Resolution

No. 26-123

AUTHORIZING A WAIVER UNDER SECTION 2.50.060, MAUI COUNTY CODE, FROM THE REQUIREMENTS OF CODE SECTION 2.50.040, TO ALLOW FOR THE USE OF CERTAIN TYPES OF HERBICIDES IN VARIOUS LOCATIONS ON COUNTY PROPERTY

WHEREAS, Section 2.50.040, Maui County Code, prohibits the use of certain pesticides and fertilizers on County property that are not listed in title 7 Code of Federal Regulations 205.601, 205.603, 205.605, and 205.606, and that are not subject to any exceptions listed in that section; and

WHEREAS, Section 2.50.060, Maui County Code, allows for agencies to apply for a waiver from section 2.50.040; and

WHEREAS, any application for a waiver must include the information listed in subsection 2.50.060(B); and

WHEREAS, the Department of Public Works has applied for a waiver from section 2.50.040, by way of a proposed Vegetation Management Plan, attached as Exhibit "1"; and

WHEREAS, the Vegetation Management Plan includes the information required by subsection 2.50.060(B), including proposed locations for herbicide use, history of past management practices, cost estimates and information on how the threat to public health and safety will be minimized; now, therefore;

BE IT RESOLVED by the Council of the County of Maui:

1. That the Council finds the Vegetation Management Plan meets the requirements of subsection 2.50.060(B), Maui County Code;

2. That the Council finds that, based on the application submitted by the Department of Public Works:

    a. A situation exists that threatens the public's health and safety.

b. Alternative control methods and allowed substances have been evaluated and determined to be insufficient.

c. The application of otherwise prohibited substances will, to the greatest extent practical, minimize the impact of the application on abutting properties;

3. That the Council approves a waiver from section 2.50.040, for the locations identified in the application, as long as the Department of Public Works abides by the Vegetation Management Plan;

4. That the waiver will be effective for a period of two years, and any extension request must be submitted at least 90 days prior to expiration in accordance with code section 2.50.060; and

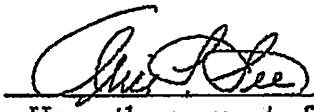
5. That certified copies of this Resolution be transmitted to the Director of Public Works.

APPROVED AS TO FORM AND LEGALITY

/s/ Michael J. Hopper

MICHAEL J. HOPPER
Department of the Corporation Counsel
County of Maui
20269-06-04 Reso Auth DPW Waiver
LF 2026-0739

INTRODUCED BY:



Upon the request of the Mayor.

EXHIBIT "1"

HALEY ALDRICH

www.haleyaldrich.com

COUNTY OF MAUI
VEGETATION MANAGEMENT PLAN

by
Haley & Aldrich, Inc.
Makawao, Hawaii

for
County of Maui, Department of Public Works
Wailuku, Hawaii

File No. 0211419-000
April 2026

Table of Contents

List of Appendices

1. Introduction

The County of Maui, Department of Public Works, Highways Division (herein referred to as "Highways") submits this Vegetation Management Plan to support a waiver request under Maui County Code Section 2.50.040, which restricts the use of pesticides on County property. The waiver seeks limited use of specific herbicide products in areas where alternative vegetation management methods have failed and public safety is at risk. The County maintains over 1,000 miles of roadway shoulders. Replacing pesticide use has proven most difficult in steep terrain, locations with limited equipment access, or areas with line-of-sight safety concerns.

The County has tested various non-chemical alternatives, including steam treatment and weed mats, which have not achieved sufficient control at high-priority sites due to rapid regrowth and maintenance limitations. If approved, the waiver would allow selective herbicide use for two years while alternative methods continue to be explored.

As required by Maui County Code Section 2.50.060, this Vegetation Management Plan includes the elements summarized in Table 1.

Table 1. Maui County Code Section 2.50.060 Requirements and Plan Cross-Reference

Information Required by Maui County Code Section 2.50.060	Reference
A location map for the proposed usage area.	Appendices A through E
A landscape plan.	Section 3
Photographs of areas and vegetation.	Appendices A through E
A summary of the existing plants, soils, and environmental conditions for each area.	Section 4
A history of vegetation management practices, including fertilizer and pesticide application amounts, and frequency.	Section 5
Cost estimates and a timeline.	Section 6
Information on how the public's health and safety is threatened.	Section 3
An evaluation and list of the results of alternative methods and materials.	Section 5.2
An explanation of how the application of otherwise prohibited substances will, to the greatest extent practical, minimize the impact of the application on abutting properties, human health, and the environment.	Section 7

2. Justification for Waiver Request

The waiver request is based on ongoing safety hazards, increased maintenance demands, and the failure of non-chemical alternatives in specific, limited-use areas. Proposed herbicides will be selected for their safety, efficacy, and minimal environmental impact.

2.1 FINDINGS IN SUPPORT OF WAIVER UNDER MAUI COUNTY CODE §2.50.040

As outlined in this Plan, the County of Maui finds:

2.1.1 Public Safety Necessity

Limited herbicide use is necessary to mitigate documented public safety hazards, including reduced sight distance at intersections, vegetation encroachment into travel lanes, impaired functionality of roadside

safety infrastructure (e.g., guardrails and signage), and recurring tripping hazards on sidewalks and paved pedestrian pathways. These conditions present ongoing risk to both the public and maintenance personnel when not actively managed.

2.1.2 Evaluation of Non-Chemical Alternatives

The County has implemented and evaluated a range of non-chemical vegetation management methods, including manual removal, mechanical cutting, steam treatment, weed mats, and other low-toxicity approaches since 2018. While effective in limited contexts, these methods have demonstrated reduced effectiveness in high-growth roadside environments characterized by rapid regrowth, constrained access, worker safety limitations, and potential for repeated disturbance or damage to adjacent infrastructure. In these settings, repeated mechanical intervention alone has not consistently maintained acceptable levels of vegetation control.

2.1.3 Targeted, Minimal, and Controlled Application

Herbicide applications will be strictly limited to discrete, identified locations where public safety risks have been documented and where non-chemical methods have not provided sufficient control. Applications will be localized and precision-based. No broadcast or aerial spraying is proposed under this waiver.

2.1.4 Lack of a Feasible Less-Toxic Alternative

Based on available data and field testing, no feasible non-chemical or less-toxic method has demonstrated equivalent performance in maintaining safe vegetation clearance in the identified high-risk roadside conditions, particularly where sustained regrowth pressure exists and rapid re-treatment cycles would be required to maintain compliance with safety standards.

2.1.5 Consistency with Ordinance Intent

This waiver request is intended to align with, rather than modify, the intent of Maui County Code §2.50.040 by addressing narrowly defined circumstances where vegetation management is required to maintain public safety and where alternative methods are not operationally sufficient. The County continues to evaluate and incorporate non-chemical methods where feasible and effective.

3. Proposed Usage Area Descriptions

The County of Maui proposes limited herbicide use for vegetation management in select areas, as described in the sections below. Each area has been evaluated based on its safety risks, maintenance challenges, and history of unsuccessful alternative treatments. Descriptions include the type of vegetation issues present, the public safety concerns they create, and the justification for selective herbicide application using products. The intent is to ensure roadway safety, visibility, and infrastructure integrity while minimizing chemical use and environmental impact.

Approval of this waiver request shall apply only to the specific locations, conditions, and application methods described herein. Any expansion to additional locations or uses shall require a separate waiver request and Council approval.

3.1 PAVEMENT PRESERVATION PROJECTS

Issue: Weeds re-emerge rapidly following pavement application.

Safety Concerns: Trip hazards, compromised road integrity, and hazards for bicyclists.

Pavement preservation projects across the County are consistently challenged by the rapid re-emergence of weeds in newly treated areas. Despite pavement preservation efforts, such as surface sealing and crack sealing, weeds frequently sprout through cracks and seams shortly after project completion, undermining the lifespan of the pavement preservation work and creating hazards (see Appendix A). These emerging weeds can pose trip hazards to pedestrians, interfere with strollers or wheelchairs, and force bicyclists into unsafe positions.

Manual or mechanical removal is labor-intensive and unsustainable. The targeted application of a non-selective, liquid-applied herbicide with residual pre-emergent control is proposed prior to pavement preservation work to reduce growth, preserve infrastructure, and improve safety.

3.2 INTERSECTIONS

Issue: Rapid vegetation growth at intersections impairs visibility.

Safety Concerns: Sightline obstructions significantly increase accident risk.

High-growth areas in wet or rural locations block visibility of signs, cross traffic, and pedestrians, creating a persistent and significant safety hazard (see Appendix B). The County proposes the targeted use of a non-selective, liquid-applied herbicide with residual pre-emergent control at key visibility zones listed in Table 2, extending approximately 30 feet in each direction.

Table 2. List of Intersections

Intersection	Extent
Baldwin Ave & Kaluanui Rd	Baldwin Ave – Northbound. Kaluanui Rd – Eastbound & westbound.
Baldwin Ave & Haliimaile Rd	Baldwin Ave – Northbound & southbound. Haliimaile Rd – Eastbound & westbound.
Haiku Rd & Kauhikoa Rd	Haiku Rd – Eastbound & westbound. Kauhikoa Rd – Northbound & southbound.
Meha Rd & Hanamu Rd	Meha Rd – Eastbound. Hanamu Rd – Southbound.
Kaupakalua Rd & Puuomaile Rd	Kaupakalua Rd – Southbound. Puuomaile Rd – Eastbound & westbound.
Makani Rd & Apana Rd	Makani Rd – Northbound & southbound. Apana Rd – Northbound.
Makawao Ave & Old Haleakala Hwy	Makawao Ave – Eastbound & westbound. Old Haleakala Hwy – Northbound & southbound.

3.3 ROADWAYS AND SIDEWALKS

3.3.1 Narrow and Winding Roadways

Issue: Limited space restricts manual removal; vegetation impairs visibility and encroaches into driving lanes.

Safety Concerns: Vegetation growth in constrained corridors impairs visibility and forces vulnerable road users into traffic, increasing collision risk.

Many of the County's roadways are narrow and winding, making vegetation maintenance especially challenging. These areas are too confined for mowing equipment, and manual removal is not a sustainable long-term strategy due to staffing limitations and difficult access. Overgrown vegetation frequently reduces line of sight around turns and encroaches onto pavement edges, forcing vehicles into or near oncoming traffic lanes, impairing visibility, and increasing the risk of collisions. In addition, vegetation traps moisture along pavement edges, accelerating roadway degradation and increasing long-term maintenance costs.

To address these concerns, the County proposes the targeted use of a non-selective, liquid-applied herbicide with residual pre-emergent control along narrow corridors where physical removal is impractical on the following roadways (see Appendix C):

- Kahekili Hwy – Kahakaloa Village to State DOT jurisdiction
- Keomoku Hwy – Entire length

This approach aims to maintain clear shoulders to enhance safety for all road users.

3.3.2 Sidewalk Maintenance

Issue: Persistent weed growth in sidewalk cracks.

Safety Concerns: Cracked sidewalks with weed growth create tripping hazards for pedestrians.

Weeds commonly emerge through cracks in sidewalks, undermining pavement integrity and creating hazards for pedestrians.

Manual removal in these areas has proven ineffective, as vegetation quickly regrows between maintenance cycles. In some cases, this issue arises shortly after new sidewalks are constructed (see Appendix C). Additionally, this method results in more frequent sidewalk closures which force pedestrians into unsafe locations.

To address this recurring problem, the County proposes targeted spot treatment with a non-selective, liquid-applied herbicide with residual pre-emergent control in sidewalk cracks where physical removal is impractical.

This approach aims to reduce trip hazards and improve safety for all sidewalk users.

3.4 GUARDRAILS AND ROADSIDE INFRASTRUCTURE

3.4.1 Guardrails

Issue: Vegetation grows through and over guardrails.

Safety Concerns: Obscures visibility and impairs functionality during collisions.

Guardrails are a critical safety feature on many of the County's narrow and winding roads. However, these structures are frequently compromised by aggressive weed growth that climbs into and over the rails, obstructing visibility of both the guardrails themselves and, in some cases, oncoming traffic (see Appendix D). Maintenance crews have found it difficult to manage this growth with hand tools, as vegetation often grows between and beneath the rails where equipment cannot easily access. Additionally, manual removal in these areas presents a safety hazard for crew members.

The County proposes limited, targeted herbicide applications along these linear features to maintain clear sightlines and ensure the functionality of the guardrails. With proper timing and product selection, herbicide use in these areas would reduce the need for frequent mechanical intervention and enhance overall road safety.

3.4.2 Roadside Infrastructure

Issue: Persistent weed growth around roadside infrastructure.

Safety Concerns: Vegetation obscures reflectors, signage, and utility poles, reducing visibility.

Vegetation frequently grows around roadside infrastructure such as utility poles and sign posts, making manual removal difficult and time-consuming. When unchecked, this growth obscures reflectors and traffic signs, reducing visibility and creating safety hazards.

To address this, the County proposes spot treatment with a non-selective, liquid-applied herbicide with residual pre-emergent control around utilities where physical removal is impractical. This approach will maintain sign visibility, improve reflector performance, and enhance roadway safety.

3.5 TREE REMOVAL PROJECTS

Issue: Regrowth from severed stumps and roots following removal.

Safety Concerns: Resprouting obstructs sightlines, uplifts pavement, damages sidewalks and curbs, and creates hazards for motorists, pedestrians, and bicyclists.

Tree removals on County-maintained properties are often necessary to address safety hazards posed by unstable or invasive species. Many of these trees, particularly non-native species like eucalyptus, are prone to falling during storms or high winds due to shallow root systems or internal decay. A notable example is along Olinda Road, where in 2017 the County removed 400 eucalyptus trees in an effort to reduce cases where eucalyptus trees have fallen and posed serious risks to motorists, pedestrians, and

nearby properties.[1, 2] In high-wind or saturated soil conditions, these trees can fail suddenly, blocking roadways, damaging infrastructure, or causing injury.

In addition to fall hazards, shallow root systems frequently grow into roadways and sidewalks, creating hazardous conditions for vehicles, pedestrians, and bicyclists. These roots can cause pavement uplift, sidewalk cracking, and significant trip or vehicle hazards, especially in older neighborhoods with narrow rights-of-way. To mitigate these risks, the County proactively removes trees and roots identified as hazardous through visual assessments or in response to community concerns.

However, post-removal management is challenging. Many species resprout aggressively from stumps and exposed or severed roots (see Appendix E), undermining the effectiveness of the original removal and creating repeat safety and maintenance concerns. Simply cutting the roots at the edge of pavement often triggers regrowth, leading to frequent re-cutting and costly repairs. These resprouts can obstruct sightlines, damage pavement and curbs, and require repeated mechanical intervention, which is both labor-intensive and expensive.

To address this, the County proposes the targeted application herbicides on freshly cut stumps and root surfaces to prevent resprouting at the source. This method enables localized control without broadcast spraying, reduces long-term maintenance needs, and mitigates the safety and structural hazards associated with unmanaged regrowth. It also minimizes mechanical disturbance to sensitive roadside infrastructure and surrounding vegetation.

4. Summary of Existing Conditions

The proposed usage areas are generally in areas with high precipitation, high traffic, and poor accessibility for routine maintenance. The intersections, roadways, and guardrails commonly contain tall, fast-growing vegetation such as Cane Grass, Fountain Grass, and Guinea Grass. The pavement preservation projects and tree removal areas commonly contain low-growing, pavement-cracking weeds such as Spotted Spurge, Bermuda Grass, and Hilo Grass.

5. Vegetation Management History

5.1 PRIOR HERBICIDE USE

Prior to the ordinance regulating pesticide and fertilizer use on County property was passed, Highways utilized Roundup Promax, a broad-spectrum postemergence professional herbicide for non-crop, industrial, turf and ornamental weed control. Herbicide use was limited and applied only under dry weather conditions, and not near streams or ditches. In addition, Highways diligently tracked herbicide applications using its asset management system, iWorQ.

5.2 ALTERNATIVE METHODS

Highways has been investigating alternatives to pesticide use for vegetation management along roadway shoulders since 2018. Since the ordinance's enactment, Highways crews have exclusively used mowing and manual cutting methods to manage weeds, shrubs, and small trees.

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[1] https://www.hawaiinewsnow.com/story/35916908/maui-removing-hundreds-of-dead-diseased-eucalyptus-trees-in-makawao/
[2] https://www.mauinews.com/news/local-news/2017/11/emergency-measure-would-remove-400-dead-eucalyptus-trees/

5.2.1 Steam Treatment

In 2022, the Highways Division launched a pilot program to test steam treatment for weed control. This method works by applying high-temperature steam to burst plant cell walls, causing the vegetation to wilt and die. While initially effective, certain types vegetation in treated areas grew back rapidly, often more vigorously than before, likely due to the added moisture introduced during treatment.

5.2.2 Weed Mats

Weed mats have also been tested in difficult-to-maintain areas such as along guardrails along Hansen Road and S. Alu Road. However, the mats failed prematurely due to uplift and displacement within 2-3 years, well before reaching their expected lifespan. Reinstalling mats frequently to maintain effectiveness would be both cost-prohibitive and labor intensive.

5.2.3 Organic and Natural Solutions

Highways also tested organic and natural options, including Avenger and Weed Zap. These methods, however, were ineffective in controlling the types of vegetation commonly found along County roadways, as reflected in Figures 1 and 2 below.

Figure 1: Avenger organic herbicide applied on October 16, 2015 (before application on the left and four days following application on the right).

Figure 2: Weed Zap organic herbicide applied on October 16, 2015 (before application on the left and four days following application on the right).

5.3 CURRENT PROCESS

5.3.1 Pavement Preservation Projects

Pavement preservation projects have shifted away from the preferred, cost-effective methods of slurry sealing and crack sealing, as these treatments have proven prone to persistent weed growth in the absence of pesticide use. In response, the County has adopted a more expensive and labor-intensive approach involving full paving operations. This shift includes the recent purchase of an asphalt paver to support these expanded efforts.

5.3.2 Intersections, Roadways, and Guardrails

Intersections, roadways, and guardrails are currently maintained using hand equipment such as weed whackers and mechanical brush cutters. These areas are typically serviced monthly; however, high-risk locations, such as those identified above, are maintained more frequently, approximately every two weeks. Despite performing maintenance six days a week, including Saturdays, Highways crews continue to struggle to keep up with the rapid pace of vegetation growth.

5.3.3 Tree Removal Projects

Tree removal projects are not currently undergoing any treatment after removal or cutting, resulting in regrowth.

6. Cost Estimates

Refer to Table 3 below for a summary of cost estimates for each proposed usage area.

Table 3. Cost Estimates

	Proposed Vegetation Management Plan	**Existing Vegetation Management Plan (no herbicide use)**
Pavement Preservation Projects		
Labor	Crack Seal (1 mile): **$12,000** Assumptions: • 4-person crew • 50 hrs/mile	Paving (1 mile): **$34,560** Assumptions: • 18-person crew • 32 hrs/mile
Materials	Herbicide Application (1 mile): $14 Crack Seal (1 mile): $5,070 Total: **$5,084** Assumptions: • 0.25 acre treated with herbicides per mile • Crack sealant cost: $4/gal • Typical crack sealant usage: 200 gal/mile • Equipment cost: $4,270/mile	Paving (1 mile): **$600,000** Assumptions: • Typical paving usage: 2,500 tons/mile • 2-lane road, 2" overlay • Asphalt cost: $160/ton • Equipment cost: $200,000/mile

Table 3. Cost Estimates

	Proposed Vegetation Management Plan	Existing Vegetation Management Plan (no herbicide use)
Tree Removal Projects		
Labor	Tree Cut Plus Herbicide (100 trees): **$1,600 (one-time)** Assumptions: • 8 mins/tree	Tree Cut (100 trees): **$3,600 annually** Assumptions: • 6 mins/tree • 2 re-cuts/yr due to resprouting • Costs recur annually
	Tree Removal with Root Excavation Plus Herbicide: **$25,000 per tree (one-time)**	Tree Removal with Root Excavation: **$25,000 per tree (annually)**
Materials	Herbicide (100 trees): **$88** Assumptions: • Solution needed: 2 oz/tree • Dilution Rate: 20% Garlon to 80% carrier oil	No materials associated with weed abatement.
Intersections and Roadways		
Labor	Herbicide Application: **$22,716 annually** Assumptions: • 3-person crew • Herbicide application quarterly at 0.5 hr/intersection and 1.5 hrs/mile	Manual Maintenance: **$136,296 annually** Assumptions: • 3-person crew • Manual maintenance monthly at 1 hr/intersection and 3 hrs/mile
Materials	Herbicide Application: **$4,600** Assumptions: • 0.25 acres treated per intersection • 1 acre treated per roadway mile	No materials associated with weed abatement.
Guardrails		
Labor	Herbicide Application (1 mile): **$416** Assumptions: • 3-person crew • 3 hrs/mile	Weed Matting Installation (1 mile): **$7,200** Assumptions: • 3-person crew • 40 hrs/mile
Materials	Herbicide Application (1 mile): **$56** Assumptions: • Herbicide application annually at 1 acre treated per guardrail mile	Weed Matting Installation (1 mile): **$4,752** Assumptions: • 3 feet of matting installed per guardrail mile
Notes: • *Assumed $60/hour fully burdened labor rate (including benefits, overhead).* • *Assumed herbicide cost based on Specticle Total: $400/gal.* • *Assumed herbicide application rate: 18 oz/acre.* • *Assumed stump treatment herbicide cost based on Garlon 4 Ultra: $160/gal.* • *Assumed carrier oil cost: $30/gal.* • *Assumed weed mat material and landscape staples cost: $0.30/sq ft.*		

7. Minimizing Environmental & Health Impact

Highways is committed to minimizing potential adverse impacts of herbicide applications on surrounding properties, public health, and the environment. Proposed applications of herbicides will be subject to strict application restrictions, careful product selection, and site-specific planning.

7.1 PRODUCT SELECTION

For roadway and right-of-way applications, a non-selective, liquid-applied herbicide with residual pre-emergent control, such as Specticle Total or an equivalent product, will be selected based on its proven efficacy, extended residual control, and favorable environmental profile when applied in accordance with the label. These products provide primarily pre-emergent control by inhibiting weed seeds from germinating and emerging from the soil, allowing for fewer applications compared to conventional contact herbicides.

When compared to organic alternatives, the proposed pre-emergent products provide significantly longer residual control and reduce the frequency of reapplication. Organic contact herbicides generally require direct contact and multiple applications per growing season to maintain comparable levels of vegetation control. As a result, while organic options may reduce reliance on synthetic active ingredients, they often increase overall application frequency, labor inputs, and potential for repeated site disturbance.

Additionally, when applied per label requirements, the selected products exhibit low soil mobility, which limits off-site transport and helps minimize potential environmental impacts.

For tree removal applications, a targeted herbicide such as Garlon 4 Ultra or an equivalent will be used for post-cut stump and root treatments. These herbicides are applied directly to freshly cut surfaces, significantly reducing the risk of drift or runoff. They will not be broadcast or sprayed over large areas; rather, their use is strictly limited to invasive or hazardous tree removals where uncontrolled regrowth presents ongoing safety and maintenance challenges.

When compared to organic or mechanical alternatives, post-cut stump and root herbicide applications provide more reliable prevention of resprouting and reduce the need for repeated mechanical disturbance. Mechanical-only approaches often require multiple follow-up treatments over time and may result in continued root sprouting, particularly for invasive or aggressive tree species, thereby increasing long-term site disturbance and maintenance requirements.

7.2 TARGETED AND LIMITED APPLICATION AREAS

Applications will only occur in high-priority, limited locations, such as road shoulders, guardrails, and visibility zones, where alternative methods (manual removal, steam, or mats) have proven ineffective or impractical due to safety concerns, site conditions, or rapid regrowth.

7.3 APPLICATION PROCEDURES AND REGULATORY COMPLIANCE

The following procedures will be implemented during herbicide applications to minimize exposure to adjacent properties, human activity, and the environment:

- All herbicide applications will be conducted by County staff or licensed contractors trained in pesticide safety and certified under Hawai'i's pesticide use regulations.
- Herbicides will be stored in secure, labeled containers in dry locations and in accordance with manufacturer specifications.
- Applications will not occur before or during rainfall or during high wind conditions.
- Herbicides will never be applied at rates exceeding manufacturer recommendations.
- Products will be used only where necessary; over-application will be strictly avoided.
- Herbicides will be mixed and transferred only over impervious surfaces or containment areas; any spills will be cleaned up immediately.
- Application equipment will be calibrated regularly to ensure accurate delivery rates.
- A complete inventory of herbicide products will be maintained, along with accessible Safety Data Sheets (SDS) for each material.
- Watering treated landscaped areas will be managed to prevent runoff into streets or storm drains.
- Spill response materials will be kept on hand and easily accessible at all times during application.
- All label instructions and applicable regulations, including the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), will be followed.
- Herbicides will be applied during appropriate growth stages (e.g., when weeds are at seed set) to maximize effectiveness and reduce the need for reapplication.
- Applications will be restricted in areas where discharge to storm drains or surface water bodies could occur.
- Applicators will use low-pressure, targeted equipment such as shielded nozzles or spray wands to limit product to intended areas.
- Temporary signage will be posted to notify the public. Access to treated areas will be restricted until the product has visibly dried.

References

1. **American Association of State Highway and Transportation Officials**. (2018). *A Policy on Geometric Design of Highways and Streets* (7th ed.). Washington, DC: AASHTO. Commonly referred to as the "AASHTO Green Book."

2. **County of Maui**. (2018, December). *County of Maui Street Design Manual*. Department of Public Works, Engineering Division. Available at: https://www.mauicounty.gov/DocumentCenter/View/115295/COM-Street-Design-Manual---December-2018

3. **EPA (U.S. Environmental Protection Agency)**. (2016). *Letter re: Acceptance of Label Notification for Specticle Total (EPA Reg. No. 432-1532) under PR Notice 98-10*. Dated September 30, 2016. Available at: https://www3.epa.gov/pesticides/chem_search/ppls/000432-01532-20160930.pdf

4. **Hawaii News Now**. (2017, July 18). *Maui removing hundreds of dead, diseased eucalyptus trees in Makawao.* Retrieved from http://hawaiinewsnow.com/story/35916908/maui-removing-hundreds-of-dead-diseased-eucalyptus-trees-in-makawao/

5. **Maui News**. (2017, November 14). *Emergency measure would remove 400 dead eucalyptus trees.* Retrieved from https://www.mauinews.com/news/local-news/2017/11/emergency-measure-would-remove-400-dead-eucalyptus-trees/

APPENDIX A
Pavement Preservation Project Photographs

PAVEMENT PRESERVATION PROJECTS

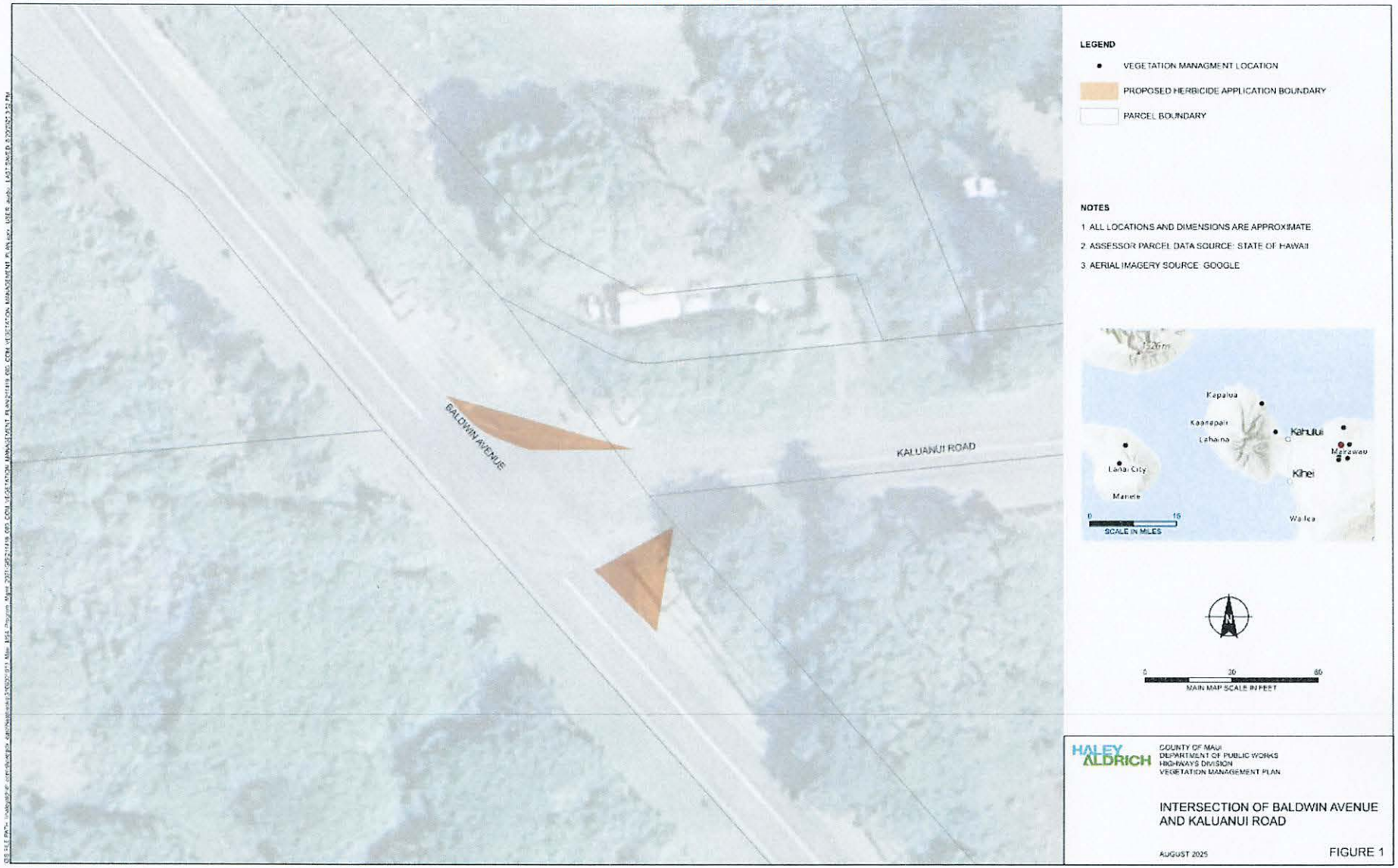
APPENDIX B
Intersection Photographs and Proposed Usage Area Maps

INTERSECTIONS

BALDWIN AVE & KALUANUI RD

INTERSECTIONS

BALDWIN AVE & KALUANUI RD



LEGEND

- VEGETATION MANAGMENT LOCATION
- PROPOSED HERBICIDE APPLICATION BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: STATE OF HAWAII
3. AERIAL IMAGERY SOURCE: GOOGLE

HALEY ALDRICH

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
HIGHWAYS DIVISION
VEGETATION MANAGEMENT PLAN

INTERSECTION OF BALDWIN AVENUE AND KALUANUI ROAD

AUGUST 2025

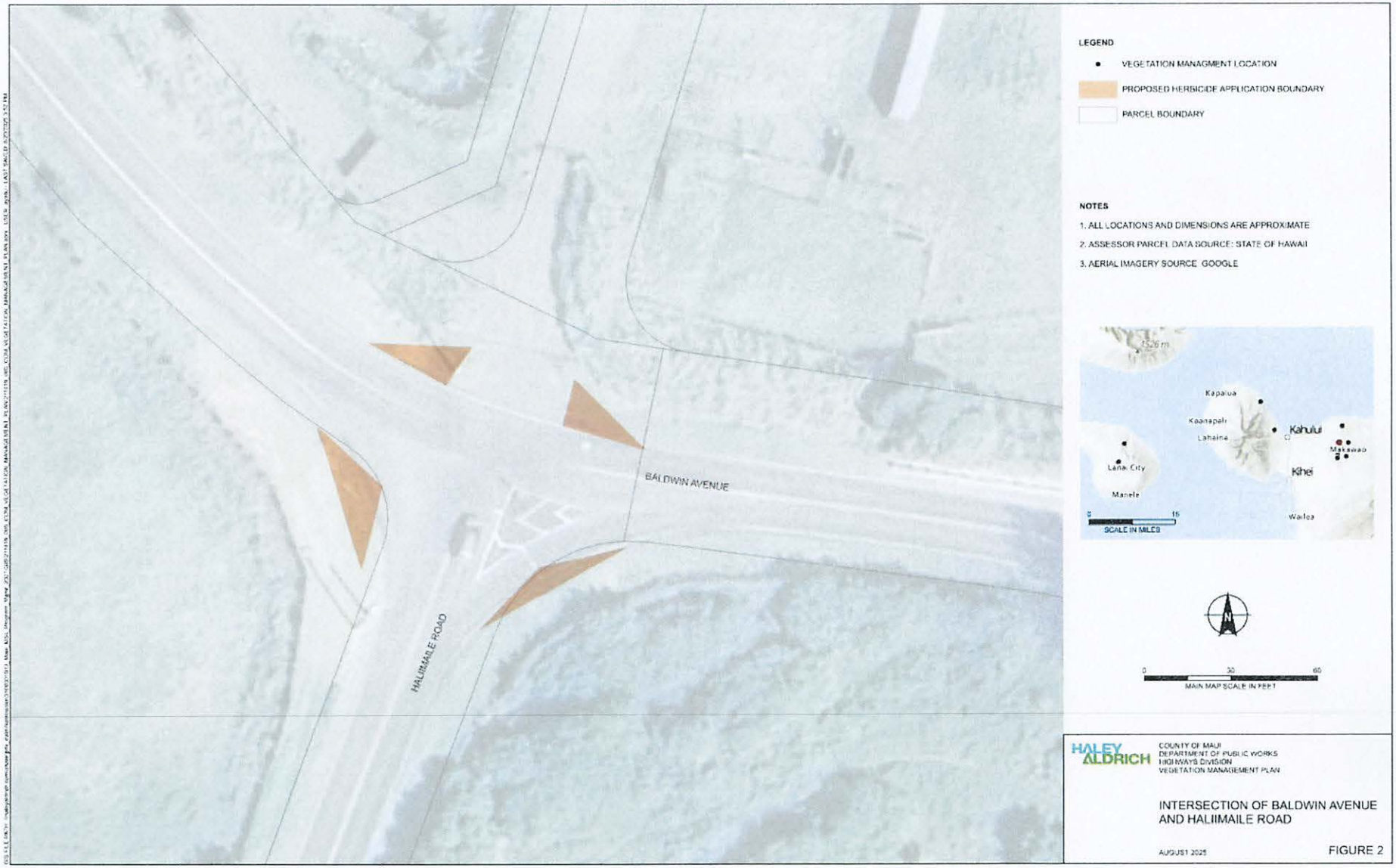
FIGURE 1

INTERSECTIONS

BALDWIN AVE & HALIIMAILE RD

INTERSECTIONS

BALDWIN AVE & HALIIMAILE RD

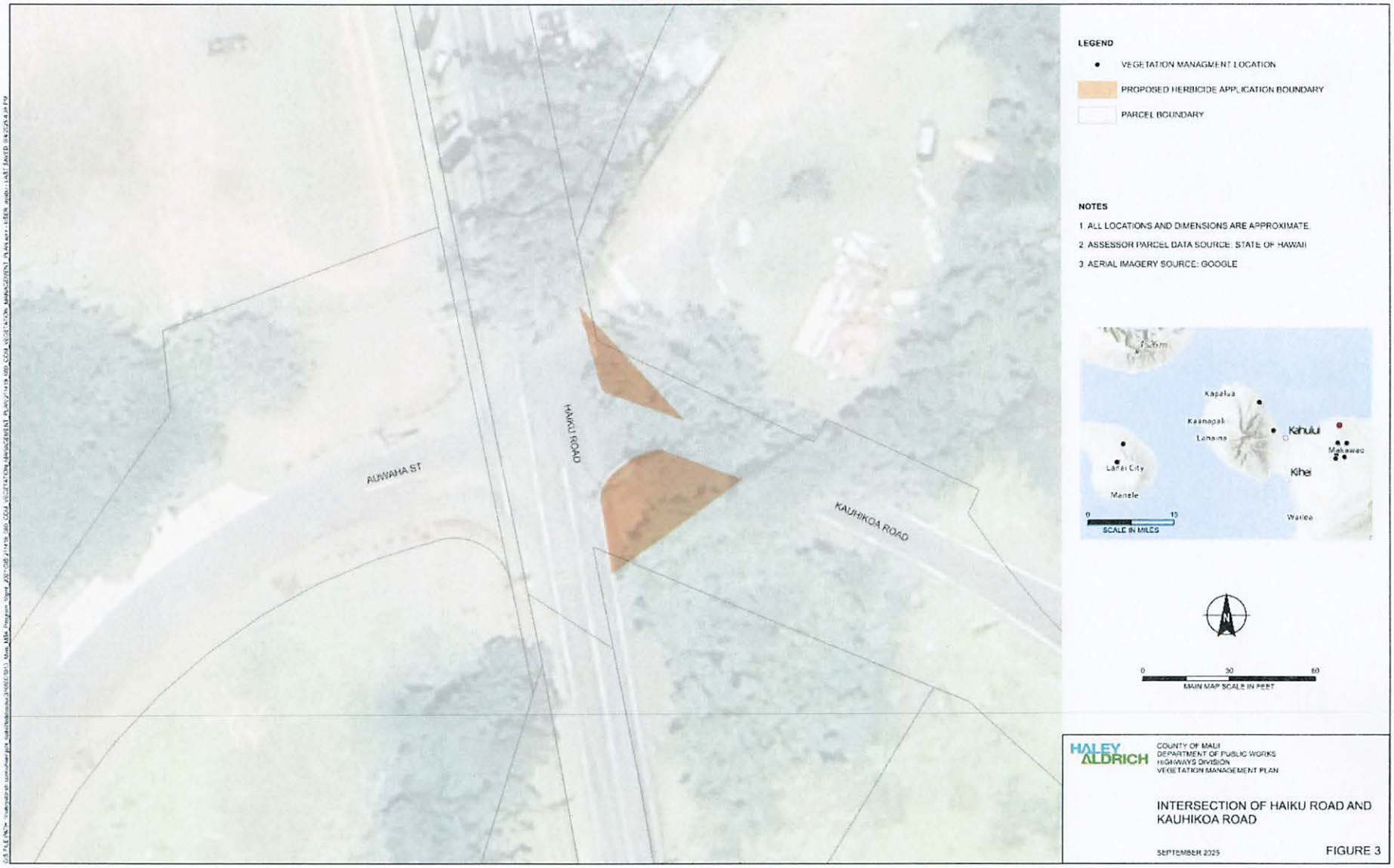


INTERSECTIONS

HAIKU RD & KAUHIKOA RD

INTERSECTIONS

HAIKU RD & KAUHIKOA RD



HALEY ALDRICH

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
HIGHWAYS DIVISION
VEGETATION MANAGEMENT PLAN

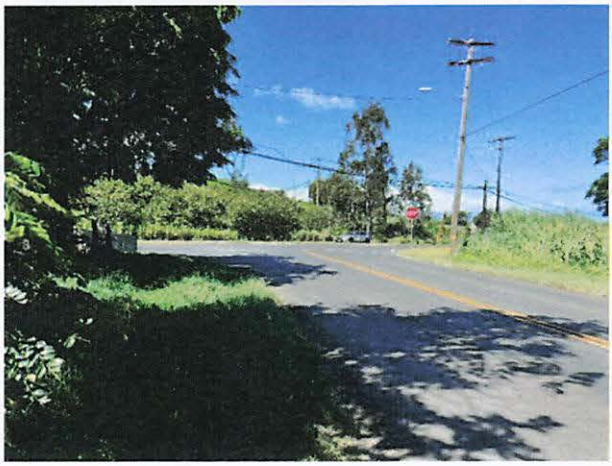
INTERSECTION OF HAIKU ROAD AND KAUHIKOA ROAD

SEPTEMBER 2025

FIGURE 3

INTERSECTIONS

MEHA RD & HANAMU RD



INTERSECTIONS

MEHA RD & HANAMU RD

LEGEND

- VEGETATION MANAGMENT LOCATION
- PROPOSED HERBICIDE APPLICATION BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. ASSESSOR PARCEL DATA SOURCE: STATE OF HAWAII
3. AERIAL IMAGERY SOURCE: GOOGLE

0 30 60
MAIN MAP SCALE IN FEET

HALEY ALDRICH

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
HIGHWAYS DIVISION
VEGETATION MANAGEMENT PLAN

INTERSECTION OF MEHA ROAD AND HANAMU ROAD

AUGUST 2025

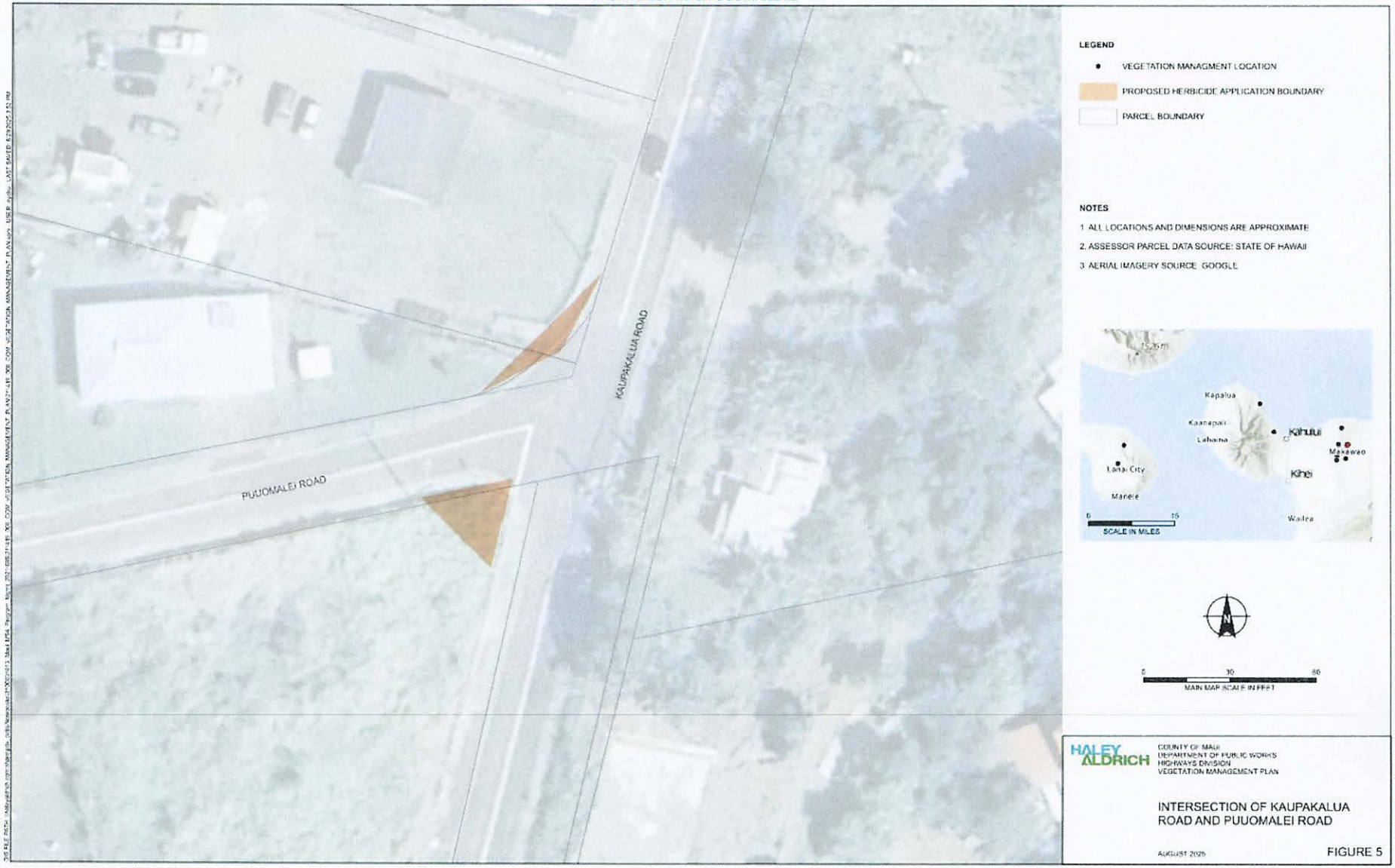
FIGURE 4

INTERSECTIONS

KAUPAKALUA RD & PUUOMAILE RD

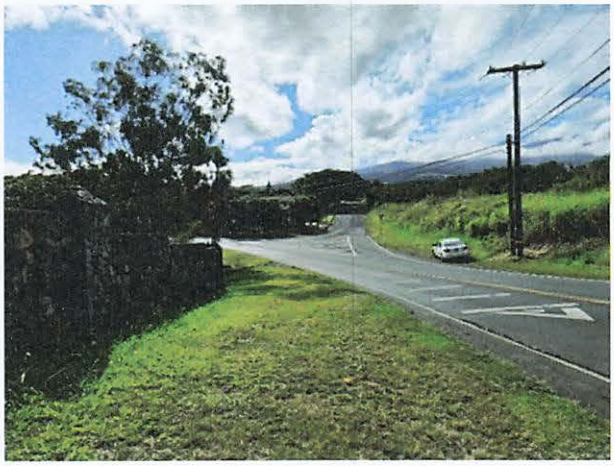
INTERSECTIONS

KAUPAKALUA RD & PUUOMAILE RD



INTERSECTIONS

MAKANI RD & APANA RD



INTERSECTIONS

MAKANI RD & APANA RD

LEGEND

- VEGETATION MANAGMENT LOCATION
- PROPOSED HERBICIDE APPLICATION BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: STATE OF HAWAII
3. AERIAL IMAGERY SOURCE: GOOGLE

0 30 60
MAIN MAP SCALE IN FEET

HALEY ALDRICH

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
HIGHWAYS DIVISION
VEGETATION MANAGEMENT PLAN

INTERSECTION OF MAKANI ROAD & APANA ROAD

AUGUST 2025

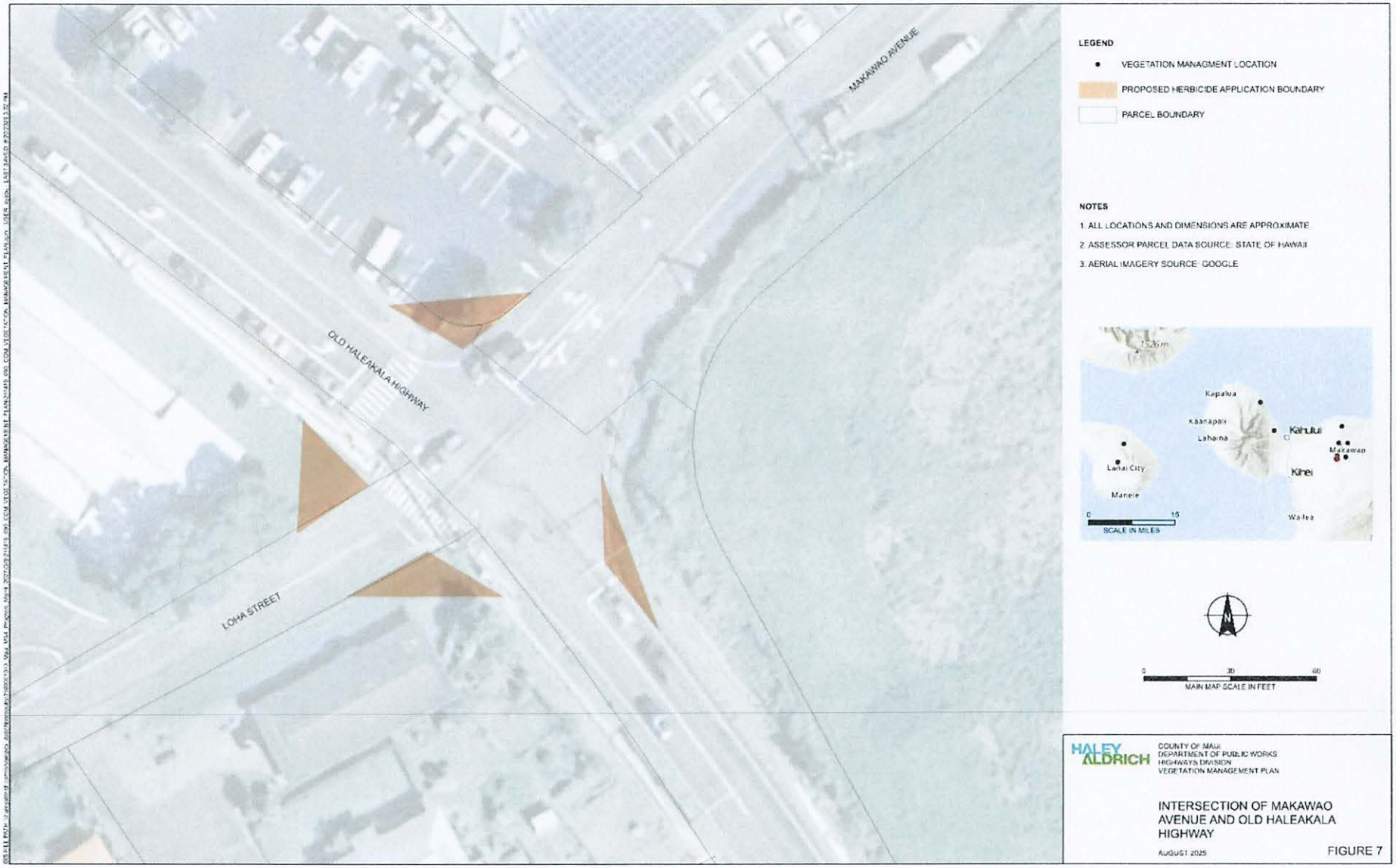
FIGURE 6

INTERSECTIONS

MAKAWAO AVE & OLD HALEAKALA HWY

INTERSECTIONS

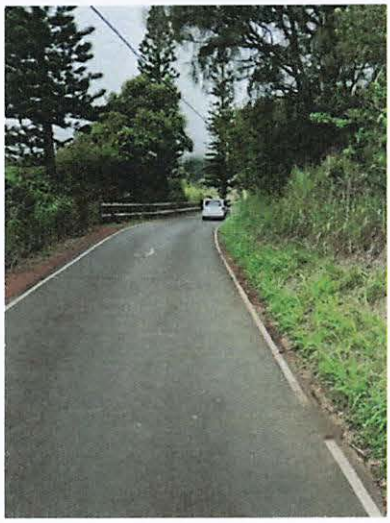
MAKAWAO AVE & OLD HALEAKALA HWY



APPENDIX C
Roadways and Sidewalks
Photographs and Proposed Usage Area Maps

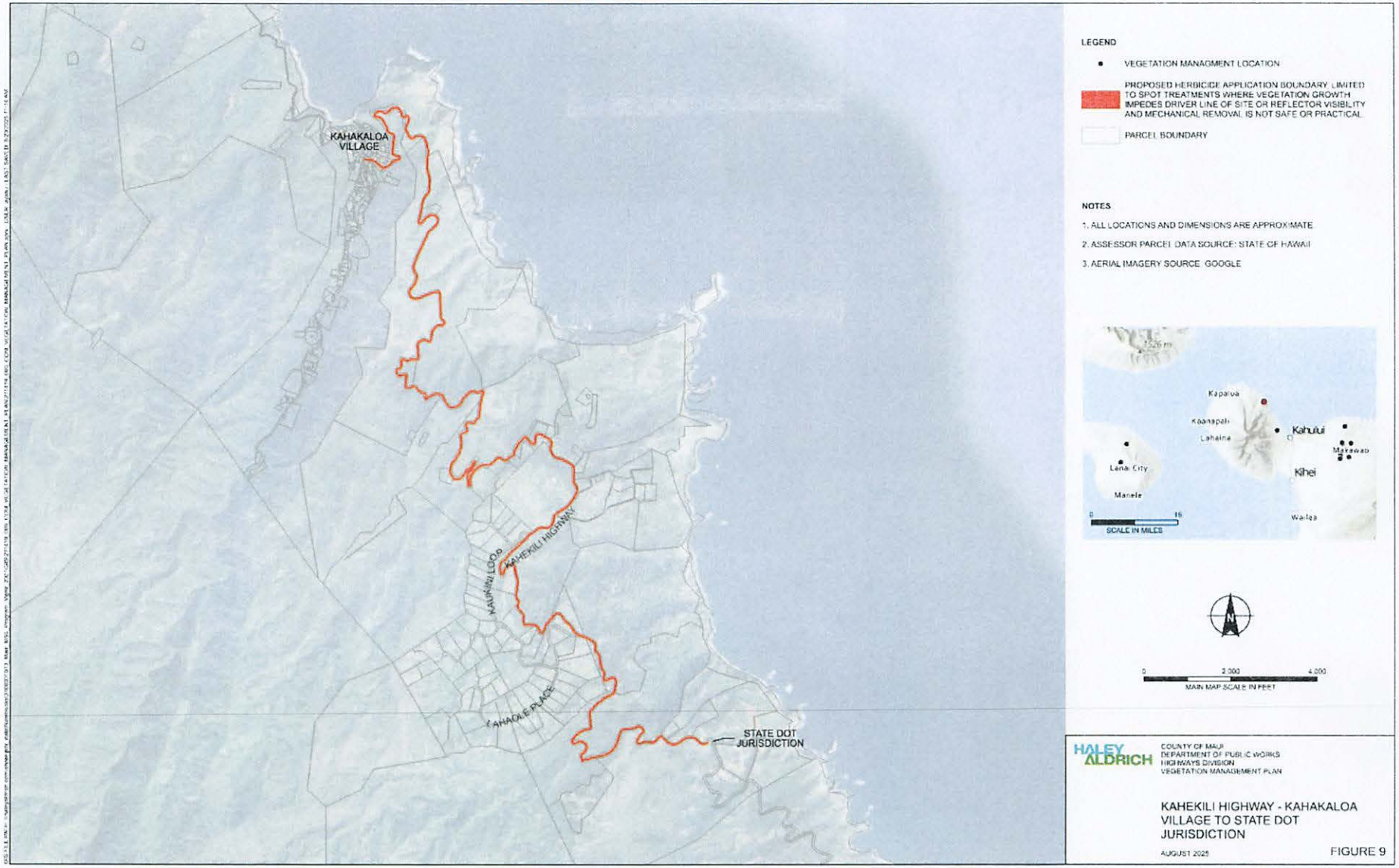
ROADWAYS AND RIGHT-OF-WAY CONFLICT

KAHEKILI HWY – KAHAKALOA VILLAGE TO STATE DOT JURISDICTION



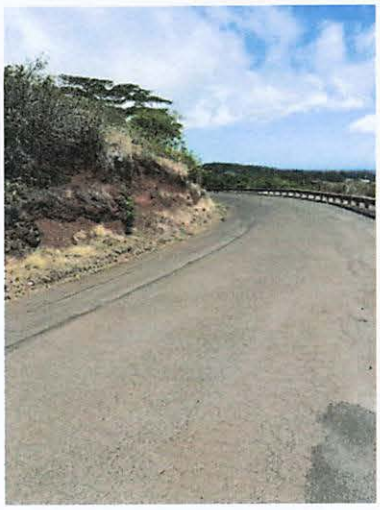
ROADWAYS AND RIGHT-OF-WAY CONFLICT

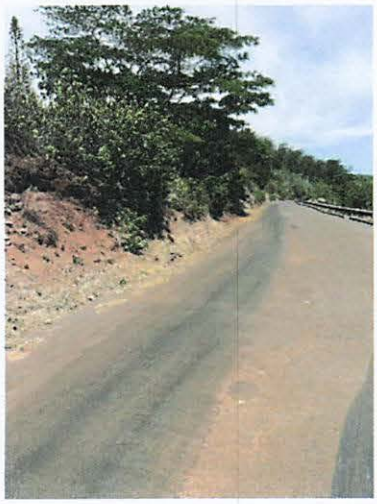
KAHEKILI HWY – KAHAKALOA VILLAGE TO STATE DOT JURISDICTION



ROADWAYS AND RIGHT-OF-WAY CONFLICT

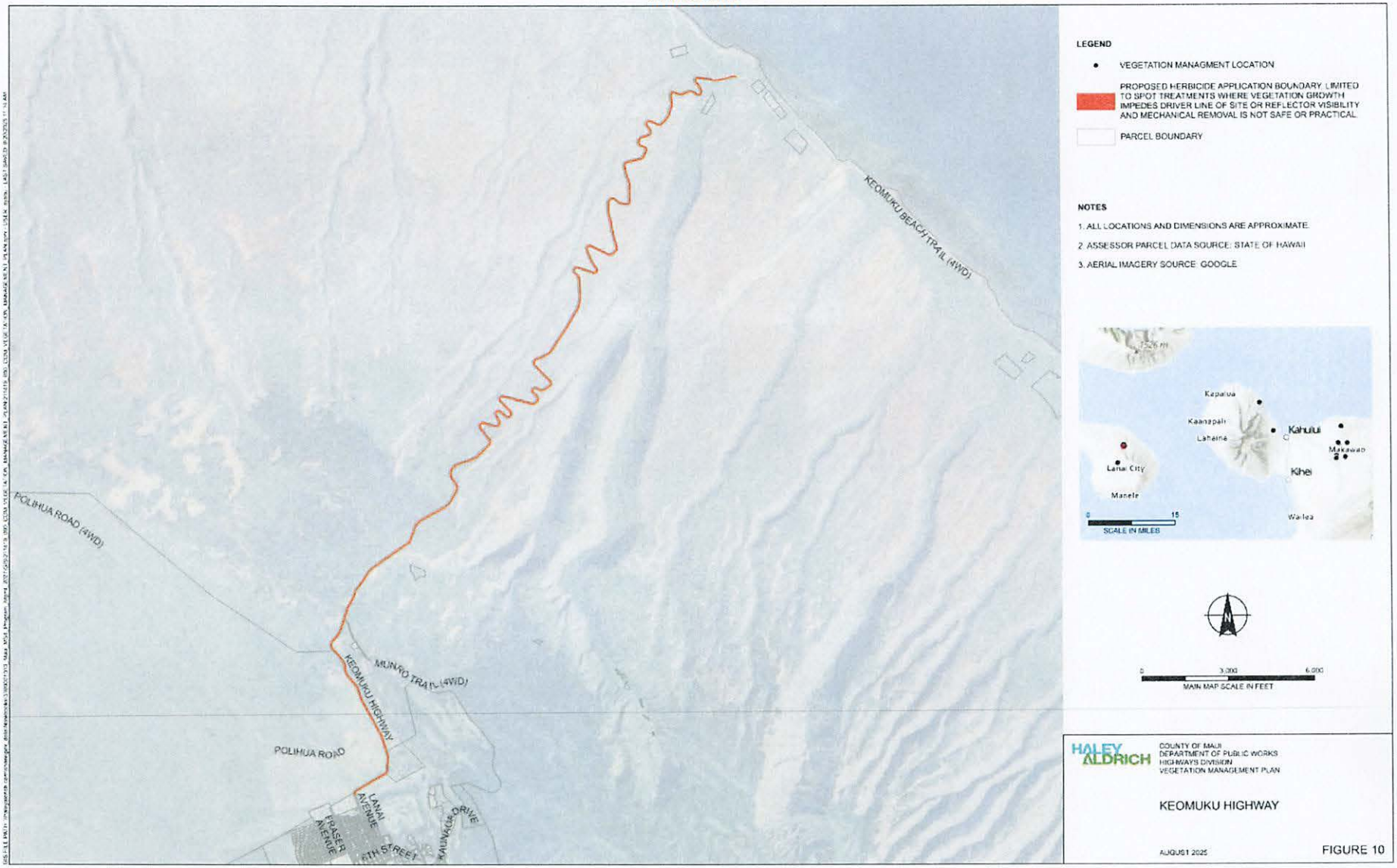
KEOMOKU HWY





ROADWAYS AND RIGHT-OF-WAY CONFLICT

KEOMOKU HWY



HALEY ALDRICH

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
HIGHWAYS DIVISION
VEGETATION MANAGEMENT PLAN

KEOMUKU HIGHWAY

AUGUST 2025

FIGURE 10

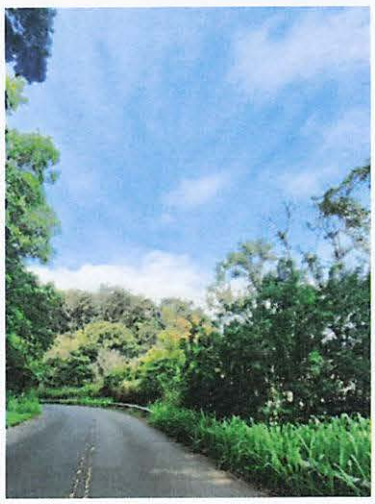
ROADWAYS AND SIDEWALKS

SIDEWALKS

Vegetation growth in cracks of newly constructed sidewalk at Mill Stret and N. Market Street. Google Earth. February 2025.

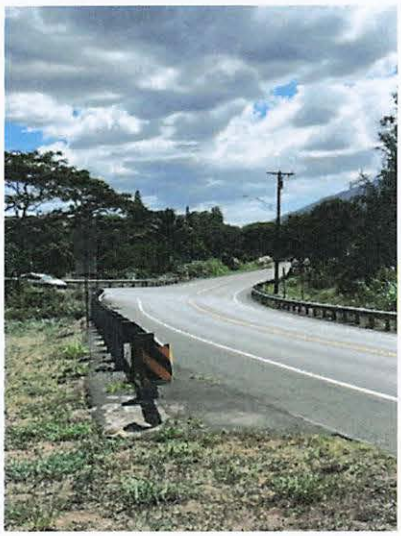
APPENDIX D
Guardrail and Roadside Infrastructure Photographs

GUARDRAILS AND ROADSIDE INFRASTRUCTURE





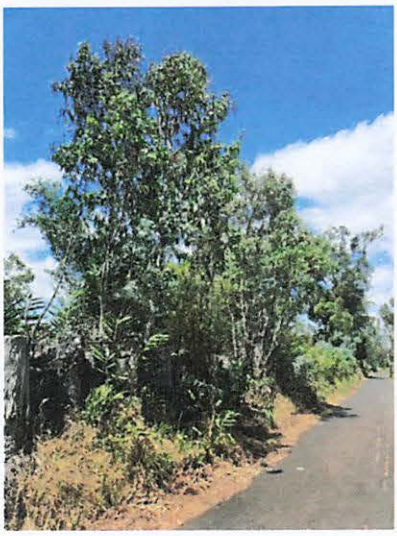




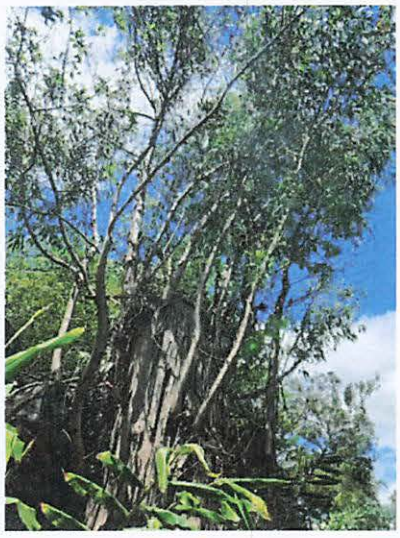
APPENDIX E
Tree Removal Project Photographs

TREE REMOVAL PROJECTS

Post-Removal of Eucalyptus Trees on Olinda Road. November 2020.



Eucalyptus Trees on Olinda Road,
5 Years Post-Removal. July 2025.



Eucalyptus Trees on Olinda Road,
5 Years Post-Removal. July 2025.