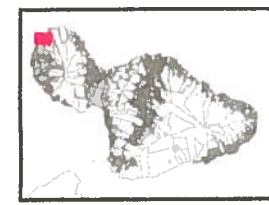


**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

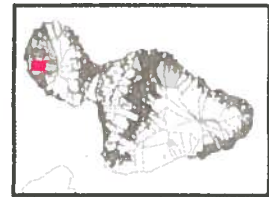
**ZONE A - Direct chemical contamination zone.**  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

**ZONE B - Indirect microbial contamination zone.**  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C - Indirect chemical contamination zone.**  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

RECEIVED AT WPC MEETING ON 9/30/15  
 (Dept. of Water Supply)

<b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
<b>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 1 AREA SOUTH-EAST OF NAPILI, MAUI</b>	
<b>APPROVED:</b>  _____ COUNTY CLERK                      DATE	<b>PUBLIC HEARING:</b> _____  <b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  _____ PLANNING DIRECTOR                      DATE	<b>ADOPTED BY MAYOR:</b> _____  BILL No./YEAR _____ ORDINANCE No. _____
<b>DRAFT 03      WPOD Map 1</b>	



**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL

**NOTE:**

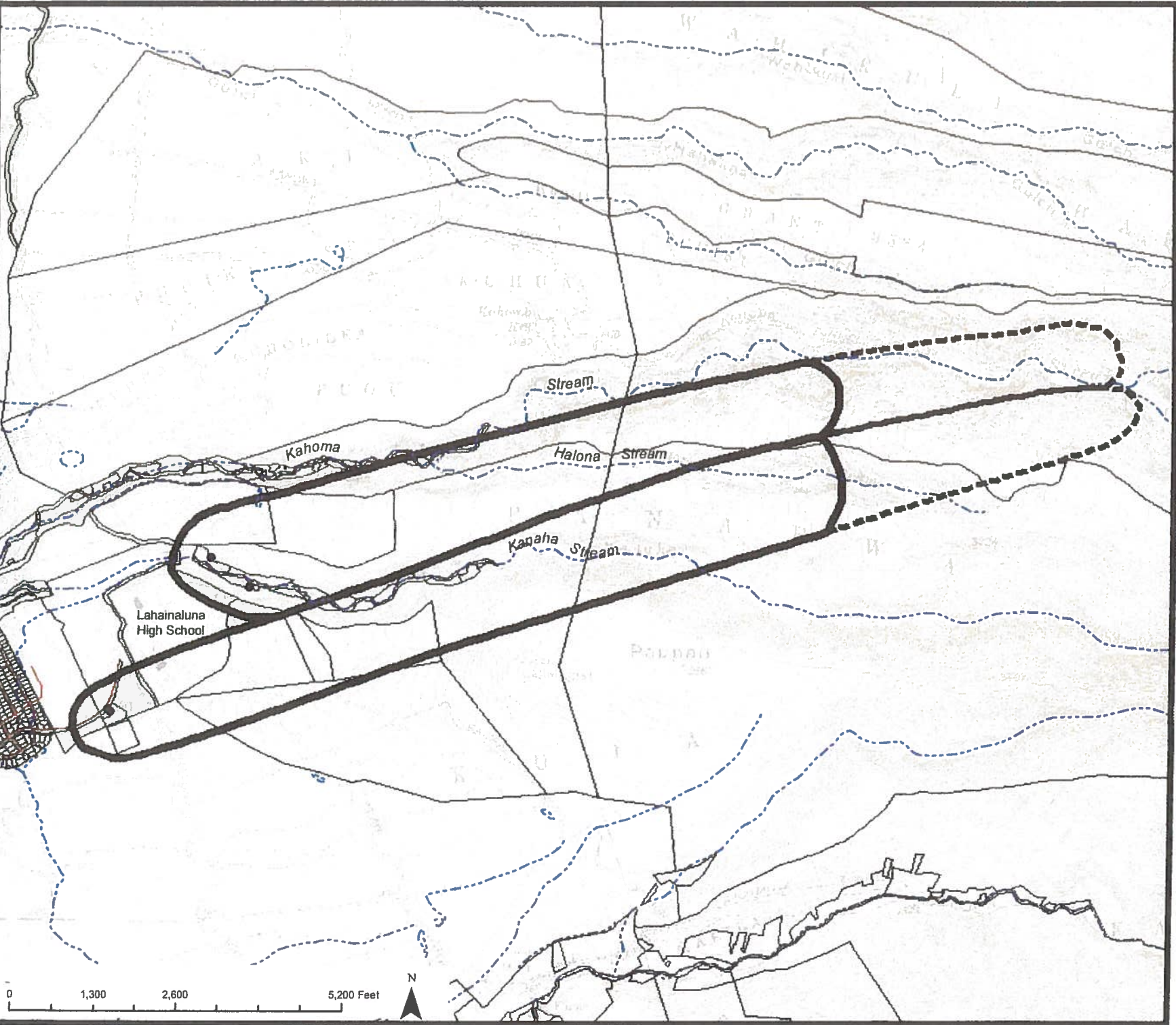
WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

**ZONE A - Direct chemical contamination zone.**  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

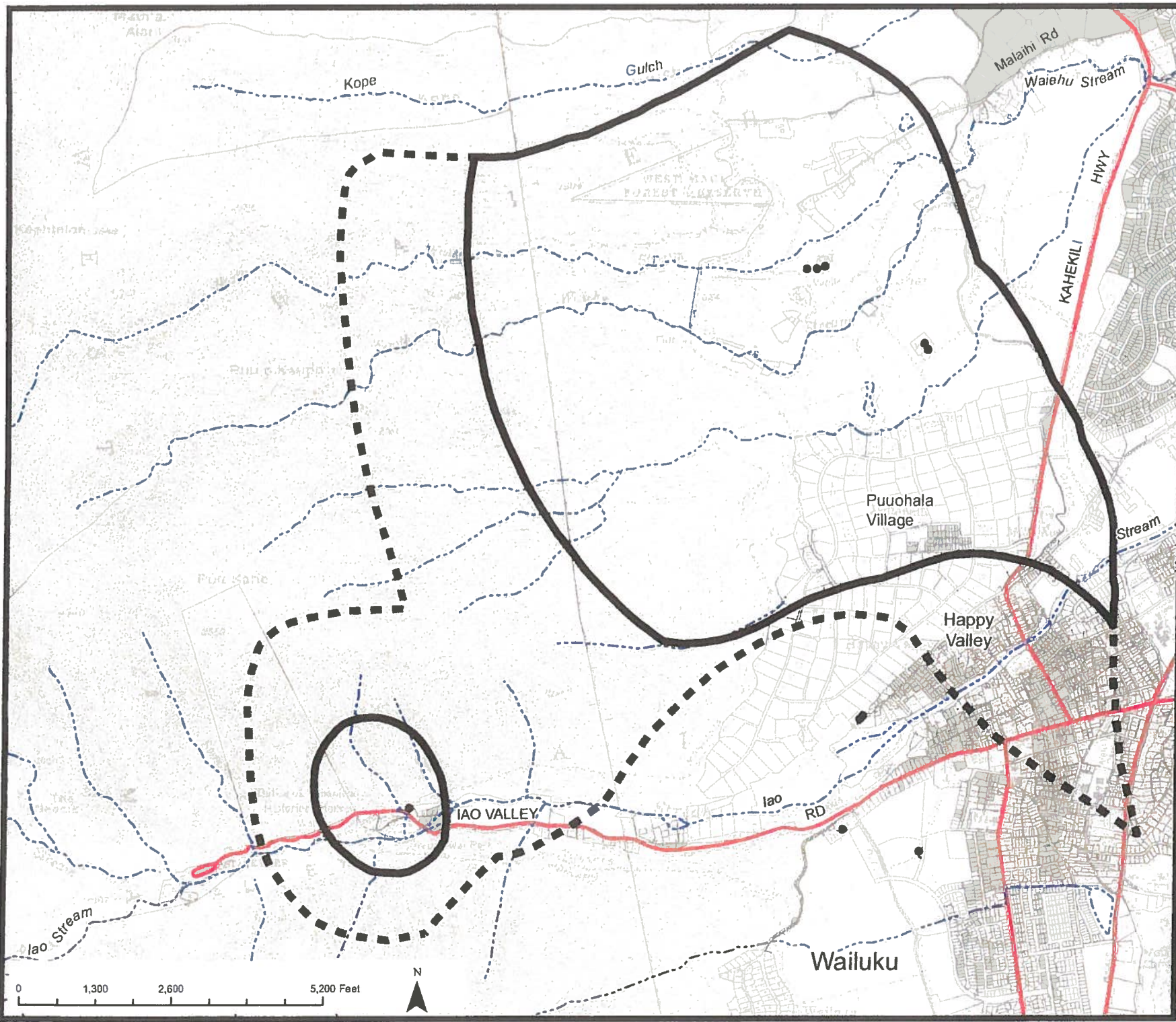
**ZONE B - Indirect microbial contamination zone.**  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C - Indirect chemical contamination zone.**  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

<p><b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793</p>	
<p><b>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 2 AREA NORTH-EAST OF LAHAINA TOWN, MAUI</b></p>	
<p><b>APPROVED:</b></p> <p>_____</p> <p>COUNTY CLERK                      DATE</p>	<p><b>PUBLIC HEARING:</b> _____</p> <p><b>ADOPTED BY COUNCIL:</b> _____</p>
<p><b>APPROVED:</b></p> <p>_____</p> <p>PLANNING DIRECTOR                      DATE</p>	<p><b>ADOPTED BY MAYOR:</b> _____</p> <p>BILL No./YEAR _____</p> <p>ORDINANCE No. _____</p>
<p><i>DRAFT 04</i>      <b>WPOD Map <u>  2  </u></b></p>	







**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

**ZONE A - Direct chemical contamination zone.**  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

**ZONE B - Indirect microbial contamination zone.**  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C - Indirect chemical contamination zone.**  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

<b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
<b>WELLHEAD PROTECTION OVERLAY DISTRICT</b> <b>MAP No. 4</b> <b>KOPE GULCH TO IAO STREAM, MAUI</b>	
<b>APPROVED:</b>  COUNTY CLERK                      DATE	<b>PUBLIC HEARING:</b> _____  <b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  PLANNING DIRECTOR                      DATE	<b>ADOPTED BY MAYOR:</b> _____  BILL No./YEAR _____ ORDINANCE No. _____
<b>DRAFT 04</b> <b>WPOD Map 4</b>	



**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL

**NOTE:**

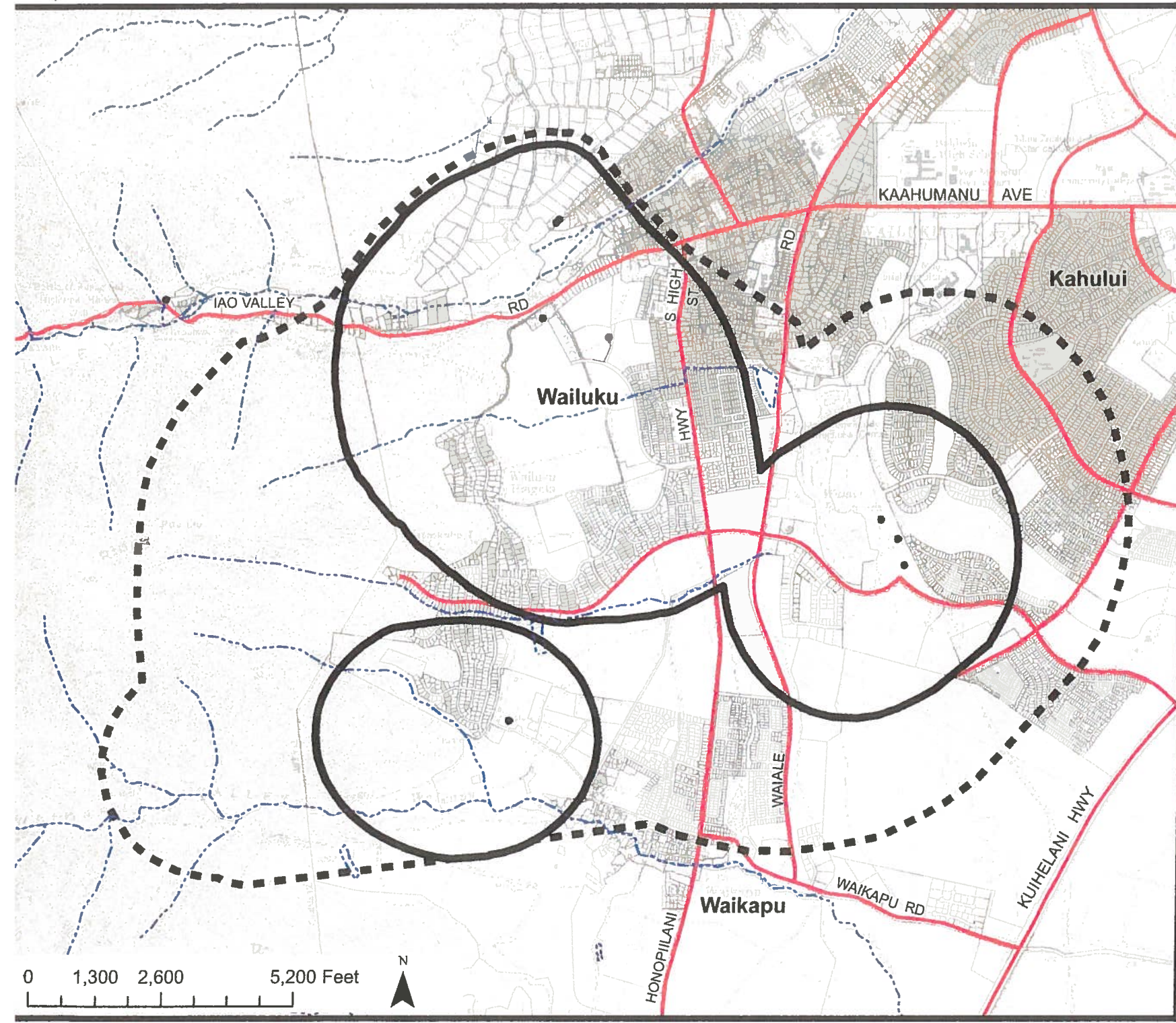
WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

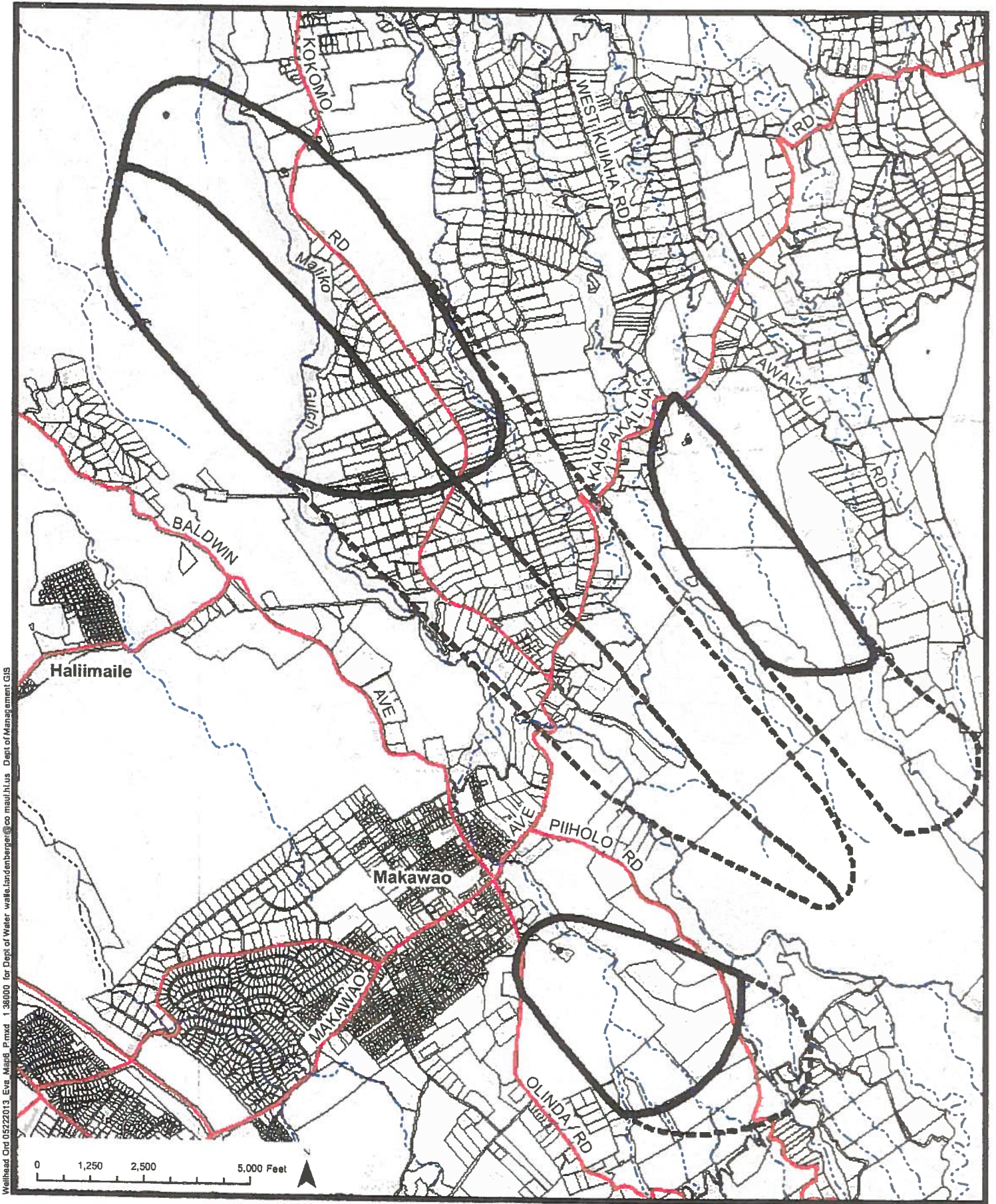
**ZONE A** - Direct chemical contamination zone.  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

**ZONE B** - Indirect microbial contamination zone.  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C** - Indirect chemical contamination zone.  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

<p><b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793</p>	
<p><b>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 5 IAO STREAM TO WAIKAPU, MAUI</b></p>	
<p><b>APPROVED:</b></p> <p>_____</p> <p>COUNTY CLERK                      DATE</p>	<p><b>PUBLIC HEARING:</b> _____</p> <p><b>ADOPTED BY COUNCIL:</b> _____</p>
<p><b>APPROVED:</b></p> <p>_____</p> <p>PLANNING DIRECTOR                      DATE</p>	<p><b>ADOPTED BY MAYOR:</b> _____</p> <p>BILL No./YEAR _____</p> <p>ORDINANCE No. _____</p>
<p><i>DRAFT 04</i>                      <b>WPOD Map 5</b></p>	





Wellhead Ord 05222013, Evs. Map# P.msd, 1:36000 for Dept. of Water, wattle.lindenberger@co.maui.hi.us, Dept. of Management GIS

**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

ZONE B is intended to designate a conservative estimate of the area that may contribute bacteria and viruses to the wellhead.  
A 2-year TOT criterion is based on survival times for bacteria and viruses in soil and groundwater.

ZONE C is based on a 10-year TOT to allow sufficient time to implement management and remedial measures to mitigate contamination from accidental contaminant spills and other causes.

<b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
<b>WELLHEAD PROTECTION OVERLAY DISTRICT</b> <b>MAP No. 6</b> <b>KOKOMO - PIIHOLO - AWALAU, MAUI</b>	
<b>APPROVED:</b>  COUNTY CLERK _____ DATE _____	<b>PUBLIC HEARING:</b> _____  <b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  PLANNING DIRECTOR _____ DATE _____	<b>ADOPTED BY MAYOR:</b> _____  <b>BILL No./YEAR</b> _____ <b>ORDINANCE No.</b> _____
<b>DRAFT 03</b> <b>WPOD Map 6</b>	





**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL

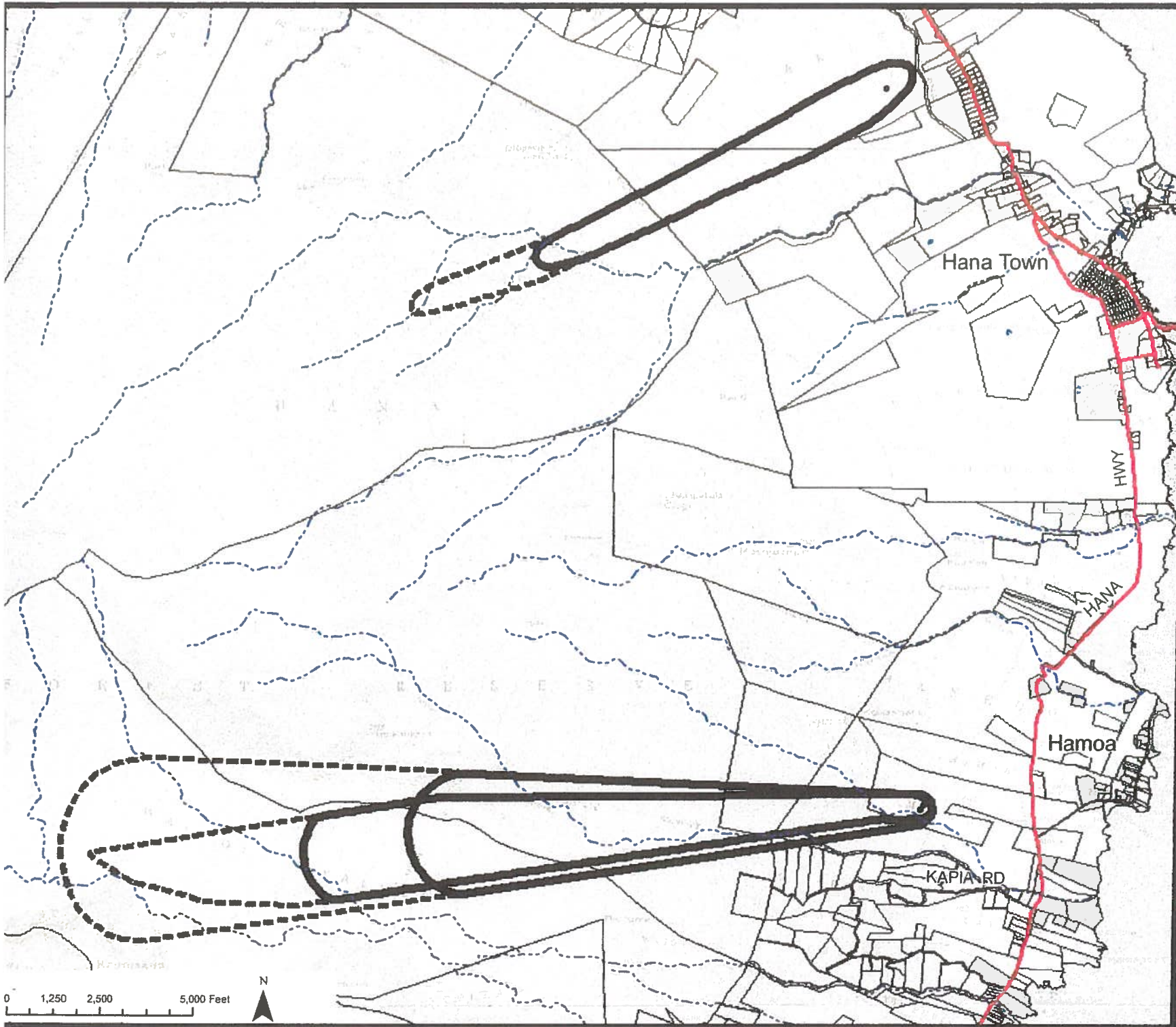
**NOTE:**

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**ZONE A** - Direct chemical contamination zone.  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

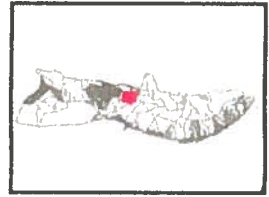
**ZONE B** - Indirect microbial contamination zone.  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C** - Indirect chemical contamination zone.  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.



<b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
<b>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 8 KAWAIPAPA GULCH TO WAIHOI VALLEY, MAUI</b>	
<b>APPROVED:</b>  _____ COUNTY CLERK                      DATE	<b>PUBLIC HEARING:</b> _____  <b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  _____ PLANNING DIRECTOR                      DATE	<b>ADOPTED BY MAYOR:</b> _____  <b>BILL No./YEAR</b> _____ <b>ORDINANCE No.</b> _____
<b>DRAFT 03      WPOD Map 8</b>	





**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL

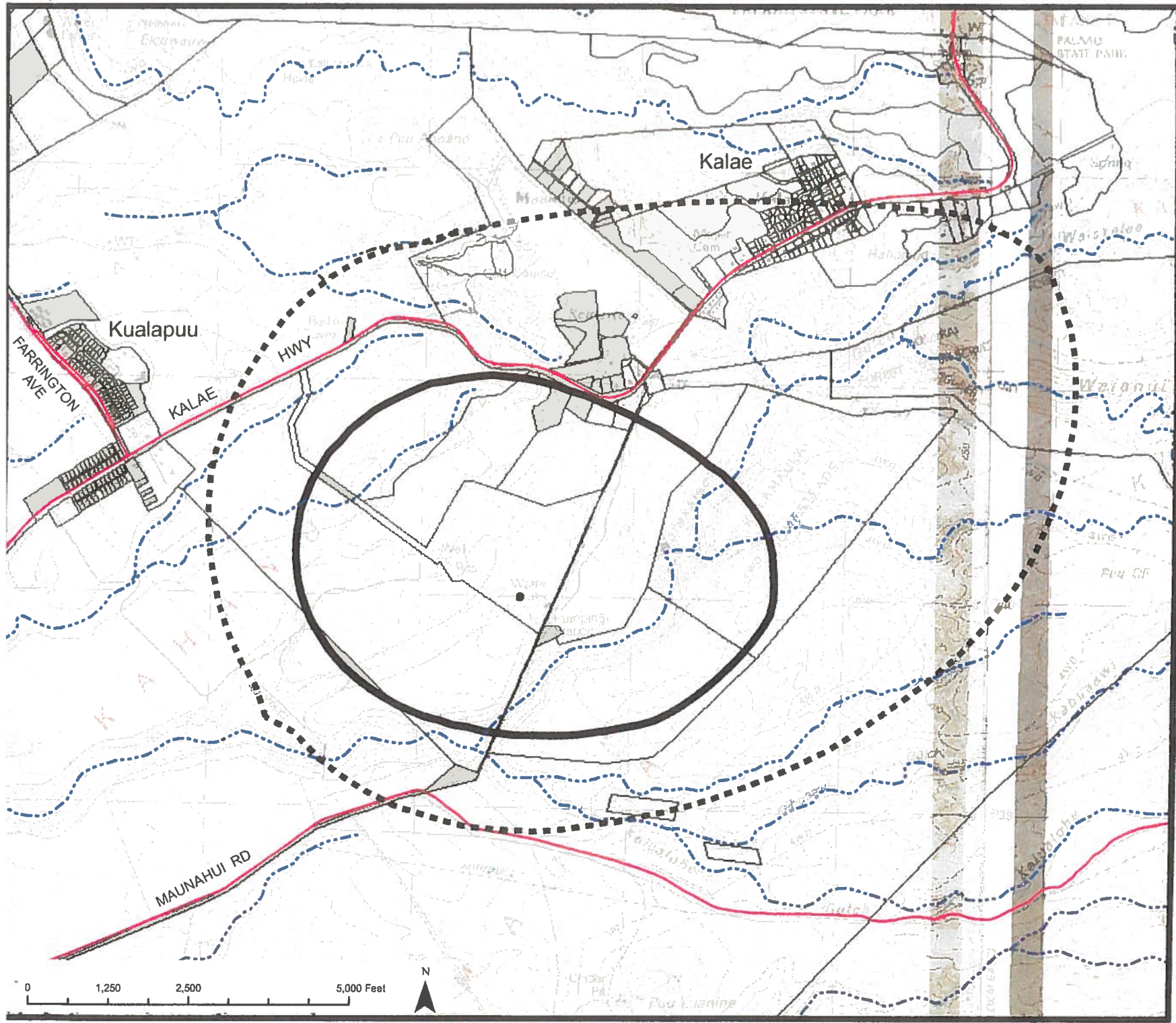
**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

**ZONE A - Direct chemical contamination zone.**  
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

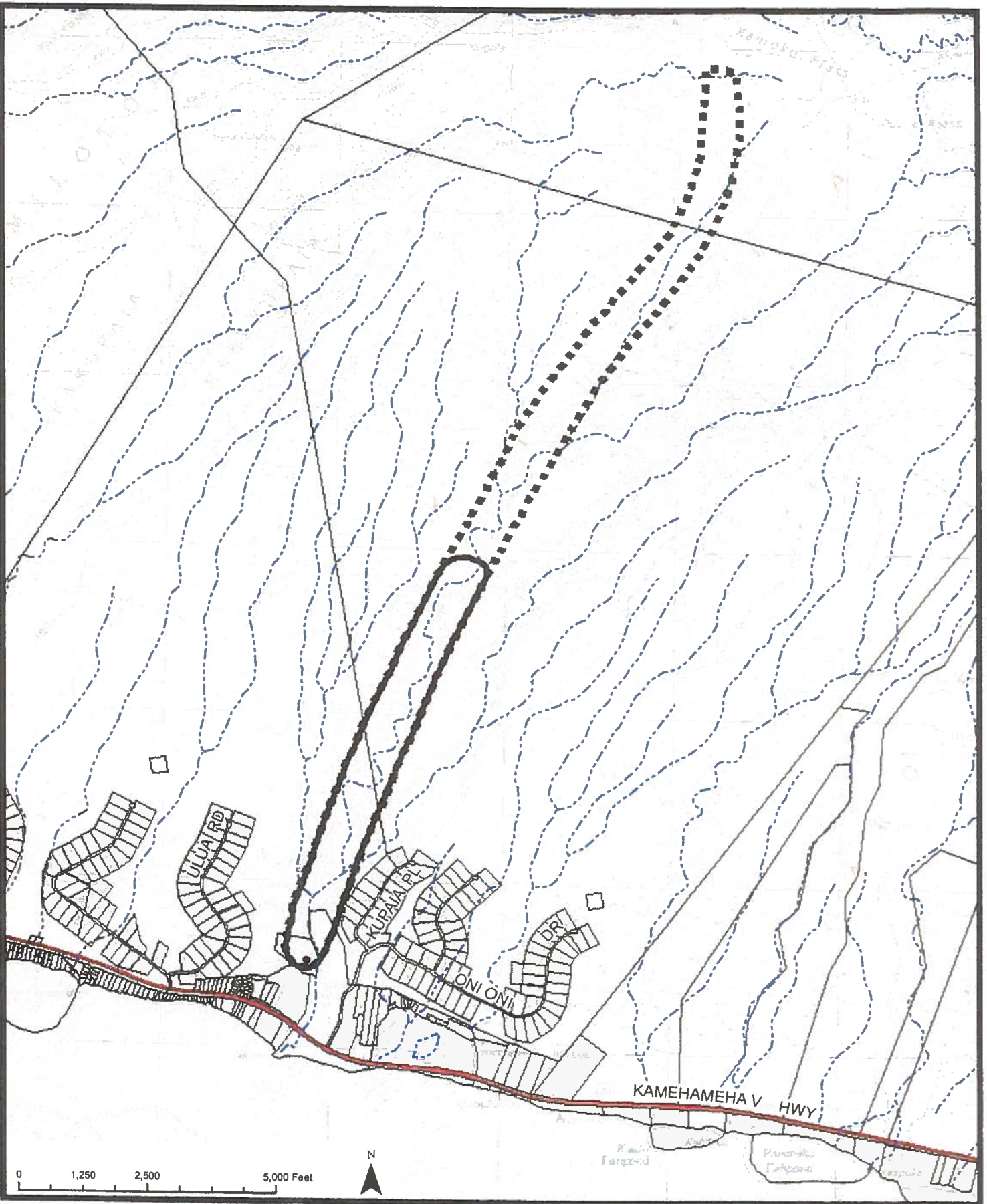
**ZONE B - Indirect microbial contamination zone.**  
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

**ZONE C - Indirect chemical contamination zone.**  
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.



<b>OFFICE OF THE COUNTY CLERK</b> 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
<b>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 9 AREA SOUTH OF KALAE, MOLOKAI</b>	
<b>APPROVED:</b>  COUNTY CLERK _____ DATE _____	<b>PUBLIC HEARING:</b> _____  <b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  PLANNING DIRECTOR _____ DATE _____	<b>ADOPTED BY MAYOR:</b> _____  BILL No./YEAR _____ ORDINANCE No. _____
<b>DRAFT 03</b> <b>WPOD Map 9</b>	

Wellhead Ord 05222013\_Eva\_MAP 10\_F.mxd 1:30000 Water Dept. walia.landenberger@co.maui.hi.us



**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

ZONE B is intended to designate a conservative estimate of the area that may contribute bacteria and viruses to the wellhead.

A 2-year TOT criterion is based on survival times for bacteria and viruses in soil and groundwater.

ZONE C is based on a 10-year TOT to allow sufficient time to implement management and remedial measures to mitigate contamination from accidental contaminant spills and other causes.

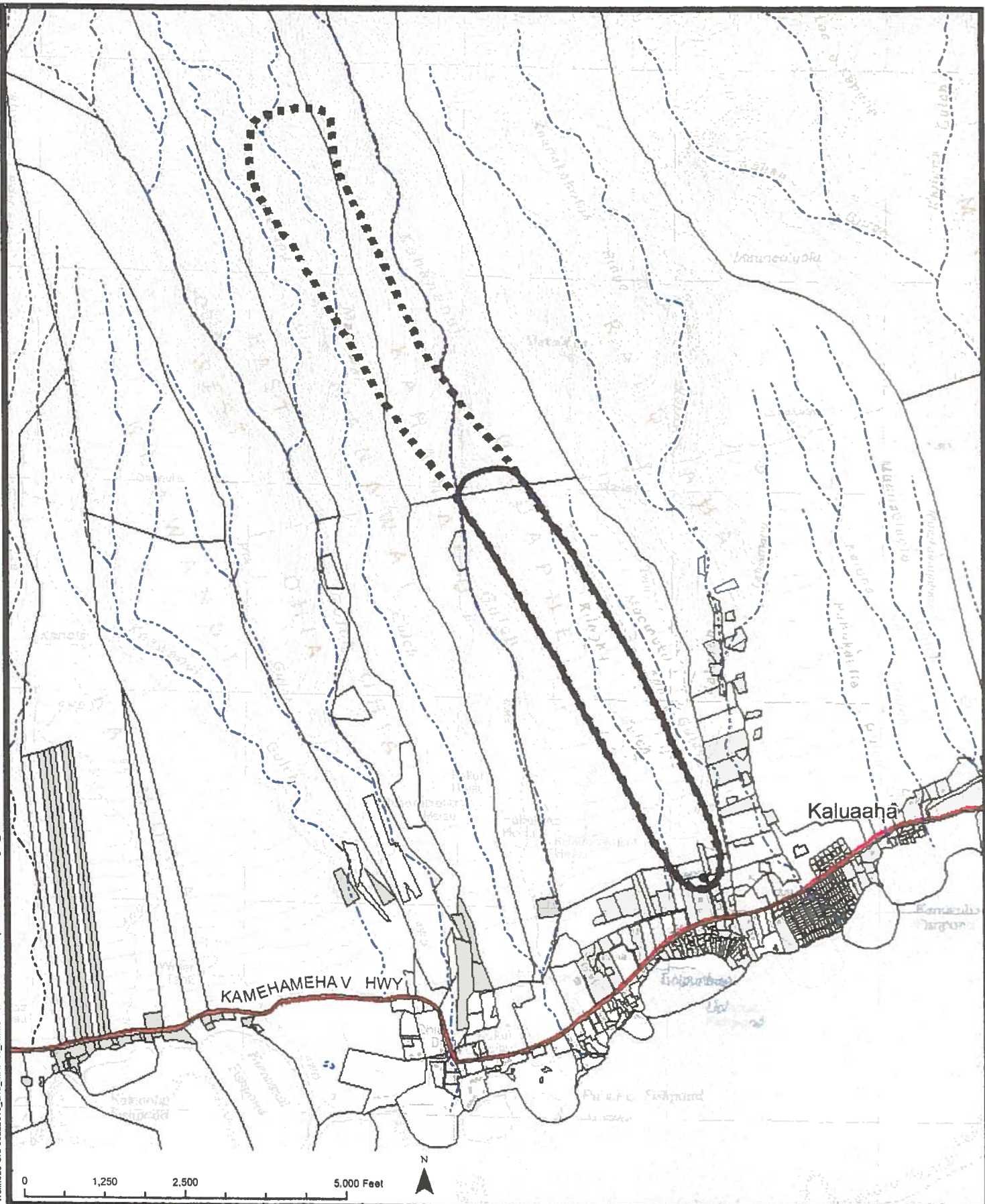
**OFFICE OF THE COUNTY CLERK**  
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION  
OVERLAY DISTRICT  
MAP No. 10  
KAWELA, MOLOKAI**

<b>APPROVED:</b>  _____ DATE	<b>PUBLIC HEARING:</b> _____
<b>COUNTY CLERK</b>	<b>ADOPTED BY COUNCIL:</b> _____
<b>APPROVED:</b>  _____ DATE	<b>ADOPTED BY MAYOR:</b> _____
<b>PLANNING DIRECTOR</b>	<b>BILL No./YEAR</b> _____
	<b>ORDINANCE No.</b> _____

*DRAFT 03* **WPOD Map 10**

Wellhead Ord 05222013\_Eva\_MAP 11\_P.mxd 1:24000 Water Dept. walle.landenberg@co.mau.hi.us



**LEGEND**

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



**NOTE:**

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

ZONE B is intended to designate a conservative estimate of the area that may contribute bacteria and viruses to the wellhead.

A 2-year TOT criterion is based on survival times for bacteria and viruses in soil and groundwater.

ZONE C is based on a 10-year TOT to allow sufficient time to implement management and remedial measures to mitigate contamination from accidental contaminant spills and other causes.

**OFFICE OF THE COUNTY CLERK**  
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION  
OVERLAY DISTRICT  
MAP No. 11  
UALAPUE, MOLOKAI**

<b>APPROVED:</b>  DATE _____ COUNTY CLERK _____	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
<b>APPROVED:</b>  DATE _____ PLANNING DIRECTOR _____	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____

DRAFT 03

**WPOD Map 11**