



ORIGINAL

June 20, 2008
2004.33.8000 / 08P-221

Mr. Henry Eng, FAICP, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813

RECEIVED
JUN 19 2008

STATE OF HAWAII
LAND USE COMMISSION

DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

08 JUN 20 P 4:00

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ATTN: Raymond Young

Dear Mr. Eng:

**Application to Amend Special Use Permit File No. 72/SUP-1
Makakilo Quarry - Request for Additional Information**

On behalf of Grace Pacific and as requested by Mr. Raymond Young of your staff, we are providing the following items described in our prior correspondence of June 6, 2008:

- 1) Exhibits 2-0 through 2-9 "Visual Model of Quarry Activity in Five Year Stages," Appendix E to the Engineering Report Amendment, Exhibit K to the 2007 Application, updated as of June 2008. (Please note that the location of the viewpoint for Exhibit 2-2 has been changed from Kapolei Regional Park to Fort Barrett Road, as reflected in Exhibit 2-0.)
- 2) Examples of completed excavation and landscaping projects applicable to the Revised Final Grading Plan, dated June 2008.

Honolulu
Bangkok
Boulder
Guam
Hong Kong
Manila
Seattle
Shenzhen
Singapore

In response to your staffs' requests for additional information pertaining to visual impacts, Grace Pacific retained a consultant, Mr. Eric Pickle. In the way of setting a foundation for our latest efforts, including Mr. Pickle's analysis, we are characterizing landforms as those occurring in nature or those that are man-made. For man-made landforms, we are further distinguishing between those constructed with a utilitarian appearance and those constructed with a natural appearance.

Virtually all of the large-scale, man-made landforms in Hawaii are associated with government projects, typically with highway improvements. These landforms have a utilitarian appearance, rather than a natural appearance, due to the higher cost of constructing such a complex surface.

Advances in uses of Global Positioning System (GPS) and surface modeling technologies, as have been used locally by companies like Kiewit and Goodfellow Brothers, have proven that complex landforms are now achievable.

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2004.33.8000 / 08P-221
Page 2

For example, Castle Junction's Landslide Mitigation project (October 2004) is the most complex example of these technologies being used on Oahu. The need for the complexity of the landform was to make vegetation naturally sustainable and the slope structurally stable. This achieved both a visually pleasing and structural stable surface. Mr. Pickle's role in the Castle project began with creating surface model alternatives from which the State selected the one that best met their criteria. Mr. Pickle then created the excavation workplan and oversaw the deployment of the GPS technology and execution of the workplan. See attached Figure 5(g) for a profile of landform.

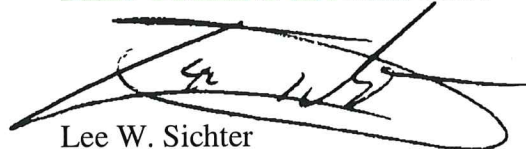
The design for new East Kapolei Water Tank Reservoir (January 2008) was created in surface modeling and transferred directly to the excavator, which then cut slopes and benches to within two inches of the plan. This is the methodology and technology proposed to construct the Final Grading Plan dated June 2008 of the Application. The surface modeling and excavation workplan for this project was performed by an engineering specialist trained by Mr. Pickle. See attached Figure 5(h) of the final grading prepared for planting.

In summary, the complexity of the Castle Junction excavation and the precision achieved at the East Kapolei Reservoir project, in cutting material identical to what will be encountered at Puu Makakilo, taken together, demonstrate the elements necessary to achieve the landform contemplated in the Revised Final Grading Plan in the year 2032.

Thank you for the opportunity to respond to your comments. Should you have any questions about the information provided herein, please call me at 521-5361 or Bob Creps at 674-5201.

Very truly yours,

BELT COLLINS HAWAII LTD.



Lee W. Sichter
Principal Planner

LWS:lf

Attachments

cc: Bob Creps

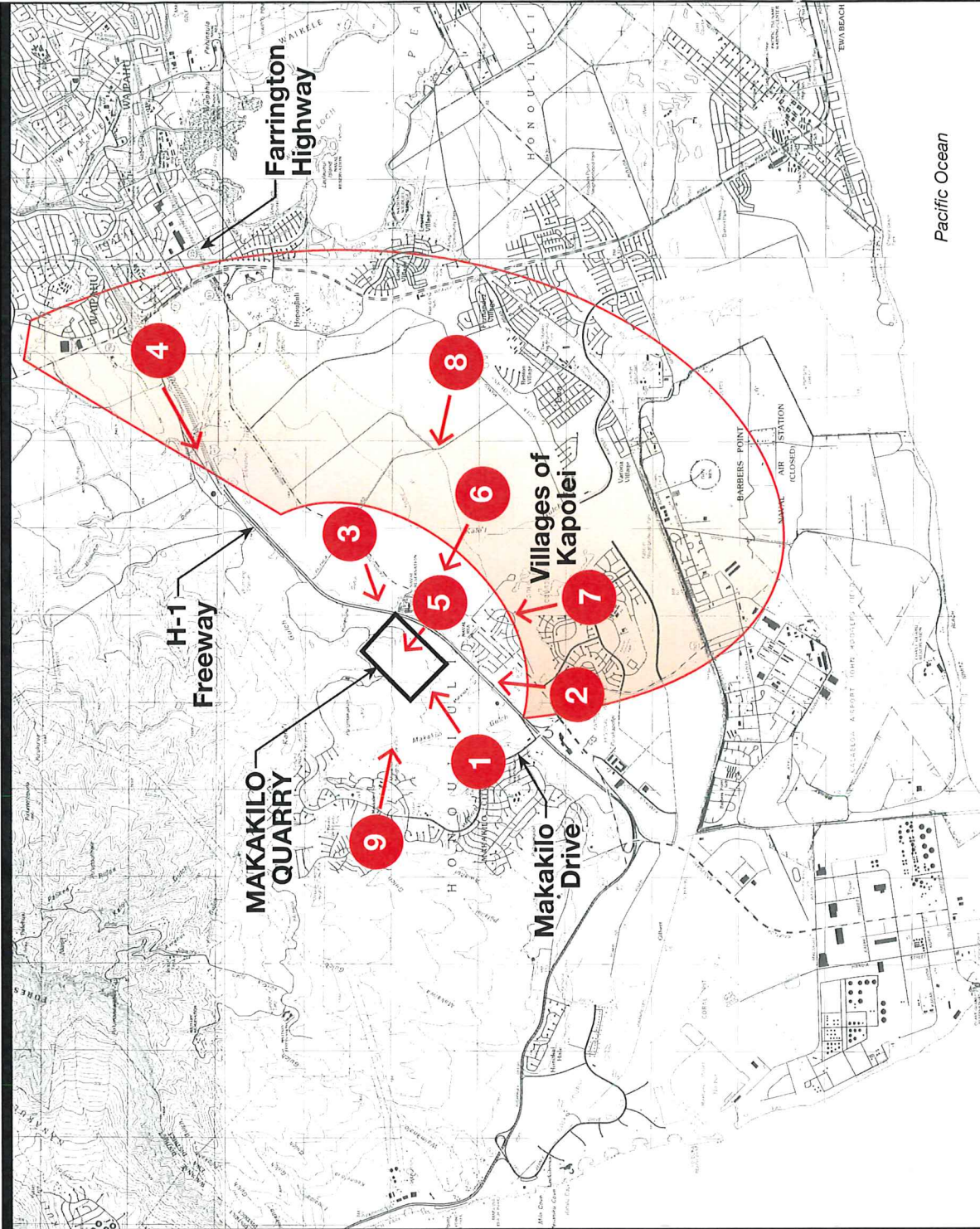


Exhibit 2-0
LOCATION OF VIEWPOINTS
 Visual Analysis—Makakilo Quarry
 Grace Pacific Corporation
 June 2008

**Visual Modeling of Makakilo Quarry
 Future Excavation Stages**

Public domain City and County of Honolulu topographical data, existing aerial photographs and proposed grading plans from Belt Collins Hawaii were used to create a 3D surface model of the Makakilo Quarry area. ESRI® ArcGIS™/ArcView with a 3D Analyst™ extension was used to create a Triangulated Irregular Network (TIN) surface model of every 5-year increment of the future rock excavation activity in the quarry. Computer simulated visualizations of the proposed excavation and grading plans were produced for nine view points that corresponded to previously-selected photo locations.

Belt Collins received digital photos and photo locations from Grace Pacific Corporation and prepared photo renderings of the proposed quarry. Adobe®Photoshop® was used to overlay the proposed quarry model images onto the digital photos. By matching reference points (e.g., roads and topographical features) on both the computer-modeled images and the digital photos, the computer-modeled quarry was overlain on the digital photos. Photoshop® tools were used to highlight the interior quarry areas of each image and add appropriate colors and labels.

LEGEND

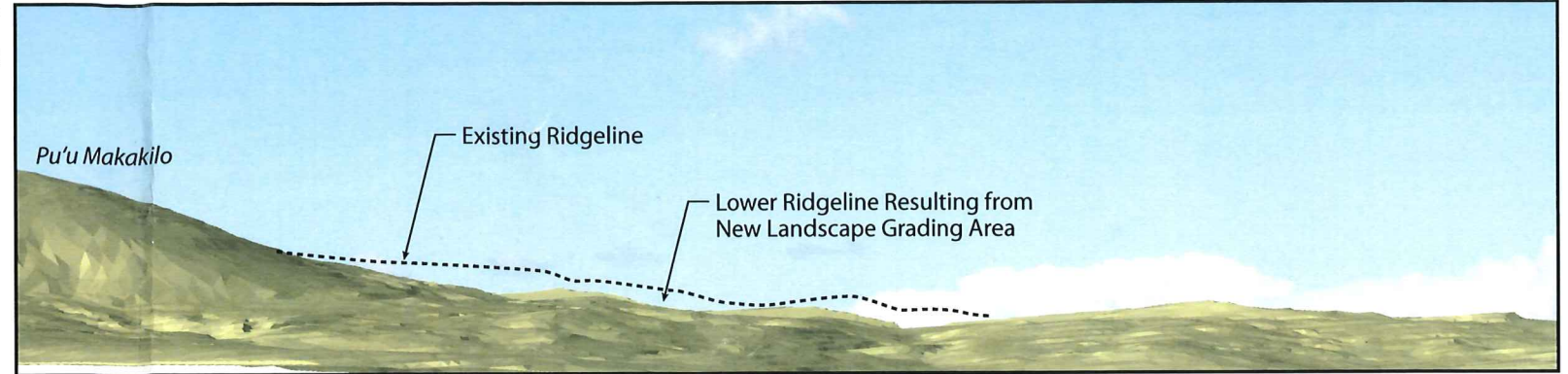
-  Viewpoint
Refer to Exhibits 2-1 to 2-9
-  Viewshed



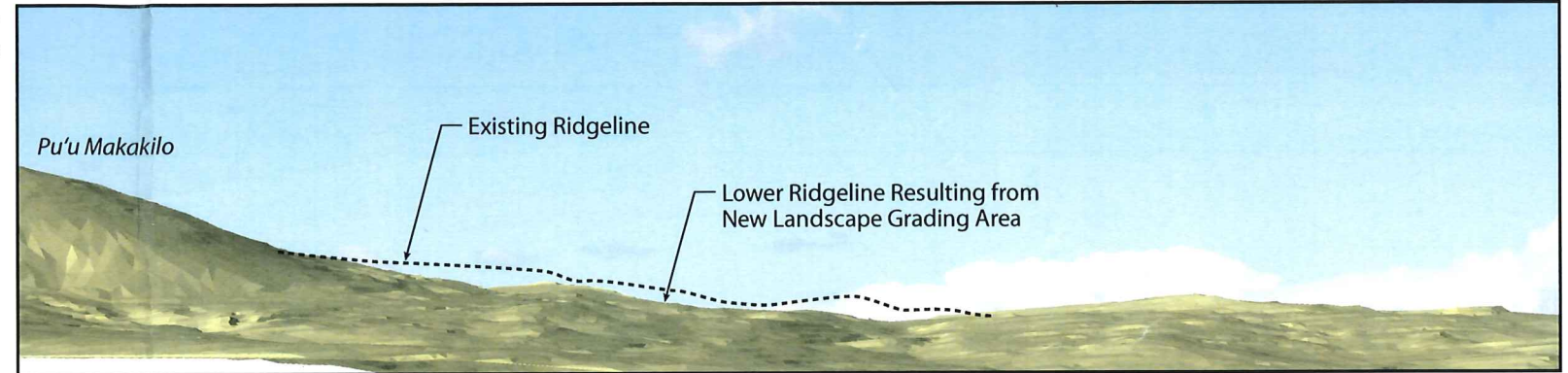
Revised June 20, 2008

Visual Model of Quarry Activity in 5-Year Stages

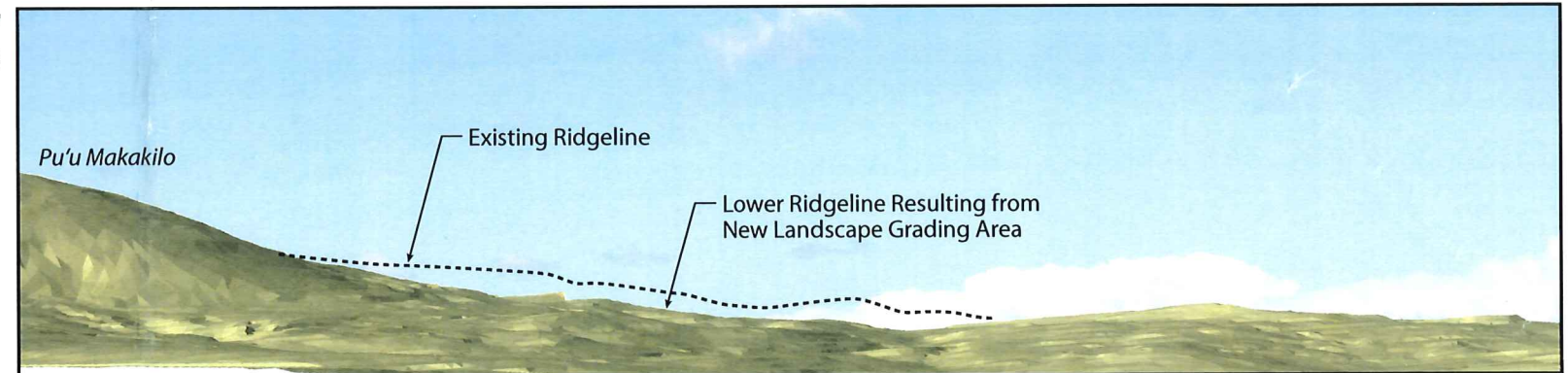
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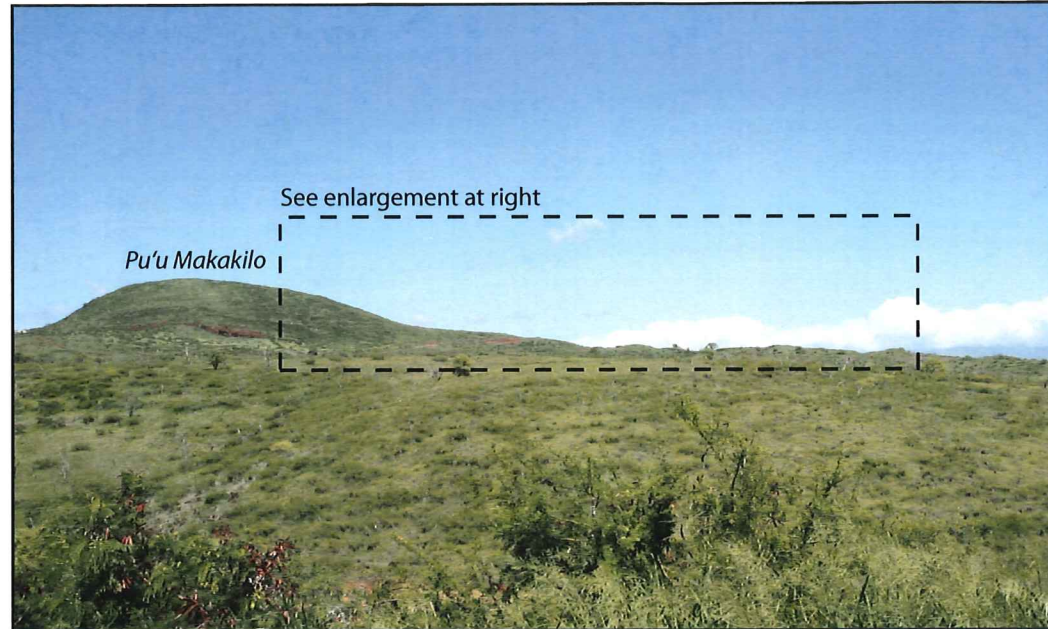
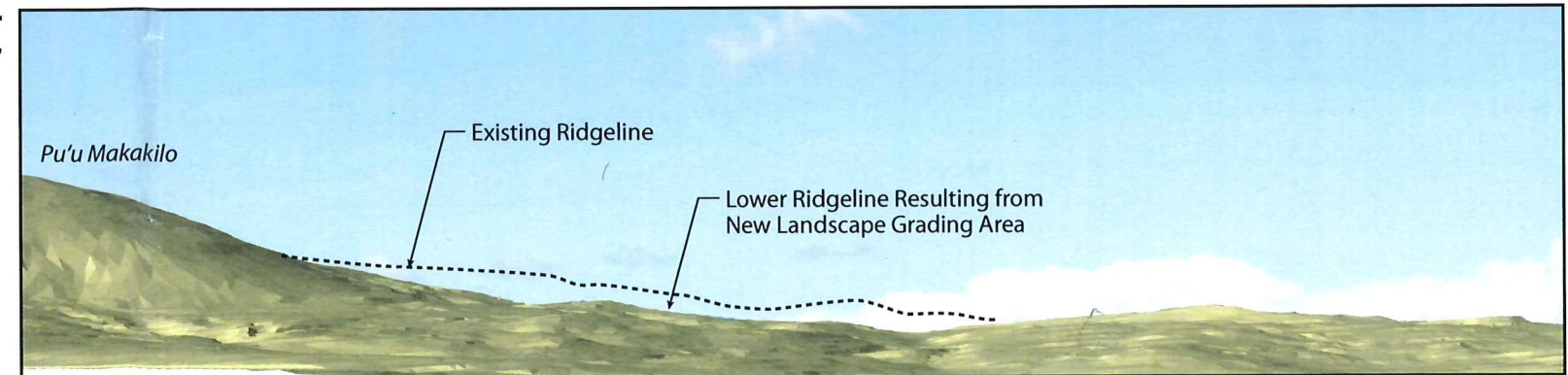
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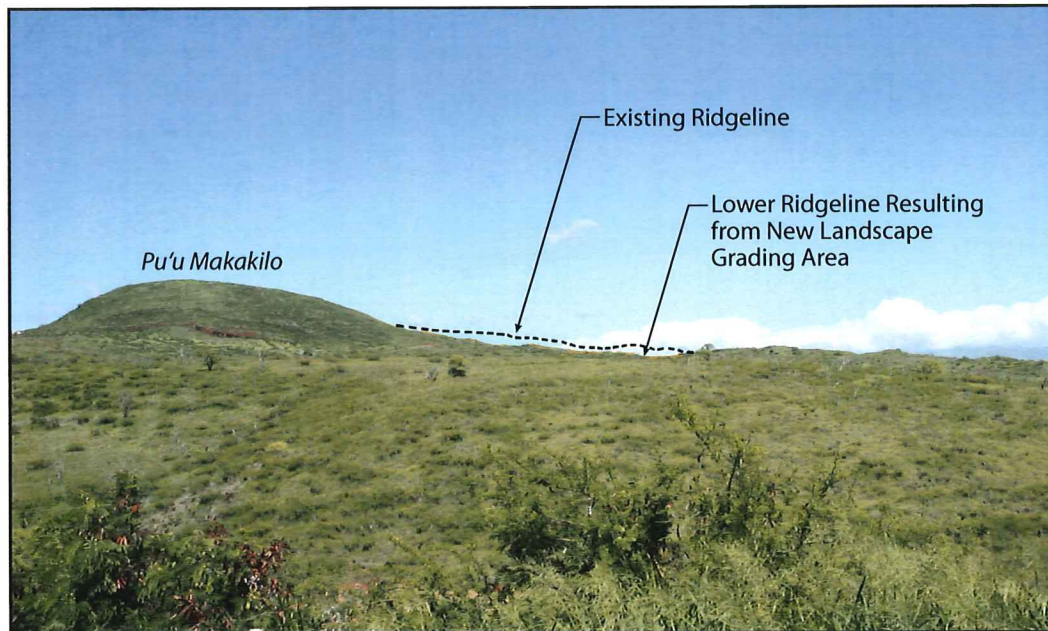
Year
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Year
2027



Existing



Final Quarry Phase—Year 2032

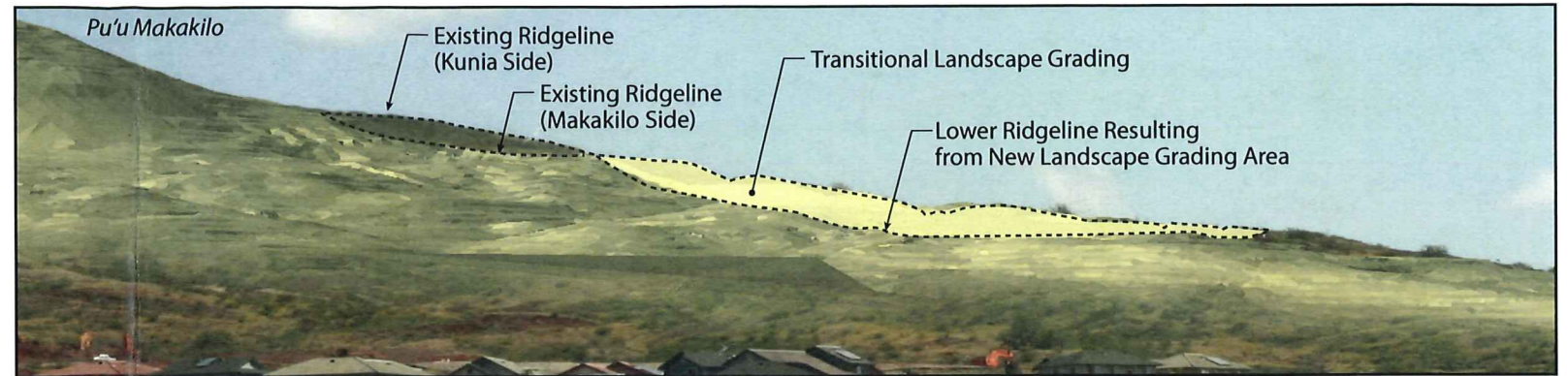
Exhibit 2-1

VIEW FROM LOWER MAKAKILO DRIVE

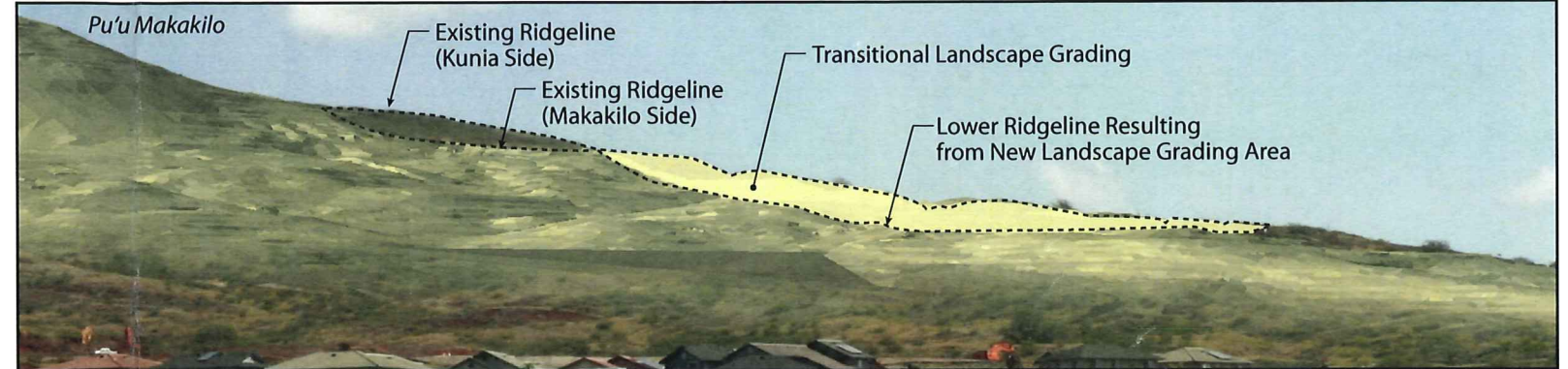
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Visual Model of Quarry Activity in 5-Year Stages

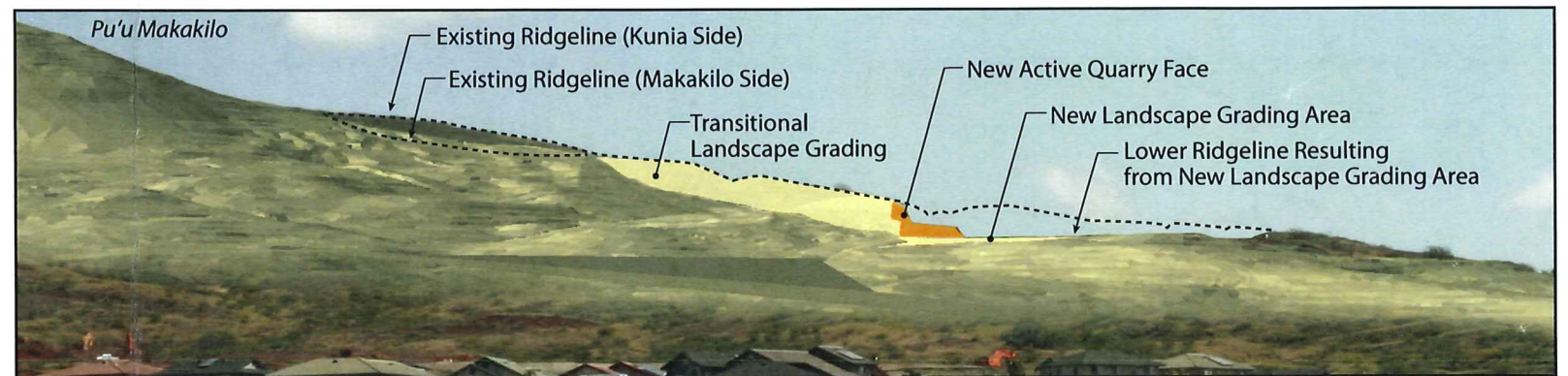
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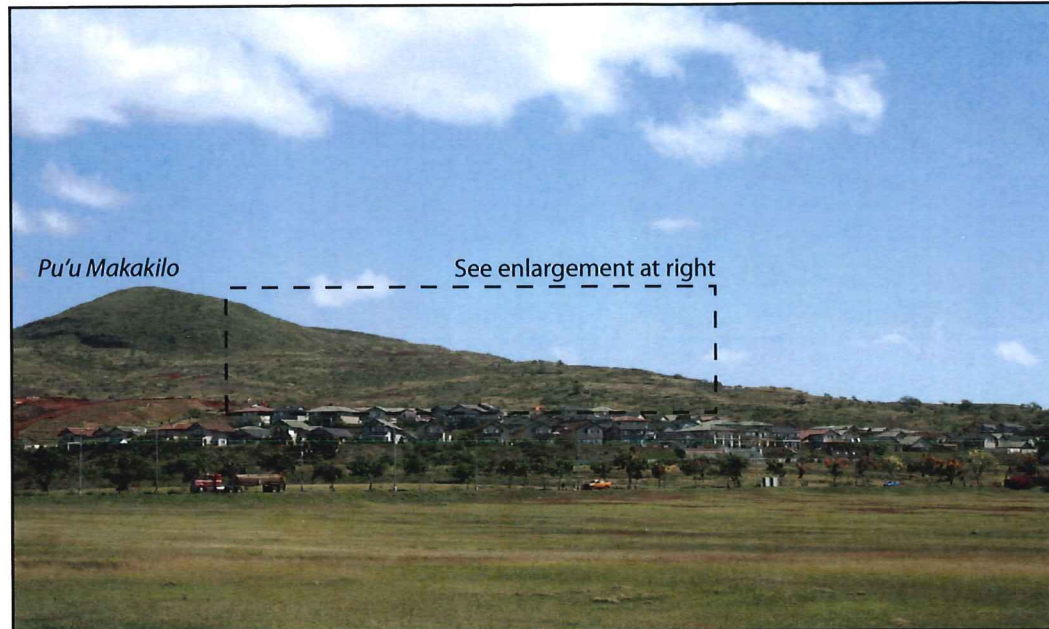
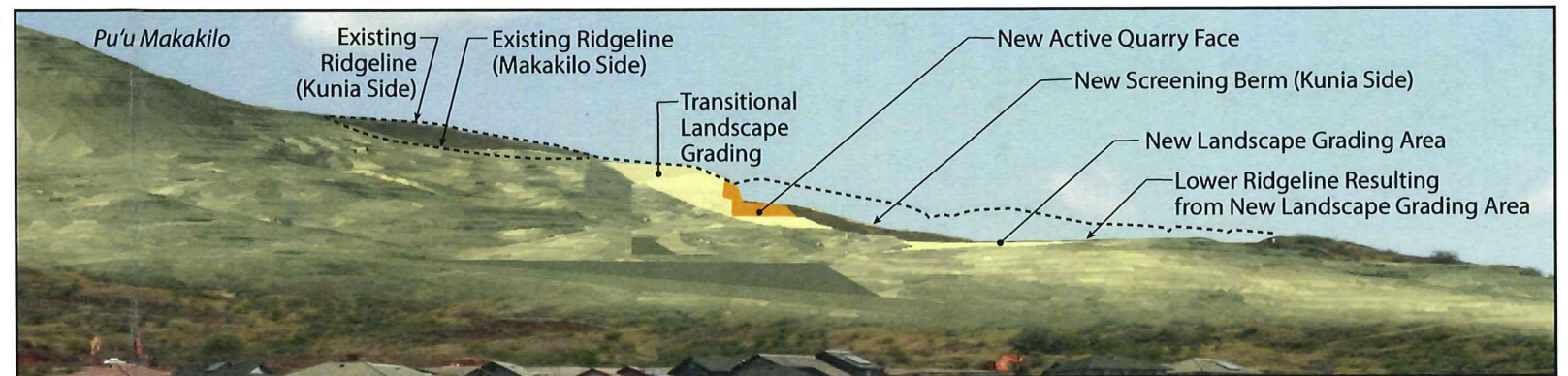
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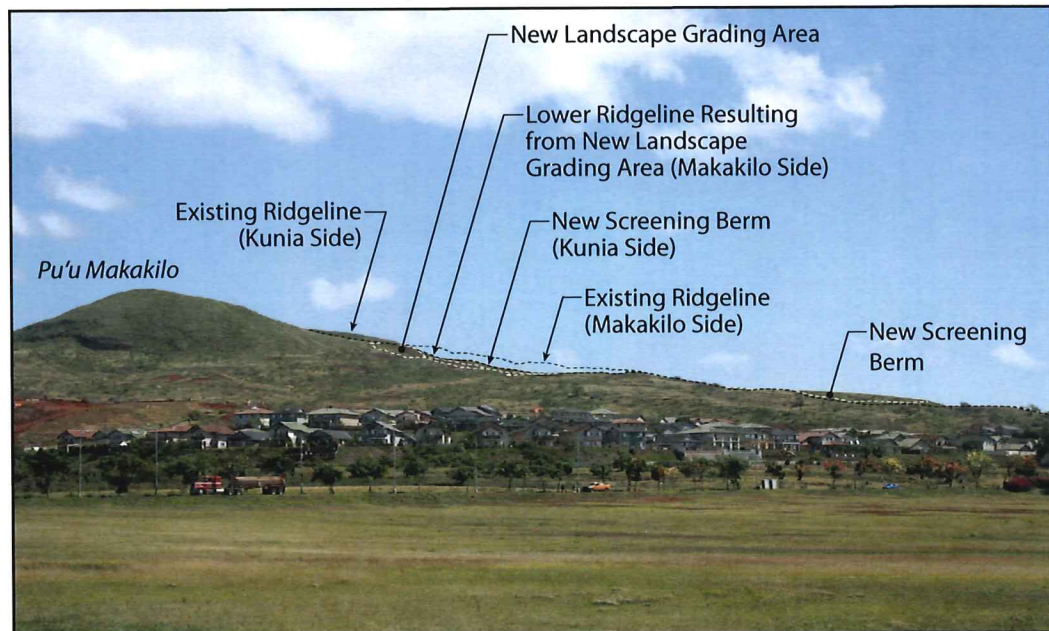
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Year 2027

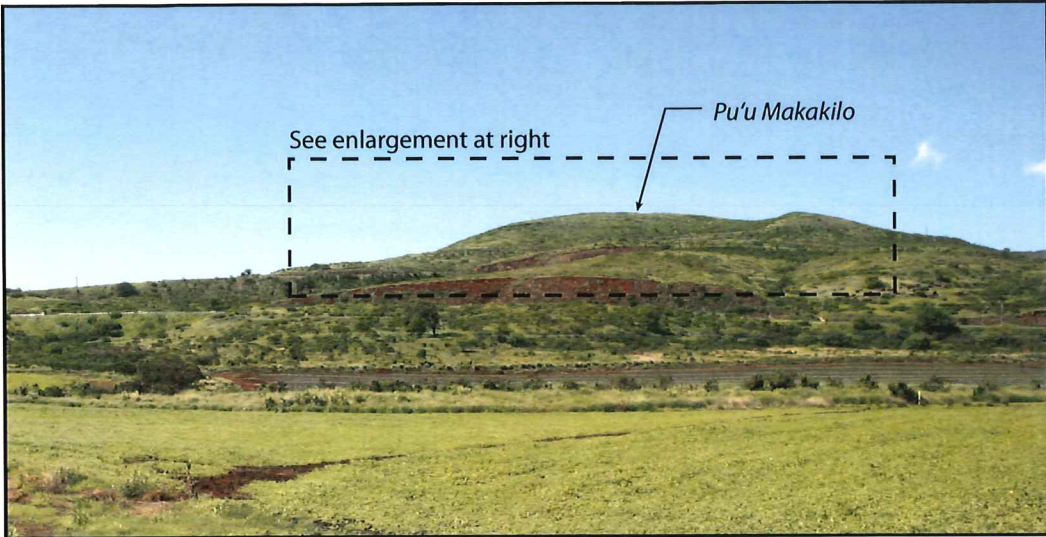


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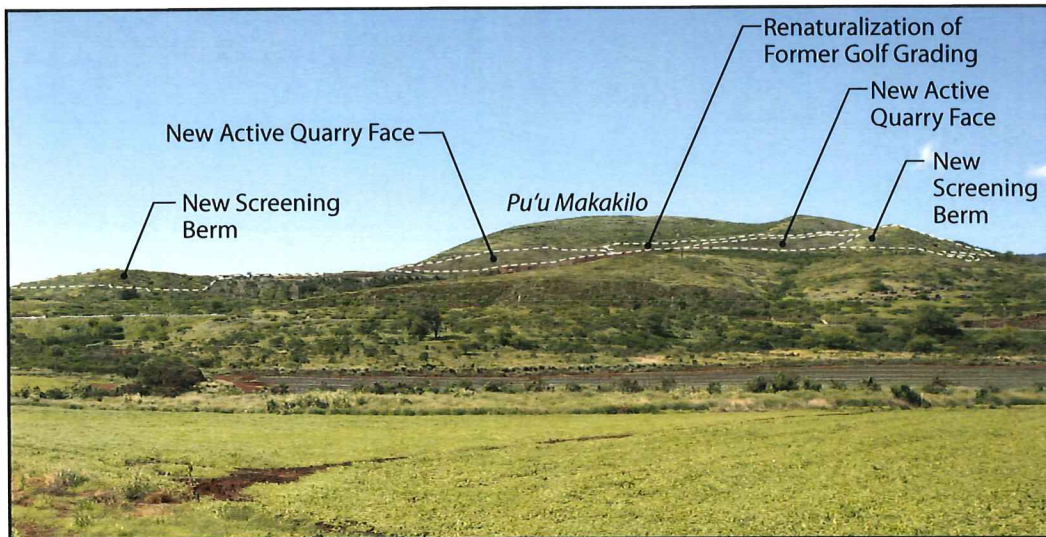


Final Quarry Phase—Year 2032

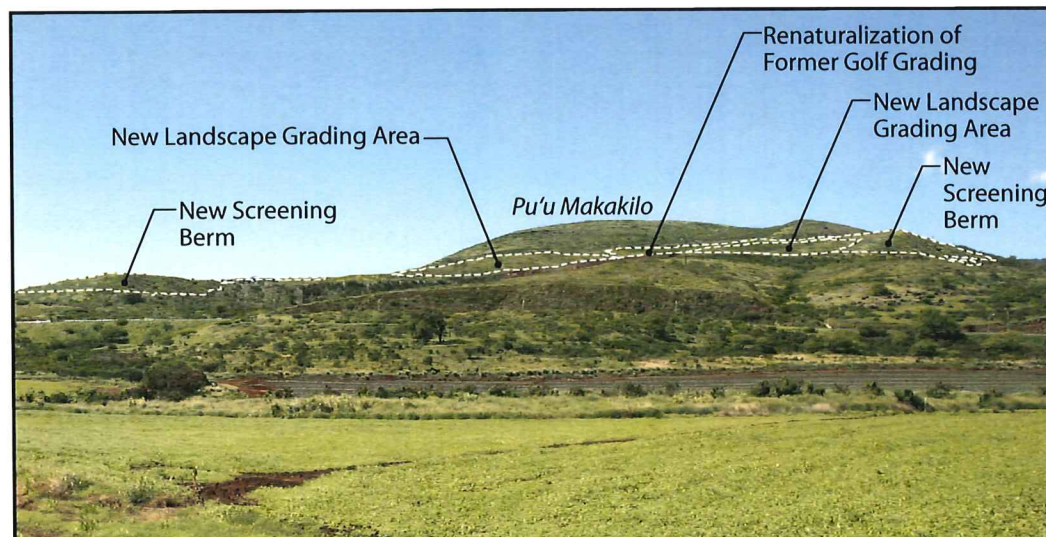
Visual Model of Quarry Activity in 5-Year Stages



Existing

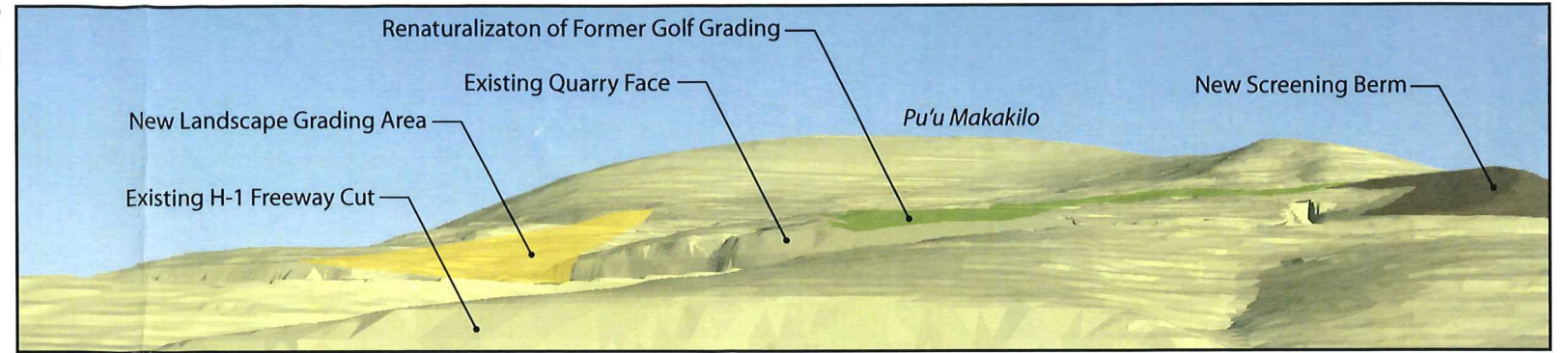


Final Quarry Phase—Year 2032

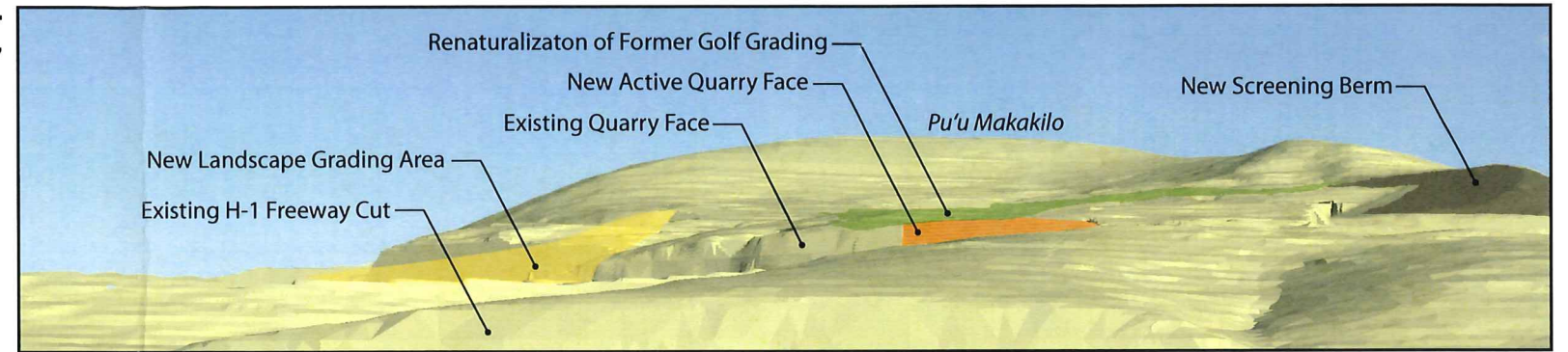


Final Renaturalization—Year 2038

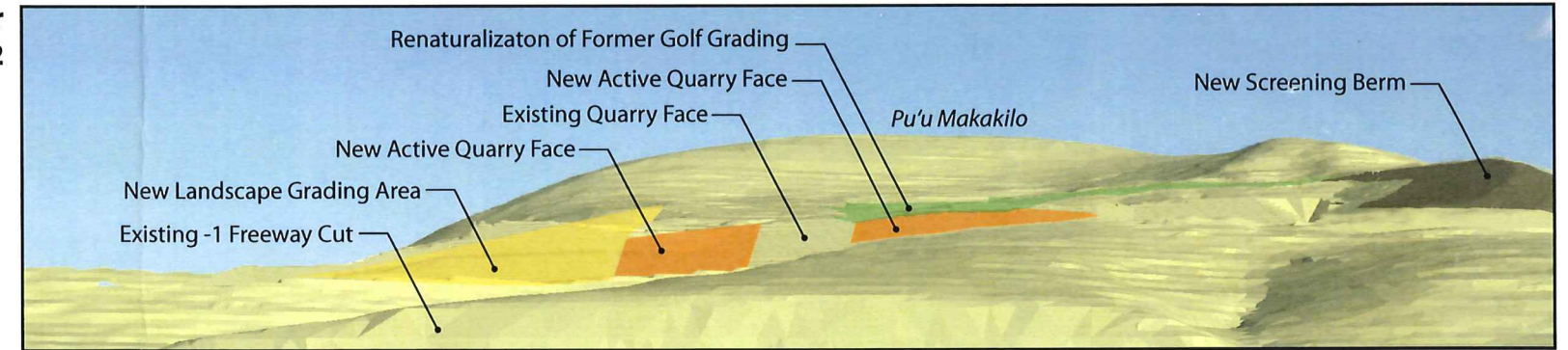
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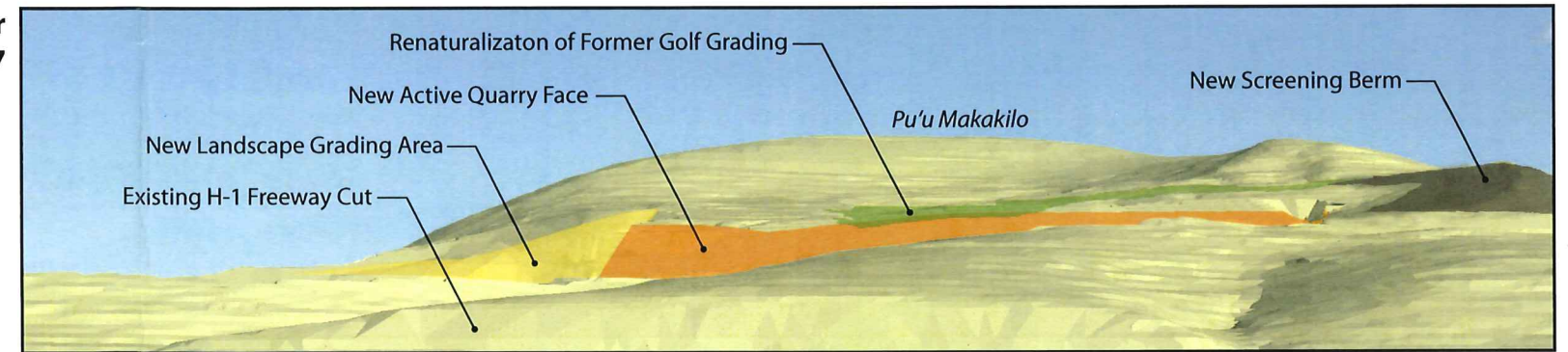
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Year 2022



Year 2027

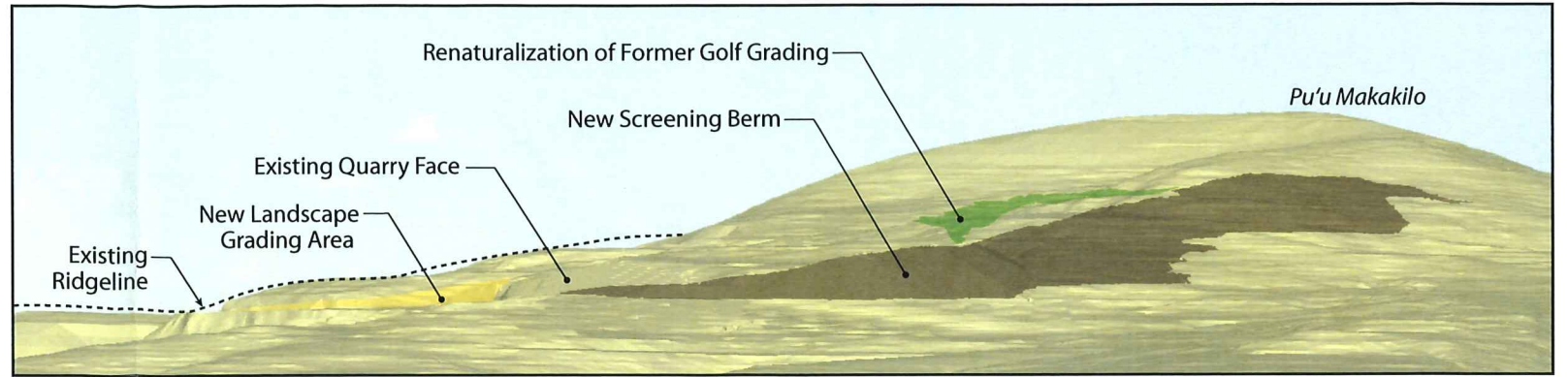


Revised June 20, 2008

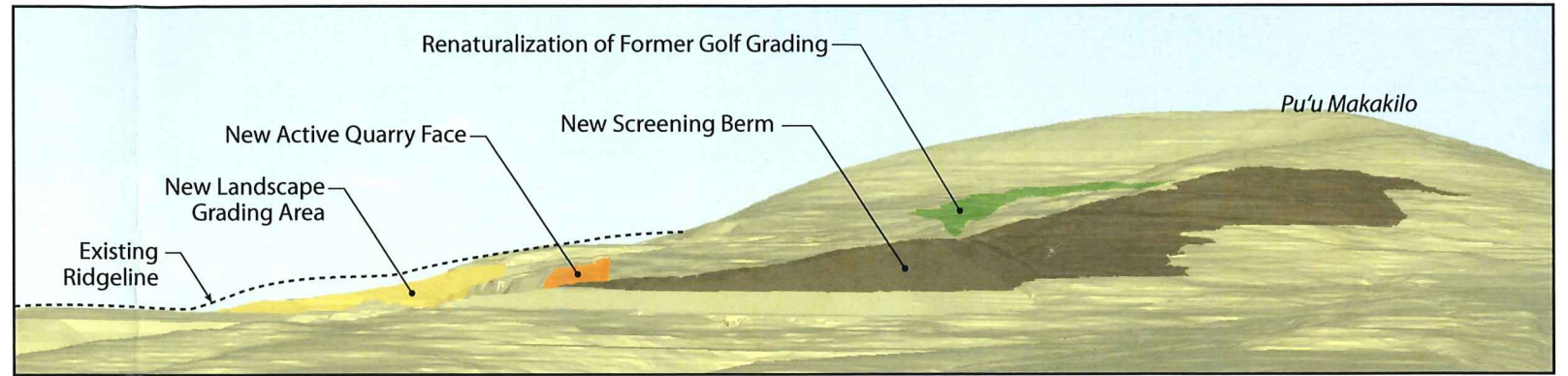
Exhibit 2-3
VIEW FROM FARRINGTON AND OLD PALEHUA

Visual Model of Quarry Activity in 5-Year Stages

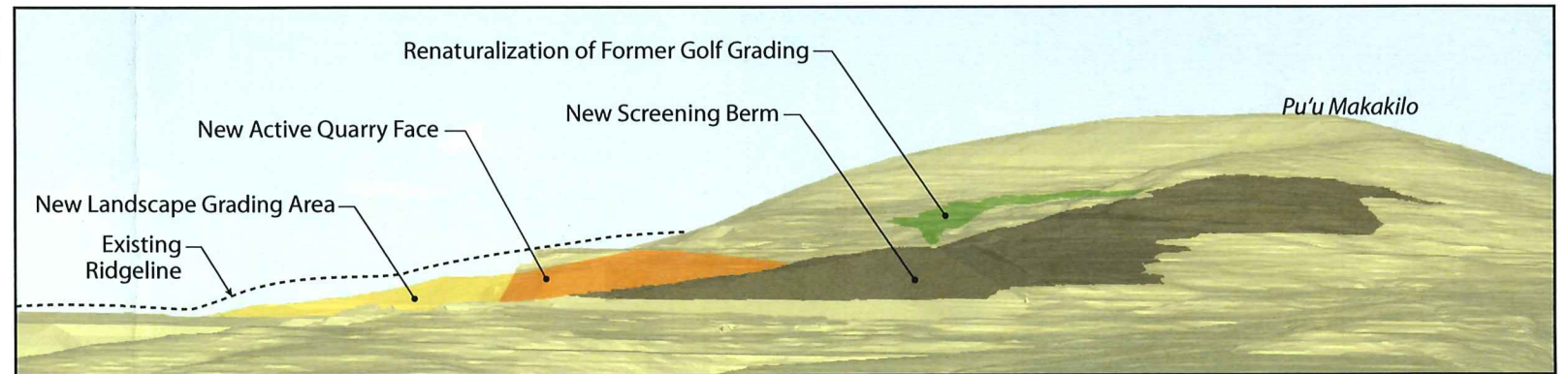
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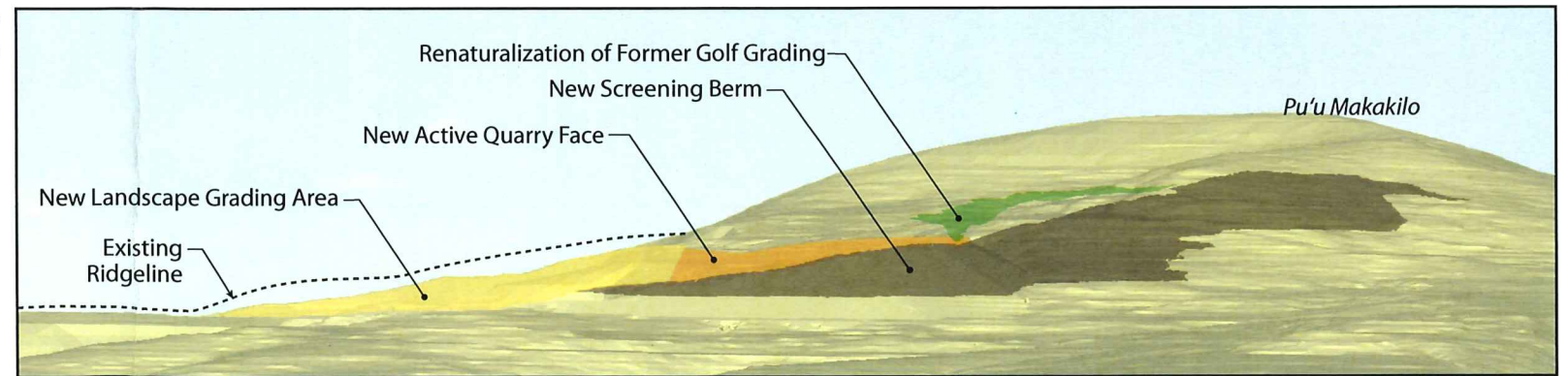
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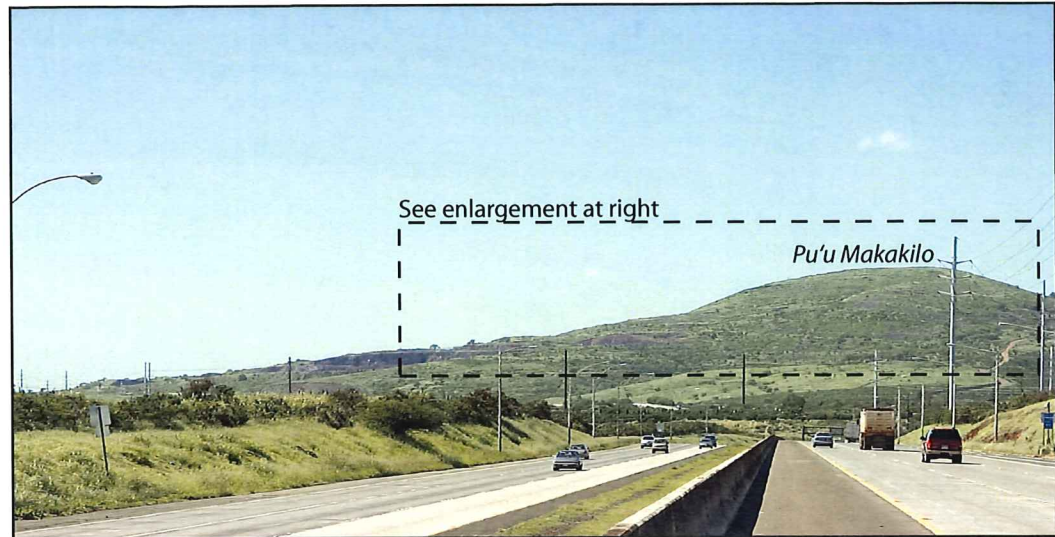
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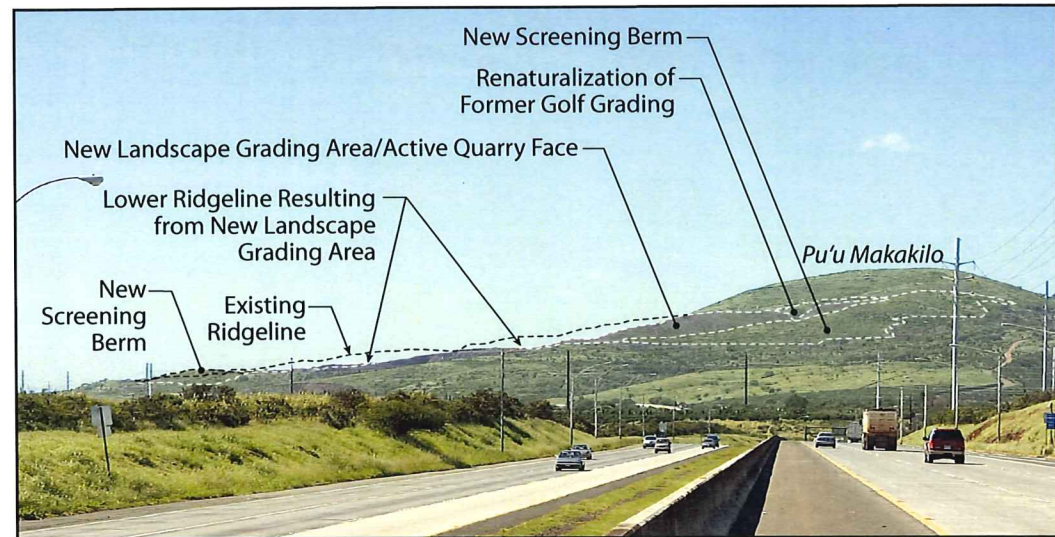
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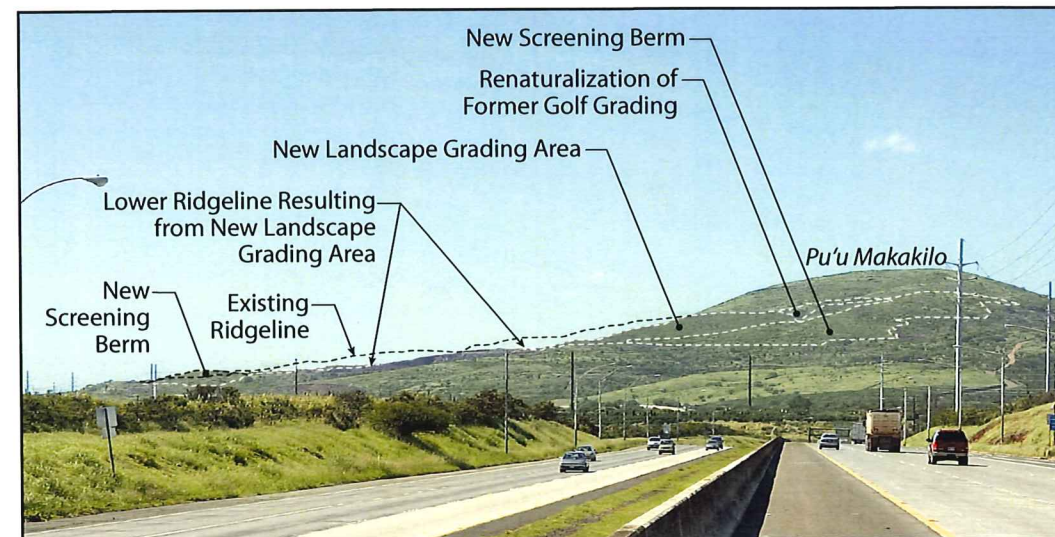
Revised June 20, 2008



Existing



Final Quarry Phase—Year 2032

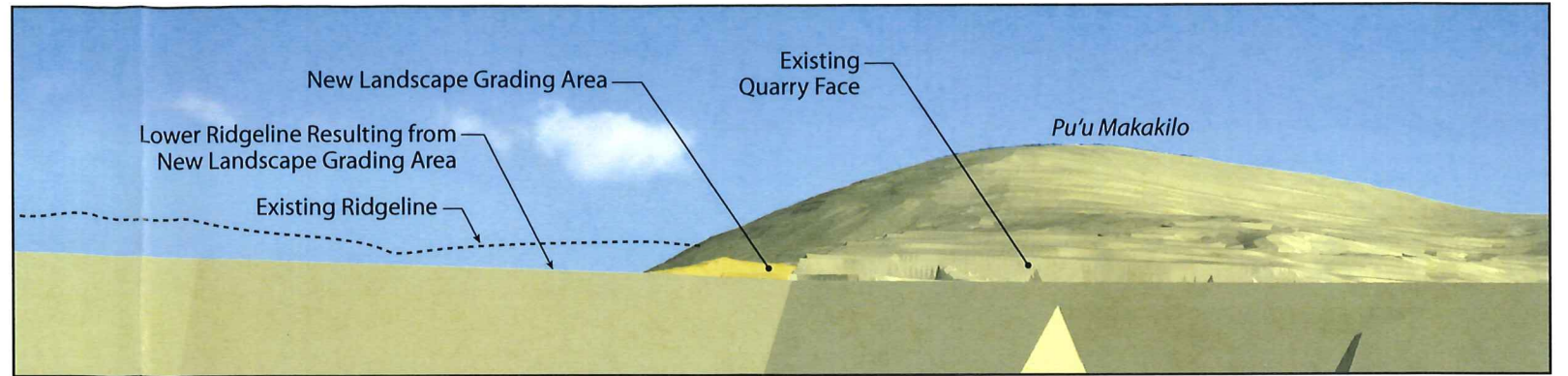


Final Renaturalization—Year 2038

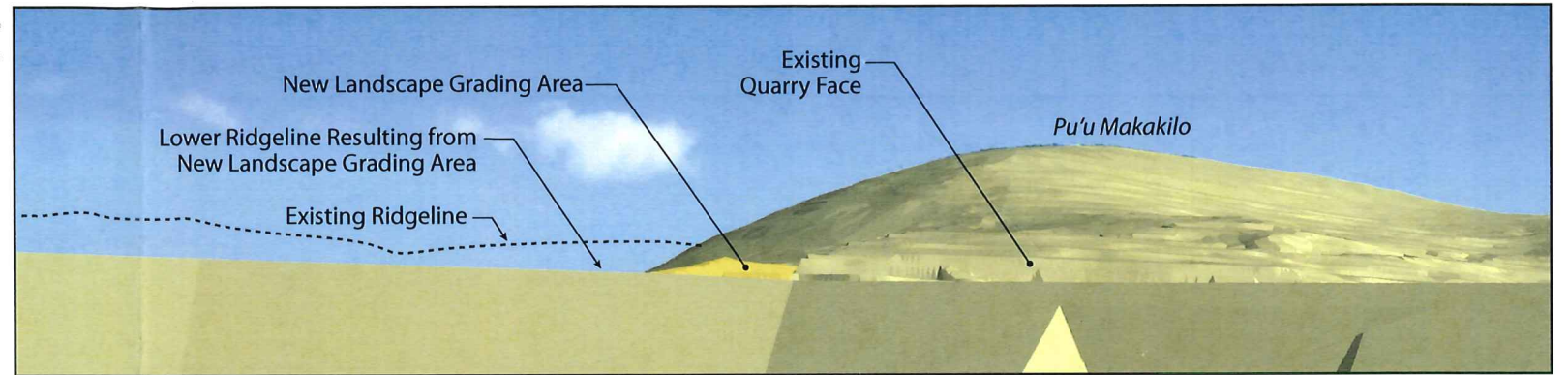
Exhibit 2-4
VIEW FROM KUNIA APPROACH

Visual Model of Quarry Activity in 5-Year Stages

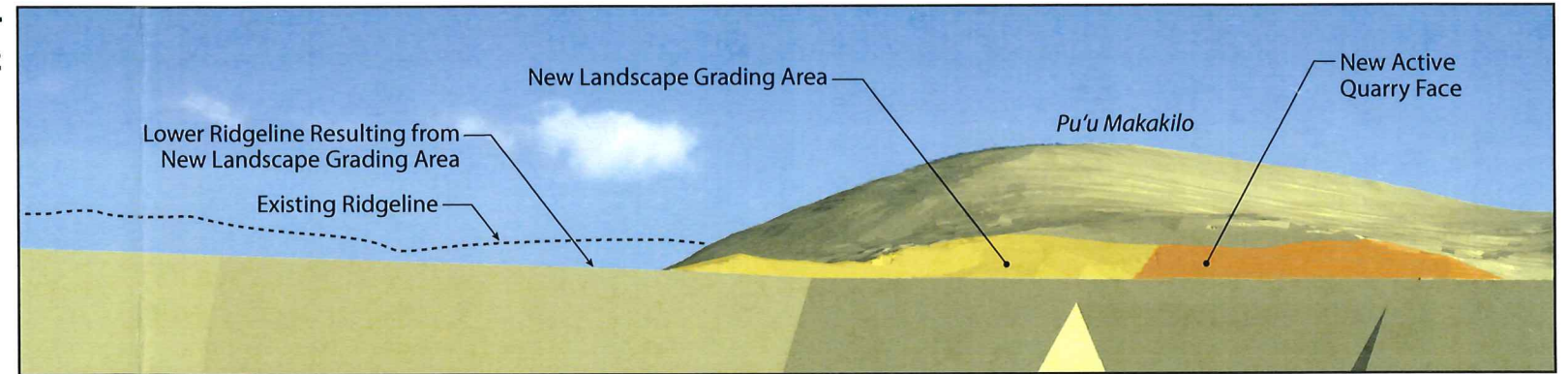
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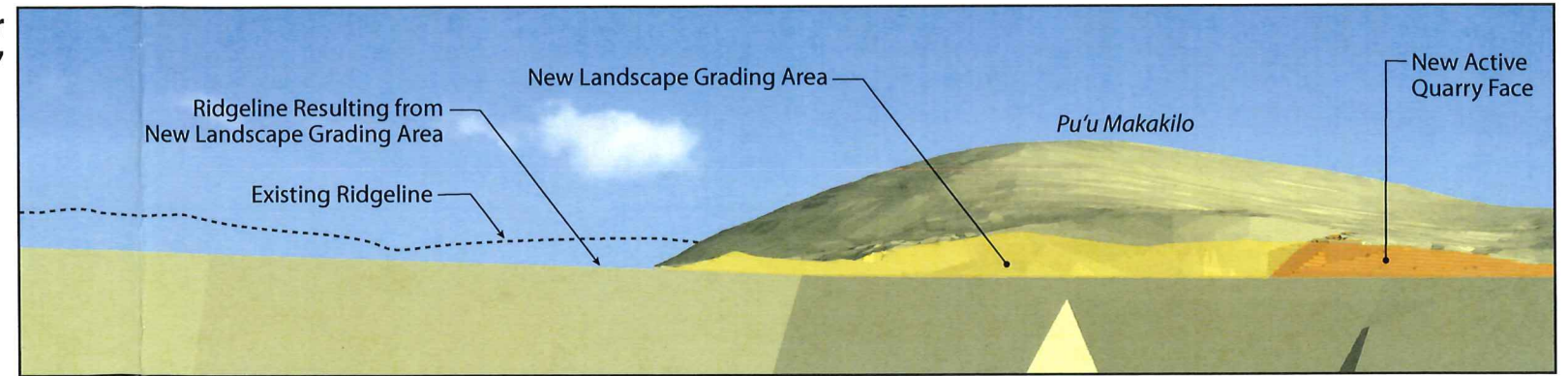
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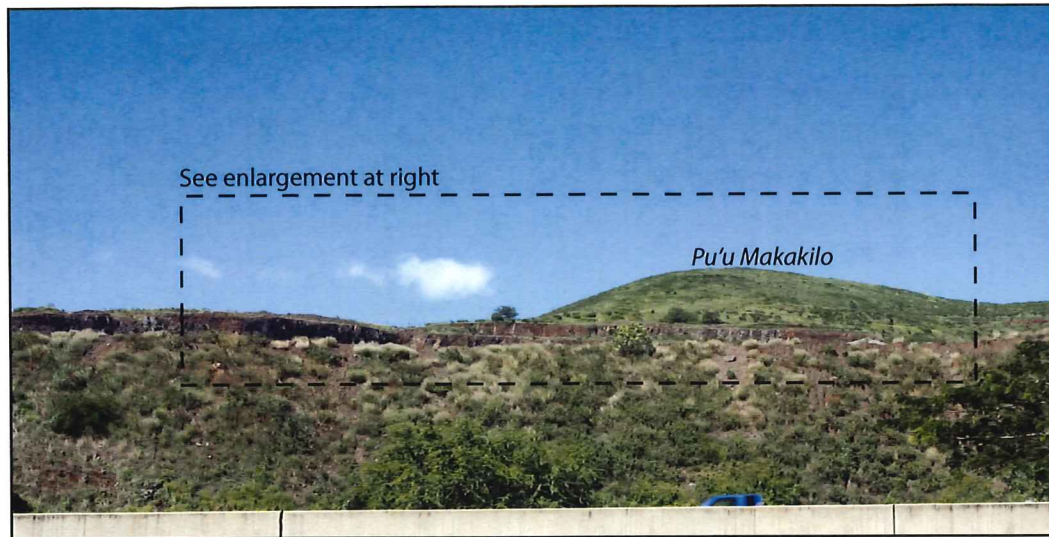
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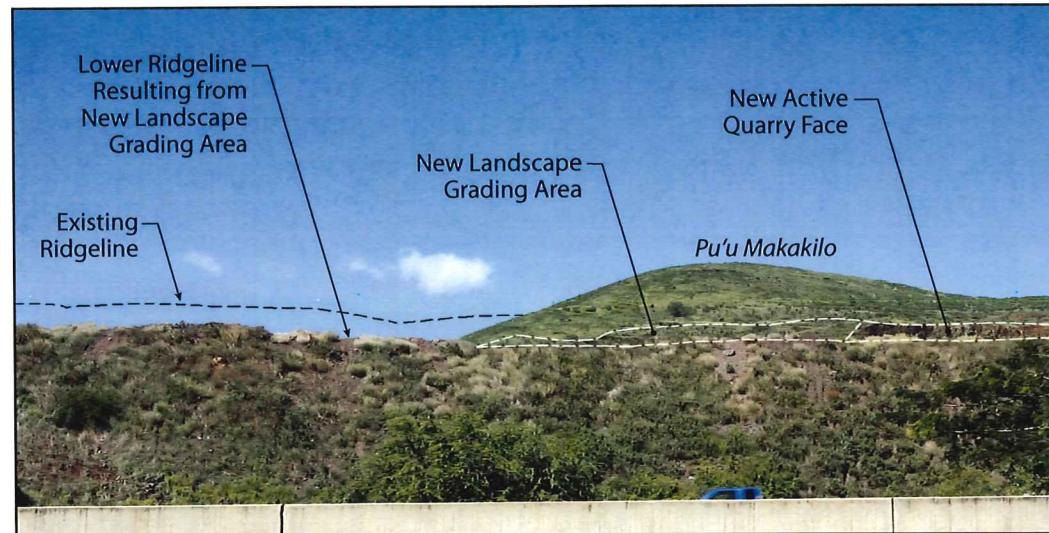
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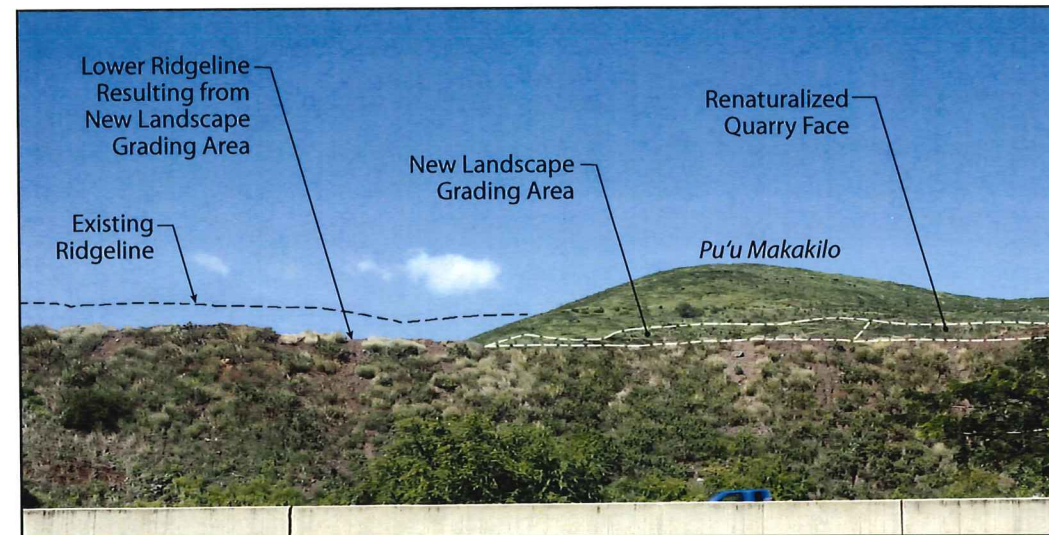
Revised June 20, 2008



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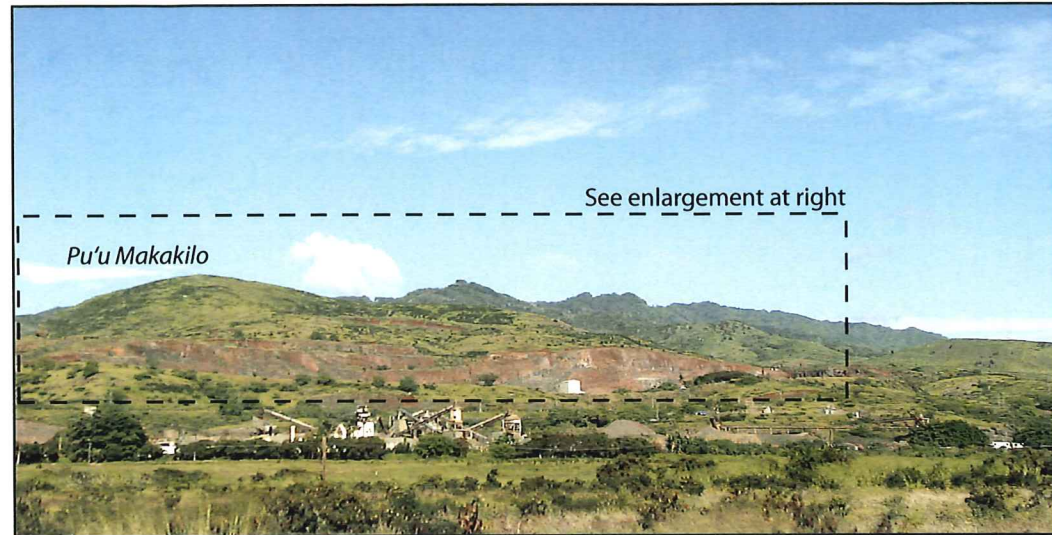
Final Quarry Phase—Year 2032



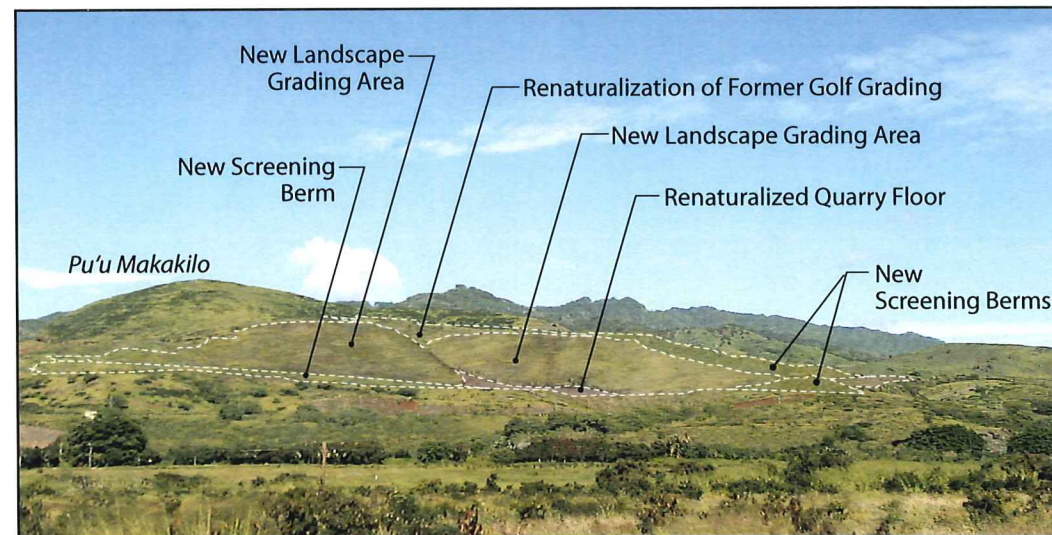
Final Renaturalization—Year 2038

Exhibit 2-5
VIEW FROM H-1 CLOSE-IN

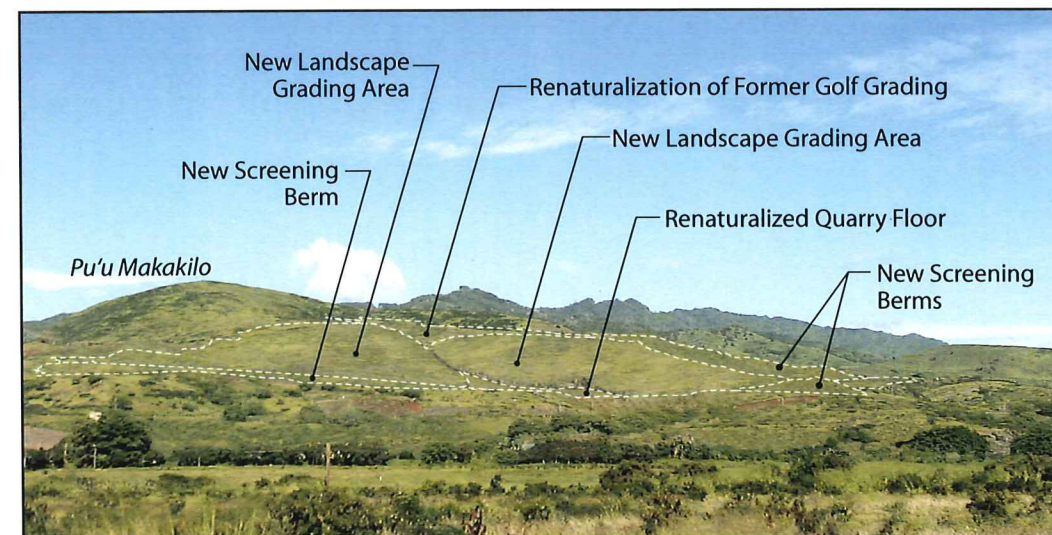
Visual Model of Quarry Activity in 5-Year Stages



Existing

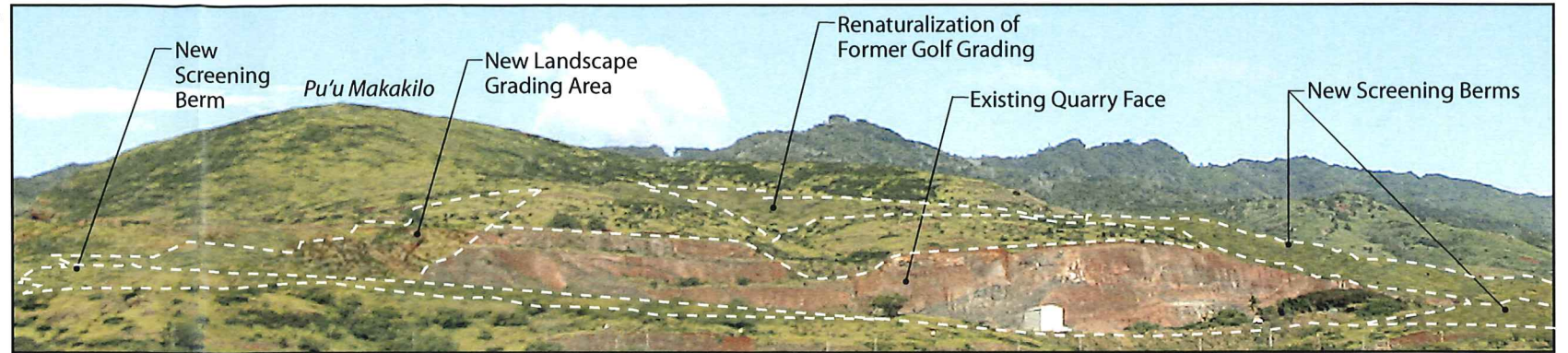


Final Quarry Phase—Year 2032

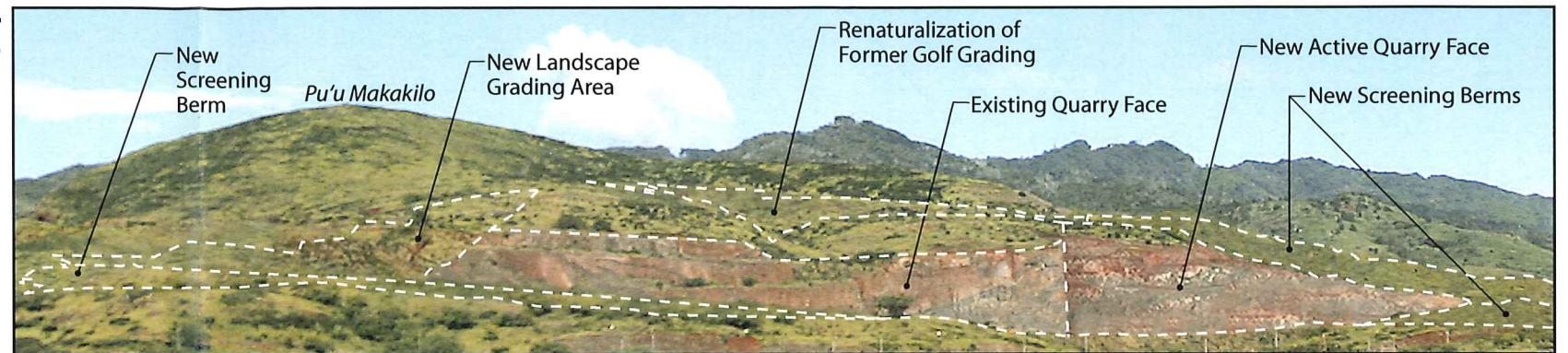


Final Renaturalization—Year 2038

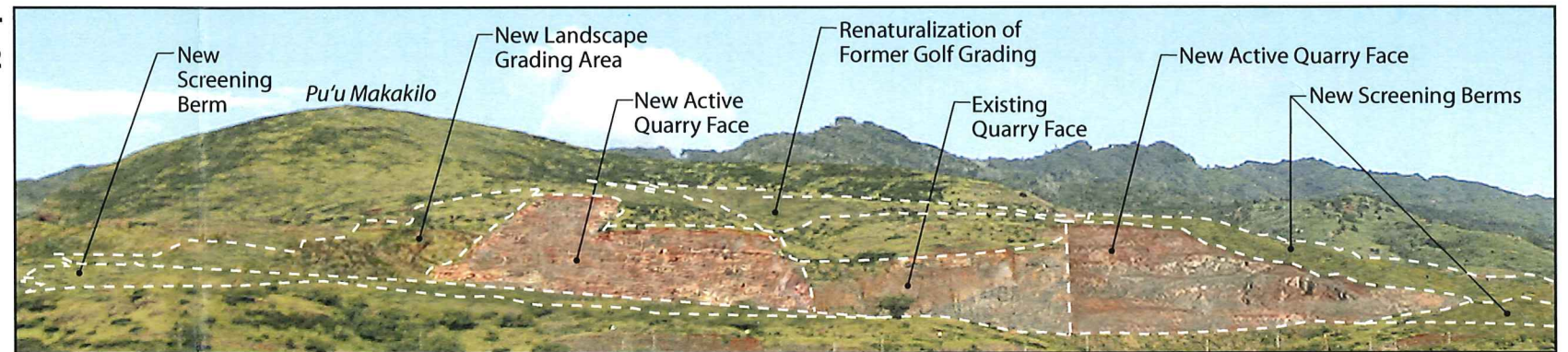
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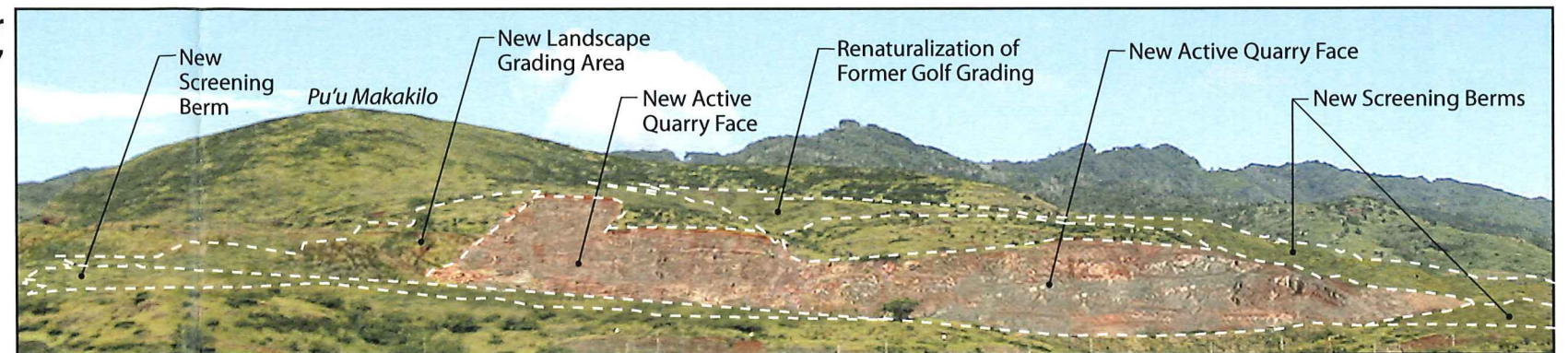
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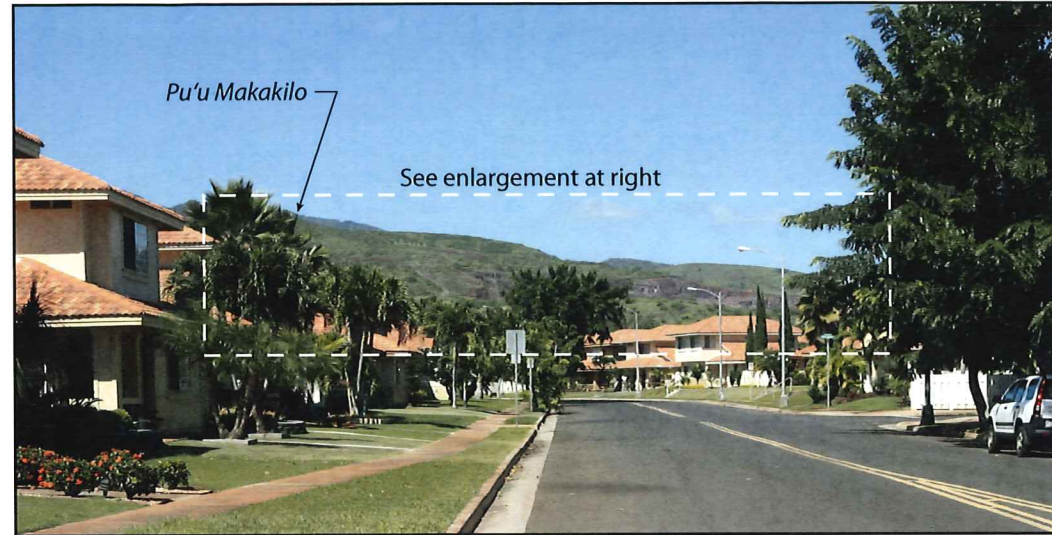
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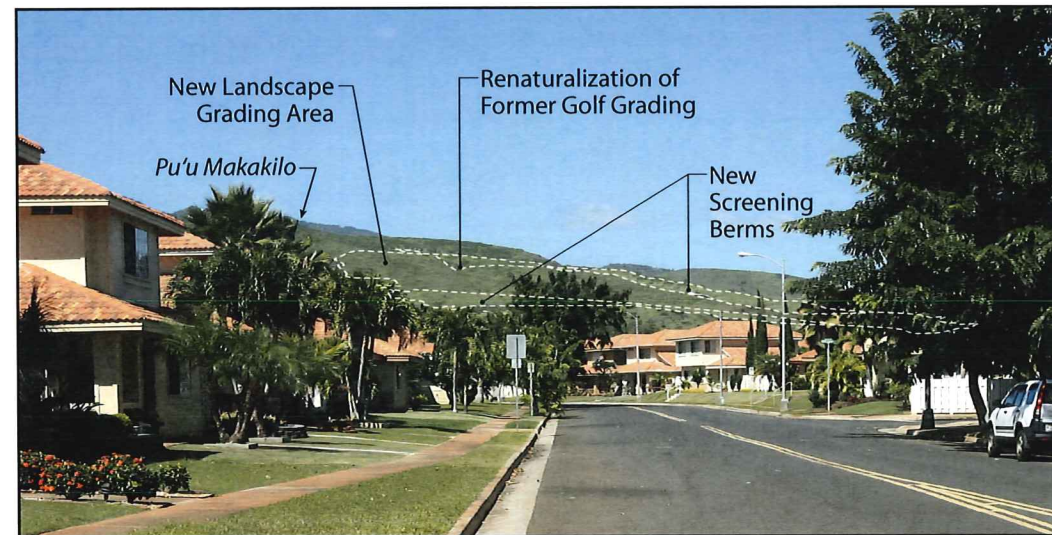
Revised June 20, 2008

Exhibit 2-6
VIEW FROM KAPOLEI GOLF COURSE

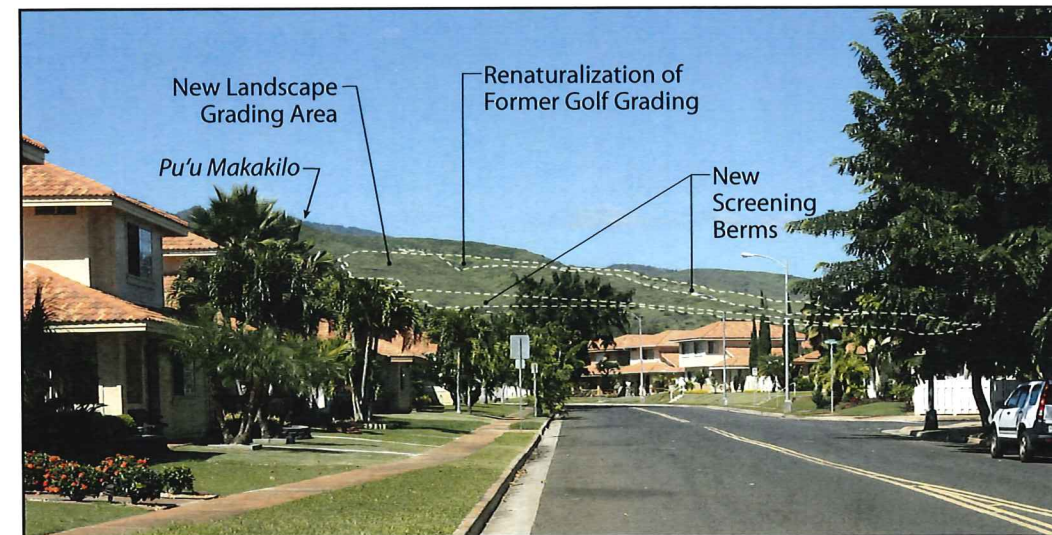
Visual Model of Quarry Activity in 5-Year Stages



Existing

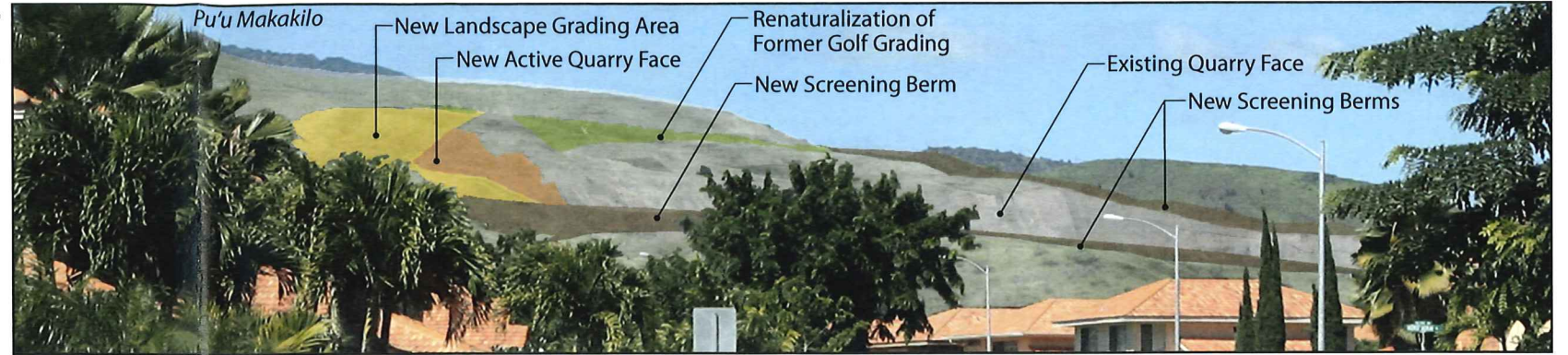


Final Quarry Phase—Year 2032

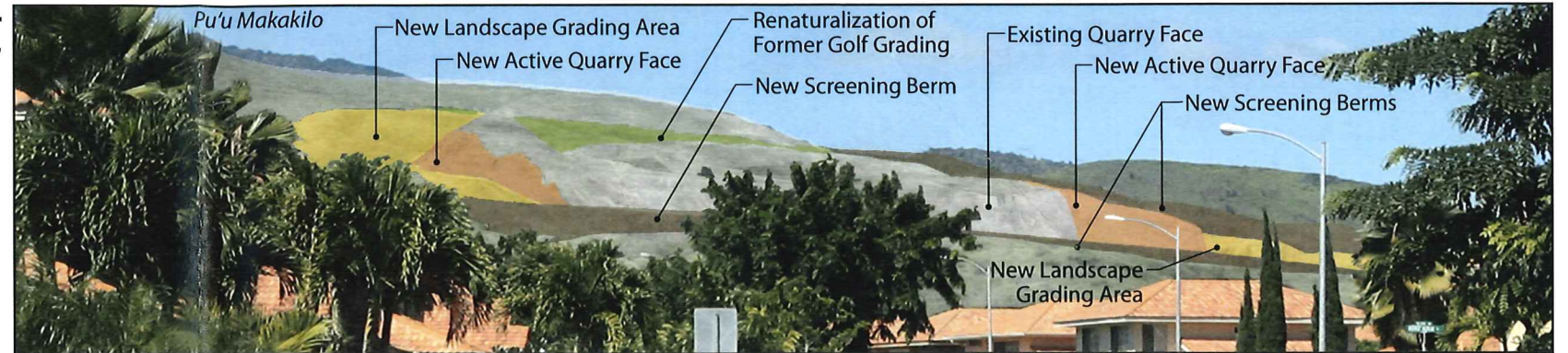


Final Renaturalization—Year 2038

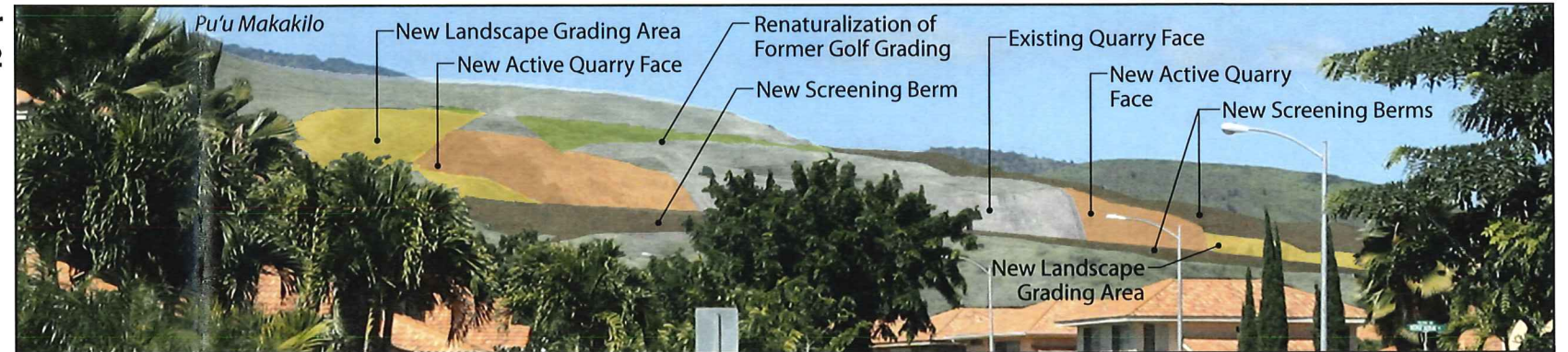
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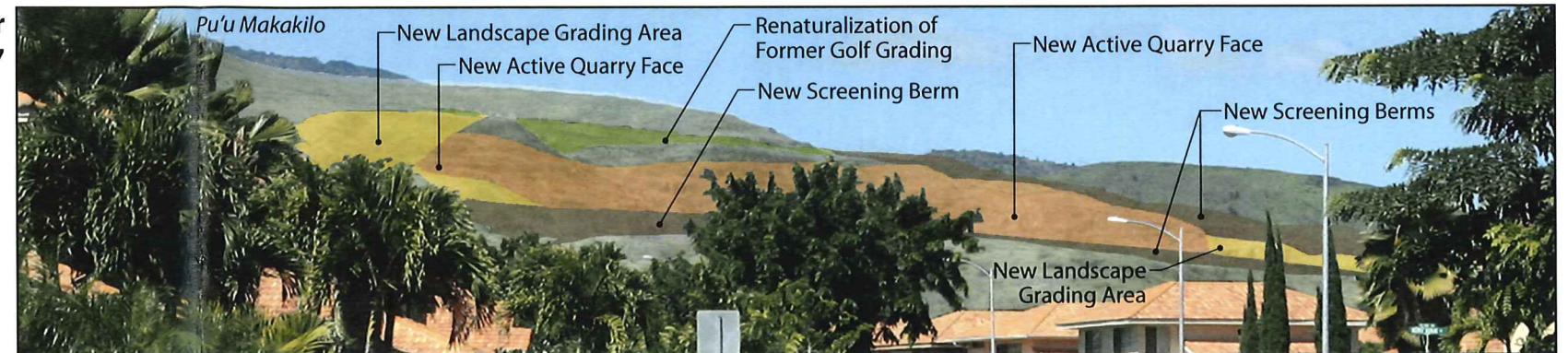
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Year 2022



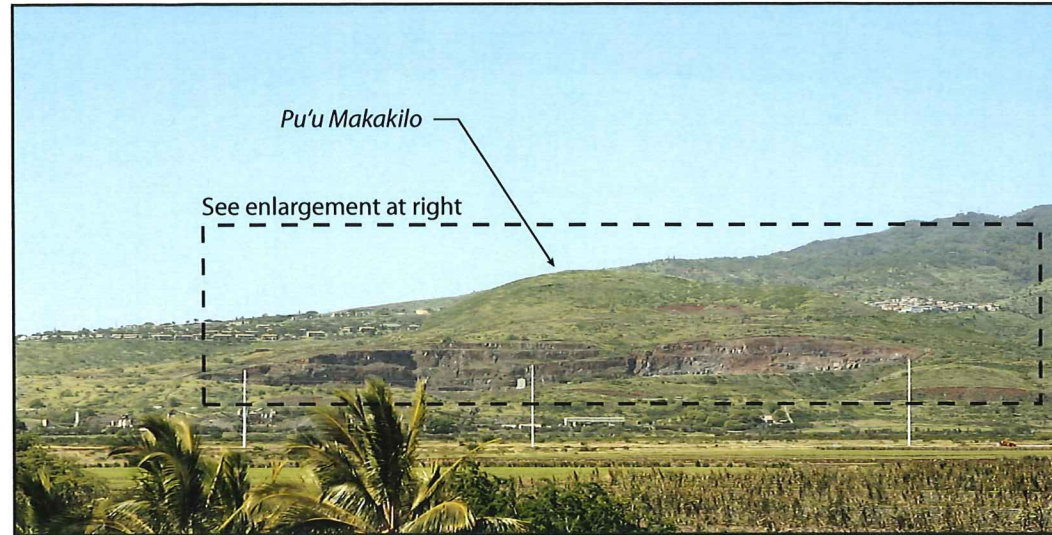
Year 2027



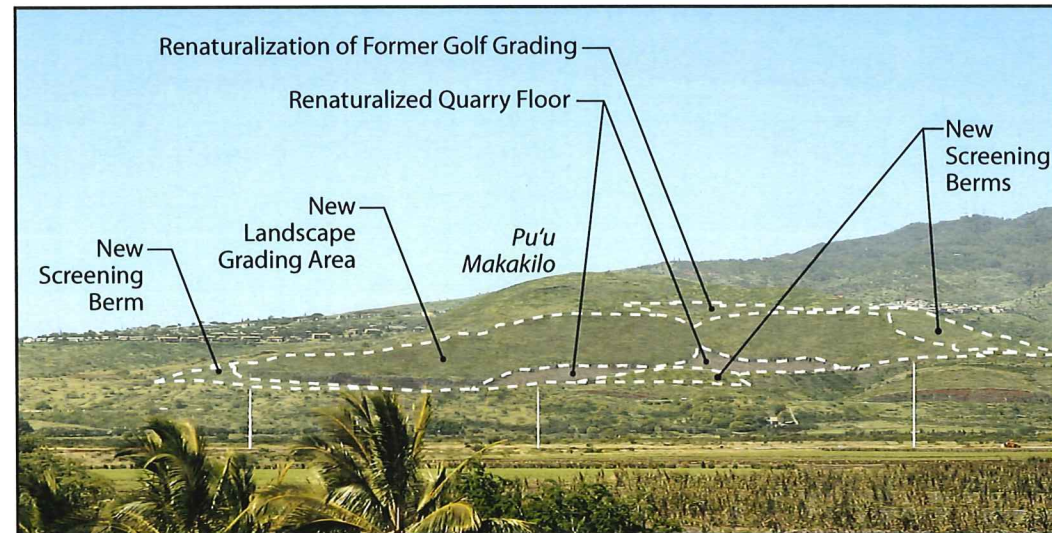
Revised June 20, 2008

Exhibit 2-7
VIEW FROM VILLAGES OF KAPOLEI

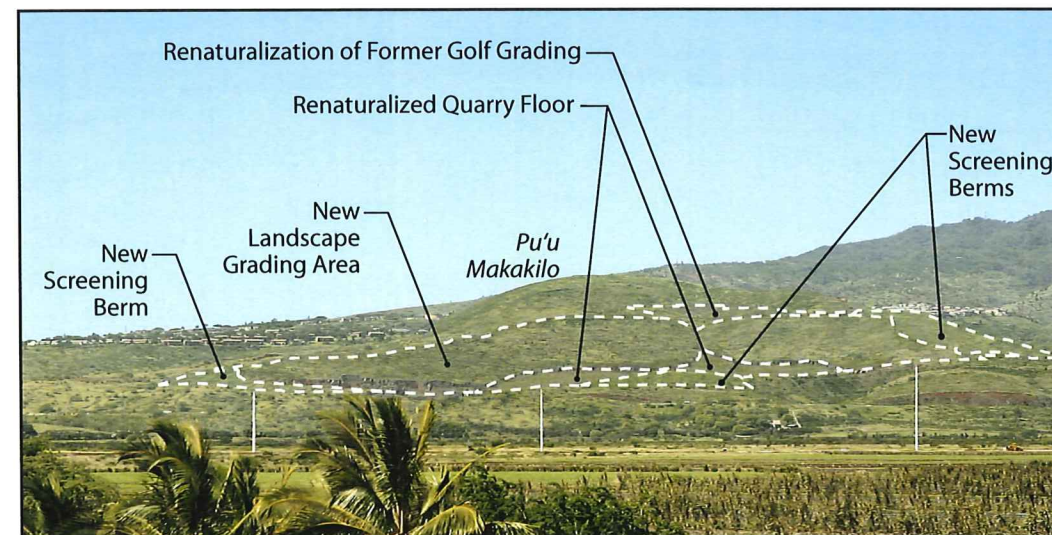
Visual Model of Quarry Activity in 5-Year Stages



Existing

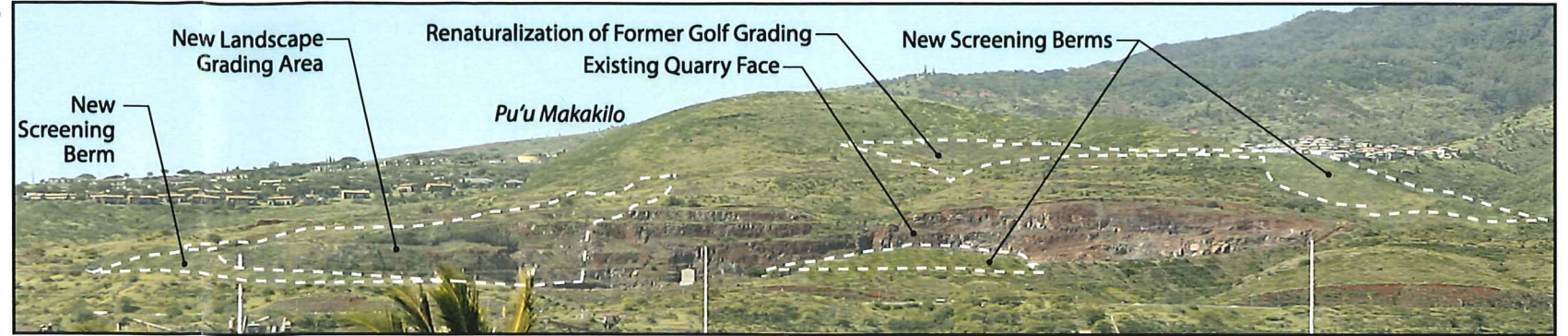


Final Quarry Phase—Year 2032

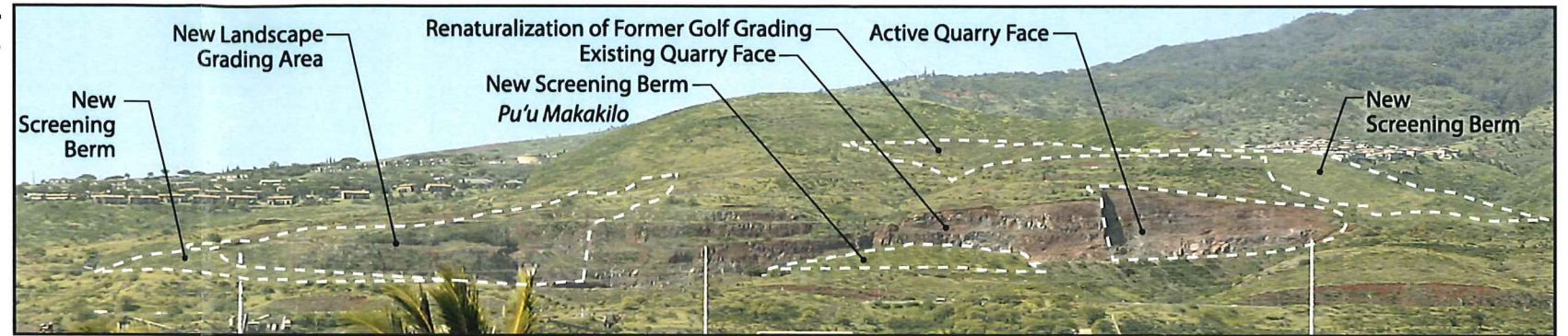


Final Renaturalization—Year 2038

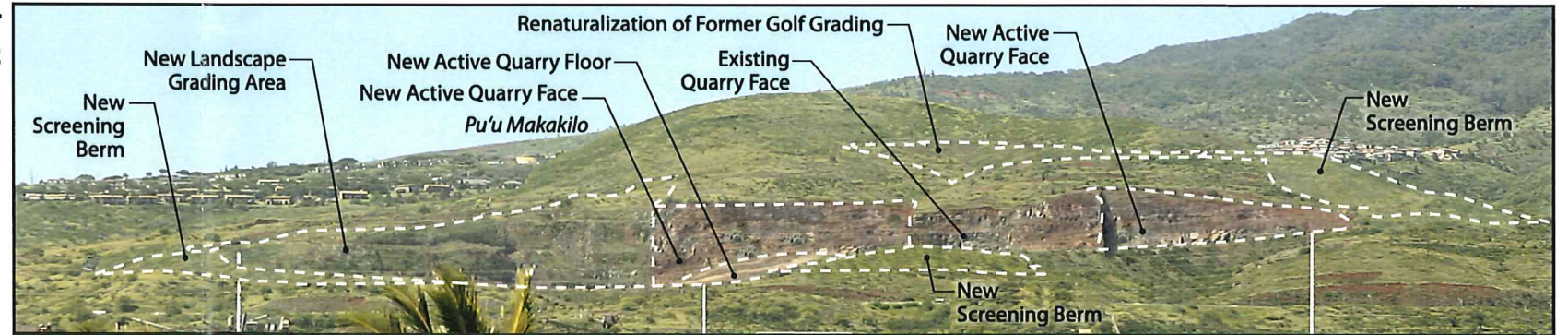
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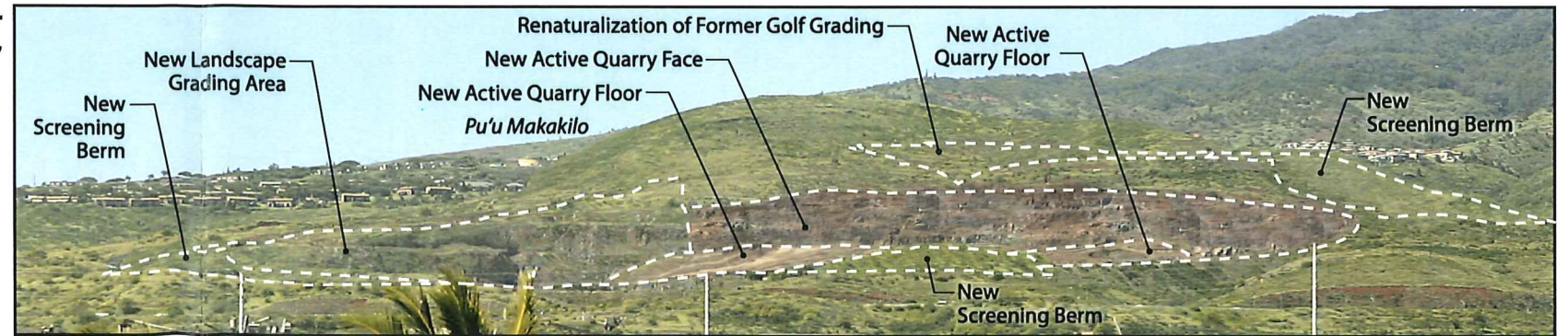
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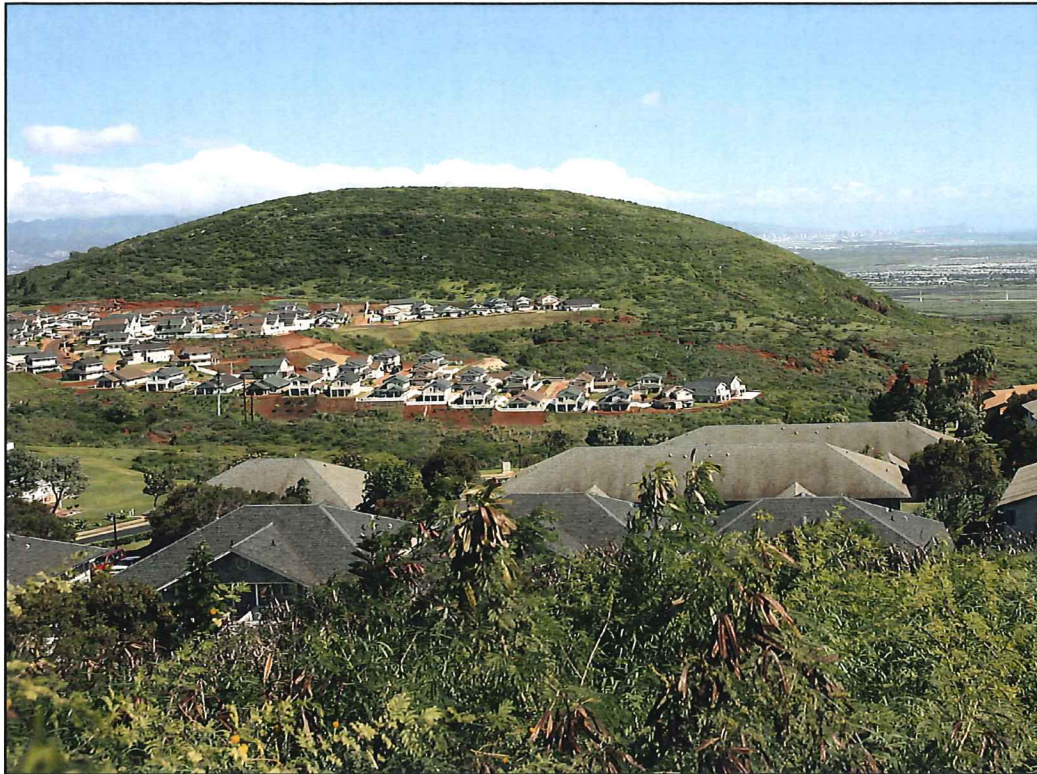


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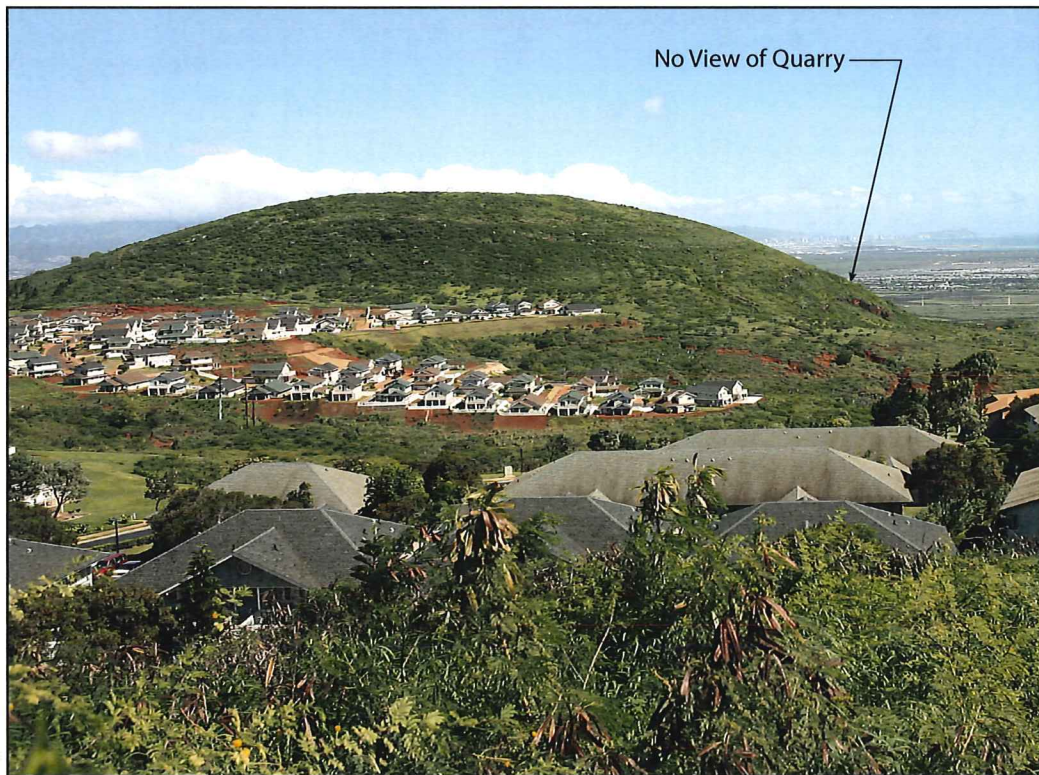


Year 2027





Existing



No View of Quarry

Final Quarry Phase

Revised June 20, 2008

**Exhibit 2-9
VIEW FROM UPPER MAKAKILO DRIVE**

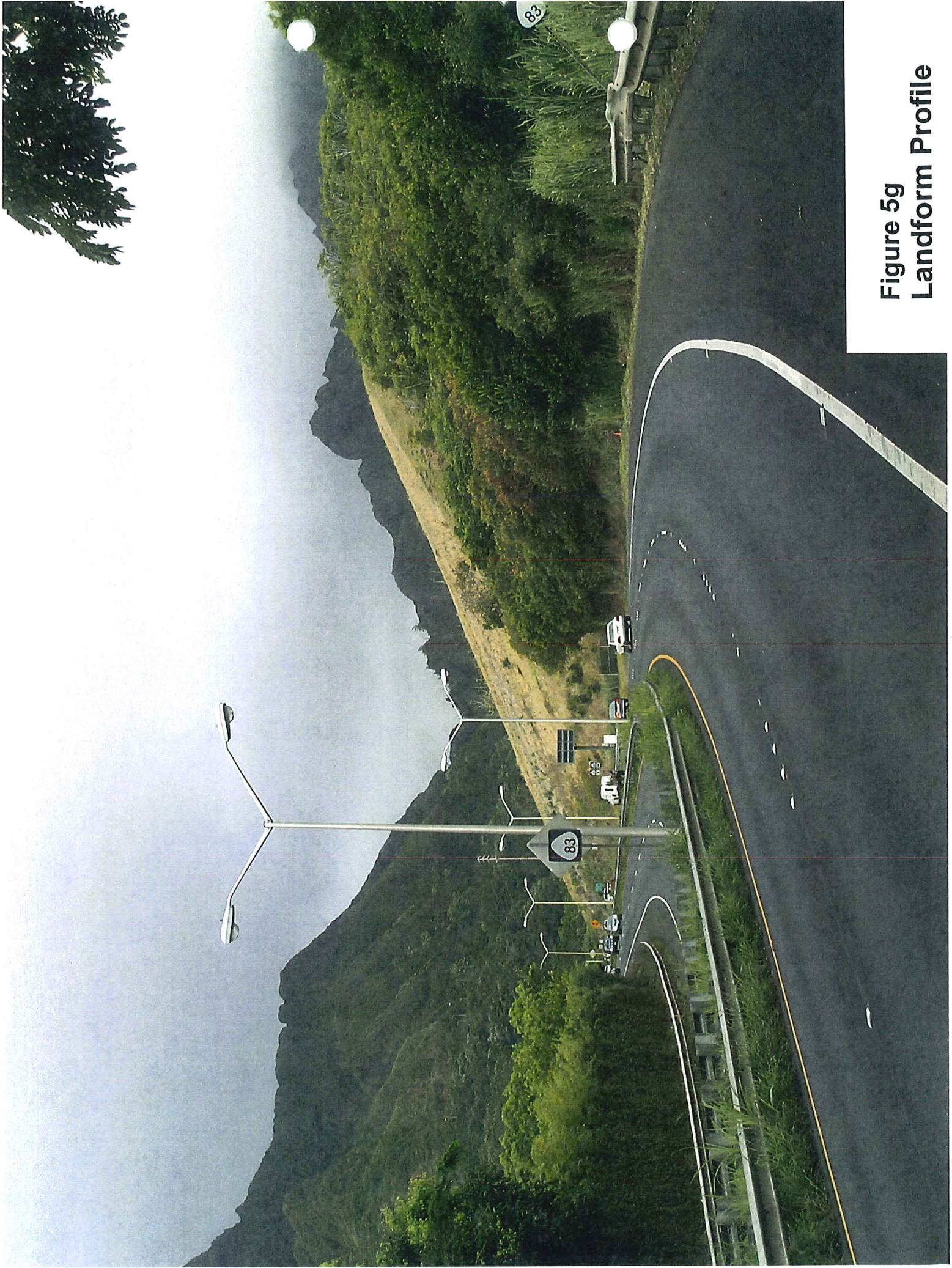


Figure 5g
Landform Profile

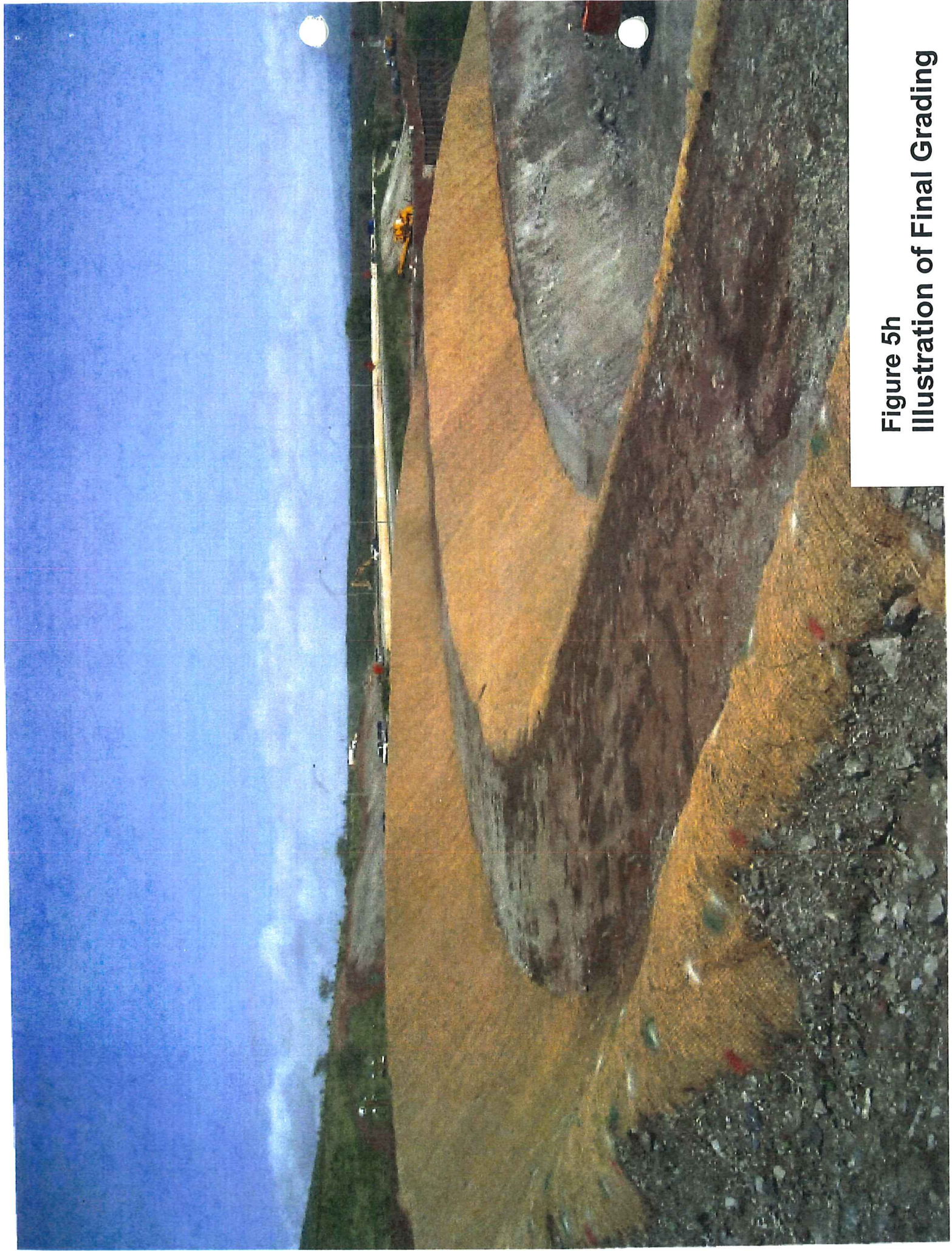


Figure 5h
Illustration of Final Grading