	D	C	D	A	C	B
Approach Delay (s)	36.9			11.4	18.8	
Approach LOS	D			B	B	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

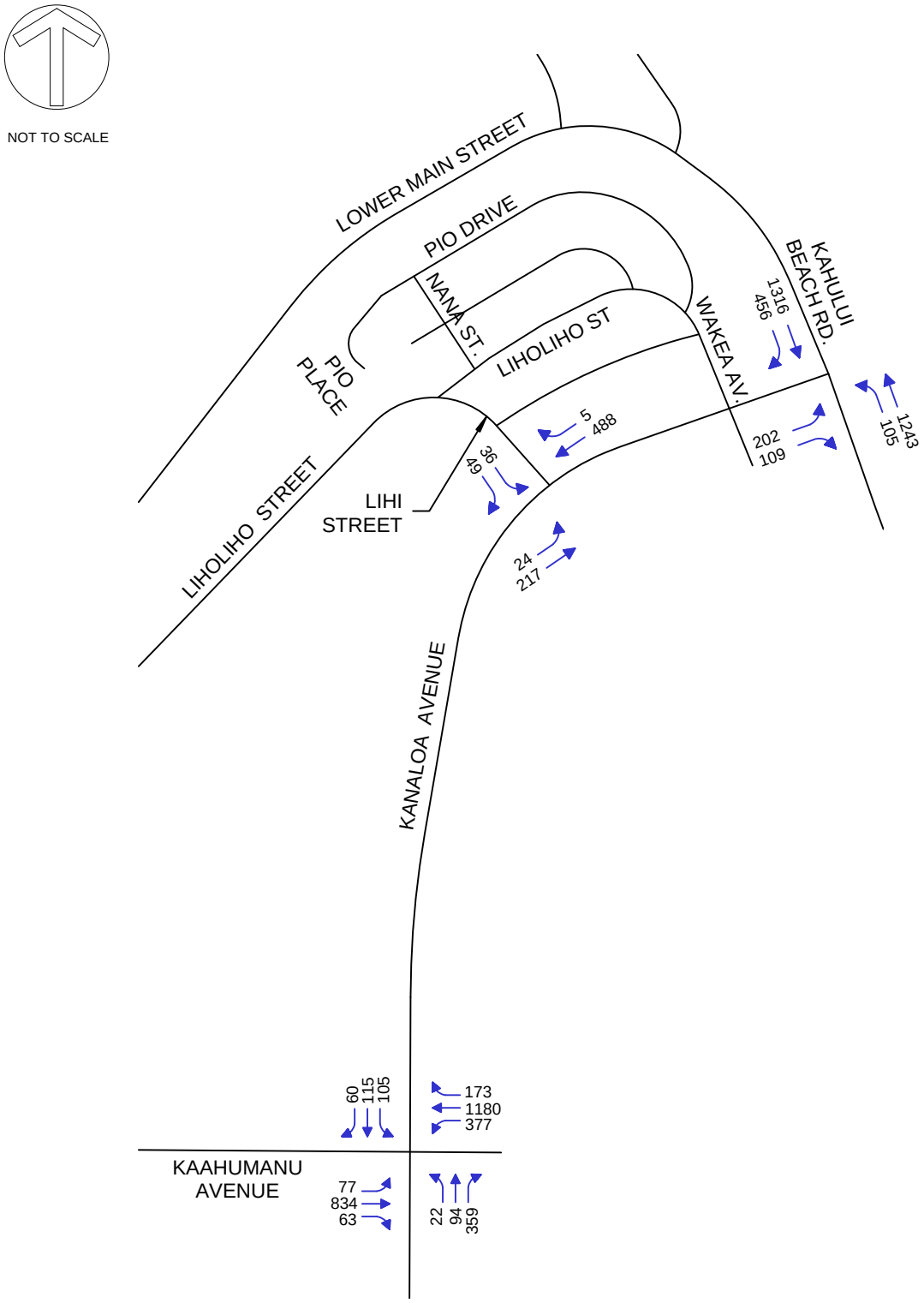
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1721	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1721	1583
Volume (vph)	124	1268	18	199	939	183	54	133	506	187	53	88
Peak-hour factor, PHF	0.95	0.97	0.95	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	131	1307	19	216	1021	199	60	148	562	197	56	93
RTOR Reduction (vph)	0	0	6	0	0	72	0	0	24	0	0	84
Lane Group Flow (vph)	131	1307	13	216	1021	127	60	148	538	123	130	9
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	17.7	78.5	78.5	42.3	103.1	103.1	16.8	16.8	59.1	16.7	16.7	16.7
Effective Green, g (s)	17.7	78.5	78.5	42.3	103.1	103.1	16.8	16.8	59.1	16.7	16.7	16.7
Actuated g/C Ratio	0.10	0.46	0.46	0.25	0.61	0.61	0.10	0.10	0.35	0.10	0.10	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1631	730	440	2143	958	175	184	587	165	169	155
v/s Ratio Prot	0.07	c0.37		0.12	0.29		0.03	0.08	c0.24	0.07	c0.08	
v/s Ratio Perm			0.01			0.13			0.12			0.06
v/c Ratio	0.71	0.80	0.02	0.49	0.48	0.13	0.34	0.80	0.92	0.75	0.77	0.06
Uniform Delay, d1	73.8	39.2	24.9	54.8	18.6	14.4	71.6	75.1	53.3	74.7	74.9	69.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	4.2	0.0	0.9	0.2	0.1	1.2	21.9	19.2	16.6	18.8	0.2
Delay (s)	86.1	43.5	25.0	55.6	18.8	14.5	72.8	97.0	72.5	91.4	93.7	69.8
Level of Service	F	D	C	E	B	B	E	F	E	F	F	E
Approach Delay (s)		47.1			23.7			77.2			86.4	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	170.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	252	261	4	17	34
Peak Hour Factor	0.80	0.88	0.50	0.88	0.71	0.61
Hourly flow rate (vph)	44	286	522	5	24	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			886			
pX, platoon unblocked						
vC, conflicting volume	527				898	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527				898	524
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	90
cM capacity (veh/h)	1040				297	553

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	44	286	527	80
Volume Left	44	0	0	24
Volume Right	0	0	5	56
cSH	1040	1700	1700	439
Volume to Capacity	0.04	0.17	0.31	0.18
Queue Length 95th (ft)	3	0	0	16
Control Delay (s)	8.6	0.0	0.0	15.0
Lane LOS	A			C
Approach Delay (s)	1.1		0.0	15.0
Approach LOS				C

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		



Case2am
BACKGROUND AM PEAK HOUR TRAFFIC PROJECTIONS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	202	109	105	1243	1316	456
Peak-hour factor, PHF	0.73	0.78	0.64	0.88	0.91	0.66
Adj. Flow (vph)	277	140	164	1412	1446	691
RTOR Reduction (vph)	0	112	0	0	0	337
Lane Group Flow (vph)	277	28	164	1412	1446	354
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.7	15.7	10.2	54.1	39.9	39.9
Effective Green, g (s)	15.7	15.7	10.2	54.1	39.9	39.9
Actuated g/C Ratio	0.20	0.20	0.13	0.70	0.51	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	357	319	232	2461	1815	812
v/s Ratio Prot	c0.16		c0.09	0.40	0.41	
v/s Ratio Perm		0.09				0.44
v/c Ratio	0.78	0.09	0.71	0.57	0.80	0.44
Uniform Delay, d1	29.4	25.2	32.4	6.0	15.6	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.1	0.1	9.4	1.0	3.7	1.7
Delay (s)	39.5	25.4	41.8	7.0	19.3	13.6
Level of Service	D	C	D	A	B	B
Approach Delay (s)	34.8			10.6	17.5	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

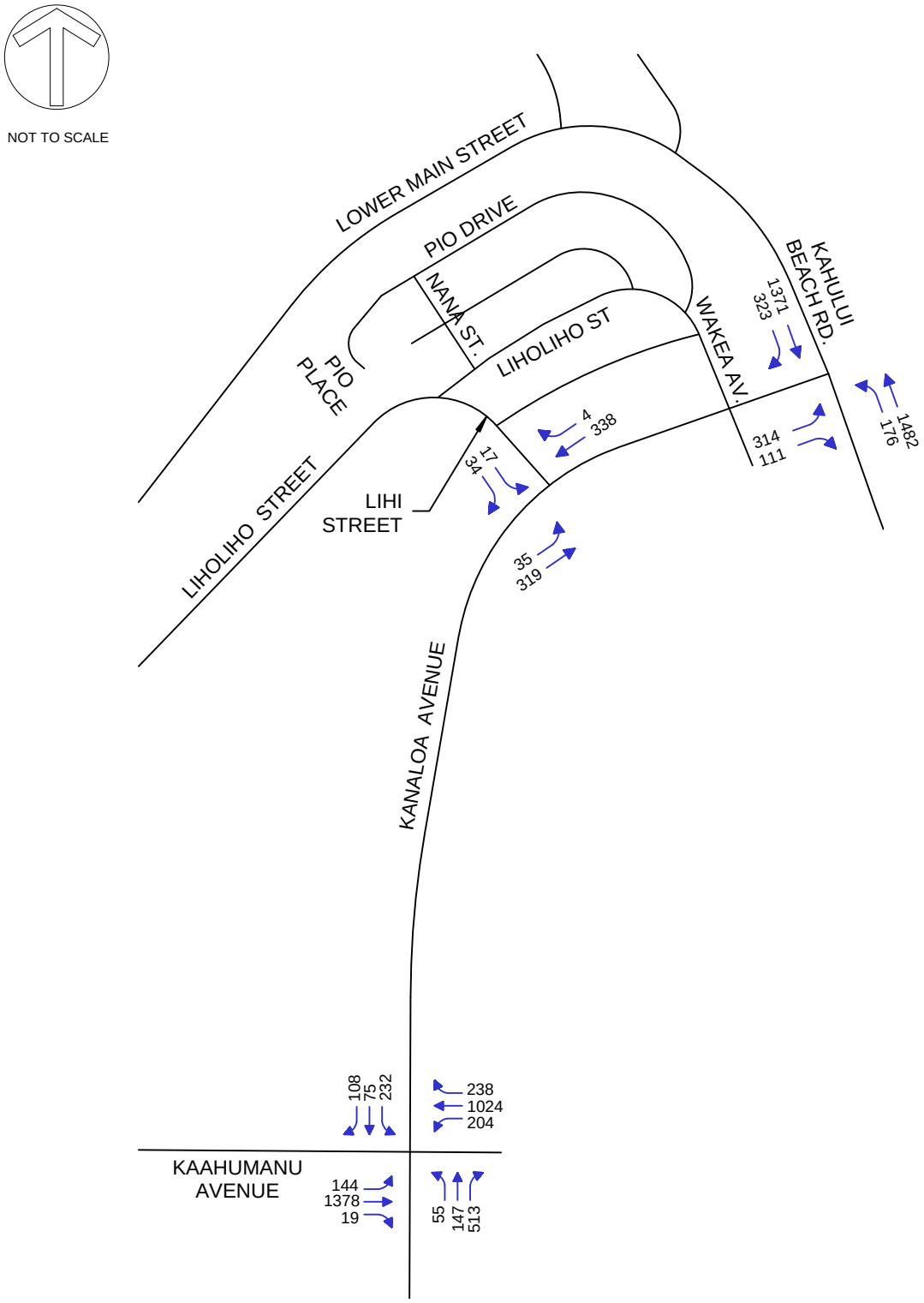
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Volume (vph)	77	834	63	377	1180	173	22	94	359	105	115	60
Peak-hour factor, PHF	0.62	0.90	0.74	0.83	0.90	0.95	0.79	0.72	0.76	0.82	0.60	0.65
Adj. Flow (vph)	124	927	85	454	1311	182	28	131	472	128	192	92
RTOR Reduction (vph)	0	0	35	0	0	52	0	0	90	0	0	79
Lane Group Flow (vph)	124	927	50	454	1311	130	28	131	382	128	192	13
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.6	60.2	60.2	44.8	89.4	89.4	15.4	15.4	60.2	21.5	21.5	21.5
Effective Green, g (s)	15.6	60.2	60.2	44.8	89.4	89.4	15.4	15.4	60.2	21.5	21.5	21.5
Actuated g/C Ratio	0.10	0.38	0.38	0.28	0.57	0.57	0.10	0.10	0.38	0.14	0.14	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	175	1349	604	502	2004	896	173	182	644	229	241	216
v/s Ratio Prot	0.07	c0.26		c0.26	0.37		0.02	0.07	c0.21	0.08	c0.11	
v/s Ratio Perm			0.05			0.11			0.09			0.06
v/c Ratio	0.71	0.69	0.08	0.90	0.65	0.14	0.16	0.72	0.59	0.56	0.80	0.06
Uniform Delay, d1	68.9	41.0	31.2	54.5	23.6	16.2	65.3	69.2	39.1	63.8	66.1	59.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.3	2.9	0.3	19.6	0.8	0.1	0.4	12.8	1.5	2.9	16.5	0.1
Delay (s)	81.3	43.8	31.5	74.1	24.4	16.3	65.8	81.9	40.5	66.7	82.6	59.5
Level of Service	F	D	C	E	C	B	E	F	D	E	F	E
Approach Delay (s)		47.0			35.2			50.3			72.5	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	44.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	157.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	24	217	488	5	36	49
Peak Hour Factor	0.55	0.81	0.80	0.63	0.75	0.77
Hourly flow rate (vph)	44	268	610	8	48	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			886			
pX, platoon unblocked						
vC, conflicting volume	618				969	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	618				969	614
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				82	87
cM capacity (veh/h)	962				268	492

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	44	268	618	112
Volume Left	44	0	0	48
Volume Right	0	0	8	64
cSH	962	1700	1700	362
Volume to Capacity	0.05	0.16	0.36	0.31
Queue Length 95th (ft)	4	0	0	32
Control Delay (s)	8.9	0.0	0.0	19.3
Lane LOS	A			C
Approach Delay (s)	1.2		0.0	19.3
Approach LOS				C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		



Case2pm
BACKGROUND PM PEAK HOUR TRAFFIC PROJECTIONS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	314	111	176	1482	1371	323
Peak-hour factor, PHF	0.90	0.90	0.76	0.96	0.91	0.88
Adj. Flow (vph)	349	123	232	1544	1507	367
RTOR Reduction (vph)	0	96	0	0	0	191
Lane Group Flow (vph)	349	27	232	1544	1507	176
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	17.4	17.4	11.9	54.0	38.1	38.1
Effective Green, g (s)	17.4	17.4	11.9	54.0	38.1	38.1
Actuated g/C Ratio	0.22	0.22	0.15	0.68	0.48	0.48
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	388	347	265	2407	1698	760
v/s Ratio Prot	c0.20		c0.13	0.44	c0.43	
v/s Ratio Perm		0.08				0.23
v/c Ratio	0.90	0.08	0.88	0.64	0.89	0.23
Uniform Delay, d1	30.1	24.6	33.0	7.2	18.7	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.8	0.1	25.9	1.3	7.3	0.7
Delay (s)	52.9	24.7	58.9	8.5	26.0	12.8
Level of Service	D	C	E	A	C	B
Approach Delay (s)	45.6			15.1	23.4	
Approach LOS	D			B	C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

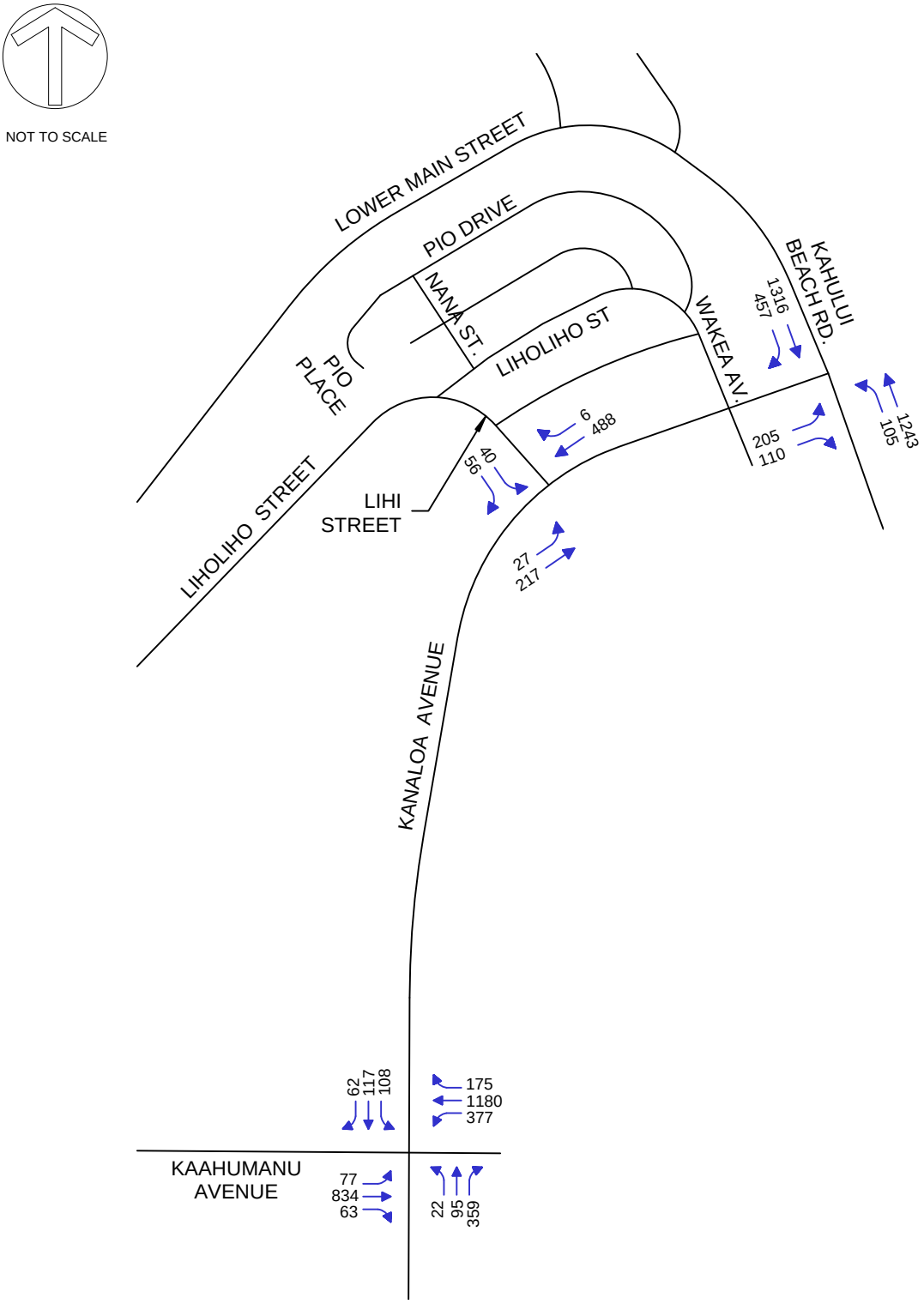
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1724	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1724	1583
Volume (vph)	144	1378	19	204	1024	238	55	147	513	232	75	108
Peak-hour factor, PHF	0.95	0.97	0.95	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	152	1421	20	222	1113	259	61	163	570	244	79	114
RTOR Reduction (vph)	0	0	6	0	0	91	0	0	14	0	0	102
Lane Group Flow (vph)	152	1421	14	222	1113	168	61	163	556	157	166	12
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	19.6	78.2	78.2	44.0	102.6	102.6	17.8	17.8	61.8	18.9	18.9	18.9
Effective Green, g (s)	19.6	78.2	78.2	44.0	102.6	102.6	17.8	17.8	61.8	18.9	18.9	18.9
Actuated g/C Ratio	0.11	0.45	0.45	0.25	0.59	0.59	0.10	0.10	0.35	0.11	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	1582	708	445	2076	929	180	190	596	182	186	171
v/s Ratio Prot	0.09	c0.40		0.13	0.31		0.03	0.09	c0.24	0.09	c0.10	
v/s Ratio Perm			0.01			0.16			0.12			0.07
v/c Ratio	0.77	0.90	0.02	0.50	0.54	0.18	0.34	0.86	0.93	0.86	0.89	0.07
Uniform Delay, d1	75.4	44.7	27.0	56.0	21.8	16.7	73.1	77.3	54.5	76.7	77.0	70.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.2	8.5	0.1	0.9	0.3	0.1	1.1	29.7	21.6	31.8	37.4	0.2
Delay (s)	91.7	53.1	27.0	56.9	22.1	16.8	74.2	107.0	76.2	108.5	114.3	70.3
Level of Service	F	D	C	E	C	B	E	F	E	F	F	E
Approach Delay (s)		56.5			26.1			82.4			100.8	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM Average Control Delay	54.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	174.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	35	319	338	4	17	34
Peak Hour Factor	0.80	0.88	0.50	0.88	0.71	0.61
Hourly flow rate (vph)	44	362	676	5	24	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			575			
pX, platoon unblocked						
vC, conflicting volume	681				1128	678
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	681				1128	678
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				89	88
cM capacity (veh/h)	912				215	452

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	44	362	681	80
Volume Left	44	0	0	24
Volume Right	0	0	5	56
cSH	912	1700	1700	340
Volume to Capacity	0.05	0.21	0.40	0.23
Queue Length 95th (ft)	4	0	0	22
Control Delay (s)	9.1	0.0	0.0	18.8
Lane LOS	A			C
Approach Delay (s)	1.0		0.0	18.8
Approach LOS				C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		



Case3am
BACKGROUND PLUS PROJECT AM PEAK HOUR TRAFFIC PROJECTIONS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	205	110	105	1243	1316	457
Peak-hour factor, PHF	0.73	0.78	0.64	0.88	0.91	0.66
Adj. Flow (vph)	281	141	164	1412	1446	692
RTOR Reduction (vph)	0	112	0	0	0	338
Lane Group Flow (vph)	281	29	164	1412	1446	354
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.9	15.9	10.2	54.1	39.9	39.9
Effective Green, g (s)	15.9	15.9	10.2	54.1	39.9	39.9
Actuated g/C Ratio	0.20	0.20	0.13	0.69	0.51	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	361	323	231	2455	1810	810
v/s Ratio Prot	c0.16		c0.09	0.40	0.41	
v/s Ratio Perm		0.09				0.44
v/c Ratio	0.78	0.09	0.71	0.58	0.80	0.44
Uniform Delay, d1	29.4	25.2	32.5	6.1	15.7	12.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.1	0.1	9.6	1.0	3.8	1.7
Delay (s)	39.5	25.3	42.1	7.1	19.5	13.7
Level of Service	D	C	D	A	B	B
Approach Delay (s)	34.8			10.7	17.6	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

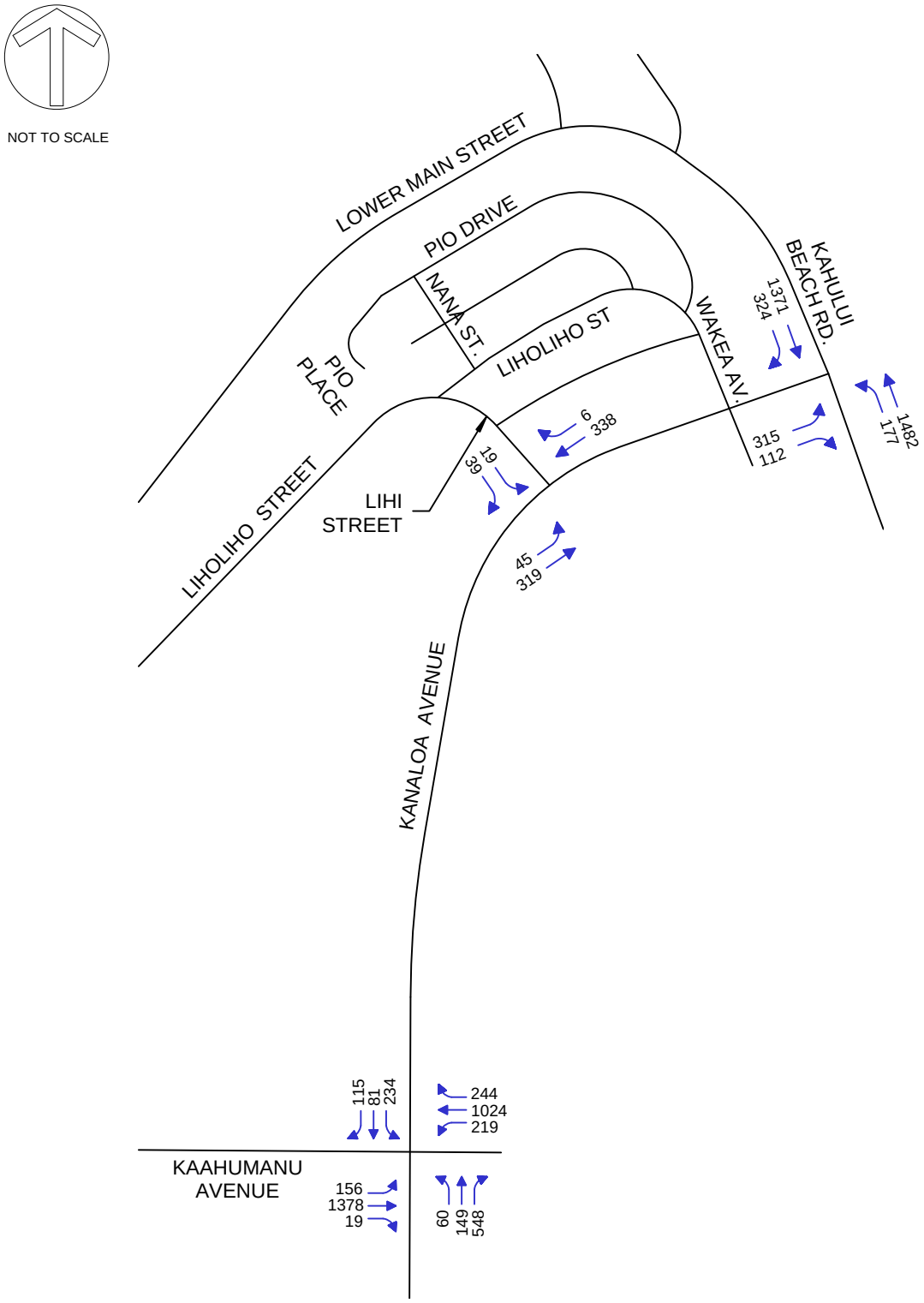
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1770	1583
Volume (vph)	77	834	63	377	1180	175	22	95	359	108	117	62
Peak-hour factor, PHF	0.62	0.90	0.74	0.83	0.90	0.95	0.79	0.72	0.76	0.82	0.60	0.65
Adj. Flow (vph)	124	927	85	454	1311	184	28	132	472	132	195	95
RTOR Reduction (vph)	0	0	35	0	0	53	0	0	87	0	0	82
Lane Group Flow (vph)	124	927	50	454	1311	131	28	132	385	132	195	13
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.6	60.2	60.2	44.9	89.5	89.5	15.5	15.5	60.4	21.7	21.7	21.7
Effective Green, g (s)	15.6	60.2	60.2	44.9	89.5	89.5	15.5	15.5	60.4	21.7	21.7	21.7
Actuated g/C Ratio	0.10	0.38	0.38	0.28	0.57	0.57	0.10	0.10	0.38	0.14	0.14	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	174	1346	602	502	2001	895	173	182	644	230	243	217
v/s Ratio Prot	0.07	c0.26		c0.26	0.37		0.02	0.07	c0.21	0.08	c0.11	
v/s Ratio Perm			0.05			0.12			0.09			0.06
v/c Ratio	0.71	0.69	0.08	0.90	0.66	0.15	0.16	0.73	0.60	0.57	0.80	0.06
Uniform Delay, d1	69.2	41.2	31.4	54.6	23.7	16.3	65.4	69.3	39.2	64.0	66.2	59.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9	2.9	0.3	19.6	0.8	0.1	0.4	13.4	1.5	3.4	17.2	0.1
Delay (s)	82.1	44.1	31.7	74.2	24.5	16.4	65.9	82.7	40.7	67.4	83.4	59.5
Level of Service	F	D	C	E	C	B	E	F	D	E	F	E
Approach Delay (s)		47.3			35.3			50.6			73.0	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	44.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	158.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	27	217	488	6	40	56
Peak Hour Factor	0.55	0.81	0.80	0.63	0.75	0.77
Hourly flow rate (vph)	49	268	610	10	53	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			886			
pX, platoon unblocked						
vC, conflicting volume	620				981	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				981	615
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				80	85
cM capacity (veh/h)	961				263	491

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	49	268	620	126
Volume Left	49	0	0	53
Volume Right	0	0	10	73
cSH	961	1700	1700	359
Volume to Capacity	0.05	0.16	0.36	0.35
Queue Length 95th (ft)	4	0	0	39
Control Delay (s)	8.9	0.0	0.0	20.4
Lane LOS	A			C
Approach Delay (s)	1.4		0.0	20.4
Approach LOS				C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Case3pm
BACKGROUND PLUS PROJECT PM PEAK HOUR TRAFFIC PROJECTIONS

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	1770	3539	3539	1583
Volume (vph)	315	112	177	1482	1371	324
Peak-hour factor, PHF	0.90	0.90	0.76	0.96	0.91	0.88
Adj. Flow (vph)	350	124	233	1544	1507	368
RTOR Reduction (vph)	0	97	0	0	0	191
Lane Group Flow (vph)	350	27	233	1544	1507	177
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	17.4	17.4	11.9	54.0	38.1	38.1
Effective Green, g (s)	17.4	17.4	11.9	54.0	38.1	38.1
Actuated g/C Ratio	0.22	0.22	0.15	0.68	0.48	0.48
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	388	347	265	2407	1698	760
v/s Ratio Prot	c0.20		c0.13	0.44	c0.43	
v/s Ratio Perm		0.08				0.23
v/c Ratio	0.90	0.08	0.88	0.64	0.89	0.23
Uniform Delay, d1	30.2	24.6	33.0	7.2	18.7	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.4	0.1	26.4	1.3	7.3	0.7
Delay (s)	53.6	24.7	59.4	8.5	26.0	12.8
Level of Service	D	C	E	A	C	B
Approach Delay (s)	46.0			15.2	23.4	
Approach LOS	D			B	C	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

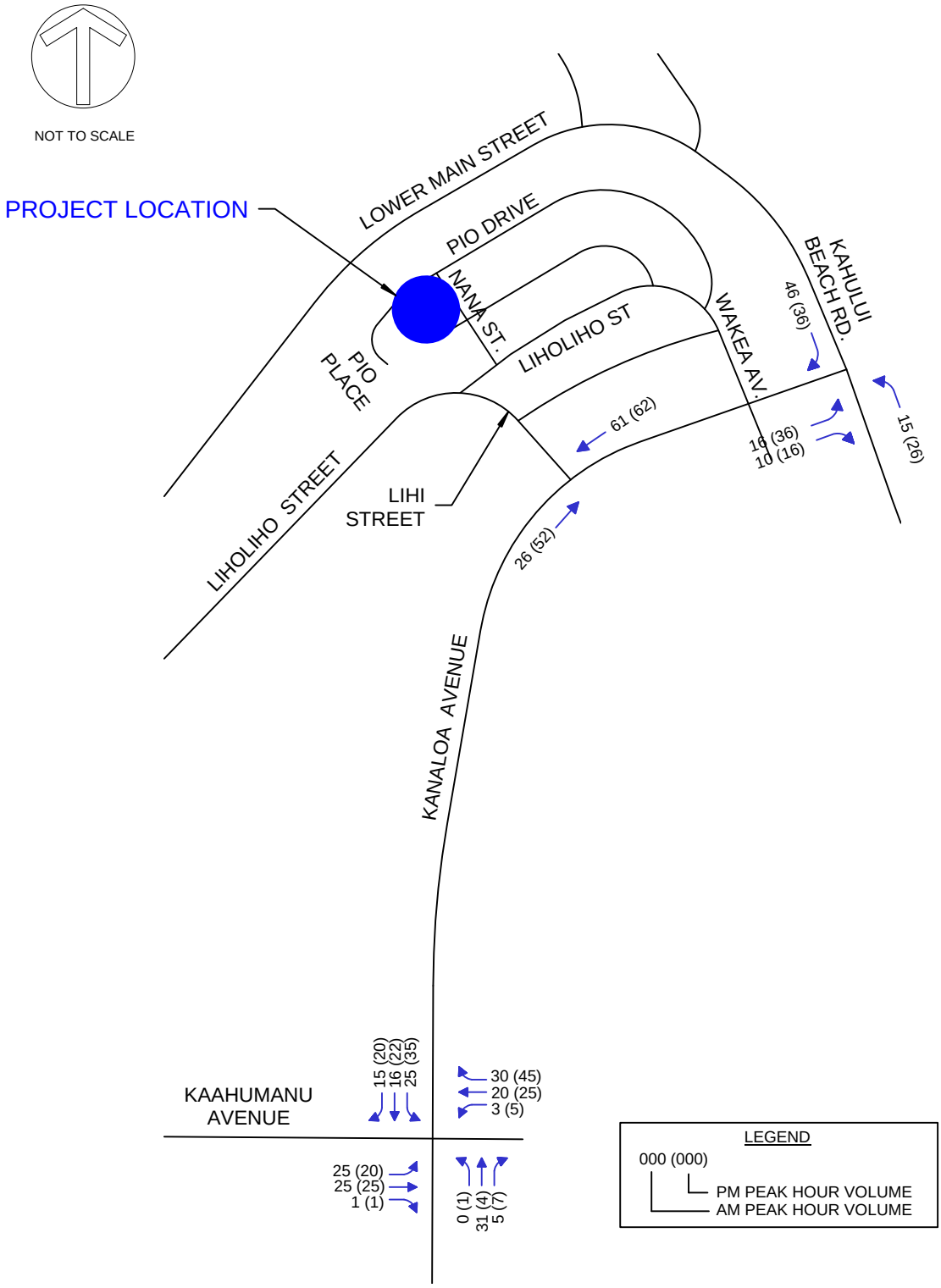
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1725	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1681	1725	1583
Volume (vph)	146	1378	19	204	1024	244	55	149	513	234	76	110
Peak-hour factor, PHF	0.95	0.97	0.95	0.92	0.92	0.92	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	154	1421	20	222	1113	265	61	166	570	246	80	116
RTOR Reduction (vph)	0	0	6	0	0	93	0	0	14	0	0	103
Lane Group Flow (vph)	154	1421	14	222	1113	172	61	166	556	159	167	13
Turn Type	Prot		Perm	Prot		Perm	Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	19.8	78.2	78.2	44.0	102.4	102.4	17.9	17.9	61.9	19.0	19.0	19.0
Effective Green, g (s)	19.8	78.2	78.2	44.0	102.4	102.4	17.9	17.9	61.9	19.0	19.0	19.0
Actuated g/C Ratio	0.11	0.45	0.45	0.25	0.58	0.58	0.10	0.10	0.35	0.11	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	1581	707	445	2070	926	181	190	596	182	187	172
v/s Ratio Prot	0.09	c0.40		0.13	0.31		0.03	0.09	c0.24	0.09	c0.10	
v/s Ratio Perm			0.01			0.17			0.12			0.07
v/c Ratio	0.77	0.90	0.02	0.50	0.54	0.19	0.34	0.87	0.93	0.87	0.89	0.07
Uniform Delay, d1	75.4	44.8	27.1	56.1	22.0	16.9	73.1	77.5	54.6	76.9	77.0	70.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.6	8.5	0.1	0.9	0.3	0.1	1.1	32.9	21.8	33.9	37.3	0.2
Delay (s)	92.0	53.3	27.1	57.0	22.3	17.0	74.2	110.4	76.4	110.8	114.4	70.3
Level of Service	F	D	C	E	C	B	E	F	E	F	F	E
Approach Delay (s)		56.7			26.2			83.3			101.5	
Approach LOS		E			C			F			F	

Intersection Summary			
HCM Average Control Delay	55.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	175.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

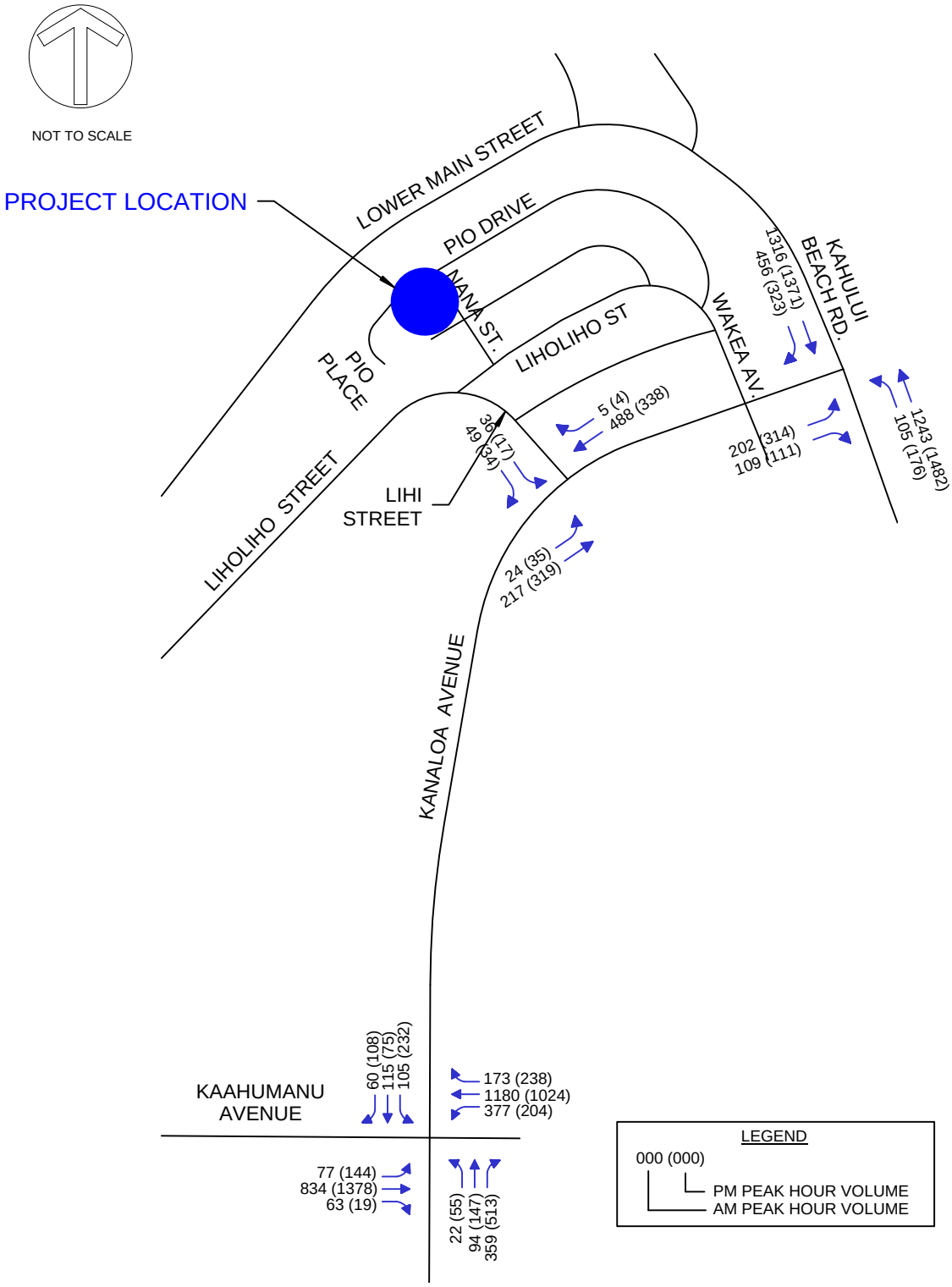
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	45	319	338	6	19	39
Peak Hour Factor	0.80	0.88	0.50	0.88	0.71	0.61
Hourly flow rate (vph)	56	362	676	7	27	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			575			
pX, platoon unblocked						
vC, conflicting volume	683				1154	679
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683				1154	679
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				87	86
cM capacity (veh/h)	910				204	451

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	56	362	683	91
Volume Left	56	0	0	27
Volume Right	0	0	7	64
cSH	910	1700	1700	333
Volume to Capacity	0.06	0.21	0.40	0.27
Queue Length 95th (ft)	5	0	0	27
Control Delay (s)	9.2	0.0	0.0	19.8
Lane LOS	A			C
Approach Delay (s)	1.2		0.0	19.8
Approach LOS				C

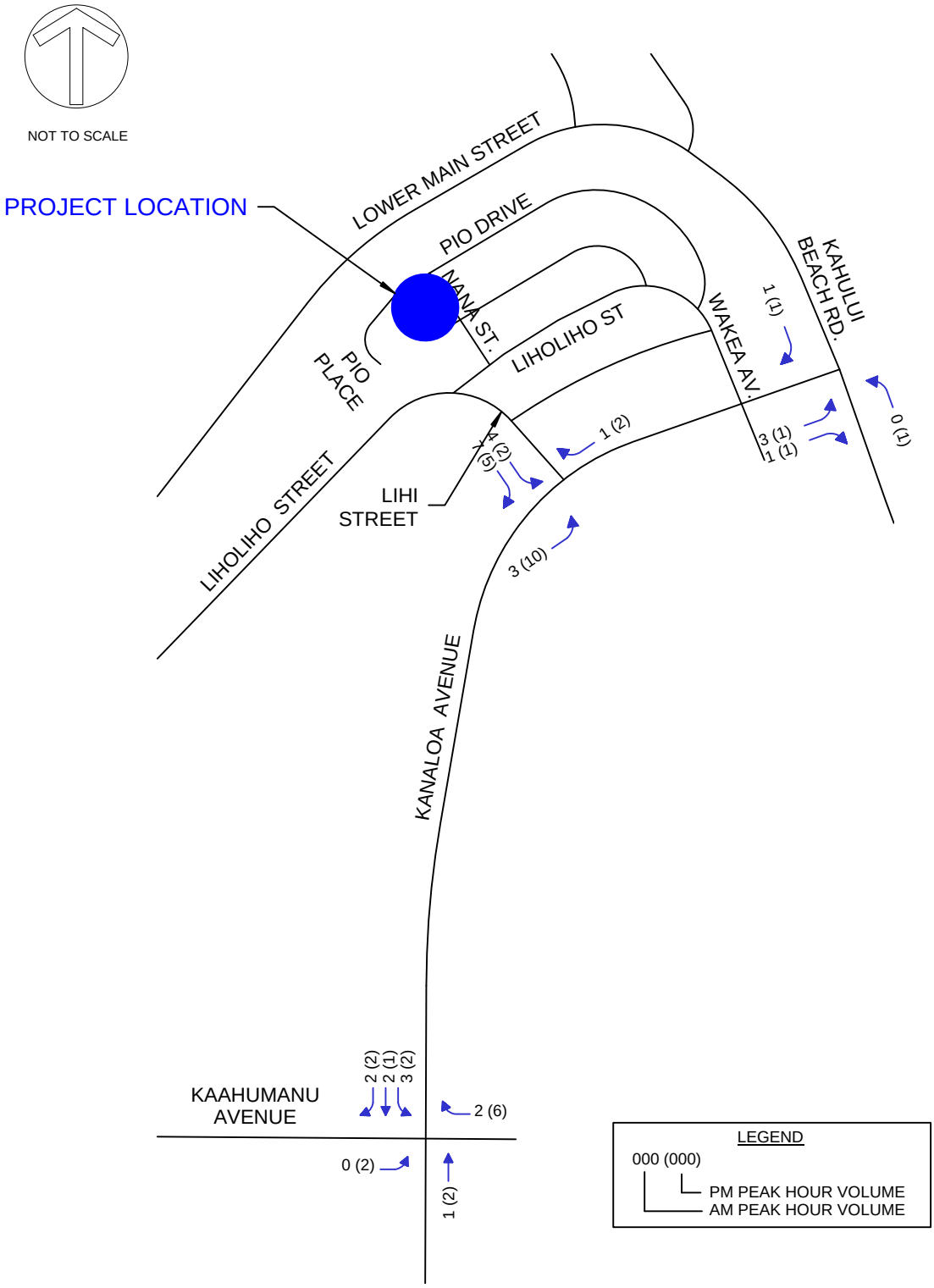
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		



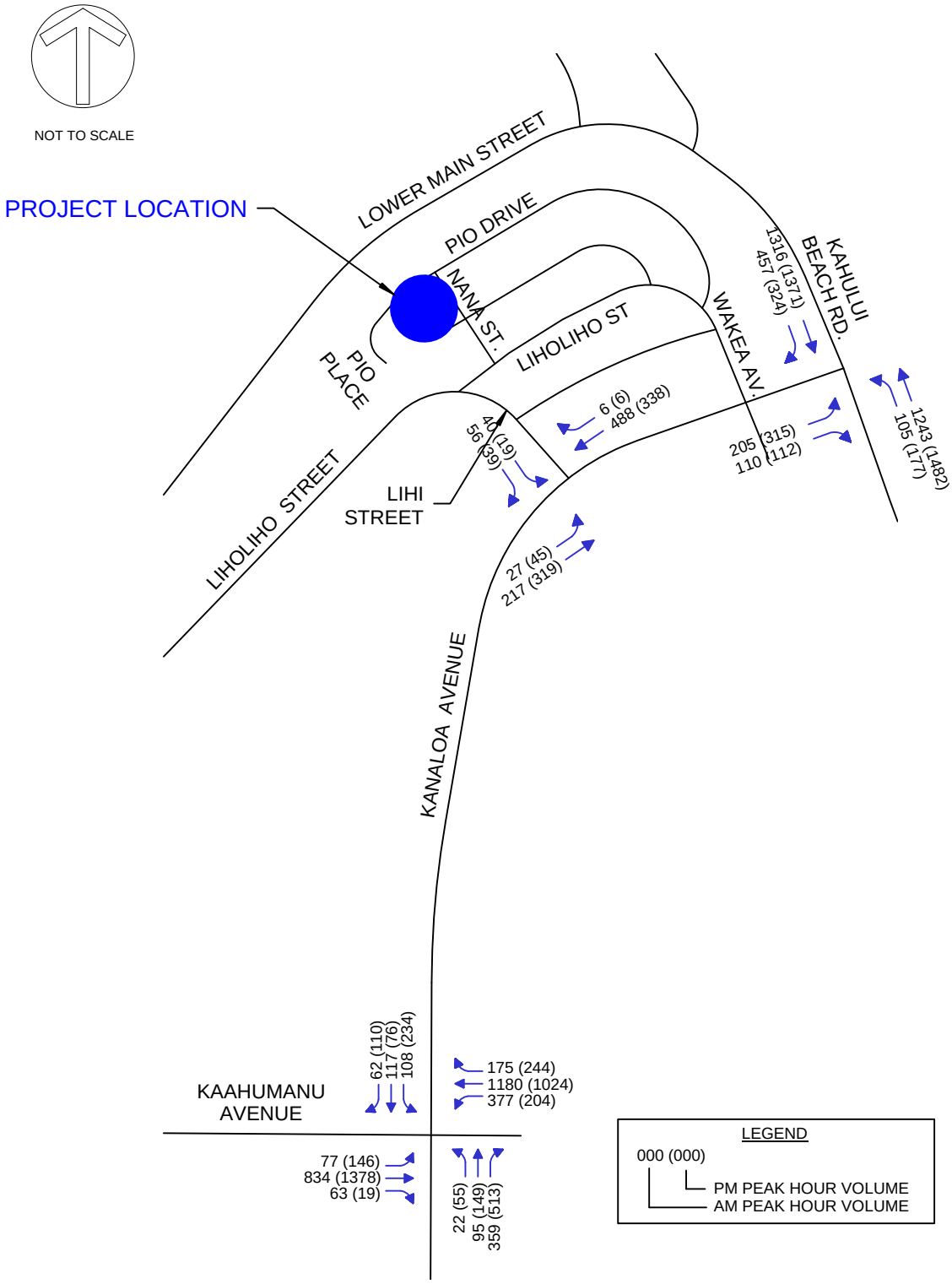
Attachment E
RELATED PROJECTS' TRIPS



Attachment F
2015 BACKGROUND PEAK HOUR TRAFFIC PROJECTIONS



Attachment G
PROJECT TRIP ASSIGNMENTS

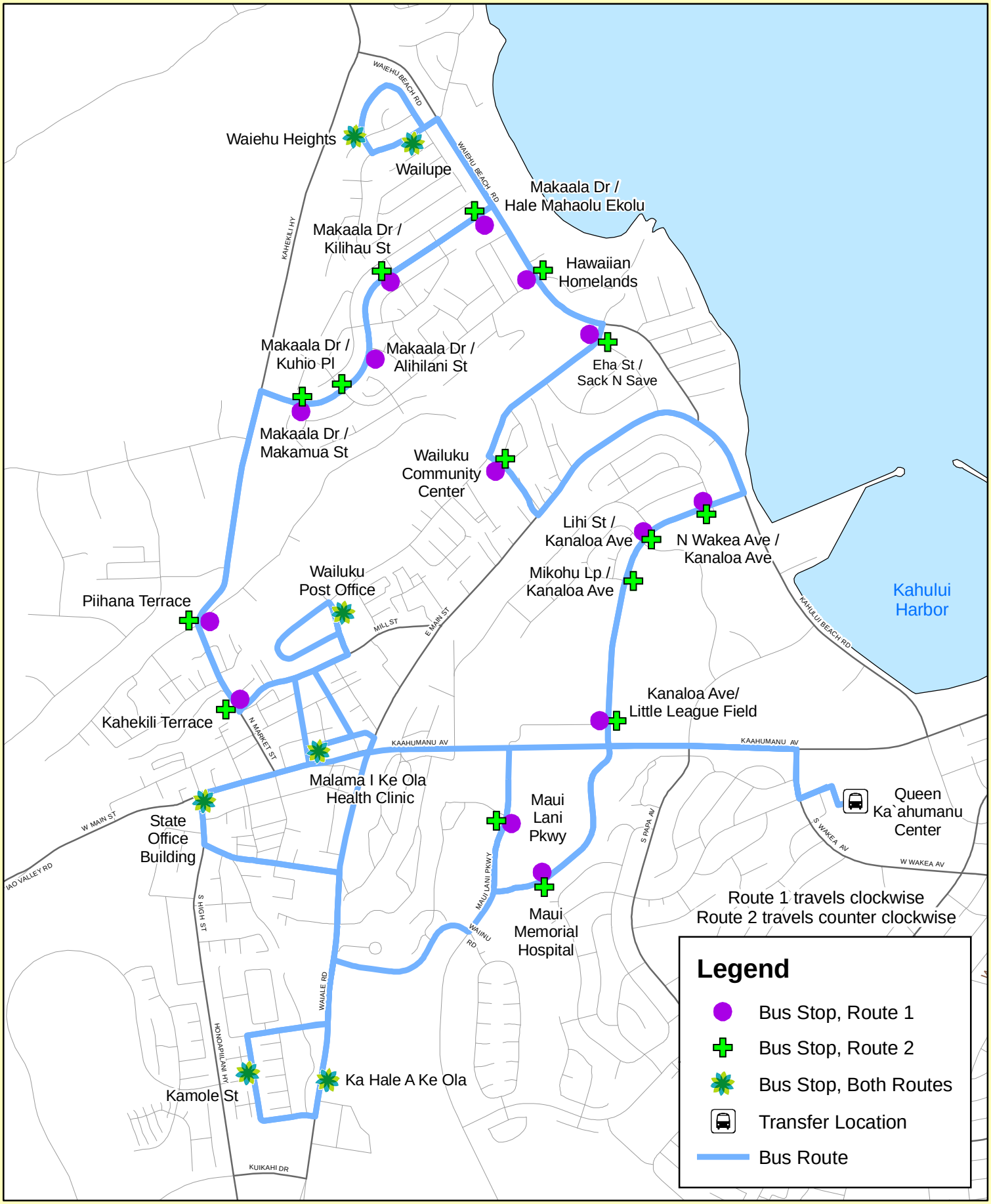


Attachment H
BACKGROUND PLUS PROJECT PEAK HOUR TRAFFIC PROJECTIONS

Attachment I

The Maui Bus Route Map for Wailuku Loop Routes 1 and 2

(Provide by Maui Public Bus Transit System)



maui bus
2145 Kaohu Street, Suite 102
Wailuku, HI 96793

N

0 1,000 2,000 Feet

Wailuku Loop Routes 1 & 2

Map developed by County of Maui/Department of Management/Geographic Services (808) 270-7518

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Appendix F:
Preliminary Engineering Report

PRELIMINARY ENGINEERING REPORT

FOR

IMI IKENA
Wailuku, Maui, Hawaii

T.M.K.: (2) 3-8-037: 028

Prepared For:

Imi Ikena Housing Partners, LLC
990 Highland Drive, Suite 110J
Solana Beach, CA 92075

STACY A. OTOMO
LICENSED PROFESSIONAL ENGINEER
No. 5115-C
HAWAII, U.S.A.

Prepared By:

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September 2011

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REFERENCES

EXHIBITS

1 Location Map

2 Vicinity Map

3 Soil Survey Map

4 Flood Insurance Rate Map

5 Pre Development Drainage Area Map

6 Post Development Drainage Area Map

APPENDICES

A Hydrologic Calculations

B Wastewater Calculations

C Water Demand Calculations

PRELIMINARY ENGINEERING REPORT
FOR
IMI IKENA
T.M.K.: (2) 3-8-037: 028

I. INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed project.

II. SITE LOCATION AND PROJECT DESCRIPTION

The subject parcel is identified as T.M.K.: (2) 3-8-037: 028 which encompasses an area of 32,955 square feet. The project site is bordered by Pio Place to the north, the Wailuku Manor condominium to the south, Imi Place and apartment buildings to the east, and the Puuone Hale Alii condominium to the west.

The proposed project consists of a four story condominium building containing 28 two and three bedroom unit. Associated improvements include grading, paved parking areas, utility connections, and landscaping.

III. ROADWAYS

Kaahumanu Avenue is located south of the project site. It is a four lane divided State Highway which runs in the east-west direction through Kahului. It serves as the primary arterial between Kahului and Wailuku.

Kanaloa Avenue and Lower Beach Road connects to and is perpendicular to Kaahumanu Avenue, which serves as access points to the project through multiple minor streets.

The project site will be accessed by driveways along Pio Place and Imi Place. Both streets have 44-ft right-of-ways fronting the project and meet the required width for County minor streets. Pio Place fronting the project site will be improved to County standards as required by the Department of Public Works. Frontage improvements will include concrete curb, gutter and sidewalk along the property fronting Pio Place.

IV. DRAINAGE

The project site is currently undeveloped and is covered with various trees, shrubs and grass. The property generally slopes down in the west to east direction with the elevations on the site ranging from 245 feet at the mauka boundary to 115 feet at the makai boundary, averaging about 13.5%.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the project site is classified as Puuone sand (PZUE). Puuone sand is characterized as having rapid permeability near the surface, slow runoff, and a moderate to severe wind erosion hazard. According to Panel No. 150003 0384E of the Flood Insurance Rate Maps, with a revised date of September 25, 2009, the project site is situated in Flood Zone X (See Exhibit 4). Flood Zone X represents areas outside the 0.2% annual chance floodplain.

It is estimated that the existing 50-year storm runoff from the project site is 0.83 cfs with a runoff volume of approximately 546 cf. Presently, onsite runoff sheet flows across the project site in the west to east direction towards the downstream properties as well as both Imi Place and Pio Place. Approximately 0.1 cfs exits the project site in the direction of Imi Place. Approximately 0.2 cfs exits the project site in the direction of the downstream apartment buildings. Approximately 0.5 cfs exits the project site in the direction of Pio Place. Surface runoff that exits the project site, continues downstream and enters the existing drainage system in the surrounding area.

After the development of the proposed project, it is estimated that the 50-year storm runoff will be 3.27 cfs with a runoff volume of approximately 1,764 cf, producing a net increase of approximately 2.44 cfs of surface runoff and 1,218 cf of runoff volume. Surface runoff from the project site will be intercepted by grated catch basins located around the proposed building and parking areas and conveyed to three proposed onsite subsurface drainage systems. There will be one subsurface drainage system in each of the three parking areas, providing approximately 1,825 cf of storage volume, to store the additional surface runoff created from the project and prevent the surface runoff from continuing downstream. The subsurface drainage system consists of a perforated drainline embedded in crushed rock which will be wrapped with a layer of filter fabric. Surface runoff entering the perforated pipe will be allowed to exfiltrate into the ground. It will be sized to accommodate the increase in runoff volume from the project site for a 50 year-1 hour storm. There will be no

additional runoff from the project site onto the adjacent properties. The drainage design criteria shall be to minimize any alterations to the natural pattern of the existing onsite surface runoff.

V. SEWER

There is an existing 8-inch sewer line on Pio Place and Imi Place that services the property. A new service lateral and service manhole will be constructed along Pio Drive to meet current standards and requirements. The proposed project will generate approximately 17,850 gallons per day of wastewater (See Appendix B). Wastewater collected from this area is transported to the Kahului Wastewater Reclamation Facility..

According to the Wastewater Reclamation Division, County of Maui, the County is assessing sewer fees of $1,165.35/unit for multi-family projects in this area. The Kahului Wastewater Reclamation Facility has a capacity of 7.9 million gallons per day (mgd). As of March 2010, the average daily flow into the Kahului Wastewater Reclamation Facility is approximately 4.9 mgd. However, according to the Wastewater Reclamation Division, County of Maui, the total allocation, including projects already permitted, is 6.95 mgd.

VI. WATER

Domestic water and fire flow for this area are serviced from the 3.0 M.G. Mokuhau tank and wells in Happy Valley, which is at elevation of 358 feet. There is an existing 12-inch waterline on Lower Main Street which feeds an existing 6-inch waterline along Pio Place and Imi Place. There are existing fire hydrants fronting the property on Pio Place and Imi Place.

In accordance with the Department of Water Supply's Domestic Consumption Guidelines for a multi-family development, the maximum daily demand for the project is approximately 23,520 gallons per day (See Appendix C). The project will utilize low-flow fixtures as part of the water conservation measure. A new 2" water meter will be requested as part of the building permit process to service the parcel. A new reduced pressure backflow preventer will be installed to meet DWS standards.

Fire flow demand for a multi-family development is 2,000 gallons per minute for a 2 hour duration and will be met by the existing fire hydrants along the street and the installation of an onsite fire sprinkler system.

VII. ELECTRIC, TELEPHONE AND CABLE TV

The existing electrical distribution system services the subject property from Pio Place. The installation of electrical, telephone and cable TV systems for the project will be coordinated with Maui Electric Company, Hawaiian Telcom, and Oceanic Time Warner Cable.

REFERENCES

A. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August, 1972.

B. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March 1981.

C. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau, 1962.

D. Flood Insurance Rate Maps of the County of Maui, September 2009.

E. Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui, prepared by the Department of Public Works and Waste Management, County of Maui, 1995.

F. Water System Standards, Department of Water Supply, County of Maui, 2002.

EXHIBITS

1 Location Map

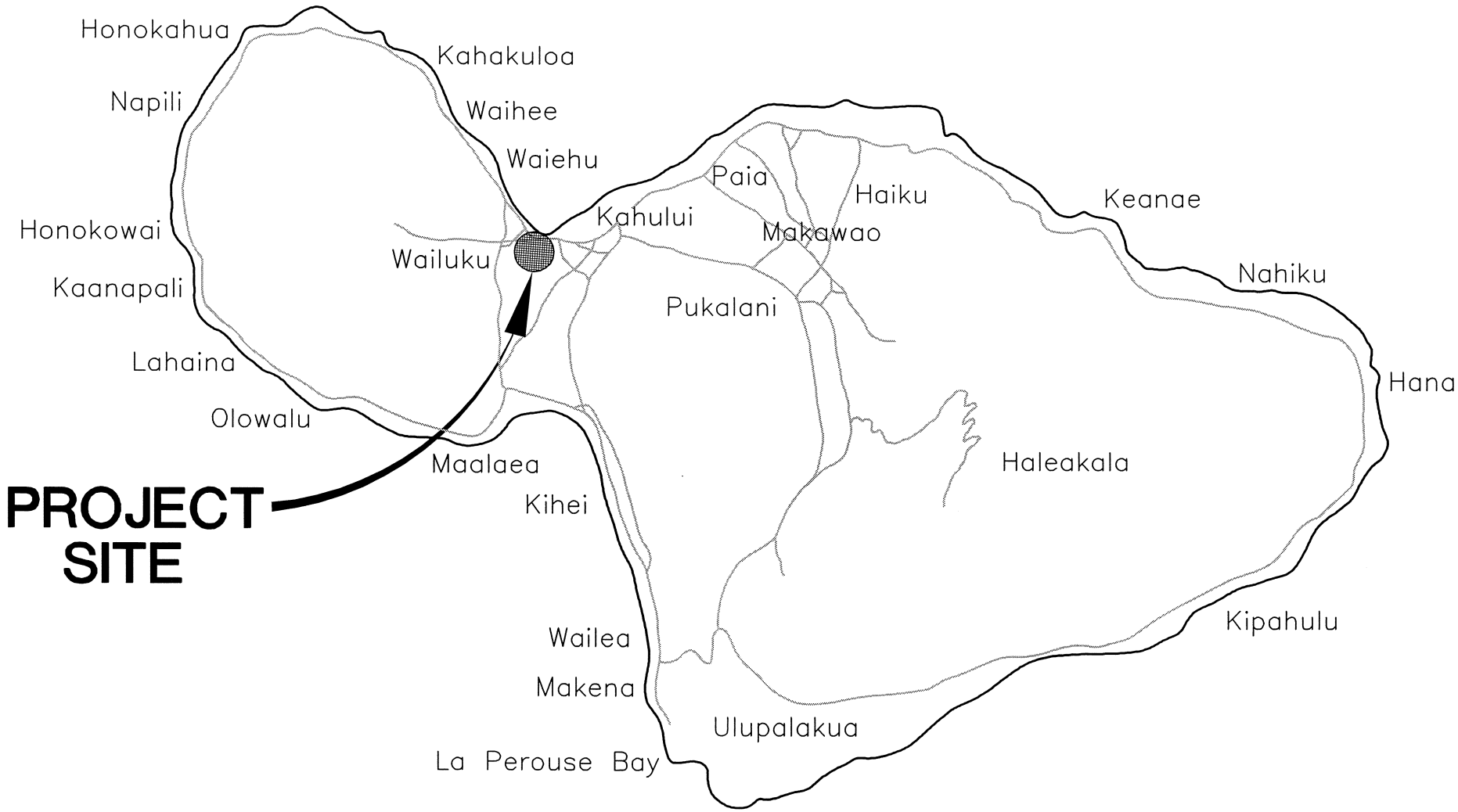
2 Vicinity Map

3 Soil Survey Map

4 Flood Insurance Rate Map

5 Pre Development Drainage Area Map

6 Post Development Drainage Area Map

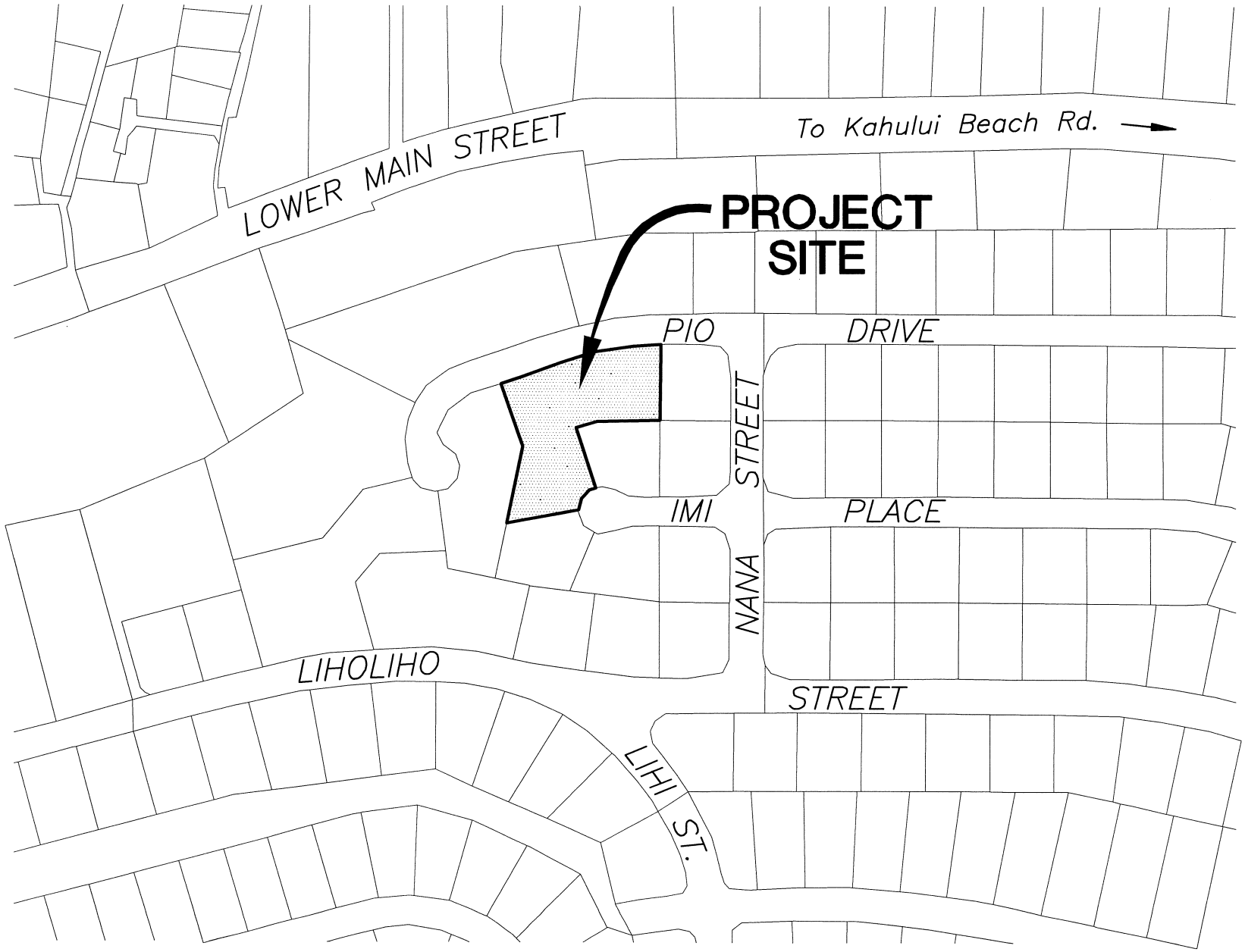


N

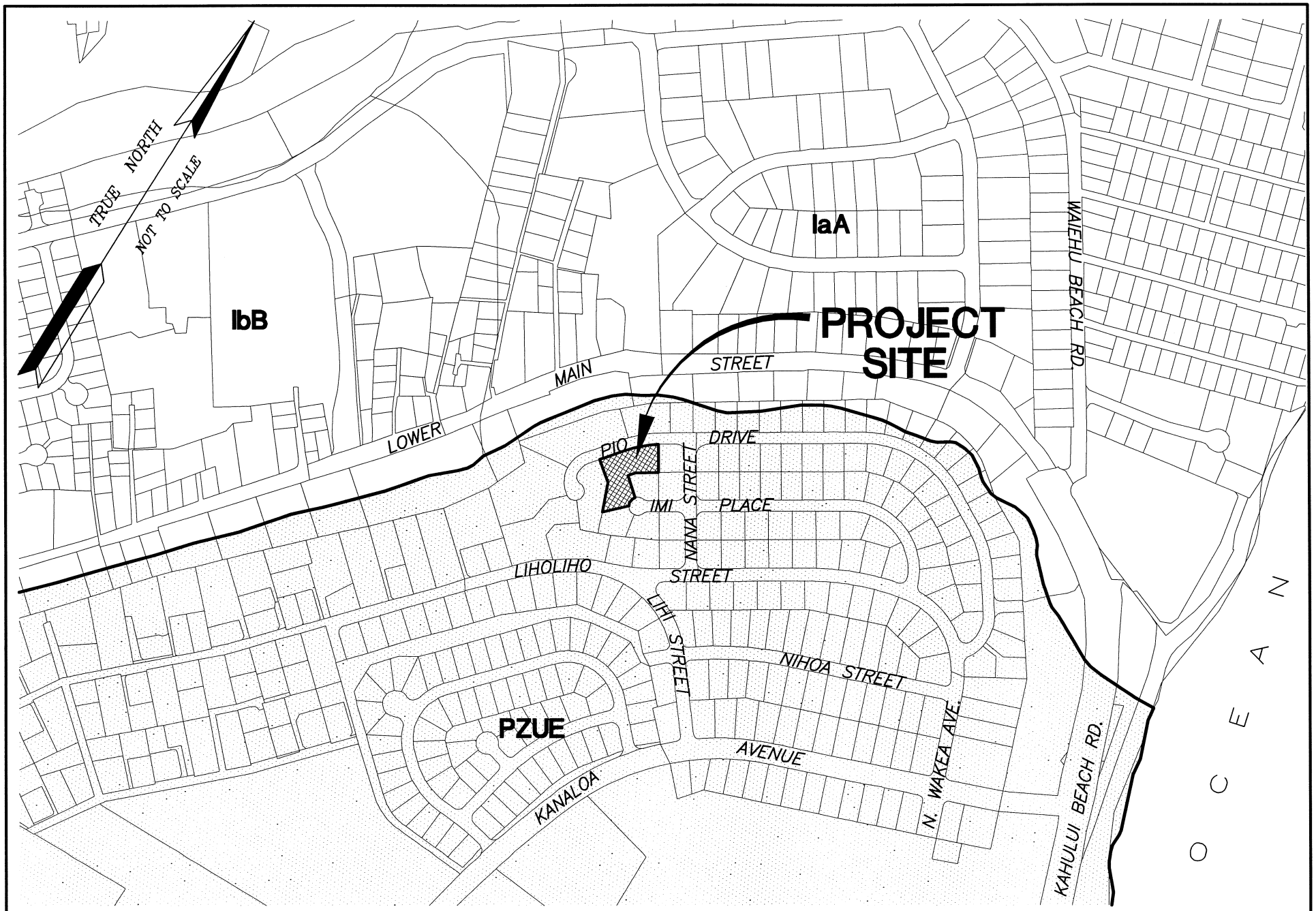
ISLAND OF MAUI

NOT TO SCALE

LOCATION MAP
EXHIBIT 1

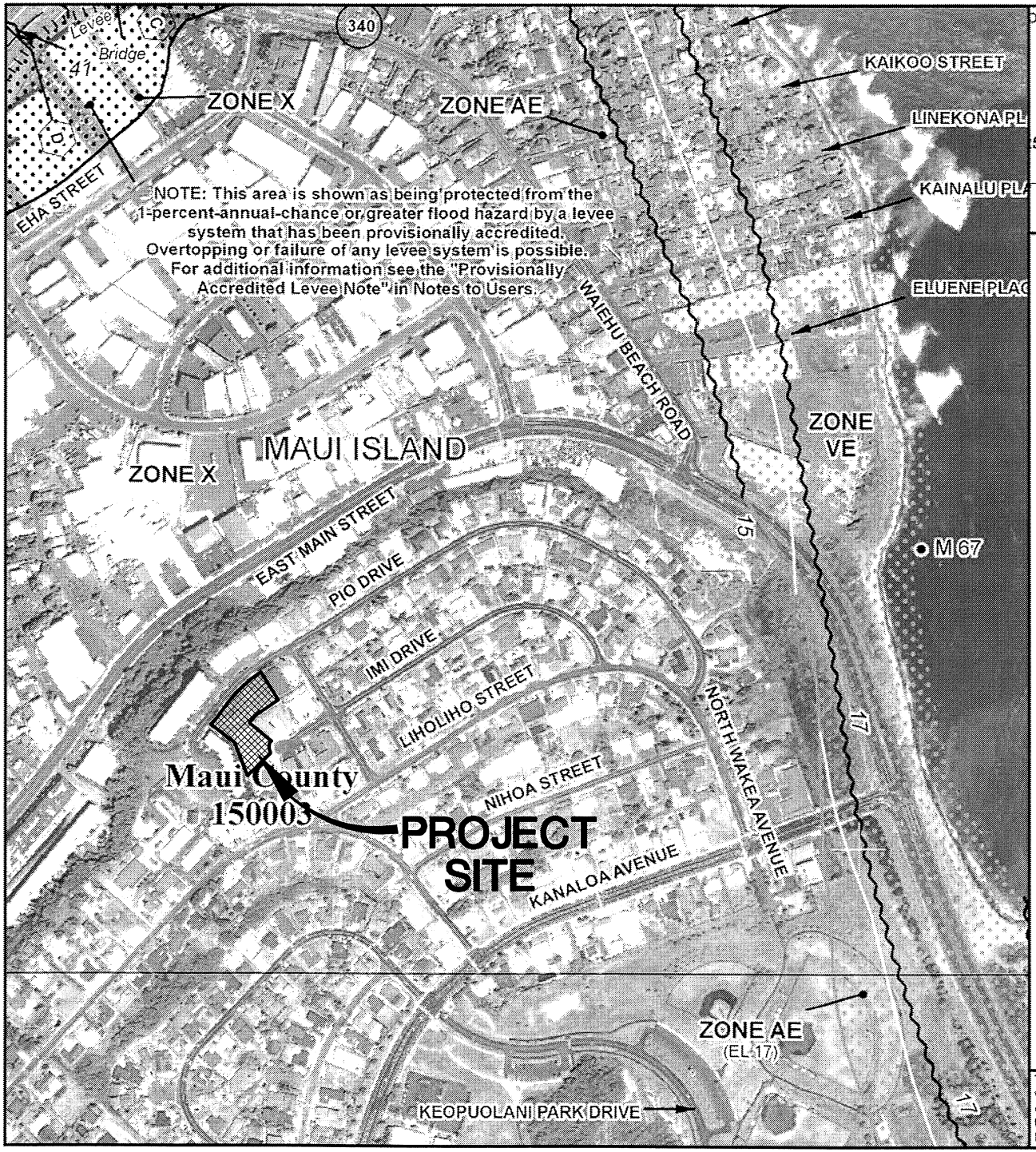


VICINITY MAP
EXHIBIT 2



SOIL SURVEY MAP
EXHIBIT 3

od Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'

50 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0384E

FIRM

FLOOD INSURANCE RATE MAP

MAUI COUNTY, HAWAII

PANEL 384 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MAUI COUNTY	150003	0384	E

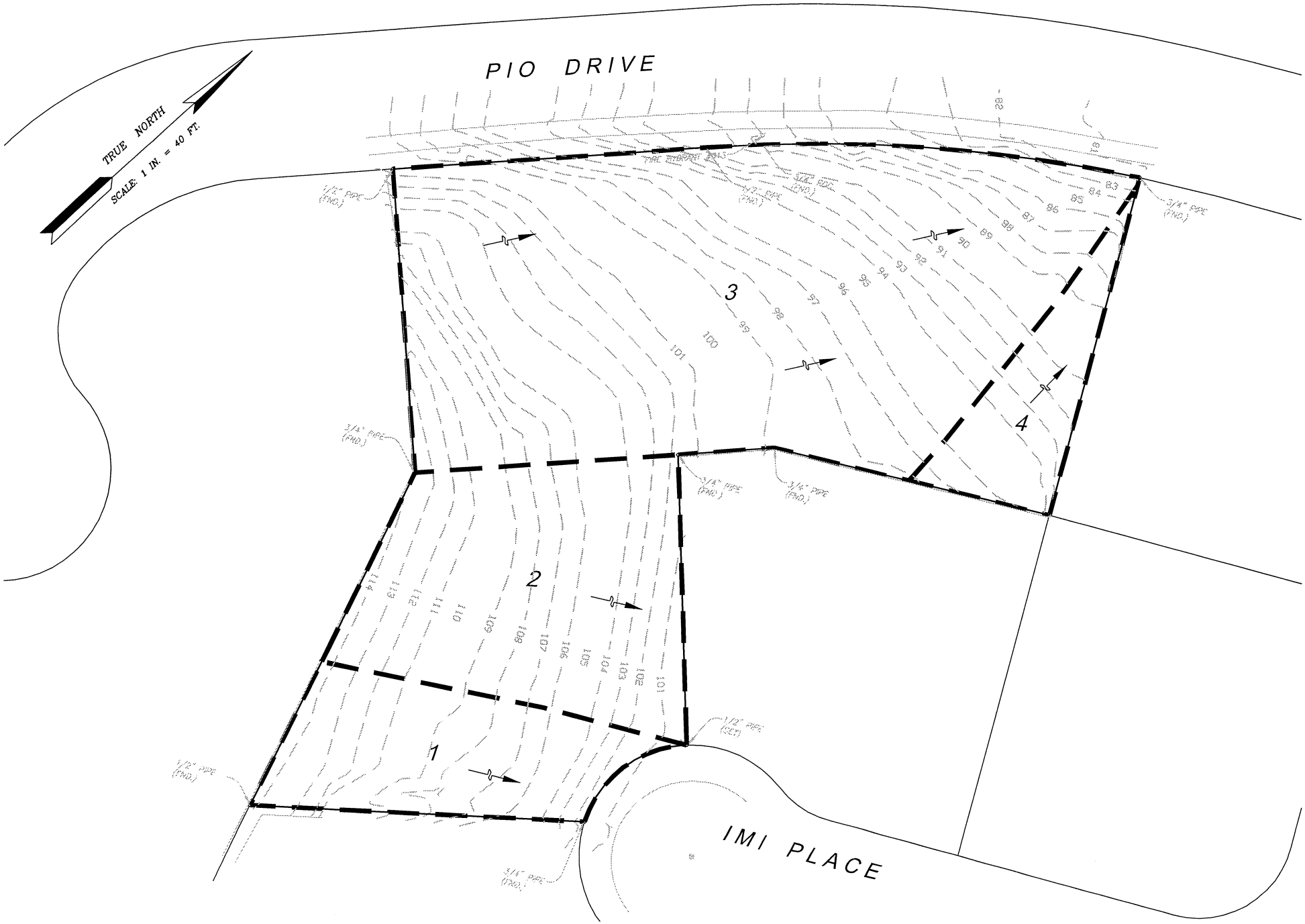
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
1500030384E

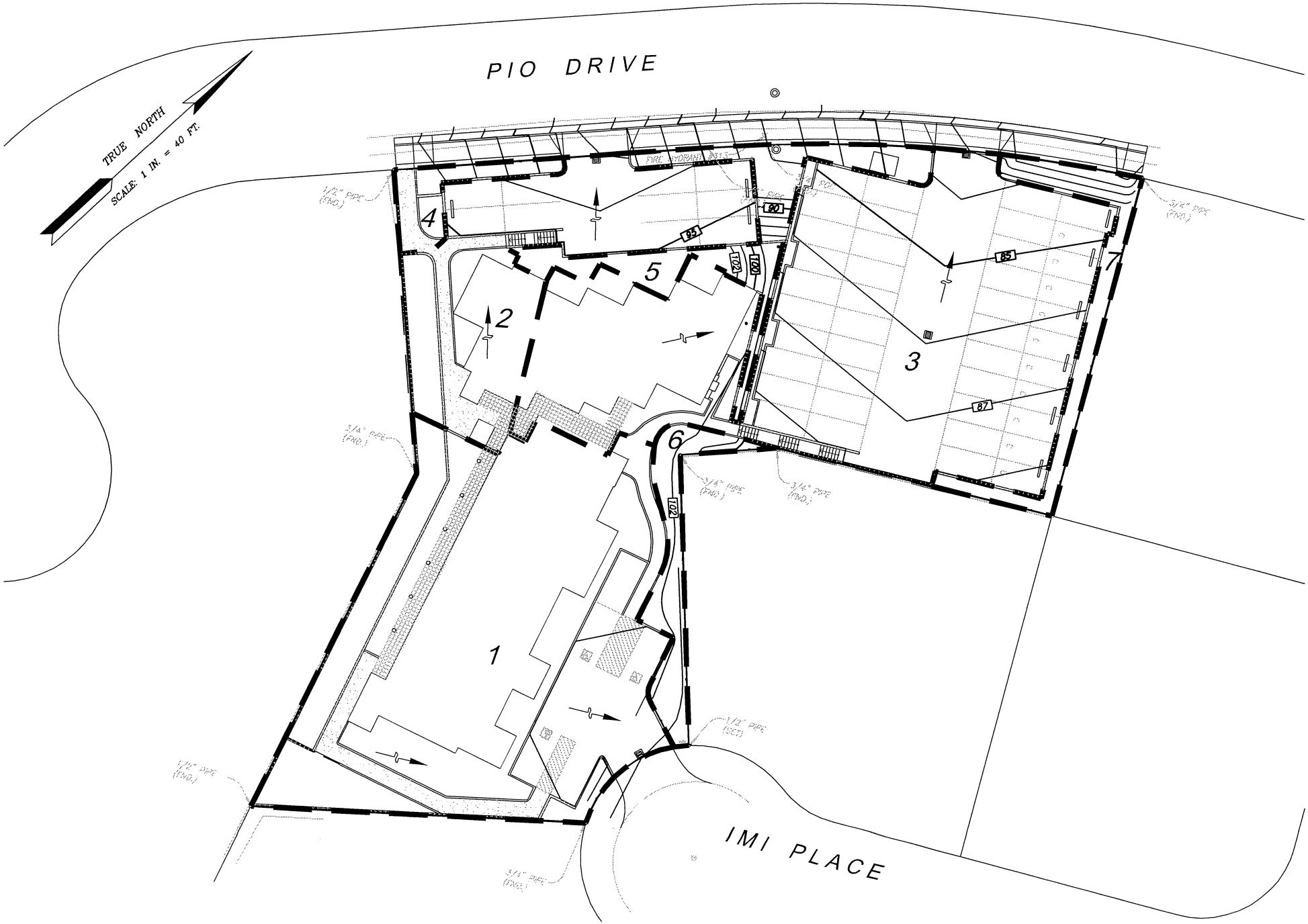
MAP REVISED
SEPTEMBER 25, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



PRE DEVELOPMENT DRAINAGE AREA MAP



POST DEVELOPMENT DRAINAGE AREA MAP

APPENDIX A
HYDROLOGIC CALCULATIONS

Hydrologic Calculations

Purpose: Determine the increase in surface runoff from the development of the proposed project based on a 50-year storm.

A. Determine the Runoff Coefficient (C):

EXISTING CONDITION:

Infiltration (High)		= 0.00
Relief (Rolling)		= 0.03
Vegetal Cover (Good)		= 0.03
Development Type (Open)		= 0.15
	C	= 0.21

DEVELOPED CONDITION:

Infiltration (Negligible)		= 0.20
Relief (Flat)		= 0.00
Vegetal Cover (Good)		= 0.03
Development Type (Apartment)		= 0.45
	C	= 0.68
Use	C	= 0.70

B. Determine the 50-year 1-hour rainfall:

i_{10} = 2.5 inches

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

T_c = 11 minutes

I = 5.18 inches/hour

Developed Condition:

T_c = 6 minutes

I = 6.14 inches/hour

C. Drainage Area (A) = 0.76 Acres

D. Compute the 50-year storm runoff volume (Q):

$$Q = CIA$$

Existing Conditions:

$$Q = (0.21)(5.18)(0.76)$$
$$= 0.83 \text{ cfs}$$

Developed Conditions:

$$Q = (0.70)(6.14)(0.76)$$
$$= 3.27 \text{ cfs}$$

The increase in runoff due to the proposed development is 3.27 - 0.83 = 2.44 cfs.

Hydrograph Plot

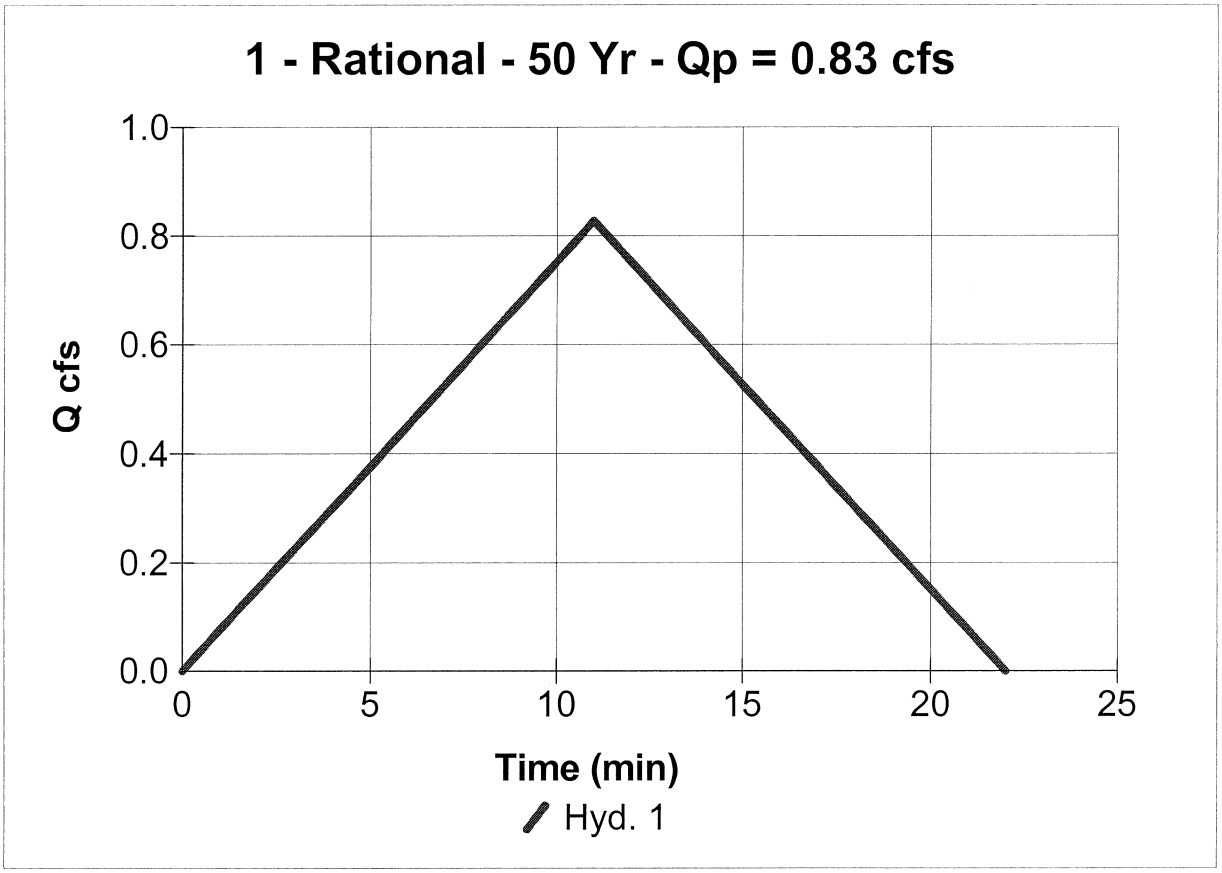
English

Hyd. No. 1

PRE

Hydrograph type	= Rational	Peak discharge	= 0.83 cfs
Storm frequency	= 50 yrs	Time interval	= 1 min
Drainage area	= 0.8 ac	Runoff coeff.	= 0.21
Intensity	= 5.18 in	Time of conc. (Tc)	= 11 min
I-D-F Curve	= 2-5.IDF	Reced. limb factor	= 1

Total Volume = 546 cuft



Hydrograph Plot

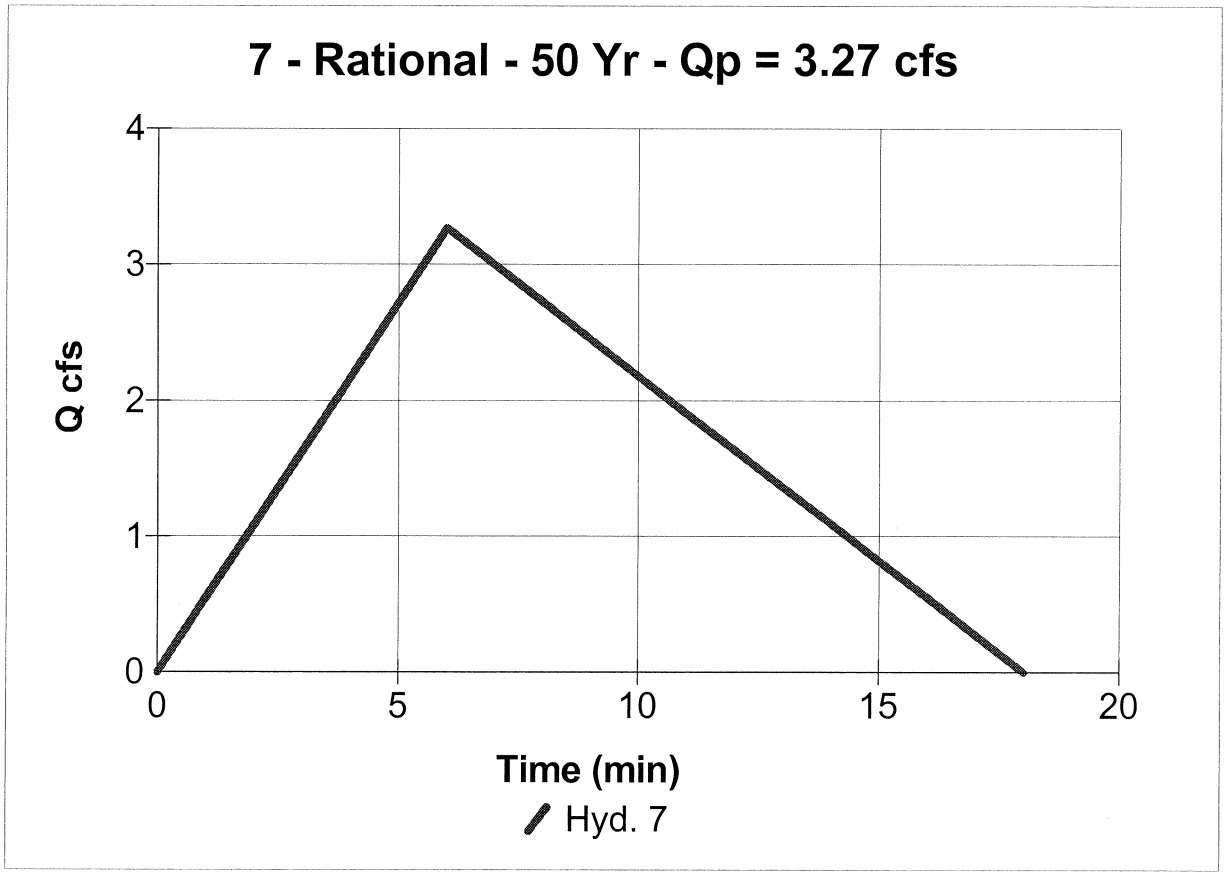
English

Hyd. No. 7

POST

Hydrograph type	= Rational	Peak discharge	= 3.27 cfs
Storm frequency	= 50 yrs	Time interval	= 1 min
Drainage area	= 0.8 ac	Runoff coeff.	= 0.7
Intensity	= 6.14 in	Time of conc. (Tc)	= 6 min
I-D-F Curve	= 2-5.IDF	Reced. limb factor	= 2

Total Volume = 1,764 cuft



SUBSURFACE DRAINAGE SYSTEM VOLUME CALCULATIONS

Imi Ikena
Wailuku, Hawaii

DRAIN #1

Pipe/Trench Section Data:	
Cradle Over Pipe:	1.00
Pipe Diameter:	4.00
Cradle Depth Below Pipe:	2.00
Cradle Thickness on Sides of Pipe:	2.00
Total Trench Depth:	7.00
Total Trench Width:	8.00
Gross Trench Cross Sectional Area:	56.00
Pipe Cross Sectional Area:	12.57
Trench Aggreg. Cross Sectional Area:	43.43
Length of Pipe:	30.00
Storage Volume Calculation:	
Pipe Storage Capacity (cf):	377
Cradle Storage Capacity (cf):	1,303
Gross Aggregate Cradle Volume (43% void ratio) (cf):	560
Allowable Void Volume (50% of voids) (cf):	280
Total Storage Capacity (cf):	657

SUBSURFACE DRAINAGE SYSTEM VOLUME CALCULATIONS

Imi Ikena
Wailuku, Hawaii

DRAIN #2

Pipe/Trench Section Data:	
Cradle Over Pipe:	1.00
Pipe Diameter:	3.00
Cradle Depth Below Pipe:	2.00
Cradle Thickness on Sides of Pipe:	2.00
Total Trench Depth:	6.00
Total Trench Width:	7.00
Gross Trench Cross Sectional Area:	42.00
Pipe Cross Sectional Area:	7.07
Trench Aggreg. Cross Sectional Area:	34.93
Length of Pipe:	20.00
Storage Volume Calculation:	
Pipe Storage Capacity (cf):	141
Cradle Storage Capacity (cf):	699
Gross Aggregate Cradle Volume (43% void ratio) (cf):	300
Allowable Void Volume (50% of voids) (cf):	150
Total Storage Capacity (cf):	292

SUBSURFACE DRAINAGE SYSTEM VOLUME CALCULATIONS

Imi Ikena
Wailuku, Hawaii

DRAIN #3

Pipe/Trench Section Data:	
Cradle Over Pipe:	1.00
Pipe Diameter:	4.00
Cradle Depth Below Pipe:	2.00
Cradle Thickness on Sides of Pipe:	2.00
Total Trench Depth:	7.00
Total Trench Width:	8.00
Gross Trench Cross Sectional Area:	56.00
Pipe Cross Sectional Area:	12.57
Trench Aggreg. Cross Sectional Area:	43.43
Length of Pipe:	40.00
Storage Volume Calculation:	
Pipe Storage Capacity (cf):	503
Cradle Storage Capacity (cf):	1,737
Gross Aggregate Cradle Volume (43% void ratio) (cf):	747
Allowable Void Volume (50% of voids) (cf):	374
Total Storage Capacity (cf):	876

APPENDIX B
WASTEWATER CALCULATIONS

WASTEWATER CALCULATIONS

Per the 2000 Wastewater Flow Standards:

Wastewater Contribution for the multi-family project = 255 gallons/day/unit
Occupancy = 2.5 persons unit

Contribution = (28 units) x (255 gallons/day /unit) x (2.5 persons/unit)
= 17,850 gallons per day

APPENDIX C
WATER DEMAND CALCULATIONS

WATER DEMAND CALCULATIONS

Project Data:

28 Multi-family units (0.76 acres)

Per 2002 Water System Standards:

Consumption Guidelines:

Multi-Family Residential = 560 gallons/unit or 5,000 gallons/acre

Average Daily Demand (ADD) =

Multi-Family Residential = 560 x 28 units = 15,680 gallons

or

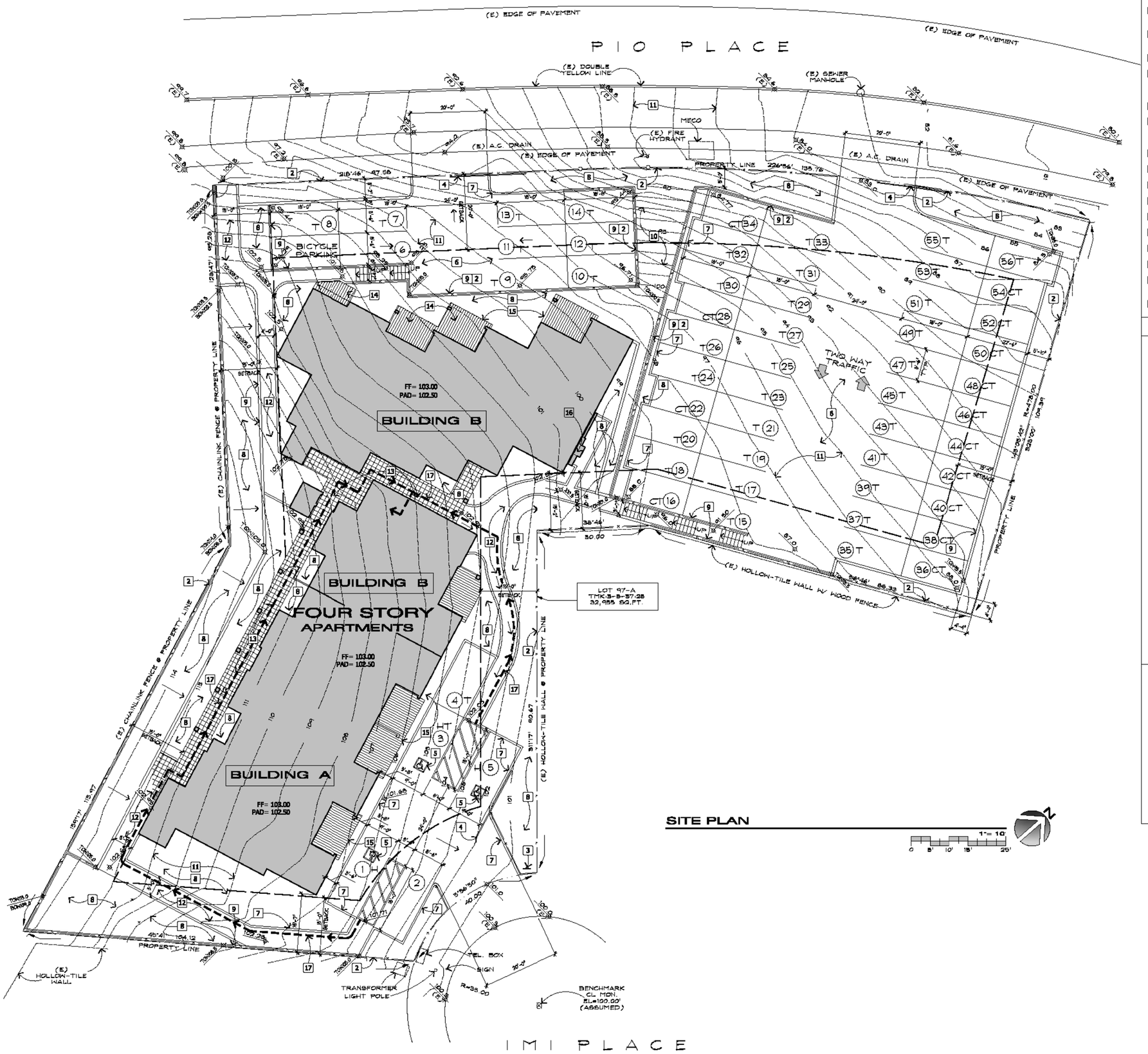
= 5,000 x 0.76 acres = 3,800 gallons

ADD = 15,680 gpd

Max. Daily Demand (1.5 x ADD) = 1.5 x 15,680 = 23,520 gpd

Max. Fire Flow = 2,000 gpm (Multi-family)

Appendix G:
Architectural Drawings



SITE PLAN

1"= 10'

0 5' 10' 15' 25'

SITE PLAN NOTES

1. NEW PARKWAY LANDSCAPING. SEE LANDSCAPE PLANS.
2. NEW 6'-0" HIGH WROUGHT IRON FENCE CONTINUOUS AT PROPERTY LINE & ABOVE RETAINING WALLS. SEE LANDSCAPE DRAWINGS.
3. HANDICAP ACCESS SIGN @ ENTRY TO PARKING LOT. SEE DISABLED ACCESS REQUIREMENTS, SHTS. 16 & 17 FOR SPECIFICATIONS.
4. WROUGHT IRON GATE WITH AUTOMATIC GATE OPERATION.
5. HANDICAP PARKING SYMBOL PAINTED OVER PARKING LOT SURFACE MATERIAL. SEE DISABLED ACCESS REQUIREMENTS, SHTS. 16 & 17 FOR SPECIFICATIONS.
6. ASPHALTIC CONCRETE PAVING AT PARKING LOT.
7. 6" CONCRETE CURB AT PERIMETER OF PARKING LOT. EXCEPTION: ADA COMPLIANT CURB RAMPS TO BE PROVIDED AT HANDICAP PARKING SPACES.
8. NEW LANDSCAPING. SEE LANDSCAPE PLANS.
9. NEW RETAINING WALLS. SEE STRUCTURAL PLANS, SHT. S3-2.
10. NEW CONTOUR LINES. SEE CIVIL PLANS.
11. EXISTING CONTOUR ELEVATIONS. SEE CIVIL PLANS.
12. NEW CONCRETE SIDEWALK.
13. EXTERIOR CORRIDORS TO UNIT ENTRANCES.
14. CONCRETE LANAI @ FINISH GRADE.
15. LINE OF FRAMED BALCONYS @ 2nd, 3rd & 4th FLOORS.
16. ELECTRICAL SERVICE PANELS. SEE ELECTRICAL PLANS FOR SPECIFICATIONS.
17. LINE OF HANDICAP ACCESS ROUTE.

PROJECT INFORMATION

LEGAL DESCRIPTION:	LOT 97-A TMK: 3-8-37:28
BUILDING TYPE:	TYPE V - 1 HR. RATED FULLY SPRINKLERED
ZONE:	A-2
BUILDING CODE:	1997 U.B.C.
OCCUPANCY:	R-1
PARKING REQUIRED:	**56 SPACES** (28 DWELLING UNITS - 2 CARS/UNIT)
PARKING PROVIDED:	30T STANDARD TANDEM STALLS 2 STANDARD STALLS 21CT COMPACT TANDEM 2H STANDARD HANDICAP 1HT HANDICAP TANDEM **56 TOTAL SPACES PROVIDED**
LOT AREA:	32,954.5 SQ.FT.
ALLOWABLE BLDG. AREA:	29,659.0 SQ.FT.
PROVIDED BLDG. AREA:	29,615.0 SQ.FT.
ALLOWABLE LOT COVERAGE:	35% (11,534.0 SQ.FT.)
ACTUAL LOT COVERAGE:	23.66% (7,798.0 SQ.FT.)
ALLOWABLE BUILDING HEIGHT:	4 STORIES
PROVIDED BUILDING HEIGHT:	4 STORIES (47'-7")

COUNTY OF MAUI
MAUI COUNTY CODE, CHAPTER 16.16A ENERGY CODE

To the best of my knowledge, this project's design substantially conforms to the Every code for:

X Building Component Systems
____ Electrical Component Systems
____ Mechanical Component Systems

Signature: [signature] Date: 08-15-11

Name: Leslie Lippich

Title: Architect

License No.: AR-5766

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — EXP. DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE PLANNING DESIGN
PHONE (818) 591 - 2655 FAX (818) 591 - 2729 E-MAIL lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

SHEET TITLE: SITE PLAN

JOB NO. : 2680
DATE : 08-15-2011
DRAWN :

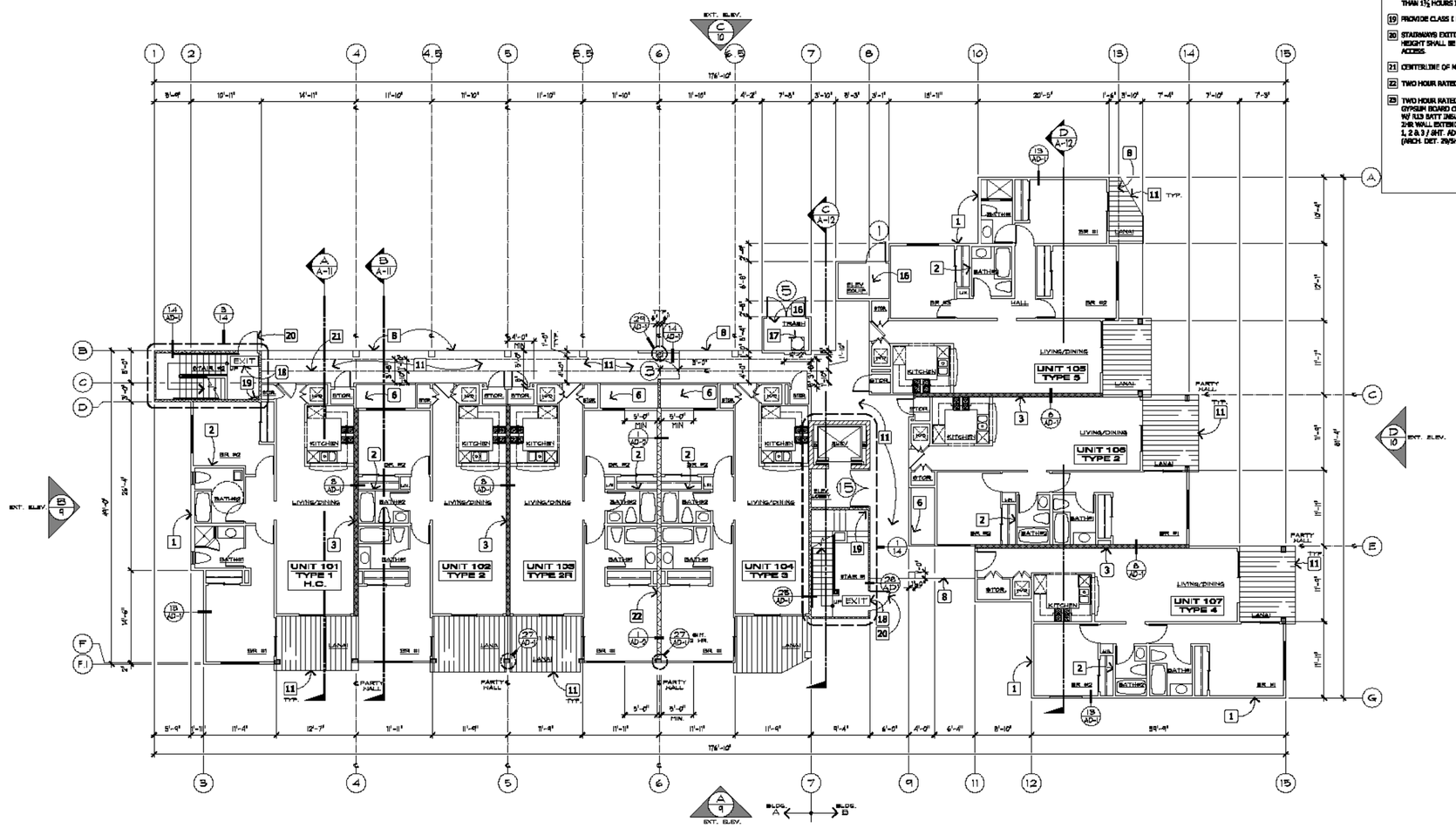
REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
1

FLOOR PLAN NOTES

1. 3⅝" X 18 GA. METAL STUDS AT ALL EXTERIOR WALLS W/R13 BATT INSULATION TYP., ONE HOUR CONSTRUCTION TYPICAL. SEE ARCHITECTURAL DETAILS & STRUCTURAL PLANS FOR MORE INFORMATION.
2. NON-BEARING 3⅝" X 18 GA. METAL STUDS AT M.I. INTERIOR NON-BEARING WALLS. SEE STRUCTURAL PLANS FOR MORE INFORMATION.
3. DOUBLE ROW OF 3⅝" X 18 GA. METAL STUDS AT ALL UNIT SEPARATION WALLS. WALLS AND FLOORS SEPARATING DWELLING UNITS IN THE SAME BUILDING SHALL NOT BE LESS THAN ONE-HOUR FIRE RESISTIVE CONSTRUCTION. SEE ARCHITECTURAL DETAILS.
4. OMITTED.
5. ELASTOMERIC DECK OVER 1 ½" LT. WT. CONCRETE FLOOR FILL @ CDX EXT. PLYWOOD @ BALCONIES, TYPICAL. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. TODD-O-TEX WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. I.C.B.O. NO. 1339 OR EQUAL.
6. PLANTER WITH LANDSCAPING. PLANTER BOX SHALL BE LINED WITH "LIQUID BOOT" WATERPROOF MEMBRANE. SEE PLUMBING PLANS FOR LOCATION / SIZE OF DRAINS.
7. MINIMUM 3'-6" HIGH AT RAILING AND BALUSTERS.
8. LINE OF FLOORS ABOVE.
9. USPS APPROVED MAIL BOXES.
10. SEE CIVIL PLANS FOR FINISH GRADES.
11. 4" THK. CONCRETE SLAB @ EXTERIOR WALKWAYS & LANAI'S @ FIRST FLOOR. MAX. ½" DROP FROM DOOR THRESHOLDS TO TOP OF FINISH SURFACES. 4" THICK CONCRETE PAD AT LANAI AREA WITH ⅛" PER FOOT SLOPE TO OUTSIDE EDGE OF PATIO FROM DOOR THRESHOLD. PROVIDE MAX. ½" DROP FROM DOOR THRESHOLD TO TOP OF FINISH SURFACE.
12. 4" HARDI TRIM, SMOOTH FINISH.
13. 6" HARDI TRIM, SMOOTH FINISH.
14. 12" HARDI TRIM, SMOOTH FINISH.
15. ELASTOMERIC FINISH OVER LT. WT. CONCRETE FLOOR FILL @ 2ND, 3RD & 4TH FLOOR EXTERIOR CORRIDORS AND BALCONIES.
16. 4" THICK CONCRETE SLAB AT FIRST FLOOR TRASH, ELECTRICAL AND ELEVATOR EQUIPMENT ROOMS.
17. TRASH CHUTE.
18. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED. WHEN THE FACE OF AN EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SOURCE, IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES (54lux) FROM EITHER OR TWO ELECTRIC LAMPS. INTERNALLY ILLUMINATED SIGNS SHALL PROVIDE EQUIVALENT LUMINANCE AND BE LISTED FOR THE PURPOSE. LOW LEVEL EXIT SIGNS SHALL BE PROVIDED AT ALL INTERIOR & EXTERIOR CORRIDORS. ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 1½ HOURS IN CASE OF PRIMARY POWER LOSS.
19. PROVIDE CLASS I FIRE SPRINKLER STAND PIPES AT EVERY FLOOR LEVEL LANDING.
20. STAIRWAYS EXITING DIRECTLY TO THE EXTERIOR OF A BUILDING FOUR OR MORE STORIES IN HEIGHT SHALL BE PROVIDED WITH A MEANS FOR EMERGENCY ENTRY FOR FIRE DEPARTMENT ACCESS.
21. CENTERLINE OF MIN. REQUIRED EXIT DIMENSION OF 44".
22. TWO HOUR RATED AREA SEPARATION WALL. SEE ARCH. DETAIL 1/SHT. A02.
23. TWO HOUR RATED AREA SEPARATION IN CORRIDOR FLOOR ASSEMBLY, TWO LAYERS ⅝" GYPSUM BOARD OVER ONE ROW OF 3 ½" METAL STUDS @ 16" O.C. BETWEEN FLOOR JOISTS W/ R13 BATT INSULATION (SEE SUPL. ARCH. DET. 23/AD.1) - PER 97 UBC SECTION 504.03, THE 1HR WALL EXTENDS HORIZONTALLY FROM THE TWO HOUR RATED PARTY WALL (ARCH. DET's 1, 2 & 3 / SHT. A02) OUT TO THE TWO HOUR RATED STRUCTURAL STEEL COLUMN (ARCH. DET. 29/SHT.A01).



FIRST FLOOR PLAN

LEGEND

- 1 HOUR RATED WALL 3 1/2" X 18 GA. STUDS @ 16" O.C.
- 2 HOUR RATED WALL
- 2 HOUR RATED AREA SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 1 HOUR RATED UNIT SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 8" CMU WALL

1/8" = 1'-0"

0 4' 8' 12' 20'

N

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE DESIGN PLANNING
PHONE (818) 591 - 2655 FAX (818) 591 - 2729 E-MAIL lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

SHEET TITLE: FIRST FLOOR PLAN

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

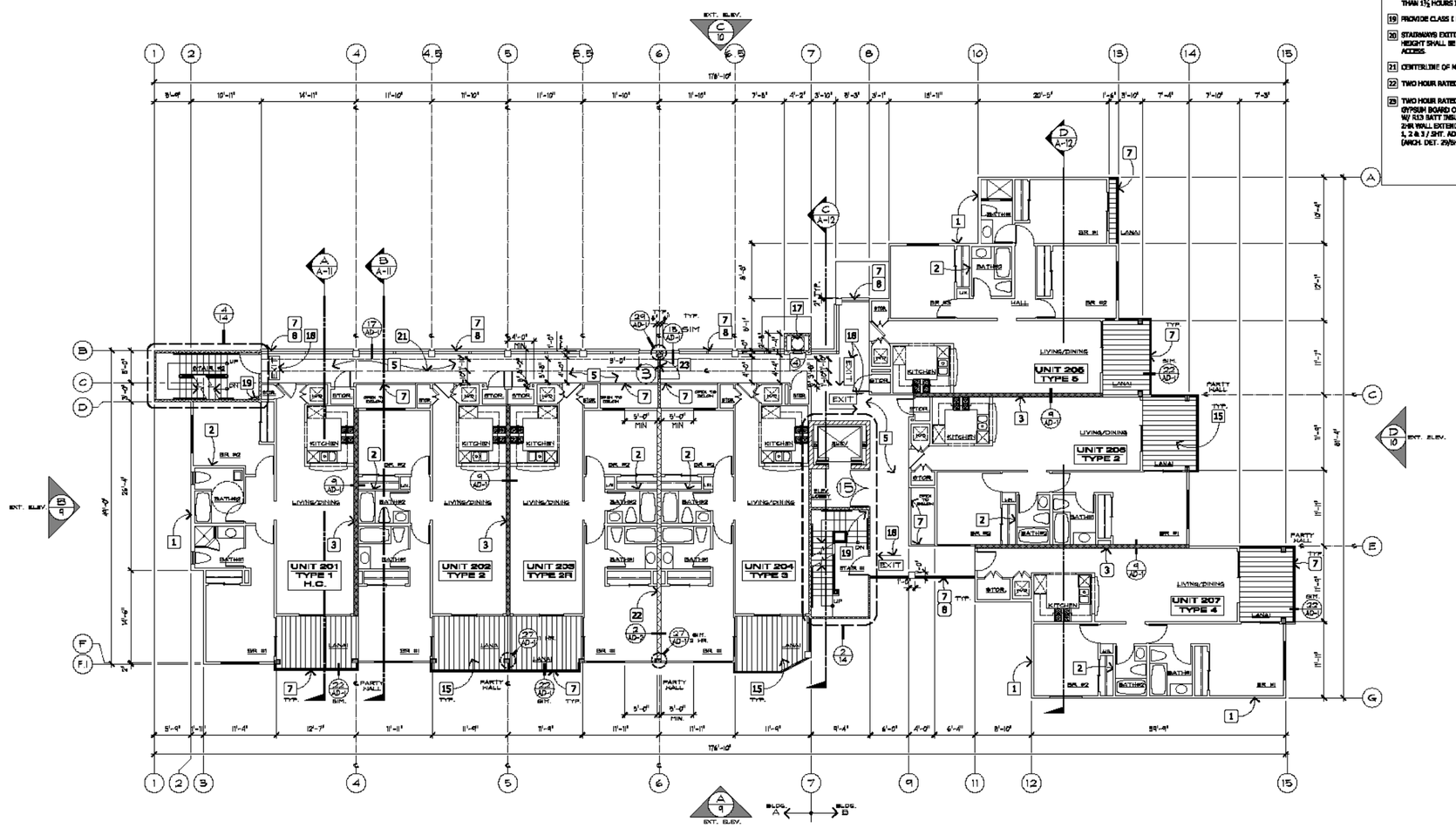
REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
2

FLOOR PLAN NOTES

1. 3⅝" X 18 GA. METAL STUDS AT ALL EXTERIOR WALLS W/R13 BATT INSULATION TYP., ONE HOUR CONSTRUCTION TYPICAL. SEE ARCHITECTURAL DETAILS & STRUCTURAL PLANS FOR MORE INFORMATION.
2. NON-BEARING 3⅝" X 18 GA. METAL STUDS AT M.I. INTERIOR NON-BEARING WALLS. SEE STRUCTURAL PLANS FOR MORE INFORMATION.
3. DOUBLE ROW OF 3⅝" X 18 GA. METAL STUDS AT ALL UNIT SEPARATION WALLS. WALLS AND FLOORS SEPARATING DWELLING UNITS IN THE SAME BUILDING SHALL NOT BE LESS THAN ONE-HOUR FIRE RESISTIVE CONSTRUCTION. SEE ARCHITECTURAL DETAILS.
4. OMITTED.
5. ELASTOMERIC DECK OVER 1 ½" LT. WT. CONCRETE FLOOR FILL @ CDX EXT. PLYWOOD @ BALCONIES, TYPICAL. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. "DEK-O-TEX" WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. I.C.B.O. NO. 1339 OR EQUAL.
6. PLANTER WITH LANDSCAPING. PLANTER BOX SHALL BE LINED WITH "LIQUID BOOT" WATERPROOF MEMBRANE. SEE PLUMBING PLANS FOR LOCATION / SIZE OF DRAINS.
7. MINIMUM 3'-6" HIGH AT RAILING AND BALUSTERS.
8. LINE OF FLOORS ABOVE.
9. USPS APPROVED MAIL BOXES.
10. SEE CIVIL PLANS FOR FINISH GRADES.
11. 4" THK. CONCRETE SLAB @ EXTERIOR WALKWAYS & LANAI'S @ FIRST FLOOR. MAX. ½" DROP FROM DOOR THRESHOLDS TO TOP OF FINISH SURFACES. 4" THICK CONCRETE PAD AT LANAI AREA WITH ¼" PER FOOT SLOPE TO OUTSIDE EDGE OF PATIO FROM DOOR THRESHOLD. PROVIDE MAX. ½" DROP FROM DOOR THRESHOLD TO TOP OF FINISH SURFACE.
12. 4" HARDI TRIM, SMOOTH FINISH.
13. 6" HARDI TRIM, SMOOTH FINISH.
14. 12" HARDI TRIM, SMOOTH FINISH.
15. ELASTOMERIC FINISH OVER LT. WT. CONCRETE FLOOR FILL @ 2ND, 3RD & 4TH FLOOR EXTERIOR CORRIDORS AND BALCONIES.
16. 4" THICK CONCRETE SLAB AT FIRST FLOOR TRASH, ELECTRICAL AND ELEVATOR EQUIPMENT ROOMS.
17. TRASH CHUTE.
18. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED. WHEN THE FACE OF AN EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SOURCE, IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES (54lux) FROM EITHER OR TWO ELECTRIC LAMPS. INTERNALLY ILLUMINATED SIGNS SHALL PROVIDE EQUIVALENT LUMINANCE AND BE LISTED FOR THE PURPOSE. LOW LEVEL EXIT SIGNS SHALL BE PROVIDED AT ALL INTERIOR & EXTERIOR CORRIDORS. ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 1½ HOURS IN CASE OF PRIMARY POWER LOSS.
19. PROVIDE CLASS I FIRE SPRINKLER STAND PIPES AT EVERY FLOOR LEVEL LANDING.
20. STAIRWAYS EXITING DIRECTLY TO THE EXTERIOR OF A BUILDING FOUR OR MORE STORIES IN HEIGHT SHALL BE PROVIDED WITH A MEANS FOR EMERGENCY ENTRY FOR FIRE DEPARTMENT ACCESS.
21. CENTERLINE OF MIN. REQUIRED EXIT WIDTH 44".
22. TWO HOUR RATED AREA SEPARATION WALL. SEE ARCH. DETAIL 2/AD2.
23. TWO HOUR RATED AREA SEPARATION IN CORRIDOR FLOOR ASSEMBLY, TWO LAYERS ⅝" GYPSUM BOARD OVER ONE ROW OF 3 ½" METAL STUDS @ 16" O.C. BETWEEN FLOOR JOISTS W/ R13 BATT INSULATION (SEE SIM. ARCH. DET. 2/AD1) : PER 97 UBC SECTION 504.3, THE 2HR WALL EXTENDS HORIZONTALLY FROM THE TWO HOUR RATED PARTY WALL (ARCH. DET'S 1, 2 & 3 / SHT. AD2) OUT TO THE TWO HOUR RATED STRUCTURAL STEEL COLUMN (ARCH. DET. 29/SHT AD2).



SECOND FLOOR PLAN

1/8" = 1'-0"

LEGEND

- 1 HOUR RATED WALL 3 1/2" X 18 GA. STUDS @ 16" O.C.
- 2 HOUR RATED WALL
- 2 HOUR RATED AREA SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 1 HOUR RATED UNIT SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 8" CMU WALL

0 4' 8' 12' 20'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

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SHEET TITLE: SECOND FLOOR PLAN

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

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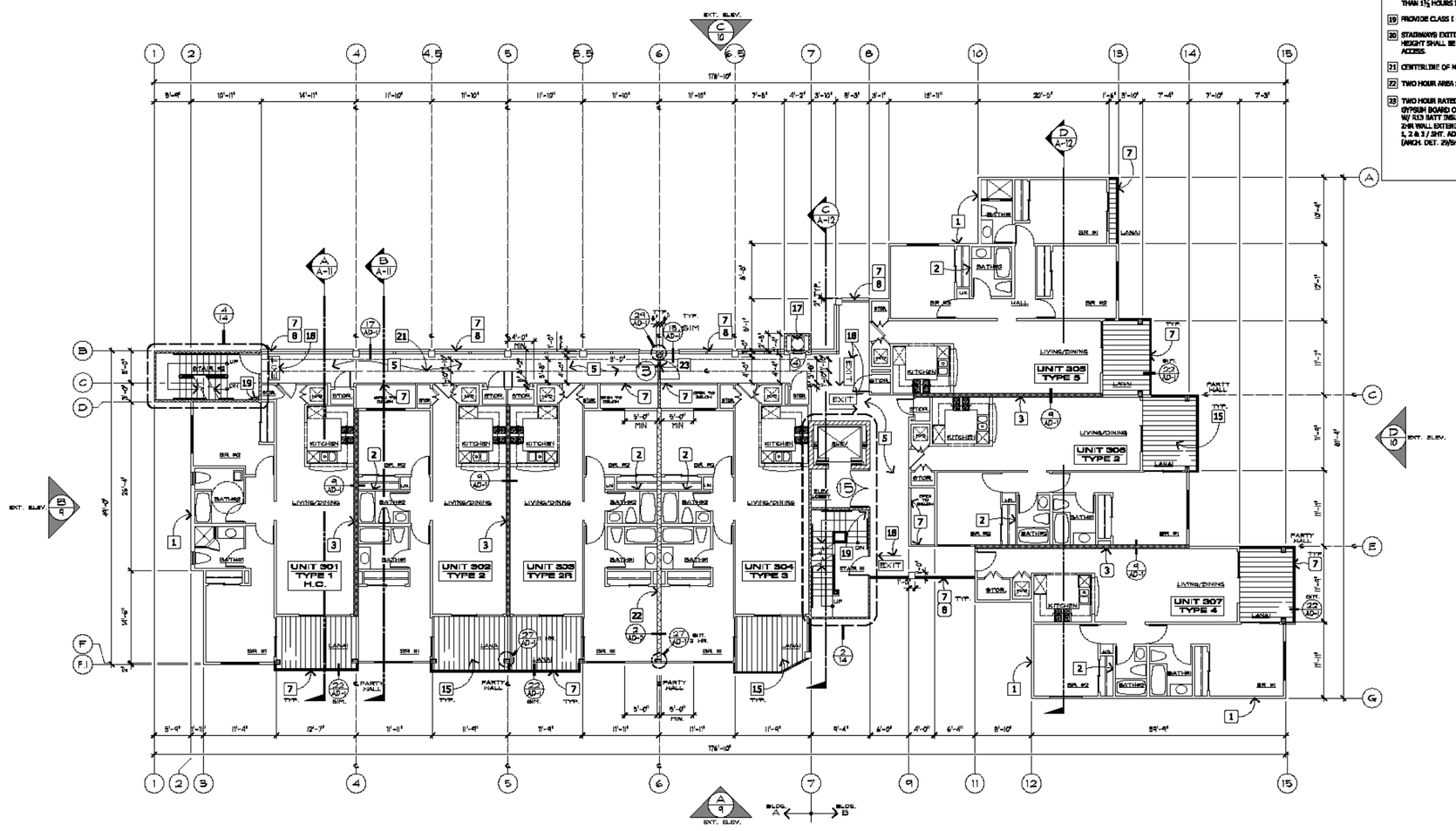
3



THIRD FLOOR PLAN

LEGEND

1/8" = 1'-0"

0 4' 8' 12' 20'

- 1 HOUR RATED WALL 3 1/2" X 18 GA. STUDS @ 16" O.C.
- 2 HOUR RATED WALL
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- 8" CMU WALL

FLOOR PLAN NOTES

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4. OMITTED.
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8. LINE OF FLOORS ABOVE.
9. USPS APPROVED MAIL BOXES.
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21. CENTERLINE OF MIN. REQUIRED EXIT WIDTH 44".
22. TWO HOUR AREA SEPARATION WALL. SEE ARCH. DETAIL 2 / SHT. A02.
23. TWO HOUR RATED AREA SEPARATION IN CORRIDOR FLOOR ASSEMBLY, TWO LAYERS ⅝" GYPSUM BOARD OVER ONE ROW OF 3 ½" METAL STUDS @ 16" O.C. BETWEEN FLOOR JOISTS W/ R13 BATT INSULATION (SEE SIM. ARCH. DET. 25/AD1) : PER 97 UBC SECTION 504.3, THE 2HR WALL EXTENDS HORIZONTALLY FROM THE TWO HOUR RATED PARTY WALL (ARCH. DET'S 1, 2 & 3 / SHT. A02) OUT TO THE TWO HOUR RATED STRUCTURAL STEEL COLUMN (ARCH. DET. 29/SHT A02).

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LESLIE LIPPICH ARCHITECT — DATE

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SHEET TITLE: THIRD FLOOR PLAN

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

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Wailuku, Maui, Hawaii

SHEET NO
4

FLOOR PLAN NOTES

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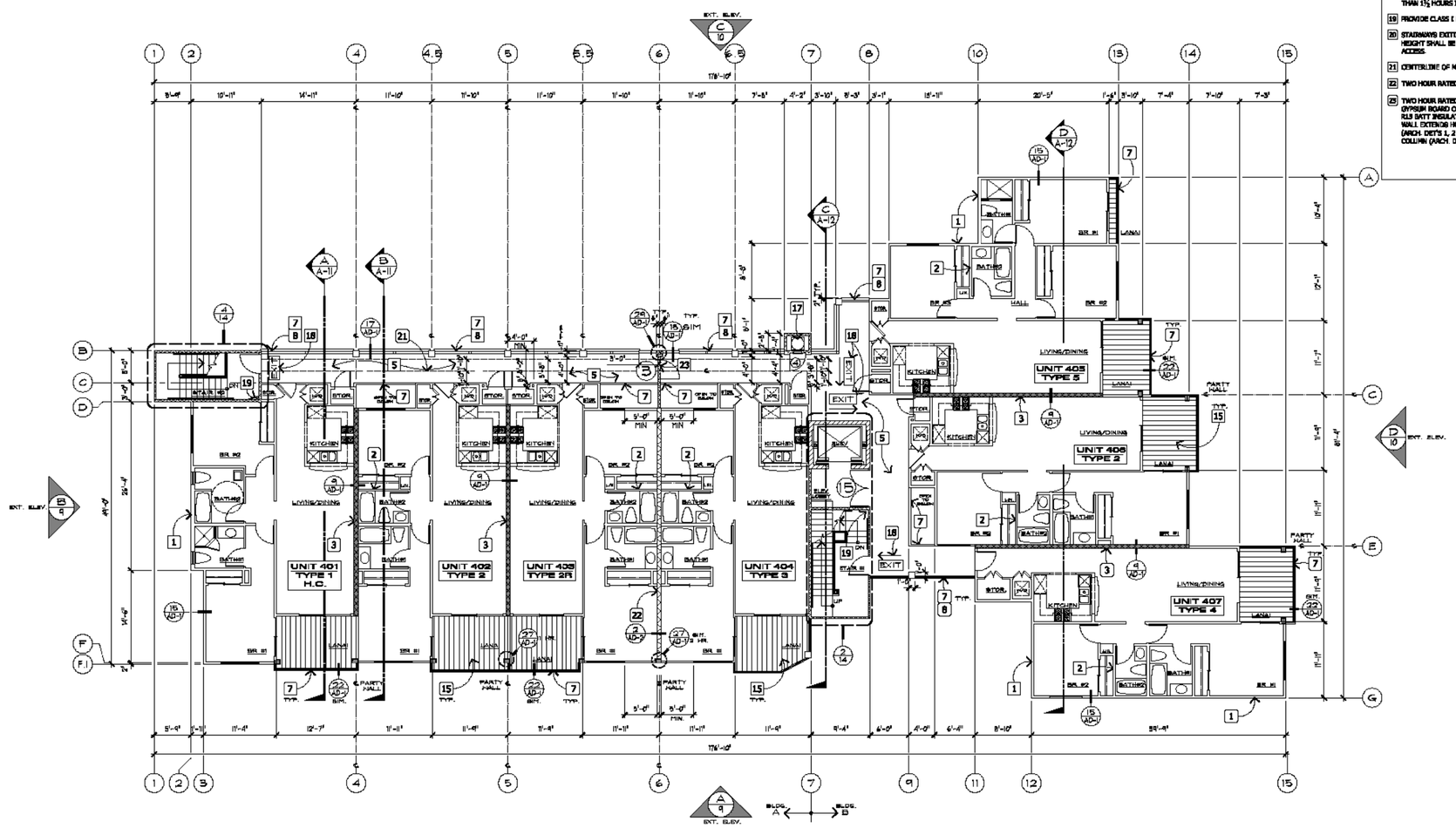

FOURTH FLOOR PLAN

LEGEND

- 1 HOUR RATED WALL 3 1/2" X 18 GA. STUDS @ 16" O.C.
- 2 HOUR RATED WALL
- 2 HOUR RATED AREA SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 1 HOUR RATED UNIT SEPARATION WALL- 2 ROWS 3 1/2" X 18 GA. STUDS @ 16" O.C. W/ 1" GAP BETWEEN
- 8" CMU WALL

1/8" = 1'-0"

0 4' 8' 12' 20'

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LESLIE LIPPICH ARCHITECT — DATE

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SHEET TITLE: FOURTH FLOOR PLAN

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

REVISIONS

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Wailuku, Maui, Hawaii

SHEET NO
5

ROOF PLAN NOTES

1. 15/32" OSB ROOF SHEATHING: SEE ROOF FRAMING PLAN FOR SPECIFICATION, NAILING, AND BLOCKING.
2. "CLASSIC" COMPOSITION ROOF, CLASS "A", 3-TAB SHINGLES BY "OWENS CORNING", ICBO ES ER 5995, 30 YEAR WARRANTY, OR EQUAL.
3. G.I. METAL VALLEY FLASHING, TYPICAL THROUGHOUT.
4. HOT MOPPED, BUILT-UP BITUMINOUS ROOFING OVER 15/32" OSB SHEATHING AT CRICKETS.
5. ALL CANT, SADDLE & FLAT ROOF AREAS SHAL. BE BUILT-UP BITUMINOUS ROOF MATERIAL, CLASS A RATED. USE MINIMUM (1)-15#, (1)-90# WITH 90# CAP, ALL HOT MOPPED. ALL SHEET METAL FLASHING TO BE USED IN THESE AREAS.
6. ROOF PITCH BREAK. SEE EXTERIOR ELEVATIONS.
7. BALCONIES BELOW AT FOURTH FLOOR.
8. OMITTED.
9. OMITTED.
10. VENTILATOR FOR TRASH CHUTE BELOW.
11. 4" DIA. ROOF AND OVERFLOW DRAINS (U.N.O.) TO WALLS BELOW VIA CAST IRON PIPE. CONDUCT ALL WATER TO STREET VIA UNDERGROUND NON-CORROSIVE DEVICES.
12. CONTINUOUS 4" CANT STRIP AT PERIMETER OF FLAT ROOF AREA.
13. LINE OF EXTERIOR WALL BELOW.
14. 6" HARDI TRIM, SMOOTH FINISH @ RAKED ROOF EAVE.
15. G.I. SHEET METAL PARAPET CAP.
16. 2-HR. RATED AREA SEPARATION WALL BELOW. NO PENETRATION ALLOWED. EXTEND INTO ENCLOSED SPACES ENCLOSED SPACES OF ROOF AND EAVE. SEE FLOOR PLANS.
17. DRAFT STOP ABOVE UNIT SEPARATION WALL BELOW.
18. 30" X 30" ATTIC ACCESS DOOR WITH WEATHER PROOFING, FLASHING, ETC.
19. NO OPENINGS IN THE ROOF SHALL BE LOCATED WITHIN 5 FEET EACH SIDE OF THE AREA SEPARATION WALL. THIS INCLUDES, BUT IS NOT LIMITED TO TRASH CHUTE VENTS, PLUMBING VENTS, ROOF DRAINS, ETC.

ROOF PLAN

1/8" = 1'-0"

0 4' 8' 12' 20'

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LESLIE LIPPICH ARCHITECT — DATE

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SHEET TITLE: ROOF PLAN

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

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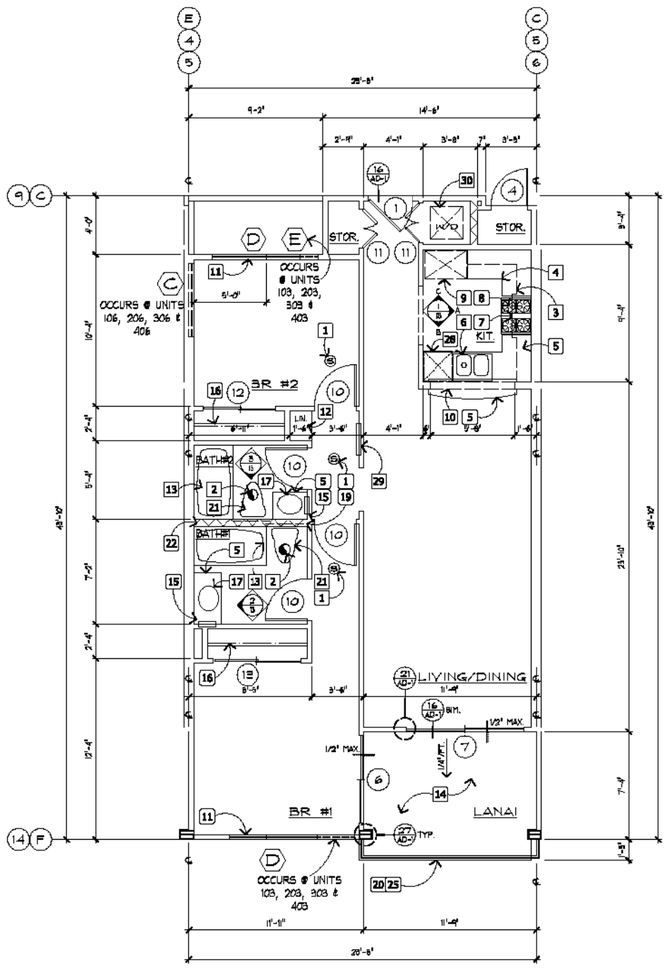
6

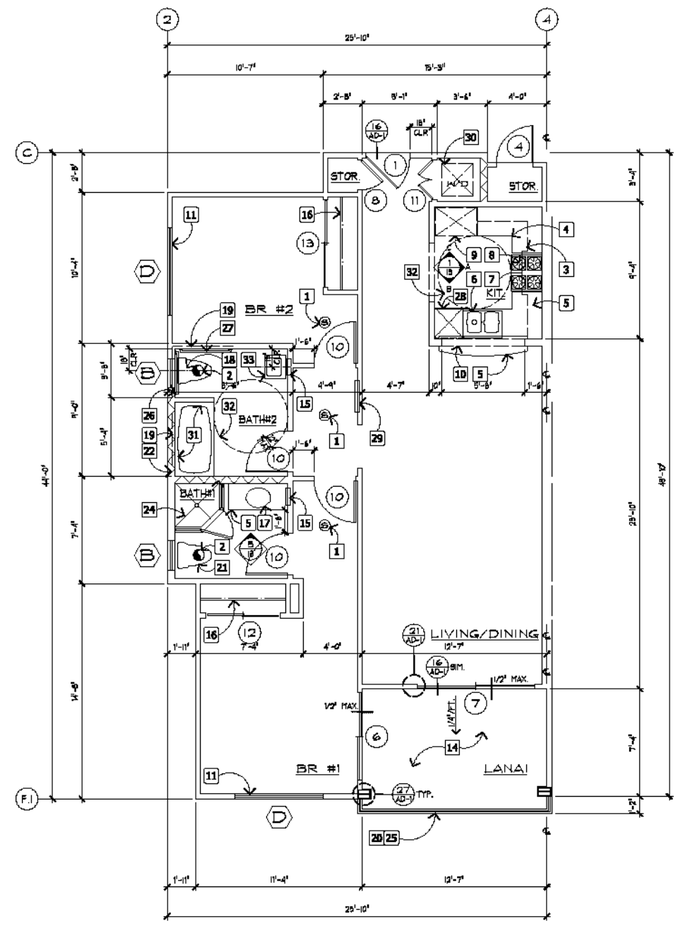
UNIT FLOOR PLAN NOTES

1. PROVIDE STATE FIRE MARSHALL-APPROVED, INTERCONNECTED HARDWIRED SMOKE DETECTORS, AS REQUIRED PER UBC 310.9.1 IN HALLWAYS AND SLEEPING ROOMS.
2. CEILING MOUNTED EXHAUST FAN VENTED TO OUTSIDE AIR WITH A MINIMUM OF FIVE AIR CHANGES PER HOUR.
3. BUILT-IN UPPER CABINETS. SEE INTERIOR ELEVATIONS.
4. BUILT-IN BASE CABINETS. SEE INTERIOR ELEVATIONS.
5. PREFABRICATED GRANITE COUNTERTOP.
6. 23 GA. STAINLESS STEEL PACEWANGER DOUBLE BOWL SINK BY ELKAY, MODEL PSR3322 WITH BADGER 3 FOOD WASTE DISPOSER BY INSINKERATOR.
7. STAINLESS STEEL ELECTRIC RANGE WITH OVEN: FRIGIDAIRE MODEL NO. FLS3085OC.
8. STAINLESS STEEL VENTLESS FAN AND MICROWAVE OVEN: FRIGIDAIRE MODEL NO. FLMV186DC
9. STAINLESS STEEL REFRIGERATOR: FRIGIDAIRE MODEL FRS26KF2GB3.
10. TOP OF WALL BEHIND BASE CABINET IS 2'-9" ABOVE FINISH FLOOR, TYPICAL UNLESS NOTED OTHERWISE.
11. WINDOW PROVIDING SECONDARY MEANS OF EGRESS FROM SLEEPING ROOM. MAX. SILL HEIGHT TO BE 44" FROM FLOOR AND MIN. OPENING SIZE TO BE 20" WIDE X 24" HIGH WITH MAX. AREA OF 5.7 SQ.FT.
12. BUILT-IN LINEN CABINETS. SEE INTERIOR ELEVATIONS.
13. BATHTUB: PRINCETON RECESS BATH BY AMERICAN STANDARD.
14. BALCONY DECKING: @ 2ND, 3RD & 4TH FLOORS ELASTOMERIC COATING OVER LT. WT. CONCRETE FILL W/SLOPE @ 1/4"/FT. SLOPE FROM SLIDING DOOR THRESHOLD TO OUTSIDE EDGE OF DECK. PROVIDE 1/4" MAX. DROP FROM DOOR THRESHOLD TO FINISH SURFACE OF DECK.
15. RECESSED 14" X 24" MEDICINE CABINET BY JENSEN INSTALLED 48" MAX. ABOVE FIN. FLR.
16. SHELF & POLE - PROVIDE BACKING STUDS AT EACH CLOSET.
17. UNDERCOUNTER LAVATORY MODEL NO. LT566 BY TOTO. FOR FUTURE ACCESSIBLE USE THIS CABINET MUST BE REMOVABLE TO COMPLY W/ CABOV ANSI A117.1-1992, SECTION 4.20.
18. DISABLED ACCESS WATER CLOSET W/ 1.6 GPF: CADET BY AMERICAN STANDARD.
19. DASHED LINES INDICATE 6" WIDE X 18 GAGE METAL BACKING 34" ABOVE FINISH FLOOR FOR GRAB BARS.
20. INTERMEDIATE RAILINGS OF HANDRAILS MUST BE SPACED SUCH THAT A 4" (102MM) SPHERE CAN NOT PASS THROUGH ANY PORTION OF THE RAILING. A 6" (152MM) SPACE IS ALLOWED AT THE TRIANGULAR SPACE BETWEEN THE RISER, THREAD AND BOTTOM RAIL. PER UBC SECTION1006.9 AND 509.3 PROVIDE 1 1/2" (32MM) TO 2" (51MM) HANDGRIP 1 1/2"(38MM) FROM WALL.
21. WATER CLOSET W/ 1.6 GPF: MS836118 ONE PIECE TOILET BY TOTO.
22. 6" PLUMBING WALL. SEE ARCHITECTURAL DETAILS.
23. OMITTED.
24. FIBERGLASS ONE PIECE SHOWER STALL W/ TEMPERED GLASS ENCLOSURE HINGED DOOR.
25. 4" THICK CONCRETE PAD AT 1ST FLOOR LANAI AREA(S) WITH 1/4"/FT. SLOPE TO OUTSIDE EDGE OF LANAI FROM DOOR THRESHOLD. MAX. 1/4" DROP FROM DOOR THRESHOLD TO TOP OF LANDING.
26. 26" GRAB BAR. PROVIDE BACKING: DASH LINE INDICATES 6" WIDE X 18 GA. SHT. METAL BACKING AT 34" ABOVE FINISH FLOOR ELEVATION.
27. 42" GRAB BAR. PROVIDE BACKING: DASH LINE INDICATES 6" WIDE X 18 GA. SHT. METAL BACKING AT 34" ABOVE FINISH FLOOR ELEVATION.
28. DISHWASHER: STAINLESS STEEL MODEL NO. GLD2250ROC BY FRIGIDAIRE.
29. HATCHED LINE INDICATES 26" WIDE X 34" HIGH 20 GA. SHT. METAL PANEL SPANNING BETWEEN 2 STUDS MINIMUM. METAL PANEL IS PLACED ON STUDS BEHIND THE RECESSED ELECTRICAL SUB-PANEL OPENING. ATTACH ELECTRICAL SUB-PANEL TO THE 20 GA. METAL PANEL. SEE ELECTRICAL PLANS.
30. WASHER / DRYER SPACE. PROVIDE COMPLETE WASHER HOOK-UP WITH RECESSED WATER OUTLETS. PROVIDE ELECTRICAL CONNECTION FOR DRYER WITH 4" DIA. DRYER VENT TO OUTSIDE AIR. 14 FT. MAX. LENGTH WITH TWO BENDS, G.I. SHEET METAL WALL CAP WITH BACKDRAFT DAMPER.
31. DISABLED ACCESS TUB/SHOWER/WALL SURROUND COMBINATION BY FLORESTONE PRODUCTS.
32. 60" DIAMETER ACCESS CIRCLE.
33. PEDESTAL LAVATORY. SEE OWNER FOR SPEC.



TYPE 2
UNIT FLOOR PLAN

1/4" = 1'-0"



TYPE 1
UNIT FLOOR PLAN - H.C. ACCESSIBLE UNIT PER 1997 U.B.C.

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LESLIE LIPPICH ARCHITECT — EXP. DATE

SHEET TITLE: UNIT FLOOR PLANS

JOB NO : 2660
DATE : 08-15-2011
DRAWN :

REVISIONS

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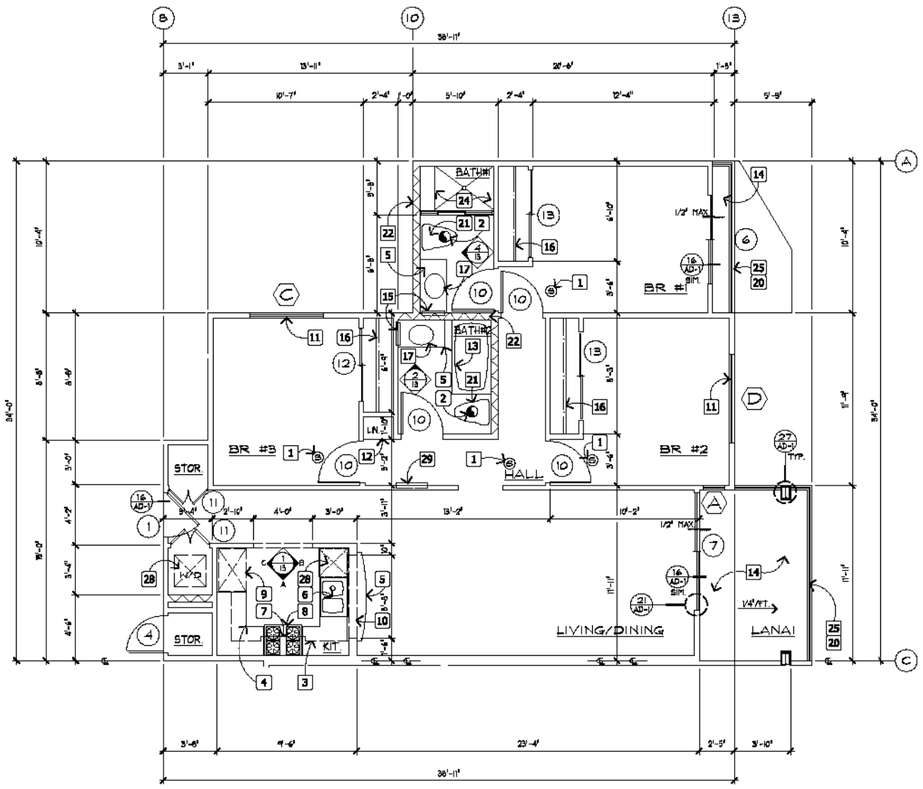
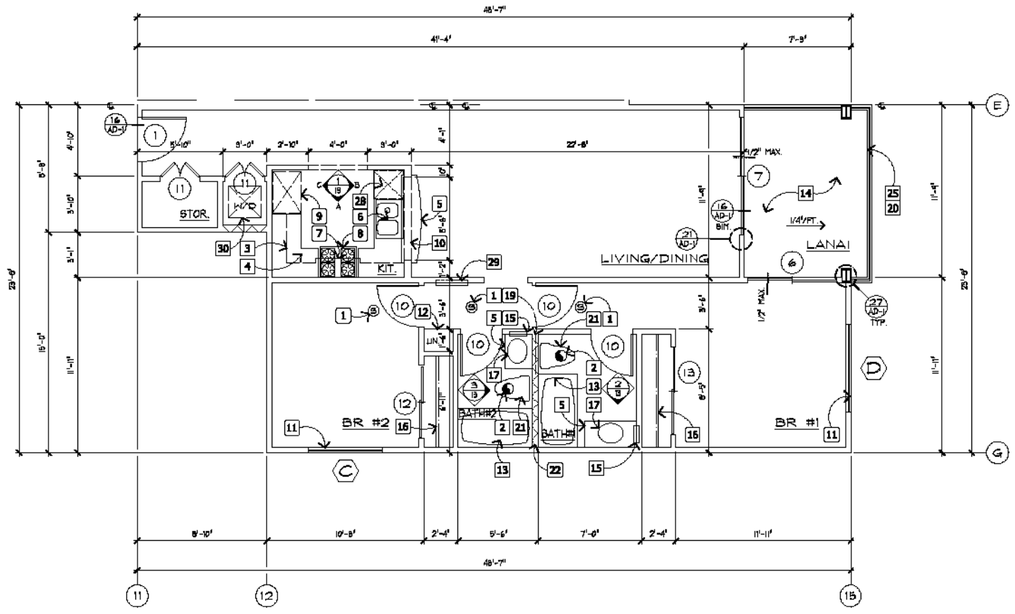
SHEET NO
7



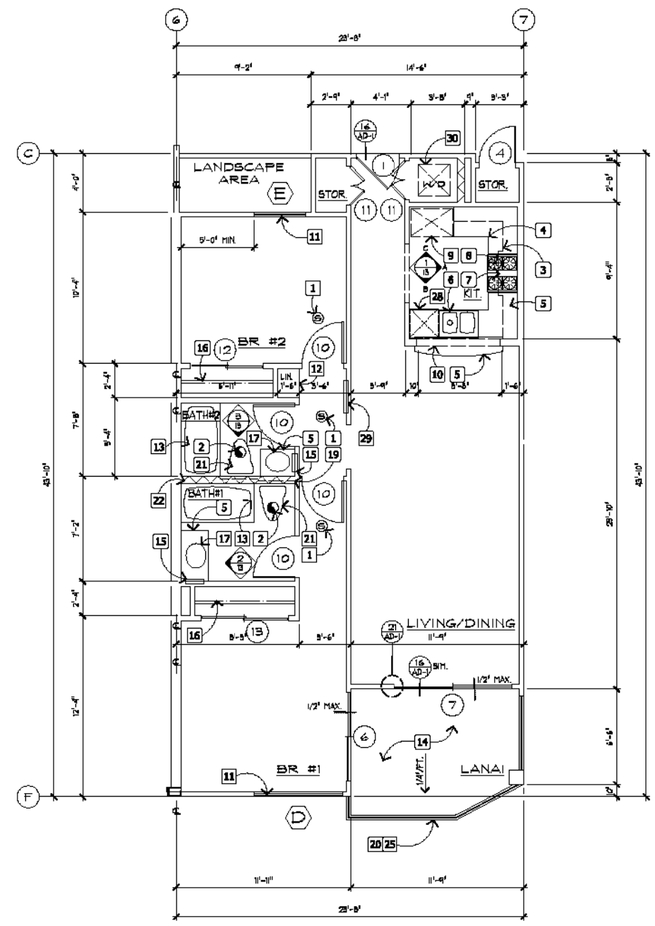
TYPE 5
UNIT FLOOR PLAN

1/4" = 1'-0"



TYPE 4
UNIT FLOOR PLAN

1/4" = 1'-0"



TYPE 3
UNIT FLOOR PLAN

1/4" = 1'-0"

UNIT FLOOR PLAN NOTES

1. PROVIDE STATE FIRE MARSHALL APPROVED, INTERCONNECTED HARDWIRED SMOKE DETECTORS, AS REQUIRED PER UBC 310.9.1 IN HALLWAYS AND SLEEPING ROOMS.
2. CEILING MOUNTED EXHAUST FAN VENTED TO OUTSIDE AIR WITH A MINIMUM OF FIVE AIR CHANGES PER HOUR.
3. BUILT-IN UPPER CABINETS. SEE INTERIOR ELEVATIONS.
4. BUILT-IN BASE CABINETS. SEE INTERIOR ELEVATIONS.
5. PREFAB/CAST GRANITE COUNTERTOP.
6. 23 GA. STAINLESS STEEL FACEHANGER, DOUBLE BOWL SINK BY ELKAY, MODEL PSR3322 WITH BADGER 3 FOOD WASTE DISPOSER BY INSINKERATOR.
7. STAINLESS STEEL ELECTRIC RANGE WITH OVEN: FRIDGIDAIRE MODEL NO. PLES8950C.
8. STAINLESS STEEL VENTLESS FAN AND MICROWAVE OVEN: FRIGIDAIRE MODEL NO. PLMV168ADC
9. STAINLESS STEEL REFRIGERATOR: FRIGIDAIRE MODEL FRS26KF2GB3.
10. TOP OF WALL BEHIND BASE CABINET IS 2'-9" ABOVE FINISH FLOOR, TYPICAL UNLESS NOTED OTHERWISE.
11. WINDOW PROVIDING SECONDARY MEANS OF EGRESS FROM SLEEPING ROOM. MAX. SILL HEIGHT TO BE 44" FROM FLOOR AND MIN. OPENING SIZE TO BE 20" WIDE X 24" HIGH WITH MAX. AREA OF 5.7 SQ.FT.
12. BUILT-IN LINEN CABINETS. SEE INTERIOR ELEVATIONS.
13. BATHTUB: PRINCETON RECESS BATH BY AMERICAN STANDARD.
14. BALCONY DECKING: @ 2ND, 3RD & 4TH FLOORS ELASTOMERIC COATING OVER LT. WT. CONCRETE FILL. W/SLOPE @ 1/4"/FT. SLOPE FROM SLIDING DOOR THRESHOLD TO OUTSIDE EDGE OF DECK. PROVIDE 1/4" MAX. DROP FROM DOOR THRESHOLD TO FINISH SURFACE OF DECK.
15. RECESSED 14" X 24" MEDICINE CABINET BY JENSEN INSTALLED 48" MAX. ABOVE FIN. FLR.
16. SHELF & POLE - PROVIDE BACKING STUDS AT EACH CLOSET.
17. UNDERCOUNTER LAVATORY MODEL NO. LT366 BY TOTO. FOR FUTURE ACCESSIBLE USE THIS CABINET MUST BE REMOVABLE TO COMPLY W/ CABO/ ANSI A117.1-1992, SECTION 4.20.
18. DISABLED ACCESS WATER CLOSET W/ 1.6 GPF: CADET BY AMERICAN STANDARD.
19. DASHED LINES INDICATE 6" WIDE X 18 GAGE METAL BACKING 34" ABOVE FINISH FLOOR FOR GRAB BARS.
20. INTERMEDIATE RAILINGS OF HANDRAILS MUST BE SPACED SUCH THAT A 4" (102MM) SPHERE CAN NOT PASS THROUGH ANY PORTION OF THE RAILING. A 8" (152MM) SPACE IS ALLOWED AT THE TRIANGULAR SPACE BETWEEN THE RISER, THREAD AND BOTTOM RAIL. PER UBC SECTION1006.9 AND 509.3 PROVIDE 1 1/2" (32MM) TO 2" (51MM) HANDGRIP 1 1/2"(38MM) FROM WALL.
21. WATER CLOSET W/ 1.6 GPF: MS836113.8 ONE PIECE TOILET BY TOTO.
22. 6" PLUMBING WALL. SEE ARCHITECTURAL DETAILS.
23. OMITTED.
24. FIBERGLASS ONE PIECE SHOWER STALL W/ TEMPERED GLASS ENCLOSURE HINGED DOOR.
25. 4" THICK CONCRETE PAD AT 1ST FLOOR LANAI AREA(S) WITH 1/4"/FT. SLOPE TO OUTSIDE EDGE OF LANAI FROM DOOR THRESHOLD. MAX. 1/4" DROP FROM DOOR THRESHOLD TO TOP OF LANDING.
26. 26" GRAB BAR. PROVIDE BACKING. DASH LINE INDICATES 6" WIDE X 18 GA. SHT. METAL BACKING AT 34" ABOVE FINISH FLOOR ELEVATION.
27. 42" GRAB BAR. PROVIDE BACKING: DASH LINE INDICATES 6" WIDE X 18 GA. SHT. METAL BACKING AT 34" ABOVE FINISH FLOOR ELEVATION.
28. DISHWASHER: STAINLESS STEEL MODEL NO. GLD2550ROC BY FRIGIDAIRE.
29. HATCHED LINE INDICATES 26" WIDE X 24" HIGH 20 GA. SHT. METAL PANEL SPANNING BETWEEN 2 STUDS MINIMUM. METAL PANEL IS PLACED ON STUDS BEHIND THE RECESSED ELECTRICAL SUB-PANEL OPENING. ATTACH ELECTRICAL SUB-PANEL TO THE 20 GA. METAL PANEL. SEE ELECTRICAL PLANS.
30. WASHER / DRYER SPACE. PROVIDE COMPLETE WASHER HOOK-UP WITH RECESSED WATER OUTLETS. PROVIDE ELECTRICAL CONNECTION FOR DRYER WITH 4" DIA. DRYER VENT TO OUTSIDE AIR. 14 FT. MAX. LENGTH WITH TWO BENDS, G.I. SHEET METAL WALL CAP WITH BACKDRAFT DAMPER.
31. DISABLED ACCESS TUB/SHOWER/WALL SURROUND COMBINATION BY FLORESTONE PRODUCTS.
32. 60" DIAMETER ACCESS CIRCLE.
33. PEDESTAL LAVATORY. SEE OWNER FOR SPEC.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — DATE

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SHEET TITLE: UNIT FLOOR PLANS

JOB NO : 2680
DATE : 05-15-2011
DRAWN :

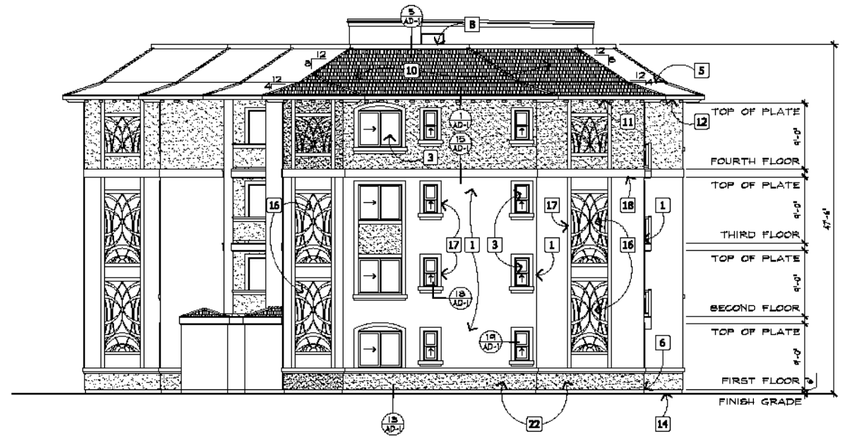
REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
8

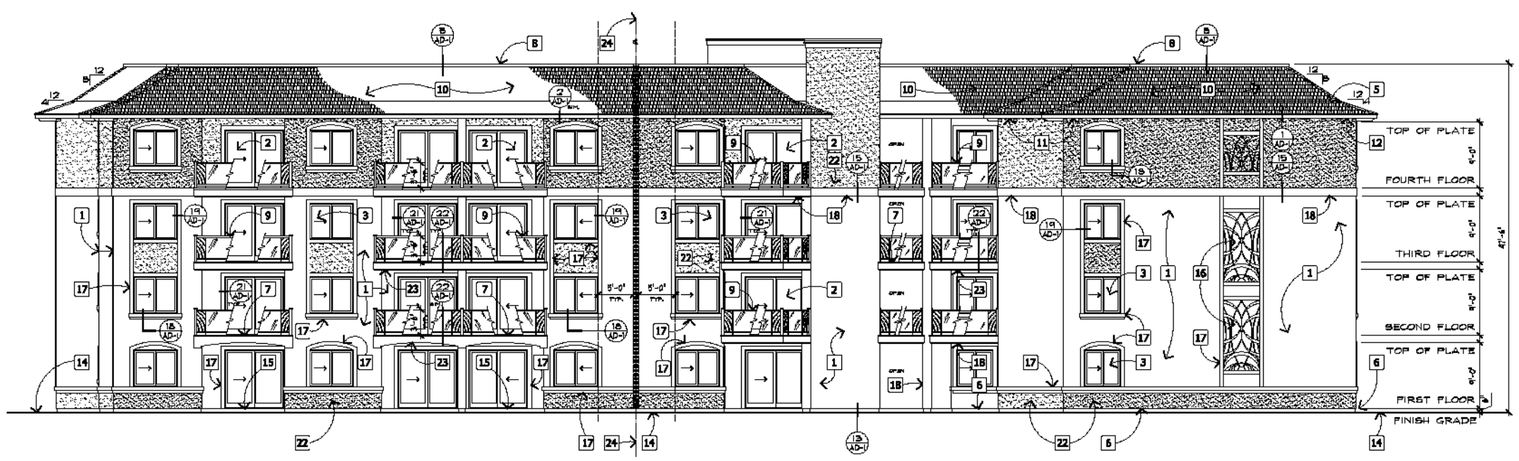
ELEVATION NOTES

1. DRYVIT ACRYLIC PLASTER SAND FINISH OVER DRYVIT SYSTEM BASE MATERIAL.
2. VINYL SLIDING GLASS DOORS BY "INTERNATIONAL WINDOW CORPORATION".
3. VINYL WINDOWS BY "INTERNATIONAL WINDOW CORPORATION".
4. FIBERGLASS FOUR PANEL DOOR IN GALVANIZED HOLLOW METAL FRAME BY STEELCRAFT.
5. LINE OF PITCH BREAK. SEE ROOF PLAN.
6. CONTINUOUS VINYL SCREED TYPICAL AT PERIMETER OF BUILDING AT 1ST FLOOR SLAB.
7. ELASTOMERIC DECK OVER 1 ½" LT. WT. CONCRETE FLOOR FILL & CDX EXT. PLYWOOD @ BALCONIES, TYPICAL. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. "DECK-O-TEX" WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. T.C.R.O. NO. 1238 OR EQUAL.
8. COMPOSITION RIDGE CAP. SEE ARCHITECTURAL DETAIL.
9. MINIMUM 3'-6" HIGH AT RAILING AND BALUSTERS.
10. COMPOSITION SHINGLE ROOF. SEE ROOF PLAN FOR SPECIFICATION.
11. 6" x ¾" HARDITRIM "CLD" EAVE BOARD, SMOOTH FINISH. I.C.B.O. NO. ER-5735
12. CORBEL TRIM: 4" SQUARE REDWOOD W/ END CAP.
13. THESE VENTS PLUS SOFFIT VENTS SHALL PROVIDE A TOTAL VENTILATION AREA OF AT LEAST 1/150 OF THE ATTIC AREA INTO WHICH THEY OPEN.
14. SEE CIVIL PLANS FOR FINISH GRADES.
15. 4" THK. CONCRETE SLAB @ EXTERIOR WALKWAYS & LANAI'S @ FIRST FLOOR. SEE CIVIL PLANS FOR CONNECTIONS TO SIDEWALKS.
16. ANNODIZED METAL SCREEN OFFSET FROM DRYVIT FINISH.
17. 6" HARDI TRIM, SMOOTH FINISH.
18. 12" HARDI TRIM, SMOOTH FINISH.
19. LINE OF WINDOW (OR DOOR) BEYOND.
20. G.I. SHEET METAL VENTILATION ROOF CAP FOR TRASH CHUTE BELOW.
21. METAL DOORS AT ELECTRICAL & TRASH ROOMS. SEE DOOR SCHEDULE.
22. PATTERN INDICATES DIFFERENT FINISH COLOR. SEE OWNER FOR SPECIFICATIONS.
23. 4' X 8' NON-VENTED SMOOTH SOFFIT PANELS BY JAMES HARDIE, INC.
24. 2 HR. AREA SEPARATION WALL. EXTEND INTO ENCLOSED SPACES OF FLOORS & ENCLOSED SPACES OF ROOF AND EAVE. SEE FLOOR PLANS



LEFT SIDE ELEVATION **B**

1/8" = 1'-0"



FRONT ELEVATION **A**

1/8" = 1'-0"

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — DATE

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SHEET TITLE: EXTERIOR ELEVATIONS

JOB NO :	2680
DATE :	08-15-2011
DRAWN :	

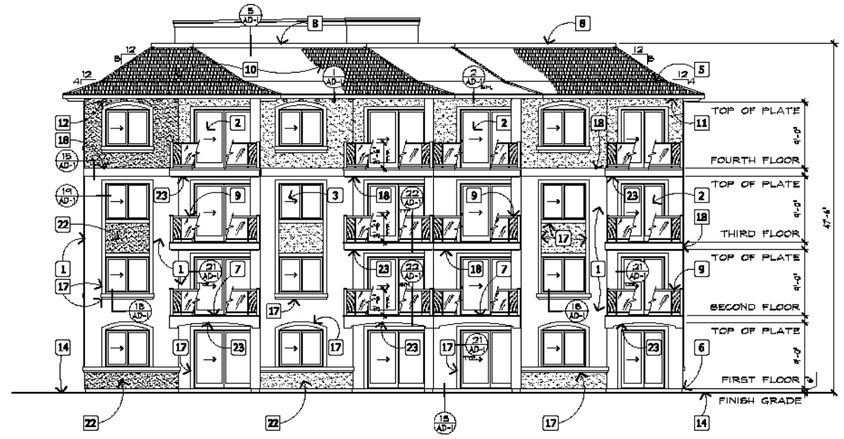
REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
9

ELEVATION NOTES

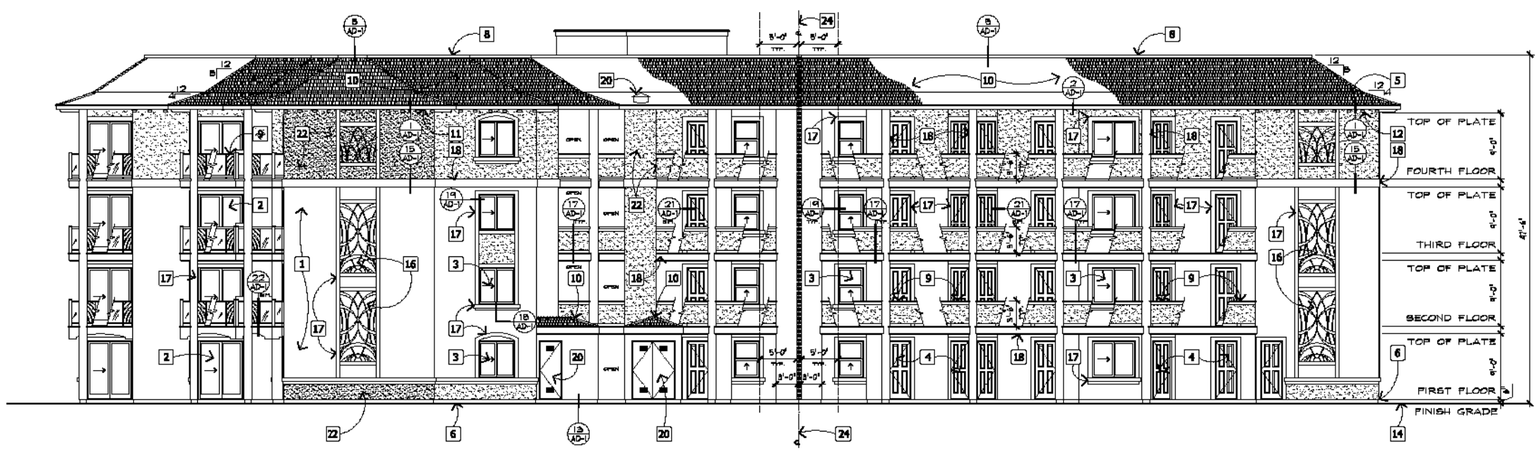
1. DRYVIT ACRYLIC PLASTER SAND FINISH OVER DRYVIT SYSTEM BASE MATERIAL.
2. VINYL SLIDING GLASS DOORS BY "INTERNATIONAL WINDOW CORPORATION".
3. VINYL WINDOWS BY "INTERNATIONAL WINDOW CORPORATION".
4. FIBERGLASS FOUR PANEL DOOR IN GALVANIZED HOLLOW METAL FRAME BY STEELCRAFT.
5. LINE OF PITCH BREAK. SEE ROOF PLAN.
6. CONTINUOUS VINYL SCREED TYPICAL AT PERIMETER OF BUILDING AT 1ST FLOOR SLAB.
7. ELASTOMERIC DECK OVER 1 ½" LT. WT. CONCRETE FLOOR FILL & CDX EXT. PLYWOOD @ BALCONIES, TYPICAL. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. "DECK-O-TEK" WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. T.C.R.O. NO. 1238 OR EQUAL.
8. COMPOSITION RIDGE CAP. SEE ARCHITECTURAL DETAIL.
9. MINIMUM 3'-6" HIGH AT RAILING AND BALUSTERS.
10. COMPOSITION SHINGLE ROOF. SEE ROOF PLAN FOR SPECIFICATION.
11. 6" x 5/4" HARDITRIM "CLD" EAVE BOARD, SMOOTH FINISH. I.C.B.O. NO. ER-5735
12. CORBEL TRIM: 4" SQUARE REDWOOD W/ END CAP.
13. THESE VENTS PLUS SOFFIT VENTS SHALL PROVIDE A TOTAL VENTILATION AREA OF AT LEAST 1/150 OF THE ATTIC AREA INTO WHICH THEY OPEN.
14. SEE CIVIL PLANS FOR FINISH GRADES.
15. 4" THK. CONCRETE SLAB @ EXTERIOR WALKWAYS & LANAI'S @ FIRST FLOOR. SEE CIVIL PLANS FOR CONNECTIONS TO SIDEWALKS.
16. ANNODIZED METAL SCREEN OFFSET FROM DRYVIT FINISH.
17. 6" HARDI TRIM, SMOOTH FINISH.
18. 12" HARDI TRIM, SMOOTH FINISH.
19. LINE OF WINDOW (OR DOOR) BEYOND.
20. G.I. SHEET METAL VENTILATION ROOF CAP FOR TRASH CHUTE BELOW.
21. METAL DOORS AT ELECTRICAL & TRASH ROOMS. SEE DOOR SCHEDULE.
22. PATTERN INDICATES DIFFERENT FINISH COLOR. SEE OWNER FOR SPECIFICATIONS.
23. 4' X 8' NON-VENTED SMOOTH SOFFIT PANELS BY JAMES HARDIE, INC.
24. 2 HR. AREA SEPARATION WALL. EXTEND INTO ENCLOSED SPACES OF FLOORS & ENCLOSED SPACES OF ROOF AND EAVE. SEE FLOOR PLANS.



LEFT SIDE ELEVATION — D

1/8" = 1'-0"

0 4' 8' 12' 20'



REAR ELEVATION — C

1/8" = 1'-0"

0 4' 8' 12' 20'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
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SHEET TITLE: EXTERIOR ELEVATIONS

JOB NO :	2680
DATE :	08-15-2011
DRAWN :	

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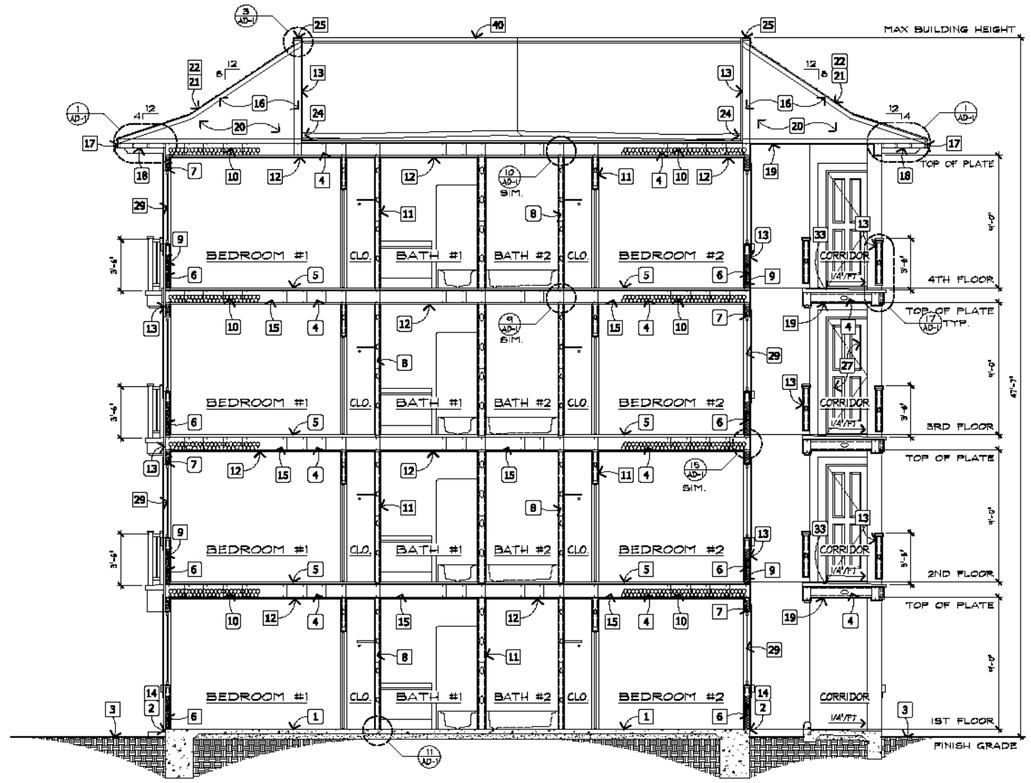
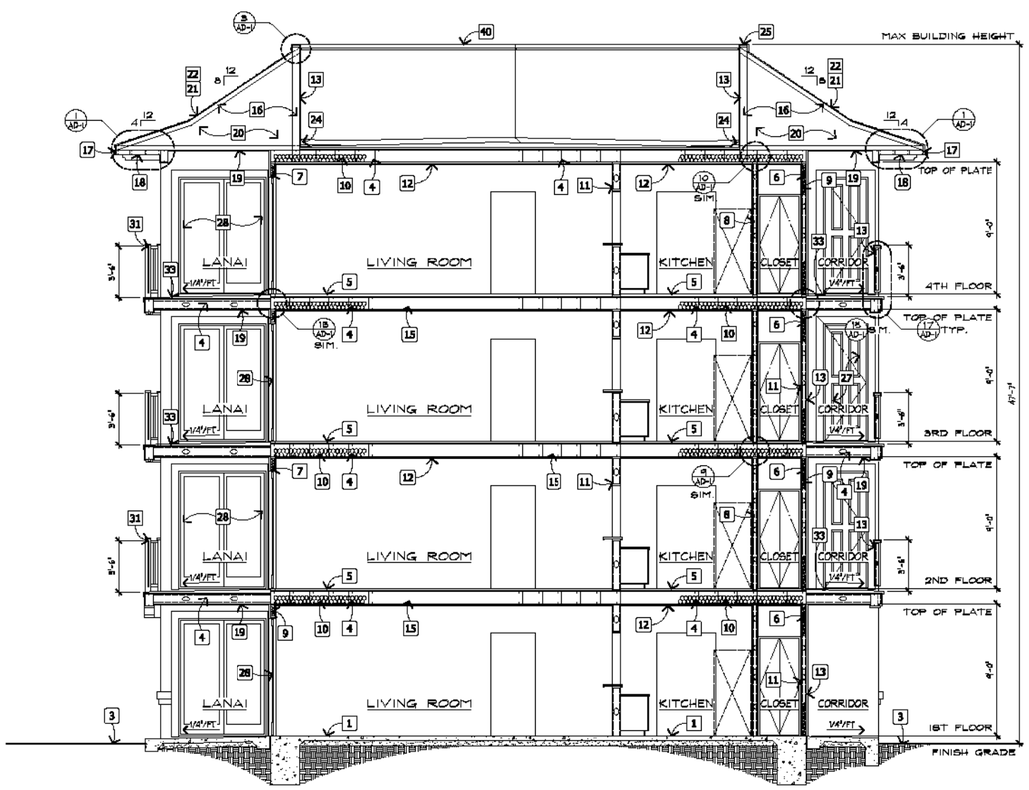
Wailuku, Maui, Hawaii

SHEET NO
10



SECTION "B"

1/4" = 1'-0"



SECTION "A"

1/4" = 1'-0"

SECTION NOTES

1. TYPICAL THROUGHOUT AT FIRST FLOOR LEVEL. 4" CONCRETE SLAB. SEE FOUNDATION PLAN FOR REINFORCING, CONCRETE PADS AND WATERPROOF MEMBRANE.
2. MINIMUM 8" CLEAR FROM TOP OF SLAB TO FINISH GRADE.
3. ADJACENT NATURAL GRADE.
4. METAL FLOOR JOISTS. SEE FRAMING PLANS FOR SIZING, SPACING AND DETAILS.
5. 1½" PERLITE-SAND CONCRETE REINFORCED W/NO. 20 SWG GALVANIZED HEXAGONAL WIRE MESH OVER ½" (REF. ⅝/U) UNDERLAYMENT GRADE PLYWOOD OR OSB. SEE STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
6. 3⅝" 18 GA METAL STUDS AT 24" O.C. AT EXTERIOR WALLS. SEE FRAMING PLANS FOR SIZES AND SPECIAL REQUIREMENTS.
7. METAL STUD HEADERS, TYPICAL AT FRAMED OPENINGS. SEE FRAMING PLANS FOR SIZE AND DETAILS.
8. NON-BEARING INTERIOR PARTITIONS: 3 ½"-20 GA METAL STUDS AT 24" O.C. UNLESS NOTED OTHERWISE.
9. R13 BATT INSULATION AT EXTERIOR WALLS & DEMISING WALLS.
10. R19 BATT INSULATION AT ROOF & CEILING BETWEEN FLOORS WITH VAPOR BARRIER AT WARM SIDE.
11. ⅝" TYPE 'X' GYPSUM BOARD, TYPICAL THROUGHOUT AT WALLS. SEE ARCHITECTURAL DETAILS.
12. ⅝" TYPE 'X' GYPSUM BOARD OVER FURRING STRIPS, TYPICAL AT CEILINGS. SEE ARCHITECTURAL DETAILS.
13. STO ACRYLIC PLASTER SAND FINISH OVER STO SYSTEM BASE MATERIAL.
14. CONTINUOUS VINYL SCREED TYPICAL AT PERIMETER OF BUILDING AT 1ST FLOOR SLAB LINE.
15. WALLS AND FLOORS SEPARATING DWELLING UNITS IN THE SAME BUILDING, SHALL NOT BE OF LESS THAN ONE HOUR FIRE-RESISTIVE CONSTRUCTION.
16. METAL ROOF TRUSSES. SEE FRAMING PLANS FOR SIZE, SPACING, DIRECTION AND DETAILS.
17. 8" X ⅞" HARDITRIM "OLD EAVE BOARD, SMOOTH FINISH.
18. ⅞" THK. WEATHERBOARD SMOOTH VENTILATED SOFFIT.
19. 4' X 8' NON-VENTED SMOOTH SOFFIT PANELS BY JAMES HARDIE, INC.
20. ATTIC SPACE. SEE ROOF PLAN FOR VENTILATION REQUIREMENTS.
21. ROOF SHEATHING: ½" OSB ROOF SHEATHING U.N.O. SEE ROOF FRAMING PLAN FOR SPECIFICATIONS AND NAILING.
22. COMPOSITION SHINGLE ROOF. SEE ROOF PLAN.
23. SHEET METAL VALLEY FLASHING, TYPICAL.
24. CANT STRIP CONTINUOUS AT PARAPET WALLS, TYPICAL.
25. G.I. SHEET METAL CAP.
26. INTERIOR DOORS SHALL BE 1 ⅜" HOLLOW CORE FIBERCRETE. SEE DOOR SCHEDULE.
27. EXTERIOR METAL DOOR. SEE DOOR SCHEDULE.
28. EXTERIOR VINYL SLIDING GLASS DOOR, BY "INTERNATIONAL WINDOW CORP". SEE EXTERIOR ELEVATIONS AND DOOR SCHEDULE.
29. VINYL WINDOWS BY "INTERNATIONAL WINDOW CORPORATION", TYPICAL. SEE WINDOW SCHEDULE.
30. 2" CONCRETE FILL @ METAL PAN STAIR TREADS. SEE SHOP DRAWINGS BY STAIR MFGR.
31. MINIMUM 3'-6" HIGH METAL RAILING & BALUSTERS.
32. OMITTED.
33. ELASTOMERIC DECK OVER LT. WT. CONCRETE. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. "DEX-O-TEX" WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. I.C.B.O. NO. 1336. OR EQUAL.
34. "LIQUID BOOT" WATERPROOFING MATERIAL.
35. 12" GRAVEL POCKET WITH 4" DIA. PERFORATED PVC PIPE AT CENTER.
36. STAIR RAILING: MAX. 3'-2" MIN. 2'-10" RAILING HEIGHT ABOVE TREAD NOSING AT STAIRS, MINIMUM 3'-6" RAILING HEIGHT ABOVE FLOOR AT LANDING.
37. ELEVATOR CAB. SEE ELEVATOR SHOP DRAWINGS.
38. ELEVATOR SHAFT WALL. SEE ARCH. DETAILS.
39. WIDE FLANGE STEEL HOIST BEAM. SEE STRUCTURAL DRAWINGS.
40. LINE OF PARAPET BEYOND.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — EXP. DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
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SHEET TITLE: BUILDING SECTIONS

JOB NO : 2680
DATE : 05-15-2011
DRAWN :

REVISIONS

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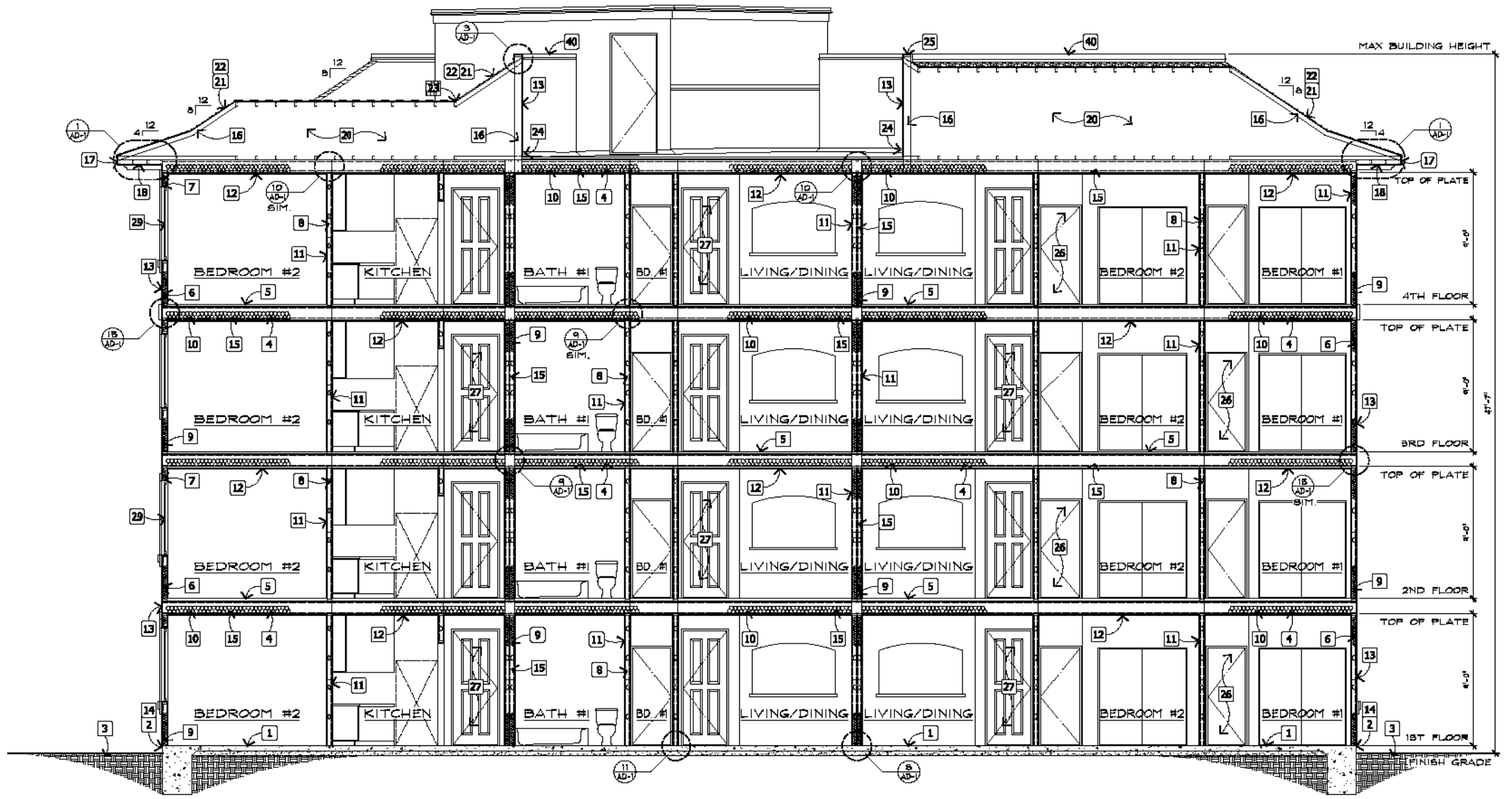
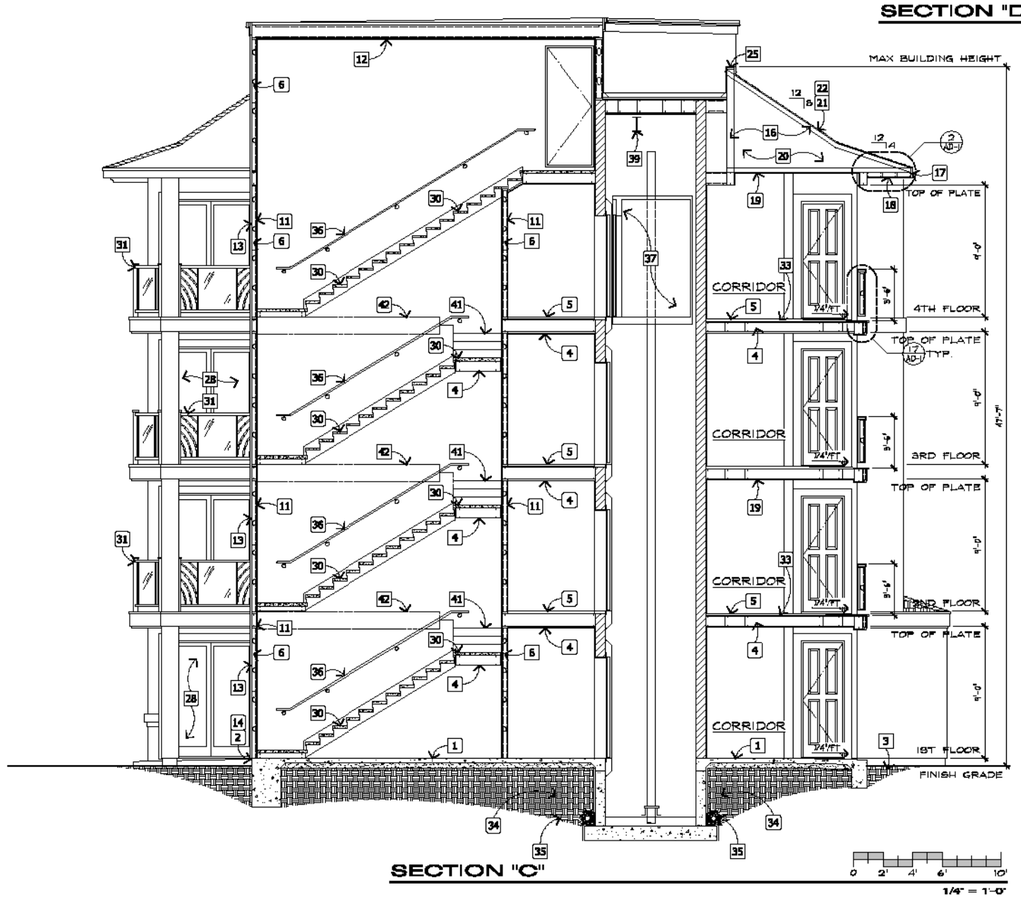
SHEET NO
11



SECTION "D"

1/4" = 1'-0"



SECTION "C"

1/4" = 1'-0"

SECTION NOTES

1. TYPICAL THROUGHOUT AT FIRST FLOOR LEVEL: 4" CONCRETE SLAB. SEE FOUNDATION PLAN FOR REINFORCING, CONCRETE PADS AND WATERPROOF MEMBRANE.
2. MINIMUM 6" CLEAR FROM TOP OF SLAB TO FINISH GRADE.
3. ADJACENT NATURAL GRADE.
4. METAL FLOOR JOISTS. SEE FRAMING PLANS FOR SIZING, SPACING AND DETAILS.
5. 1½" PERLITE-SAND CONCRETE REINFORCED W/NO. 20 SWG GALVANIZED HEXAGONAL WIRE MESH OVER ¾" (FOR ¾" U/L) UNDERLAYMENT GRADE PLYWOOD OR OSB. SEE STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
6. 3⅝"-18 GA METAL STUDS AT 24" O.C. AT EXTERIOR WALLS. SEE FRAMING PLANS FOR SIZES AND SPECIAL REQUIREMENTS.
7. METAL STUD HEADERS, TYPICAL AT FRAMED OPENINGS. SEE FRAMING PLANS FOR SIZE AND DETAILS.
8. NON-BEARING INTERIOR PARTITIONS: 3 ½"-20 GA METAL STUDS AT 24" O.C. UNLESS NOTED OTHERWISE.
9. R13 BATT INSULATION AT EXTERIOR WALLS & DEMISING WALLS.
10. R19 BATT INSULATION AT ROOF & CEILING BETWEEN FLOORS WITH VAPOR BARRIER AT WARM SIDE.
11. ⅝" TYPE 'X' GYPSUM BOARD, TYPICAL THROUGHOUT AT WALLS. SEE ARCHITECTURAL DETAILS.
12. ⅝" TYPE 'X' GYPSUM BOARD OVER FURRING STRIPS, TYPICAL AT CEILINGS. SEE ARCHITECTURAL DETAILS.
13. STO ACRYLIC PLASTER SAND FINISH OVER STO SYSTEM BASE MATERIAL.
14. CONTINUOUS VINYL SCREED TYPICAL AT PERIMETER OF BUILDING AT 1ST FLOOR SLAB LINE.
15. WALLS AND FLOORS SEPARATING DWELLING UNITS IN THE SAME BUILDING, SHALL NOT BE OF LESS THAN ONE-HOUR FIRE-RESISTIVE CONSTRUCTION.
16. METAL ROOF TRUSSES. SEE FRAMING PLANS FOR SIZE, SPACING, DIRECTION AND DETAILS.
17. 8" X ⅝" HARDITRIM "OLD" EAVE BOARD, SMOOTH FINISH.
18. ⅝" THK. WEATHERBOARD SMOOTH VENTILATED SOFFIT.
19. 4' X 8' NON-VENTED SMOOTH SOFFIT PANELS BY JAMES HARDIE, INC.
20. ATTIC SPACE. SEE ROOF PLAN FOR VENTILATION REQUIREMENTS.
21. ROOF SHEATHING: ⅝" OSB ROOF SHEATHING U.N.O. SEE ROOF FRAMING PLAN FOR SPECIFICATIONS AND NAILING.
22. COMPOSITION SHINGLE ROOF. SEE ROOF PLAN.
23. SHEET METAL VALLEY FLASHING, TYPICAL.
24. CANT STRIP CONTINUOUS AT PARAPET WALLS, TYPICAL.
25. G.I. SHEET METAL CAP.
26. INTERIOR DOORS SHALL BE 1 ⅜" HOLLOW CORE MASONITE. SEE DOOR SCHEDULE.
27. EXTERIOR METAL DOOR. SEE DOOR SCHEDULE.
28. EXTERIOR VINYL SLIDING GLASS DOOR, BY "INTERNATIONAL WINDOW CORP". SEE EXTERIOR ELEVATIONS AND DOOR SCHEDULE.
29. VINYL WINDOWS BY "INTERNATIONAL WINDOW CORPORATION", TYPICAL. SEE WINDOW SCHEDULE.
30. 2" CONCRETE FILL @ METAL PAN STAIR TREADS. SEE SHOP DRAWINGS BY STAIR MFGR.
31. MINIMUM 3'-6" HIGH METAL RAILING & BALUSTERS.
32. OMITTED.
33. ELASTOMERIC DECK OVER LT. WT. CONCRETE. INSTALL WITH ALL REQUIRED FLASHING AND TRIM. "DEK-O-TEX" WEATHER WEAR, CLASS 'A' FIRE RETARDANT ROOF RATING. I.C.B.O. NO. 1338. OR EQUAL.
34. "LIQUID BOOT" WATERPROOFING MATERIAL.
35. 12" GRAVEL POCKET WITH 4" DIA. PERFORATED PVC PIPE AT CENTER.
36. STAIR RAILING: MAX. 3'-2" MIN. 2'-10" RAILING HEIGHT ABOVE TREAD NOSING AT STAIRS, MINIMUM 3'-6" RAILING HEIGHT ABOVE FLOOR AT LANDING.
37. ELEVATOR CAB. SEE ELEVATOR SHOP DRAWINGS.
38. ELEVATOR SHAFT WALL. SEE ARCH. DETAILS.
39. WIDE FLANGE STEEL HOIST BEAM. SEE STRUCTURAL DRAWINGS.
40. LINE OF PARAPET BEYOND.
41. RISERS IN FOREGROUND.
42. LANDING IN FOREGROUND.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

LESLIE LIPPICH ARCHITECT — DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE DESIGN PLANNING
PHONE (818) 591-2655 FAX (818) 591-2729 E-MAIL lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

SHEET TITLE: BUILDING SECTIONS

JOB NO.	2680
DATE	08-15-2011
DRAWN	

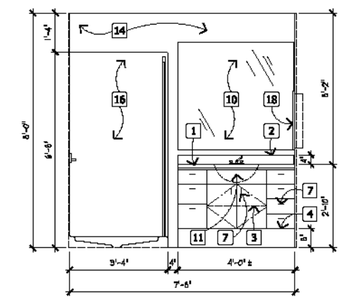
REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

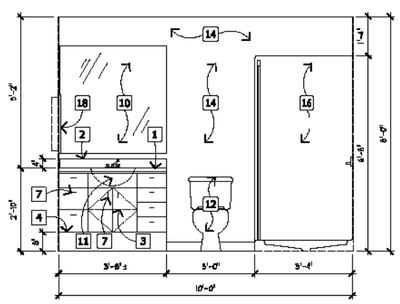
SHEET NO
12

INTERIOR ELEV. NOTES

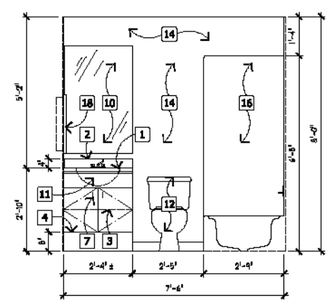
1. CHINESE GRANITE COUNTER TOP.
2. 4" HIGH CHINESE GRANITE BACK SPLASH.
3. ADJUSTABLE SHELVING, TYP.
4. 6" HIGH TOE KICK.
5. COMBINATION MICROWAVE/ VENT HOOD.
6. DISHWASHER.
7. CABINET DOOR/ DRAWER WITH PULLS.
8. POT/ PAN DRAWERS WITH PULLS.
9. KITCHEN SINK.
10. ¼" THICK CLEAR MIRROR.
11. LAVATORY.
12. WATER CLOSET.
13. REFRIGERATOR SPACE WITH WATER HOOKUP FOR ICE MAKER.
14. SEMI-GLOSS PAINT FINISH OVER LIGHT TEXTURED DRYWALL FINISH.
15. ONE PIECE SHOWER AND WALL SURROUND WITH TEMPERED GLASS SHOWER ENCLOSURE.
16. ONE PIECE TUB AND WALL SURROUND.
17. ELECTRIC STOVE/ OVEN.
18. RECESSED MEDICINE CABINET.
19. 4" HIGH TOE KICK.



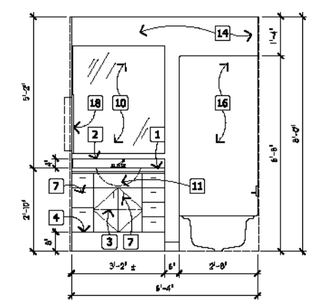
5 BATHROOM 1/2" = 1'-0"



4 BATHROOM 1/2" = 1'-0"

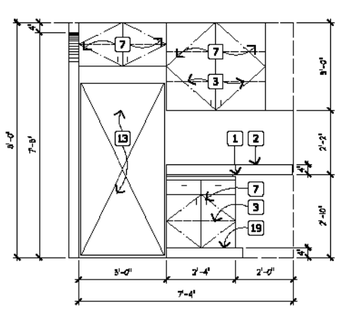


3 BATHROOM 1/2" = 1'-0"

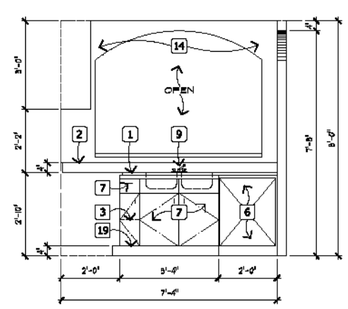


2 BATHROOM 1/2" = 1'-0"

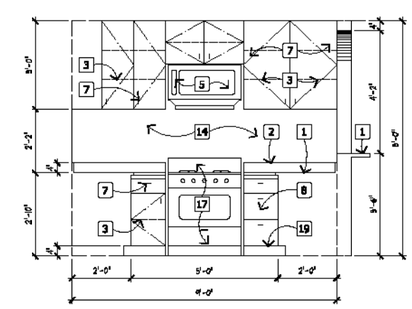
***NOTE: CABINET MANUFACTURER SHALL VERIFY FIELD DIMENSIONS PRIOR TO FABRICATION & INSTALLATION.**



1C KITCHEN 1/2" = 1'-0"



1B KITCHEN 1/2" = 1'-0"



1A KITCHEN 1/2" = 1'-0"

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LESLIE LIPPICH ARCHITECT — DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE DESIGN PLANNING
PHONE (818) 591 - 2655 FAX (818) 591 - 2729 E-MAIL lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

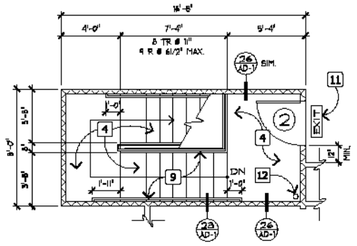
SHEET TITLE: INTERIOR ELEVATIONS

JOB NO :	2680
DATE :	06-15-2011
DRAWN :	

REVISIONS

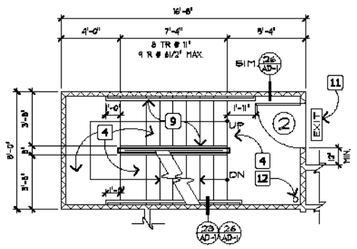
IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
13



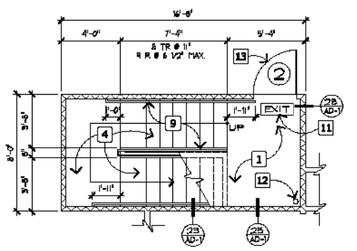
FOURTH FLOOR STAIR #2 — 5

1/4" = 1'-0"



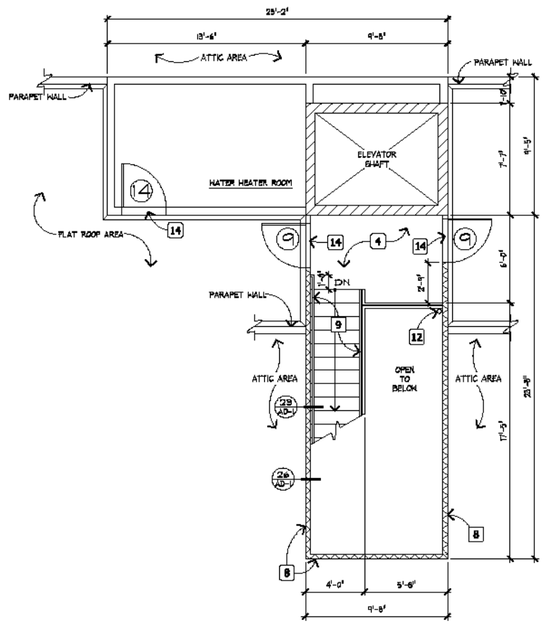
2ND & 3RD FLOORS STAIR #2 — 4

1/4" = 1'-0"



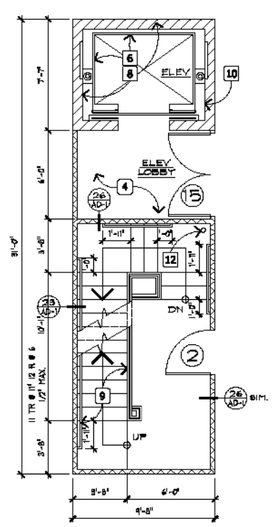
FIRST FLOOR STAIR #2 — 3

1/4" = 1'-0"



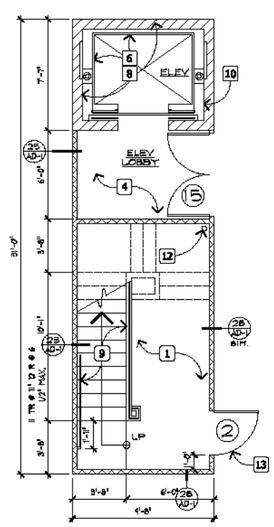
ROOF STAIR #1 — 6

1/4" = 1'-0"



2ND, 3RD & 4TH FLOORS STAIR #1 — 2

1/4" = 1'-0"



FIRST FLOOR STAIR #1 — 1

1/4" = 1'-0"

DOOR NOTES

1. EXTERIOR DOOR.
2. INTERIOR DOOR WITH PANELS, TYPICAL.
3. DOOR ASSEMBLY SHALL HAVE A FIRE PROTECTION RATING OF NOT LESS THAN 1 HOUR WITH SELF CLOSER.
4. WEATHER STRIPPING.
5. SECURITY OPENING.
6. SCREEN DOOR(S).
7. FIXED DOOR(S).
8. 45 MIN. FIRE RATED SOLID CORE DOOR W/ SELF CLOSER.
9. TEMPERED GLAZING.
10. WITH SCREENED/LOUVERED VENTS TOP & BOTTOM.
11. ALL DOORS & MOISTURE PROTECTION SHALL BE INSTALLED PER DOOR MANUFACTURER'S SPECIFICATIONS.
12. 90 MIN. FIRE RATED SOLID CORE DOOR W/ SELF CLOSER.

DOOR SCHEDULE

NO.	SIZE	THK.	TYPE	FACE	FINISH	FRAME	FINISH	REMARKS
1	3'-0" X 8'-0"	1 3/4"	FOUR PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,4,5,11
2	3'-0" X 8'-0"	1 3/4"	FOUR PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	2,3,4,8,11
3	3'-0" X 8'-0"	1 3/4"	FOUR PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,11,12
4	2'-6" X 8'-0"	1 3/4"	FOUR PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,4,11,12
5	PR. 3'-0" X 8'-0"	1 3/4"	FLUSH PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,4,5,11
6	6'-0" X 8'-0"	1 1/2"	SLIDING GLASS	VINYL	FACTORY	VINYL	FACTORY	1,4,3,6,9,11
7	8'-0" X 8'-0"	1 1/2"	SLIDING GLASS	VINYL	FACTORY	VINYL	FACTORY	1,4,3,6,9,11
8	2'-0" X 8'-8"	1 1/2"	FOUR PANEL	WOOD	PAINT	WOOD	PAINT	2,11
9	3'-0" x 6'-8"	1 3/4"	FLUSH PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,4,8,11
10	2'-10" X 6'-8"	1 1/2"	FOUR PANEL	WOOD	PAINT	WOOD	PAINT	2,11
11	PR. 1'-4" X 6'-8"	1 1/2"	LOUVERED BI-FOLD	WOOD	PAINT	WOOD	PAINT	2,11
12	PR. 2'-6" X 8'-8"	–	SLIDING WARDROBE	WOOD	PAINT	WOOD	PAINT	2,11
13	PR. 3'-0" X 8'-8"	–	SLIDING WARDROBE	WOOD	PAINT	WOOD	PAINT	2,11
14	3'-0" X 6'-8"	1 3/4"	FLUSH PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,4,8
15	PR. 2'-10" X 8'-0"	1 3/4"	FLUSH PANEL ENTRY/S.C.	METAL	PAINT	METAL	PAINT	1,3,4,5

WINDOW NOTES

1. THIS WINDOW SHALL PROVIDE THE MINIMUM NET CLEAR OPENING REQUIRED BY UBC SECTION 310.4 FOR EMERGENCY EGRESS. MINIMUM CLEAR WIDTH = 20", HEIGHT = 24", OPENING AREA = 5.7 SQ.FT. MAXIMUM SILL HEIGHT FROM FLOOR = 44".
2. SECURITY OPENING.
3. TEMPERED GLAZING.
4. SCREENED.
5. OBSCURE GLASS.
6. ALL WINDOWS & MOISTURE PROTECTION SHALL BE INSTALLED PER WINDOW MANUFACTURER'S SPECIFICATIONS

WINDOW SCHEDULE

NO.	SIZE	TYPE	FRAME	FINISH	GLAZING	REMARKS
A	1'-6" X 2'-0"	S.H.	VINYL	FACTORY	DOUBLE	2,4,6
B	2'-6" X 4'-0"	S.H.	VINYL	FACTORY	DOUBLE	2,4,5,6
C	3'-0" X 3'-0"	SLIDER	VINYL	FACTORY	DOUBLE	1,2,4,6
D	6'-0" X 3'-0"	SLIDER	VINYL	FACTORY	DOUBLE	1,2,4,6
E	3'-0" X 2'-0"	S.H.	VINYL	FACTORY	DOUBLE	1,2,4,6

STAIR PLAN NOTES

1. TYPICAL THROUGHOUT AT FIRST FLOOR LEVEL: 4" CONCRETE SLAB. SEE FOUNDATION PLAN FOR REINFORCING, CONCRETE PADS AND WATERPROOF MEMBRANE.
2. 3 5/8" -16 GA METAL STUDS AT 24" O.C. AT EXTERIOR WALLS. SEE FRAMING PLANS FOR SIZES AND SPECIAL REQUIREMENTS.
3. 2 HOUR RATED SHAFT WALL TYP. SEE ARCHITECTURAL DETAILS.
4. 2" CONCRETE FILL @ METAL PAN STAIR TREADS & LANDING. SEE SHOP DRAWINGS BY STAIR MFGR.
5. EXTERIOR METAL DOOR. SEE DOOR SCHEDULE.
6. ELEVATOR CAB. SEE ELEVATOR SHOP DRAWINGS.
7. WIDE FLANGE STEEL HOIST BEAM ABOVE. SEE STRUCTURAL DRAWINGS.
8. 2 HOUR ELEVATOR SHAFT, STAIR SHAFT & SEPARATION WALL. SEE ARCH. DETAILS.
9. INTERMEDIATE RAILINGS OF STAIR HANDRAILS, CORRIDOR AND BALCONY RAILINGS MUST BE SPACED SUCH THAT A 4" (102mm) SPHERE CAN NOT PASS THROUGH ANY PORTION OF THE RAILING. A 6" (152mm) SPACE IS ALLOWED AT THE TRIANGULAR SPACE BETWEEN THE RISER, TREAD AND BOTTOM RAIL. PER UBC SECTION 1006.9 & 306.3, PROVIDE 1 1/2" (38mm) TO 2" (51mm) HANDGRIP. 1 1/2" (38mm) FROM THE WALL.
10.
11. LADDER TO ELEVATOR PIT BELOW.
    EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED. WHEN THE FACE OF AN EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SOURCE, IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES (54lx) FROM EITHER OR TWO ELECTRIC LAMPS. INTERNALLY ILLUMINATED SIGNS SHALL PROVIDE EQUIVALENT LUMINANCE AND BE LISTED FOR THE PURPOSE. LOW LEVEL EXIT SIGNS SHALL BE PROVIDED AT ALL INTERIOR & EXTERIOR CORRIDORS. ENGINE CONTROLLED ILLUMINATION FOR A DURATION OF NOT LESS THAN 1 1/2 HOURS IN CASE OF PRIMARY POWER LOSS.
12. PROVIDE CLASS I FIRE SPRINKLER STAND PIPES AT EVERY FLOOR LEVEL LANDING.
13. STAIRWAYS EXITING DIRECTLY TO THE EXTERIOR OF A BUILDING FOUR OR MORE STORIES IN HEIGHT SHALL BE PROVIDED WITH A PLANS FOR EMERGENCY ENTRY FOR FIRE DEPARTMENT ACCESS.
14. 8" CURB AT ROOF ACCESS & WATER HEATER ROOM DOORS. PROVIDE ADEQUATE CLEARANCE FOR THE ROOF'S CONTINUOUS CANT STRIP.

INTERIOR FINISH SCHEDULE

ROOM NAME	FLOOR: CONCRETE	FLOOR: CARPET	FLOOR: CERAMIC TILE	FLOOR: TRAVERTINE TILES	FLOOR: ELASTOMERIC	BASE: WOOD	BASE: CERAMIC TILE	BASE: ELASTOMERIC	WALLS: CONC. BLK. PAINTED	WALLS: TEXTURED DRYWALL	WALLS: EXTERIOR PLASTER	WALLS: PREFIN. FIBERGLASS PANELS	CEILING: CONCRETE PAINTED	CEILING: DRYWALL	CEILING: EXTERIOR PLASTER	COUNTER TOPS: CHINESE GRANITE	REMARKS
UNIT TYPES 1, 2, 3 & 4																	
DINING ROOM				●		●				●				●			
KITCHEN				●		●				●				●		●	
LIVING ROOM				●		●				●				●			
BEDROOM NO. 1			●			●				●				●			
BATHROOM NO. 1				●		●				●		●		●		●	
BEDROOM NO. 2			●			●				●				●			
BATHROOM NO. 2				●		●				●		●		●		●	
LAUNDRY CLOSET				●		●				●				●			
STORAGE			●			●				●				●			
UNIT TYPE 5																	
DINING ROOM				●		●				●				●			
KITCHEN				●		●				●				●		●	
LIVING ROOM				●		●				●				●			
BEDROOM NO. 1			●			●				●				●			
BATHROOM NO. 1				●		●				●		●		●		●	
BEDROOM NO. 2			●			●				●				●			
BATHROOM NO. 2				●		●				●		●		●		●	
BEDROOM NO. 3			●			●				●				●			
LAUNDRY CLOSET				●		●				●				●			
STORAGE			●			●				●				●			
LANAI'S @ 1ST FLOOR	●										●				●		
LANAI'S @ 2ND, 3RD & 4TH FLOOR					●			●			●	●			●		
ELEV. EQUIP. & WTR.HTR. ROOMS	●					●				●				●			
TRASH ROOM	●					●				●				●			
OUTDOOR CORRIDORS					●			●			●				●		
ELEVATOR LOBBY - ALL FLOORS				●		●				●				●			
STAIRS NO.1 & NO.2	●									●				●			

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.

ISSUE LIPPICH ARCHITECT — DATE

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE DESIGN PLANNING
PHONE (818) 591 - 2653 FAX (818) 591 - 2729 E-MAIL lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

SHEET TITLE: FINISH SCHEDULES

JOB NO : 2680
DATE : 08-15-2011
DRAWN :

REVISIONS

IMI IKENA
511 Imi Place
Wailuku, Maui, Hawaii

SHEET NO
14

Appendix H:
Early Consultation
Comment and Response

IMI IKENA AFFORDABLE HOUSING PROJECT
EARLY CONSULTATION COMMENTS

AGENCY	EARLY CONSULTATION LETTER	COMMENTS	RESPONSES
FEDERAL			
U.S. Department of Agriculture (NRCS)	June 8, 2009	June 11, 2009	Sept. 28, 2011
U.S. Fish and Wildlife Service	June 8, 2009		
STATE			
Department of Education	June 8, 2009		
Department of Health (DOH)	June 8, 2009	June 23, 2009 June 29, 2009	Sept. 28, 2011 Sept. 29, 2011
DOH, Maui District Health Office	June 8, 2009	June 22, 2009	Sept. 29, 2011
DOH, Environmental Planning Office	June 8, 2009		
DOH, Clean Air Division	June 8, 2009		
DOH, Clean Water Branch	June 8, 2009		
Dept of Land & Natural Resources (DLNR)	June 8, 2009	June 17, 2009	Sept. 28, 2011
DLNR, Historic Preservation Division	June 8, 2009	Aug 4, 2009	Sept. 29, 2011
DLNR, Land Division	June 8, 2009	June 13, 2009	Sept. 28, 2011
Department of Transportation	June 8, 2009		
Department of Hawaiian Homelands	June 8, 2009	June 15, 2009	Sept. 28, 2011
Dept of Economic Development & Tourism (DBEDT)	June 8, 2009		
DBEDT, Office of State Planning	June 8, 2009		
Office of Hawaiian Affairs	June 8, 2009	June 23, 2009	Sept. 29, 2011
COUNTY			
Dept of Fire Control & Public Safety	June 8, 2009	June 12, 2009	Sept. 29, 2011
Department of Environmental Management	June 8, 2009	July 2, 2009	Sept. 29, 2011
Dept of Parks & Recreation	June 8, 2009	June 19, 2009	Sept. 28, 2011
Dept of Planning	June 8, 2009	June 26, 2009	Sept. 29, 2011
Dept of Public Works	June 8, 2009	June 18, 2009	Sept. 28, 2011
Dept of Water Supply	June 8, 2009 Sept. 30, 2011		
Police Department	June 8, 2009	June 12, 2009	Sept. 29, 2011
LOCAL UTILITIES			
MECO	June 8, 2009	June 16, 2009	Sept. 28, 2011

June 8, 2009

Mr./Ms. XXXXX, Title
Department of XXXXXX
XXXXXX Drive
XXXXXX, HI 96XXX

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
Wailuku, Maui
TMK: (2) 3-8-037:028

Dear Mr./Ms. XXXXX,

DBR Development LLC proposes to develop a 28-unit affordable rental housing apartment complex located at 511 Imi Place, Wailuku, Hawaii. The subject property is located in the Sand Hills area, north of Keopuolani Park off of Liholiho Street. **See: Figure 1, Regional Location Map, Figure 2, Tax Map Key,** and **Figure 3, Site Plan.** The project site is zoned A-2, Apartment District by the County of Maui, the State Land Use designation is Urban, and the Wailuku-Kahului Community Plan designation is Multi-Family.

The project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD. Rents will be restricted in perpetuity. DBR Development LLC has contracted with a local, on-site property management firm to manage the day-to-day operations of the property to maintain the financial and physical integrity of the rental units and grounds. The project will be developed with the use of the County of Maui, Department of Housing and Human Concerns' Affordable Housing Fund. Use of County funds requires the preparation of an Environmental Assessment, which will be prepared in accordance with Chapter

SAMPLE

343, Hawaii Revised Statutes. In this regard, we are, on behalf of the applicant, requesting early review and comment on the proposed project in accordance with the requirements of Chapter 343, HRS, and of the Hawaii Administrative Rules, Title 11, Chapter 200.

Please provide all written comments to our office by July 8, 2009. Should you have any additional questions or require additional information, please call me at (808) 242 1955.

Respectfully,

Matthew M. Slepin
Senior Associate • Land Planner

ENCLOSURES

CC: Project File No. 09-025

SAMPLE

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
77 Ho'okele Street, Suite 202
Kahului, HI 96732
Phone 808-871-5500
Fax 808-873-6184

RECEIVED
JUN 12 2009
DK
CHRIS HART & PARTNERS
Landscape Architecture

June 11, 2009

Mr. Matthew M. Slepin
Chris Hart & Partners, Inc.
115 N. Market St.
Wailuku, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
TMK: 3-8-037: 028

Dear Mr. Slepin:

The report does not provide adequate information to make comments. Please provide a copy of the EA, design (if applicable), and drainage report.

Thank you for the opportunity to comment.

Sincerely,

Ranae Ganske-Cerizo
District Conservationist

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. Neal S. Fujiwara, Dist. Conservationist
U. S. Department of Agriculture
Natural Resources Conservation Service
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Fujiwara,

Thank you for your June 11, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. In response to your comments we offer the following: Upon completion, a copy of the Draft Environmental Assessment, including but limited to project site design and drainage report, will be furnished to you for your review.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN. ALOHA. CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
EMD / WB
EPO-M3 8 037 028

June 23, 2009

RECEIVED
JUN 24 2009
CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

Cc: Matt + Jenn
09/025

Mr. Matthew M. Slepin
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793-1717

Dear Mr. Slepin:

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project at 511 Imi Place Wailuku, Maui, Hawaii
TMK (2) 3-8-037: 028 28-unit affordable rental housing

Thank you for allowing us the opportunity to review the above subject project proposes the Imi Ikena Affordable Housing Project. We have the following comments and information on the above subject property:

> It has been determined that the property (under Sand Hill Properties, LLC) is located within the County sewer service system and should be connected. Therefore, we have no objections to the project as domestic wastewater treatment and disposal will be by the sewer service system. We further encourage the developer to work with the County to utilize recycled water for irrigation and other non-potable water purposes.

Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808)586-4294.

Sincerely,

TOMAS S. SEE, P.E., CHIEF
Wastewater Branch

c: DOH's Environmental Planning Office Mr. Jiacai Liu & Mr. Phillip Anderson (EPO 09-094)
DOH – WWB's Maui Staff – Mr. Roland Tejano

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Ms. Sina Pruder, Acting Chief
State of Hawaii
Department of Health
Wastewater Branch
919 Ala Moana Blvd., Room 309
Honolulu, Hawaii 96814

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Ms. Pruder,

Thank you for your June 23, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. We appreciate your response and understand that the Department of Health does not have any objections to the proposed project at this time. The Imi Ikena apartment complex will be connected to the County sewer system. While we understand the importance of conserving fresh water resources by utilizing recycled water for irrigation and other non-potable water purposes, the County of Maui does not provide recycled water in the Wailuku/Kahului area.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN. ALOHA, CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File: EHA/HEER Office
(2009-427 RP)

June 29, 2009

Mr. Matthew M. Slepin
Senior Associate, Land Planner
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793-1717

Facility/Site: Imi Ikena Affordable Housing Project

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project, Wailuku, Maui. TMK: (2) 3-8-037:028

Dear Mr. Slepin:

The Hawaii Department of Health Hazard Evaluation and Emergency Response (HEER) Office has reviewed your Early Consultation Request for Proposed Imi Ikena Affordable Housing Project, Wailuku, Maui. TMK: (2) 3-8-037:028.
At this time, there are no comments regarding the proposed project. As with any new development, a Phase I investigation should be conducted to determine previous uses of the property. The HEER Office looks forward to reviewing that document upon its completion.
Should there be any questions, please do not hesitate to contact me at 586-4249.

Sincerely,

Richard Palmer

Richard Palmer
Environmental Health Specialist
Hazard Evaluation and Emergency Response Office
State of Hawaii Department of Health

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Landscape Architecture and Planning

CC: Matt & Jenn
09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. Richard Palmer, Environmental Health Specialist
State of Hawaii
Department of Health
Hazard Evaluaton and Emergency Response Office
919 Ala Moana Blvd., Room 206
Honolulu, Hawaii 96814

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Palmer,

Thank you for your June 29, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that the Department of Health Hazard Evaluation and Emergency Response Office does not have any comments on the proposed project at this time. A Subsurface Investigation Report was completed in August 2006 for the property and will be included in the appendix of the Draft Environmental Assessment (EA). Upon completion a copy of the Draft EA will be furnished to you for your review.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA,
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025 ✓

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LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M. D.
DIRECTOR OF HEALTH

LORRIN W. PANG, M. D., M. P. H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

June 22, 2009

Mr. Matthew M. Slepin
Senior Associate Planner
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawai`i 96793

Dear Mr. Slepin:

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project, Wailuku, Maui
TMK: (2) 3-8-037:028

Thank you for the opportunity to comment on the early consultation. The following comments are offered:

> The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46 "Community Noise Control". A noise permit may be required and should be obtained before the commencement of this project.

Should you have any questions, please call me at 808 984-8230 or e-mail me at patricia.kitkowski@doh.hawaii.gov.

Sincerely,

Patti Kitkowski

Patti Kitkowski
Acting District Environmental Health Program Chief

cc: Matt + Jenn

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CHRIS HART
& PARTNERS, INC.
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September 29, 2011

Ms. Patti Kitkowski, Acting Dist. Env. Health Program Chief
State of Hawaii
Department of Health
Maui District Health Office
State Building, 54 High St., Rm. #301
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Ms. Kitkowski,

Thank you for your June 22, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

With regard to your comments we note the following:

A noise permit will be obtained before the commencement of work if it is determined that the noise created during the construction phase of the project exceeds maximum allowable levels as set forth in (HAR), Chapter 11-46, "Community Noise Control".

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.
ALOHA,
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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LINDA LINGLE
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LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 17, 2009

Mr. Matthew M. Slepin,
Senior Associate, Land Planner
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793-1717

Ladies and Gentlemen:

Thank you for the opportunity to review and comment on the early consultation for the proposed Imi Ikena Affordable Housing Project. The Department of Land and Natural Resources (DLNR) has no comments to offer as the project location is on private property.

Should you have any questions, please contact the DLNR Oahu District Land Office at (808) 587-0433.

Sincerely,

LAURA H. THIELEN

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Landscape Architecture · Land Planning

cc: Matt + Jenn
09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. William J. Aila Jr.
State of Hawaii
Department of Land and Natural Resources
Kalanimoku Building, 1151 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Aila,

Thank you for your June 17, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that the Department of Land and Natural Resources does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA,
CHRIS HART

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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LINDA LINGLE
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STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 4, 2009

Mr. Matthew M. Slepin, Senior Associate
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawai‘i 96793
mslepin@chpmaui.com

LOG NO: 2009.2040
DOC NO: 0908PC09
Archaeology

SUBJECT: Chapter 6E-8 Historic Preservation Review –
Early Consultation for the Proposed Imi Ikena Affordable Housing Project
Wailuku Ahupua‘a, Wailuku District, Island of Maui
TMK: (2) 3-8-037:028

Thank you for the opportunity to comment on the aforementioned project, correspondence for which we received on June 10 of 2009. Please accept our apologies for the delay in responding.

Based on the submitted information, the project involves the construction of a 28 unit affordable rental housing project on the .756 acre parcel of land situated at 511 Imi Place in Wailuku.

A search of our records indicates that an archaeological inventory survey of the proposed area of effect has not yet occurred. Therefore, upon review of any permit involving ground altering disturbance within the subject parcel, we will recommend that the following condition be attached:

An archaeological inventory survey shall be conducted by a qualified archaeological consultant with a report of the findings, significance assessments and recommended mitigation submitted to this office for review and acceptance prior to issuance of the permit.

A list of those meeting the requirements to perform such work can be obtained on the SHPD’s website at http://hawaii.gov/dlnr/hpd/pdfs/2009-Permittee.pdf or by contacting our main office at (808) 692-8015.

If you have any questions or comments regarding this letter, please contact the SHPD’s Lead Maui Archaeologist, Ms. Patty Conte (Patty.J.Conte@hawaii.gov).

Aloha,

Nancy McMahon, Deputy SHPO/State Archaeologist
State Historic Preservation Division

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Ms. Pua Aiu, PhD
SHPD Administrator
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamakila Blvd, Room 555
Kapolei, HI 96707

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Ms. Aiu,

Thank you for your August 4, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

With regard to your comments we note the following: An Archaeological Assessment survey of the project site was conducted by Scientific Consultant Services, Inc. and a report, dated April 2005, detailing the findings was submitted to your office for approval. By letter dated June 22, 2005, your office deemed the report acceptable. The approval letter is enclosed for your reference.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA.
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURE

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
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DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

June 22, 2005

Michael Dega, Ph.D.
Scientific Consultant Services
711 Kapiolani Blvd. Suite 975
Honolulu, HI 96813

LOG NO: 2005.1187
DOC NO: 0506MK15

Dear Dr. Dega:

SUBJECT: Historic Preservation Review 6E-42 - Archaeological Assessment Survey 0.76 Acres in Wailuku for Mr. Michael Bollenbacher Wailuku District, Wailuku District, Island of Maui TMK (2) 3-8-37: 28

Thank you for the opportunity to review this report which our staff received on May 2, 2005 (Tome and Dega 2005, *An Archaeological Assessment of 0.76 in Wailuku, Wailuku Ahupua'a, Wailuku District, Island of Maui, Hawai'i, [TMK3-8-37:28])*...Scientific Consultant Services, Inc., ms. As indicated above, the parcel consists of 0.76 acres located within the Pu'uone Dune system, nearly at the apex.

The background section acceptably establishes the ahupua'a settlement pattern and predicts the likely site pattern in the project area. The historical information provided summarizes the history of the post-contact period land uses. The summary of previous archaeological work in the area provides a baseline for the current work. It was anticipated that burials and/or cultural deposits might be encountered in the dune system.

The survey has adequately covered the project area documenting no historic properties. Subsurface testing (fourteen backhoe trenches) were also negative for evidence of cultural deposits. A total of 339.44 m^3 evidenced minor amounts of imported silty clay fill.

We concur with the mitigation recommendations that archaeological monitoring is warranted in the subject parcel during all ground altering disturbance. The parcel's location in the sand dune suggests a high probability that subsurface deposits may yet be identified within. Please specify in

We find this report to be acceptable. We will await the submittal of an archaeological monitoring plan following any request for determination from the county to SHPD. As always, if you disagree with our comments or have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

MELANIE A. CHINEN, Administrator
State Historic Preservation Division

MK: kf

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept. of Plng, 250 S. High St, Wailuku, HI 96793

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
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COMMISSION ON WATER RESOURCE MANAGEMENT

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CC: Matt
091025

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 13, 2009

Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793-1717

Attention: Mr. Matthew M. Slepin

Ladies and Gentlemen:

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Morris M. Atta
Administrator

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. Russell Tsuji, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
Post Office Box 621
Honolulu, Hawaii 96809

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Tsuji,

Thank you for your June 13, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. We appreciate your response and understand that the Department of Land and Natural Resources, Land Division does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN. MAHALO. CHRIS HART

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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www.chpmaui.com

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STATE OF HAWAII

MICAH A. KANE
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HAWAIIAN HOMES COMMISSION

KAULANA H. PARK
DEPUTY TO THE CHAIRMAN

ROBERT J. HALL
EXECUTIVE ASSISTANT

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAI'I 96805

June 15, 2009

Mr. Chris Hart
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Maui, Hawaii 96792-1717

Dear Mr. Hart:

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
Wailuku, Maui
TMK: (2) 3-8-037:028

Thank you for the opportunity to review the subject proposal. The Department of Hawaiian Home Lands has no comment to offer at this time. If you have any questions, please contact our Planning Office at (808) 620-9480.

Aloha and mahalo,

Danielle Gazzoni
for Micah A. Kane, Chairman
Hawaiian Homes Commission

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Landscape Architecture
09/025
cc: matt + Jenn

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. Albert "Alapaki" Nahaleā, Chairman
State of Hawaii
Department of Hawaiian Homelands
PO Box 1879
Honolulu, Hawaii 96804

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Nahaleā,

Thank you for your June 15, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that Department of Hawaiian Homelands does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.
ALOHA.
CHRIS HART.

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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www.chpmaui.com

PHONE (808) 594-1888

FAX (808) 594-1865

CC: Matt + Jenn 09/025

RECEIVED

JUN 29 2009

CHRIS HART & Partners
Landscape Archi

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD09/4516

June 23, 2009

Matthew Slepin
Chris Hart & Partners
115 N. Market Street
Wailuku, Maui, 96793-1706

RE: Early consultation request for comments on the proposed Imi Ikena affordable housing project, Wailuku, Maui, TMK: 3-8-037:028.

Aloha e Matthew Slepin,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated June 8, 2009. OHA has reviewed the project and offers the following comments.

OHA understands this proposal to be for the development of 28 affordable rental housing units on land designated as Urban and Multi-Family by the state and county, respectively. We note that affordable has been defined as households earning 30 to 60 % of the area median income and that these units will remain for rent at affordable rates in perpetuity. As such, we are pleased to support this project as it has been presented to us thus far and furthermore offer the following as suggestions to better shape this proposal:

On January 28, 2008 Assistant Secretary of the Department of Energy Alexander Karsner and Hawaii Governor Linda Lingle signed a groundbreaking Memorandum of Understanding (MOU) between the state government and the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy. The agreement created the Hawaii Clean Energy Initiative, which seeks to transform Hawaii's energy portfolio into a predominately renewable energy mix, moving away from reliance on fossil fuels. The state reflected these principles in Hawaii Revised Statutes Chapter 196, which sets energy efficiency and environmental standards for state facilities that the applicant may wish to emulate in this proposal.

Particularly the use of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, which is the nationally accepted benchmark for the design,

construction, and operation of high performance green buildings may be appropriate. Similarly, the use of photovoltaic and small wind harvesting electrical generation for peripheral uses such as parking lot lighting could also be considered. Solar energy should also be incorporated into the building plans. During construction, OHA urges the use of recyclable materials: steel studs and structural members, and wood products from certified sustainable sources.

Additionally, landscaping not only adds beauty and value to your property, but also helps control erosion by reducing the amount and speed of runoff. Ground covers are one of the best erosion controls and include any plant material that covers the ground surface so the soil cannot be seen from above and rain does not strike directly upon it. As such, OHA would like to suggest that the project area be landscaped with drought tolerant native or indigenous species that are common to the area. Any invasive species should also be removed. Doing so would not only serve as practical water-saving landscaping practices, but also serve to further the traditional Hawaiian concept of mālama ʻāina and create a more Hawaiian sense of place. This would also help to reduce the amount of impervious surfaces in the project area, thereby reducing runoff as well. Tree and landscape planting to shade paved parking areas and provide shade and cooling to building elements and outdoor use areas should also be considered.

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold by phone at (808) 594-0263 or e-mail him at granta@oha.org.

ʻO wau iho nō me ka ʻoiaʻiʻo,

Clyde W. Nāmuʻo
Administrator

C: OHA Maui CRC

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. Clyde Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Namu'o,

Thank you for your June 23, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to your comments we offer the following:

All 28 rental units will be targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD and the rents will be restricted in perpetuity. Thank you for your support of this affordable housing project.

Thank you for the information regarding the Hawaii Clean Energy Initiative and the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. The developer will not be obtaining LEED certification for the buildings; however the following "green" design features will be incorporated into the project: solar water heating, solar electric for common areas, metal stud framing, and renewable and recycled materials will be used where feasible.

The project site will be landscaped to control erosion and add beauty and a Hawaiian sense of place to the property. Drought tolerant native species will be planted to minimize irrigation requirements. Shade trees will be planted in and around parking lots and other paved areas to provide shade and cooling.

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
MAHALO.
CHRISTOPHER L...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

CHARMAINE TAVARES
MAYOR

JEFFREY A. MURRAY
CHIEF

ROBERT M. SHIMADA
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
FIRE PREVENTION BUREAU

780 ALUA STREET
WAILUKU, HAWAII 96793
(808) 244-9161
FAX (808) 244-1363

June 12, 2009

Mr. Matthew M. Slepin, Land Planner
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Maui, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project, Wailuku, HI, TMK: (2) 3-8-037: 028

Dear Mr. Slepin,

The Department of Fire and Public Safety has reviewed the information that was provided in regards to the proposed Imi Ikena Affordable Housing Project. We would like to thank you for the opportunity to review the project at this early stage. The proposed 28-unit, 4 story apartment complex will require the installation of a fire alarm system and a fire sprinkler system. Additional concerns and recommendations will be addressed during the building permit process.

Please feel free to contact Lt. Scott English of our Fire Prevention Bureau at 244-9161 if there are any questions or concerns regarding this subject.

Sincerely,

Valerie Brandon
Firefighter I
Fire Prevention Bureau

For: Valeriano F. Martin
Captain
Fire Prevention Bureau

Cc: Matt + Jenn

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Landscape Architecture and Planning
09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. Jeffrey A. Murray, Captain
County of Maui
Department of Fire Control & Public Safety
200 Dairy Road
Kahului, Hawaii 96732

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Murray,

Thank you for your June 12, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to your comments we offer the following: All building fire safety requirements, including installation of a fire alarm system and a fire sprinkler system, will addressed during the building permit process of the project.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN. ALOHA.

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025 ✓

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 100
WAILUKU, MAUI, HAWAII 96793

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CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

July 2, 2009

CC: Matt & Jem
041025

Mr. Mathew M. Slepin
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, Hawaii 96793 -1717

SUBJECT: **IMI IKENA AFFORDABLE HOUSING**
EARLY CONSULTATION
TMK (2) 3-8-037:028

We reviewed the subject application and have the following comments:

1. Solid Waste Division comments:

   a. Include a plan for construction waste disposal/recycling/reuse.

2. Wastewater Reclamation Division (WWRD) comments:

   a. Although wastewater system capacity is currently available as of 7/2/2009, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
   b. Provide discussion and calculations (sewer impact study) to substantiate that the existing wastewater system is adequate to serve this project.
   c. Wastewater contribution calculations are required before building permit is issued.
   d. Developer shall pay assessment fees for treatment plant expansion costs in accordance with ordinance setting forth such fees. Assessment Fees may be waived upon receipt of documentation from the Department of Housing and Human Concerns that the project meets affordable guidelines. The project is within the Wailuku sewer service area.

e. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
f. Sewage calculations required to substantiate the slopes of the proposed sewer lines.
g. Show or list minimum slope of new sewer laterals.
h. Plans shall show a property sewer service manhole near the property line. If a property sewer service manhole does not exist, one shall be installed.
i. Consultant to recheck clearances between existing sewer lines and new utility lines (18" or less requires a concrete jacket).
j. Consultant to check calculations relative to pipe slopes, size, velocities .and type of pipe, including friction factor
k. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.
l. Any common area kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens etc.)
m. Non-contact cooling water and condensate should not drain to the wastewater system.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

Cheryl K. Okuma

Cheryl K. Okuma, Director

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. Kyle Ginoza, Director
County of Maui
Department of Environmental Management
One Main Plaza, 2200 Main St., Suite 175
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr.~~ Kyle Ginoza,

Thank you for your July 2, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to comments from the Solid Waste Division we offer the following: The Draft Environmental Assessment (EA) will include a plan for construction waste disposal/recycling/reuse.

In response to comments from the Wastewater Reclamation Division we offer the following:

a. We understand that final assurance of wastewater system capacity can not be given until issuance of the building permit.
b. Wastewater calculations for the proposed project will be provided in the Draft EA.
c. We understand that wastewater contribution calculations are required before the building permit can be issued.
d. Documentation from the Department of Housing and Human Concerns will be provided with the building permit which states that the project meets affordable guidelines and wastewater assessment fees are therefore waved.
e. DBR Development, LLC will fund any necessary off-site improvements to the

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
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collection system and/or wastewater pump stations if deemed necessary due to project impacts.

f. Sewage calculations will be provided during the building permit submittal.
g. Slopes on the sewer lateral will be shown on the building permit plans.
h. A new service lateral and service manhole will be constructed along Pio Drive to meet current standards and requirements.
i. Clearances will be checked on the building permit plans.
j. Calculations relative to pipe slopes, size, velocities and type of pipe, including friction factor, will be completed at the building permit stage.
k. If required, the ownership of any easements will be designate on the building permit plans.
l. No common area kitchen facilities are planned within the proposed project.
m. Non-contact cooling water and condensate will not drain to the wastewater system.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA,
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

CHARMAINE TAVARES
Mayor

TAMARA HORCAJO
Director

ZACHARY Z. HELM
Deputy Director

(808) 270-7230
FAX (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

June 19, 2009

Chris Hart & Partners, Inc.
Attention: Matthew M. Slepin
115 N. Market Street
Wailuku, Hawaii 96793

Dear Mr. Slepin:

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project, Wailuku, Maui, TMK: 3-8-037:028

We have reviewed the Pre Assessment Consultation for Draft Environmental Assessment - Imi Ikena Affordable Housing Project, and we have no comments or objections to the subject project.

Thank you for the opportunity to comment. Please contact me or Patrick Matsui, Chief of Planning and Development, at 270-7931 if there are any questions.

Sincerely,

TAMARA HORCAJO
Director of Parks & Recreation

c: Patrick Matsui, Chief of Planning & Development

TH:PM:spg

S:\PLANNING\Steve G\Imi Ikena.doc

cc: Matt & Jenn

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09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. Glenn Correa, Director
Department of Parks & Recreation
County of Maui
700 Hali'a Nokoa Street, Unit 2
Wailuku, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr.~~ GLENN: Correa,

Thank you for your June 19, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that the Department of Parks and Recreation does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.
ALOHA,
CHRIS HART

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

CHARMAINE TAVARES
Mayor

JEFFREY S. HUNT
Director

KATHLEEN ROSS AOKI
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

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CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Matt + Jenn
09/025

June 26, 2009

Mr. Matt Slepin
Chris Hart & Partners, Inc.
115 North Market Street
Wailuku, Hawaii 96793

Dear Mr. Slepin:

SUBJECT: PRE-CONSULTATION COMMENTS IN PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT, LOCATED AT WAILUKU, ISLAND OF MAUI, HAWAII; TMK: (2) 3-8-037:028 (EAC 2009/0025)

The Department of Planning (Department) is in receipt of the above-referenced document for the proposed Imi Ikena Affordable Housing Project. The Department understands the proposed action includes the following:

- The development of a 28-unit apartment complex;
- All units will be rented to households earning 30 percent to 60 percent of the area median income as established by the Department of Housing and Urban Development;
- Rent for the units will be restricted in perpetuity; and
- A property management firm will manage the apartment complex.

Based on the foregoing, the Department provides the following comments in preparation of the Draft EA:

1. The land use designations for the project area are as follows:

   a. State Land Use – Urban
   b. Wailuku-Kahului Community Plan – Multi-Family
   c. County Zoning – A-2 Apartment
   d. Other – Located outside of the Special Management Area

2. The proposed use is an allowable use in the A-2 Apartment District; and

3. The proposed project is required to meet the following requirements of the Apartment Zoning District:

   - Minimum lot area of 10,000 square feet;
   - Minimum lot width of 70 feet;
   - Total ground area of all buildings shall not exceed 35 percent of lot area;
   - Gross floor area ratio of all buildings shall not exceed 90 percent of the lot area; and
   - Meet front yard setback of 20 feet, side yard setback of 15 feet, and rear yard setback of 20 feet.

Thank you for the opportunity to comment. Please include the Department on the distribution list of the Draft EA. Should you require further clarification, please contact Staff Planner Robyn Loudermilk by email at robyn.loudermilk@mauicounty.gov or at 270-7180.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for JEFFREY S. HUNT, AICP
Planning Director

xc: Robyn L. Loudermilk, Staff Planner
ZAED
Project File
General File

JSH:CIY:RLL:sg
K:\WP_DOCS\PLANNING\EAC\2009\0025_ImilkenaAffordableHousing\Comments.doc

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. William Spence, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr.~~ Bill... Spence,

Thank you for your June 26, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to your comments we offer the following: Thank you for providing the land use designations for the project area and confirming that the proposed use is an allowable use in the A-2 Apartment District. The proposed project will meet all requirements of the Apartment Zoning District.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I apologize for the delayed response resulting from the national economic downturn. Aloha, Chris Hart...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
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CHARMAINE TAVARES
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

June 18, 2009

Mr. Matthew M. Slepin
CHRIS HART & PARTNERS, INC.
115 North Market Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Slepin:

SUBJECT: EARLY CONSULTATION REQUEST FOR PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT TMK (2) 3-8-037:028

We reviewed your early consultation request and have no comments at this time.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

MMA:MMM:ls
xc: Highways Division
Engineering Division
S:\LUCA\CZM\Prop_Imi_Ikena_Affordable_Housing_ec_38037028_ls.wpd

CC: Matt & Jenn

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CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. David Goode, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr.~~ DAVID: Goode,

Thank you for your June 18, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that Department of Public Works does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES ALOHA, CHRIS HART...

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 30, 2011

Mr. Paul Meyer, Deputy Director
County of Maui
Department of Water Supply
200 S. High St., 5th Floor
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Meyer,

As a follow-up to our meeting with yourself and your engineer Miles Fujinaka on September 30, 2011, we would like to thank you for taking the time to meet with Jennifer Maydan and myself to discuss the water needs for the proposed Imi Ikena Affordable Housing Project.

As discussed during our meeting, there is an existing 12-inch waterline on Lower Main Street which feeds an existing 6-inch waterline along Pio Place and Imi Place. There are also existing fire hydrants fronting the property on Pio Place and Imi Place. At the meeting you indicated that developed water sources within Central Maui are limited and that the Department of Water Supply is not issuing reservations of capacity at this time; thus water meters are issued on a "first-come first-served" basis. You also confirmed that since the project is a 100% affordable housing project it is not subject to the requirements of the County's "Show Me the Water" bill (MCC 14.12.040). We would also like to note that the project engineer, Stacy Otomo, will be contacting Lt. Scott English at the Fire Department to discuss the issue of adequate fire flow for the project.

Thank you again for meeting with us to discuss the water needs of the project. Please provide us a response as soon as possible to confirm the issues discussed at the meeting for inclusion in our Draft Environmental Assessment (EA). Please feel free to call Jennifer Maydan at (808) 242-1955 should you have any questions.

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Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Mr. Stacy Otomo, Otomo Engineering, Inc.
Project File No. 09-025

POLICE DEPARTMENT
COUNTY OF MAUI

CHARMAINE TAVARES
MAYOR

OUR REFERENCE

YOUR REFERENCE

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

GARY A. YABUTA
CHIEF OF POLICE

CLAYTON N.Y.W. TOM
DEPUTY CHIEF OF POLICE

June 12, 2009

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JUN 18 2009
CHRIS HART & PARTNERS, INC.
Landscape Architecture
CC: Matt Glenn
091025

Mr. Matthew M. Slepin
Senior Associate
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, HI 96793

Dear Mr. Slepin:

SUBJECT: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
TMK (2) 3-8-037: 028

This is in response to your letter dated June 8, 2009, requesting comments on the above subject.

We have reviewed the information submitted for the above mentioned project and have enclosed our comments and recommendations at this time. Thank you for allowing us to review this project.

Very truly yours,

AC Wayne T. Ribao

Assistant Chief Wayne T. Ribao
for: Gary A. Yabuta
Chief of Police

c: Jeffrey Hunt, Maui County Dept. of Planning

COPY

TO	:	GARY YABUTA, CHIEF OF POLICE, COUNTY OF MAUI
VIA	:	CHANNELS
FROM	:	STEPHEN ORIKASA, ADMINISTRATIVE SERGEANT, WAILUKU PATROL DIVISION
SUBJECT	:	RESPONSE TO REQUEST FOR EARLY CONSULTATION COMMENTS REGARDING THE PROPOSED IMI IKENA AFFORDABLE HOUSING PROJECT

I CONCUR WITH SGT. ORIKASA'S RECOMMENDATION
AC [illegible]
6/12/09

This communication is submitted as a response to a request for early consultation comments by Chris Hart & Partners, Inc., Senior Associate, Land Planner, Matthew M. Slepin, regarding the following;

SUBJECT	:	Proposed Imi Ikena Affordable Housing Project
ADDRESS	:	511 Imi Place, Wailuku, Hawaii 96793
TMK	:	(2) 3-8-037:028

RESPONSE:

In review of the submitted documents the focus, from the police perspective, would be upon the safety impacts upon pedestrian and vehicular movement during the construction phases and commencement of use of this project.

Depending on the time of day Imi Place along with adjacent and surrounding streets can experience moderate pedestrian and vehicular flow. The implementation of two ingress and egress locations along Pio Place would be restricting upon on street parking, but the artist's rendition of the project does not indicate any improvements for on street parking or pedestrian walkways.

There are numerous apartment and condominium complexes as well as private residences in close proximity to this project. A structure currently exist on this project property and during the demolition and construction phases, extreme efforts should be made to minimize noise, dust & debris so not to inhibit those whose health and well being may be affected. Adequate traffic control devices and personnel should also be utilized to minimize the impacts to pedestrian and vehicular movement by the heavy equipment and vehicles traveling in and out of the area.

The proposed project has on-site areas, but no designation for visitor parking. If visitors are required to park off-site (on street), roadway improvements, in compliance with codes and requirements, should also be completed to meet the need.

At this time it is difficult to foresee the impacts these additional vehicles and pedestrians would have upon the current conditions. There should be considerations given to the current conditions of the two-lane, two-way flow roadways in the surrounding area with limited to no space for expansion.

Respectfully submitted for your review and approval.

Stephen T. Orikasa E#716
Administrative Sergeant/Wailuku Patrol Division
06/12/09 @ 1135 Hours

S AND Concerns
Should be addressed.

Capt. Ramos
06/12/09 @ 1145 Hrs.

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 29, 2011

Mr. Gary A. Yabuta, Chief
County of Maui
Police Department
55 Mahalani Street Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr.~~ Chief Yabuta,

Thank you for your June 12, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to your comments we offer the following:

Pio Place fronting the project site will be improved to County standards as required by the Department of Public Works. Frontage improvements will include concrete curb, gutter and sidewalk along the property fronting Pio Place.

The project site is currently vacant and undeveloped. All construction activities will comply with the provisions of HAR, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust. Fugitive dust emissions will be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering of open-bodied trucks. Other dust control measures that may be implemented include limiting the area disturbed at any given time and/or mulching or stabilizing inactive areas that have been worked. Paving and landscaping early in the construction schedule will also reduce dust emissions.

Proper mitigative measures will be employed to minimize construction-related noise impacts and comply with all Federal and State noise control regulations. Increased noise activity due to construction will be limited to daytime hours and persist only during the construction period. Noise from construction activities will be short-term and will comply with DOH noise regulations (HAR, Chapter 11-46, Community Noise Control).

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Each unit within the apartment complex will be provided two (2) off-street parking spaces for a total of 56 parking spaces as required by Maui County Code, Chapter 19.36, Off-Street Parking and Loading.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA.
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025 ✓

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

June 16, 2009

Mr. Matthew M. Slepin, Senior Associate Planner
Chris Hart & Partners Inc.
115 N. Market St.
Wailuku, Hawaii 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
Wailuku, Maui, Hawaii
TMK: (2) 3-8-037:028

Dear Mr. Slepin,

Thank you for allowing us to comment on the Early Consultation for the subject project.

In reviewing our records and the information received, Maui Electric Company (MECO) has no objection or comments to the subject project at this time.

Should you have any questions or concerns, please call me at 871-2340.

Sincerely,

Ray Okazaki
Staff Engineer

RECEIV

JUN 17

CHRIS HART
Landscape

CC: Matt & Jenn

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 28, 2011

Mr. Kyle Tamori, Staff Engineer
Maui Electric Company, Ltd.
P.O. Box 398 Kahului, Hawaii 96733

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Tamori,

Thank you for your June 13, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We appreciate your response and understand that Maui Electric Company does not have any comments on the proposed project at this time.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN. ALOHA. CHRIS HART

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

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www.chpmaui.com

Ronald Baxter
8 Admiral Drive, A129
Emeryville, Ca 94608
June 17, 2009

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JUL 08 2009
CHRIS HART & PARTNERS, INC
Landscape Architecture and Planning

CC: Matt + Jenn
09/025

Matthew M. Slepin
Senior Associate, Land Planner
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, HI 96793-1717

Re: Early Consultation RFP, Imi Ikena Affordable Housing Project

Dear Mr. Slepin:

Per our conversation today, I am presenting in writing my questions/concerns regarding the impact of the proposed project as it affects my Puuone Hale Alii condominium.

My first concern is whether the new structure will effectively block the ocean view which Hale Alii now enjoys, thus de-evaluating the property. Will the new structure be erected in such a manner that this can be prevented?

My second concern is that of parking. Will the renters in the proposed project be provided with more than one parking space? I find the reality of the parking problem in this area is due to the fact that the condos provide only one space to the occupant whereas the reality is that many have more than one car, creating a scarcity of street parking.

Thank you for advising me on these issues.

Ronald Baxter

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

Ronald Baxter
8 Admiral Drive, A129
Emeryville, CA 94608

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Baxter,

Thank you for your June 17, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

In response to your comments we offer the following:

The project site is within the County's A-2 Apartment Zoning District which allows for four-story buildings according to Maui County Code, Chapter 19.12.040, Height Restrictions. While the proposed apartment complex is down-slope from the Puuone Hale Alii Condominium, the construction of the new complex will obstruct private ocean views from some units within Puuone Hale Alii Condominium.

Each unit within the apartment complex will be provided two (2) off-street parking spaces for a total of 56 parking spaces as required by Maui County Code, Chapter 19.36, Off-Street Parking and Loading.

Thank you again for providing us with your comments. Please feel free to call me at (808) 242-1955 should you have any questions.

115 N. Market Street, Wailuku, Maui, Hawaii 96793-1717 • Ph 808-242-1955 • Fax 808-242-1956
www.chpmaui.com

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.

ALOHA.
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

RECEIVED

AUG 17 2009

CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

Dave S. Fukuoka
P.O. Box 1153
Wailuku, HI 96793

August 16, 2009

Matthew M. Slepin
Land Planner – Senior Associate
Chris Hart & Partners, Inc.
115 N. Market Street
Wailuku, HI 96793

Re: Imi Ikena Affordable Housing Project

Dear Mr. Slepin,

At the public briefing earlier this month regarding the above-mentioned project (hereafter "the Project"), you suggested I send you a letter to document my concerns.

As I understand it, the Project's northern-most boundary abuts the property of Carmel Apartments (hereafter "Carmel"), at 1743 Nana Street. Although I write only as an interest-holder in three of the eight units of Carmel, I have spoken with several of the other owners regarding the impact that the Project may have on the owners and residents of Carmel.

First, I – as well as all of the other owners that I spoke with - am concerned about the possibility of loitering in the Project's parking lot, which could result in noise, security, and litter problems on our lot. The safety and comfort of our residents would be diminished, and the value of our units would be affected. In addition, such activity could result in a substantial loss of privacy for some of Carmel's residents, as people standing in the Project's parking lot would probably be able to see into Carmel's first-floor bedroom windows.

I was told at the public briefing that the developer intended to build a 10-foot high wall on the boundary between the Project and Carmel. Exactly what that means is still unclear to me, but my impression is that the wall is, at least in part, a retaining wall. I believe that I made it clear during the public briefing that I was against any "build up" of the Project's property that would raise the height of the property substantially above its current lie.

The Carmel landscaping is intentionally low-maintenance; we would like to keep it that way. I therefore hope that during the Project's design phase some consideration was given toward keeping any litter, leaves and other materials from ending up in the Carmel property.

While I haven't discussed this with any of the other Carmel owners, it seems to me

that a well-designed high wall, set back from the existing boundary wall, would adequately minimize these problems.

Thank you for the opportunity to express my concerns regarding the Project, and for your consideration of the matters raised herein. Please feel free to call me if you have any questions about the matters raised herein, or if I can be of any assistance in resolving them. I can be reached at 244-0442 during most of the afternoon hours.

Very truly yours,

Dave S. Fukuoka

Dave S. Fukuoka

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

David S. Fukuoka
P.O. Box 1153
Wailuku, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Fukuoka,

Thank you for your August 16, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. In response to your comments we offer the following:

As stated in our June 8, 2009 letter requesting early consultation comments, the Imi Ikena Affordable Housing Project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by the U.S. Department of Housing and Urban Development. The goal of the project is to address the critical need for affordable housing on Maui by providing quality affordable rental housing for the island's workforce. Rental rates will be restricted in perpetuity and a local, on-site property management firm will manage the day-to-day operation of the property to maintain the financial and physical integrity of the rental units and grounds. Additionally, numerous studies have been conducted by various credible universities, government agencies and organizations to determine the impact of affordable housing on surrounding property values. These studies have repeatedly established that affordable housing has no detrimental effect on property values of adjacent or nearby properties.

The eastern boundary of the proposed large parking will be landscaped with trees and

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shrubs to provide privacy for residents of Carmel Apartments. The retaining wall will be a minimum setback of 4′-4″ from the Carmel Apartment property line. Most of the wall will be set back a greater distance. The height of the wall varies from 8″ at the northeast corner to 7′ at the southeast corner. More importantly, the parking lot retaining wall will be retaining the Carmel Apartment side, meaning that the parking lot will be constructed in a cut condition and will be lower than the existing grade.

A landscape maintenance company will regularly maintain the landscape planting on the project site and ensure that the trees, shrubs and groundcover plants are well maintained and debris managed to the practical extent possible.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S.: I APOLOGIZE FOR THIS DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.

ALOHA, CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

To all concerned,

I am writing in regards to your letter dated June 8, 2009. I must admit that when I first heard of your project several years ago I was concerned about the impact it would have on our already crowded street parking and road congestion. I am referring to the plans with the hot tub in the corner and the gated driveway on Imi Place. I thought that an upscale project would bring up property values and infuse the neighborhood with decent type of people.

I am now very concerned that your new project would do the opposite. We do not want the type of people who abandon their cars on our already crowded streets. We do not want to live next to another Harbor Lights type community. While everyone wants to help our homeless and poor no one wants to live next to this type of neighbor. We would not have purchased in our condo if we wanted to be exposed to a Harbor Lights type of community. I worry about our possessions and if we will need to start locking up everything we own. I wonder what a family that makes $18,000 a year would need to steal from me just to make ends meet.

I am also concerned over property values if this low/medium project is built. Property around Kuhio Park Terrace is not doing very well on the resale market. I hope that you will consider the effect this project will have on our little neighborhood and build elsewhere. Alternate sites could be the lot next to Harbor Lights, or better yet next to your house.

Sincerely,

Randy Doss for Koki Masuda

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2009
PARTNERS, INC.
Architecture and Planning

CC: Matt + Jenn
09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

Koki Masuda
585 Laau St.
Kahului, HI 96732

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Masuda,

Thank you for your letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. We understand that you are not in support of the proposed project and are concerned about potential impact on surrounding homeowners.

Numerous studies have been conducted by various credible universities, government agencies and organizations to determine the impact of affordable housing on surrounding property values. These studies have repeatedly established that affordable housing has no detrimental effect on property values of adjacent or nearby properties. Additionally, professionally conducted studies have also concluded that there is no evidence of an increase in crime resulting from the establishment of affordable housing into a neighborhood.

As stated in our June 8, 2009 letter requesting early consultation comments, the Imi Ikena Affordable Housing Project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by the U.S. Department of Housing and Urban Development. The goal of the project is to address the critical need for affordable housing on Maui by providing quality affordable rental housing for the island's workforce. Rental rates will be restricted in perpetuity and a local, on-site property management firm will manage the day-to-day operation of the property to maintain the financial and physical integrity

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of the rental units and grounds. Careful tenant screening and security measures will be used to ensure that illegal activities do not take place, and if they do, they will be dealt with accordingly.

Thank you again for providing us with your comments. Please feel free to call me at (808) 242-1955 should you have any questions.

P.S. I apologize for the delayed response resulting from the national economic downturn.
Aloha,
Chris Hart...

Respectfully,

Christopher L. Hart...

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

JAMES B. TAKAYESU
P. O. Box 2912
Wailuku, Maui, Hawaii 96793

Telephone No.: (808) 242-8220

Telecopier: (808) 244-5671

August 5, 2009

Chris Hart & Partner, Inc.
115 N. Market Street
Wailuku, Maui, Hawaii 96793

Re: Comments on the Proposed Imi Ikena Affordable Housing Project

Dear Mr. Hart:

I am responding to your letter of June 8, 2009, regarding the above-referenced project.

A major concern that I have relates to the serious shortage of on-street parking that already exists on Pio Drive.

The addition of 28 rental units to this neighborhood will exacerbate this problem unless the project provides adequate off-street parking spaces for all of its tenants and additional spaces for the project's employees and guests.

I believe that reconfiguring the project to provide two parking stalls for each unit (56) and an additional eight (8) stalls for employee and guest parking is necessary to avoid aggravating an already intolerable on-street parking situation in this neighborhood.

In addition, since the project involves County of Maui funds, the developer should consider working with the County to see if marking of on-street stalls will help to increase the capacity of on-street parking on Pio Drive and adjacent roadways.

Another means of limiting any adverse impacts on the parking situation might be to designate a number of these rental units for elderly or senior citizens. These types of tenants may reduce the number of parking stalls needed for each rental unit.

Your serious attention to this matter will be appreciated by myself and others who live or rent existing units in this neighborhood, which already provides a large number of affordable housing units to owners and renters.

Very truly yours,

James B. Takayesu

091025

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AUG 07 2009
CHRIS HART & PARTNERS, INC.
Land Development Architecture and Planning

cc: Matt + Jean

JBT:hl

LETTERS\HART.JBT

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

James B. Takayesu
P.O. Box 2912
Wailuku, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear ~~Mr. Takayesu~~ JAMES,

Thank you for your August 5, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. We offer the following in response to your comments:

Each unit within the apartment complex will be provided two (2) off-street parking spaces for a total of 56 parking spaces as required by Maui County Code, Chapter 19.36, Off-Street Parking and Loading.

All units within the complex will be targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by the U.S. Department of Housing and Urban Development. Although units will not be specifically designated for senior citizens, it is likely that a portion of the tenants within the required income category will be senior citizens, thus potentially reducing the demand for parking stalls.

Thank you again for providing us with your comments. Please feel free to call me at (808) 242-1955 should you have any questions.

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Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN.
ALOHA,
CHRIS HART...

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

July 1, 2009

Re: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
Wailuku, Maui
TMK: (2) 3-8-037:028

To whom it may concern:

We received your letter dated June 8, 2009. We are owners of a unit at Mt. Thomas, and we are not in favor of low-income housing being built on the property described in your letter. We feel strongly this low-income housing project would have a negative impact on other homes in the area causing the prices of the other homes to decline in value.

It seems the land located in the Sand Hills area, north of Keopuolani Park off of Liholiko Street would be much better suited for another residential use other than low-income housing.

We realize this type of housing needs to be available, but it certainly seems like the above mentioned land is not an appropriate location for this project.

We would like to voice our concern as we are against the building of 28 rental units all targeted as low income housing in this area. We hope you will seriously consider our concern when a final decision is made.

Sincerely,

Judy E. Thomas

Judy E. Thomas

Edgar A. Thomas

Edgar A. Thomas

RECEI

JUL

CHRIS HART
Landscape A

cc: Matt & Jenn
09/025

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

Ms. Judy E. & Mr. Edgar A. Thomas
5956 S Fairfax Court
Centennial, CO 80121

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Ms. & Mr. Thomas,

Thank you for your July 1, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. We understand that you are not in support of the proposed project and are concerned about potential impact on surrounding home values.

Numerous studies have been conducted by various credible universities, government agencies and organizations to determine the impact of affordable housing on surrounding property values. These studies have repeatedly established that affordable housing has no detrimental effect on property values of adjacent or nearby properties.

As stated in our June 8, 2009 letter requesting early consultation comments, the Imi Ikena Affordable Housing Project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by the U.S. Department of Housing and Urban Development. The goal of the project is to address the critical need for affordable housing on Maui by providing quality affordable rental housing for the island's workforce. Rental rates will be restricted in perpetuity and a local, on-site property management firm will manage the day-to-day operation of the property to maintain the financial and physical integrity of the rental units and grounds.

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Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN.
ALOHA,
CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

TO:

This is a horrid idea! It will subject the current residents of the area to the noise, dust and ADD even more cigarette smoke to the air from the construction workers! This will disturb the little peace we have during the day. The long range fear is what property value we have now will be destroyed due to the "Projects".

Sincerely,
SUBMSD

Also loss of ocean views, OUCH!

RECEIVED
JUL 08 2009
CHRIS HART & PARTNERS, INC.
Landscape Architecture and Planning

CC: Matt + Jenn
09/025

CHRIS HART & PARTNERS, INC.
Landscape Architecture
City & Regional Planning

June 8, 2009

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project
Wailuku, Maui
TMK: (2) 3-8-037:028

Dear Neighbor,

DBR Development LLC proposes to develop a 28-unit affordable rental housing apartment complex located at 511 Imi Place, Wailuku, Hawaii. The subject property is located in the Sand Hills area, north of Keopuolani Park off of Liholiho Street. **See: Figure 1, Regional Location Map, Figure 2, Tax Map Key,** and **Figure 3, Site Plan.** The project site is zoned A-2, Apartment District by the County of Maui, the State Land Use designation is Urban, and the Wailuku-Kahului Community Plan designation is Multi-Family.

The project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median income as established by HUD. Rents will be restricted in perpetuity. DBR Development LLC has contracted with a local, on-site property management firm to manage the day-to-day operations of the property to maintain the financial and physical integrity of the rental units and grounds. The project will be developed with the use of the County of Maui, Department of Housing and Human Concerns' Affordable Housing Fund. Use of County funds requires the preparation of an Environmental Assessment, which will be prepared in accordance with Chapter 343, Hawaii Revised Statutes. In this regard, we are, on behalf of the applicant, requesting early review and comment on the proposed project in accordance with the requirements of Chapter 343, HRS, and of the Hawaii Administrative Rules, Title 11, Chapter 200.

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CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

Susan S. Ventura
1063 Lower Main St. #304
Wailuku, HI 96793

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Ms. Ventura,

Thank you for your July 8, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project. In response to your comments we offer the following:

All construction activities will comply with the provisions of HAR, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust. Fugitive dust emissions will be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering of open-bodied trucks. Other dust control measures that may be implemented include limiting the area disturbed at any given time and/or mulching or stabilizing inactive areas that have been worked. Paving and landscaping early in the construction schedule will also reduce dust emissions.

Proper mitigative measures will be employed to minimize construction-related noise impacts and comply with all Federal and State noise control regulations. Increased noise activity due to construction will be limited to daytime hours and persist only during the construction period. Noise from construction activities will be short-term and will comply with DOH noise regulations (HAR, Chapter 11-46, Community Noise Control).

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Numerous studies have been conducted by various credible universities, government agencies and organizations to determine the impact of affordable housing on surrounding property values. These studies have repeatedly established that affordable housing has no detrimental effect on property values of adjacent or nearby properties.

Ocean views from some existing units mauka of the project site may be blocked by the proposed apartment buildings.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWN TURN. AHOHA. CHRISTHART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025

WAILUKU MANOR
510 IMI PLACE
WAILUKU HAWAII

8 July 2009

Jennifer Maydan
jmaydan@chpmaui.com
Project Coordinator
Chris Hart & Partners, Inc.
115 Market Street
Wailuku, Hawaii 96793

Gentlemen:

The Association of Owners of Wailuku Manor is hereby expressing their strident opposition to the development of the proposed IMI IKENA project on the property adjoining them.

While the building of any structure on a previously vacant property brings caution to its neighbors, one, such as this, specifically targeted for a disadvantaged population, elicits some specific concerns with which the Association does not care to have added to similar ones already evident in the area.

The following are the most evident concerns;
1. A tenant population is less respectful of neighbors than is an owner population.
2. Those of the targeted population who cause problems for neighbors are known to be able to "work the system" to avoid eviction.
3. There will be more vehicles associated with the property than will there be parking spaces built. The parking in the area is currently stressed beyond its limits. Emergency vehicles already have had problems responding to calls in the area.
4. The targeted population is more stressed and thus more prone to violence than the population as a whole.
5. Harbor Lights and Kuhio Park Terrace come to mind as projects that were built with the best intentions similar to those of Imi Ikena. Neither project would be welcomed in the neighborhood.
6. Enforcing rules within this population is more difficult than with most projects.
7. This property will not enhance the property value of Wailuku Manor.

Were the developer to have realistic solutions to these concerns, the Association would re-consider its opposition to the development.

Sincerely,

John L. Sullivan, CMCA, AMS
Account Manager, APMI
369, Huku Lii Pl. #202
Kihei, HI 95753
for the Board

CHRIS HART
& PARTNERS, INC.
Landscape Architecture
City & Regional Planning

September 27, 2011

John L. Sullivan
Association of Owners of Wailuku Manor
369 Huku Lii Pl. #202
Kihei, HI 95753

Subject: Early Consultation Request for Proposed Imi Ikena Affordable Housing Project; Wailuku, Maui; TMK: (2) 3-8-037:028

Dear Mr. Sullivan,

Thank you for your July 8, 2009 letter providing early consultation comments on the proposed Imi Ikena Affordable Housing Project.

We understand that you are not in support of the proposed project and offer the following in response to your comments:

Numerous studies have been conducted by various credible universities, government agencies and organizations to determine the impact of affordable housing on surrounding property values. These studies have repeatedly established that affordable housing has no detrimental effect on property values of adjacent or nearby properties. Additionally, professionally conducted studies have also concluded that there is no evidence of an increase in crime resulting from the establishment of affordable housing into a neighborhood.

As stated in our June 8, 2009 letter requesting early consultation comments, the Imi Ikena Affordable Housing Project will include the development of 28 rental units all targeted at households earning thirty (30) to sixty (60) percent of the area median

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income as established by the U.S. Department of Housing and Urban Development. The goal of the project is to address the critical need for affordable housing on Maui by providing quality affordable rental housing for the island's workforce. Rental rates will be restricted in perpetuity and a local, on-site property management firm will manage the day-to-day operation of the property to maintain the financial and physical integrity of the rental units and grounds. Careful tenant screening and security measures will be used to ensure that illegal activities do not take place, and if they do, they will be dealt with accordingly.

Each unit within the apartment complex will be provided two (2) off-street parking spaces for a total of 56 parking spaces as required by Maui County Code, Chapter 19.36, Off-Street Parking and Loading.

Thank you again for providing us with your comments. Please feel free to call me or Jennifer Maydan at (808) 242-1955 should you have any questions.

P.S. I APOLOGIZE FOR THE DELAYED RESPONSE RESULTING FROM THE NATIONAL ECONOMIC DOWNTURN. ALOHA. CHRIS HART...

Respectfully,

Christopher L. Hart, ASLA
President
Landscape Architect/Planner

ENCLOSURES

CC: Mr. David Billings, Imi Ikena Housing Partners LLC
Project File No. 09-025