DAVID Y. IGE
GOVERNOR

KATHRYN S. MATAYOSHI
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

September 30, 2015

Mr. Derek Chow
Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, Hawaii 96858

Re: Draft Feasibility Report/Environmental Impact Statement for the Ala Wai Canal Project

Dear Mr. Chow:

The Department of Education (DOE) attempted to review the Draft Feasibility Report/Environmental Impact Statement for the Ala Wai Canal Project. We wish to offer the following comments. It was difficult to get a comprehensive impression of the impact of the proposed project on the DOE schools within the Ala Wai Watershed. DOE schools were identified mostly in indirect references, not in relation to how the proposed project would impact their campuses. There was far more effort spent describing project impacts to the elepaio bird than public school students and facilities in the study area. There were also some references to a drainage project at Ala Wai Elementary School which needs to be corrected and clarified. Details on the DOE project are listed below.

It would have been useful to include one table on the schools identified in the Ala Wai Watershed, if not all the schools at least the largest ones or the ones expected to be impacted the most. On page 2-2, there is a description of approximately 28,529 students attending at least 11 schools. Later on page 5-87, the report says there are approximately 40 public schools, private schools and universities with a combined student body of 48,000 students. What seems like conflicting information makes the text more difficult to follow.

In the discussion of the impacts of the tentatively selected plan there are details on the selected alternative plans impact on several parks, but the text never acknowledges the proximity of the schools located adjacent to, or sharing a parcel with the parks. Any reference to Manoa District Park, Kanewai Community Park and Ala Wai Community Park cannot ignore the co-location of elementary schools.

Table 30 lists significant views and view planes and who are the potentially sensitive receptors. Table 30 identifies residential properties immediately adjacent, but never mentions public schools immediately adjacent. The same criticism applies to Table 31 concerning ambient noise. Nearby residents and park users are listed as potentially sensitive noise receptors along with Ala Wai

Elementary and Kaimuki High, but there is no reference to Manoa Elementary or Hokulani Elementary. Table 34 identifies roads and other transportation resources affected by the tentatively selected plan, fails to list Manoa and Hokulani Elementary schools, which share facilities with affected parks.

The DOE believes that any discussion on public services should include public schools. On page 5-80 the report says the proposed plan still leaves two emergency shelters at Lunalilo Elementary and Washington Intermediate in the floodplain. The next sentence says in addition to the three schools that serve as emergency shelters, the only other school that would remain in the floodplain is Iolani School, that seven other schools in the floodplain would be protected. The DOE is unclear which school is the third school that serves as an emergency shelter remaining in the flood plain. We would also like to have the seven other schools identified.

On page 5-88 there is a reference to "the above-listed schools and their facilities" in the study area, but there is no list. There is an additional reference to 11 schools, including UH, in the one percent chance floodplain. It seems like one table identifying at least the 11 schools would have been helpful. The report also mentions a possible scenario of water overtopping the canal walls. The water would pond on Kapahulu Avenue and then pass "through the grounds of Jefferson Elementary school." It is unclear whether Jefferson is one of the schools in the floodplain.

Finally, there are a few references to the Ala Wai Elementary School Drainage Improvements project. The project has not been completed as stated on pages 1-7 and 5-91. The project is only half completed and has had to change its design so it no longer drains into the Ala Wai Canal. We ask that this reference be corrected.

We appreciate the opportunity to review the Draft Feasibility Report/Environmental Impact Statement. If you have any questions, please contact Heidi Meeker, Land Use Planner of the Planning Section of the Facilities Development Branch at 377-8301.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:jmb

c: Gayson Ching, Engineering Division, Department of Land and Natural Resources

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Kenneth Madsen
State of Hawaii, Department of Education
PO Box 2360
Honolulu, Hawaii 96804

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you and/or your organization have submitted a number of suggested corrections and clarifications for the FEIS. Your corrections and suggested edits are noted and are included in the final FEIS.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Mr. Kenneth Masden
State of Hawaii, Department of Education
Post Office Box 2360
Honolulu, Hawaii 96804

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your letter dated September 30, 2015 to USACE Honolulu District:

1. *The Department of Education (DOE) attempted to review the Draft Feasibility Report/Environmental Impact Statement for the Ala Wai Canal Project. We wish to offer the following comments.*

It was difficult to get a comprehensive impression of the impact of the proposed project on the DOE schools within the Ala Wai Watershed. DOE schools were identified mostly in indirect references, not in relation to how the proposed project would impact their campuses. There was far more effort spent describing project impacts to the elepaio bird than public school students and facilities in the study area.

RESPONSE: Public safety and reducing the flood risk in the Ala Wai Watershed Community is a top concern of the project. Discussion of impacts to schools can be found in the HEPA FFEIS Sections 5.14 Noise, 5.15 Transportation and Traffic, 5.16 Public Health and Safety, and 5.18 Socioeconomics and Environmental Justice. During the design phase, updated modeling, engineering data, and community input will be used to refine or change the system features. Public safety and community concerns will be considerations in designing system features that delivers the level of risk reduction authorized by Congress for this project. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

2. *There were also some references to a drainage project at Ala Wai Elementary School which needs to be corrected and clarified. Details on the DOE project are listed below.*

RESPONSE: Thank you for providing clarifications on the Ala Wai Elementary School drainage project. Clarifications are provided to each reference below.

3. *It would have been useful to include one table on the schools identified in the Ala Wai Watershed, if not all the schools at least the largest ones or the ones expected to be impacted the most.*

RESPONSE: Tables 29 and 30 have been amended to indicate if a proposed project feature may affect a public school, with respect to view planes and noise impacts, respectively. Also added to the HEPA FFEIS is Table 43, containing a list of schools assessed as critical infrastructure in the floodplain.

4. *On page 2-2, there is a description of approximately 28,529 students attending at least 11 schools. Later on page 5-87, the report says there are approximately 40 public schools, private schools and universities with a combined student body of 48,000 students. What seems like conflicting information makes the text more difficult to follow.*

RESPONSE: There are approximately 40 public schools, private schools and universities with a combined student body of 48,000 students in the entire Ala Wai Watershed. Within the watershed, there are 11 schools with approximately 28,529 students directly in the 1-percent ACE floodplain. For consistency purposes, Page 2-2 of the HEPA FFEIS has been updated to reflect to 48,000 students at approximately 40 schools.

5. *In the discussion of the impacts of the tentatively selected plan there are details on the selected alternative plans impact on several parks, but the text never acknowledges the proximity of the schools located adjacent to, or sharing a parcel with the parks. Any reference to Manoa District Park, Kanewai Community Park and Ala Wai Community Park cannot ignore the co-location of elementary schools.*

RESPONSE: Tables 29, 30, and 33 have been updated in the HEPA FFEIS to acknowledge the proximity of elementary schools to the proposed project features.

6. *Table 30 lists significant views and view planes and who are the potentially sensitive receptors. Table 30 identifies residential properties immediately adjacent, but never mentions public schools immediately adjacent.*

RESPONSE: Table 29 (formerly Table 30 in the DFEIS) Established View Planes/Potentially Sensitive Receptors Associated with Management Features, has been updated to acknowledge the proximity of Manoa, Hokulani and Ala Wai Elementary schools to the proposed project features.

7. *The same criticism applies to Table 31 concerning ambient noise. Nearby residents and park users are listed as potentially sensitive noise receptors along with Ala Wai Elementary and Kaimuki High, but there is no reference to Manoa Elementary or Hokulani Elementary.*

RESPONSE: Table 30 (formerly Table 31 in the DFEIS) Ambient Noise Conditions at Proposed Measure Locations, has been updated to acknowledge the proximity of Manoa and Hokulani Elementary schools to the proposed project features.

8. *Table 34 identifies roads and other transportation resources affected by the tentatively selected plan, fails to list Manoa and Hokulani Elementary schools, which share facilities with affected parks.*

RESPONSE: Table 33 (formerly Table 34 in the DFEIS) Roadways and Other Transportation Affected by recommended plan, has been updated to acknowledge the proximity of Manoa and Hokulani Elementary schools to the proposed project features.

9. *The DOE believes that any discussion on public services should include public schools. On page 5-80 the report says the proposed plan still leaves two emergency shelters at Lunalilo Elementary and Washington Intermediate in the floodplain. The next sentence says in addition to the three schools that serve as emergency shelters, the only other school that would remain in the floodplain is Iolani School, that seven other schools in the floodplain would be protected. The DOE is unclear which school is the third school that serves as an emergency shelter remaining in the flood plain.*

RESPONSE: Emergency shelters remaining in the floodplain include Lunalilo Elementary, Hokulani Elementary, and Washington Intermediate schools. Section 5.16.2.2 on page 5-87 (formerly page 5-80 in the DFEIS) has been updated to include the missing third school, Hokulani Elementary.

10. *We would also like to have the seven other schools identified.*

RESPONSE: With regards to "*the other 7 schools that are currently in the floodplain would be protected by the project,"* the seven schools are identified as Ala Wai Elementary, Hawaii School for the Deaf & Blind, Jefferson Elementary, Kaimuki High, Noelani Elementary, Mid-Pacific Institute, and the University of Hawaii at Manoa.

This HEPA FFEIS evaluated relevant flood risk management measures with critical infrastructure directly affected by flooding. As such, only schools associated with critical infrastructure such as emergency shelters are listed in the HEPA FFEIS. During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. The updated data will identify critical infrastructure, public safety, and schools remaining in the floodplain both with- and without-project. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

11. *On page 5-88 there is a reference to "the above-listed schools and their facilities" in the study area, but there is no list.*

RESPONSE: The statement *"the above listed schools and their facilities"* on page 5-88 of the DFEIS has been eliminated and replaced instead with *"the public and private schools and their facilities"* on page 5-95 of the HEPA FFEIS.

12. *There is an additional reference to 11 schools, including UH, in the one percent chance floodplain. It seems like one table identifying at least the 11 schools would have been helpful.*

RESPONSE: See Response #10. The eleven schools in the 1-percent ACE (100-year) floodplain include Ala Wai Elementary, Hawaii School for the Deaf & Blind, Hokulani Elementary, Jefferson Elementary, Kaimuki High, Lunalilo Elementary, Noelani Elementary, Washington Middle, Iolani School, Mid-Pacific Institute, and the University of Hawaii at Manoa.

13. *The report also mentions a possible scenario of water overtopping the canal walls. The water would pond on Kapahulu Avenue and then pass "through the grounds of Jefferson Elementary school." It is unclear whether Jefferson is one of the schools in the floodplain.*

RESPONSE: Jefferson Elementary is in the floodplain; Table 43 has been added to the HEPA FFEIS to reflect emergency shelter schools in the floodplain.

14. *Finally, there are a few references to the Ala Wai Elementary School Drainage Improvements project. The project has not been completed as stated on pages 1-7 and 5-91. The project is only half completed and has had to change its design so it no longer drains into the Ala Wai Canal. We ask that this reference be corrected.*

RESPONSE: Thank you for providing clarification to the Ala Wai Elementary School Drainage Improvements project. Section 1.7 (page 1-7 of the DFEIS; page 1-9 of the HEPA FFEIS) and Section 5.19.1 (Page 5-91 of the DFEIS; page 5-99 of the HEPA FFEIS) have been updated to reflect that the above mentioned project is not complete.

15. *We appreciate the opportunity to review the Draft Feasibility Report/Environmental Impact Statement. If you have any questions, please contact Heidi Meeker, Land Use Planner of the Planning Section of the Facilities Development Branch at 377-8301.*

RESPONSE: Thank you, your continued participation is appreciated.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Pacific Islands Water Science Center
1845 Wasp Boulevard, Building 176
Honolulu, Hawaii 96818
Phone: (808) 690-9600/Fax: (808) 690-9599

October 2, 2015

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, Hawai'i 96858

To Whom It May Concern:

Subject: Public Review and Comment Period of Draft Feasibility Report/EIS for the Proposed Ala Wai Canal Project, O'ahu, Hawai'i

Thank you for your letter regarding availability of the subject Draft Feasibility Report/EIS for review and comment by the staff of the U.S. Geological Survey Pacific Islands Water Science Center. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document.

We appreciate the opportunity to participate in the review process.

Sincerely,

Stephen S. Anthony
Center Director

cc: State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, Hawai'i 96809

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Stephen Anthony
U.S. Department of Interior, Geological Survey
Pacific Island Water Science Center
1845 Wasp Boulevard, Building 176
Honolulu, Hawaii 96818

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you and/or your organization has no comments on the FEIS.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

October 5, 2015

I absolutely oppose connecting La'i Road to Ipulei Place.
My reason is the crime factor stemming from additional access to the Carlos Long neighborhood.
My suggestion is something be done to the stream further down by Ahe Street.

Thank you & sincerely,

Madge Nicolas
3184 Holly Pl
HH 96846
779-3944

P.S. I will get every single resident & home owner to sign a petition!

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Madge Nicolas
3184 Holly Place
Honolulu, HI 96816

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

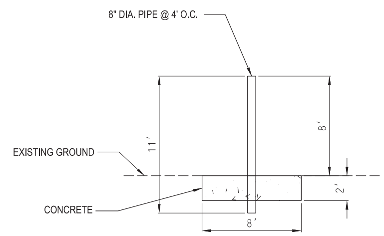
- Connecting La'I Road to Ipulei Place via the Pukele Debris and Detention Structure

Attached is the 35% design for the Pukele Debris and Detention Structure. The top of the structure is intended to serve as an overflow spillway, not a structure utilized for public access. Section C-C shows that the top of the structure is 441' in elevation whereas the spillway elevation is located at 437' with vertical side slopes on the furthest lateral extent of the spillway. The assumed four foot elevation difference would not be conducive to either vehicle or pedestrian traffic across the structure. If constructed, ownership, operations and maintenance of the structure would be the responsibility of the non-Federal sponsor.

Designs associated with the FEIS are developed to a 35% level in order to adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the designs of the FEIS will be carried forward to the design phase of the study where site specific surveys and investigations will be conducted for each element of the recommended plan to further refine the level of detail of the proposed feature. The specific location and scale of project features may change as additional information is acquired from the site during the design phase.

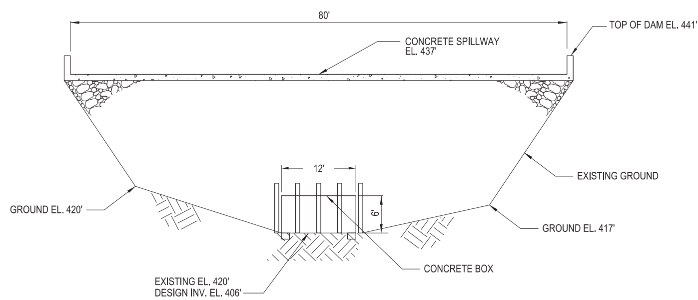
Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx



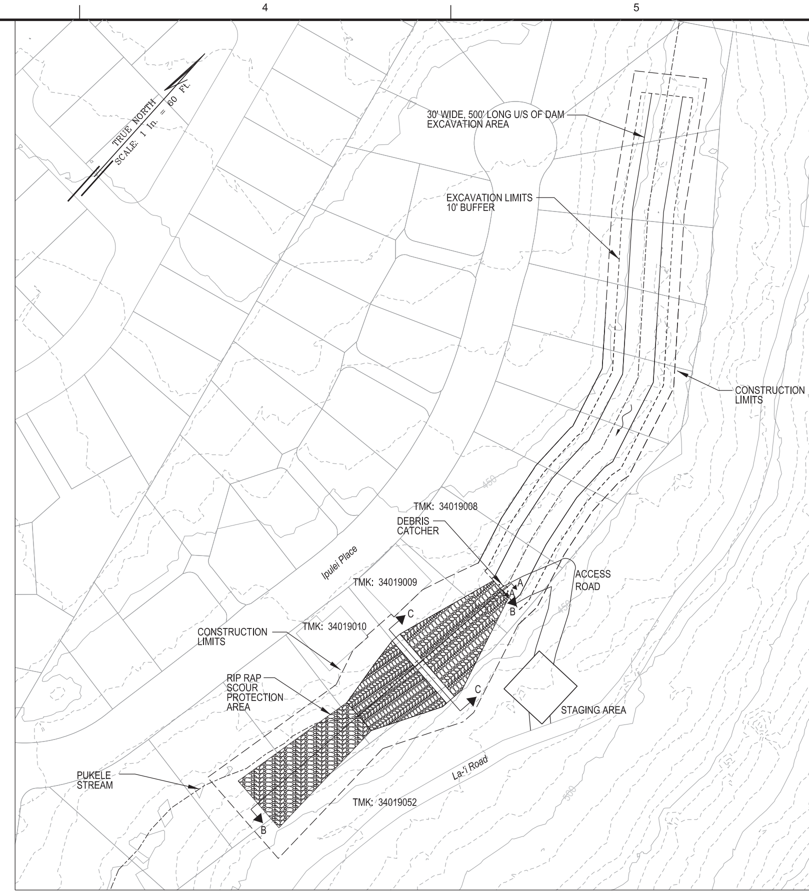
PUKELE DEBRIS AND DETENTION BASIN
SECTION A-A

SCALE: 1"=5'



PUKELE DEBRIS AND DETENTION BASIN
SECTION C-C

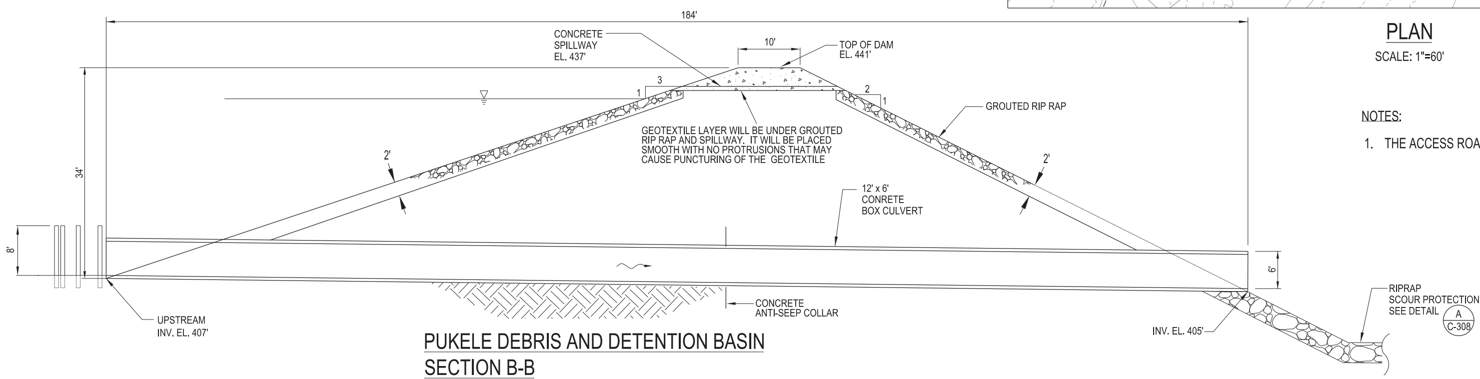
SCALE: 1"=5'



PLAN

SCALE: 1"=60'

SOLID LINE = 50' CONTOURS
DOTTED LINE = 10' CONTOURS



PUKELE DEBRIS AND DETENTION BASIN
SECTION B-B

SCALE: 1"=5'

NOTES:

1. THE ACCESS ROAD WILL ALSO BE USED FOR MAINTENANCE.

5 2.5' 0 5 10
SCALE: 1" = 5'
Note: All elevations are feet MSL

US Army Corps of Engineers® Honolulu District

35% DESIGN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

US ARMY CORPS OF ENGINEERS
HONOLULU DISTRICT
HONOLULU, HAWAII

DESIGNED BY: JHH	DATE:	REVISION:
DRAWN BY:	CHECKED BY:	SOLICIT./ CONTRACT NO.:
SUBMITTED BY:		LOCATION CODE
PLOT SCALE:	PLOT DATE: 8/30/2016	DRAWING NUMBER:
SIZE: ANSI D	FILE NAME: Ala_Wai_C-313xxx	

ALA WAI CANAL PROJECT

PUKELE DEBRIS AND DETENTION BASIN
PLAN AND SECTIONS

SHEET IDENTIFICATION
C-313
SHEET 18 OF 31

FILE: pw:\\COE-POHPWP08FTS.poh.ds.usace.army.mil:coe-pohpwp08ts.poh.ds.usace.army.mil\Documents\11 Other Locations\2 - O'ahu\Civil Works\Ala Wai Water Shed\Ala Wai Canal Project\01-Drawings\Civil\Final\NEW TSP\Ala_Wai_C-313xxx
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DAVID Y. IGE
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HAWAII

SUZANNE D. CASE
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BOARD OF LAND AND NATURAL RESOURCES
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LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Madge Nicolas
3184 Holly Place
Honolulu, Hawaii 96816

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

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After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your letter dated October 5, 2015:

1. *I absolutely oppose connecting La'i Road to Ipulei Place. My reason is the crime factor stemming from additional access to the Carlos Long neighborhood.*

   RESPONSE: Although crime statistical analysis as a direct factor is not within the authorization of the feasibility study or this HEPA FFEIS proposed action, the undertaking of connecting Lai Road to Ipulei Place is a reasonable request for clarification. Under the proposed action which will be further refined in the Design Phase, there is no plan to connect Lai Road and Ipulei Place. The feature that is proposed would be secured to keep pedestrian and vehicular traffic from traversing the feature. In addition to the approximate 4' elevation difference between the ground and the spillway on the feature, there would be other measures for the safety of the community and the security of the feature. During the design phase of this project updated modeling, engineering data, community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

2. *My suggestion is something be done to the stream further down by Ahe Street.*

   RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. Other locations along Pukele Stream will be part of that evaluation based on updated data. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

3. *I will get every single resident & homeowner to sign a petition!*

   RESPONSE: The Corps of Engineers and DLNR is soliciting input and engagement with the community, we encourage you and your community to participate in this project process to help deliver a project that benefits the entire community from Mauka to Makai.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

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ALA WAI CANAL PROJECT DRAFT FEASIBILITY REPORT / EIS
PUBLIC MEETING - COMMENT SHEET
September 30, 2015

Thank you for participating in the Public Meeting on the ALA WAI CANAL PROJECT DRAFT FEASIBILITY REPORT/ENVIRONMENTAL IMPACT STATEMENT. Please use this form to submit any questions or comments you may have on the Draft Feasibility Report/EIS. Completed forms may be submitted to a project team member or mailed by **November 9, 2015**. Comments may be also emailed to: AlaWaiCanalProject@USACE.Army.mil. Please note that comments must include a name and physical address to receive a written response. To review the Draft Feasibility Report/EIS, visit www.AlaWaiCanalProject.com.

After attending the Public meeting, I truly feel that the proposed solution to the Ala Wai canal project is a waste of time and taxpayer's money for something that may not solve and may make the flooding problem even worse than it already is; by creating many more flood prone areas along the 3 streams.
What assurances do I have that I will be protected from future flooding (ie 10yrs., 50yrs., & 100yrs.)?
Is there a solution that will be more environmentally friendly and less destructive to the surrounding area ie residential homes?
As a full-time pensioner, I cannot afford the risk of flooding and damage to my home.
Please reconsider alternative solutions, as this is not the answer to the problem as the cost to the affective community is too great and the problem of flooding of the Ala Wai canal will still exist.

CONTACT INFORMATION

Please note that comments must include a name and physical address to receive a written response.

Name: Lori L. Takasaki

Phone: (808) 542-2351

Address: 98-2061 B Kaahumanu St.
Aiea, HI 96701

Email: lori.takasaki@gmail.com

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Lori Takasaki
98-2061B Kaahumanu Street
Aiea, Hawaii 96701

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- Alternative Plan Selection

The strategy towards managing the flood risk utilized in the plan formulation contained within the FEIS is the dual approach of detention of flood flows in the upper watershed combined with line of protection features (i.e. floodwalls and levees) in the lower watershed. This approach provides benefits for those within the upper watershed, but also reduces the scale of the features necessary for flood risk management in the lower watershed. USACE conducts planning efforts in accordance with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, established by the Water Resources Council in 1983. This study has been guided by this planning process though each phase. The general problems and opportunities are stated as specific planning objectives and constraints to provide focus for the formulation of alternatives. These objectives and constraints have been documented since 2012 when the study was rescoped to focus exclusively on flood risk management. The formulation of alternatives is an iterative process and plans are evaluated and compared to determine which alternative achieves the study objectives and avoids study constraints in the most effective and efficient manner. Objectives and constraints are detailed in Section 2 of the FEIS, and Section 3 includes details of the process by which alternatives were selected and eliminated, leading to a final array of viable alternative plans. Each of the alternative plans in this final array was a valid plan that achieved planning objectives and avoided planning constraints to some degree. These plans were screened against multiple criteria and compared to determine which plan was most effective and efficient in achieving study objectives and avoiding study constraints.

All flood risk management alternatives considered for the study have a variety of impacts; there is no alternative that has no impacts, and there is no alternative that has only positive impacts. USACE policy requires a recommendation consistent with the alternative plan that reasonably maximizes the net economic benefits with consideration to the environmental impacts. Sections 4 and 5 of the FEIS includes an evaluation and comparison of these alternative plans. Section 8 outlines the recommended plan. This plan includes:

- Six in-stream debris and detention basins in the upper reaches of the watershed
- One stand-alone debris catchment structure
- Three multi-purpose detention basins
- Floodwalls along the Ala Wai Canal (including two pump stations); a levee on the outer perimeter of the Ala Wai Golf Course

- A flood warning system
- Fish passage environmental mitigation features at two locations

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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AQUATIC RESOURCES
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Lori Takasaki
98-2061B Kaahumanu Street
Aiea, Hawaii 96701

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your Comment Sheet submitted at the Ala Wai Canal Project DFEIS Public Meeting dated September 30, 2015:

1. *After attending the Public meeting, I truly feel that the proposed solution to the Ala Wai Canal project is a waste of time and taxpayer's money for something that may not solve and may make the flooding problem even worse than it already is; by creating many more flood prone areas along the 3 streams.*

RESPONSE: Thank you for your concern and participation in the study. Specific to your comment about making the flooding problem even worse than it already is, by creating many more flood prone areas along the 3 streams, we want to provide you additional information.

It is important to recognize that the plan is being developed based on engineering data and modeling that undergoes several reviews and checks and balances within each phase. Specific to the proposed action in this HEPA FFEIS, the modeling was developed by the Honolulu District, reviewed by the Pacific Ocean Division, reviewed by the US Army Corps of Engineers Enterprise, as well as an independent external review from experts not associated with the Corps of Engineers.

During the design phase, updated modeling, engineering data, and community input will be used to refine or change the system features. That data and modeling will then go through a similar review exercise to ensure that we are not increasing or inducing flood risk on the community.

If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

2. *What assurances do I have that I will be protected from future flooding (.i.e., 10-years., 50-years and 100-years.)?*

RESPONSE: To your specific question about assurance; there is no assurance that you will be protected. The goal of the project is to reduce the risk associated with flooding in the Ala Wai Watershed, the project will not completely eliminate the risk of flooding. For this reason, as part of the project there is an early warning system to be developed with the project after design and construction to help further reduce the risk associated with flooding in the project area.

3. *Is there a solution that will be more environmentally friendly and less destructive to the surrounding area, i.e., residential homes?*

RESPONSE: Please note that during the feasibility study there was a process for alternative plan formulation and selection which was shared with you in the 2017 response letter you received. To answer your question more specifically, the answer is we are continuing to evaluate alternative designs. The recommended action in the 2017 NEPA FFEIS and subsequent HEPA FFEIS is the economically justified and environmentally acceptable recommended plan based on the information available at that time. During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the level of flood protection meets the level of protection authorized by Congress. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

4. *As a full-time pensioner, I cannot afford the risk of flooding and damage to my home.*

RESPONSE: Thank you for your comment; there are many people in the community that share your concern. This project seeks to reduce the risk of flooding in the community to assist in reducing the risk economic impacts on the community associated with flooding.

5. *Please reconsider alternative solutions, as this is not the answer to the problem as the cost to the affective community is too great and the problem of flooding of the Ala Wai canal will still exist.*

RESPONSE: See response #3.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP8/15-621881R

October 7, 2015

Honolulu District
United States Army Corps of Engineers
Building 230, CEPOH-PP-C
Fort Shafter, Hawaii 96858

Attention: Ala Wai Canal Project

State of Hawaii
Department of Land and Natural Resources,
Engineering Division
P.O. Box 373
Honolulu, Hawaii 96809

Attention: Mr. Gayson Ching

Gentlemen:

SUBJECT: Draft Feasibility Study/Environmental Impact Statement for the Ala Wai Canal Project

In response to a public notice from Mr. Carty Chang, Chief Engineer, State of Hawaii, Department of Land and Natural Resources, Engineering Division, received on August 24, 2015, we have the following comments:

1. Any construction materials and equipment should be transferred to and from the project sites during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets. The Transportation Management Plan specified under Section 5.15.2.2. of the Draft Feasibility Study/Environmental Impact Statement (Study/EIS), page 5-75, should note this.

2. Please discuss and address the possibility of including at least one pedestrian bridge over the Ala Wai Canal as an evacuation measure in the event of flooding in Waikiki.

3. The fourth bullet on page 7-77 of the Study/EIS states: "Provide written advanced notice to property owners and businesses adjacent to construction areas." You should add also affected Neighborhood Boards, Public Transit and the Emergency Services personnel. The notice should be at the earliest opportunity and not less than ten days prior to beginning construction.

4. A street usage permit from the City's Department of Transportation Services shall be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

for Michael D. Formby
Director

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Michael Formby
City and County of Honolulu, Transportation Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- Policies related to construction activities
- Inclusion of an additional bridge to serve as an evacuation route
- Inclusion of specific parties to receive construction notice
- Obtaining a street usage permit

It is noted that you have provided a references to local policy requirements. The final FEIS will provide an overview of compliance with applicable Federal laws and policies, some of which are administered at a State level. Section 5 details an assessment of impacts resulting from the final array of alternatives. Section 7 details to compliance with applicable Federal laws and policies. The intent of the FEIS is to demonstrate compliance with all applicable Federal laws and policies. Coordination of specific items related to construction logistics will occur at a local level during the design phase of the study.

Unfortunately, the issue of evacuation route planning is not a topic addressed by the FEIS nor does USACE have the authorization to study that specific issue. It is suggested that you work with the State of Hawaii to adequately plan evacuation routes for potential natural disasters. If authorized, USACE will work with State and local partners to integrate the proposed flood warning system into local disaster and emergency preparedness efforts.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

October 13, 2015

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
DAVID C. HULIHEE
KAPUA SPROAT
BRYAN P. ANDAYA

ROSS S. SASAMURA, Ex-Officio
FORD N. FUCHIGAMI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, Hawaii 96858

Gentlemen:

Subject: Your Transmittal of the Draft Feasibility Study Report with Integrated Environmental Impact Statement for the Ala Wai Canal Project, Oahu, Hawaii

Thank you for the opportunity to review the subject document for the proposed flood control project.

We have the following comments to offer:

1. The Board of Water Supply (BWS) has several drinking water wells, reservoirs and appurtenant structures including a pipeline transmission tunnel in the vicinity of the debris and detention basins proposed for upper Makiki, Manoa and Palolo area. We also have distribution pipelines in close proximity to the lower Manoa detention basin areas adjacent to the Ala Wai Canal. Schematics, diagrams, detailed location maps and site plans should be submitted for our review to determine the impacts the project will have on any of our infrastructure.

2. The BWS is landowner for the area proposed for the upper Manoa portion of the project and possibly for portions of the Makiki and Palolo area. Land approvals would need to be coordinated accordingly. The BWS would not agree to be responsible for operating and maintaining the proposed earthen dams, detention basins and associated structures. These are basically flood control measures and being responsible for them is not in alignment with BWS' core mission of providing safe, dependable and affordable drinking water to its customers.

3. There should be an expanded discussion on the operation, maintenance and associated impacts of the proposed earthen dams and infrastructure which would have to comply with Army Corps of Engineers regulations and State of Hawaii Dam Safety Program regulations.

4. Please use current data on the BWS on page 5 – 82. In calendar year 2014, the BWS produced an average of about 140 million gallons per day for the island of Oahu.

5. We reserve further comment until the requested materials are submitted for our review.

If you have any questions, please contact Iris Oda, Long Range Planning Branch of our Water Resources Division at 748-5946 or by e-mail at ioda@hbws.org.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

cc: DLNR, Engineering

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Ernest Lau
City and County of Honolulu, Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you and/or your organization have submitted a number of suggested corrections and clarifications for the FEIS. Your corrections and suggested edits are noted and are included in the final FEIS.

In addition, your organization submitted concerns regarding long-term maintenance of debris and detention basins. Table 9, page 3-22 of the draft FEIS (page 3-23 of the final) details cursory operations and maintenance requirements based on project feature. These obligations are identified during the feasibility phase for the purpose of developing initial cost estimates. If approved, a detailed operations and maintenance plan will be developed during the design phase of the study. Debris and detention structures are intended to pass normal stream flows without impounding water. The structure are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events.

The non-Federal sponsors must enter into a Project Partnership Agreement with USACE to construct the Project. This agreement sets the required cost sharing of the Project between the non-Federal sponsors and the Federal government and requires that the non-Federal sponsors be solely responsible for the operation and maintenance of the Project. The sponsors are responsible for financing their local share and operation and maintenance costs.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Mr. Ernest Lau
City and County of Honolulu
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative

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After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your letter dated October 13, 2015 to USACE Honolulu District:

1. *The Board of Water Supply (BWS) has several drinking water wells, reservoirs and appurtenant structures including a pipeline transmission tunnel in the vicinity of the debris and detention basins proposed for upper Makiki, Manoa and Palolo area. We also have distribution pipelines in close proximity to the lower Manoa detention basin areas adjacent to the Ala Wai Canal. Schematics, diagrams, detailed location maps and site plans should be submitted for our review to determine the impacts the project will have on any of our infrastructure.*

   RESPONSE: Design drawings can be found in Appendix I of the HEPA FFEIS. During the design phase, updated modeling, engineering data, community engagement will be used to refine the project design to ensure the level of flood protection meets the level of protection authorized under the Congressional authorization. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

2. *The BWS is landowner for the area proposed for the upper Manoa portion of the project and possibly for portions of the Makiki and Palolo area. Land approvals would need to be coordinated accordingly.*

   RESPONSE: Although potential impacts to real property are described in detail in the real estate planning report in Appendix C, the impacts of land use and private property acquisition are listed as an unresolved issue in the HEPA FFEIS. As stated in Section 5.19.5 of the HEPA FFEIS, during the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. A final real estate and land use plan will be developed based on the updated data. The real estate plan and proposed action developed in the Feasibility Study was based on information available at the time, with an awareness that information and the plan would require refinement after Congressional authorization to proceed. The Corps of Engineers advised us, the State, at the time of the study not to acquire any property until the design phase. We are required to acquire any necessary property following both federal and state laws and using federally approved appraisers to determine fair market value.

3. *The BWS would not agree to be responsible for operating and maintaining the proposed earthen dams, detention basins and associated structures. These are basically flood control measures and being responsible for them is not in alignment with BWS' core mission of providing safe, dependable and affordable drinking water to its customers.*

RESPONSE: The non-Federal Sponsor would be responsible for operating and maintaining the system features after construction. In the next phase of the project, after authorization from Congress and funding is received, a Project Partnership Agreement between the Corps of Engineers and a non-Federal Sponsor will be executed outlining these responsibilities in detail.

4. *There should be an expanded discussion on the operation, maintenance and associated impacts of the proposed earthen dams and infrastructure which would have to comply with Army Corps of Engineers regulations and State of Hawaii Dam Safety Program regulations.*

RESPONSE: The City and County of Honolulu will be responsible for the execution of O&M. Each feature or array of features, depending on the interdependency of the features, will have its own manual that describes procedures for making sure the features function as designed. O&M requirements are further discussed in Section 3.0 Plan Formulation and Section 8.4 of the HEPA FFEIS. Appendix E of this HEPA FFEIS discusses regulatory compliance, both at the Federal and State levels. Dam Safety is also specifically discussed in Sections 5.16 of this HEPA FFEIS.

5. *Please use current data on the BWS on page 5 - 82. In calendar year 2014, the BWS produced an average of about 140 million gallons per day for the island of Oahu.*

RESPONSE: Thank you for providing updated data. Page 5-90 of the HEPA FFEIS (formerly page 5-82 in the DFEIS) has been revised to reflect 140 million gallons per day in 2014 as noted above as well as in the BWS 2013-2014 Annual Report cited as a reference in the HEPA FFEIS.

6. *We reserve further comment until the requested materials are submitted for our review.*

RESPONSE: Thank you, your continued participation is appreciated.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

October 17, 2015

Dear U.S. Army Corps of Engineers,

Regarding your Ala Wai Canal Project:

Damming our streams is entirely unacceptable. The problems seem to be (a) debris and (b) choke points. I suggest relying less on "community groups" for debris removal, and widening or reconfiguring the channels at choke points.

Raising the walls of the Ala Wai Canal seems like a good idea—especially because we are expecting sea level rise.

Sincerely,

Regina E. Gregory
1704 Anapuni St.
Honolulu, HI 96822

Ms. Renate E. Gregory
1704 Anapuni St. Apt. 4D
Honolulu, HI 96822-4425

HONOLULU
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FOREVER
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USACE
Attn: Ala Wai Canal Project
Bldg. 230, CEPOH-PP-C
Ft. Shafter, HI 96858

96858

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Regina Gregory
1704 Anapuni Street
Honolulu, HI 96822

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- Detention basins and channel constrictions on upstream tributaries

The strategy towards managing the flood risk utilized in the plan formulation contained within the FEIS is the dual approach of detention of flood flows in the upper watershed combined with line of protection features (i.e. floodwalls and levees) in the lower watershed. This approach provides benefits for those within the upper watershed, but also reduces the scale of the features necessary for flood risk management in the lower watershed. While widening stream channels was initially considered, this measure was dropped due to the relative low cost-effectiveness of the action. Details regarding planning considerations leading to the development of alternatives can be found in Section 3 of the FEIS.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Regina Gregory
1704 Anapuni Street
Honolulu, Hawaii 96822

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

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The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your letter dated October 17, 2015 to U.S. Army Corps of Engineers:

1. *Damming our streams is unacceptable. The problems seem to be (a) debris and (b) choke points.*

   RESPONSE: We apologize for any confusion, however, there are no dams in the recommended plan under this HEPA FFEIS. The Debris and Detention basins in the project area will have a large culvert that remains open to allow typical stream flows and even some storm event flows to continue passing through. These are commonly referred to as low flow outlets. Water will begin to back up when flows exceed culvert capacity, which will be determined during the design phase based on feature location, geography, and function. Even still, the culvert will continue to flow, however, excess water will be detained for a temporary period of time.

   We concur with your concerns for debris; the recommended plan in this HEPA FFEIS has debris catchment features within the system to assist in reducing the impact of debris downstream at critical infrastructure.

   Regarding your comment about multiple choke points, refer to the response letter dated 02 May 2017: "While widening stream channels was initially considered, this measure was dropped due to the relative low cost-effectiveness of the action. Details regarding planning considerations leading to the development of alternatives can be found in Section 3 of the FEIS."

2. *I suggest relying less on "community groups" for debris removal and widening or reconfiguring the channels at choke points.*

   RESPONSE: Thank you for your suggestion. During the design phase of this project, updated modeling, engineering data, and community input will be used to refine the system features. Recommendations such as widening streams or reconfiguring streams to increase capacity will be evaluated. If the system features change in location, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

3. *Raising the walls of the Ala Wai Canal seems like a good idea – especially because we are expecting sea level rise.*

   RESPONSE: Thank you for sharing your thoughts on raising flood walls in the Ala Wai Canal to reduce the risk of sea level rise.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

ALA WAI CANAL PROJECT DRAFT FEASIBILITY REPORT / EIS
PUBLIC MEETING - COMMENT SHEET
September 30, 2015

Thank you for participating in the Public Meeting on the ALA WAI CANAL PROJECT DRAFT FEASIBILITY REPORT/ENVIRONMENTAL IMPACT STATEMENT. Please use this form to submit any questions or comments you may have on the Draft Feasibility Report/EIS. Completed forms may be submitted to a project team member or mailed by **November 9, 2015**. Comments may be also emailed to: AlaWaiCanalProject@USACE.Army.mil. Please note that comments must include a name and physical address to receive a written response. To review the Draft Feasibility Report/EIS, visit www.AlaWaiCanalProject.com. 10/19/15

This is not about the "feasibility report" right yet - I would really like to know who to contact regarding the water quality in my apartment - the residue that settles on the kitchen area counters (i.e. dish tray) is pretty greasy! I would really like to be sure the water coming out is safe - I live right on Ala Wai (between Ala Moana Blvd and Kalakaua) on the walk path that faces the Convention Center on the Canal

Mahalo!
Betsy Staller

CONTACT INFORMATION

Please note that comments must include a name and physical address to receive a written response.

Name: Betsy Staller Phone: (808) 944-5004

Address: 1868 Kalakaua Apt #308 Email: stabets@yahoo.com
Honolulu HI 96815

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Betsy Staller
1868 Kahakai Drive, #308
Honolulu, HI 96814

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- Water quality of drinking water within a private residence

Unfortunately, the issue noted above is not a topic addressed by the FEIS nor does USACE have the authorization to study that issue. It is suggested that you contact the State of Hawaii Department of Health or the Board of Water Supply for information related to general drinking water quality or your facility management for information related to water within your residence.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

From: CA Wong
To: Ala Wai Canal Project
Subject: [EXTERNAL] Manoa Stream in-stream debris catchment
Date: Tuesday, October 13, 2015 11:02:45 AM

Dear Sirs,
I am emailing to communicate my questions and concerns related to the above-referenced portion of the Ala Wai Canal Project. While I generally support the goals of the Ala Wai Canal project I cannot help but to be worried about the debris-catchment plan. I am a landowner, with a home directly mauka of the proposed site. My property has never flooded in the 9 years I have lived on it, nor in the fifty years my family has owned the property. Even in 2004 the water did not breach the top (my family has owned the property for decades).

I have looked at the Draft EIS and I attended the open-house portion of the community meeting on September 30, 2015. It is my understanding that the intent is to place a series of 7' high bollards across Manoa Stream with the purpose of trapping debris.

My concerns are as follows:

1) Is there a backflow plan? I spoke with Loren at the meeting and he said that the water would flow through or over any obstructions caused by debris caught by the bollards. He also indicated that there were not going to be any modifications to Manoa Park to receive excess water.

Could you tell me if any backwater curves have been computed for Manoa Stream at flood flow with and without the bollards installed. I am told that is an engineering fact that any obstruction to a channel cross section will result in the water surface level rising upstream from that obstruction and that, therefore, flooding of my property might occur with far less intense storms (increased likelihood of more flooding) or in the event of a storm which generated flooding, that flooding would be far more severe. It would be useful if you would provide backwater curves for Manoa Stream upstream from the proposed bollard site showing current non-flood, 25-year, 50-year, and 100-year storm flows both with and without the proposed bollards in place.

I was told that upstream improvements would reduce the flow to be expected. With the exception of the amount of ground percolation (small because of ground will have already been saturated), the volume of runoff carried out on existing waterways will be approximately equal the amount of precipitation. Altering the size of the catchment areas feeding Manoa Stream is not likely to be an economically feasible way to reduce runoff volume. In the case that full funding is not obtained for the project, what is the likelihood that the bollards will be put in place without any of the upstream flow mitigation?

2) Maintenance of the catchment. Loren also informed me that the City & County of Honolulu would be responsible for maintaining the catchment. Since the City & County can't even maintain its parks or roadways, this aspect of the plan is hugely concerning to me.

3) Placement. I'm just curious why the catchment, which I'm told is meant to stop large tree branches and boulders, isn't being placed further upstream so that the large tree branches and boulders won't pile up under the bridge Kahaloa.

I appreciate your time and patience in reviewing and responding to my concerns. If it can be shown that the placement of the bollards would not increase the elevation of the water surface, my concerns will be allayed. If not, I will have to oppose a proposal which places my property and possibly my well being at increased risk.

Best Regards,
Cecily Wong

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Cecily Wong
e-mail: cecilyaewong@gmail.com

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- Design elements of debris and detention basins
- Operations, maintenance and public safety of the project features

Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the designs of the FEIS will be carried forward to the design phase of the study where site specific surveys and investigations will be conducted for each element of the recommended plan to further refine the level of detail of the proposed feature. Any inconsistencies between current designs and site specific conditions will be corrected during this upcoming phase. The specific location and scale of project features may change as additional information is acquired from the site. Materials utilized in the designs will be reevaluated to meet site conditions. The design and engineering of project features has undergone both an internal agency technical review as well as an independent external peer review and was deemed sufficient for the purposes of the FEIS.

Backwater conditions have been calculated for all detention basins. As noted, the debris and detention basins are designed to overtop should functionality be reduced by debris or if event conditions exceed the capacity of the structure. Backwater conditions assume full functionality, however, if debris reduces flow through the bollards, the bollards will overtop. Future design efforts will take these concerns into account and attempt to minimize and avoid and transfer of flood risk to area structures. Construction of the recommended plan, if approved and authorized, will be divided into construction increments. The increments have not yet been identified, but will likely be divided between the upstream detention basins and the lower watershed line of protection (i.e. floodwalls and levees) with the upstream features constructed first. As you note, the system will not function as designed without full upstream detention in place. Full funding will be requested for each increment. Without full Congressional appropriation for each increment, the construction will not proceed.

Table 9, page 3-22 of the draft FEIS (page 3-23 of the final) details cursory operations and maintenance requirements based on project feature. These obligations are identified during the feasibility phase for the purpose of developing initial cost estimates. If approved, a detailed operations and maintenance plan will be developed during the design phase of the study. Debris and detention structures are intended to pass normal stream flows without impounding water. The structure are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events.

The non-Federal sponsors must enter into a Project Partnership Agreement with USACE to construct the Project. This agreement sets the required cost sharing of the Project between the non-Federal sponsors and the Federal government and requires that the non-Federal sponsors be solely responsible for the operation and maintenance of the Project. The sponsors are responsible for financing their local share and operation and maintenance costs.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

M. KALEO MANUEL
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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Cecily Wong
Via E-mail: cecilyaewong@gmail.com

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your e-mail dated October 13, 2015 to the Ala Wai Canal Project general email account:

1. *I am emailing to communicate my questions and concerns related to the above-referenced portion of the Ala Wai Canal Project. While I generally support the goals of the Ala Wai Canal project I cannot help but to be worried about the debris-catchment plan. I am a landowner, with a home directly mauka of the proposed site. My property has never flooded in the 9 years I have lived on it, nor in the fifty years my family has owned the property. Even in 2004 the water did not breach the top (my family has owned the property for decades).*

   RESPONSE: We understand that you are concerned about the debris catchment structure located near Manoa Valley District Park associated with the recommended plan in the HEPA FFEIS. The reason for placing the debris catch structure there is because it sits on a City and County flood control easement with the access to the stream and good access to clear out the debris from the structure. We understand your concern is that if the feature is not maintained, there is a possibility that the feature causes debris and water to back up and inundate your property. Every feature will have a maintenance manual with it that describes procedures for making sure the features function as designed. Additionally, after construction, the Corps of Engineers will routinely inspect the features and provide a list of deficiencies to the City and County of Honolulu.

2. *Is there a backflow plan?*

   RESPONSE: Yes, each feature has been modeled and designed to account for backflow. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. Engineering data will be refined to ensure that each features' footprint includes sufficient area to account for backflow.

   If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

3. *I spoke with Loren at the meeting and he said that the water would flow through or over any obstructions caused by debris caught by the bollards.*

   RESPONSE: That is correct, if there are obstructions caught in the bollards, they are designed so that water can flow over or through the obstructions.

4. *He also indicated that there were not going to be any modifications to Manoa Park to receive excess water.*

   RESPONSE: Under the proposed action in this HEPA FFEIS, there are no plans to make modifications to Manoa Valley District Park.

5. *Could you tell me if any backwater curves have been computed for Manoa Stream at flood flow with and without the bollards installed. I am told that is an engineering fact that any obstruction to a channel cross section will result in the water surface level rising upstream from that obstruction and that, therefore, flooding of my property might occur with far less intense storms (increased likelihood of more flooding) or in the event of a storm which generated flooding, that flooding would be far more severe.*

RESPONSE: The HEC-RAS model using these blockage assumptions determined, as indicated in Appendix A2 Figure 3 (page 16), that there would be split flows at the University of Hawaii location and the Kanaha Ditch split flow location, which indicate potential for additional flooding at areas down gradient of those locations, under certain conditions. Please refer to Appendix A2 for more information.

6. *It would be useful if you would provide backwater curves for Manoa Stream upstream from the proposed bollard site showing current non-flood, 25-year, 50-year, and 100-year storm flows both with and without the proposed bollards in place.*

RESPONSE: Within the Appendix A, A2 Plate 3 is a without-project profile for the Manoa Stream that shows water surface elevations along the reach you are concerned about at different return intervals. Plate 4 within Appendix A, A2 is the same information for the with-project conditions.

7. *I was told that upstream improvements would reduce the flow to be expected.*

RESPONSE: Correct, the purpose of detaining water upstream would be to reduce water surface elevations and flows downstream so as to not overwhelm the infrastructure.

8. *With the exception of the amount of ground percolation (small because of ground will have already been saturated), the volume of runoff carried out on existing waterways will be approximately equal the amount of precipitation.*

RESPONSE: Thank you for your statement that the volume of runoff carried out on existing waterways will be approximately equal to the amount of precipitation. There are two points to caveat this statement. 1) While the total volume may be the same, the timing of the precipitation and location of the precipitation impact the system's ability to handle the precipitation. The final Hydrology report Appendix A1, page 19 and 20 describe the sub-basin delineation for the study. 2) Understanding the sub-basin delineation and the HEC HMS data is critical to developing a system that during the peak of rainfall event can manage the flows to reduce risk to the community and infrastructure. During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the level of flood protection meets the level of protection authorized by Congress. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts.

Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

9. *Altering the size of the catchment areas feeding Manoa Stream is not likely to be an economically feasible way to reduce runoff volume.*

RESPONSE: Thank you for your comment on catchment features feeding Manoa Stream. During the design phase of this project updated modeling, engineering data and community input will be used to update the system features. Part of this evaluation will be a cost evaluation to ensure that the final design is both economically acceptable, but also environmentally acceptable. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

10. *In the case that full funding is not obtained for the project, what is the likelihood that the bollards will be put in place without any of the upstream flow mitigation?*

RESPONSE: The project is not currently developed as separable elements. During the design phase this option will be evaluated again.

11. *Maintenance of the catchment. Loren also informed me that the City & County of Honolulu would be responsible for maintaining the catchment. Since the City & County can't even maintain its parks or roadways, this aspect of the plan is hugely concerning to me.*

RESPONSE: The City and County is responsible as the non-Federal Sponsor for maintenance. The Corps of Engineers will conduct routine, periodic, and emergency inspections of the system features and prepare reports for the City and County to ensure that deficiencies or maintenance requirements are known. Provided the system features are maintained, they will be eligible for federal funding in the event they are damaged or require significant rehabilitation.

12. *Placement. I'm just curious why the catchment, which I'm told is meant to stop large tree branches and boulders, isn't being placed further upstream so that the large tree branches and boulders won't pile up under the bridge Kahaloa.*

RESPONSE: Each feature in the system has a debris catchment structure, not just the in-stream feature at Manoa Valley District Park. The purpose of that feature is a last line of defense before the infrastructure and stream capacity is reduced downstream.

13. *I appreciate your time and patience in reviewing and responding to my concerns. If it can be shown that the placement of the bollards would not increase the elevation of the water surface, my concerns will be allayed. If not, I will have to oppose a proposal which places my property and possibly my well- being at increased risk.*

RESPONSE: Thank you, your comment is noted. See response #5.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu`ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DART No. 623641

October 13, 2015

SENT VIA EMAIL

Mr. Thomas Hankins
thomasrhankins@aol.com

Dear Mr. Hankins:

Thank you for your email to Mayor Kirk Caldwell on September 7, 2015. Your email was referred to the Department of Facility Maintenance, Division of Road Maintenance (DRM), Honolulu Police Department (HPD), and the Department of Environmental Services (ENV).

A site inspection of the Ala Wai Canal was conducted on September 11, 2015, by DRM personnel. The City will work with the State in removing debris from under the McCully Street Bridge. The Ala Wai Canal is under the jurisdiction of the State of Hawaii, Department of Land and Natural Resources (DLNR). DLNR may be contacted at 587-0400.

Regarding unsafe crane operations at the Ala Moana Center, officers from the HPD's District 1 (Central Honolulu), made checks of the construction sites at the Ala Moana Center. The work sites were found to be in compliance with State and City laws, and the construction companies possessed the proper permits. Officer Renee Awakuni contacted you and provided you with this information. If you have any questions, please call Major Roy Sugimoto of District 1 at 723-3327.

In regards to the sewage spill at Ala Moana Boulevard, Atkinson Drive, and Cooke Street, the City has received the consultant's draft report for addressing odors in that area and is in the process of evaluating their report to assess action required. If you have any questions, please call Mr. Scott McAdam of ENV at 768-7251.

If you have any questions, please call Mr. Thomas Takeuchi of the Division of Road Maintenance at 768-3600.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer

cc: Kirk Caldwell, Mayor
Honolulu Police Department
Department of Environmental Services
State of Hawaii, Department of Land and Natural Resources

'15 OCT 16 AM 09:12 ENGINEERING

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Ross Sasamura
City and County of Honolulu, Department of Facility Maintenance
1000 Ulu'ohia Street, Suite 215
Kapolei, HI 96707

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have submitted comments pertaining to the following issues:

- A letter to Thomas Hankins regarding debris under the McCully Street Bridge, Ala Wai Canal, crane operations at Ala Moana Center, and a sewage spill at Ala Moana Center

It appears that this letter was directed in error to the Ala Wai Canal Flood Risk Management Study website as none of the issues identified in the letter appear to pertain to the USACE-DLNR Flood Risk Management study.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

HISTORIC HAWAI'I FOUNDATION

November 1, 2015

Christopher W. Crary
Lieutenant Colonel, U.S. Army
District Engineer, Honolulu District
U.S. Army Corps of Engineers
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858-5440

Carty Chang
Chief Engineer
Department of Land and Natural Resources
State of Hawai'i
P.O. Box 373
Honolulu, HI 96809

RE: Ala Wai Canal Project, O'ahu, Hawai'i

Dear. Lt. Col. Crary and Mr. Chang:

Historic Hawai'i Foundation is providing these comments on the Draft Feasibility Study Report with an Integrated Environmental Impact Statement (EIS) for the Ala Wai Canal Project on O'ahu, Hawai'i. The EIS is being developed in accordance with the National Environmental Policy Act (NEPA) and Hawai'i Revised Statutes (HRS) Chapter 343 for environmental issues, including potential effects on historic properties and other cultural resources.

Historic Hawai'i Foundation (HHF) is also a consulting party to the Army Corps of Engineers (ACOE) for compliance with the National Historic Preservation Act (NHPA), per 36 CFR 800.2(c)(5) as an organization with a demonstrated interest and concern with the undertaking's effect on historic properties. These comments are also submitted as part of the Section 106 consultation for the undertaking. ACOE has noted that they are coordinating and integrating the two processes as specified in the Council on Environmental Quality NEPA regulations at 40 CFR 1502.25.

ACOE has proposed a determination of "no adverse effect" for the undertaking. Historic Hawai'i Foundation strongly disagrees with this determination.

The ACOE proposed determination of effects confuses the difference between avoiding an effect and mitigating an effect. ACOE has proposed findings of "conditional no adverse effect" based on future conditions to be determined with the input of the State Historic Preservation Division (SHPD) to mitigate the impacts.

680 Iwilei Road, Suite 690 / Honolulu, Hawai'i 96817 / Tel (808) 523-2900 / Fax (808)523-0800
Email preservation@historichawaii.org / Web www.historichawaii.org

However, a finding of "no adverse effect" may only be used when the conditions completely avoid the adverse circumstance. In this case, the conditions do nothing to avoid the demolition, destruction, alteration, change of character, use of physical features, and introduction of elements that diminish the integrity of historic properties.

NHPA Section 106 requires that adverse effects be resolved prior to the approval of the undertaking and any expenditure of federal funds. Resolution of any adverse effects is to be completed before the agencies' final decisions.

Therefore, the stated intention to develop mitigation measures and work out the details with the State Historic Preservation Division at a future date is insufficient to satisfy the requirements of 36 CFR Part 800. Historic Hawai'i Foundation strongly recommends that ACOE and its state and local partners develop a Project Programmatic Agreement (PA) to resolve adverse effects from the undertaking. Historic Hawai'i Foundation will continue in its role as a consulting party to develop the PA.

Project Summary

The proposed undertaking is a project to reduce flood risk within the Ala Wai Watershed, including the Makiki, Mānoa and Pālolo Streams, all of which drain to the Ala Wai Canal. The watershed is comprised of approximately 1,358 acres and includes both undeveloped and urbanized areas. The tentatively selected plan includes:

- 6 in-stream debris and detention basins in the Makiki, Mānoa and Pālolo streams;
- 1 debris catchment feature in Mānoa stream;
- 3 detention basins in the urban area;
- Floodwalls and pump stations along the Ala Wai Canal;
- Improvements to the flood warning system; and
- In-stream measures for aquatic species passage to mitigate impacts to habitat.

Information Provided and Additional Information Needed

Reference materials for this undertaking have included:

1. Letter from ACOE to HHF, March 10, 2015; including information on areas of potential effect, historic properties present, and the tentatively selected plan with 13 measures to be introduced to the Ala Wai Watershed. Attachments included maps and photographs of the Direct and Indirect Areas of Potential Effect (APE) and historic properties with identification numbers.
2. Letter from HHF to ACOE, April 8, 2015; with questions about the purpose and need for the project and the process to address effects on historic properties.
3. Letter from ACOE to HHF, May 1, 2015; with responses to HHF's questions.
4. Letter from ACOE to HHF, June 30, 2015; to identify historic properties within the Direct APE, provide significance evaluations of historic properties, present determinations of effect to historic properties, and propose conditions to mitigate adverse effects. The attachments

to the letter include the Historic Property Table (Encl #1), Historic Maps and Descriptions (Encl #2), and the list of Consulting Parties (Encl #3).

5. Draft Feasibility Report with Integrated Environmental Impact Statement, August 2015; including conceptual engineering plans for each of the proposed flood control measures and an appendix on cultural resources.

The proposed project is complex, wide-ranging in scope and effect, and has many components that are both interrelated and independent. To understand the potential effects on historic properties, we found it necessary to cross-reference the materials listed above, as relevant information was presented in various places and formats.

We note that reference is made to the "Historic Structures Inventory Survey of the Ala Wai Watershed" (Mason Architects, 2010), a copy of which is not included in the letters or the Draft EIS (Section 5.8.1.2). We are hereby requesting a copy of this Survey, which we assume corresponds to the historic properties.

Areas of Potential Effect

"Area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties" (36 CFR 800.16(d)).

The project has delineated two Areas of Potential Effect (APE): one for direct effects and one for indirect effects. The Direct APE is the area that will be directly affected by construction and includes the flood mitigation measure, the construction buffer, staging area and access road. The Indirect APE is a one-half mile radius form the outer edge of the Direct APE.

Historic Hawai'i Foundation agrees with the Direct and Indirect APEs as described.

Identification of Historic Properties

The identification of historic properties was provided within the Direct APE for each of the flood mitigation measures, including 46 distinct historic properties. These include sites, buildings, structures and objects that are determined eligible for listing on the National and/or Hawai'i Registers of Historic Places.

The identification of historic properties within the Indirect APE was partially included via maps, but was not included in tabular form. We agree that some traditional cultural properties may be vulnerable and location information should be held in confidence. However, other historic properties do not have the same sensitivity and should be clearly identified and addressed.

Several historic properties that are located in the Indirect APE should be noted and any cumulative, indirect and/ or reasonably foreseeable effects should be evaluated. The historic properties include:

1. Kapi'olani Park
2. Diamond Head Crater
3. Puawaina/Punchbowl Crater
4. Mānoa Chinese Cemetery

HHF preliminarily agrees with the determinations of eligibility and the identification of historic properties provided by ACOE, subject to receipt and confirmation using the Historic Structures Inventory Survey. We note that there may be additional historic properties in the Indirect APE. The identified historic properties are:

Flood Mitigation Measure 1: Makiki D&D Basin

1. Archie Baker Park
2. Makiki Stream
3. Maikiki Stream Chanel
4. Makiki Street Bridge
5. Oneele Place Bridge
6. Terrace

Flood Mitigation Measure 2: Mānoa Waihi D&D Basin

7. Mounds/Platforms/Walls
8. Waihi Stream
9. Aihualama Loʻi

Flood Mitigation Measure 3: Mānoa Waiakeakua D&D Basin

10. Waaloa Way Bridge 2
11. Waaloa Way Bridge 1
12. Terraces
13. Waihi Stream Stone/Mortar Dam
14. Historic House
15. Historic House
16. Waihi Gaging Station
17. Waiakeakua Stream
18. Waiakeakua Gaging Station
19. Bridge Foundation

Flood Mitigation Measure 4: Mānoa Woodlawn Ditch

20. Woodlawn Ditch
21. East Mānoa Road Mānoa Park Ditch Bridge
22. East Mānoa Road Culvert
23. Kaamamilo Drive Driveway Bridge

Flood Mitigation Measure 5: Mānoa In-Stream Debris Catchment

24. Mānoa Stream Channel
25. Lowrey Avenue Bridge
26. Kahaloa Drive Bridge

Flood Mitigation Measure 6: Kanewai Field Detention Basin

27. Kanewai Field
28. Mānoa-Pālolo Canal
29. Old Waiʻalae Road Bridge

30. Pālolo Stream Channel
31. Kanewai Loʻi

Flood Mitigation Measure 7: Pālolo Pukele D&D Basin
32. Pukele Stream

Flood Mitigation Measure 8: Pālolo Waiʻōmaʻo D&D Basin
33. Waiʻōmaʻo Stream

Flood Mitigation Measure 9: Ala Wai Hausten Ditch Detention Basin
34. Alanaio Stream Channel(Hausten Ditch)
35. Ala Wai Canal
36. Date Street Box Culvert
37. Kapiʻolani Blvd. Box Culvert

Flood Mitigation Measure 10: Ala Wai Golf Course MPDB
38. Ala Wai Golf Course
39. Mānoa-Pālolo Canal (previously listed at #28)
40. Date Street Bridge

Flood Mitigation Measure 11: Ala Wai Canal Floodwalls/Pump Stations
41. Ala Wai Canal (previously listed at #35)
42. Ala Wai Clubhouse
43. Paddling Outrigger Canoe
44. Kalākaua Avenue Bridge
45. McCully Street Bridge

Flood Warning System 12: Ala Wai Watershed
46. Mānoa Stream
47. Makiki Stream (previously listed at #2)
48. Pālolo Stream
49. Ala Wai Canal (previously listed at #35)

Aquatic Habitat Mitigation 13: Ala Wai Watershed
50. Mānoa Stream (previously listed at #46)
51. Waihi Stream Stone/Mortar Dam (previously listed at #13)
52. Waihi Gaging Station (previously listed at #16)
53. Waiakeakua Gaging Station (previously listed at #18)
54. Mānoa Stream Chanel (previously listed at #24)

Determinations of Effect

An *adverse effect* is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. Adverse effects include reasonably

foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. See 36 CFR 800.5(a)(1).

ACOE has proposed a determination of "no adverse effect" for the undertaking. Historic Hawai'i Foundation strongly disagrees with this determination.

Direct effects from the project will include:

1. Physical destruction of or damage to all of part of the property;
2. Alteration of a property that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties;
3. Change of character of the property's use or physical features within the property's setting;
4. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.

Properties that will be adversely affected include:

- Ala Wai Canal
- Ala Wai Clubhouse
- Ala Wai Golf Course
- Alanaio Stream Channel/Hausten Ditch
- Archie Baker Park;
- Kalākaua Avenue Bridge
- Kanewai Field
- Makiki Stream;
- Mānoa Stream Channel
- Mānoa, Makiki and Pālolo Streams
- McCully Street Bridge
- Pukele Stream
- Waaloa Way Bridge 1
- Waaloa Way Bridge 2
- Wai'ōma'o Stream
- Waiakeakua Stream
- Waiakeakua Stream Gaging Station
- Waihi Mounds/Platforms/Walls;
- Waihi Stream
- Waihi Stream Dam
- Waihi Stream Stone/Mortar Dam

The ACOE determination of effects confuses the difference between avoiding an effect and mitigating an effect. ACOE has proposed findings of "conditional no adverse effect" based on future conditions to be determined with the input of the State Historic Preservation Division to mitigate the impacts.

However, a finding of "no adverse effect" may only be used when the conditions completely avoid the adverse condition. In this case, the conditions do nothing to avoid the demolition, destruction, alteration, change of character, use of physical features, and introduction of elements that diminish the integrity of the historic properties.

NHPA Section 106 requires that adverse effects be resolved prior to the approval of the undertaking and any expenditure of federal funds. Resolution of any adverse effects is to be completed before the agency's final decision.

Therefore, an intention to work out the details with the State Historic Preservation Division at a future date is insufficient to satisfy the requirements of 36 CFR Part 800. Historic Hawai'i Foundation strongly recommends that ACOE and its state and local partners develop a Project Programmatic Agreement (PA) to resolve adverse effects from the undertaking. Historic Hawai'i Foundation will continue in its role as a consulting party to develop the PA.

Specific Comments and Questions by Project Component

Flood Mitigation Measure 1: Makiki Debris and Detention Basin

- Direct APE is too narrowly defined as the construction area. A portion of the construction and staging area is contained within the historic Archie Baker Park and thus will have an adverse effect, even though temporary.
- The indirect APE does not appear in the Draft EIS documents. The map of the indirect area for this undertaking appears to identify more than six historic sites. Are the other numbered bridges non-historic?
- It is not clear if the access road will be removed at the end of construction. Leaving it in place in the historic park would be an adverse effect
- The plans and sections in the Draft EIS (Appendix F) do not indicate the rock covering (riprap) across the face of the berm.
- The conceptual sketch implies that the top of the berm/dam will be well below the road and shoulder. Please confirm.
- Does the top of the dam/spillway need to be exposed concrete? Can it also be rock-covered or groundcover?
- *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained."* How will this cleared area be treated visually and from an erosion standpoint?

- Makiki Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/rehabilitation of the stream banks be required prior to construction?
- Determination of effect:
  - HHF disagrees that there is no adverse effect to Archie Baker Park and the Makiki Stream, or that the 'conditions' have been identified that would avoid an adverse effect from this construction activity
  - What about potential indirect effects on sites outside the 'footprint'? What about indirect effects for sites 19-23?

Flood Mitigation Measure 2: Mānoa Waihi D&D Basin

- Direct APE is too narrowly defined as the construction area. A portion of the construction and staging area is contained within steep sloped and wooded landscape. Assume that the construction of the access road will involve grading and other destructive measures resulting in an adverse effect to the landscape.
- The footprint of this large berm appears to have an adverse effect on site 50-80-14-6734 which consists of several archaeological platforms. Is there another dam type (vertical) with a smaller footprint which could avoid these historic sites?
- Alternatively, could two smaller structures be built above the convergence of Waihi and Aihualama Streams, thus avoiding the identified historic sites?
- Not clear on what view planes from and along Mānoa Road would be visually impacted. Also views from the historic homes shown on the indirect APE.
- Does the top of the dam/spillway need to be exposed concrete? Can it also be rock-covered or groundcover?
- *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained."* How will this cleared area be treated visually and from an erosion standpoint?
- Waihi Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/rehabilitation of the stream banks be required prior to construction?
- Determination of effect(s):
  - HHF disagrees with the determination of 'no adverse effect with conditions' to the archaeological site #50-80-14-6734 unless the project can be relocated.
  - The *"temporary loss of access to cultural sites and areas of cultural practices during construction"* is an adverse effect.

Flood Mitigation Measure 3: Mānoa Waiakeakua D&D Basin

- Construction footprint of new access and raised roadway is significant. Assume that the construction of the access road will involve grading and other destructive measures resulting in an adverse effect to the landscape.
- It also appears as if the stream bed is diverted. Please confirm.
- Determination of effect(s):
    - Impact to historic Bridges is adverse if reinforcing will be necessary. How will the reinforcing impact the affected streambed?
    - Alteration of the Waihi Stream Mortar Dam will be an adverse effect

Flood Mitigation Measure 4: Mānoa Woodlawn Ditch

- Woodlawn Ditch is described as eligible for the Hawai'i and National Registers. What is its current condition and will restoration/rehabilitation of the topography be required prior to construction?
- Does the top of the dam/spillway need to be exposed concrete? Can it also be rock-covered or groundcover?
- *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained."* How will this cleared area be treated visually and from an erosion standpoint?
- Access will be via the existing cemetery road. What is the impact to the cemetery?
- Determination of effect(s):
    - Impact to historic Bridges may be adverse if traffic patterns are altered
    - Alteration of the Woodlawn Ditch may be an adverse effect which has not been adequately described

Flood Mitigation Measure 5: Mānoa In-Stream Debris Catchment

- Mānoa Stream Channel is described as eligible for the Hawai'i and National Registers. What is its current condition and will restoration/rehabilitation of the topography be required prior to construction?
- Does the exposed portion of the pad need to be concrete or can it be rock faced to look more natural?
- Will access to the site for construction impact the adjacent neighborhood, roadway and bridges?
- Determination of effect(s):
    - Impact to historic Bridges may be adverse if traffic patterns are altered

Flood Mitigation Measure 7: Pālolo Pukele D&D Basin

- Does the top of the dam/spillway need to be exposed concrete? Can it also be rock-covered or groundcover?

- *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained."* How will this cleared area be treated visually and from an erosion standpoint?
- Access to the site appears to be through private property. Has that parcel been evaluated for eligibility as an historic property?
- Pukele Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/rehabilitation of the stream banks be required prior to construction?

Flood Mitigation Measure 8: Pālolo Waiʻōmaʻo D&D Basin

- Access to the site appears to be through private property. Has that parcel been evaluated for eligibility as an historic property?
- The access road will require significant grading. How will that affect the adjacent properties and view planes?
- Does the top of the dam/spillway need to be exposed concrete? Can it also be rock-covered or groundcover?
- *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained."* How will this cleared area be treated visually and from an erosion standpoint?
- Significant excavation of the streambed for the detention basin has the potential for disruption to the stream environment. What is its current condition and will restoration/rehabilitation of the topography be required prior to construction?
- Waiomao Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/rehabilitation of the stream banks be required prior to construction?

Flood Mitigation Measure 9: Ala Wai Hausten Ditch Detention Basin

- The Ala Wai Canal is a listed Site on the State and National Registers of Historic Places. Any destruction of those qualities that make the site eligible (i.e. the rock walls) is an adverse effect (36 CFR 800.5 (a) 2 (i)).
- Will access to the park will be channeled through one entrance?
- The floodwalls and berm will enclose an otherwise open space and create potential crime setting due to lack of visibility
- What other more 'naturalistic' solutions have been considered?
- Determination of effect(s):
    - Historic Hawai'i Foundation disagrees with the determination of no adverse effect to the Ala Wai Canal.

Flood Mitigation Measure 10: Ala Wai Golf Course Multi-Purpose Detention Basin

- Scope and construction difficult to understand. More analysis is needed to determine effect on the historic property.

Flood Mitigation Measure 11: Ala Wai Canal Floodwalls/Pump Stations

- Construction of flood walls and pump stations on both sides of the Ala Wai Canal would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.
- Pump Station size, location, bulk, massing and detailing has the potential to adversely affect the setting.
- Floodwalls and flood gate attached to the Ala Wai Clubhouse would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.
- Alterations to the Kalākaua Bridge would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.
- Alterations to the McCully Bridge would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.
- Determination of effect(s):
    - Historic Hawai'I Foundation disagrees with the determination of no adverse effect to the Ala Wai Canal.

Flood Warning System 12: Ala Wai Watershed

- Streamflow gauges are not designed or located, so there is a potential effect on Mānoa, Makiki and Pālolo Streams, as well as the Ala Wai Canal.

Aquatic Habitat Mitigation 13: Ala Wai Watershed

- Biological mitigation measures would demolish or remove historic properties, including the Waihi Stream Dam and the Waiakeakua Stream Gaging Station.

Conclusions

Historic Hawai'i Foundation agrees with the determination of the Direct APE and the identification of historic properties within the Direct APE.

Historic Hawai'i Foundation requests additional information on other historic properties within the Indirect APE and a copy of the "Historic Structures Inventory Survey of the Ala Wai Watershed" (Mason Architects, 2010).

Historic Hawai'i Foundation disagrees with the determination of no adverse effect to historic properties.

Historic Hawai'i Foundation requests to continue as a consulting party to resolve adverse effects from the undertaking prior to the agencies' final determination on the course of action.

We look forward to continuing to work with ACOE and DLNR to address these issues.

Very truly yours,

Kiersten Faulkner
Executive Director

Copies via email:

Derek Chow & Loren Zulick, USACE
Gayson Ching, DLNR Engineering Division, State of Hawai'i
Alan Downer & Jessica Puff, Hawai'i State Historic Preservation Division
Brian Lusher, Advisory Council on Historic Preservation

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Historic Hawaii Foundation
Historic Hawaii Foundation
680 Iwilei Road, Suite 690
Honolulu, Hawaii 96817

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. As a consulting party to the National Historic Preservation Act (NHPA) Section 106 Programmatic Agreement between USACE and the State of Hawaii, it is our understanding that your concerns have been taken into account as a part of the development of the agreement. It is also noted that your organization will serve as a concurring party to this agreement. Should you have further concerns, please contact USACE.

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

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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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Kiersten Faulkner
Historic Hawaii Foundation
680 Iwilei Road, Suite 690
Honolulu, Hawaii 96817

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your letter dated November 1, 2015 to the U.S. Army Corps of Engineers Honolulu District and State of Hawaii Department of Land and Natural Resources:

1. *Historic Hawai'i Foundation is providing these comments on the Draft Feasibility Study Report with an Integrated Environmental Impact Statement (EIS) for the Ala Wai Canal Project on O'ahu, Hawai'i. The EIS is being developed in accordance with the National Environmental Policy Act (NEPA) and Hawai'i Revised Statutes (HRS) Chapter 343 for environmental issues, including potential effects on historic properties and other cultural resources.*

   RESPONSE: We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

2. *Historic Hawai'i Foundation (HHF) is also a consulting party to the Army Corps of Engineers (ACOE) for compliance with the National Historic Preservation Act (NHPA), per 36 CFR 800.2(c)(5) as an organization with a demonstrated interest and concern with the undertaking's effect on historic properties. These comments are also submitted as part of the Section 106 consultation for the undertaking. ACOE has noted that they are coordinating and integrating the two processes as specified in the Council on Environmental Quality NEPA regulations at 40 CFR 1502.25.*

   RESPONSE: Comment acknowledged and concur.

3. *ACOE has proposed a determination of "no adverse effect" for the undertaking. Historic Hawai'i Foundation strongly disagrees with this determination.*

   RESPONSE: Comment acknowledged. It is our understanding that USACE developed an acceptable determination and implementation approach in a Project Programmatic Agreement (PA) dated November 9, 2016, in which HHF was a concurring party.

4. *The ACOE proposed determination of effects confuses the difference between avoiding an effect and mitigating an effect. ACOE has proposed findings of "conditional no adverse effect" based on future conditions to be determined with the input of the State Historic Preservation Division (SHPD) to mitigate the impacts.*

   RESPONSE: Comment acknowledged and concur with the understanding that this is the accepted execution approach articulated in the PA.

5. *However, a finding of "no adverse effect" may only be used when the conditions completely avoid the adverse circumstance. In this case, the conditions do nothing to avoid the demolition, destruction, alteration, change of character, use of physical features, and introduction of elements that diminish the integrity of historic properties.*

RESPONSE: Comment acknowledged. Determination of findings and the means of advancing the project will be consistent with the terms of the PA.

6. *NHPA Section 106 requires that adverse effects be resolved prior to the approval of the undertaking and any expenditure of federal funds. Resolution of any adverse effects is to be completed before the agencies' final decisions. Therefore, the stated intention to develop mitigation measures and work out the details with the State Historic Preservation Division at a future date is insufficient to satisfy the requirements of 36 CFR Part 800.*

RESPONSE: Comment acknowledged. We plan to develop mitigation plans consistent with the approved PA, which intends to satisfy the requirements of 36 CFR Part 800.

7. *Historic Hawai'i Foundation strongly recommends that ACOE and its state and local partners develop a Project Programmatic Agreement (PA) to resolve adverse effects from the undertaking. Historic Hawai'i Foundation will continue in its role as a consulting party to develop the PA.*

RESPONSE: Comment acknowledged, concur, and the PA dated November 9, 2016 has been completed.

8. *Project Summary*
   The proposed undertaking is a project to reduce flood risk within the Ala Wai Watershed, including the Makiki, Manoa and Palolo Streams, all of which drain to the Ala Wai Canal. The watershed is comprised of approximately 1,358 acres and includes both undeveloped and urbanized areas. The tentatively selected plan includes:
   - *6 in-stream debris and detention basins in the Makiki, Manoa and Palolo streams;*
   - *1 debris catchment feature in Manoa stream;*
   - *3 detention basins in the urban area;*
   - *Floodwalls and pump stations along the Ala Wai Canal;*
   - *Improvements to the flood warning system; and*
   - *In-stream measures for aquatic species passage to mitigate impacts to habitat.*

   RESPONSE: Thank you for providing a summary.

9. *Information Provided and Additional Information Needed*
   Reference materials for this undertaking have included:

   1. *Letter from ACOE to HHF, March 10, 2015; including information on areas of potential effect, historic properties present, and the tentatively selected plan with 13 measures to be introduced to the Ala Wai Watershed. Attachments included maps and photographs of the Direct and Indirect Areas of Potential Effect (APE) and historic properties with identification numbers.*

2. *Letter from HHF to ACOE, April 8, 2015; with questions about the purpose and need for the project and the process to address effects on historic properties.*

3. *Letter from ACOE to HHF, May 1, 2015; with responses to HHF's questions.*

4. *Letter from ACOE to HHF,June 30, 2015; to identify historic properties within the Direct APE, provide significance evaluations of historic properties, present determinations of effect to historic properties, and propose conditions to mitigate adverse effects. The attachments to the letter include the Historic Property Table (Encl #1), Historic Maps and Descriptions (Encl #2), and the list of Consulting Parties (Encl #3).*

5. *Draft Feasibility Report with Integrated Environmental Impact Statement, August 2015; including conceptual engineering plans for each of the proposed flood control measures and an appendix on cultural resources.*

The proposed project is complex, wide-ranging in scope and effect, and has many components that are both interrelated and independent. To understand the potential effects on historic properties, we found it necessary to cross-reference the materials listed above, as relevant information was presented in various places and formats.

RESPONSE: Comment acknowledged and addressed in the PA. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system. Modifications to the original plan will be coordinated closely with HHF as per the conditions of the PA.

10. *We note that reference is made to the "Historic Structures Inventory Survey of the Ala Wai Watershed" (Mason Architects, 2010), a copy of which is not included in the letters or the Draft EIS (Section 5.8.1.2). <u>We are hereby requesting a copy of this Survey</u>, which we assume corresponds to the historic properties.*

RESPONSE: Comment acknowledged. The reference was provided to HHF as part of the PA process.

11. *<u>Areas of Potential Effect</u>*
"Area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties" (36 CFR 800.16(d)).

The project has delineated two Areas of Potential Effect (APE): one for direct effects and one for indirect effects. The Direct APE is the area that will be directly affected by construction and includes the flood mitigation measure, the construction buffer, staging area and access road. The Indirect APE is a one-half mile radius form the outer edge of the Direct APE.

Historic Hawai'i Foundation agrees with the Direct and Indirect APEs as described.

RESPONSE: Comment acknowledged.

12. *Identification of Historic Properties*
The identification of historic properties was provided within the Direct APE for each of the flood mitigation measures, including 46 distinct historic properties. These include sites, buildings, structures and objects that are determined eligible for listing on the National and/ or Hawai'i Registers of Historic Places.

The identification of historic properties within the Indirect APE was partially included via maps, but was not included in tabular form. We agree that some traditional cultural properties may be vulnerable and location information should be held in confidence. However, other historic properties do not have the same sensitivity and should be clearly identified and addressed. Several historic properties that are located in the Indirect APE should be noted and any cumulative, indirect and/ or reasonably foreseeable effects should be evaluated. The historic properties include:

1. *Kapi'olani Park*
2. *Diamond Head Crater*
3. *Puawaina/Punchbowl Crater*
4. *Manoa Chinese Cemetery*

HHF preliminarily agrees with the determinations of eligibility and the identification of historic properties provided by ACOE, subject to receipt and confirmation using the Historic Structures Inventory Survey.

RESPONSE: Comment acknowledged. See response to #10.

13. *We note that there may be additional historic properties in the Indirect APE. The identified historic properties are:*

Flood Mitigation Measure 1: Makiki D&D Basin

1. *Archie Baker Park*
2. *Makiki Stream*
3. *Maikiki Stream Chanel*
4. *Makiki Street Bridge*
5. *Oneele Place Bridge*
6. *Terrace*

Flood Mitigation Measure 2: Manoa Waihi D&D Basin

7. *Mounds/Platforms/Walls*
8. *Waihi Stream*
9. *Aihualama Lo 'i*

Flood Mitigation Measure 3: Manoa Waiakeakua D&D Basin

10. *Waaloa Way Bridge 2*
11. *Waaloa Way Bridge 1*
12. *Terraces*
13. *Waihi Stream Stone/Mortar Dam*
14. *Historic House*
15. *Historic House*
16. *Waihi Gaging Station*
17. *Waiakeakua Stream*
18. *Waiakeakua Gaging Station*
19. *Bridge Foundation*

Flood Mitigation Measure 4: Manoa Woodlawn Ditch

20. *Woodlawn Ditch*
21. *East Manoa Road Manoa Park Ditch Bridge*
22. *East Manoa Road Culvert*
23. *Kaamamilo Drive Driveway Bridge*

Flood Mitigation Measure 5: Manoa In-Stream Debris Catchment

24. *Manoa Stream Channel*
25. *Lowrey Avenue Bridge*
26. *Kahaloa Drive Bridge*

Flood Mitigation Measure 6: Kanewai Field Detention Basin

27. *Kanewai Field*
28. *Manoa-Palolo Canal*
29. *Old Wai'alae Road Bridge*
30. *Palolo Stream Channel*
31. *Kanewai Lo'i*

Flood Mitigation Measure 7: Palolo Pukele D&D Basin

32. *Pukele Stream*

Flood Mitigation Measure 8: Palolo Wai'oma'o D&D Basin

33. Wai'oma'o Stream

Flood Mitigation Measure 9: Ala Wai Hausten Ditch Detention Basin

34. Alanaio Stream Channel(Hausten Ditch)
35. Ala Wai Canal
36. Date Street Box Culvert
37. Kapi'olani Blvd. Box Culvert

Flood Mitigation Measure 10: Ala Wai Golf Course MPDB

38. Ala Wai Golf Course
39. Manoa-Palolo Canal (previously listed at #28)
40. Date Street Bridge

Flood Mitigation Measure 11: Ala Wai Canal Floodwalls /Pump Stations

41. Ala Wai Canal (previously listed at #35)
42. Ala Wai Clubhouse
43. Paddling Outrigger Canoe
44. Kalakaua Avenue Bridge
45. McCully Street Bridge

Flood Warning System 12: Ala Wai Watershed

46. Manoa Stream
47. Makiki Stream (previously listed at #2)
48. Palolo Stream
49. Ala Wai Canal (previously listed at #35)

Aquatic Habitat Mitigation 13: Ala Wai Watershed

50. Manoa Stream (previously listed at #46)
51. Waihi Stream Stone/Mortar Dam (previously listed at #13)
52. Waihi Gaging Station (previously listed at #16)
53. Waiakeakua Gaging Station (previously listed at #18)
54. Manoa Stream Chanel (previously listed at #24)

RESPONSE: Comment acknowledged. Relevant sites will be addressed as appropriate per the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

14. *Determinations of Effect*
An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. Adverse effects include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. See 36 CFR 800.5(a)(1).

ACOE has proposed a determination of "no adverse effect" for the undertaking. Historic Hawai'i Foundation strongly disagrees with this determination.

RESPONSE: Comment acknowledged. Sites will be addressed in accordance with the PA.

15. *Direct effects from the project will include:*

1. Physical destruction of or damage to all of part of the property;
2. Alteration of a property that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties;
3. Change of character of the property's use or physical features within the property's setting;
4. Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.

RESPONSE: Comment acknowledged. Sites will be addressed in accordance with the PA.

16. *Properties that will be adversely affected include:*
    - *Ala Wai Canal*
    - *Ala Wai Clubhouse*
    - *Ala Wai Golf Course*
    - *Alanaio Stream Channel/Hausten Ditch*
    - *Archie Baker Park;*
    - *Kalakaua Avenue Bridge*
    - *Kanewai Field*
    - *Makiki Stream;*
    - *Manoa Stream Channel*

- *Manoa, Makiki and Palolo Streams*
- *McCully Street Bridge*
- *Pukele Stream*
- *Waaloa Way Bridge 1*
- *Waaloa Way Bridge 2*
- *Wai'oma'o Stream*
- *Waiakeakua Stream*
- *Waiakeakua Stream Gaging Station*
- *Waihi Mounds/Platforms/Walls;*
- *Waihi Stream*
- *Waihi Stream Dam*
- *Waihi Stream Stone/Mortar Dam*

RESPONSE: Comment acknowledged. Sites will be addressed in accordance with the PA.

17. *The ACOE determination of effects confuses the difference between avoiding an effect and mitigating an effect. ACOE has proposed findings of "conditional no adverse effect" based on future conditions to be determined with the input of the State Historic Preservation Division to mitigate the impacts.*

However, a finding of "no adverse effect" may only be used when the conditions completely avoid the adverse condition. In this case, the conditions do nothing to avoid the demolition, destruction, alteration, change of character, use of physical features, and introduction of elements that diminish the integrity of the historic properties.

RESPONSE: Comment acknowledged. Sites will be addressed in accordance with the PA.

18. *NHPA Section 106 requires that adverse effects be resolved prior to the approval of the undertaking and any expenditure of federal funds. Resolution of any adverse effects is to be completed before the agency's final decision*

Therefore, an intention to work out the details with the State Historic Preservation Division at a future date is insufficient to satisfy the requirements of 36 CFR Part 800.

RESPONSE: Comment acknowledged. Sites will be addressed in accordance with the PA, which meets the requirements of 36 CFR Part 800.

19. *Historic Hawai'i Foundation strongly recommends that ACOE and its state and local partners develop a Project Programmatic Agreement (PA) to resolve adverse effects from the undertaking.*

RESPONSE: Comment acknowledged, concur, and the PA is completed.

20. *Historic Hawai'i Foundation will continue in its role as a consulting party to develop the PA.*

RESPONSE: Comment acknowledged and concur. We encourage HHF to continue its role as a consulting party per the conditions of the PA.

21. *Specific Comments and Questions by Project Component*
Flood Mitigation Measure 1: Makiki Debris and Detention Basin
Direct APE is too narrowly defined as the construction area. A portion of the construction and staging area is contained within the historic Archie Baker Park and thus will have an adverse effect, even though temporary.

RESPONSE: Comment acknowledged and addressed in the approved PA. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

22. *The indirect APE does not appear in the Draft EIS documents. The map of the indirect area for this undertaking appears to identify more than six historic sites. Are the other numbered bridges non-historic?*

RESPONSE: Will investigate further with the understanding that the status of bridges will be re-evaluated as part of the site-specific requirements of the PA. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

23. *It is not clear if the access road will be removed at the end of construction. Leaving it in place in the historic park would be an adverse effect*

RESPONSE: Comment acknowledged and concur. Additionally, work elements such as access roads will be further evaluated during the design phase of this project updated modeling, engineering data, and community input which will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

24. *The plans and sections in the Draft EIS (Appendix F) do not indicate the rock covering (riprap) across the face of the berm.*

RESPONSE: Comment acknowledged.

25. *The conceptual sketch implies that the top of the berm/ dam will be well below the road and shoulder. Please confirm.*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

26. *Does the top of the dam/ spillway need to be exposed concrete? Can it also be rock-covered or groundcover?*

RESPONSE: Comment acknowledged. Will confirm should this feature remain after re-evaluation of the benefits in the design phase of this project. The top of spillways are typically concrete to prevent erosion, which creates a safety risk due to structural failure.

27. *"A 20-foot-wide area around the perimeter of the berm will be cleared and maintained." How will this cleared area be treated visually and from an erosion standpoint?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

28. *Makiki Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/ rehabilitation of the stream banks be required prior to construction?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

29. *Determination of effect:*
HHF disagrees that there is no adverse effect to Archie Baker Park and the Makiki Stream, or that the 'conditions' have been identified that would avoid an adverse effect from this construction activity

RESPONSE: Comment acknowledged and addressed in the approved PA. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

30. *What about potential indirect effects on sites outside the 'footprint'? What about indirect effects for sites 19-23?*

RESPONSE: Comment acknowledged and addressed in the approved PA. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system.

31. *Flood Mitigation Measure 2: Manoa Waihi D&D Basin*
Direct APE is too narrowly defined as the construction area. A portion of the construction and staging area is contained within steep sloped and wooded landscape. Assume that the construction of the access road will involve grading and other destructive measures resulting in an adverse effect to the landscape.

RESPONSE: Comment acknowledged and addressed in the approved PA. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

32. *The footprint of this large berm appears to have an adverse effect on site 50-80-14-6734 which consists of several archaeological platforms. Is there another dam type (vertical) with a smaller footprint which could avoid these historic sites?*

RESPONSE: Comment acknowledged and addressed in the approved PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

33. *Alternatively, could two smaller structures be built above the convergence of Waihi and Aihualama Streams, thus avoiding the identified historic sites?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Will proceed in accordance with the terms of the PA.

34. *Not clear on what view planes from and along Manoa Road would be visually impacted. Also views from the historic homes shown on the indirect APE.*

RESPONSE: Will confirm during the design phase, at which time this feature may be removed. Will proceed in accordance with the terms of the PA.

35. *Does the top of the dam/ spillway need to be exposed concrete? Can it also be rock-covered or groundcover?*

RESPONSE: Comment acknowledged. Will confirm should this feature remain after re-evaluation of the benefits in the design phase of this project. The top of spillways are typically concrete to prevent erosion, which creates a safety risk due to structural failure.

36. *"A 20 foot-wide area around the perimeter of the berm will be cleared and maintained." How will this cleared area be treated visually and from an erosion standpoint?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

37. *Waihi Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/ rehabilitation of the stream banks be required prior to construction?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Will proceed in accordance with the terms of the PA.

38. *Determination of effect(s):*
HHF disagrees with the determination of 'no adverse effect with conditions' to the archaeological site #50-80-14-6734 unless the project can be relocated.

RESPONSE: Comment acknowledged. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. In the PA, the effects determination for this site was indicated as "adverse effect." Sites will be addressed in accordance with the PA.

39. *The "temporary loss of access to cultural sites and areas of cultural practices during construction" is an adverse effect.*

RESPONSE: Comment acknowledged. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Sites will be addressed in accordance with the PA.

40. *Flood Mitigation Measure 3: Manoa Waiakeakua D&D Basin*
Construction footprint of new access and raised roadway is significant. Assume that the construction of the access road will involve grading and other destructive measures resulting in an adverse effect to the landscape.

RESPONSE: Comment acknowledged and addressed in the approved PA. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

41. *It also appears as if the stream bed is diverted. Please confirm.*

RESPONSE: Comment acknowledged and addressed in the approved PA. The stream was not intended to be diverted. Additionally, please note that the requirement of numerous features in particularly sensitive areas will be re-evaluated and perhaps removed from the flood risk management system. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

42. *Determination of effect(s):*
Impact to historic Bridges is adverse if reinforcing will be necessary. How will the reinforcing impact the affected streambed?

RESPONSE: Comment acknowledged and will be addressed in accordance with the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

43. *Alteration of the Waihi Stream Mortar Dam will be an adverse effect*

RESPONSE: Comment acknowledged and will be addressed in accordance with the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

44. *Flood Mitigation Measure 4: Manoa Woodlawn Ditch*
Woodlawn Ditch is described as eligible for the Hawai'i and National Registers. What is its current condition and will restoration/ rehabilitation of the topography be required prior to construction?

RESPONSE: Comment acknowledged and addressed in accordance with the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

45. *Does the top of the dam/ spillway need to be exposed concrete? Can it also be rock-covered or groundcover?*

RESPONSE: Comment acknowledged. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

46. *"A 20 foot-wide area around the perimeter of the berm will be cleared and maintained." How will this cleared area be treated visually and from an erosion standpoint?*

RESPONSE: Comment acknowledged and addressed in accordance with the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

47. *Access will be via the existing cemetery road. What is the impact to the cemetery?*

RESPONSE: Will confirm during the design phase, at which time this feature may be removed. Will proceed according with the terms of the PA.

48. *Determination of effect(s):*
Impact to historic Bridges may be adverse if traffic patterns are altered

RESPONSE: Comment acknowledged. Will proceed according with the terms of the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

49. *Alteration of the Woodlawn Ditch may be an adverse effect which has not been adequately described*

RESPONSE: Comment acknowledged and addressed in accordance with the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

50. *<u>Flood Mitigation Measure 5: Manoa In-Stream Debris Catchment</u>*
Manoa Stream Channel is described as eligible for the Hawai'i and National Registers. What is its current condition and will restoration/ rehabilitation of the topography be required prior to construction?

RESPONSE: Comment acknowledged. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Will proceed in accordance with the PA.

51. *Does the exposed portion of the pad need to be concrete or can it be rock faced to look more natural?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

52. *Will access to the site for construction impact the adjacent neighborhood, roadway and bridges?*

RESPONSE: Impact to the neighborhood will be closely managed with safety as a priority and anticipated to be minimally disruptive, for a short period of time. Will proceed according with the terms of the PA

53. *Determination of effect(s):*
Impact to historic Bridges may be adverse if traffic patterns are altered

RESPONSE: To address construction-related impacts to traffic and transportation resources, Mitigation Measure TRN-1 includes preparation and implementation of a Transportation Management Plan, which is further detailed in Table ES-6 and Section 5.15.2 of the HEPA FFEIS. Traffic control plans will be developed and approved prior to the initiation of field work.

54. *<u>Flood Mitigation Measure 7: Palolo Pukele D&D Basin</u>*
Does the top of the dam/ spillway need to be exposed concrete? Can it also be rock-covered or groundcover?

RESPONSE: Comment acknowledged. Will confirm should this feature remain after re-evaluation of the benefits in the design phase of this project. The top of spillways are typically concrete to prevent erosion, which creates a safety risk due to structural failure.

55. *"A 20 foot-wide area around the perimeter of the berm will be cleared and maintained." How will this cleared area be treated visually and from an erosion standpoint?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

56. *Access to the site appears to be through private property. Has that parcel been evaluated for eligibility as an historic property?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Will proceed in accordance with the terms of the PA.

57. *Pukele Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/ rehabilitation of the stream banks be required prior to construction?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Will proceed in accordance with the terms of the PA. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

58. *Flood Mitigation Measure 8: Palolo Wai'oma'o D&D Basin*
Access to the site appears to be through private property. Has that parcel been evaluated for eligibility as an historic property?

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features, including facility access points. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

59. *The access road will require significant grading. How will that affect the adjacent properties and view planes?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features, including grading and view planes. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

60. *Does the top of the dam/ spillway need to be exposed concrete? Can it also be rock-covered or groundcover?*

RESPONSE: Comment acknowledged. Will confirm should this feature remain after re-evaluation of the benefits in the design phase of this project. The top of spillways are typically concrete to prevent erosion, which creates a safety risk due to structural failure.

61. *"A 20 foot-wide area around the perimeter of the berm will be cleared and maintained." How will this cleared area be treated visually and from an erosion standpoint?*

RESPONSE: During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

62. *Significant excavation of the streambed for the detention basin has the potential for disruption to the stream environment. What is its current condition and will restoration/ rehabilitation of the topography be required prior to construction?*

RESPONSE: Stream bed and detention pond configurations will be evaluated during the design phase of this project with updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

63. *Waiomao Stream is described as eligible for consideration as a Traditional Cultural Property. What is its current condition and will restoration/ rehabilitation of the stream banks be required prior to construction?*

RESPONSE: Will confirm during the design phase, at which time this feature may be removed. Will proceed according with the terms of the PA.

64. *Flood Mitigation Measure 9: Ala Wai Hausten Ditch Detention Basin*
The Ala Wai Canal is a listed Site on the State and National Registers of Historic Places. Any destruction of those qualities that make the site eligible (i.e. the rock walls) is an adverse effect (36 CFR 800.5 (a) 2 (i)).

RESPONSE: Will proceed in accordance with the terms of the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

65. *Will access to the park will be channeled through one entrance?*

RESPONSE: No, access points are planned to remain the same.

66. *The floodwalls and berm will enclose an otherwise open space and create potential crime setting due to lack of visibility*

RESPONSE: Comment acknowledged and will be closely considered during the design phase.

67. *What other more 'naturalistic' solutions have been considered?*

RESPONSE: More 'naturalistic' solutions will be further evaluated during the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

68. *Determination of effect(s):*
Historic Hawai'i Foundation disagrees with the determination of no adverse effect to the Ala Wai Canal.

RESPONSE: Comment acknowledged. Will proceed in accordance with the PA.

69. *Flood Mitigation Measure 10: Ala Wai Golf Course Multi-Purpose Detention Basin*
Scope and construction difficult to understand. More analysis is needed to determine effect on the historic property.

RESPONSE: Additional analysis was done as part of the process that resulted in the PA. Consistent with the process, a more detailed analysis will be conducted during the design phase of this project with updated modeling, engineering data, and community input to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

70. *Flood Mitigation Measure 11: Ala Wai Canal Floodwalls/Pump Stations*
Construction of flood walls and pump stations on both sides of the Ala Wai Canal would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.

RESPONSE: Comment acknowledged. All reasonable efforts will be made to find the effective, balanced engineering solution between life safety and property loss and historic preservation during the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

71. *Pump Station size, location, bulk, massing and detailing has the potential to adversely affect the setting.*

RESPONSE: See response #70.

72. *Floodwalls and flood gate attached to the Ala Wai Clubhouse would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.*

RESPONSE: Regarding the Ala Wai Clubhouse the project will proceed as outlined in the PA. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

73. *Alterations to the Kalakaua Bridge would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.*

Alterations to the McCully Bridge would adversely affect its historic characteristics, including design, materials, workmanship, setting, feeling and association.

RESPONSE: Comment acknowledged. All reasonable efforts will be made to find the effective, balanced engineering solution between life safety and property loss and historic preservation during the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

74. *Determination of effect(s):*
Historic Hawai'i Foundation disagrees with the determination of no adverse effect to the Ala Wai Canal.

RESPONSE: Comment acknowledged. The project will proceed as outlined in the PA.

75. *Flood Warning System 12: Ala Wai Watershed*
Streamflow gauges are not designed or located, so there is a potential effect on Manoa, Makiki and Palolo Streams, as well as the Ala Wai Canal.

RESPONSE: Comment acknowledged. All reasonable efforts will be made to find the effective, balanced engineering solution between life safety and property loss and historic preservation during the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

76. *Aquatic Habitat Mitigation 13: Ala Wai Watershed*
Biological mitigation measures would demolish or remove historic properties, including the Waihi Stream Dam and the Waiakeakua Stream Gaging Station.

RESPONSE: Preservation of historic properties, like the Waihi Stream Dam and the Waiakeakua Stream Gaging Station, will be evaluated during the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features. Efforts will be made to have the project proceed as outlined in the PA. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. Modifications to the original plan will be coordinated closely with HHF as a consulting party per the conditions of the PA.

77. *Conclusions*
Historic Hawai'i Foundation agrees with the determination of the Direct APE and the identification of historic properties within the Direct APE.

RESPONSE: Comment acknowledged.

78. *Historic Hawai'i Foundation requests additional information on other historic properties within the Indirect APE and a copy of the "Historic Structures Inventory Survey of the Ala Wai Watershed" (Mason Architects, 2010).*

RESPONSE: Comment acknowledged. The information was provided as part of the process that resulted in the PA.

79. *Historic Hawai'i Foundation disagrees with the determination of no adverse effect to historic properties.*

RESPONSE: Comment acknowledged. Every attempt was made to address historic properties as part of the process that resulted in the PA. All reasonable efforts will be made to find the effective, balanced engineering solution between life safety and property loss and historic preservation during the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

80. *Historic Hawai'i Foundation requests to continue as a consulting party to resolve adverse effects from the undertaking prior to the agencies' final determination on the course of action.*

RESPONSE: Comment acknowledged and concur. We will continue to work with HHF on the site-specific elements at the appropriate time as outlined in the PA.

81. *We look forward to continuing to work with ACOE and DLNR to address these issues.*

RESPONSE: We appreciate the interest and expertise HHF contributes to the success of this important project.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

From: Michael Molloy
To: Ala Wai Canal Project
Subject: [EXTERNAL] RESPONSE TO 2015 DRAFT PROPOSAL FOR AN ALA WAI CANAL PROJECT
Date: Sunday, November 01, 2015 3:28:10 PM

RESPONSE TO 2015 DRAFT PROPOSAL FOR AN ALA WAI CANAL PROJECT

FROM: Michael Vincent Molloy, Ph.D

Thomas Lee Hilgers, Ph.D.

Thank you for requesting the ideas of the public regarding this plan. We are pleased to know of state and federal concern for protection from floods. Some of the elements of the draft plan are quite thoughtful. We would appreciate being kept informed of the development of the proposed plan. Our email addresses are below.

On the side in favor of the proposed plan, we see a desire to protect Waikiki from mauka floods. We also see a desire to protect the main university campus. On the other side, we see the large amount of work involved, the cost, the need to keep detention basins regularly free of debris and regrowth, and the resultant environmental damage, particularly in the valleys.

The overarching concern seems to be to protect Waikiki from being flooded from the mauka side. However, because of the predicted rise of the ocean level, it is inevitable that at least a third of Waikiki will be underwater within 100 years. This fact can be addressed initially by dikes. In fact, building a wall along the Ala Wai Canal on the Waikiki side seems a first step in this direction. Other dikes and berms would eventually follow. But this solution will not be able to last in the long term.

We recommend a less elaborate course that could be a reasonable compromise:

1) Build a berm around the Ala Wai Golf Course and other school fields in the area to capture flood water.

2) Build a low wall along the Waikiki side of the Ala Wai Canal.

3) Build a pumping station in the Ala Wai Canal, but place it underground or below the surface.

4) Enlarge the bridge on Woodlawn Avenue and redesign the bridge, to allow easier flow of water, even at times of great rainfall.

5) Keep the Manoa Woodlawn Bridge free of debris (the debris was the main reason for the 2008 overflow)

6) Do not build the detention basins in the valleys.

7) Avoid widening any streams or adding concrete to their floors or sides.

8) Focus primarily on human and environmental effects, and avoid invasive interventions of the current water-flow system.

Thank you for considering our comments.

Sincerely,

Michael Molloy

molloy@hawaii.edu <mailto:molloy@hawaii.edu>

Thomas Hilgers

hilgers@hawaii.edu <mailto:hilgers@hawaii.edu>

3276 Lower Road

Honolulu, HI 96822

808-988-7473

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
of the Draft Feasibility Report
02 May 2017

ATTN: Michael Molloy, Thomas Hilgers
3276 Lower Road
Honolulu, Hawaii 96822

This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement (FEIS) which occurred from 20 AUG 2015-09 NOV 2015. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that you have offered a number of alternatives to the recommended plan included in the FEIS.

The strategy towards managing the flood risk utilized in the plan formulation contained within the FEIS is the dual approach of detention of flood flows in the upper watershed combined with line of protection features (i.e. floodwalls and levees) in the lower watershed. This approach provides benefits for those within the upper watershed, but also reduces the scale of the features necessary for flood risk management in the lower watershed.

USACE conducts planning efforts in accordance with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, established by the Water Resources Council in 1983. This study has been guided by this planning process though each phase. The general problems and opportunities are stated as specific planning objectives and constraints to provide focus for the formulation of alternatives. These objectives and constraints have been documented since 2012 when the study was rescoped to focus exclusively on flood risk management. The formulation of alternatives is an iterative process and plans are evaluated and compared to determine which alternative achieves the study objectives and avoids study constraints in the most effective and efficient manner. Objectives and constraints are detailed in Section 2 of the FEIS, and Section 3 includes details of the process by which alternatives were selected and eliminated, leading to a final array of viable alternative plans. Each of the alternative plans in this final array was a valid plan that achieved planning objectives and avoided planning constraints to some degree. These plans were screened against multiple criteria and compared to determine which plan was most effective and efficient in achieving study objectives and avoiding study constraints.

All flood risk management alternatives considered for the study have a variety of impacts; there is no alternative that has no impacts, and there is no alternative that has only positive impacts. USACE policy requires a recommendation consistent with the alternative plan that reasonably maximizes the net economic benefits with consideration to the environmental impacts. Sections 4 and 5 of the FEIS includes an evaluation and comparison of these alternative plans. Section 8 outlines the recommended plan. This plan includes:

- Six in-stream debris and detention basins in the upper reaches of the watershed
- One stand-alone debris catchment structure
- Three multi-purpose detention basins
- Floodwalls along the Ala Wai Canal (including two pump stations); a levee on the outer perimeter of the Ala Wai Golf Course

- A flood warning system
- Fish passage environmental mitigation features at two locations

Thank you for your interest in the study. Your written comments and this response are included as an appendix to the final FEIS. An electronic copy of this document is currently available to the public at the following location:

http://www.poh.usace.army.mil/Missions/CivilWorks/CivilWorksProjects/AlaWaiCanal.aspx

DAVID Y. IGE
GOVERNOR OF
HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
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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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Mr. Michael Molloy
Mr. Thomas Hilgers
3276 Lower Road
Honolulu, Hawaii 96822

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review of the Draft Feasibility Report

This letter is a follow-up on correspondence to a letter sent to you by the U.S. Army Corps of Engineers (USACE) and the Hawaii Department of Land and Natural Resources (DLNR) on May 2, 2017. That letter responded to your comments submitted during the review period for the Ala Wai Canal Flood Risk Management Draft Feasibility Study and Integrated Environmental Impact Statement (DFEIS), which started on August 21, 2015 (Federal) and August 23, 2015 (State) and ended November 9, 2015.

The 2017 letter you received from the USACE and DLNR fully satisfied the requirements of the Federal National Environmental Policy Act (NEPA) as evidenced in the signed Record of Decision (ROD) by the Assistant Secretary of the Army for Civil Works on September 18, 2018.

The State of Hawaii received the NEPA Final FEIS (NEPA FFEIS) with ROD from USACE in October 2018 for review and acceptance by the State in compliance with the requirements of Hawaii Revised Statutes (HRS) Chapter 343, commonly referred to as the Hawaii Environmental Policy Act (HEPA). By letter dated September 20, 2019, the Governor designated the Mayor of Honolulu to accept the HEPA Final FEIS (HEPA FFEIS) as the Governor's representative.

After reviewing the document and ensuring its acceptability under the HEPA rules, we are providing an additional response to your comments commensurate with the requirements of HRS 343 and Hawaii Administrative Rules (HAR) 11-200. This letter does not replace or change the letter you received in 2017, but provides you with additional information to answer questions and concerns that you raised, which are addressed in the NEPA FFEIS, and/or in the HEPA FFEIS.

Please note that this HEPA FFEIS evaluates the same action and impacts that were reviewed in the NEPA FFEIS completed in 2017. During the design phase, project information will continue to be updated to address unresolved issues and community concerns identified in the EIS. Community engagement is a critical aspect of the design process and identifying environmental impacts. Any changes to the design after the completion of both the NEPA and HEPA FFEISs will be evaluated for environmental impacts and, if necessary, supplemental documentation will be developed commensurate with the environmental impacts identified.

This letter will provide additional information on the specific concerns raised in your e-mail dated November 1, 2015 to the Ala Wai Canal Project general inbox:

1. *Thank you for requesting the ideas of the public regarding this plan. We are pleased to know of state and federal concern for protection from floods. Some of the elements of the draft plan are quite thoughtful.*

RESPONSE: Thank you for participating in the process. This process does not end with the feasibility study, it will continue during the design and construction phase and we encourage your feedback and participation. Community engagement is a critical part of making this a successful project.

2. *We would appreciate being kept informed of the development of the proposed plan. Our email addresses are below.*

RESPONSE: Thank you for wanting to stay informed. You will be added to the project mailing list and email distribution which will be maintained by the Corps of Engineers.

3. *On the side in favor of the proposed plan, we see a desire to protect Waikiki from mauka floods. We also see a desire to protect the main university campus. On the other side, we see the large amount of work involved, the cost, the need to keep detention basins regularly free of debris and regrowth, and the resultant environmental damage, particularly in the valleys.*

RESPONSE: Regarding your comment about *Protecting Waikiki and University of Hawaii at Manoa*, we agree that protecting those two areas are important. However, reducing the risk in the rest of the community is equally as important. Specifically the Moiliili and McCully communities are vulnerable because of not only their geography but the urbanized conditions in the area, where there is not a lot of pervious or green space for the water to percolate. Additionally, all three valleys impact the McCully and Moiliili communities. Regardless of which valley receives rains, the water ends up in these two neighborhoods.

Regarding your comment about *the need to keep detention basins regularly free of debris and regrowth, and the resultant environmental damage, particularly in the valleys.* We agree that there is a need to keep the detention basins clear of debris and regrowth to function as designed. The City and County Department of Facilities Maintenance is a vital partner to us and the Corps of Engineers to ensure that the final designed system is a system that can be maintained by the City and County. The environmental damage was evaluated for impacts, mitigation was recommended based on coordination with both state and federal agencies to ensure it was sufficient for both state and federal law. However, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or change the system features. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary.

4. *The overarching concern seems to be to protect Waikiki from being flooded from the mauka side. However, because of the predicted rise of the ocean level, it is inevitable that at least a third of Waikiki will be underwater within 100 years. This fact can be addressed initially by dikes. In fact, building a wall along the Ala Wai Canal on the Waikiki side seems a first step in this direction. Other dikes and berms would eventually follow. But this solution will not be able to last in the long term.*

   RESPONSE: Thank you for your comment on *Sea Level Rise and flood walls, dikes, berms.* Within this HEPA FFEIS, Section 5.1 of Appendix A-3 Climate Change Scenarios Appendix is a detailed explanation of study done for this project. Sea level rise is accounted for in the feasibility design of floodwalls and barriers in the project footprint. *But this solution will not be able to last in the long term:* This project is one piece of a floodplain management strategy, it is not intended to be the only project designed to build resilience in the community and in the state.

5. *We recommend a less elaborate course that could be a reasonable compromise:*
   Build a berm around the Ala Wai Golf Course and other school fields in the area to capture flood water.

   RESPONSE: Thank you for your suggestion. During the design phase of the project, modeling and engineering data will be updated and the design refined to address unresolved issues and community concerns. While a berm around the golf course is in the existing recommended plan, and there are some berms recommended around school fields, other alternatives will be evaluated as both value engineering options as well as options to ensure the project delivers the benefits authorized by Congress for the project.

6. *Build a low wall along the Waikiki side of the Ala Wai Canal.*

   RESPONSE: Thank you for your suggestion. In the existing plan, there is a plan to build a wall on the Waikiki side of the canal. The wall height will be determined by the modeling and engineering data which will show water surface elevations in the canal at varying rain event stages. The terrain along the canal is not constant, so while the wall will be a constant height, it will appear to be differing heights based on terrain elevations.

7. *Build a pumping station in the Ala Wai Canal, but place it underground or below the surface.*

   RESPONSE: During the design phase when modeling and engineering data are updated, the location, size and ancillary facilities for the pump station will be evaluated. Considerations such as size, access for maintenance, environmental impacts, community impacts, as well as cost will all be evaluated.

8. *Enlarge the bridge on Woodlawn Avenue and redesign the bridge, to allow easier flow of water, even at times of great rainfall.*

RESPONSE: Modeling of the Woodlawn Avenue Bridge, outlined in Appendix A-2, section 3.1.4 (pages 10-11 of Appendix A-2), which further references a study conducted by consulting firm Oceanit for Natural Resources Conservation Service and USACE in 2008, shows that the bridge is not the prime constriction at this location, but the ground elevation along the right bank of the stream is. Water would overtop in that area due to the terrain and volume of water. There are seven sub-basins that drain through the Manoa valley sub-watershed and meet in the vicinity of the Manoa Marketplace near the Woodlawn Avenue Bridge. Some measures at Manoa Marketplace and adjoining Manoa Innovation Center were identified in Alternative 2A of the DFEIS, but not carried forward for the HEPA FFEIS. Bridge modifications, stream capacity modifications, etc. will be evaluated after the data and modeling are updated in the design phase as part of a Value Engineering study.

9. *Keep the Manoa Woodlawn Bridge free of debris (the debris was the main reason for the 2008 overflow)*

RESPONSE: There was a State funded and executed project in 2018 and 2019 to rehabilitate the Woodlawn Bridge and improve capacity under the bridge. Data collected after the implantation of that project will be incorporated into this project during the design phase to identify impacts of the improvements.

10. *Do not build the detention basins in the valleys.*

RESPONSE: During the design phase updated modeling, engineering data, and community input will be used to refine or change the system features. Detention basins in the valleys will be part of that evaluation based on updated data. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts. Supplemental environmental documentation will be developed commensurate with the level of impacts, if necessary. If detention basins in the valleys are necessary, the Corps of Engineers and DLNR will provide additional explanation and data to interested stakeholders.

11. *Avoid widening any streams or adding concrete to their floors or sides.*

RESPONSE: Concrete channels is not a preferred construction method; however, in certain areas of a project there may be a need to use concrete to reduce the risk to the system feature and the community. While there are natural rocks or vegetation that can serve in an erosion control capacity, it is highly dependent on the volume of water and the flows. Concrete is recommended in this HEPA FFEIS only where it is necessary to protect the feature from scouring, i.e. immediately upstream and downstream of the feature. Considering environmentally-sensitive engineering solutions wherever possible is a requirement of the Clean Water Act (CWA) permitting process. The remaining streambed is left in a natural state or with natural solutions in accordance with the environmental operating principals.

Widening streams or increasing stream capacity will be evaluated in the design phase as a value engineering opportunity with updated modeling and data that is to be refined. If widening a stream or increasing its capacity is carried forward as a valid proposal, it will be evaluated for environmental and community impacts.

12. *Focus primarily on human and environmental effects and avoid invasive interventions of the current water-flow system.*

RESPONSE: The project objective is to reduce flood risk in the Ala Wai Watershed, the current water-flow system is the direct cause of risk to both human and environmental effects.

We appreciate your participation in the project process. Community engagement will be a critical piece of this project moving forward in design and construction, and we hope you remain engaged.

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Dave and Nola Watase
1537 Ala Aoloa Loop
Honolulu, HI 96819
Email: dwatase@hotmail.com
Cel. 808-728-0759

November 9, 2015

Suzanne D. Case, Chairperson
State of Hawaii, DLNR
P.O. Box 621
Honolulu, HI 96809

Re: Ala Wai Canal Project

Dear Ms. Case,

We have written several letters over the past few weeks stating our objection to the process in which our privately owned property located at 2532 Waiomao Road, Honolulu, Hawaii 96816, TMK 34016059 was selected and incorporated into the Ala Wai Canal Project's Draft FS/EIS.

We believe the short cutoff date given for our feedback including your extension to November 9, 2015 is unfair and is a severe handicap to us. It is not commensurate to the volume of documents that you are asking us and the general public to review and provide comment.

We also believe that your methods of notices to inform the general public and stakeholders throughout the process was inadequate and/or selective and done with prejudice and neglected those stakeholders most greatly affected by the Ala Wai Canal Project. Included in those who we believe should have been notified were all adjacent properties, private landowners , stakeholders, and those downstream of any detention basin which could overtop in the event of a storm greater than the designed capacity of the detention basin and would put at risk the lives of those downstream of your planned alternatives.

In general we have many questions regarding the technical side of the Ala Wai Canal Project's FS/EIS but were not given access to question and get answers from the project's consultants, Project Development Team, DLNR and the USACE.

In all of our letters including this one, we've really only had time to generalize many of our concerns, support, ideas, and suggestions. Our letters were rapidly put together and may have a few words out of place, a question that doesn't quite make sense, typos, and other grammatical mistakes. However, we urge you not to just discount the questions, ideas, or suggestions and we hope that you will contact us for further explanation or correction rather than simply dismissing the area of question.

In your Introduction 1.4 Purpose and Need, it states that the *"Ala Wai has the capacity to contain about a 20- to 10-percent annual chance exceedance (ACE) flood before over topping the banks."* This is the equivalent to a 5-year and 10-year storm. The question that I have is that I'm 56 years old and if this were the in fact the case and your assessment accurate and correct, I would think that I would have seen a lot more overtopping of the Ala Wai Canal and seen a lot

more economical damage done to Waikiki. I would think that I might have even experienced a 50-year flood by now with catastrophic flooding and damage throughout the whole watershed and not just the Waikiki area. But as far as I know it's been relatively nothing with the exception of your mention of the November 1965 and December 1967 storms and the passage of Hurricane Iniki in 1992.

Section 1.4 references the October 2004 storm that flooded Manoa Valley *"estimated to be a 4-percent chance of occurring in any single year".* This means that the storm was a 25-year storm which is far greater than the *"20- to 10-percent"* (5-year to 10-year) storm that in the paragraph before you say would overtop Waikiki. So, how bad was the economic damage done by the October 2004 storm due to the Ala Wai Canal overtopping?

While it doesn't quite make any sense to us, hydraulically speaking, hurricanes and related storms are not considered meteorological event and are not supposed to be considered as a basis for justifying this project in a similar manner if an earthquake generated a tsunami or surge that caused the Ala Wai Canal to overtop and cause economical damage. Yet, your report references this storm and uses it as a basis for support and is gross misrepresentation and use of facts.

Section 1.4 refers to the loss of life claim *"including two known deaths (associated with flooding in December 1918 and December 1950)."* We question to what extent theses deaths are truly flood related and would like for you to provide the supporting documentation and details of these deaths including the names of the deceased, any autopsy reports and other witness statements to back up the claim.

Section 1.4 states that *"multiple past flood events have been documented within the watershed over the course of the past century".* We believe you should include a summary and list of every major storm related event over the past century and documented rainfall, storm rating, stream flow rates, the height elevation of the Ala Wai Canal, and the outflow rate at the Ala Wai Harbor, and the amount of economic or financial damage sustained within the watershed from each storm.

Section 2.1.1 references the March 2006 storm in which 40 days of consistent rainfall feel within the watershed. It states that *"although none of the storm events were very large, the consistent rain resulted in flooding in the Makiki and Moilili neighborhoods."* We believe this statement is a clear example of the invalidity of the hydraulic modeling because the collected data does not predict, compute, or correlate to the flood and damage done to the Makiki and Moilili neighborhoods. The reason is that the modeling formulas do not take into account the level of rainfall ground saturation and probability factors for multiple sequential storms and no measurements are taken for the variable of ground saturation which will affect the ground absorption and runoff rates. This places an unknown variable in all of your storms used to calibrate your modeling rendering all of the results deficient.

Section 2.1.1 states that the *"stream capacities are diminished due to debris and sedimentation."* We would like to know to what degree this diminishes the capacity of the Ala Wai Canal from the rated 5-year to 10-year storm capacity. If this was truly the case as you are referencing and as we know sedimentation and debris is in the Ala Wai Canal shouldn't the canal be overtopping more often or every 5-years or less?

Section 2.2.1 states that the "*flooding may be exacerbated by climate change and associated projected increases in sea level rise.*" We believe this statement is hearsay and in the long course of time unproven. Just recently on the internet stated that NASA believes ice is being added in the Antarctic. You can Google it.

Section 2.2.1 states *"Hurricanes are not the same as the meteorological events that can bring intense flood-producing rainfall, which usually occur during the wet season (October to April). Similarly, tsunamis are not expected to be coincident with a major storm resulting in riverine flooding. Given the low probability of these events occurring at the same time, it was decided that potential storm surge would not be included as part of the hydraulic modeling."* This statement based on a false premise and the selected course of action should be rendered incomplete. We can surmise that this course of action was selected because of the USACE policy to handle only riverine flooding but as we all know especially in Hawaii and unlike many parts on the mainland, Hawaii is subjected to a lot of storms that are associated Hurricanes. We do not believe you can separate the data and yet consider your modeling complete and accurate.

We have a lot of questions and issues with your Final Hydrology Report dated June 2, 2015. We do not believe that it is proper for you to use a total of five different methods which use different methodologies to estimate the peak flow discharges throughout the Ala Wai Canal because they are inconsistent and missing data. We don't believe that it is proper to use methodologies in this report without a clear description, application, and showing all supporting data and computations for each methodology. Additionally, it the variance between methodologies should be explained and reason given for use. We don't think that it is proper to just average several methodologies together to come out with a more universal numbers or results. In some cases all 5 methodologies are averaged together and in other cases only a single methodology is used. Different methodologies may use different sets of data collected, may not use the same data sites, and may selectively apply the data. This can lead to an off balance in data collection where certain sites may be counted several times thus receiving more strength in a weighted average. The differences between methodologies have variances as high as 76% for the same flows.

We believe the Thiessen Polygons diagrams are inaccurate because around the perimeter of the Ala Wai Watershed because no rain gauges are located outside of the watershed. There also seems to be several Polygons without rain gauge stations to reference.

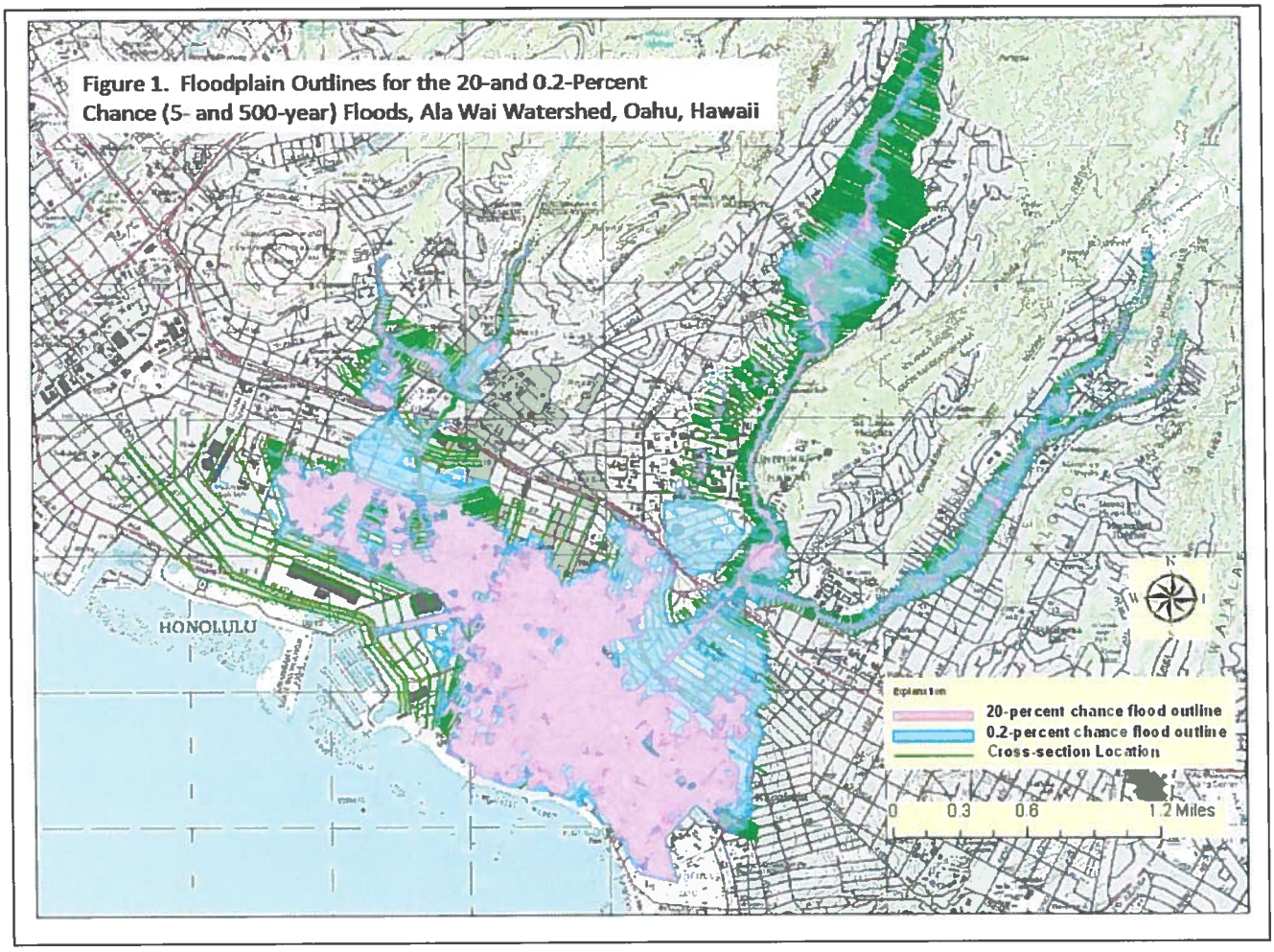
We believe the description, layout, maps, pictures, of each rainfall gauge and stream flow gauge should be shown. The equipment make, model, year, accuracy, calibration and certification dates listed for each rainfall gauge and stream flow gauge. Are there any protections in place to insure that the data is accurate. There are instances where you toss out flow reading because they don't add up. This should be an indicator that the stream flow gauge may be inaccurate or malfunctioning or be calibrated incorrectly as stated in Section 4.12

"At USGS Gaging Station 16247000, there are 32 effective annual peaks available to perform the statistical frequency analysis. The continuous recorded annual peaks are from 1953 to 1979 and from 2003 to 2007, but no data is available between 1980 and 2002. The recorded annual peaks from 2003 to 2007 seem incorrect for the following two reasons.

(1) On October 30, 2004, the recorded peak at this gage was 776 cfs. The tributary stream gage upstream (Pukele) recorded a 753 cfs peak, and another tributary (Waiomao Stream) received the same rain as Pukele Stream received. At USGS gage 16247100 downstream, the recorded

peak was 9380 cfs and the Manoa Stream at Kanewai gage recorded a peak at 5860 cfs. Thus, the peak flow at the Palolo gage should be in a range of 1500 to 3000 cfs rather than the 776 recorded because it received similar rainfall as Manoa.

(2) The peak for March 31, 2006 storm at Palolo Stream Gage was 1390 cfs, at downstream gage USGS 16247100, the recorded peak was 9320 cfs, the rainfall was uniformly distributed into the study area, the Palolo valley should have generated a range 2000 to 3000 cfs peak flow. Since there was possible channel conditions changed during the last 50 years, the data in this gage may be lower than actual stream flows, as a result, the HEC-SSP and FEMA analysis (used 25-year annual peaks) got lower peak discharges."



The diagram above is an example of many that we question that pertain to the flood coverage. The area shaded in pink signifies a 5-year storm. I don't recall ever seeing that kind of flooding in the past 50 years. Apparently, it should be happening every 5-years or so. We sense that all the storm ratings and coverages are overrated and exaggerated. Should you have any questions, please don't hesitate to contact us via email or call us on our cel. listed above.

Very truly yours,

Dave and Nola Watase

Dave and Nola Watase
1537 Ala Aoloa Loop
Honolulu, HI 96819
Email: dwatase@hotmail.com
Cel. 808-728-0759

November 2, 2015

Suzanne D. Case, Chairperson
State of Hawaii, DLNR
P.O. Box 621
Honolulu, HI 96809

Re: Ala Wai Canal Project
HRS Chapter 343 and NEPA

Dear Ms. Case,

As previously stated in my letter dated September 28, 2015, we are totally against your purchasing of our privately owned, residentially zoned property, TMK 34016059, located at 2532 Waiomao Road in Palolo Valley for the construction of the Waiomao Detention Basin which is a part of the $173 million Ala Wai Canal Project.

The Draft FS/EIS Appendix G – Public Involvement V.04 provides guidelines to gain public feedback on the proposed alternatives in order to satisfy the requirements of HRS Chapter 343 and NEPA. These guidelines were designed to provide opportunities to raise issues and receive early feedback from as early as June 2013. The document specifically mentions as participants in "Section 2 Public Involvement", "2.1 Individual Interviews and Small Group Meetings" for the purpose of getting early feedback on specific flood reduction measures, Participants to be included are "Landowners and community leaders". We believe that we fit this category and in addition are qualified "primary stakeholders" in the Ala Wai Canal Project who were omitted from the process.

The Draft FS/EIS study was authorized by Section 209 of the Federal Flood Control Act of 1962. We don't believe Section 209 authorizes implementation of the proposed Ala Wai Canal Project. The Draft FS/EIS study comes up a benefit/cost ratio of 2.38. This benefit/cost ratio was calculated by considering only flood damage reduction and mitigation. We believe that this approach is not comprehensive and is less than satisfactory and ignores the potential costs/benefits associated with the development and implementation of a Total Maximum Daily Load plan for the Ala Wai Canal, as required by Section 303 of the US Clean Water Act of 1972.

At the public hearing held on September 30, 2015 we questioned the late notice given us (a few weeks) and the short cutoff date for public feedback given to us as affected landowners and primary stakeholders in the Ala Wai Canal Project. In response, we were told that there where many other opportunities given to the public to participate and give feedback on the development of the FS/EIS for the Ala Wai Canal Project and that notices were published in the newspaper. All the information on the Ala Wai Canal Project including what would be presented at the September 30, 2015 meeting would be on the website and all questions and concerns would be addressed and that the cutoff date for public feedback was extended to November 9, 2015.

After listening to presentation and testimonies at the September 30, 2015 public hearing at Washington Middle School, we couldn't help but wonder to what degree the DLNR and USACE has really gone out to seek the input and opinions of the landowners adjacent to the proposed alternatives of the Ala Wai Canal Project.

It seems as though the large landowners like the City and County of Honolulu, and State of Hawaii received special treatment and were invited and participated in these meeting from a very early stage in the process which dates back over two years ago whereas some private landowners whose properties are to be purchased and taken from them in part or in whole where totally excluded from the process and only recently notified and made aware of the website and that their properties are included in the Draft FS/EIS with resources already spent on doing 10% Engineering on their properties, schematics, aerial pictures, value assessments and other studies performed and incorporated into the report without even a phone call, a letter, an email, or a knock on the door.

The small private landowners were not invited to your "Open House Meetings" which states "All stakeholders would be invited to attend". "Section 2.6 Project Website" was developed "to provide the larger public with background information and materials to keep them apprised of the project progress, next steps, and how they can provide input" but again, we were not notified or aware of this website until a few weeks ago which is unfair. "Section 2.7 Email Updates" was designed "to an alert key stakeholders and interested parties of the project milestones" but again we were excluded from these updates and processes.

In reviewing hundreds of pages of minutes, testimonies, and summaries of several of these public hearing and open house meetings we couldn't find anyone who represented, spoke on our behalf our feeling, concerns, issues, and interests from the viewpoint of the small private landowners (key stakeholders) who are at risk of losing their privately owned property to this project.

We also don't believe that the DLNR and USACE have faithfully and earnestly gone out to make contact with those landowners who are adjacent to the proposed alternative flood mitigation measures. We believe it is a short cut to assume that the community associations and neighborhood board members will represent us or our interests and concerns unless they have each walked house to house and made an attempt to individually hear every affected property owner's concerns and agreed to represent their interests and to forward the affected property owners concerns to the PDT, DLNR, and USACE.

It is vitally important not only with providing an opportunity for feedback but equally important that you invite and hear voices from the right people. For example, we wouldn't be surprised if you walk along the perimeter of the Kanewai Detention Basin that none of the adjacent homeowners even have a clue about the Ala Wai Canal project and what you are proposing next to their backyards. How many teachers, students, and parent at Hokulani School are aware of your project and of the Kanewai Detention Basin alternative? My guess is zero. Recently, we went down to Hokulani School to see if they were aware of the detention basin proposed for Kanewai Park. None of the staff members were aware of the Ala Wai Canal Project and while they agreed it would affect their access to the park area used for their playground, none of them were interested in taking any action and said that it was the DOE's responsibility to respond to concerns like these. Other schools such as Iolani School and the Ala Wai Elementary School are also affected by the Ala Wai Canal Project and we question to what extent they were given the opportunity to participate and provide feedback.

We believe it is the DLNR and USACE obligation to find or at least make a strong attempt to find people who care enough so that you can get honest and accurate opinions and not just wash everything over by simply going through the motions and procedures. It is not enough just to print a miniature notice buried in some obscure corner of the paper amongst hundreds of ads in the newspaper which no one subscribed to anymore and say we gave proper notice.

As we all know, most of these positions for community association and neighborhood boards are voluntary and do not require any qualifications. Most of these volunteers have their own jobs, their own families that must come first even though they are busy community minded and serving individuals with good intentions. They may only represent the overall good of the whole community and not necessarily care about how a project like this would impact a single property owner. In their mind "Not in My Backyard" may not apply unless the backyard was the whole community. They may not be qualified to understand the technical issues that are presented in the Draft FS/EIS, they may not even read through the thousands of pages of document, and may not even give it a second of thought.

Some Neighborhood Board members may have hidden agendas and sole purpose on the Board to push for conservation and environments issues and careless about anything else. The person who wants a bike path, more trees planted along any improvements, doesn't have to spend hours upon hours researching all the FS/EIS documents … they only care about one thing. We simply can't imagine any Neighborhood Board Member taking enough interest in this project or being able to give us fair representation or be able to express our true feelings and concerns.

There are other stakeholders who are paid employees of various agencies, groups, and organizations whose job it is to make sure things like the oopu (catfish) and opae (shrimp) are properly protected and well taken care of. Many of these organizations were invited to participate at the onset of this project receiving special treatment. It is well documented in the Draft FS/EIS though the display of mitigation measures taken by the DLNR and USACE in response to the concerns raised by these agencies, groups, and organizations.

The whole idea of condemnation and eminent domain is scary to us. We think we understand the process and reasoning behind it or at least what the good intent suppose to be as by design but we've heard it really doesn't matter and the powers of government can do what they want and need little justification legally as long as there is a public need. Our ignorance might be our greatest fear so we are searching and scrambling to try to put up our best defense and to buy us time to understand.

There are several speakers who spoke at the Public Hearing held at Washington Middle School on September 30, 2015 that stick out in our minds whose comments might pertain to our property that we feel are important to expand upon.

There was a speaker that said to leave Palolo alone and not to push the Ala Wai Canal's problem upstream and to leave the stream as natural as possible. This statement has a lot of merit because Palolo existed way before Waikiki became such a valuable entity justifying a $178 million in cost protection. We believe there are better options near the Ala Wai Canal that should be considered first to solve and protect Waikiki before looking upside to the watershed. We don't believe the detention basins and other Palolo alternatives would be economically justifiable if evaluated as a standalone sub-watershed project. This statement is also supported by your community consultant's statement from Ms. Dwynn Kamai who " recalled about the waterways of Palolo was that they never flooded or caused damage to life and/or property that she knows of" and this was she goes back to when there was a 9-hole golf course in Palolo Valley before World War II.

Another speaker at the September 30, 2015 meeting said he studied all the Hawaiian History regarding all the streams above the Ala Wai Canal and said his kumu or father and Halau directed him to speak. He was also against pushing the flood mitigating measures upstream stating that his ancestors where first living in Waikiki and got pushed up into Palolo Valley because of all of the development. Fishponds and streams got filled and redirected but nature has a way of wanting to go the route of old ways. So, that no matter what you do to try and that protect there still will be consequences. What we gathered and sensed from his statements and those of a few other speakers was that those who live along the river banks understand that there is an inherent risk of flooding and many don't necessarily want more concrete to protect them from a flood that may never happen or cause only a small amount of damage.

The sentiment was "leave us alone and don't touch our streams, we can take care of ourselves". Many speakers expressed the need to leave thing as natural as possible which goes against the design of the Waiomao Detention Basin which has a monstrous construction zone footprint, will have a 130 feet of ugly unnatural rock faced slope, debris pipes, and will require the excavation of 2,000 cubic yards of material which would leave a scar in the ground to hold a massive 1,500,000 cubic feet of water. The dredged area will destroy almost 450 feet of the Waiomao Stream and leave behind a bare rock quarry looking pit in its place. To put this in perspective, we are talking about destroying a length of one and a half football fields of Waiomao Stream.

Another community consultant Professor Makahiapo Cashman, who is a director of the Hawaiian Cultural Research and Outreach Program for the UH Manoa emphasized the need for maintenance and care of the streams and how his staff and volunteers on a regular basis clean and maintain the stream near Kanewai and he believes that is the solution to mitigate flooding problems. Prof. Cashman is adamantly opposed to inputting more concrete or combs to mitigate the flooding problems. We believe Prof. Cashman's statements have merit because it is well documented in on the Ala Wai Canal website that the 2004 Flood that did nearly $80 million of damage primarily to the UH Manoa was a result of blockage from debris at the East Manoa and Woodlawn bridges. The Woodlawn bridge opening was halfway full of sediment from its original design and if it had been properly maintained and free of debris that the UH Manoa would not have had any damage at all from the 2004 storm.I

It is our understanding that improvements to correct the problems with the East Manoa Bridge and Woodlawn Bridge to protect the University of Hawaii from a similar damage that resulted from the 2004 storm. We believe it is not accurate to use potential damage figures to the UH Manoa and any damage figures following along that flooding stream path which might include the UH quarry and athletic facilities, the Puck Alley and Moiliili areas in your cost to benefit justifications. In addition, any reference, to the 2004 flood and damage should not be used because the damage was primarily a result of poor maintenance rather than inadequate channel design sizes and is misleading. Damage figures should also be brought to present values as well as current construction estimates and land acquisition pricing. Many claimed statements used justify the Draft FS/EIS need to be questioned and not just assumed to be related or true. An example is the reference is made to 2 known deaths being storm related to the December 1918 and December 1950 storm but what is really known about these deaths. Is it really related or could it just have been someone playing in the stream that no matter what would have drowned in a flashflood. People fall of cliff hiking, die from flashfloods, down in the ocean all the time. People die falling of their roof trying to fix a leak when it's raining. The Draft FS/EIS states the Ala Wai Canal has overtopped many times but no specifics are mentioned on the storm rating for each time the Ala Wai Canal overtopped and what the dollar amount of damage was each time the Ala Wai Canal overtopped. We would like to see a summary of each overtopping, the storm ratings, dates, flows at all major junctions and Ala Wai Canal outlet, duration of storm and time it took to overtop the Ala Wai Canal with corresponding damage figures.

References are made primarily to the November 1965 and December 1967 storms and during the passage of Hurricane Iniki in 1992 and the overtopping of the canal resulting in the flooding of Waikiki. Yet the summary of information is hard to find or nonexistent on the damage figure done by the flooding of these very major events and we are not clear of USACE storm ratings for these major events. We would like to know how long it took the Ala Wai Canal to reach the stage of overtopping (or to fill up to overspill), how deep was the flooding, how much was due to the Waikiki storm drainage infrastructure and how much was damage was due to the Ala Wai Canal overtopping and how long it took to recede or empty out for each of these storms. It would at least help a layperson gauge the validity of your statements and representations.

Unfortunately, we were drawn into this situation not by choice but because the DNLR and USACE designated our privately owned property for use for the Waiomao Detention Basin. Otherwise, we really would have nothing to say and would not even be involved. We are being forced to protect our property ownership and rights. We really don't get involved with politics, culture and environmental issues. We no longer subscribe to cable and don't watch the evening news. We don't search out the newspaper for community hearing and generally keep our personal opinions of ongoing issues and events to ourselves. Normally, we are just occupied with raising our family and focused on our children's activities. We volunteer for many activities including our church and other coaching activities. So, our lives have been placed a little out of sync and a lot of time we would have otherwise spend on relaxing and getting things done around the house has been spend cramming to prepare our response before the public feedback deadline of November 9, 2015 and we've had to do a major cutback on our Korean Drama shows.

We humbly request that you remove our privately owned property TMK: 34016059, located at 2532 Waiomao Road in Palolo Valley as a potential site for the Waiomao Detention Basin.

Very truly yours,

Dave and Nola Watase

Cc: Gayson Ching, DLNR
Derek Chow, USACE
Ann H. Kobayashi, Honolulu City Council
Calvin Say, State of Hawaii, Representative
Les Ihara, State of Hawaii, Senate

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October 30, 2015

Suzanne D. Case, Chairperson
State of Hawaii, DLNR
P.O. Box 621
Honolulu, HI 96809

Re: Ala Wai Canal Project
Other Government owned lands and possible alternatives below the proposed Waiomao Detention Basin

Dear Ms. Case,

As previously stated in my letter dated September 28, 2015, we are totally against your purchasing of our privately owned, residentially zoned property, TMK 34016059, located at 2532 Waiomao Road in Palolo Valley for the construction of the Waiomao Detention Basin which is a part of the $173 million Ala Wai Canal Project. We also believe other private landowners in the same situation as us will have identical concerns and feelings. While we are focused on Palolo Valley many of our issues, concerns and recommendations can be applied to Manoa Valley, Makiki and Tantalus areas. Thus, we speak out on their behalf as well.

We believe that there are plenty of flood alternatives that can be designed to utilize government owned lands both above and below the proposed Waiomao Detention Basin. These government owned lands are owned by the C&C of Honolulu, State of Hawaii, Department of Education, Public Housing Authority, and other governmental agencies. The government lands follow the Pukele, Waiomao, Palolo, and Manoa/Palolo Streams and may include remnant lands, leasehold lands, schools, parks, drainage easements, and other public utilities and facilities.

Listed below are government owned lands that follow the Pukele Stream, Waiomao Stream, Palolo Stream, and Manoa/Palolo Stream down to the Ala Wai Canal:

Exhibit A-1: TMK: 340120230000 - Pukele Stream above 10th Ave.
Exhibit A-2: TMK: 340040080000 - Pukele Stream below 10th Ave.
Exhibit A-3: TMK: 340040070000 - Pukele Stream - Anuenue School
Exhibit A-4: TMK: 340040020000 - Pukele Stream - Anuenue School
Exhibit A-5: TMK: 340040060000 - Pukele Stream - Anuenue School
Exhibit A-6: TMK: 340070160000 - Pukele Stream - Public Housing

Exhibit A-7: TMK: 340070180000 - Pukele Stream & Waiomao Stream Public Housing
Exhibit A-8: TMK: 340030100000 - Waiomoa Stream
Exhibit A-9: TMK: 340030090000 - Waiomao Stream
Exhibit A-10: TMK: 340030300000 - Waiomao Stream
Exhibit A-11: TMK: 340020010000 - Waiomao Stream - Palolo Elementary
Exhibit A-12: TMK: 340020020000 - Pukele/Waiomao/Palolo Stream - Palolo Elementary
Exhibit A-13: TMK: 340070170000 - Palolo Stream
Exhibit A-14: TMK: 340020440000 - Palolo Stream - concrete channel
Exhibit A-15: TMK: 340040100000 - Palolo District Park
Exhibit A-16: TMK: 340070140000 - Palolo District Park
Exhibit A-17: TMK: 340070030000 - Palolo District Park
Exhibit A-18: TMK: 340070130000 - Palolo District Park
Exhibit A-19: TMK: 340070090000 - Jarrett Middle School
Exhibit A-20: TMK: 340011220000 - Palolo Stream concrete channel - next to Jarrett
Exhibit A-21: TMK: 340070010000 - Palolo Stream concrete channel - next to Jarrett
Exhibit A-22: TMK: 330380960000 - Palolo Stream concrete channel - residential
Exhibit A-23: TMK: 330450670000 - Palolo Stream concrete channel
Exhibit A-24: TMK: 330020540000 - Palolo Stream concrete channel - next to St. Louis
Exhibit A-25: TMK: 330010050000 - Palolo Stream concrete channel - next to City Mill
Exhibit A-26: TMK: 280280360000 - Palolo Stream concrete channel - Ewa of St. Louis Drive
Exhibit A-27: TMK: unknown - Government land at the merge of Manoa and Palolo Stream.
Exhibit A-28: TMK: 270240010000 - Kaimuki High School
Exhibit A-29: TMK: 270240000000 - Manoa Stream next to Kaimuki High School
Exhibit A-30: TMK: 270360010000 - Ala Wai Park

As mentioned in the September 30, 2015 Public Review Meeting held at Washington Middle School the Ala Wai Canal Project began almost 18 years ago in 1998 and over the years the project has gone through several revisions and an expansion in the scope of the project. What started off small as mostly a waterway management and water quality project has grown into a major $173 million project.

The documents on the Ala Wai Canal Project's website include multiple feasibility, hydrology, and impact statements which include all kinds of alternatives from basically nothing to a mind numbing 1,600 ft. long dam, 50 ft. high, covering 23 acres of land in the backside of Manoa Valley capable of holding 17,000,0000 cubic feet. We question the legitimacy of the alternatives being explored because it appears that many of the 23 alternatives evaluated in 2008 would have been rejected by the community at the very first sight of the renderings. Of course, if all went as planned on the last go around in 2008 the Ala Wai Canal project would probably be completed by now.

One should consider that a delay or extension of the project's timeline is very possible given the history of the Ala Wai Canal Project and the fact that public input is still being accepted and evaluated which may lead to further changes in the flood mitigation alternatives. We were told at the September 30, 2015 Public Review Meeting that nothing was certain and if project deadlines are not meet that the project could even be terminated. We believe the inherent uncertainty in the future of the Ala Wai Canal Project is the strongest reason that government

lands should be targeted for use in the flood mitigation alternatives. Private landowners should not be used as a first choice as land conditions and uses, market values, and ownership may change and the process for condemnation may also pose as additional risks to the project if the land cannot be secured. It is also not fair to the private landowners to be under the veil of condemnation and be threatened and restricted in their use of their property on a whim of certainty and/or a project that may take decades to get off the ground.

We are proposing several alternatives, ideas, or suggestions in lieu of the upstream Waiomao Detention Basin on 2532 and 2550 Waiomao Road. They are as follows:

1. We favor a series of smaller less obtrusive designs that have smaller footprints and require lower walls or embankments. TMK: 340120230000 (Exhibit B-1) potentially could hold a small detention basin or channel that would be held back by 10th Avenue which would act in place of constructing a new standalone berm or earth dam. The area can also be used a diverter to segregate water from larger storms (spillway) to government lands further downstream through a series of pipes, culverts, open channels etc., similar to an "auwai" feeding a series of taro patches that are playground and unused open areas capable to store or detain flood waters.

2. TMK: 340040080000 (Exhibit B-2) can be used as a channel detention area or an area to selectively direct larger flows to potential detention areas on Anuenue School's playground and open areas. A chain of smaller detention areas each with restricted outflows back to Pukele Stream that would utilize low walls and berms in the range of 2 or 3 feet with overflow spillways to other open areas and parcels on Anuenue School grounds TMK: 340040070000 (Exhibit B3), TMK: 40040020000 (Exhibit B4), and TMK: 340040060000 (Exhibit B5). The playground and unused open areas on Anuenue School could be used like the "auwai" feeding a series of taro patches which are instead detention basin.

3. TMK: 340070160000 (Exhibit B-6) is land used for Public Housing and a very long portion of Pukele Stream follows this property line in the form of an open concrete lined channel. We are not clear if the concrete channel and stream is split between the residential properties and the Public Housing property or if the concrete channel is exclusively in government owned land. An alternative to upstream detention basins would be to store water in areas of the channel where there is excess capacity. Excess capacity can also be created by enlarging the channels by widening or heightening the side wall of the channel. In some cases heightening the wall of the channel could cause problems to areas adjacent to the channel and could cause backflow if storm drainage is not designed correctly. Backflow preventers are an option and another option is to extend the storm drainage entry further downstream at a lower elevation. Aerial pictures from Google maps and MSN maps show a lot of vegetation growth in the concrete channel and a neglect of proper channel maintenance. The visual impact to this area is minimal since it already consists of a man made concrete lined channel.

4. TMK: 340070180000 (Exhibit B-7) is land used for Public Housing. The property lines follow both Pukele Stream and Waiomao Stream with concrete lined channels. We believe the concrete lined channels can be used to store water wherever there is excess capacity. Excess capacity can also be created by heightening walls or widening channels. TMK: 34002001000 (Exhibit B-11), TMK: 340020020000 (Exhibit B-12), TMK: 340070170000 (Exhibit B-13), TMK: 340020010000 (Exhibit B-11) border the Waiomao Stream and after the merge of the Pukele Stream into the Palolo Stream. There is a pretty large strip of unusable land that follows the Palolo Elementary School along the concrete lined channel. The surrounding structures are at a much higher elevation. This area is a good location for increasing the channel capacity or even creating a detention basin area using Kiwila Street as the natural dam. This area can also be used as a segregation or area to divert higher overflows (spillway pipes, culverts, or channels) to larger storage areas such as the Palolo Valley District Park and other government owned lands further downstream. Construction in this area will have a minimal visual impact because the area is already lined with a man made concrete channel and bridge over Kiwila Street.

5. TMK: 340030300000 (Exhibit B-10) is government owned land that is being leased out to a private entity. The Waiomao Stream flows through a major portion of this property and the location is ideal for a small detention area or an area to be used to segregate flows from different storm levels to larger detention areas downstream like the Palolo Valley District Park and other government owned lands and use pipes, culverts, and separate channels similar to an "auwai" feeding taro patches downstream with gravity flows. The Government owns TMK: 34003009000 (Exhibit B-9) and TMK: 340030100000 (Exhibit B-8) which appear to be leased out to private entities. We don't know the lease agreements or the terms for cancellation. An option might be for the Government to use these lands to exchange for easement rights for the footprint of detention basin in this area for the 100-year flood. This area is a natural low spot following the Waiomao Stream and might be a suitable area for a detention basin.

6. Most of the local damage of a 100-year storm in the Palolo area is along the concrete culverts next to the Palolo Valley District Park and below Kiwila St. and extends down to the area adjacent to St. Louis School. So, if the objective is to prevent residential damage from the 100-year flood and if the cost to benefit justifies the flood mitigation measures then something would need to be done to either pass the water more quickly through the area preventing the concrete channel from overflowing or detaining the water in a detention basin. The Ala Wai Canal Project justification for the Pukele Detention Basin and Waiomao Detention Basin is dual purpose. It would protect both the Palolo residential areas and would help hold back water from the Ala Wai Canal at the critical time factor. The Government owns the concrete lined channel and adjacent areas for two blocks and near St. Louis School; TMK: 340020440000 (Exhibit B-14), TMK: 340011220000 (Exhibit B-20), TMK: 340070010000 (Exhibit B-21), TMK: 330380960000 (Exhibit B-22), TMK: 33045067000 (Exhibit B23), TMK: 330020540000 (Exhibit B-24). An option would be to increase the height of the concrete channel walls or widen the channel in areas adjacent to government owned lands so that the channel does not overflow into the residential areas. If the channel wall heights are increased then a study of the backflow for local storm drainage would need to be looked into or the

installation of backflow preventers or extending the channel invert further downstream at a lower elevation.

7. TMK: 340070100000 (Exhibit 15), TMK: 640070140000 (Exhibit B-16), TMK: 340070030000 (Exhibit 17) of the Palolo District Park which consists primarily of the baseball field can be like the first low level detention basin. What we propose is not building those high embankments that require mechanical gates but rather a smaller berms or walls 2-3 in height. Walls can be designed to blend and enhance the park. Walls could be designed at a seat level similar to how Punahou has a series of small retaining walls along their track and football field that act as bench seating. This first area might be designed to detain flood water from a smaller storm (lets say 50-year) and if a larger storm hits it will overflow into a second detention area.

8. TMK: 340070030000 (Exhibit B-18) which is below the Palolo Valley District Park's swimming pool could be used for the second storm water detention area. This grassy area which is shared by Jarrett Middle School is largely unusable because of the slope. However, the area can easily be regraded and cut down to accommodate a second detention area. This area would be beautified by adding a 2-3 ft. perimeter wall and can also be used as a playground for Jarrett Middle School and for a soccer field and football field as a side benefits. This area would be utilized in a time of flood between a 50-year and 100-year storm and overflow would spillover to a third detention area.

9. TMK: 340070090000 (Exhibit B-19) which is Jarret Middle School could use their playground area adjacent to the concrete lined channel of Palolo Stream. This area is sloping down toward Palolo Stream and is relatively unusable for organized sports because of the slope. Cut from the area above near the Palolo Valley District Park's pool area for the second detention area can be used to fill and level off this area. A small perimeter retaining wall for flood detention can beautify the boundary. This area would flood only if a 100-year storm hit. Again, the area would be enhanced for the school and community because this area could be used by organized sports. Maybe a small softball field.

10. TMK: 330010050000 (Exhibit B-20) is the concrete lined trapezoidal channel. This area is prime for a detention basin and a dam can be built under the St. Louis Drive bridge. What makes this area prime is the height potential of the dam and the large area behind it to hold water goes all the way back to St. Louis School. Waialae Avenue and most of the adjacent areas that dump storm water into the channel are an estimated 40-50 feet above the channel elevation and backflow issues should not exist.

11. We believe a major flaw in the concept of the Ala Wai Canal Project is that the Ala Wai Canal is treated as a reservoir. The point and time of concentration basically starts and ends at the Ala Wai Canal thus the Ala Wai Canal fills up like a bath tub and without any slope the flowrate is an issue. An analogy would be similar to our freeway mess. We got a bunch of cars that need to get from Point A to Point B and the roadway has only so much capacity. We can (1) add more lanes to increase the capacity, (2) increase the speed limit, or (3) increase the time period available for travel. (1) We could add several

more lanes to handle the peak capacity at peak time but this may not be cost effective because for the most part of the day the lanes will be empty and unused. (2) We could increase the speed limit but terrain and design speeds of the roadway might dictate the maximum speeds and safety issues may arise. A combination of increased lanes and increased speeds may help satisfy the traffic at peak times. (3) Spread out or stretch out the traffic period. This is obtained by earlier and later starts. California has traffic signals on their freeway onramps to dictate the flow of traffic. If government workers would all start and finish work earlier it might make a difference on the peak times. If schools started later it might make a difference in the peak times.

The problem with the Ala Wai Canal Project concept is mainly detention methods are considered to control the peak flow, peak volume at the critical time at the Ala Wai Canal. Certain areas of certain sub watersheds can be accelerated to beat the critical peak volume at the Ala Wai Canal. The Waikiki subwatershed as an example should totally bypass the Ala Wai Canal in time of flood. Why dump the storm water into the Ala Wai Canal when the threat is of the Ala Wai Canal overflowing. Waikiki is right next to the ocean and that's the ultimate place you want the storm water to end up. Why not pump the storm drainage from Waikiki directly into the ocean and bypass the Ala Wai Canal. It can be pumped or gravity flowed straight into the ocean off shore. If necessary it can be pumped through pipes in or under the Ala Wai Canal out into the ocean near the Ala Wai Boat Harbor or wherever is far enough so that it doesn't backflow into the Ala Wai Canal. It can be pumped to an emergency spillway through Fort Derussey or Kapiolani Park and have a designated low ground pathway to the ocean similar to a large sheet flow of low velocity to minimize erosion.

12. New Orleans is protected by a large number of high capacity pumps. One pump can empty an Olympic swimming pool in 30 seconds. Again, since the Ala Wai Canal is treated like a reservoir the major problem is getting the storm water out of the canal so the best solution is to beat the critical flow, critical volume, and critical time by bypassing the Ala Wai Canal by pumping excess volume through pipes and conduits directly to the ocean. Pipes and conduits could be placed in the Ala Wai Canal similar to how the temporary force sewer main was put in the Ala Wai Canal. The velocity and volume per area of pipe can be extremely higher because it will be pushed or forced out to the ocean rather than relying on gravity flow of the Ala Wai Canal which is almost zero. Pumping storm water straight to the ocean will not be greatly affected by the ocean tide while relying on gravity flow in the Ala Wai Canal can greatly be impacted by the tides height or tidal surge in a hurricane storm.

13. TMK: 330010050000 (Exhibit B-20) the concrete lined trapezoidal channel behind the City Mill. Storm water can be collected or detained at the St. Louis Drive Detention Basin which we think is about 30-40 feet above sea level and can be filled much higher to get a head or pressure. Much like a drinking water reservoir the storm water can under normal gravity flow be forced through pipes and conduit bypassing the Ala Wai Canal and straight into the ocean past the Ala Wai Boat Harbor. This would also be a way of moving water in front of the critical time and volume out of the canal. The pipes or conduits can be pump assisted if friction or drag is too great or if higher velocities are

required. Screening of debris and safety measures would need to be implemented at the inlets. A similar plan can be used on the Manoa Stream and water can be collected near the University of Hawaii above the East West Center.

14. TMK: 280280360000 (Exhibit B-26) are concrete lined rectangle channels and (Exhibit B-27) which includes the merger of the Palolo Stream and Manoa Streams and includes the Old Waialae Road Bridge, King Street Bridge, and Kapiolani Bridge . If there is excess flow capacity in the channel it can be used for storage. The area is government owned so if the capacity of the channel can be expanded if necessary. This area under and around the bridges are pretty massive and can hold large volumes of stormwater. They can be expanded if necessary and are high enough to build up head pressure to capture storm water and pipe it under pressure out to the ocean and bypass the Ala Wai Canal.

15. TMK: 270240010000 (Exhibit B-28) is Kaimuki High School. The athletic field areas can be used as an added detention area much like the Ala Wai Golf Course is being used. Rather than pushing the detention areas upstream into Palolo Valley on privately owned properties. Large government owned land with areas as like these should be considered first. A more elaborate option for the athletic field area would be to excavate and have underground flood storage detention area with the athletic fields above. Storage could also be above the stream level if overflow waters are captured upstream like the "auwai".

16. TMK: 270240000000 (Exhibit B-29) this is the Manoa Stream area adjacent to Kaimuki High School. This area can be expanded and used as a detention basin in conjunction to the Kaimuki High School athletic fields. This area is long and very level and is more ideal for a location for a silt collection basin before entering the Ala Wai Canal.

17. TMK: 270360010000 (Exhibit B-30) is of the Ala Wai Park and baseball fields. What we don't understand is why the Ala Wai Canal Project includes using only a smaller portion of the Ala Wai Park for the Hausten Detention Ditch. We believe this should be expanded to include the additional two baseball field areas of the park and if done may decrease the need for upstream detention basins in Palolo Valley.

18. We an option could be an Ala Wai Canal emergency spillway. This could be though high capacity pumps as mentioned in above or could be natural gravity flow through Fort Derussey and Kapiolani Park. If pumped at the far end of the Ala Wai Canal, it could either go straight out to walls or be pumped to Kapiolani Park and exit near the War Memorial Natatorium. If by natural flow, a sheet flow that could possible exit between Queens Surf Beach and the Waikiki Aquarium which is walled and beachless there by minimizing the beach sand erosion concern.

19. We believe an option would be to segregate the stormwater generated from the Waikiki subwatershed (W1,W2,W3) and bypass the Ala Wai Canal and go straight to the ocean.

20. We believe an option would be to segregate the stormwater generated from the upper Kaimuki area subwatersheds (A6, JA1, A6, A7) and bypass the Ala Wai Canal andgo straight to the ocean.

While our proposed alternatives are not engineered and not thoroughly evaluated for feasibility and cost, we spent a hell of a lot of time going through all of documents on the Ala Wai Canal Project's website to get up to speed on what was going on, what the problems were, and what solutions were being proposed. We drove around the whole Ala Wai Canal Project's watershed looking at the critical areas and most of site locations for the proposed alternatives. We also walked several areas that thought might be suitable for detention basin within the watershed looking for viable alternatives instead of our personally owned property located at 2532 Waiomao Road. So, we hope you will give each one of our proposed ideas, suggestions, and alternatives enough thought and evaluation based on its merit and given application(s) as ligitimate flood mitigation measures.

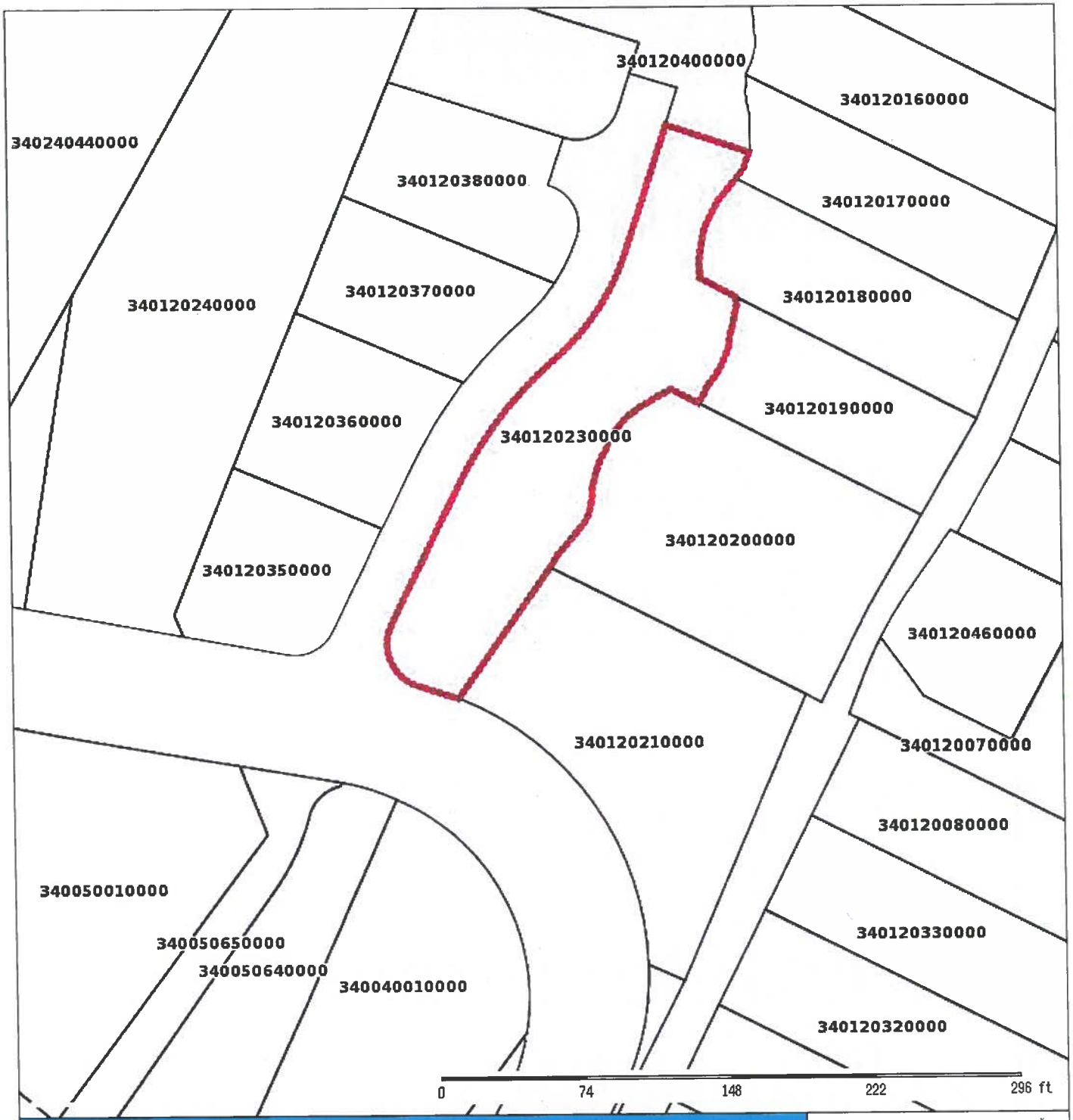
Ultimately, we hope a better solution can be found in place of place of the Waiomao Detention Basin. We humbly request that you take out of consideration the use of our privately owned property located at 2532 Waiomao Road for use as a detention basin.

Very truly yours,

Dave and Nola Watase

Attachments: Exhibits "A-1 to A-30"
Exhibits "B-1 to B-30"

Cc: Gayson Ching, DLNR
Derek Chow, USACE
Ann H. Kobayashi, Honolulu City Council
Calvin Say, State of Hawaii Representative
Les Ihara, State of Hawaii, Senate



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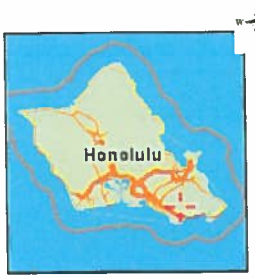
Sale:		Exempt Value:	434800
Mail:	Exhibit A-1	Taxable Value:	0



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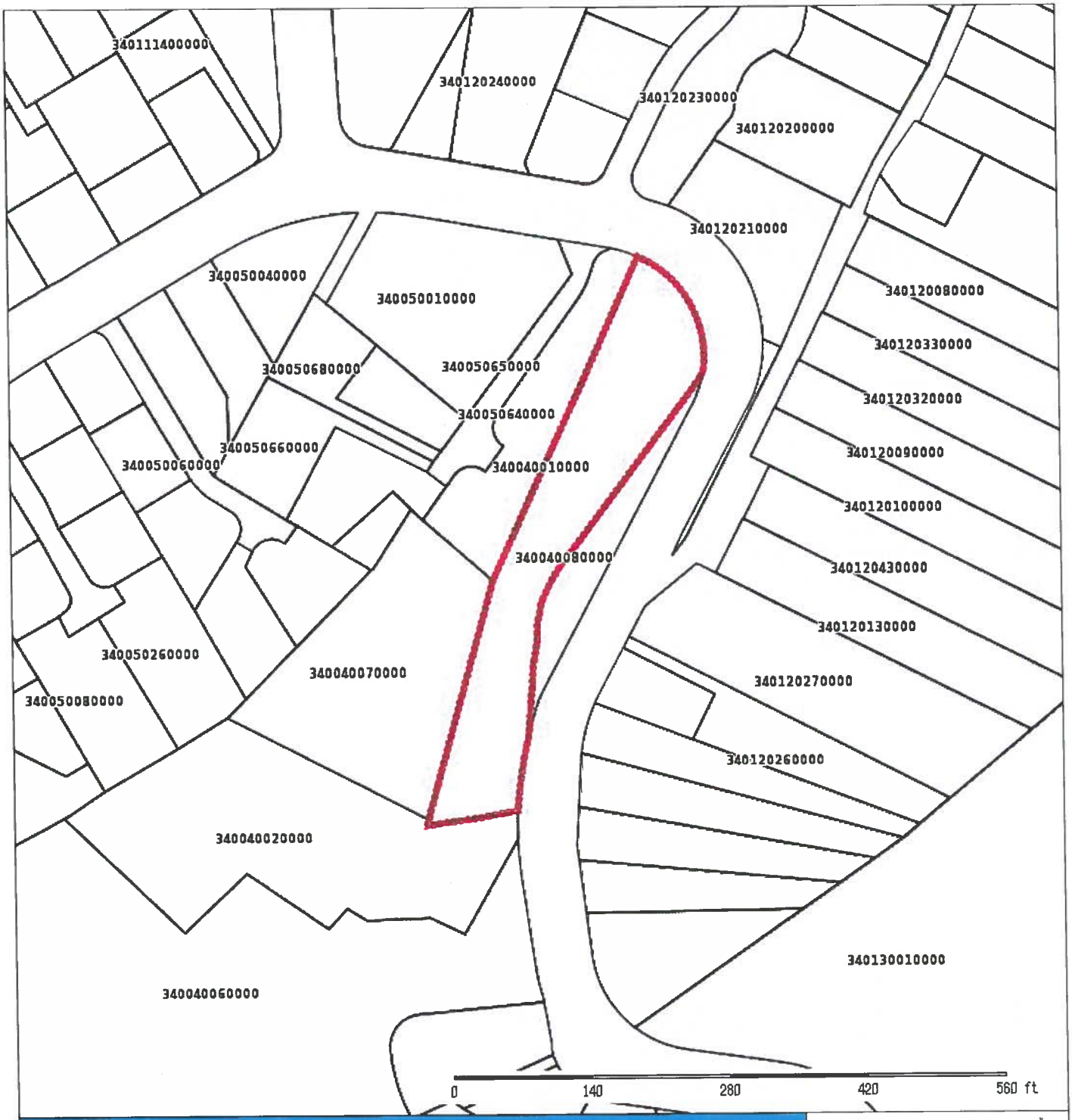
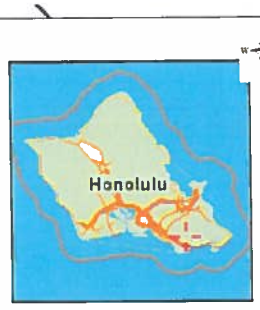


Honolulu County Assessor			
Parcel: 340040010000 Acres: 0.7473			
Name:	STATE OF HAWAII	Land Value:	86400
Site:	2546 10TH AVE	Building Value:	0
Sale:		Exempt Value:	0
Mail:	Exhibit A-2	Taxable Value:	86400



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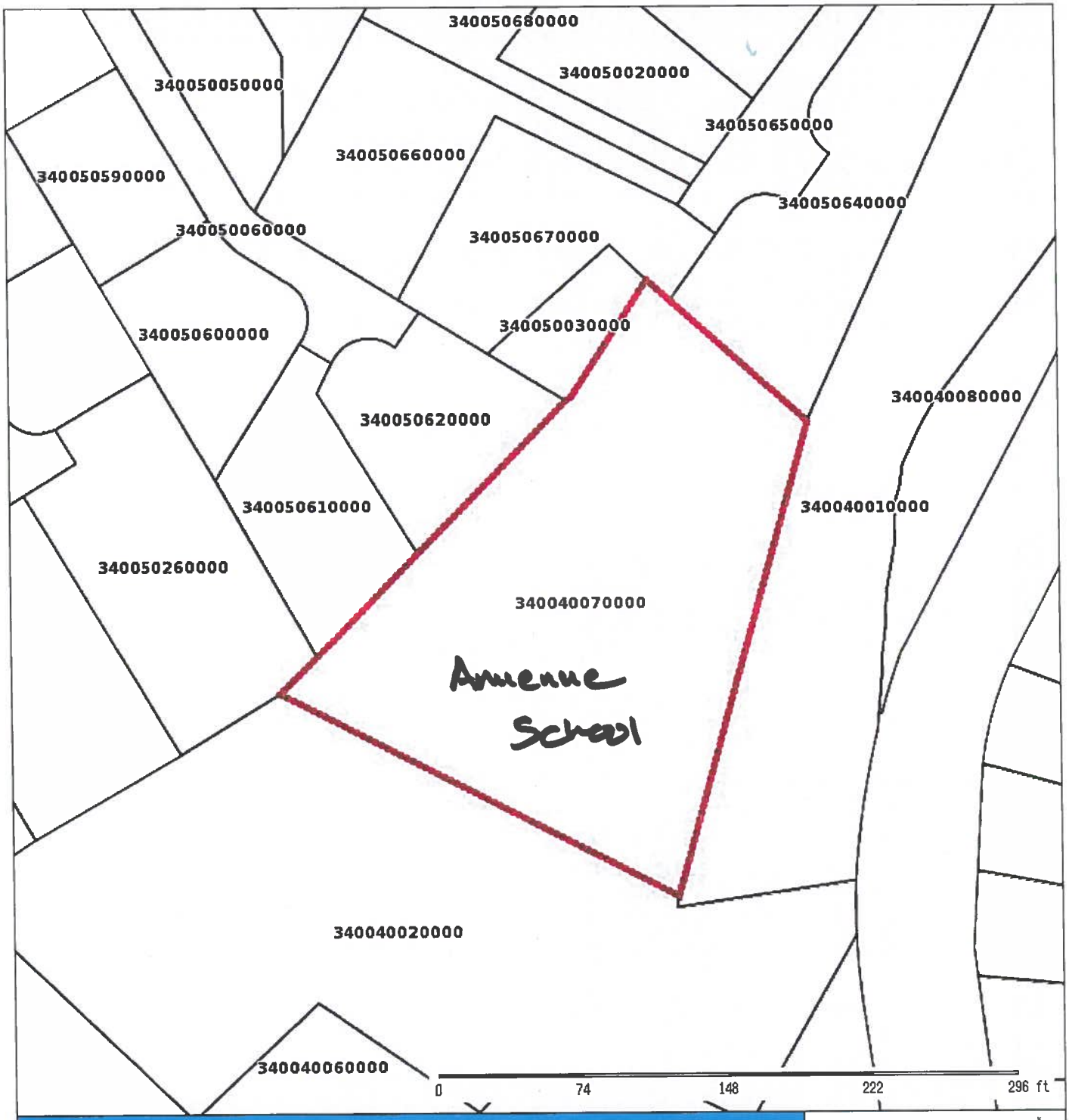

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Site:	10TH AVE	Building Value:	0
Sale:		Exempt Value:	983500
Mail:	Exhibit A-3	Taxable Value:	0

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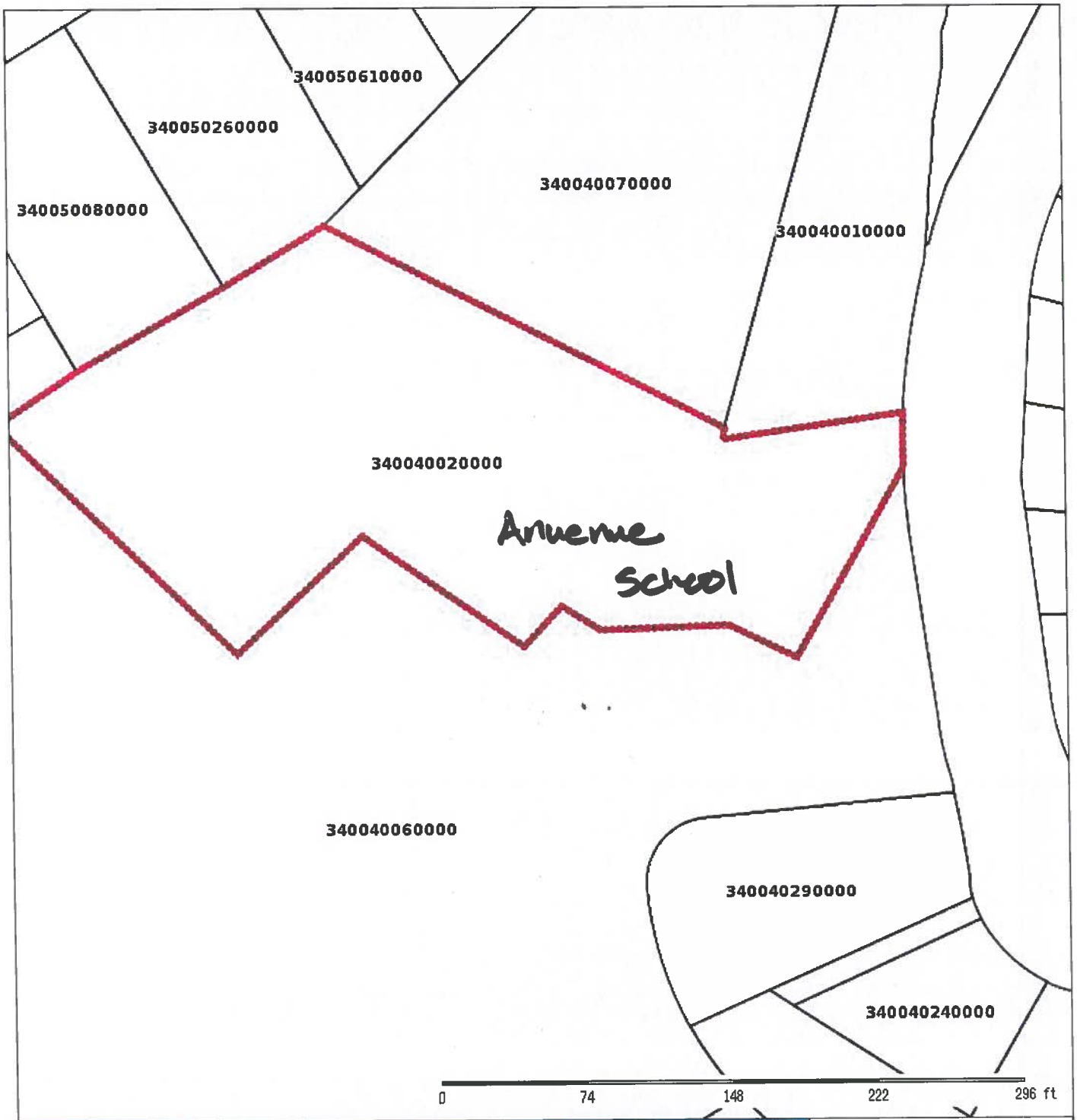

Honolulu County Assessor			
Parcel: 340040020000 Acres: 1.0969			
Name:	DEPARTMENT OF EDUCATION	Land Value:	1213900
Site:	2542 10TH AVE	Building Value:	84800
Sale:		Exempt Value:	1298700
Mail:	Exhibit A-4	Taxable Value:	0

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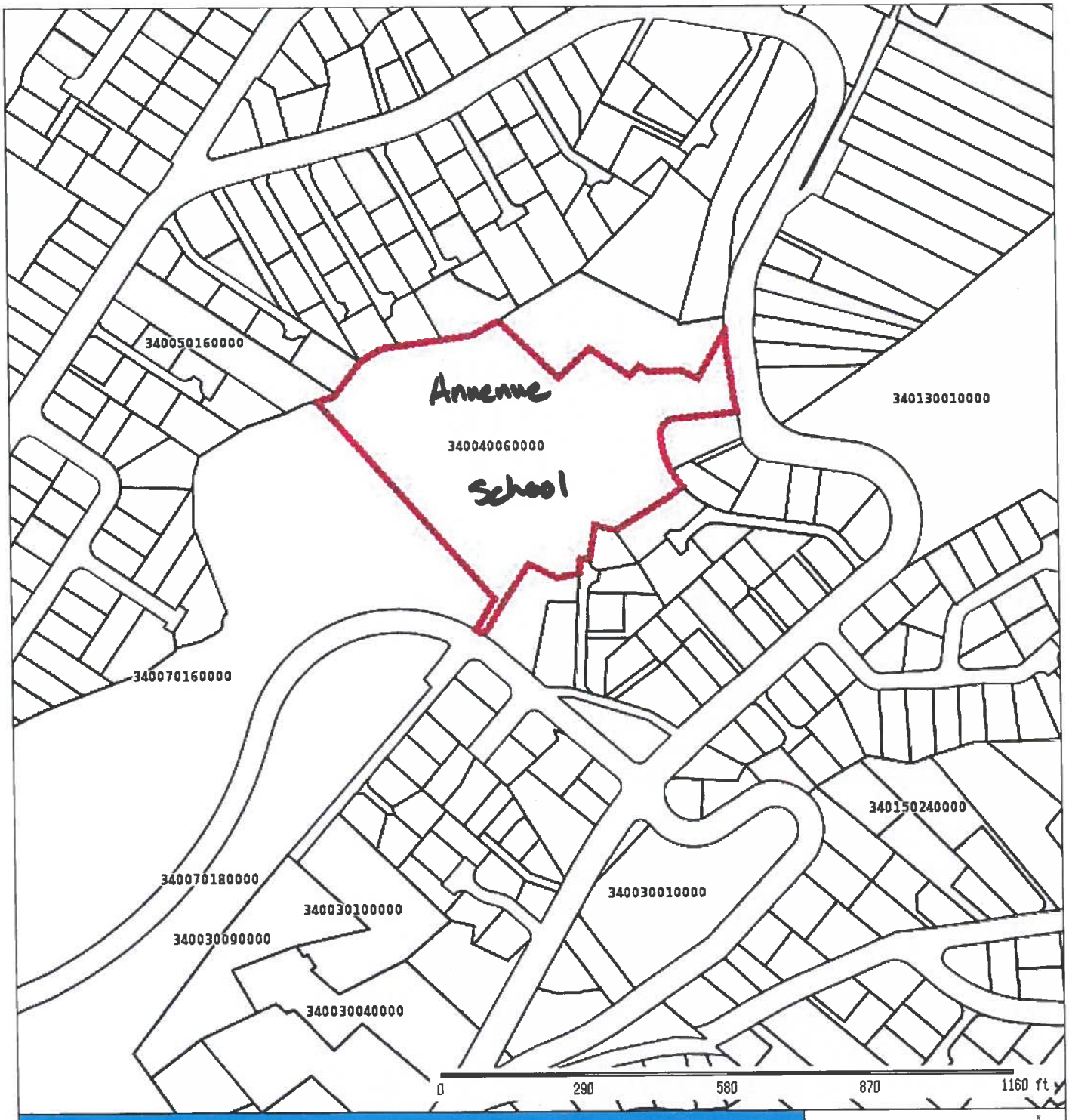
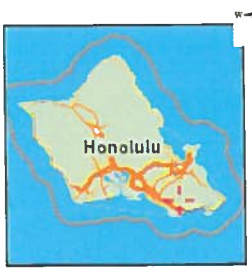


Honolulu County Assessor

Parcel: 340040060000 Acres: 5.2092

Name:	CITY AND COUNTY OF HONOLULU	Land Value:	5303400
Site:	2528 10TH AVE	Building Value:	752800
Sale:		Exempt Value:	6056200
Mail:	Exhibit A-5	Taxable Value:	0



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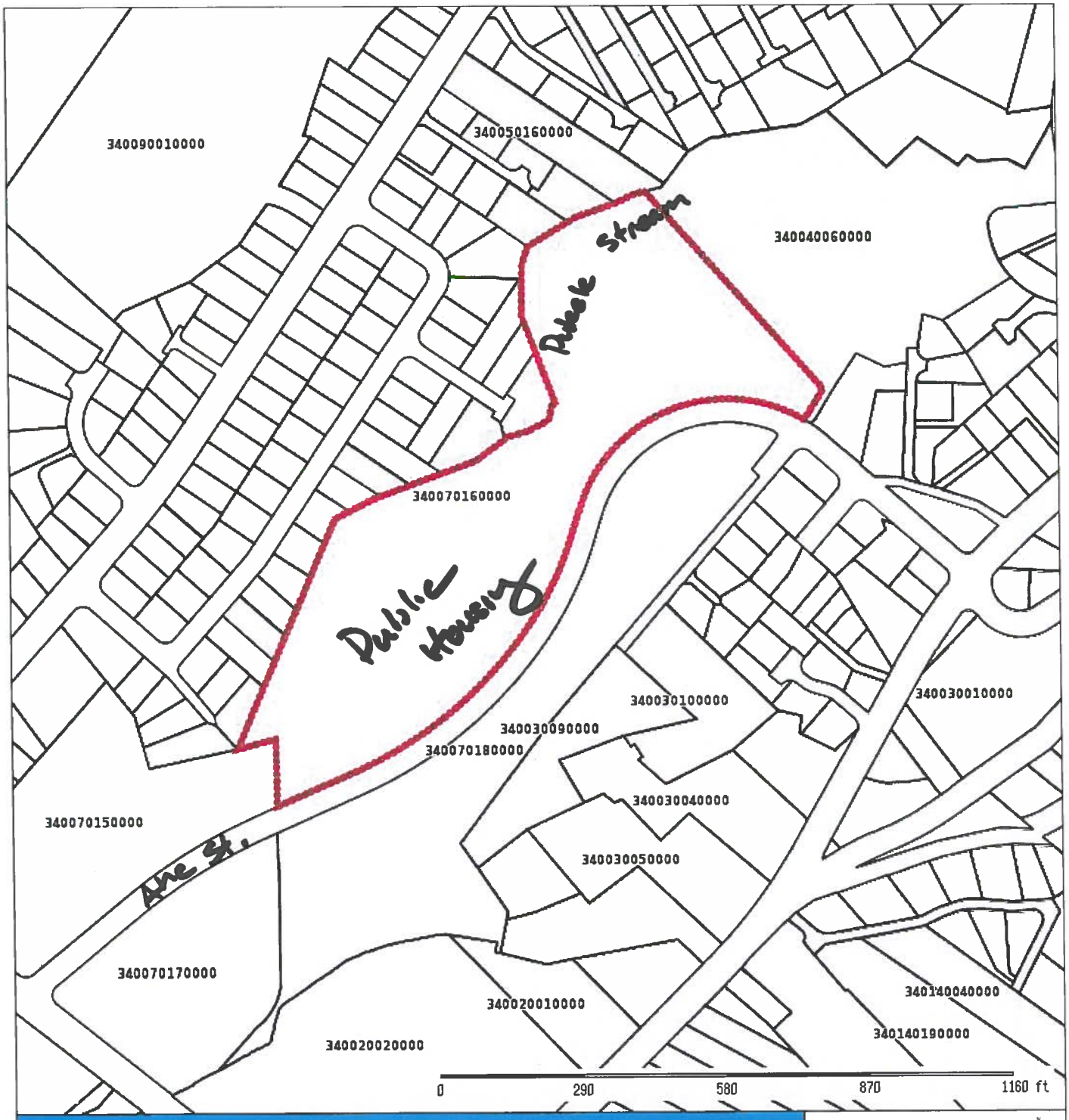
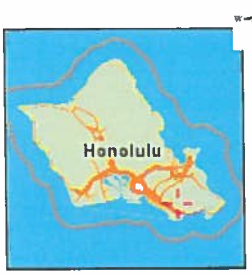


Honolulu County Assessor			
Parcel: 340070160000 Acres: 9.114			
Name:	HAWAII PUBLIC HOUSING AUTHORITY	Land Value:	3919000
Site:	2108 AHE ST	Building Value:	1500000
Sale:	$3997500 on 2002-03-04 Reason=1 Qual=	Exempt Value:	5419000
Mail:	Exhibit A-6	Taxable Value:	0



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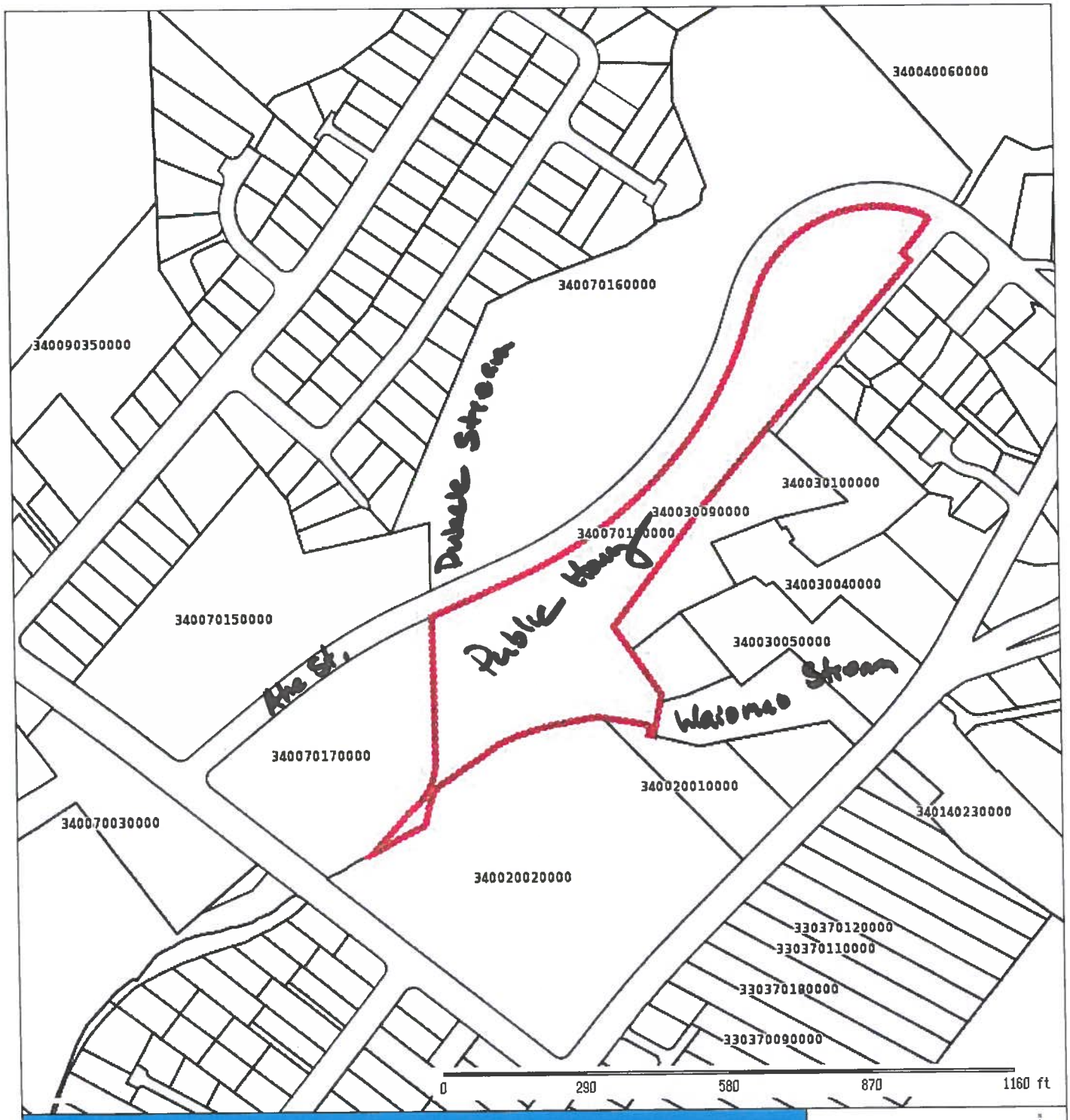
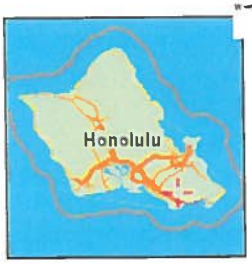


Honolulu County Assessor			
Parcel: 340070180000 Acres: 5.459			
Name:	HAWAII PUBLIC HOUSING AUTHORITY	Land Value:	2347400
Site:	2232 AHE PL	Building Value:	1500000
Sale:	$3997500 on 2002-03-04 Reason=1 Qual=	Exempt Value:	3847400
Mail:	Exhibit A-7	Taxable Value:	0



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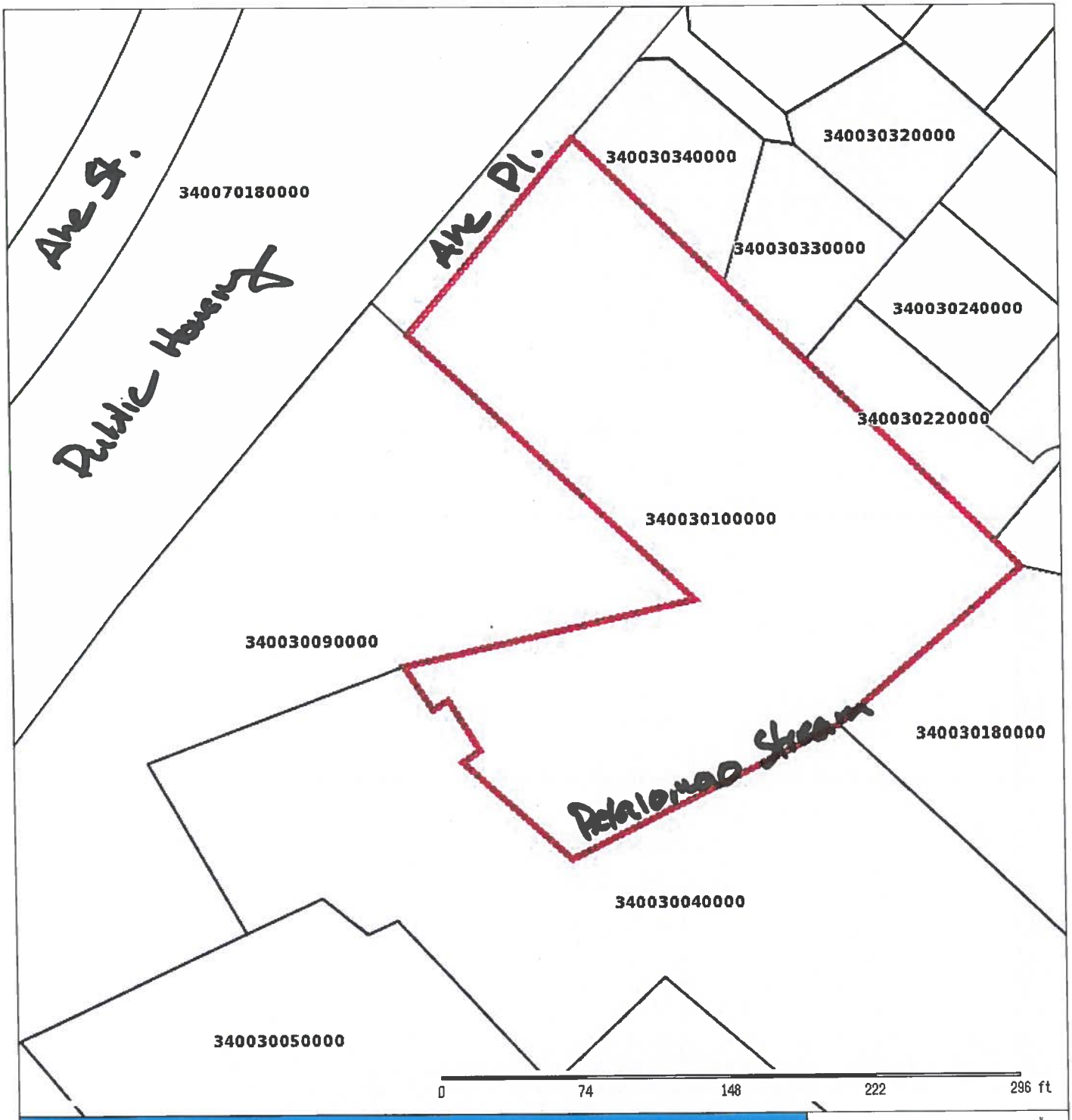

Honolulu County Assessor			
Parcel: 340030100000 Acres: 1.08			
Name:	STATE OF HAWAII	Land Value:	245700
Site:	2203 AHE PL	Building Value:	182500
Sale:		Exempt Value:	80000
Mail:	Exhibit A-8	Taxable Value:	348200

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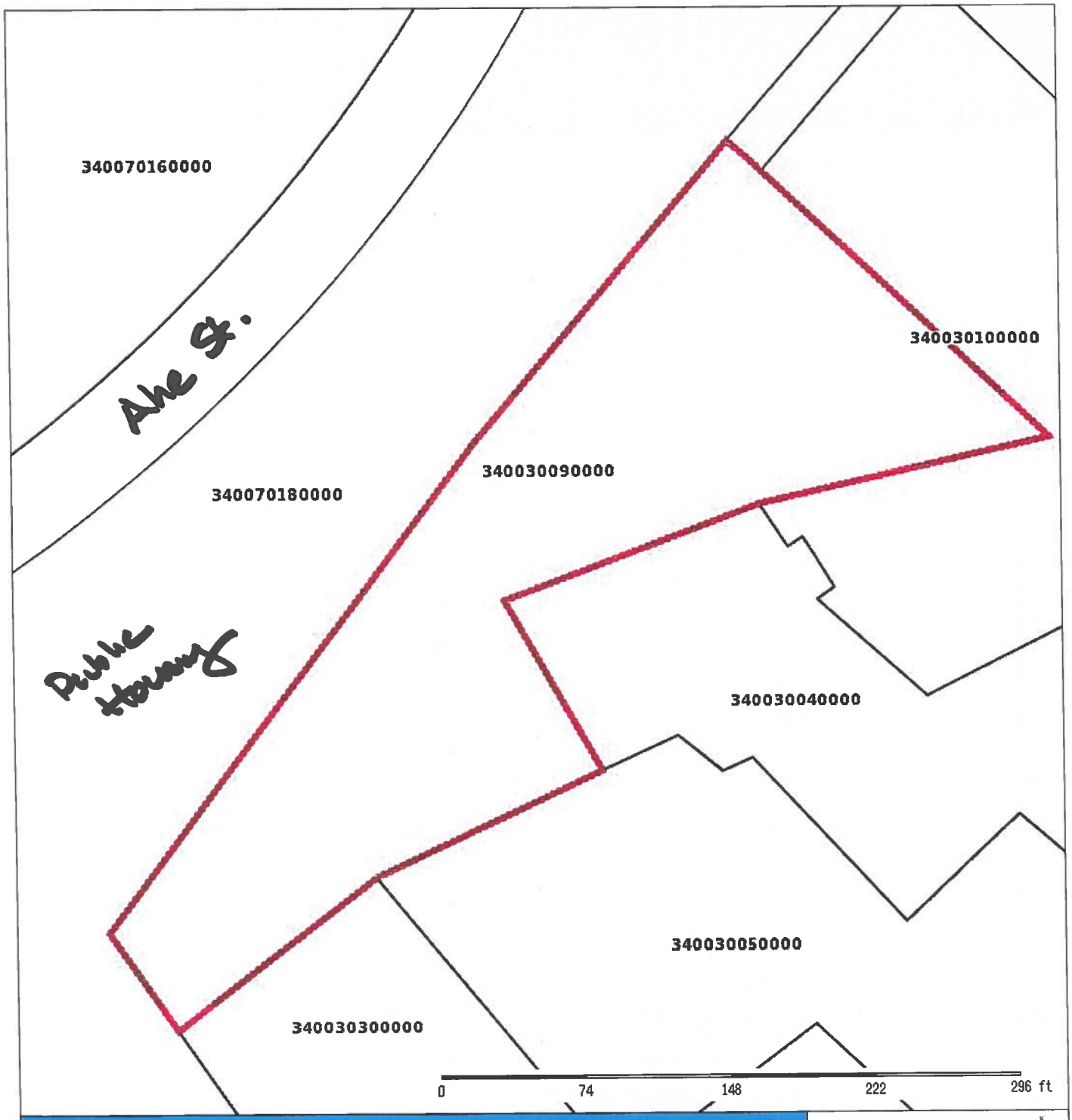

Honolulu County Assessor			
Parcel: 340030090000 Acres: 1.183			
Name:	STATE OF HAWAII	Land Value:	257300
Site:	2201 AHE PL	Building Value:	75600
Sale:		Exempt Value:	120000
Mail:	Exhibit A-9	Taxable Value:	212900

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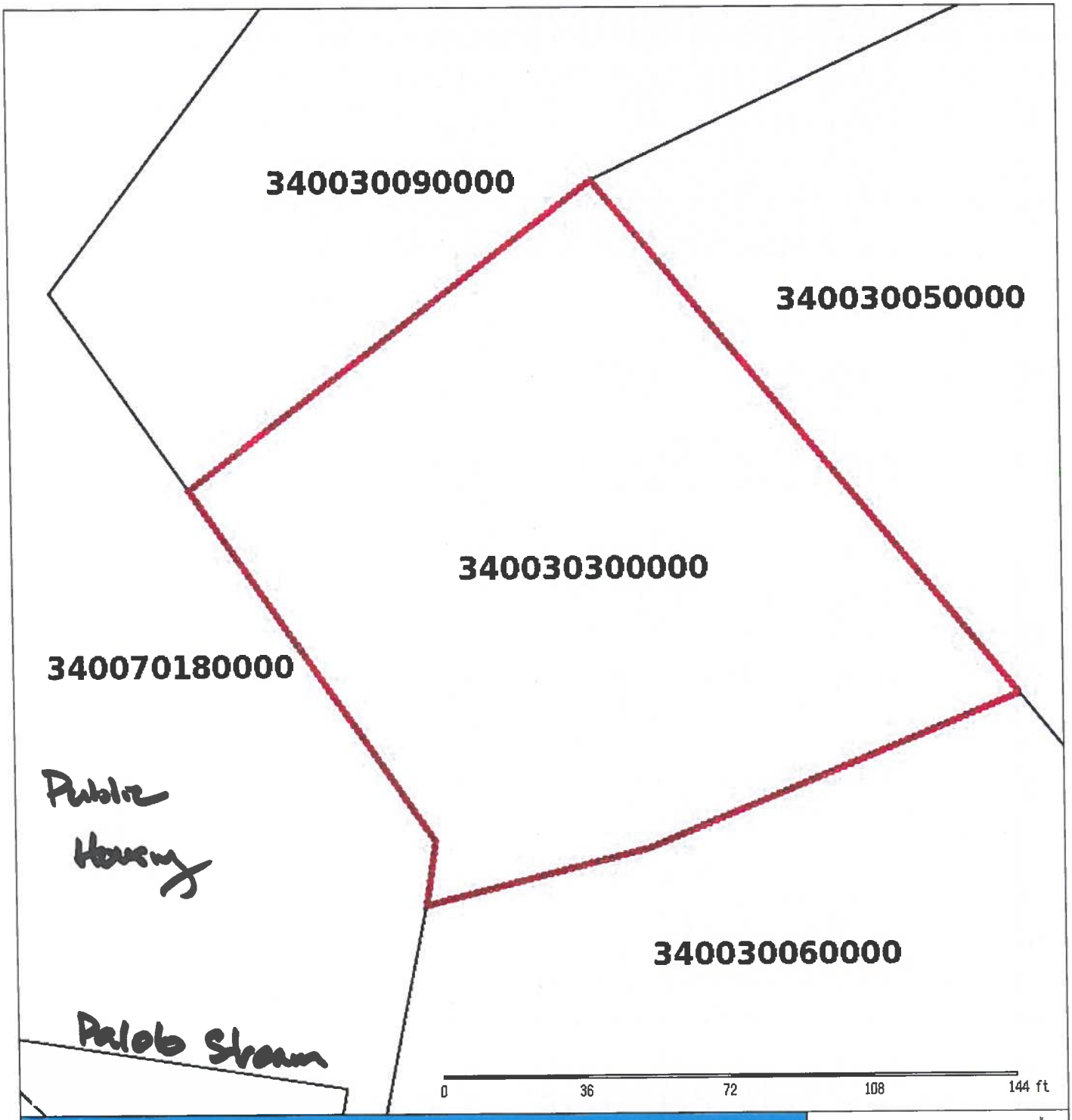
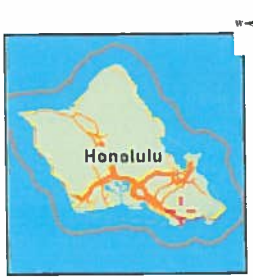


Honolulu County Assessor			
Parcel: 340030300000 Acres: 0.396			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	112600
Site:	POOKELA ST	Building Value:	0
Sale:		Exempt Value:	112600
Mail:	Exhibit A-10	Taxable Value:	0



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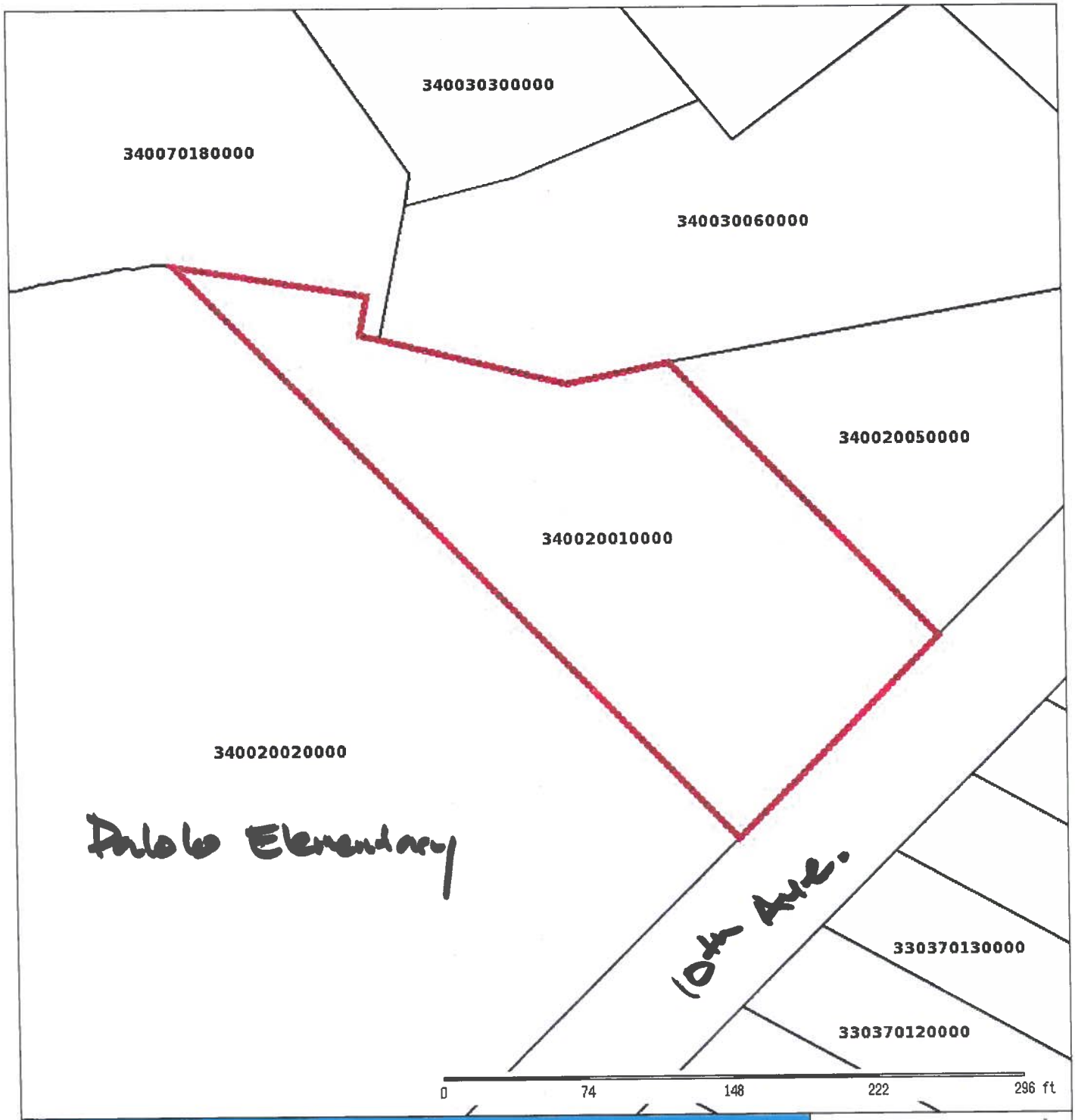

Honolulu County Assessor			
Parcel: 340020010000 Acres: 0.812			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	928500
Site:	2106 10TH AVE	Building Value:	0
Sale:		Exempt Value:	928500
Mail:	Exhibit A-11	Taxable Value:	0

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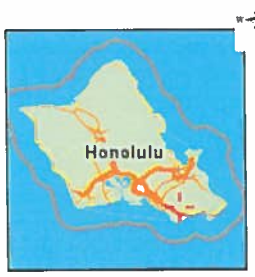
Honolulu County Assessor			
Parcel: 340020020000 Acres: 6.213			
Name:	DEPARTMENT OF EDUCATION	Land Value:	3106500
Site:	2106 10TH AVE	Building Value:	735900
Sale:		Exempt Value:	3842400
Mail:	Exhibit A-12	Taxable Value:	0



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Honolulu County Assessor			
Parcel: 340070170000 Acres: 2.747			
Name:	HAWAII PUBLIC HOUSING AUTHORITY	Land Value:	1181200
Site:	2232 AHE PL	Building Value:	1000000
Sale:		Exempt Value:	2181200
Mail:	Exhibit A-13	Taxable Value:	0

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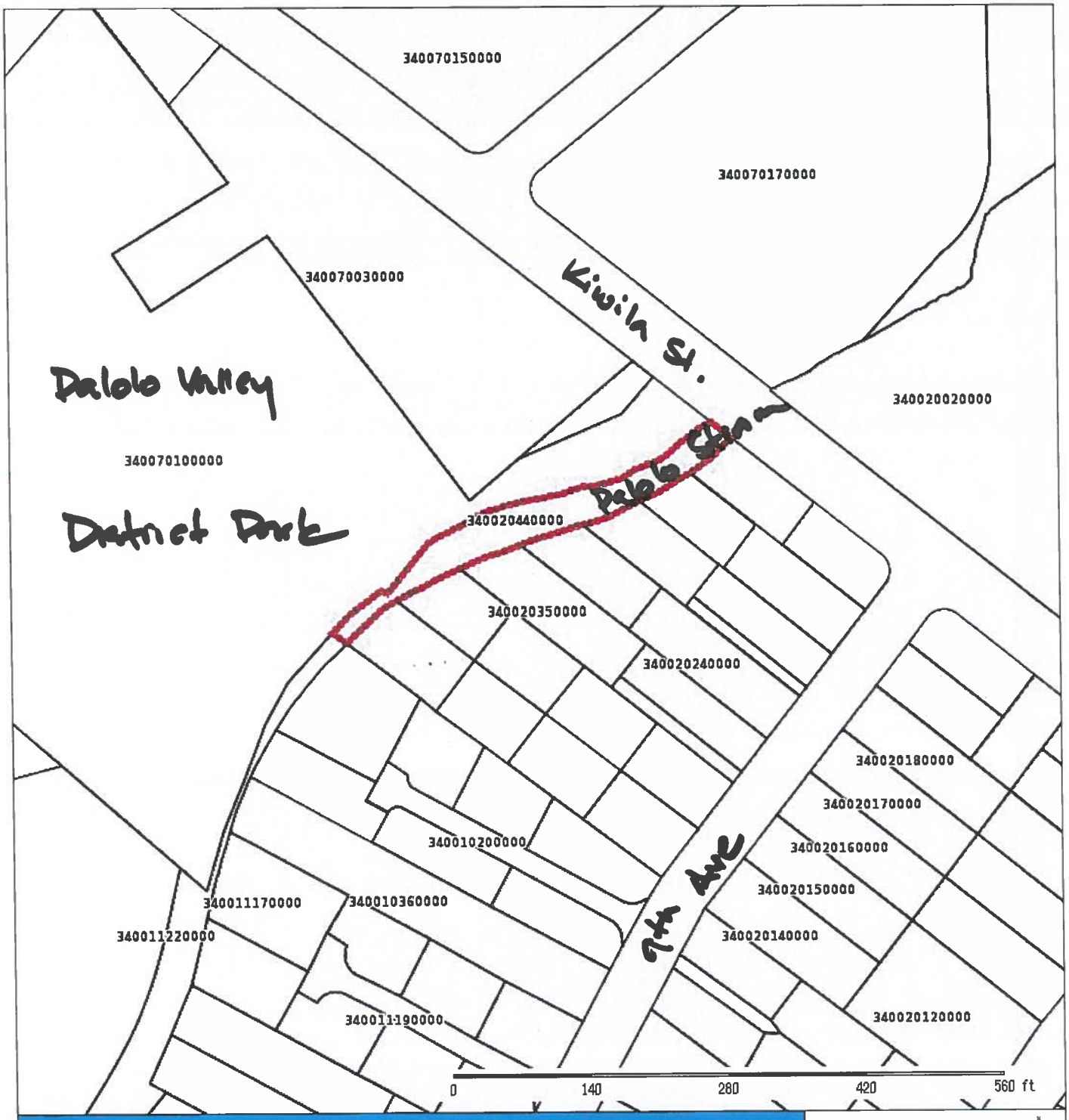

Honolulu County Assessor			
Parcel: 340020440000 Acres: 0.2687			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	KIWILA ST	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-14	Taxable Value:	0

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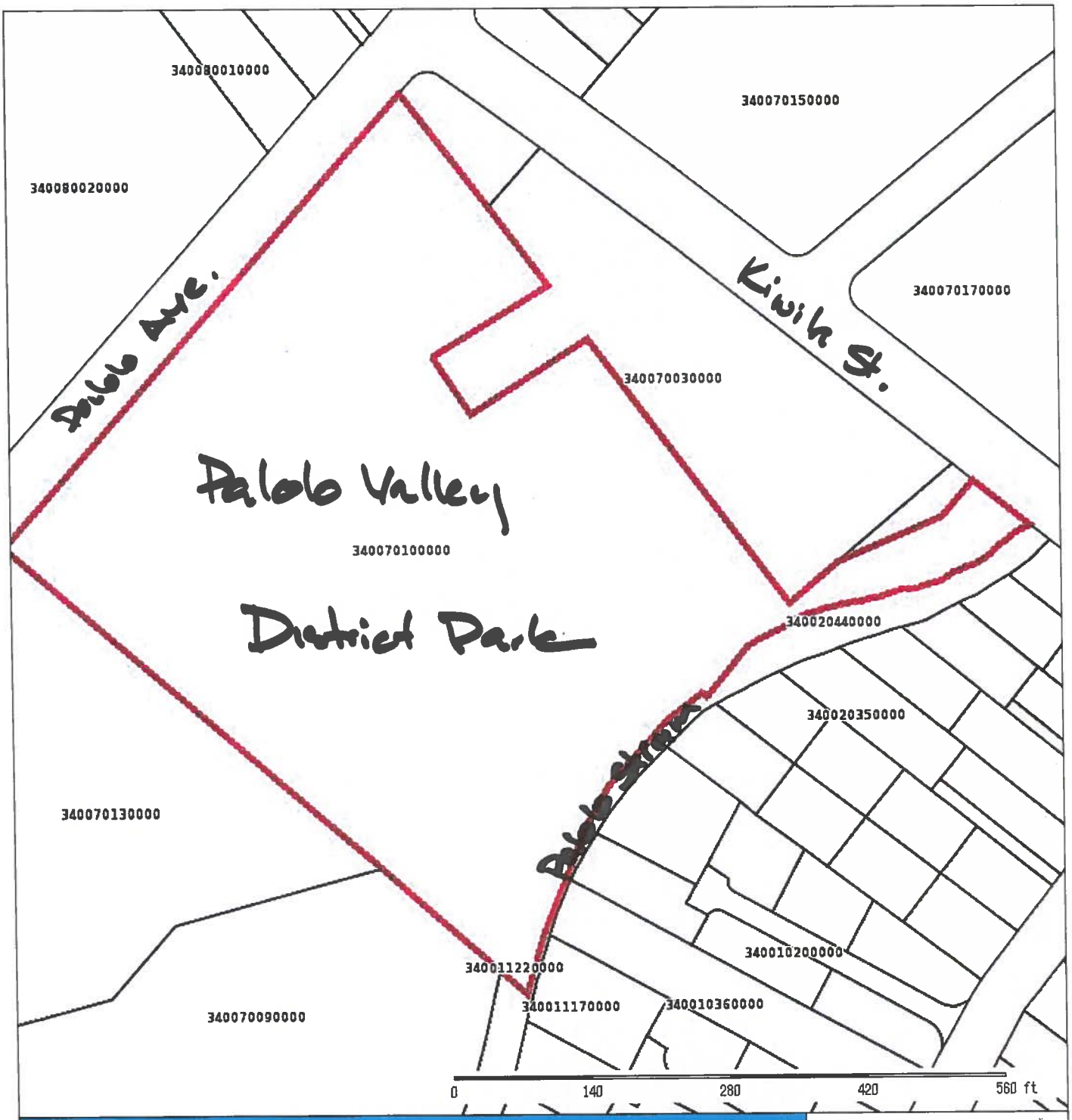

Honolulu County Assessor			
Parcel: 340070100000 Acres: 6.9			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	2443100
Site:	PALOLO AVE	Building Value:	1651300
Sale:		Exempt Value:	4094400
Mail:	Exhibit A-15	Taxable Value:	0

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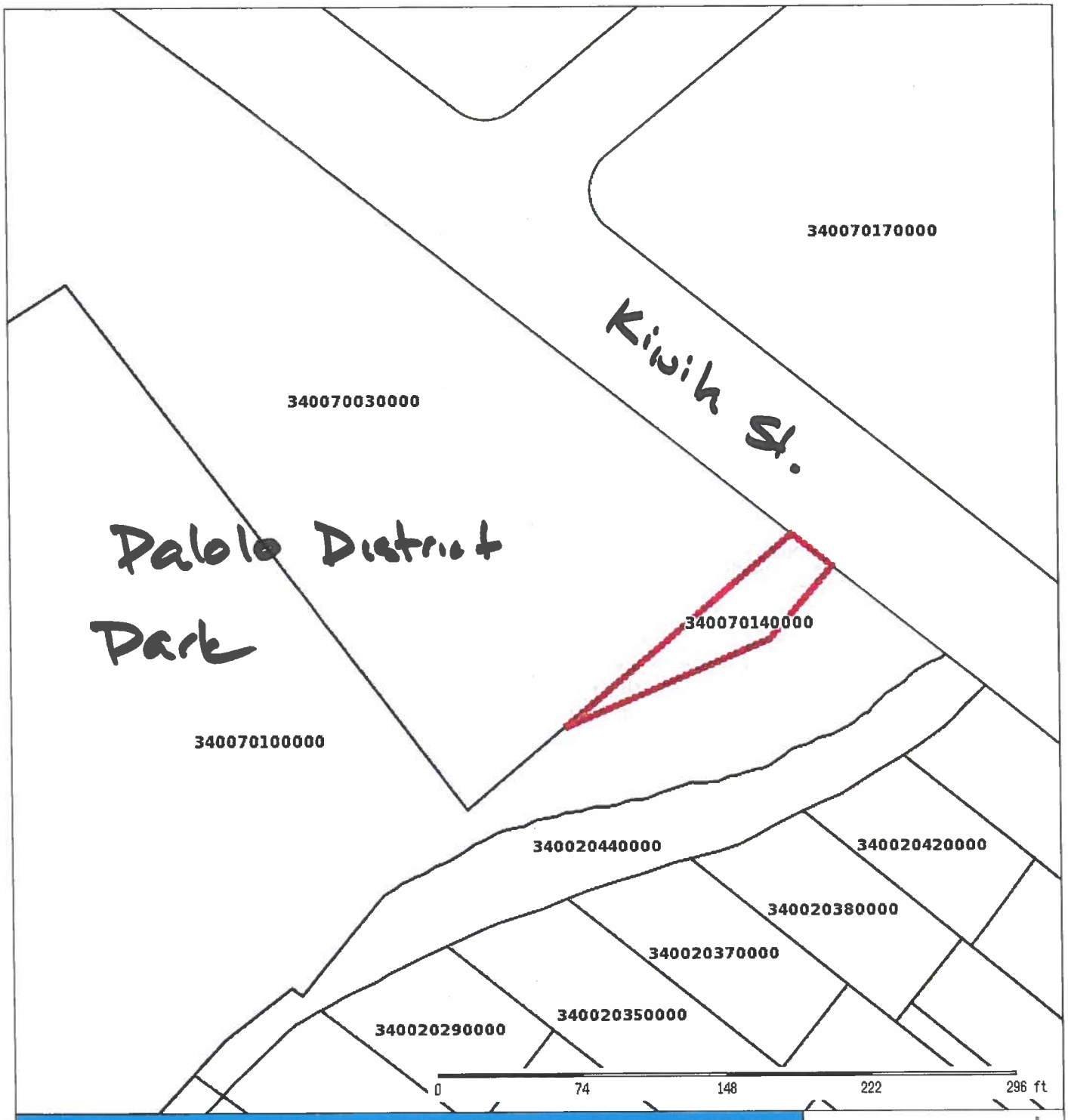
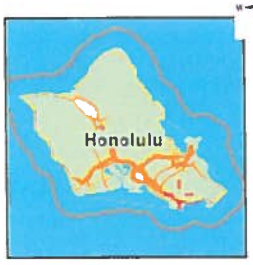


Honolulu County Assessor

Parcel: 340070140000 Acres: 0.062

Name:	STATE OF HAWAII	Land Value:	24600
Site:	PALOLO AVE	Building Value:	0
Sale:		Exempt Value:	24600
Mail:	Exhibit A-16	Taxable Value:	0



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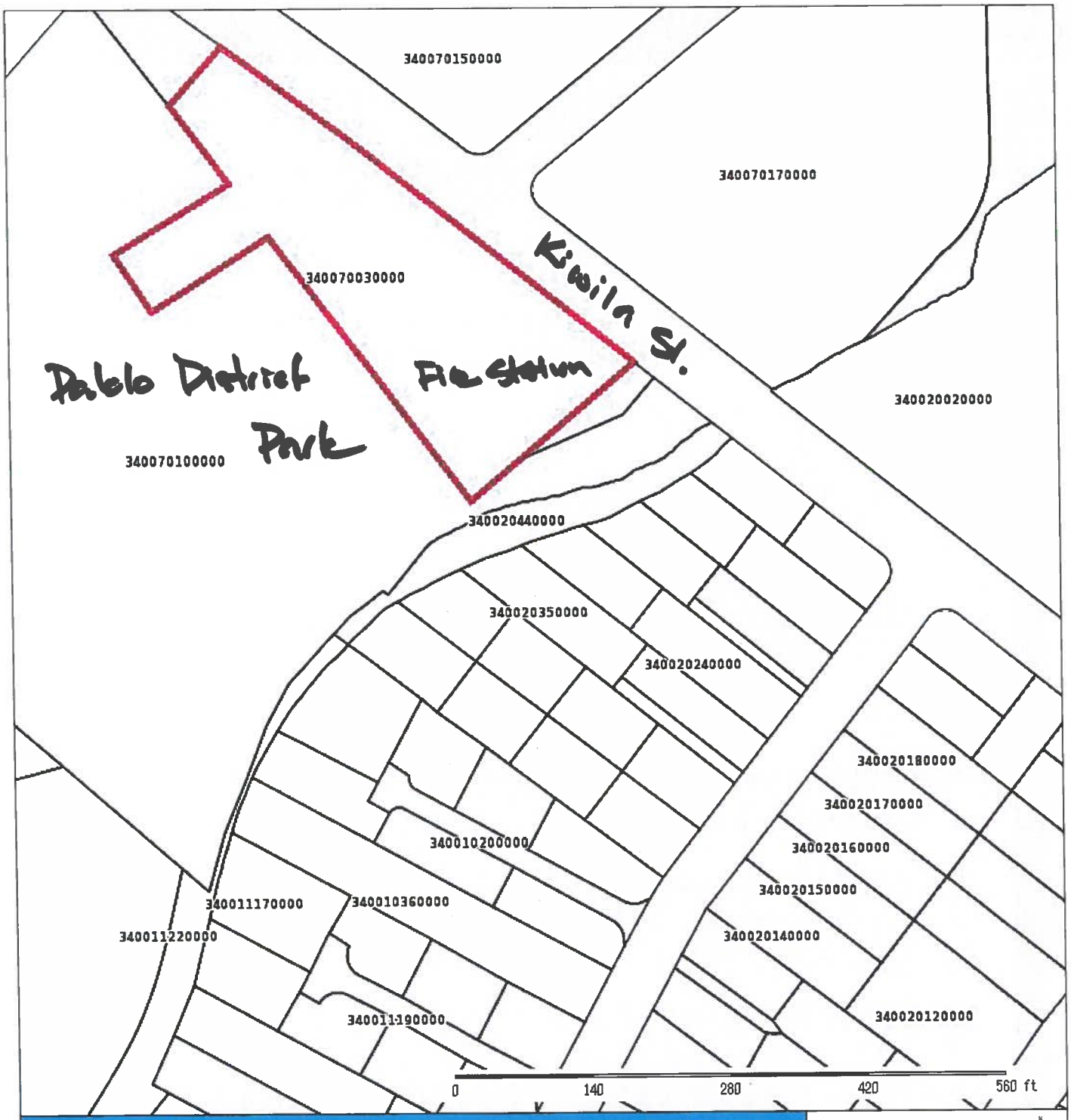

Honolulu County Assessor

Parcel: 340070030000 Acres: 1.747

Name:	CITY AND COUNTY OF HONOLULU	Land Value:	692800
Site:	3345 KIWILA ST	Building Value:	233300
Sale:		Exempt Value:	926100
Mail:	Exhibit A-17	Taxable Value:	0

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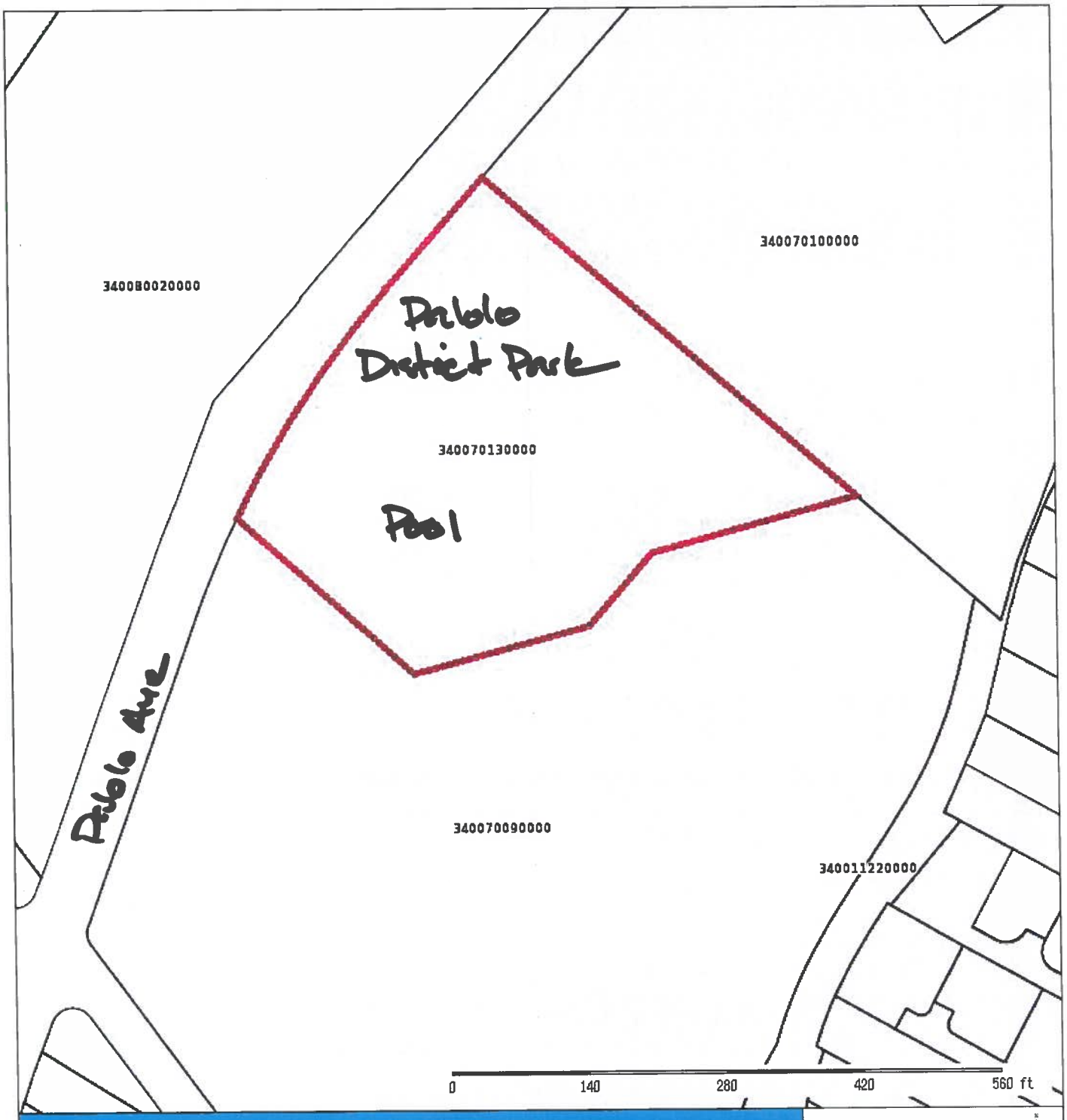
Date printed: 10/14/15 : 22:03:34



Honolulu County Assessor			
Parcel: 340070130000 Acres: 3.208			
Name:	STATE OF HAWAII	Land Value:	1142700
Site:	PALOLO AVE	Building Value:	0
Sale:		Exempt Value:	1142700
Mail:	Exhibit A-18	Taxable Value:	0

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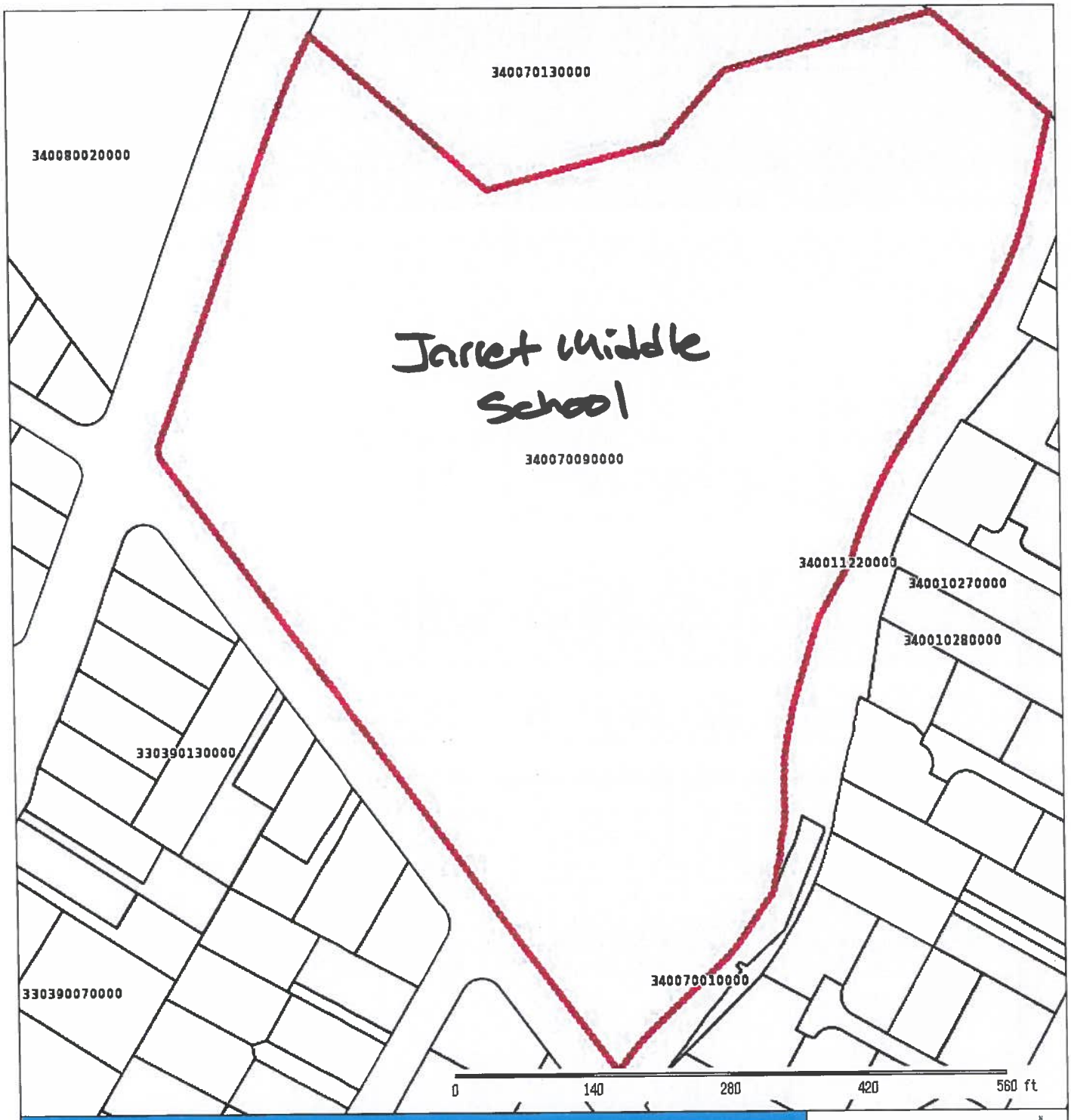
Date printed: 10/14/15 : 22:05:51



Honolulu County Assessor			
Parcel: 340070090000 Acres: 10.864			
Name:	DEPARTMENT OF EDUCATION	Land Value:	3903800
Site:	3360 KALUA RD	Building Value:	1837700
Sale:		Exempt Value:	5741500
Mail:	Exhibit A-19	Taxable Value:	0

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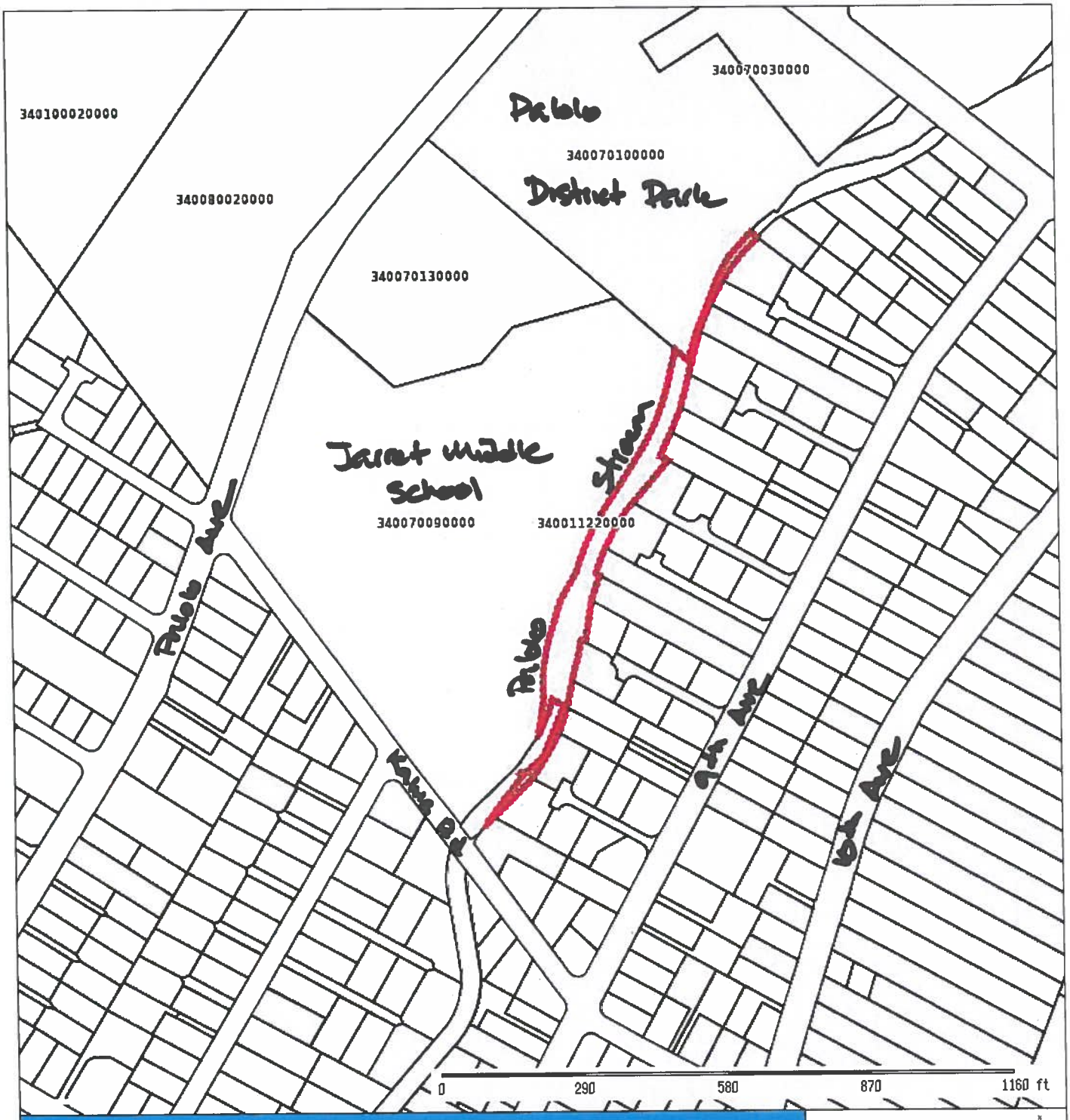
Date printed: 10/14/15 : 22:08:00



Honolulu County Assessor			
Parcel: 340011220000 Acres: 0.8435			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	9TH AVE	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-20	Taxable Value:	0

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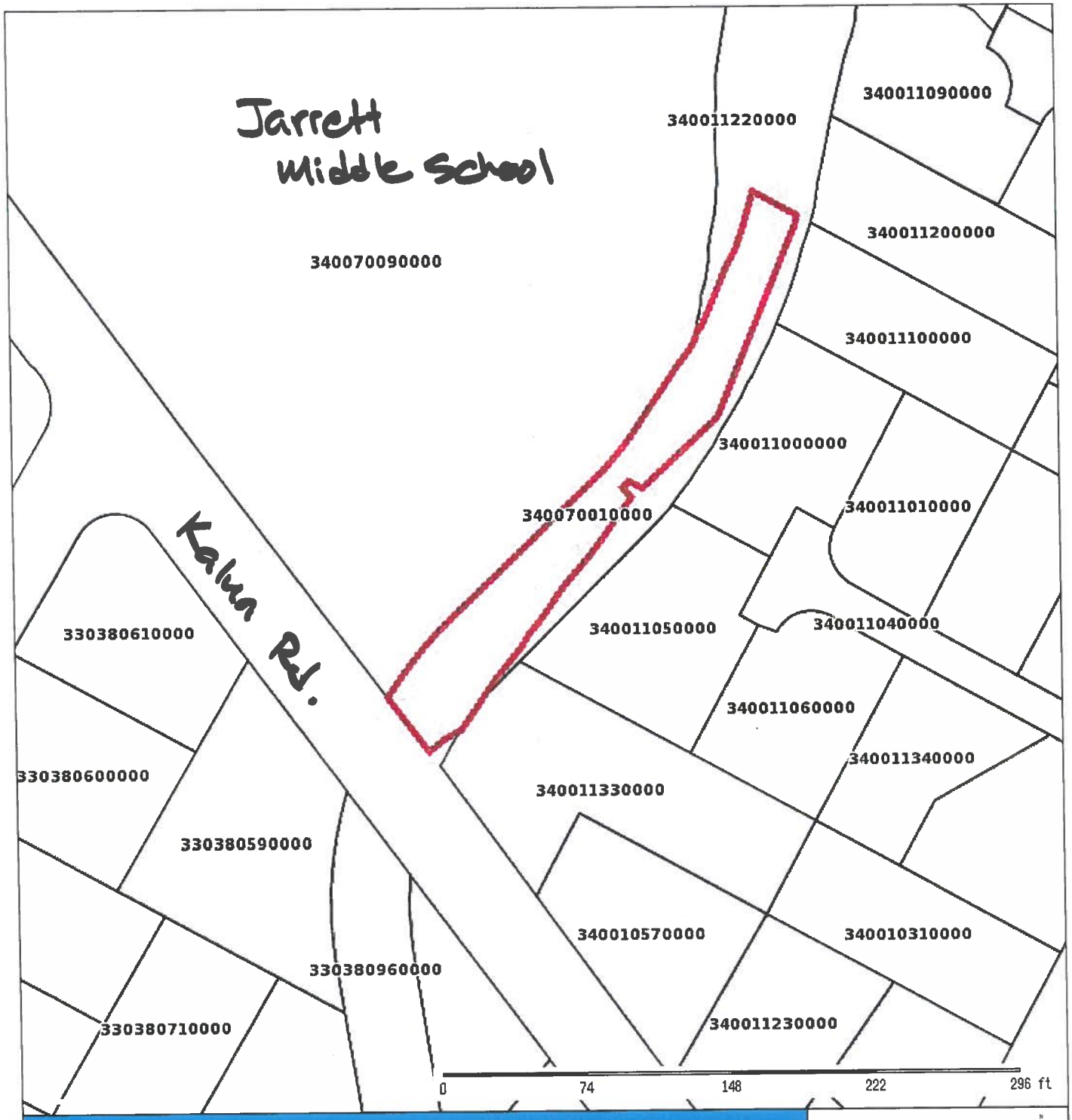
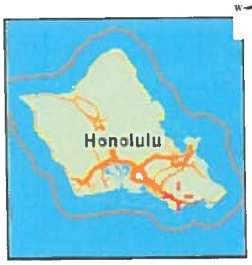
Date printed: 10/14/15 : 22:09:04



Honolulu County Assessor			
Parcel: 340070010000 Acres: 0.1108			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	KIWILA AT	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-21	Taxable Value:	0



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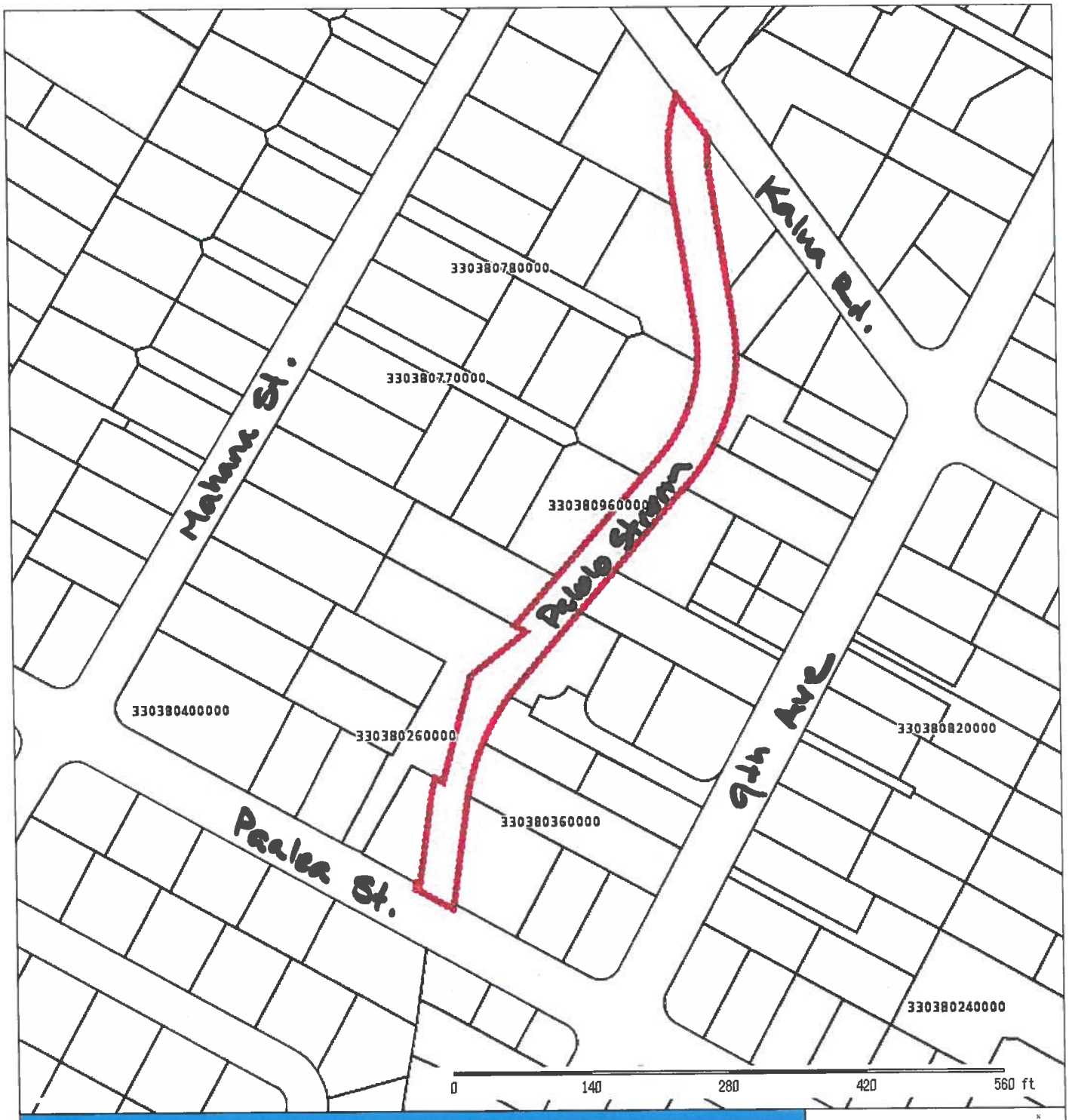
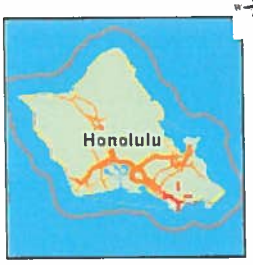
Date printed: 10/29/15 : 16:32:21



Honolulu County Assessor			
Parcel: 330380960000 Acres: 0.669			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	PAALEA ST	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-22	Taxable Value:	0



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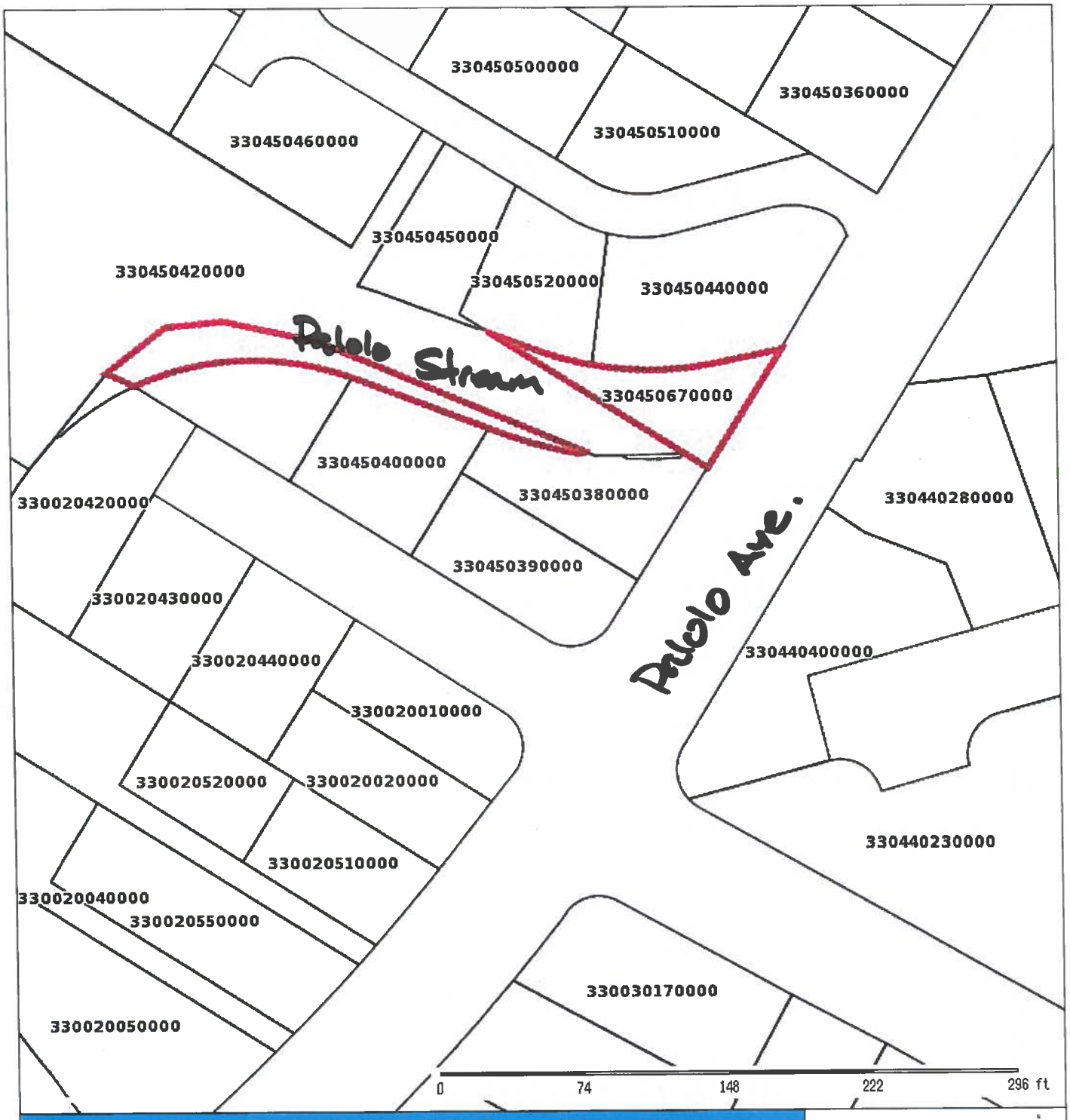
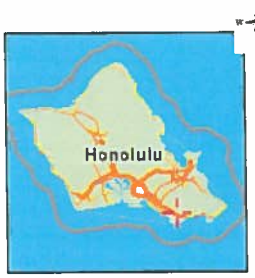
Date printed: 10/29/15 : 16:35:00



Honolulu County Assessor			
Parcel: 330450670000 Acres: 0.107			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	AHINAHINA PL	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-23	Taxable Value:	0



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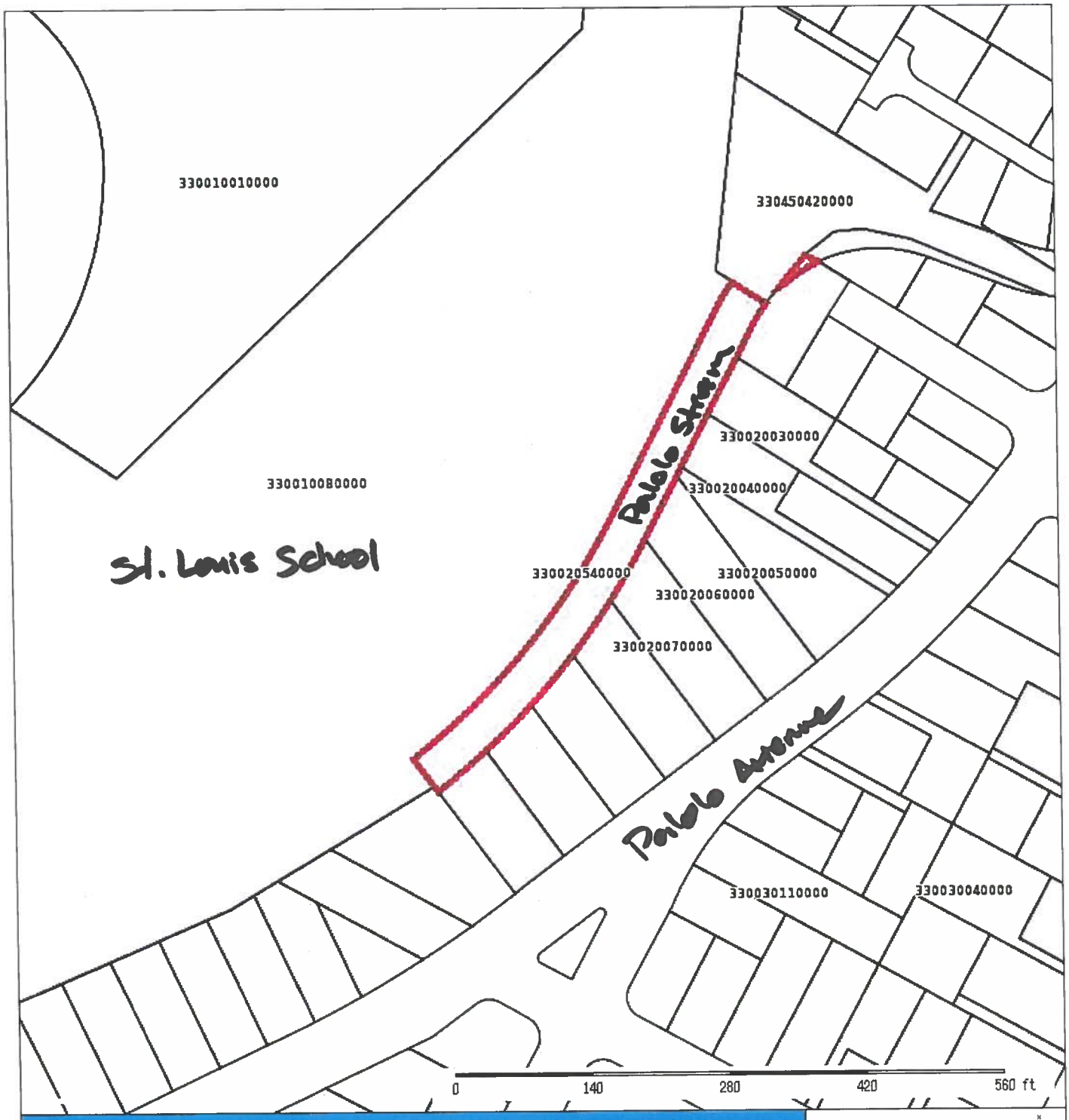
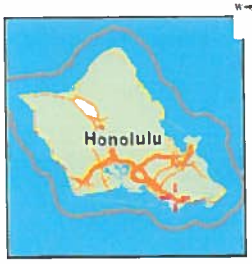
Date printed: 10/14/15 : 22:27:53



Honolulu County Assessor			
Parcel: 330020540000 Acres: 0.5437			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	WAIALAE AVE	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-24	Taxable Value:	0



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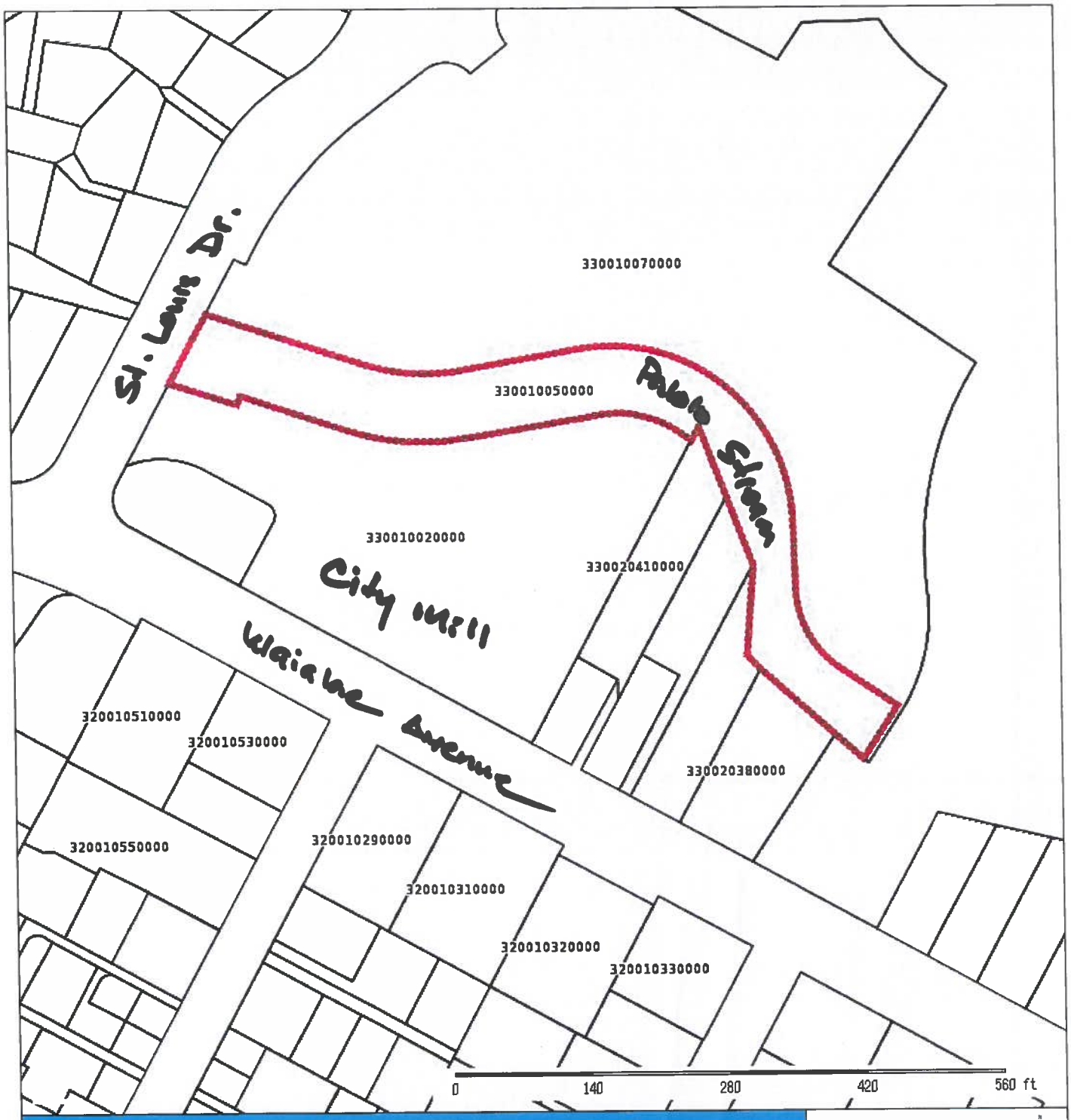
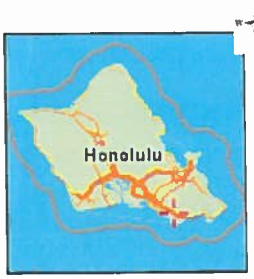
Date printed: 10/29/15 : 16:44:29



Honolulu County Assessor			
Parcel: 330010050000 Acres: 1.1791			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	WAIALAE AVE	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-25	Taxable Value:	0



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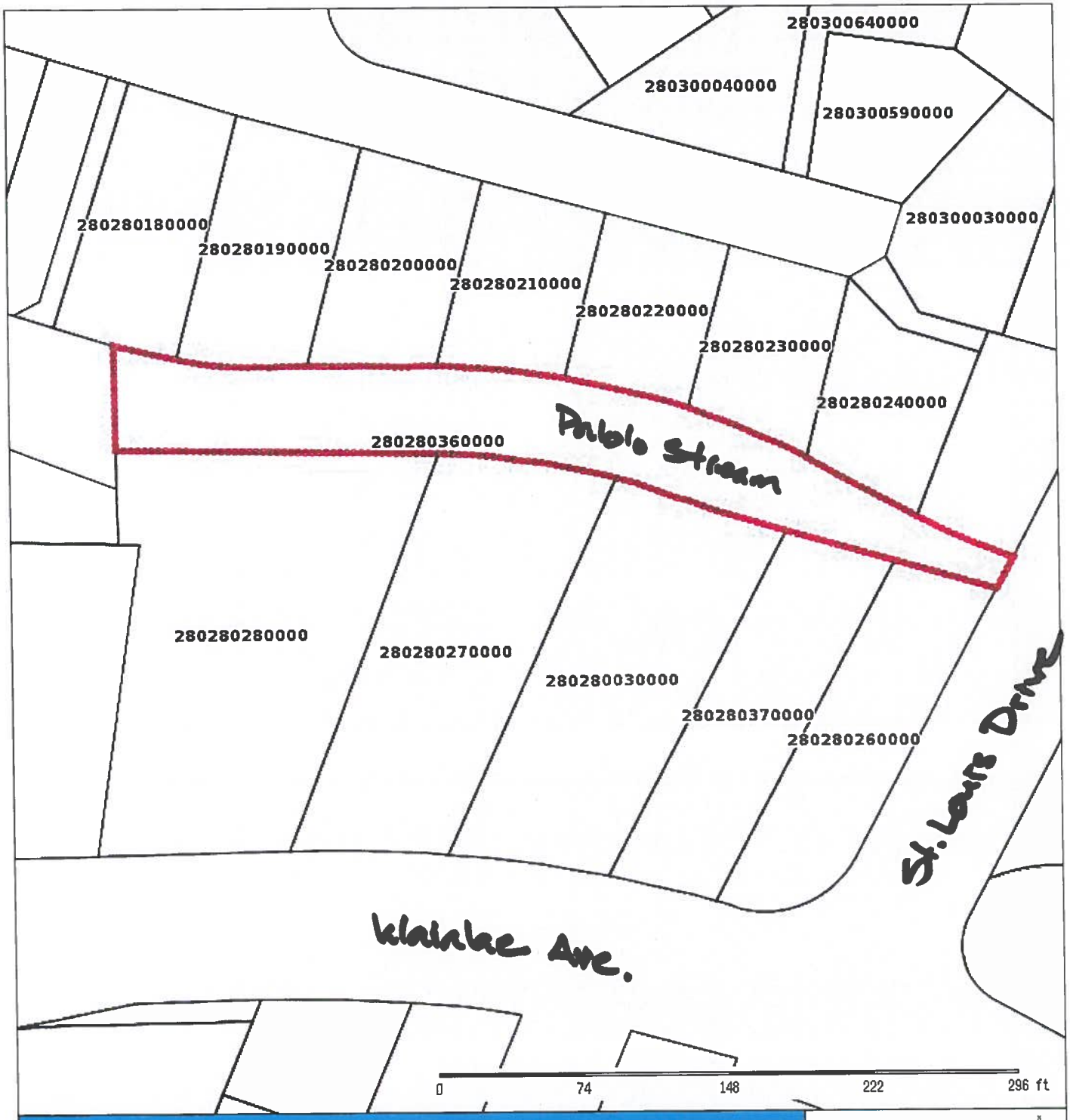
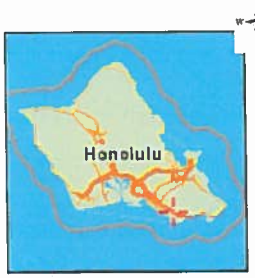


Honolulu County Assessor			
Parcel: 280280360000 Acres: 0.3697			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	100
Site:	ST LOUIS DR	Building Value:	0
Sale:		Exempt Value:	100
Mail:	Exhibit A-26	Taxable Value:	0



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Date printed: 10/14/15 : 22:34:51

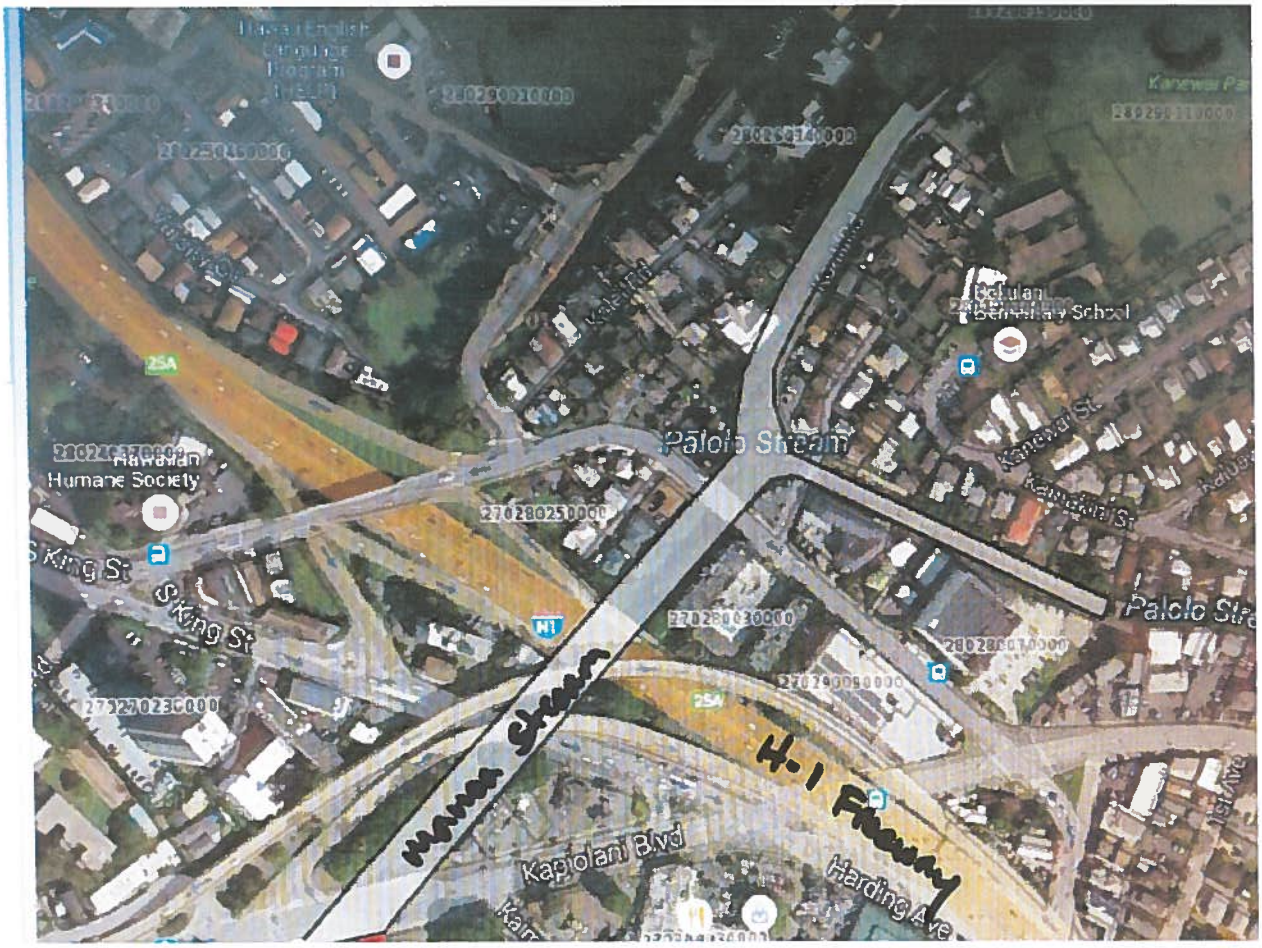
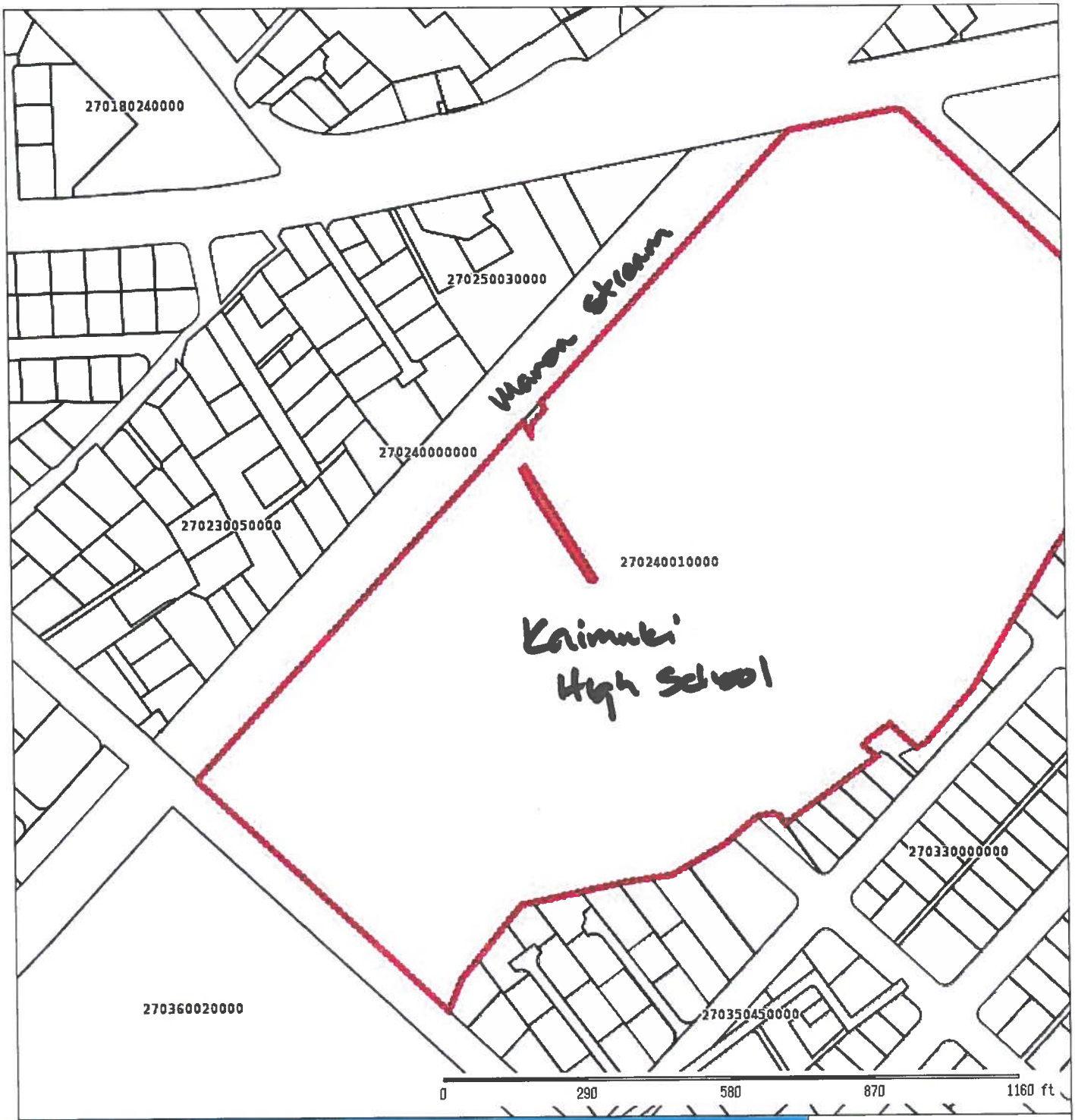

Hawaiian
Humane Society
S King St
Palolo Stream
Kapiolani Blvd
Harding Ave
H1
Kaimuki St

Exhibit A-27



Honolulu County Assessor			
Parcel: 270240010000 Acres: 34.413			
Name:	CITY AND COUNTY OF HONOLULU	Land Value:	78249400
Site:	2705 KAIMUKI AVE	Building Value:	6408000
Sale:		Exempt Value:	84657400
Mail:	Exhibit A-28	Taxable Value:	0

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Date printed: 10/29/15 : 17:12:58

Honolulu County Assessor

Parcel: 270240000000 Acres:

Name:		Land Value:	
Site:		Building Value:	
Sale:		Exempt Value:	
Mail:		Taxable Value:	

Exhibit A-29

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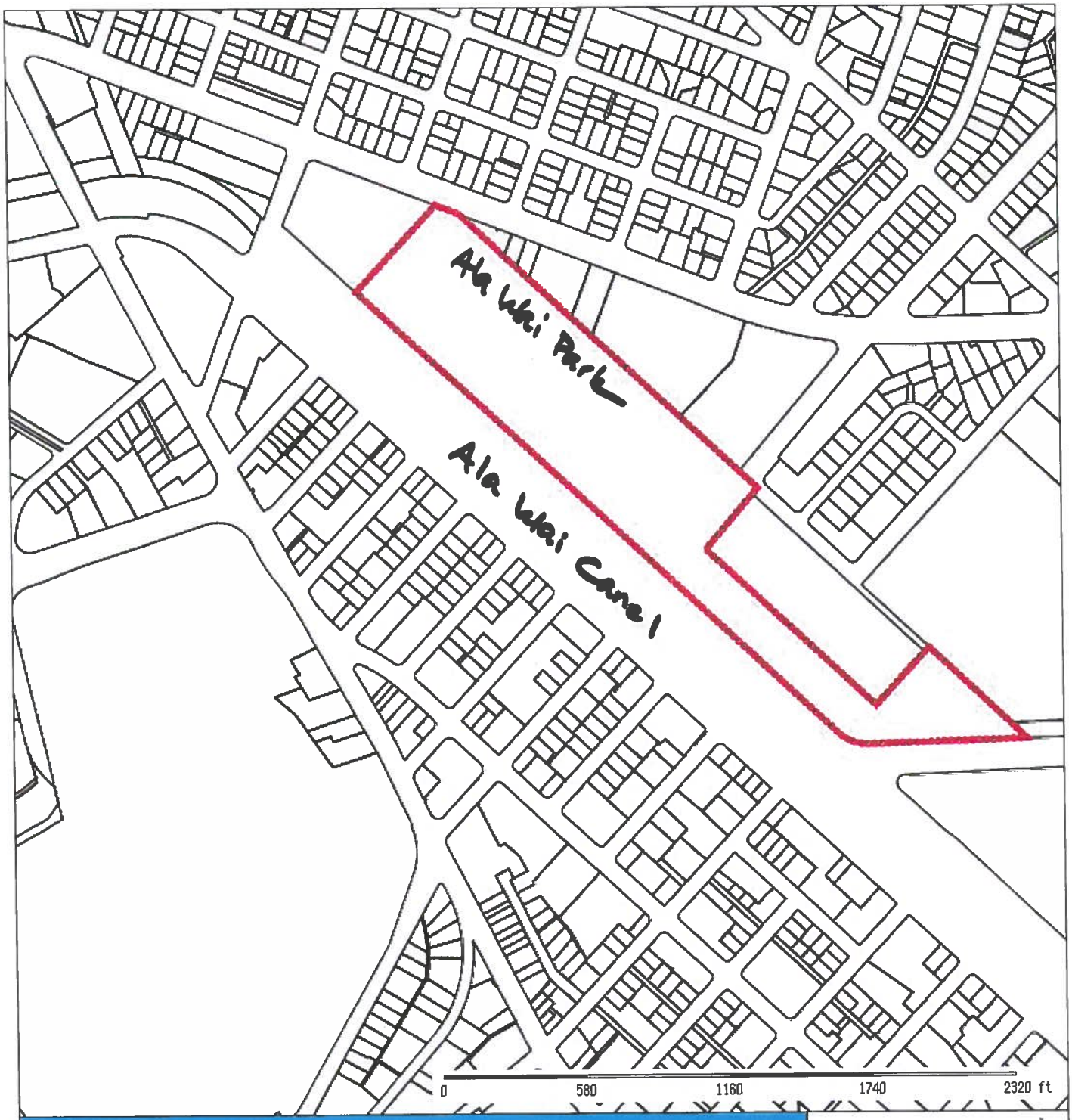
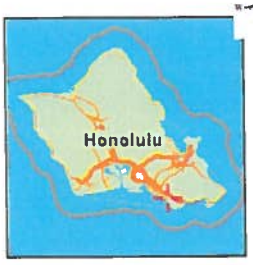
Date printed: 10/29/15 : 17:15:17



Honolulu County Assessor			
Parcel: 270360010000 Acres: 24.011			
Name:	STATE OF HAWAII	Land Value:	28239800
Site:	2021 KAPIOLANI BLVD	Building Value:	146000
Sale:		Exempt Value:	28385800
Mail:	Exhibit A-30	Taxable Value:	0



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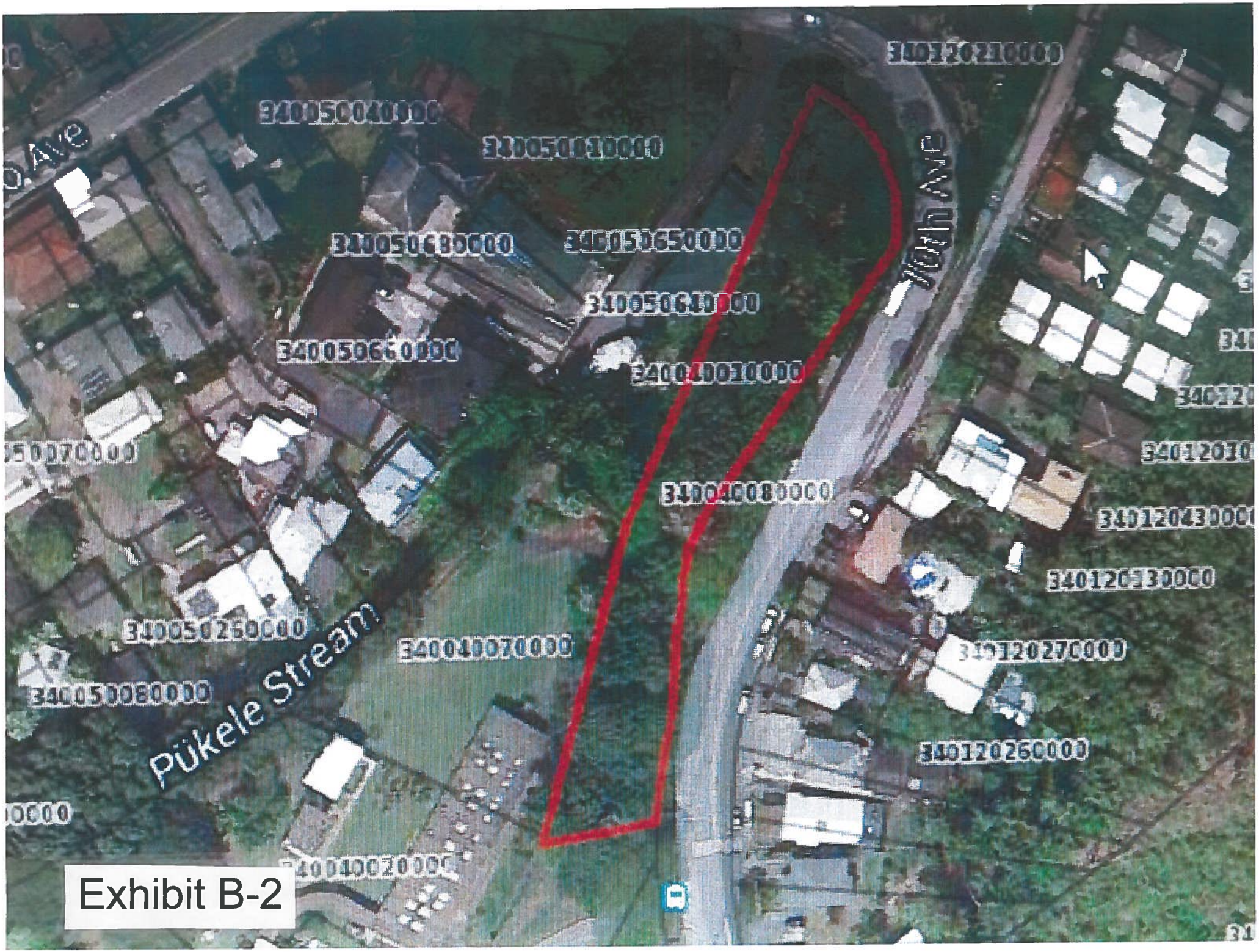
Date printed: 10/29/15 : 17:21:22


Palolo Pl
La-i Rd
Exhibit B-1


Pükele Stream
Exhibit B-2


Pukele Stream
Exhibit B-3


Pukele Stream
Kuhio Ave
Kula Kaiaulu
O Anuenue
Exhibit B-4

Exhibit B-5

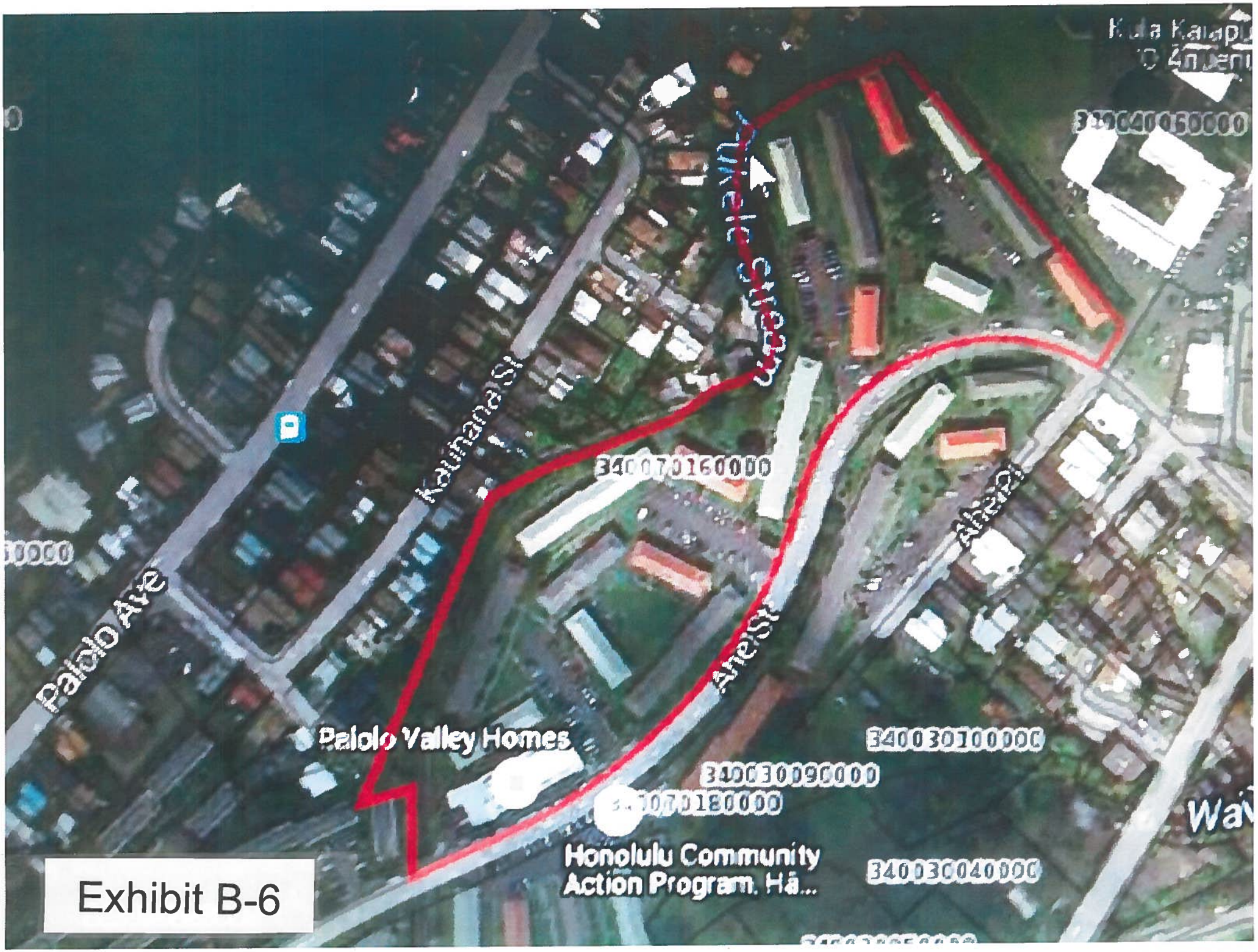
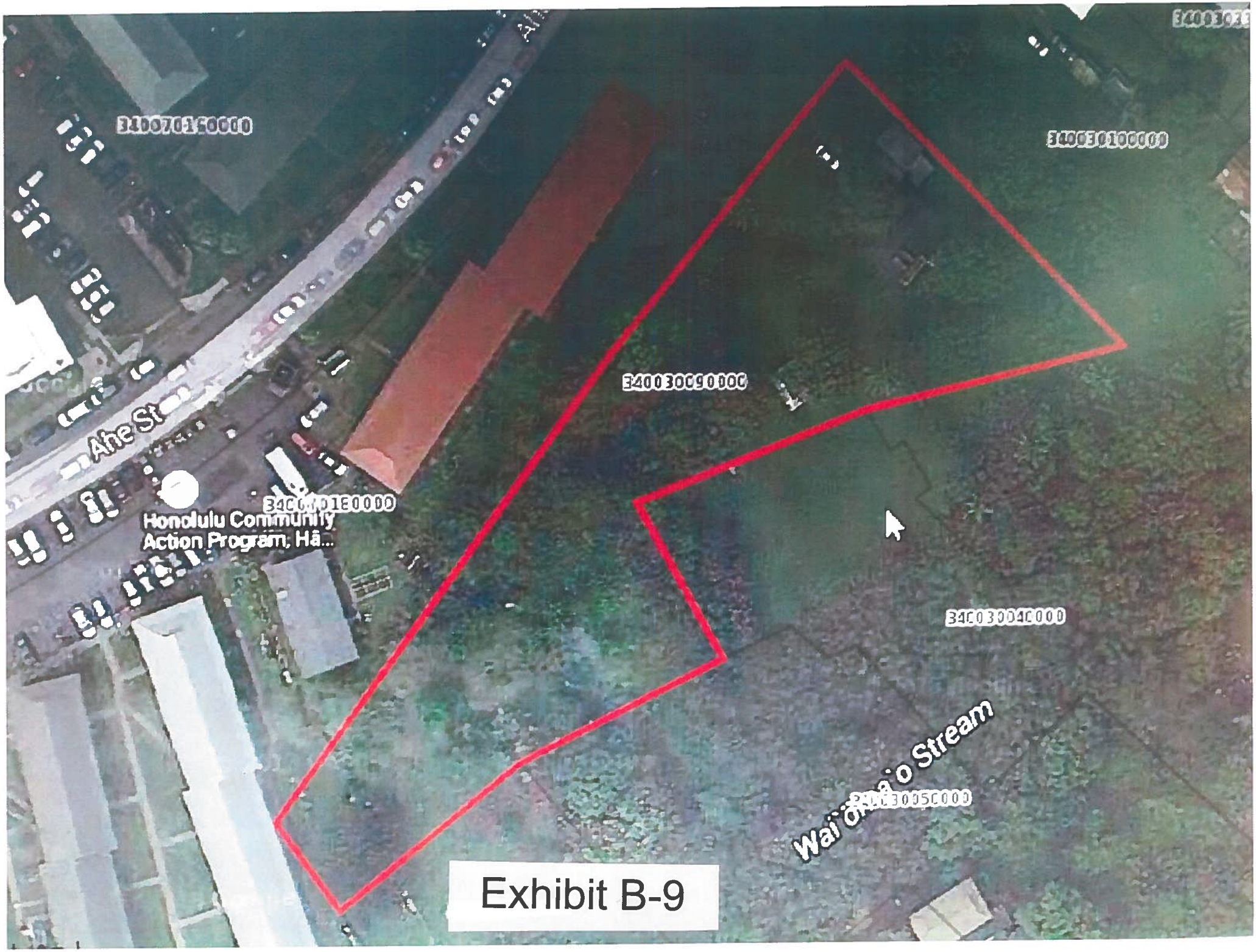

Paiolo Ave
Kaunaoa St
Ahe St
Paiolo Valley Homes
Honolulu Community Action Program, Hā...
340030100000
340030090000
340030040000

Exhibit B-6


Palolo Valley Homes
Honolulu Community Action Program, Ha...
Ahe St
Wai`oma`o Stream
Exhibit B-7

Exhibit B-8


Ahe St
Honolulu Community Action Program, Hā...
Waiʻōma'o Stream
Exhibit B-9


340030090000
340030050000
340030300000
340070180000
Wai'öma'o Stream
Wai'öma'o Stream
340030060000

Exhibit B-10


Wai'oma'o Stream
Pelolo Elementary School
10th Ave
Exhibit B-11


Palolo Elementary School
Kiwila St
10th Ave
Exhibit B-12


Palolo Valley
Exhibit B-13


Exhibit B-14
Palolo Stream
Kiwila St
340070100000
340070030000
340070110000
340020440000
340020420000
340020380000
340020370000
340020290000
340020300000
340020280000
340020390000
340020240000
340020250000
340020310000
340020330000


Palolo Ave
Palolo Valley
District Park
Palolo Valley
Swimming Pool
Palolo Valley
Kiwila St
Palolo Stream
Exhibit B-15

Exhibit B-16


Palolo Ave
Palolo Valley
Swimming Pool
Palolo Valley
District Park
340070100000
340070030000
Palolo Valley
340070150000
340020350000
340010810000
Exhibit B-17


Palolo Valley
Swimming Pool
New Jersey Ave
Palolo Ave
Stream
Exhibit B-18


Kalua Pl
Paloloave
Kikilia Pl
Lake Pl
Jarrett Middle School
Palolo Stream
Fix All Electronic
Sales & Services
Kalua Rd
9th Ave

Exhibit B-19


Palolo Valley
Swimming Pool
District Park
Kalua Pl
Palolo Ave
Palolo Stream
Kikilia Pl
Loke Pl
Fix All Electronic
Sales & Services
Exhibit B-20

Exhibit B-21
Palolo Stream
Kalua Rd
Sales & Services


Malhama St
9th Ave
Palolo Kwannon Temple
Palolo Stream
Maoi Pl
Paalea St
Exhibit B-22


Palolo Stream
Palolo Stream
Palolo Ave
Kekona Pl
330450450000
330450520000
330450440000
330450400000
330020120000
330020430000
330020440000
330020030000
Exhibit B-23


Mystical Rose Oratory
Palolo Stream
Palolo Ave
Exhibit B-24

Exhibit B-25
Waiakoa Ave
Palolo Stream
W&M Bar-B-Q Burger
Fuji City Mill Co., Ltd.


Palolo Stream
Palolo Stream
Swedish Motors
Sakura
Seab Hawaii
Sabrina's
Kaimuki Sushiman
Exhibit B-26