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**Delivered via email to: blnr.testimony@hawaii.gov**

**Subject: Testimony RE: PSF 190D-001 - ACOE access Request**

To: BLNR Board Members

Re: Testimony Against ACOE Access to State Lands (PSF 19OD-001)
For Due Diligence Purposes for the Ala Wai Flood Control Project, Honolulu, O'ahu

Dear BLNR Board Members: ACOE Access to State Lands (PSF 19OD-001)

My involvement is in this project is because I am a stakeholder who was left out of the process. The Army Corp targeted my property in Palolo Valley for a detention basin. In September of 2015, I received a letter from DLNR allowing me only a few weeks advance notice to submit public comment and was told that the ACOE had engineered and designed a detention basin on my property years in advance of my knowledge and planned eminent domain condemnation. I have since been living under the vail of this threat.

The letter from DLNR had a link to the Draft EIS which was over a thousand pages long. I spent hundreds of hours reading and trying to understand what this project was all about and what was happening to me.

I immediately objected in writing to Ms. Susan Case, Chairperson of DLNR on September 28, 2015 (attached) and told them that the property was purchased with the intent to CPR it for our children so that they could each someday build a beautiful home overlooking the tranquil Waiomao stream. It is our lifetime investment and dream to be able to provide our children with an incentive to stay in Hawaii, to stay close to family, and to be able to afford a home with a peaceful country atmosphere in Palolo Valley. I followed up with several letters pointing out many false and misleading statements, including flaws, errors, inaccuracies in the data collection, the methodology, modeling, and property damage assessments for the whole project. I ended up understanding the whole scope of the project in my study and I took it upon myself to personally tour and inspect all the affected areas. I then came up with several alternatives and submitted them in writing addressed to DLNR. It should be noted that I never received one single reply, phone call, letter, or knock on my door from DLNR to any of my several letters. I also signed up for the ACOE mailing list but never received a single email informing me of any follow-up meeting or progress updates to the Draft EIS.

The project plan which is included in the Final EIS, Appendix G Public-Agency Involvement, (page 20), Appendix A Stakeholder groups state "The range of potential stakeholders is large and includes land owners, community members, environmental and community organizations, elected officials, and public agencies." Upon further examination of previous scoped projects other private landowners were made stakeholders and invited to participate in the process however this time the ACOE and DLNR clearly did not engage affected private property owners.

Iolani School basically came to the same conclusion as I did and wrote a letter to the UCOE and DLNR stating that National Environmental Policy Act (NEPA) and the Hawaii Environmental Policy Act (HEPA) procedures were not met (Iolani Letter is attached). This is a must read document because it reflects the rights of every affected stakeholder and cites NEPA and HEPA explains and references case law in support of Iolani's findings. They also point to flaws and inaccuracies in the modeling. I also attended the meeting at Ala Wai Elementary School where the ACOE and DLNR admitted that their modeling of the 100-year storm which is used to justify the project is unrealistic and flawed. Yet it appears even with these admissions the ACOE finalized the EIS and submitted it to Congress for funding based on a lie.

Many landowners who face eminent domain condemnation were never notified at all or made stakeholders in the project. The principal of Hokulani Elementary School was not aware that Kanewai Park will be converted into a detention basin and the school actively uses the park. Residents adjacent to Kanewai Park and downstream were never notified as well. In Manoa, the Woodlawn Detention Basin is located on the Chinese Cemetery property and adjacent homeowners were not made aware. Paradise Park is adjacent to two detention basins in Manoa and was not notified. The Public Charter School Halau Ku Mana in Makiki is adjacent to the Makiki Detention Basin and they have a stream cleaning project in the same area.

I met with the ACOE and a few things stuck into my mind. One was that the ACOE had certain deadlines for submitting the Final EIS or the project might die and the other was that they had certain benefit to cost ratio requirements to meet.

It should be noted that the Draft EIS referenced a much smaller project and the property damage figures were around $318 million which soared to $1.14 billion after September 2015 and the last chance for the public to give comment. I've also read the Final EIS and there are significant changes that I would call "bait and switch". Many of the detention basins were expanded in size. The Pukele Detention Basin expanded from a three private properties to 13 private properties and the length of natural stream to be destroyed increased almost 300%. The Waiomao Detention Basin expanded from 3 properties to 6 properties and the destruction of natural stream to be ripped out increased 200%. The Final EIS discloses construction issues and concerns like the reinforced concrete wall subject to tipping and the need install anchor rods and that parts of the embankments are over the sewer force main that serves all of Waikiki and that the contractor will be held liable for damages. The 100-year flood modeling with Alternative 3A shows only Waikiki nice and dry but the gravity flow of flood waters in certain areas like McCully to McKinley HS are flooded, Iolani School to the H-1 freeway are shown as flooded. So, this plan does not protect a large portion of our residential areas. Yet, the ACOE claims a 99% assurance that the 0.01 ACE event under both the current and projected (2025 and 2075) conditions and assuming either low, intermediate, and high sea level rise scenarios. This statement is false and under further examination of the Final EIS, Waikiki will flood because the interior drainage system is by gravity only outlets of 18" or larger will be mechanically capped to prevent backflow from the Ala Wai Canal. But anything smaller will remain uncapped and backflow will happen for several hours. If the rainfall is high in Waikiki then it's interior drainage system will not function.

The ACOE has promoted the 100-year storm modeling and even created a video modeling and instilled fear in the community by stating "It will absolutely happen. It's just a matter of when." Yes the 100-year storm is based on a chance or probability. A 100-year storm in a desert might be a drizzle. The modeling as defined should be constantly being adjusted as time and data are collected. The modeling is only as accurate as the rainfall and flow gauges data collected and limited to historical data. Data cannot be used from any other part of the country, state, or a

different watershed. Data must be collected from optimum site locations and location of convenience. Rainfall gauges are owned by 4 different entities, no proof of certification or calibration, no consistent operating procedures, and located in areas of convenience rather than optimal location for accurate results. Data has been omitted for decades at some stations. Year's worth of data has been thrown out because reading were wrong and not cross checked. Half of the rainfall stations are read daily. Two stations are outside of the watershed. The computer modeling program does not take into account the orthographic conditions or in simple terms the mountains.

So, I have attached a handout that shows the following:

Page 1: Is the Army Corp modeling of the 100-year flood based on historic data and probability. A storm as shown has never happened in Hawaii's history. The Ala Wai Canal is 90-years old.
Page 2: Star Advertiser Article – Congress approved funds
Page 3: A map of the watershed showing all elements of the project. This also give you a size perspective of the elements for comparison and location.
Page 4: A map showing comparison of 5yr (pink) to 500yr (blue) flood. I should have lived through a dozen of these storms. Unrealistic!
Page 5: Is the 10yr flood model, the flood that suppose to happen every 10 years with $132 million in property damage. I should have lived through 6 of these storms. Unrealistic!
Page 6: Is the 100-year flood model, little difference from the 10yr flood. Unrealistic!
Page 7: Army Corp claims 99% assurance that their plan would work. False claim!
Page 8: Alternative 3A with sea level rise – the Army Corps model shows McCully, Moiliili, Kapahulu flooded, Iolani is flooded, Kaimuki HS is flooded.
Page 9: Final EIS property damage figures for the 2yr, 5yr, 10yr, 20yr, 50yr, 100yr, 200yr, and 500yr floods. Unrealistic property damage figures.

There are several stakeholders who recently met for the first time this past week to discuss the issues and are growing in number as these issues become publicized. Anyone, who reads through the Final EIS will clearly see that this project was done all wrong. I believe the BLNR has an obligation to serve in the best interest of the public and be able to distinguish right from wrong, and good from bad. Your vote should be done on a whim and not just be based on a financial opportunity or solely on public opinion. Each one of you should educate yourself and dig into the Final EIS and see for yourself if the ACOE and DLNR did their due diligence, selected the best alternatives, and followed the process of the laws. You have to also ask yourself why and how the EIS got finalized and how Congress passed funding for this project. It would be premature and a waste of taxpayer's money to grant right of entry for exploratory work to the ACOE because ultimately the public uprising will stop it. I've attached a recent letter of support from Councilmember Ann Kobayashi whose office did properly investigate the issues. Please give us a chance, we only begun to approach the Neighborhood Boards and began outreach to the community and public. We are gaining rightful support as you will see.

**I humbly ask that you DEFER OR VOTE NO to granting ACOE Access to State Lands (PSF 19OD-001)**

Sincerely,

Dave Watase

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

September 28, 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 are in receipt of your letter date stamped August 14, 2015 regarding the above project and informing us for the first time that our privately owned property TMK 34016059, located at 2532 Waiomao Road, Honolulu, HI 96816 is a part of the Ala Wai Canal Flood Risk Management Feasibility Study and that the US Army Corps of Engineers are recommending the purchase of our property for the construction of the Waiomao Detention Basin.

We received your certified letter in the week of September 14, 2015 only a few weeks prior to your September 30, 2015 public review meeting which gives us very little time to digest the thousands of pages of technical documents surrounding this massive $200 million project. It is very stressful and disturbing to us personally to see our privately owned property targeted as a site for a detention basin and included in several voluminous reports with schematic drawings and feasibility studies.

Your letter states that you look forward to partnering with us but in reality your letter is not good news for any private landowner. The fact that you would even consider using someone else's property without even giving them advance notice and an opportunity to express their position and concerns prior to site selections demonstrates a lack of respect for our individual rights and is flat out distasteful. The cutoff date for public input of October 7, 2015 is relatively short considering your experts have taken years to put this approximately $200 million project together up until this point.

My wife and I are AGAINST your plan to purchase our property and use it for a detention basin. This property was purchased with the intent to CPR it for our children so that they each could build a beautiful home overlooking the tranquil Waiomao stream untouched with its natural beauty and a 1000' lush green mountain in preservation as the backdrop. Two of our 3 children will be graduating from college and graduate school next year. Our children are well aware of the beauty and development potential of our property. It is our lifetime investment and dream to be able to provide our children with an incentive to stay in Hawaii, to stay close to family, and to be able to afford a home with a peaceful country atmosphere in Palolo Valley in town.

Very truly yours,

Dave and Nola Watase

'IOLANI SCHOOL

HEAD OF SCHOOL

November 9, 2015

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

RE: Ala Wai Canal Project ("Project") – Draft Feasibility Study Report with Integrated Environmental Impact Statement dated August 2015 (the "Draft Report/EIS" or "Report")

Dear Sir or Madam:

`Iolani School respectfully submits these comments in response to the U.S. Army Corps of Engineers ("USACE") and State of Hawaii Department of Land and Natural Resources' ("DLNR") (USACE and DLNR, collectively, are the "Agencies") request for public input regarding their Draft Report/EIS.[1] We request that these comments and attachments be included in the administrative record.[2]

As of the date of submission of this letter, the Project website (www.alawaicanalproject.com) requested that written comments regarding the Draft Report/EIS be submitted to the USACE pursuant to NEPA and DLNR pursuant to HEPA, with a postmark no later than November 9, 2015. `Iolani School is submitting its comments within the deadline prescribed and advertised by the Agencies.[3]

[1] `Iolani School requests that it be a consulting party and/or stakeholder under both NEPA and HEPA.

[2] We understand that comments may be submitted separately by government agencies, members of the public, community organizations, and the like. All of those comments are hereby incorporated by reference.

[3] Note that the presentation distributed at the public meeting on September 30, 2015 also notes a public comment deadline of November 9, 2015 for both the USACE under NEPA and DLNR under HEPA. Accordingly, `Iolani School believes that its comments are timely under both NEPA and HEPA and must be considered and responded to.

Executive Summary.

At the request of the DLNR Division of Engineering, the USACE has conducted a feasibility study for the proposed Ala Wai Canal Project, Oahu, Hawaii. The purpose of this Project in its current scope is to reduce riverine flood risks in the Ala Wai Watershed. After considering several alternatives, the USACE has identified Plan 3A in the Report as its preferred plan ("Tentatively Selected Plan" or "TSP"). The analyses produced as a result of this study show the 1-percent annual chance exceedance ("ACE") floodplain extending into approximately 1,358 acres of the watershed with modeling results indicating resultant damages to more than 3,000 structures and approximately $318 million in structural damages, not including loss to business income or loss of life.

`Iolani School, with 1,900 students, over 300 faculty and staff, and significant real property, assets and resources, is a critical stakeholder in this plan and stands to be dramatically and negatively impacted by the proposed plan specifically due to the potential for flooding and damage to `Iolani's campus. In addition, the campus serves many more members of the community through numerous academic, arts and sporting events that are open to educators and students from throughout the state and beyond. The school is also the frequent site for conferences, summits, and meetings. In the Tentatively Selected Plan, the potential for flooding `Iolani School has been identified as an acceptable risk. We strongly disagree.

The Report states:

> The risk of flooding `Iolani School could be further reduced by extending the floodwalls to protect the school, but it would induce higher water surface elevations on the Waikīkī side of the Ala Wai Canal, as well as limit the effectiveness of the Ala Wai Golf Course detention improvement. The modeling results indicate that this would be an unacceptable trade-off, as the additional induced damages in Waikīkī would greatly exceed any benefit associated with `Iolani School. Nonstructural solutions were evaluated as a means of providing additional protection in lieu of extending the floodwalls, but none were found to be economically feasible.

See Report at 8-6. Additionally, Appendix B to the Report notes: "One area of significance that does not stand to benefit from a reduction in flood damages and risk of loss of life, as the project is now formulated (under the Tentatively Selected Plan), is the `Iolani School buildings and campus grounds."

While two other plans that were considered included floodwalls to protect `Iolani School, those plans were not selected and the floodwalls are not included in the Tentatively Selected Plan being proposed by the USACE. The Report further explains that while other schools and properties will be protected, `Iolani School will remain in the 1% annual chance exceedance (ACE) floodplain:

> In addition to reducing health and safety risks to the affected population, critical infrastructure and other public facilities would be removed from the

> 1-percent ACE floodplain, thus contributing to health and safety through increased resiliency in response to flood events (IMP SAF-2). Specifically, the project would provide protection for 2 of the 4 fire stations, the police station, both medical clinics, and 6 of the 9 emergency shelters that are currently in the 1- percent ACE floodplain. Critical infrastructure that would remain in the floodplain includes 2 fire stations (the Makaloa station in Ala Moana and the Wilder station in Makiki), and 2 emergency shelters (Lunalilo Elementary and Washington Intermediate in McCully/Mō'ili'ili). In addition to the three schools that serve as emergency shelters, the only other school that would remain in the 1-percent ACE floodplain would be a portion of `Iolani School; the other 7 schools that are currently in the floodplain would be protected by the project.

See Report at 5-80.

`Iolani School has reached out to the USACE and the State sponsor, DLNR, in hopes of working towards a collaborative solution that permits the Project to move forward while still adequately protecting the `Iolani community and area residents. While `Iolani School supports the overall intent of this flood mitigation project, we do not support the Project in its current scope with Plan 3A as the TSP as the TSP is based upon engineering that lacks scientific integrity. The TSP erroneously excludes significant economic impacts not considered by the Agencies, as well as includes unacceptable risk to the life and safety of the students and surrounding community.

`Iolani School also believes that the Agencies did not adequately engage `Iolani School or other stakeholders since the October 2012 re-scoping of the Project. For these reasons and others discussed in further detail below, we believe that the Draft Report/EIS must be significantly revised and reissued in a separate draft for further public review and comment.

NEPA.

The National Environmental Policy Act ("NEPA") requires all federal agencies to prepare an environmental impact statement ("EIS") for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332. "The primary purpose of an EIS is to serve as an action-forcing device to insure that the policies and goals defined in the Act NEPA are infused into the ongoing programs and actions of the Federal Government." 40 C.F.R. § 1502.1. An EIS must "provide full and fair discussion of significant environmental impacts and inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." Id. Among other things, an EIS must discuss the environmental impact of the proposed federal action, any adverse and avoidable environmental effects, any alternatives to the proposed action, and any irreversible and irretrievable commitment of resources involved in the proposed action. 42 U.S.C. § 4332(2)(C) and (2)(E).

Exploring alternatives is at the heart of the EIS. Federal agencies must, among other things, (1) rigorously explore and objectively evaluate all reasonable alternatives, and

for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated, (2) devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits, and (3) include appropriate mitigation measures not already included in the proposed action or alternatives. 40 C.F.R. § 1502.14.

Under NEPA, federal agencies must, to the fullest extent possible, encourage and facilitate public involvement in decisions which affect the quality of the human environment, and use all practicable means, consistent with the requirements of NEPA and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment. 40 C.F.R. § 1500.2(d) and (f).

HEPA.

The Hawaii Environmental Policy Act ("HEPA"), Hawaii Revised Statutes Chapter 343, is intended to ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations. Hawaii Administrative Rules ("HAR") § 11-200-1. Specifically,

> Chapter 343, HRS, directs that in both agency and applicant actions where statements are required, the preparing party shall prepare the EIS, submit it for review and comments, and revise it, taking into account all critiques and responses. Consequently, the EIS process involves more than the preparation of a document; it involves the entire process of research, discussion, preparation of a statement, and review. The EIS process shall involve at a minimum: identifying environmental concerns, obtaining various relevant data, conducting necessary studies, receiving public and agency input, evaluating alternatives, and proposing measures for avoiding, minimizing, rectifying or reducing adverse impacts. An EIS is meaningless without the conscientious application of the EIS process as a whole, and shall not be merely a self-serving recitation of benefits and a rationalization of the proposed action. Agencies shall ensure that statements are prepared at the earliest opportunity in the planning and decision-making process. This shall assure an early open forum for discussion of adverse effects and available alternatives, and that the decision-makers will be enlightened to any environmental consequences of the proposed action.

HAR § 11-200-14.

Consultation is critical to the HEPA process. Accordingly, agencies are required to endeavor to develop a fully acceptable EIS prior to the time the EIS is filed with the appropriate office, "through a full and complete consultation process." HEPA requires that proposing agencies not rely solely upon the review process to expose environmental concerns. HAR § 11-200-15.

The Agencies did not take a "hard look" under Either NEPA or HEPA.

A federal agency must take a "hard look" at the environmental consequences of the proposed action before the decision to proceed is made. Earth Island Inst. V. U.S. Forest Serv., 351 F.3d 1291, 1300 (9th Cir. 2003); see 40 C.F.R. § 1500.1(b). Under state law, state agencies must ensure that environmental concerns are given appropriate consideration in decision making. HAR § 11-200-1. In this instance, the Agencies failed to meet these standards.

Modeling for the TSP 3A was based on erroneous topographical analysis which does not reflect the current elevation and building structures at `Iolani School. This resulted in an improper projection of environmental consequences and economic damage.

The Tentatively Selected Plan lacks scientific integrity and should be rejected.

NEPA recognizes that sound methodology and scientific accuracy are paramount to the integrity of the NEPA process. Section 1502.24 specifically provides,

> Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement.

40 C.F.R. § 1502.24 (emphasis added). Section 1500.1(b) further affirms that,

> NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. "The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA".

40 C.F.R. § 1500.1(b) (emphasis added).

In this case, it is clear that the scientific analysis, modeling and methodology are flawed and cannot be relied upon. `Iolani School requested and attended a meeting with USACE and DLNR on October 30, 2015. Upon being questioned at the meeting regarding the engineering analysis and validity of the inundation area modeling associated with the TSP, Mike Wong, P.E. USACE, admitted that the modeling was flawed, contained artifacts and represented flood boundaries as 1 ft. deep edges. Gayson Ching, P.E. DLNR, graphically illustrated how their model represented a completely unrealistic model of what would happen in a flood. Given the lack of scientific integrity and low quality of the information utilized in the Project analysis, the TSP cannot be accepted in its current form and the Report must be significantly revised and reissued after further public review and comment.

The Agencies should have involved `Iolani School in the NEPA and HEPA process.

Federal agencies are required by NEPA to "make diligent efforts to involve the public in preparing and implementing their NEPA procedures." 40 C.F.R. § 1506.6. Further, for any proposed action, NEPA requires that there be an early and open process for

determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process is known as the scoping process. As part of the scoping process the lead agency must, among other things, invite the participation of affected agencies, any affected Indian tribe, the proponent of the action, and "other interested persons (including those who might not be in accord with the action on environmental grounds) . . ." 40 C.F.R. § 1501.7 (emphasis added).

Similarly, HEPA requires the involvement of the public and concerned individuals. HEPA provides that a proposing agency must "seek, at the earliest practicable time, the advice and input of the county agency responsible for implementing the county's general plan for each county in which the proposed action is to occur, and consult with other agencies having jurisdiction or expertise as well as those citizen groups and individuals which the proposing agency reasonably believes to be affected." HAR § 11-200-9(a)(1) (emphasis added). Pursuant to HAR Section 11-200-15, "[i]n the preparation of a draft EIS, proposing agencies . . . shall consult all appropriate agencies . . . and other citizen groups, and concerned individuals as noted in sections 11-200-9 and 11-200-9.1." HAR § 11-200-15(a). Concerned individuals include those individuals which the proposing agency reasonably believes to be affected. See HAR § 11-200-9.

In this instance, the Agencies failed to properly reach out to `Iolani School and include it in the NEPA and HEPA process despite the fact that the Draft Report/EIS clearly indicates that `Iolani School will be affected. Project records show that `Iolani School was involved at a minimal level when the Project was focused on watershed restoration. However,

`Iolani School was neither involved in nor contacted regarding the re-scoping of the Project, despite the fact that the Project included negative impacts on the school and prominent mention in the Report. While two emails regarding the Project were sent to `Iolani School in 2014 and three emails in 2015, the USACE and DLNR failed to make any meaningful effort to communicate with `Iolani School beyond sending these emails between 2009 and 2015. USACE and DLNR did not respond to `Iolani School's requests for an extension to the public comment period or requests for additional meetings with the `Iolani School community. It is clear the attempts to communicate and collaborate with `Iolani School were insufficient.

Specific questions regarding the Project and TSP.

`Iolani School has several questions and comments related to the Tentatively Selected Plan and is hereby requesting specific answers and/or responses to the following questions and/or comments:

1. Page ES-7 states that the Tentatively Selected Plan "allows for 2 feet of freeboard."

    a. Because the proposed floodwalls are four feet tall, a 2-foot freeboard would result in a backwater effect upstream in the Mānoa-Pālolo Drainage Canal and cause floodwaters to

overtop the drainage canal's west bank. Such flooding is not indicated in Figure 12b. Note that the elevations of the Ala Wai Golf Course and east bank of the Mānoa-Pālolo Drainage Canal are significantly higher than the elevations of the `Iolani School, Ala Wai Elementary School, and east bank of the drainage canal.

2. Page ES-12 states that implementation of the Tentatively Selected Plan would substantially reduce the 1-percent ACE floodplain, with decreased water surface elevations of approximately 2.2 feet.

    a. Is the 2.2 feet reduction an average value? What is the range in the reduction of the water surface elevation across the watershed? Stating a 2.2 feet reduction over the entire 1-percent ACE floodplain oversimplifies the true benefit of the Tentatively Selected Plan. Table 10 clearly shows a wide range of reduced flood depths so that some areas in the watershed clearly gain more benefits than other areas.

    b. When the Report says a reduction in water surface elevation, does the Report mean a reduction in the base flood elevation? Will this Report or the data in the Report be used by DLNR, USACE or other government agencies to change the accepted FIRMs in the Ala Wai Canal Watershed? Does the hydrologic and hydraulic analysis, surveying data, and mapping comply with FEMA standards?

    c. Are there any areas where the proposed measures of the Tentatively Selected Plan would actually increase flood elevations from current conditions?

3. Figure 12b Tentatively Selected Plan (Alternative 3A-2.2).

    a. This figure shows flooding of the southern end of `Iolani School's campus. In addition to `Iolani School, Ala Wai Elementary School would also be at risk to flooding. The extent of the flooding shown on this figure does not correspond to existing topography at either the school campus or the immediately adjacent areas. The topography in this area is flat. However, this figure shows the floodwaters stopping arbitrarily along several buildings and an athletic field. If floodwaters overtopped the existing west bank of the Mānoa-Pālolo Drainage Canal, the topography at `Iolani School and Ala Wai Elementary School is relatively flat such that the floodwaters would extend further than the area shown in this figure, perhaps even as far as Kamoku Street. No depressions, basins or other structures to detain floodwaters are in this area as indicated in the figure.

b. This figure shows the Ala Wai Golf Course as a multi-purpose detention basin with an earthen berm only along the east and northeast perimeter of the golf course. The figure also shows the golf course being almost completely underwater. The elevations of the golf course and the east bank of the Mānoa-Pālolo Drainage Canal are significantly higher than the elevation at `Iolani School and Ala Wai Elementary School. Both schools would be flooded before the golf course could act as an effective detention basin. Floodwaters detained on the golf course would raise the floodwater elevations at both schools, further exacerbating the flooding beyond that shown in the figure.

4. Page 8-4 states that a limited level of protection for `Iolani School is "provided not by the Ala Wai Canal floodwalls, but through detention of floodwaters upstream and within the adjacent Ala Wai Golf Course."

   a. Did the hydraulic analysis assume all measures were constructed and operating under optimal conditions? Or did the analysis account for reduced capacity or effectiveness of the measures due to inadequate or infrequent maintenance?

   b. Did the detention basin measures incorporate capacity to account for sediment accumulation so as not to reduce the flood attenuation capacity of the basins?

   c. If a factor of safety was not incorporated into the hydraulic model to account for inadequate or infrequent maintenance of or sediment accumulation with the various detention basin measures, then the figures in the report do not accurately represent real world conditions and flooding would be more severe and extensive than that presented in Figure 12b. See previous comment on Figure 12b.

5. Page 3-4 provides a range of sea-level rise but doesn't state the specific value that was used in the hydraulic model.

   a. What is the actual value of the sea-level rise assumed in the model?

   b. What was the basis of the sea-level rise estimates?

   c. Did the sea-level rise estimates match or correspond to values estimated by other organizations and scientists working on sea-level rise in Hawaii?

   d. Did the hydraulic analysis incorporate storm surge effects in addition to sea-level rise?

6. What was the model used to conduct the hydraulic analysis? Was it a one-dimensional model like HEC-RAS? Was a 2-dimensional model used to conduct a hydraulic analysis or even considered for the analysis? Two-dimensional hydraulic models tend to give better, more accurate representation of actual flooding conditions.

7. How was the hydraulic model quality controlled? The results presented in the Report and by USACE's own admission appear to be flawed. Was a third-party evaluation of the hydraulic model conducted? Because the selected alternative will affect such a large number of businesses, residents, and visitors, should not that the hydraulic model undergo a more rigorous quality control procedure than USACE may normally conduct?

8. The executive summary (page ES-5) states that life safety considerations were taken into consideration. However, the Tentatively Selected Plan still leaves schools with children within the 1% ACE. How do you reconcile this statement on page ES-5 with the Tentatively Selected Plan that fails to provide protection for some of the schools within the watershed?

9. Was the survey used for the hydraulic analysis ground-truthed and when? What was the method used for the ground-truthing? Ground-truthing of the `Iolani School and Ala Wai Elementary School campuses does not appear to have been conducted based on the results of the model.

10. Figure 21: Potential Areas of Shallow Flooding due to Overtopping of Floodwalls/Berms or Failure of Interior Drainage Systems.

    a. This figure shows the inundation due to overtopping of the floodwalls along the north bank of the Ala Wai Canal. This figure contradicts the floodwater extent shown in Figure 12b, which limited flooding at `Iolani School to the southern portion of the campus. Furthermore, Page 8-9 states that "There is no bathtub effect in any overtopping area and ponding is expected to be in the 1-to 2-foot range. Damages would be related to those at the 2-foot depth for those overtopping areas illustrated." The flooding extent in Figure 12b does not reflect the existing topography at either `Iolani School or Ala Wai Elementary School.

    b. Figure 21 illustrates a condition with zero freeboard at the floodwalls and shows that the flooding would be extensive north of the floodwall. A 1- to 2-foot depth would result in a large volume of water in the shaded area shown in Figure 21 and result in significant damage to school property. As the water surface elevation in the Ala Wai Canal would increase to the full height of the floodwall, floodwaters would overtop the west bank of the Mānoa-Pālolo Drainage Canal (even before the floodwalls are overtopped) on to `Iolani School

and Ala Wai Elementary School property. Because "there is no bathtub effect" in this area, floodwaters would flow relatively freely across the flat terrain of the two schools. Any sediment and debris carried with the floodwaters would remain on the school properties as floodwaters either infiltrated or receded. The cleanup of the properties would be expensive and reduce the usefulness of the inundated areas for an unknown period, potentially harming the educational missions of both schools to our island's keiki. In addition, the waters of the Ala Wai Canal and sediment and debris may attract nuisance vectors and pose potential health risks to schoolchildren, depending on the nature and quality of the water, sediment and debris.

Conclusion:

`Iolani School understands the importance of flood risk management and appreciates the USACE and DLNR's efforts to mitigate flooding in the Project areas. However, in evaluating a plan to address flooding, NEPA and HEPA must be followed and the environmental impacts of the action must be appropriately and accurately considered. The Agencies must follow the correct process, take a hard look at the environmental effects of the proposed action, analyze reasonable alternatives, utilize proper scientific methods, and mitigate negative environmental impacts to the extent practicable. Because NEPA and HEPA were not adhered to in this case, the Draft Report/EIS must be significantly revised and reissued in a separate draft for further public review and comment.

Sincerely,

Timothy R. Cottrell
Head of School

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
530 SOUTH KING STREET, ROOM 202
HONOLULU, HAWAII 96813-3065
TELEPHONE: (808) 768-5010 • FAX: (808) 768-5011

**ANN H. KOBAYASHI**
COUNCILMEMBER, DISTRICT 5
CHAIR, COMMITTEE ON PARKS,
COMMUNITY AND CUSTOMER SERVICES
TELEPHONE: (808) 768-5005
FAX: (808) 768-6327
EMAIL: akobayashi@honolulu.gov

January 4, 2019

Lieutenant Colonel Kathryn Sanborn
Civil and Public Works Branch
Honolulu District,
USACE Building 230, CEPOH-PP-C
Fort Shafter, HI 96858

I am writing to express a number of concerns among residents in my district regarding the Ala Wai Canal Project. A growing group of residents have reached out to my office to voice their strong opposition to aspects of the project that will have significant and lasting impacts on the community.

A common complaint among the residents and other stakeholders is that the process that took place was neither transparent, nor did it follow the necessary and proper protocols. Residents that will be affected by construction or having a detention basin on or around their property, should have been deemed stakeholders in this project. Instead, residents were not made aware of the project, nor properly notified. Furthermore, the property owners were not given the opportunity to provide input, or have their questions answered.

Additionally, I agree with their sentiment that privately owned properties should not be used for detention basins, and other alternatives, such as nearby public lands be seriously considered before implementation of any proposals. Not only are private residential properties being affected, but schools, such as Ala Wai Elementary, Hokulani Elementary, and Iolani Schools are opposed to the project for the health and safety of their students, families, faculty, and staff. Please find attached documents that go into specifics regarding each particular community issue.

I strongly urge the United States Army Corps of Engineers, and the State of Hawaii Department of Land and Natural Resources to adequately engage all stakeholders and address the many concerns brought to my attention. I look forward to your response, as well as those from the community in order to fully address the community's issues and apprehensions regarding this project.

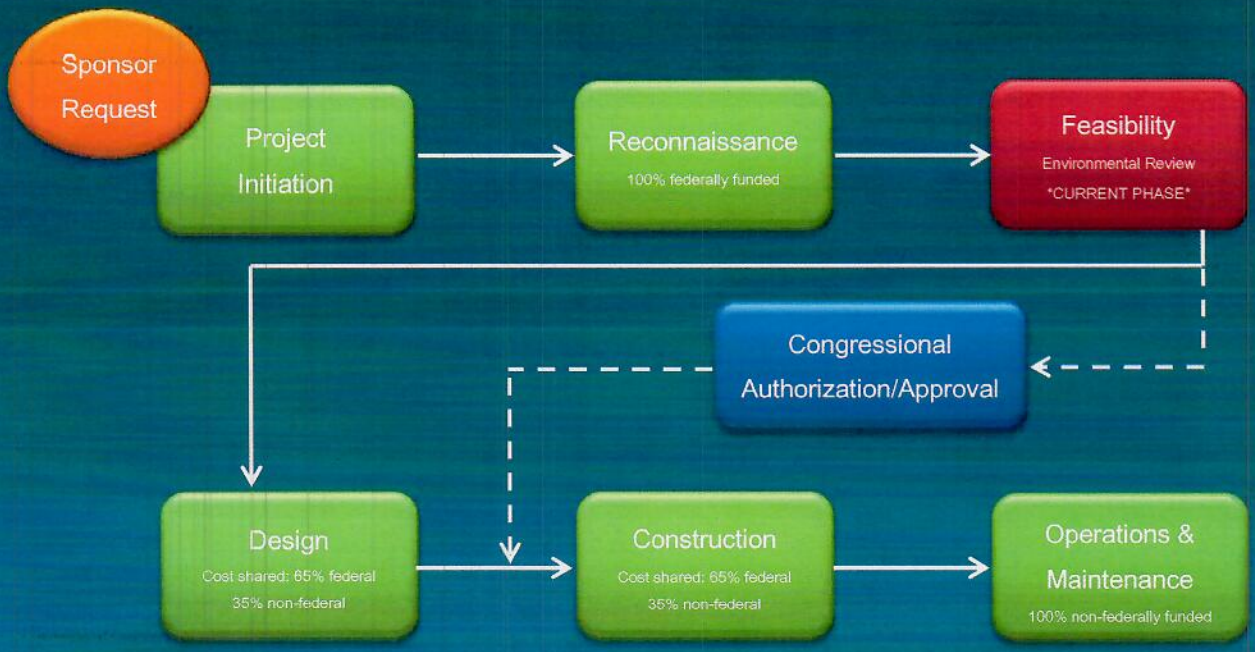
Sincerely,

Ann H. Kobayashi, Councilmember District V

Enclosures

cc: Suzanne Case, Department of Land and Natural Resources, Chairperson

# Ala Wai Canal Project





Expected flooding during a 1% chance flood event

HAWAII NEWS

# Senate OKs over $200M for canal improvements

Star-Advertiser staff
October 11, 2018

*Updated October 10, 2018 10:16pm*

**BRUCE ASATO / BASATO@STARADVERTISER.COM**

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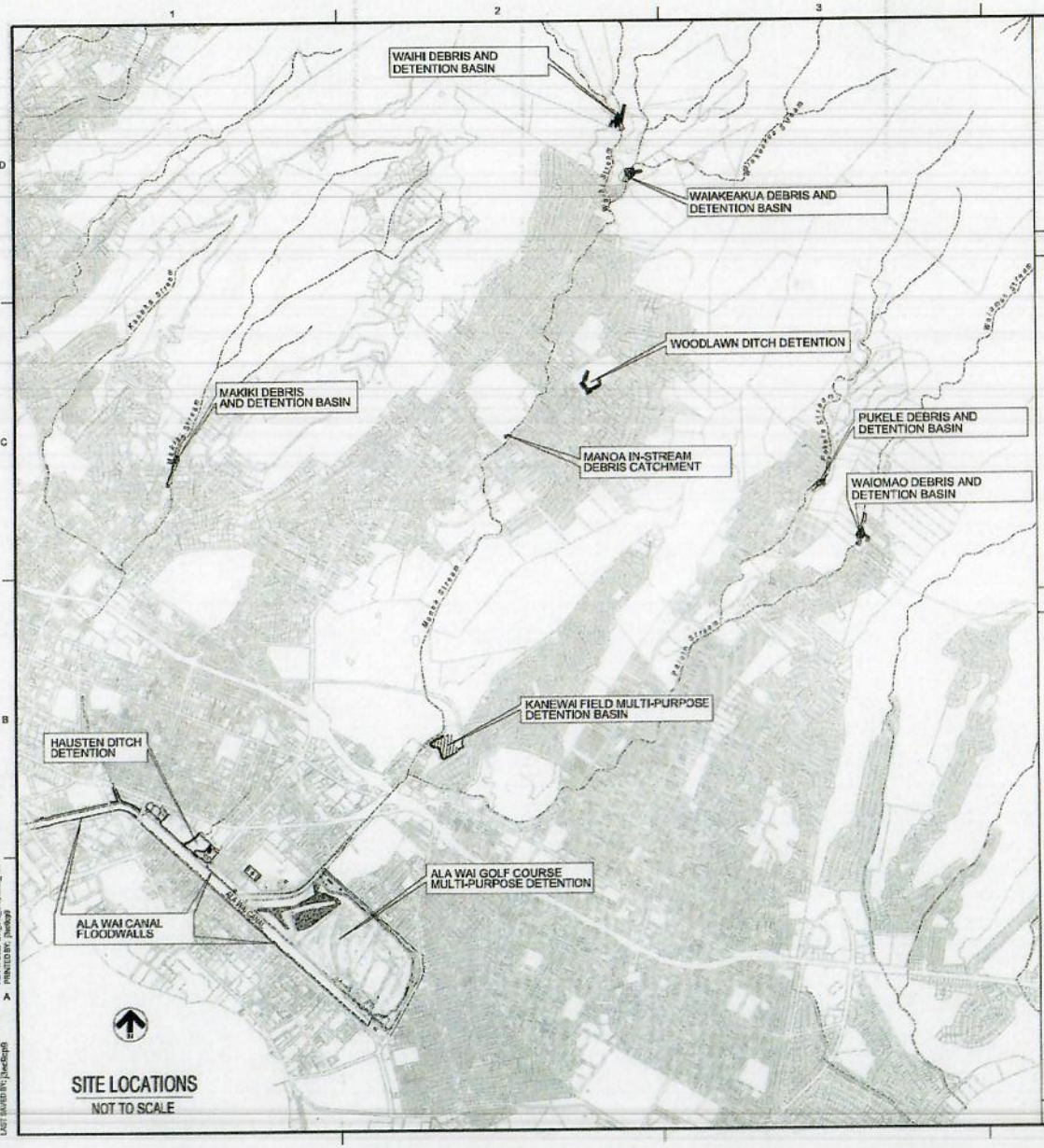
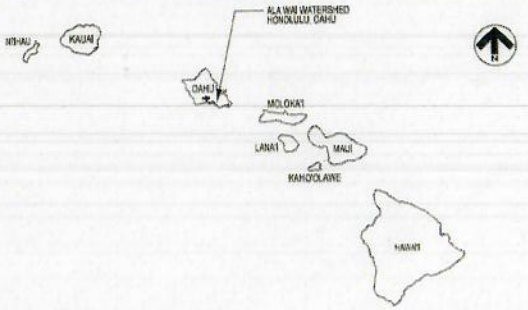


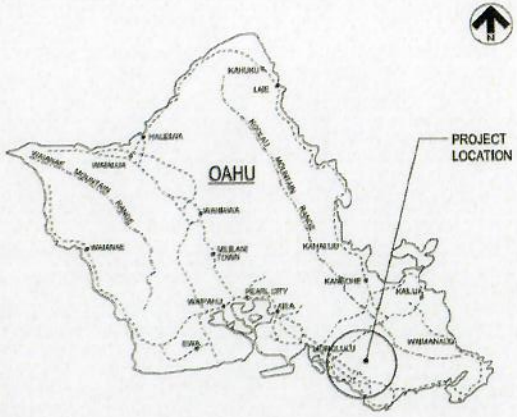

# ALA WAI CANAL PROJECT

## HONOLULU, OAHU, HI

PROJECT TITLE




VICINITY MAP NOT TO SCALE




PROJECT LOCATION NOT TO SCALE

US Army Corps of Engineers Honolulu District

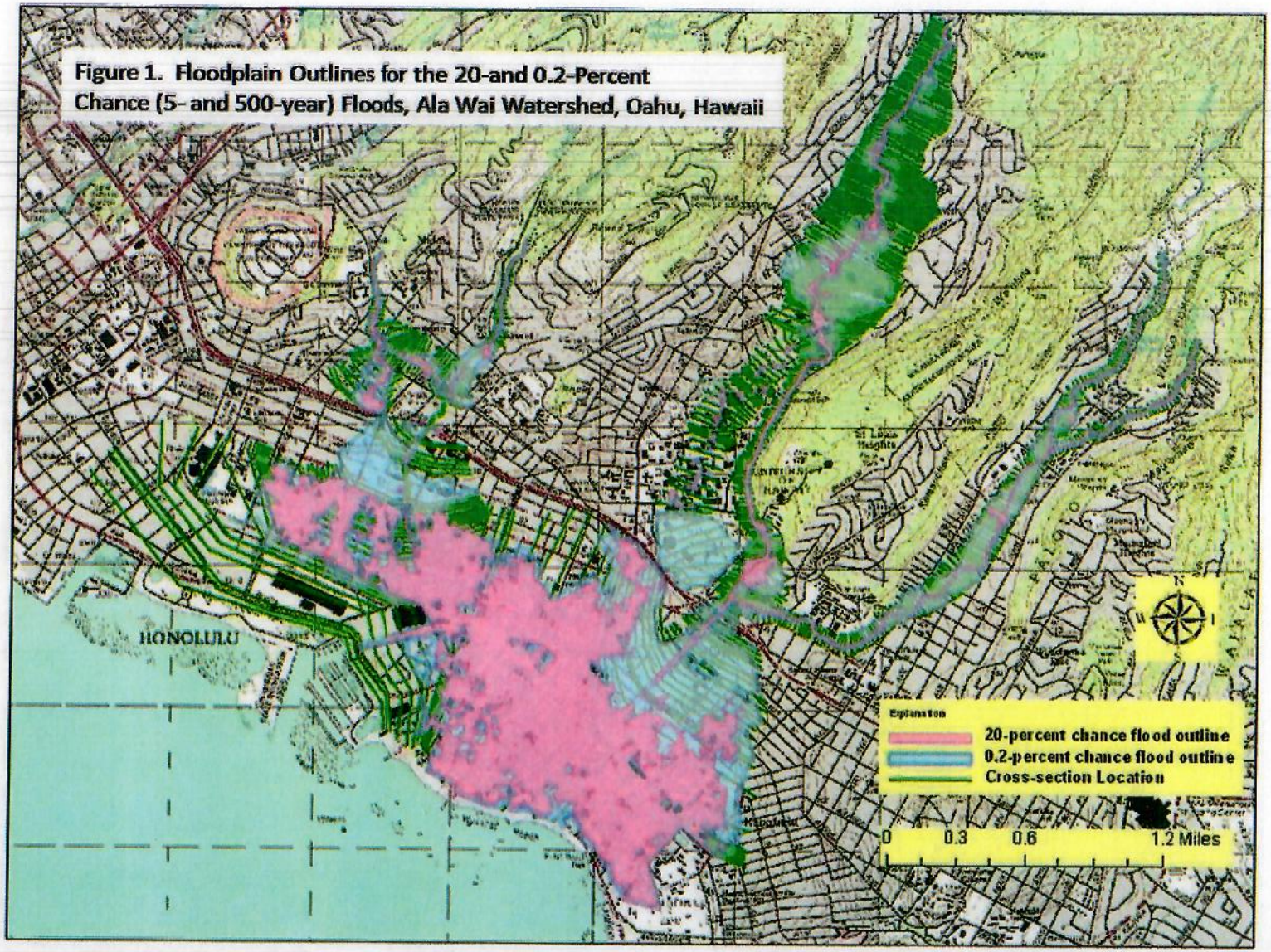
25% DESIGN

US ARMY CORPS OF ENGINEERS HONOLULU DISTRICT HONOLULU, HAWAII

ALA WAI CANAL PROJECT

SITE LOCATIONS PROJECT LOCATION & VICINITY MAP

SHEET IDENTIFICATION G-001




Draft EIS
Appendix B p10/81



Pink 5yr flood $32,516,000 damage
Blue 500yr flood $2.1 billion damage

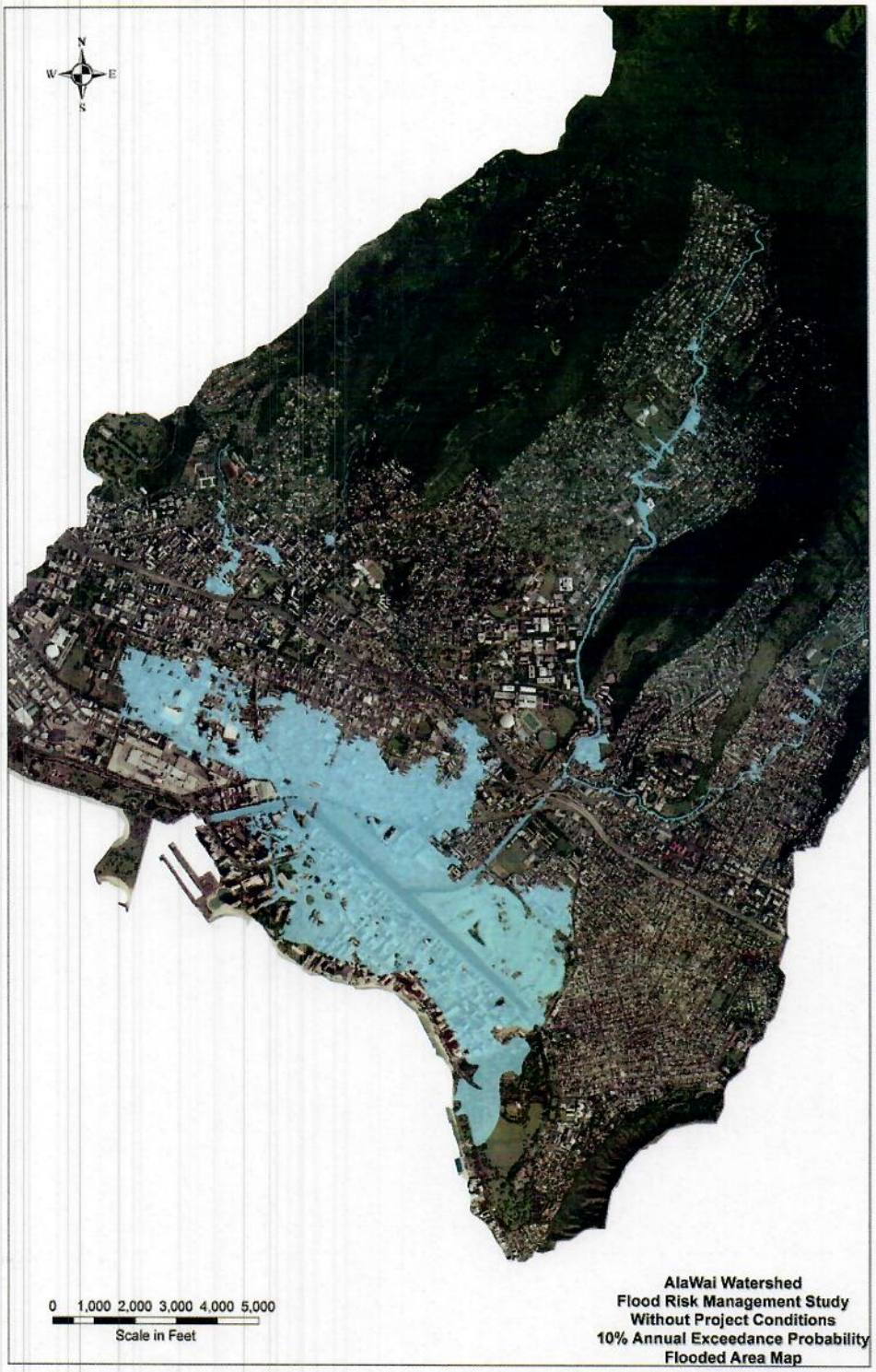
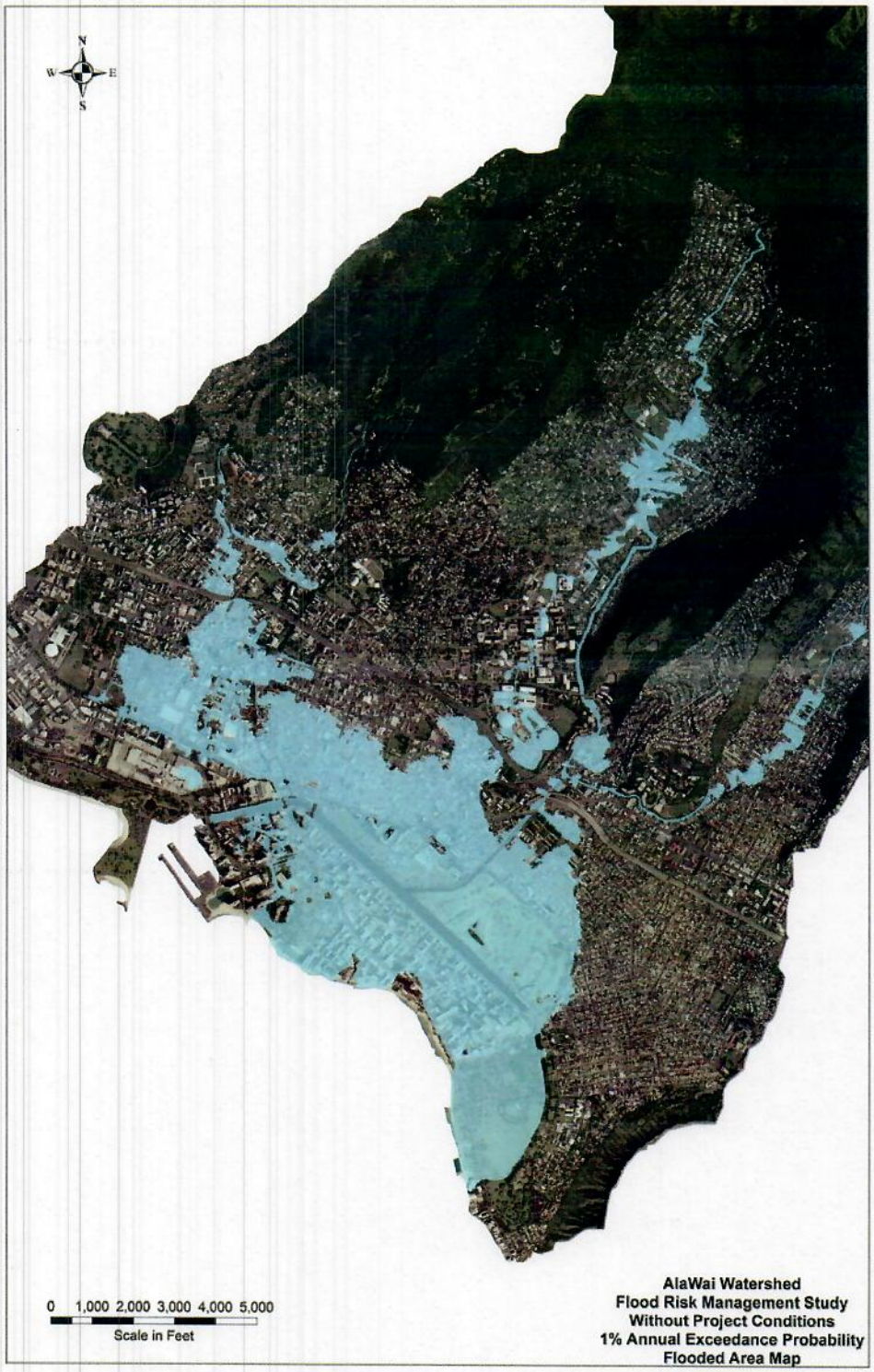



Figure 4: Floodplain Outlines for the 10-Percent ACE (10-year) Flood, Ala Wai Canal Watershed, Oahu, Hawaii.

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| Total Annual Cost | $48,331,000 |
| Expected Annual Benefits | $13,117,000 |
| **Benefit-Cost Ratio** | 3.7 |
| Net Annual Benefits | $35,214,000 |

By implementing the recommended plan, equivalent annual damages (EAD) to structures and contents within the watershed are anticipated to fall from approximately $53.7 million in without-project conditions to $5.4 million, reducing the EAD to about 10 percent of without-project EAD. The reduction is even more impressive in the three Ala Wai Canal reaches, where Waikiki flooding is of upmost concern; there, residual damages to structures, contents and infrastructure would be reduced to well under 1 percent of their without-project levels. Non-physical costs of flooding not quantified for this analysis, including emergency costs, traffic interruption impacts and business interruption costs, would be expected to follow suit. In addition, with the recommended plan's floodwalls in place, there is a greater than 99% assurance that the project would successfully contain a 0.01 ACE event under both current and projected (2025 and 2075) conditions and assuming either low, intermediate or high sea level rise scenarios.

Final EIS
Appendix B - Economics
p6/117

Plate 4 With-Project TSP Hydraulic Profiles

N

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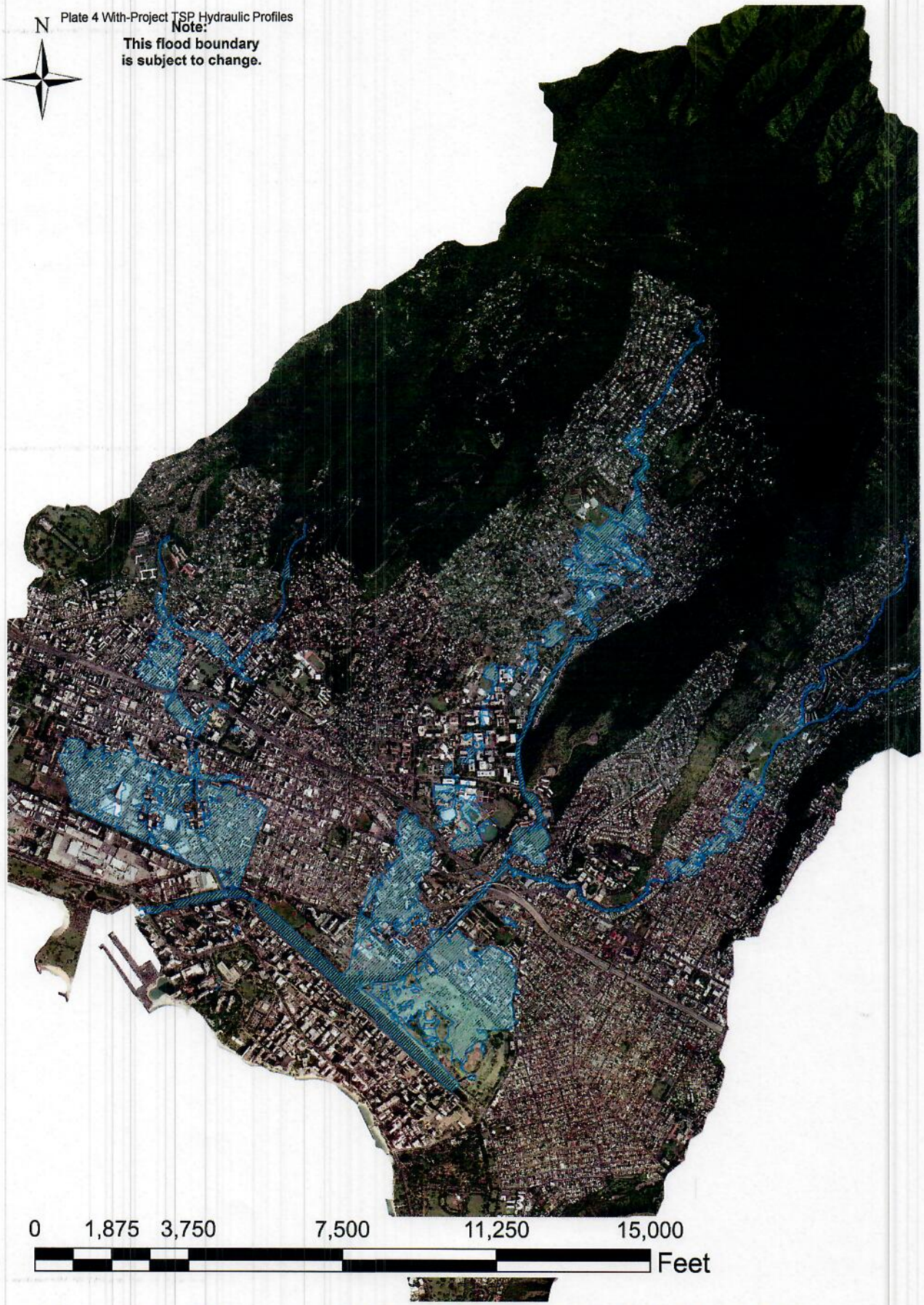

0 1,875 3,750 7,500 11,250 15,000

Feet

# ALA WAI CANAL PROJECT - ALTERNATIVE 3A

1% ACE (100-Year) Floodplain 2075 Intermediate Scenario

Ala Wai Canal Project 100-yr total damage $1.14 Billion.

Almost 400% increase

Draft EIS total $318 Million

**Table B-8. Existing Condition Single-Event Damages**
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| Reach | 0.5 | 0.2 | 0.1 | 0.05 | 0.02 | 0.01 | 0.005 | 0.002 |
|---|---|---|---|---|---|---|---|---|
| ALA1 | $0 | $0 | $32,033 | $55,685 | $98,044 | $299,809 | $464,886 | $563,932 |
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| MPC1 | $0 | $0 | $3,836 | $7,481 | $23,944 | $43,945 | $56,761 | $76,808 |
| MPC2 | $0 | $0 | $0 | $0 | $9,505 | $25,388 | $39,516 | $48,923 |
| Ala Wai subtotal | $1,956 | $32,587 | $130,653 | $243,371 | $456,406 | $806,480 | $1,080,587 | $1,376,048 |
| Kah1 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Kah2 | $0 | $0 | $0 | $61 | $213 | $349 | $443 | $643 |
| Kao1 | $0 | $0 | $0 | $2,020 | $4,416 | $8,009 | $9,806 | $10,884 |
| Mak1 | $0 | $0 | $1,066 | $3,447 | $8,697 | $12,814 | $26,576 | $98,376 |
| Mak2 | $0 | $0 | $0 | $3,349 | $28,650 | $42,965 | $58,485 | $73,393 |
| Mak3 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Mak4 | $0 | $0 | $0 | $1,737 | $2,289 | $2,675 | $3,030 | $3,243 |
| Makiki subtotal | $0 | $0 | $1,066 | $10,614 | $44,265 | $66,811 | $98,339 | $186,540 |
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| Pal4 | $0 | $0 | $0 | $0 | $0 | $0 | $2,015 | $3,319 |
| Puk1 | $0 | $0 | $0 | $0 | $0 | $7 | $115 | $263 |
| Wai1 | $0 | $0 | $0 | $0 | $0 | $0 | $2 | $53 |
| Palolo subtotal | $0 | $0 | $0 | $0 | $2,064 | $2,964 | $9,788 | $17,680 |
| STUDY AREA TOTAL | $1,956 | $32,596 | $132,145 | $256,722 | $593,146 | $1,141,059 | $1,561,044 | $2,067,756 |

Palolo Valley Zero Damage

2yr 5yr 10yr 20yr 50yr 100yr

Note 1
PAL 1 includes Kaimuki Shopping Ctr / St. Louis School / City Mill / Hawaii Stores / Hokulani that area almost not in Palolo Valley the end of Palolo stream

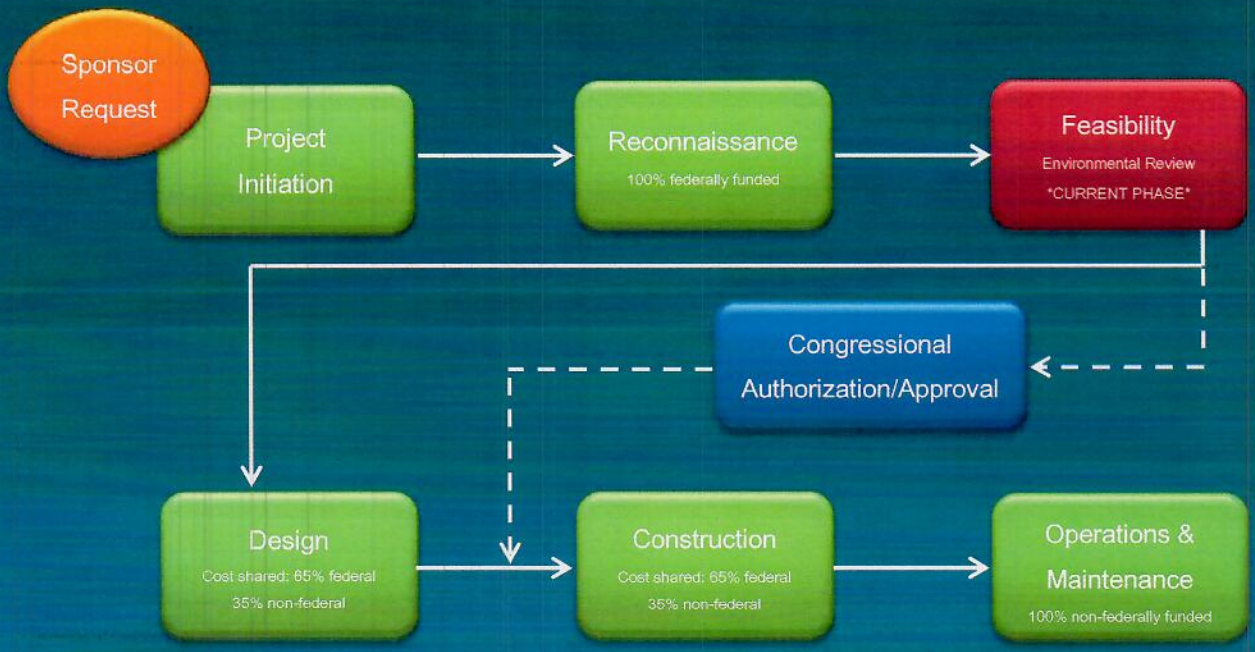
Total Watershed $1.14 Billion

$2 million total damages for Palolo

3 million total damages for Palolo

Final EIS Appendix B P55/117

# Ala Wai Canal Project





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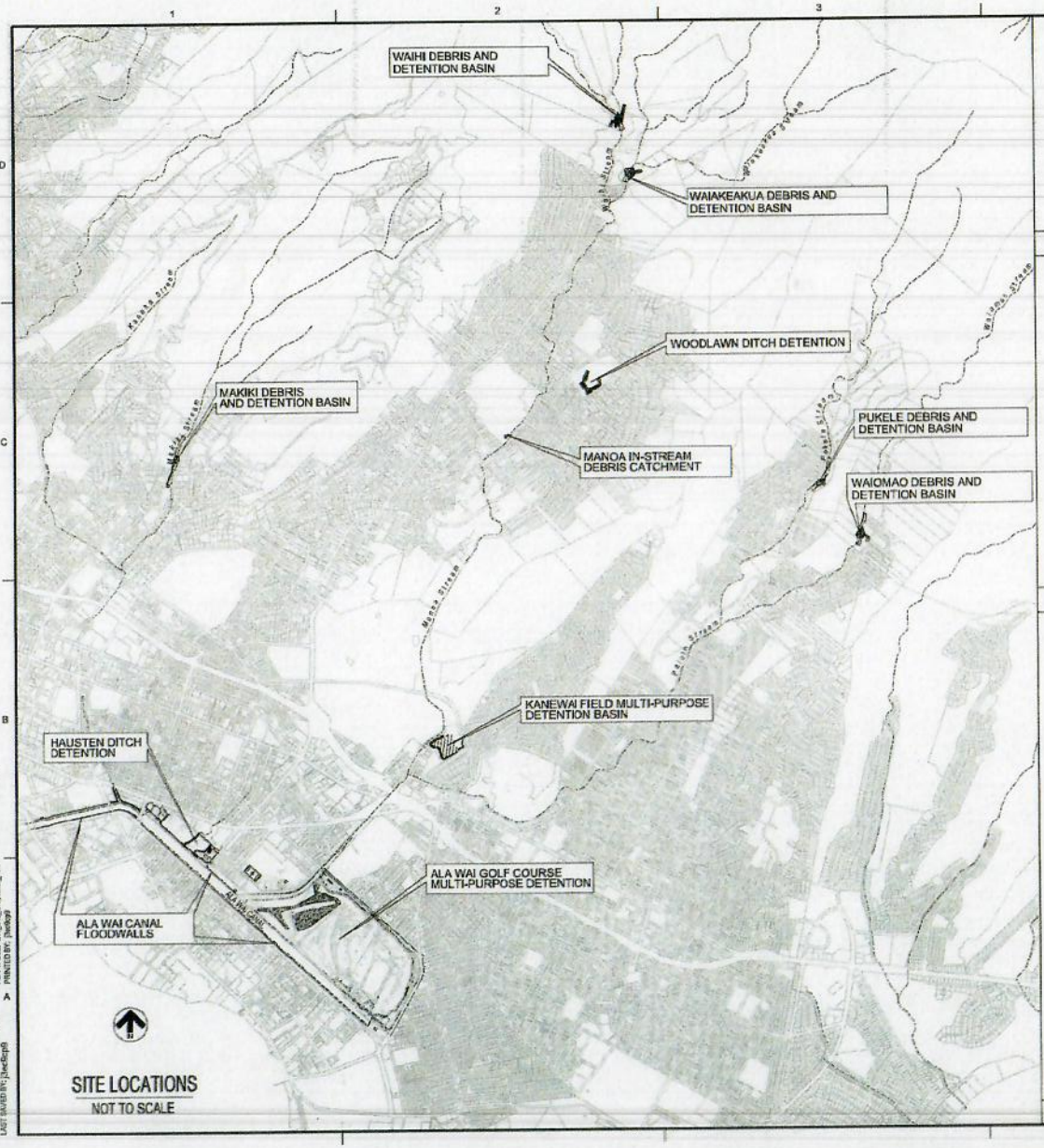


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## HONOLULU, OAHU, HI

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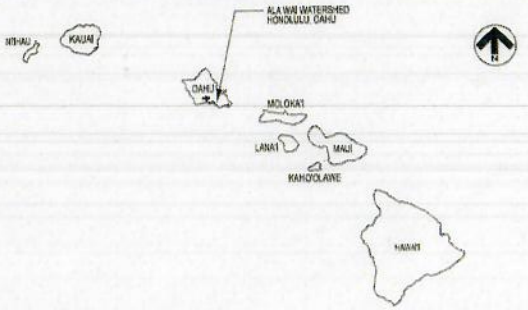


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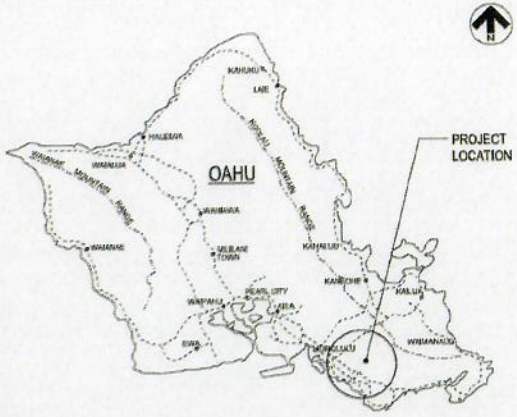


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ALA WAI CANAL PROJECT

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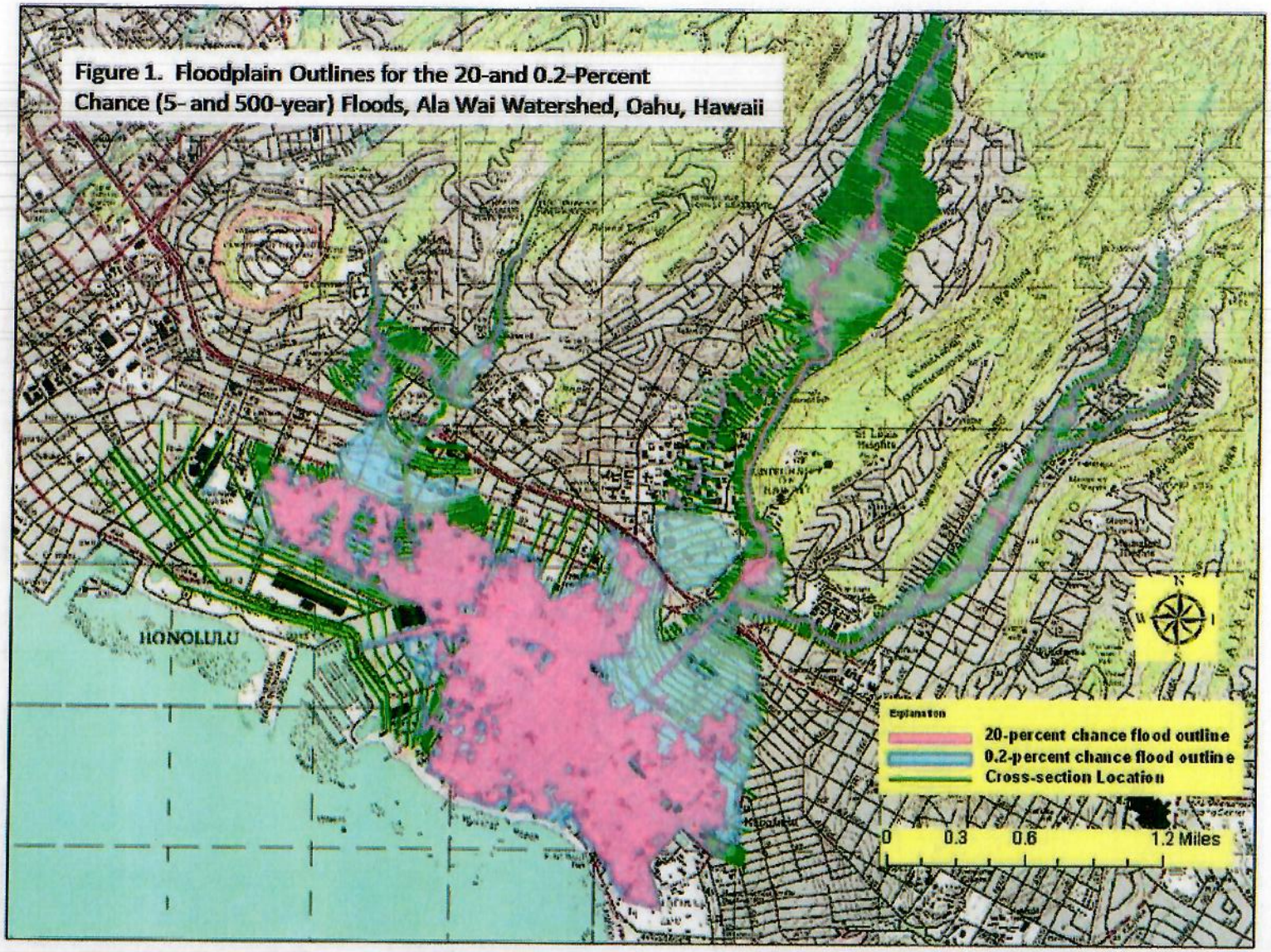


Draft EIS
Appendix B p10/81



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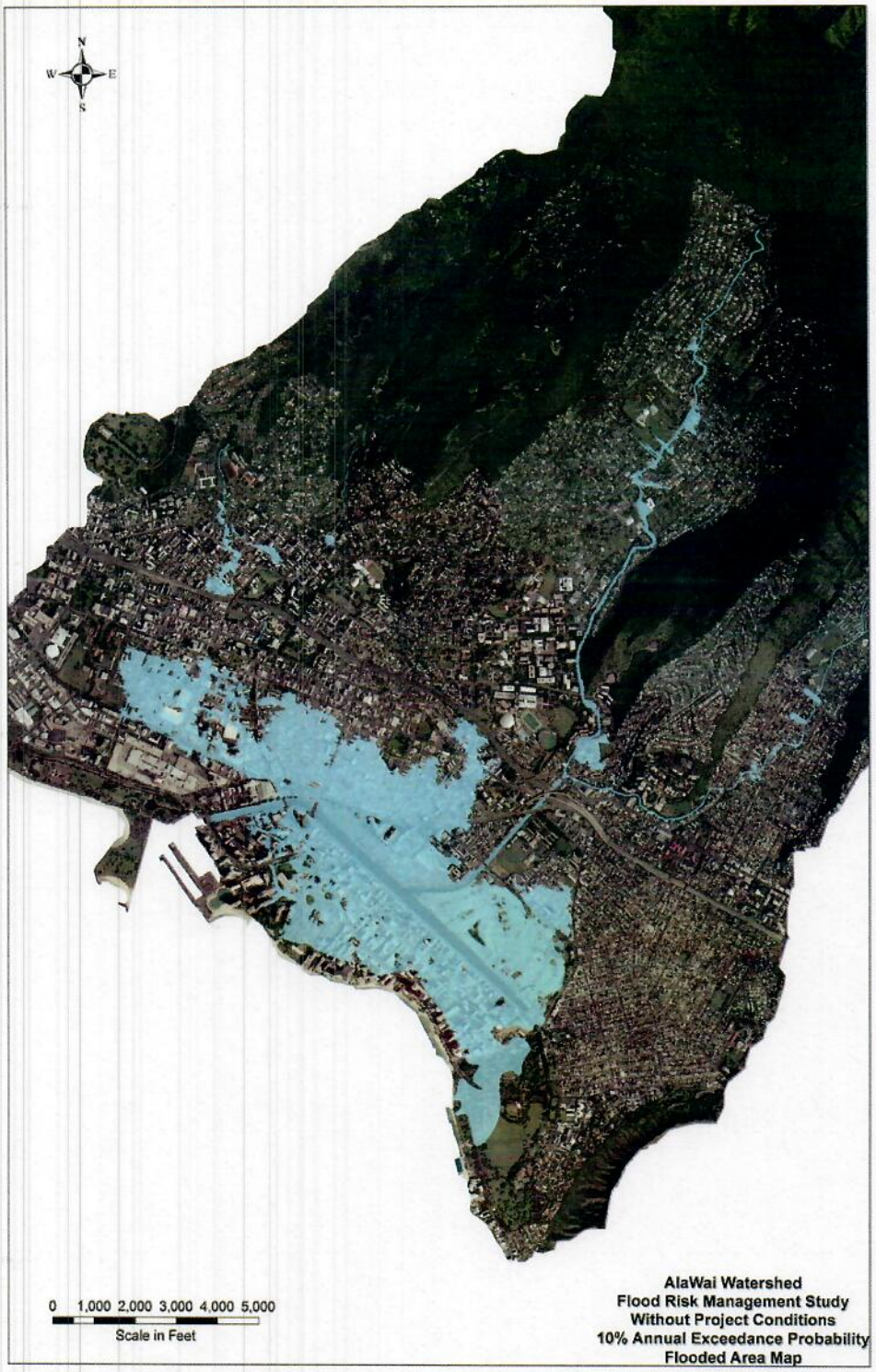


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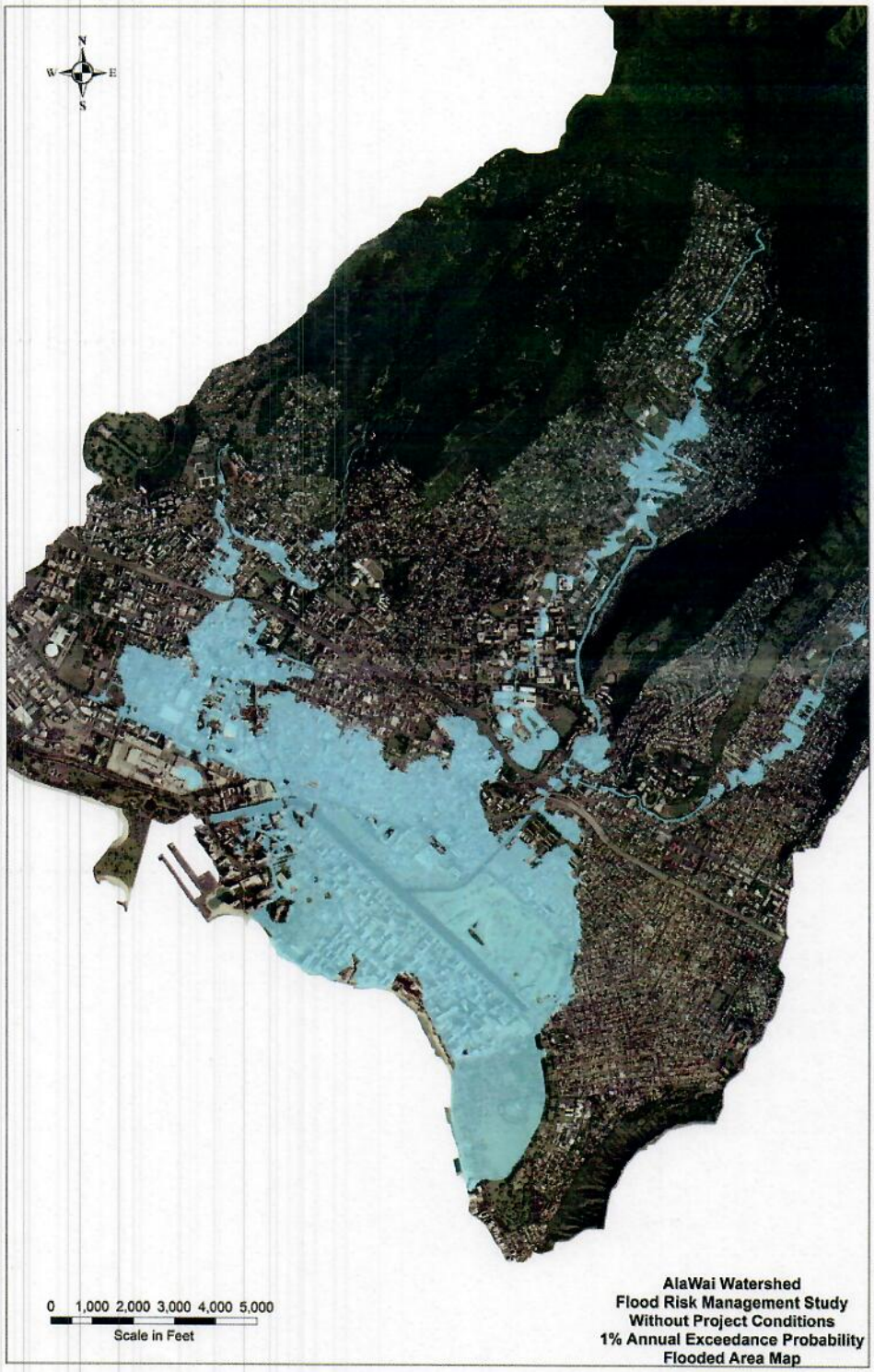


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Final EIS
Appendix B - Economics
p6/117

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N

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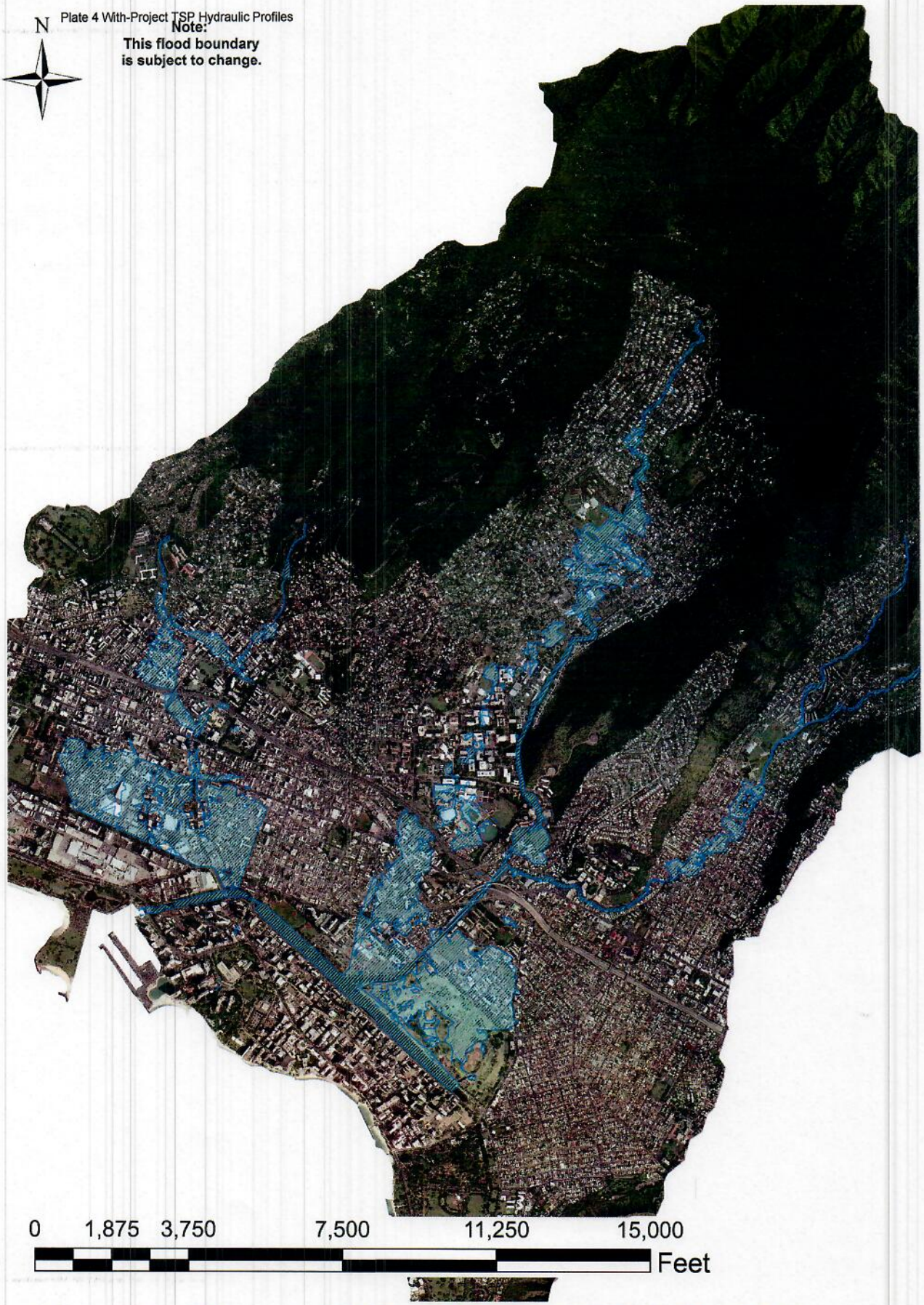

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| Puk1 | $0 | $0 | $0 | $0 | $0 | $7 | $115 | $263 |
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2yr 5yr 10yr 20yr 50yr 100yr

Note 1
PAL 1 includes Kaimuki Shopping Ctr / St. Louis School / City Mill / Hawaii Stores / Hokulani that area almost not in Palolo Valley the end of Palolo stream

Total Watershed $1.14 Billion

$2 million total damages for Palolo

3 million total damages for Palolo

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