U.S. EPA DETAILED COMMENTS ON THE ALA WAI CANAL PROJECT DRAFT FEASIBILITY STUDY WITH INTEGRATED ENVIRONMENTAL IMPACT STATEMENT, OAHU, HAWAII, NOVEMBER 9, 2015

Impacts to Waters of the United States

The Ala Wai Canal Project Draft Feasibility Study with Integrated Environmental Impact Statement (DFS/EIS) includes a draft Clean Water Act Section 404(b)(1) Evaluation that describes flood risk management measures and associated compensatory mitigation measures for the proposed project (Appendix E-3). The DFS/EIS identifies the tentatively selected plan as the least environmentally damaging practicable alternative (LEDPA) and includes estimated excavation and discharge of fill within Waters of the U.S. (pgs. 5-12, 13). According to the DFS/EIS, proposed fill activities would comply with Section 404(b)(1) guidelines; however, a formal jurisdictional determination of Waters of the U.S. has not yet been completed for the project area (pg. 5-11). The upper reaches of the streams contain riffle and pool complexes that qualify as *special aquatic sites*, a subset of Waters of the U.S. that is afforded additional consideration (pg. 5-11).

Recommendations:
Include, in the Final Feasibility Study/Integrated Environmental Impact Statement (FFS/EIS), the verified jurisdictional delineation of Waters of the U.S. by the U.S. Army Corps of Engineers. Describe the condition of Waters of the U.S. and quantify anticipated impacts, in acres, including any impacts to riffle and pool complexes or other *special aquatic sites*. Given the extent of riffle and pool complexes, EPA strongly recommends that a comprehensive alternatives analysis be completed in order to ensure compliance with the CWA Section 404(b)(1) guidelines.

Discuss, in the FFS/EIS, the reasons why the tentatively selected plan was identified as the LEDPA. Identify other alternatives considered in the CWA Section 404(b)(1) evaluation.

Disclose, in the FFS/EIS, whether there are any wetlands or sensitive habitat adjacent to the Ala Wai Canal, and if so, identify and quantify the potential impacts to these features, in acres.

Impacts to Endangered Species and Habitat Loss

Although the endangered blackline Hawaiian damselfly was originally thought to be restricted to higher elevations and not present in the project area, it was identified by the U.S. Fish and Wildlife Service within the proposed footprint of the Waihi debris and detention basin on July 28, 2015 (Appendix E1, pg. 2). According to the DFS/EIS, the Corps intends to initiate formal Section 7 consultation upon receipt of species information from the FWS. The U.S. Environmental Protection Agency is concerned about potential impacts to this species, including loss of habitat, and the possibility that it may be present at other locations in the project area. Options to avoid known populations of the blackline Hawaiian damselfly should be considered, including siting the Waihi debris and detention basin at an alternative location, or eliminating it altogether.

Recommendations:
Update, in the FFS/EIS, the discussion of how the tentatively selected plan would comply with the Endangered Species Act. Include additional documents (e.g. Biological Assessment and Biological Opinion) associated with the ESA Section 7 consultation process in Appendix E5.

Discuss, in the FFS/EIS, the potential loss of blackline Hawaiian damselflies and its breeding habitat. Disclose whether biologists have conducted surveys for black Hawaiian damselflies at

the other sites in the study area and whether they were found elsewhere. Quantify the loss of aquatic habitat associated with the black Hawaiian damselfly.

Consider options to avoid known populations of the blackline Hawaiian damselfly, including siting the Waihi debris and detention basin at an alternative location, or eliminating it altogether.

Hawaiian Stream Habitat Evaluation Procedure (HSHEP) Model

According to the DFS/EIS, the Hawaiian Stream Habitat Evaluation Procedure (HSHEP) model was used to quantify the loss of aquatic habitat associated with the proposed project (pg. 5-43). The results indicate the tentatively selected plan would result in a total loss of 192 habitat units. The project incorporates compensatory mitigation to offset these anticipated losses. Mitigation measures identified include in-stream improvements to eliminate migratory passage barriers for native species at two locations in Manoa Stream. It is not clear, however, whether the HSHEP model accounts for the loss of black Hawaiian damselflies and its breeding habitat, or the loss of habitat resulting from the construction and use of debris and detention basins in the study area. It is also not clear whether the HSHEP model accounts for degraded water quality due to mobilized contaminated sediment, or the increased exposure risk for fish and wildlife found within stream and coral reef habitat.

Recommendations:
Discuss, in the FFS/EIS, whether the HSHEP model accounts for: 1) the loss of blackline Hawaiian damselflies and its breeding areas; 2) the loss of aquatic habitat associated with debris and detention basins in the study area; 3) degraded water quality due to mobilized contaminated sediment; and 4) increased exposure risk for fish and wildlife resources found within stream and coral reef habitat. Incorporate these factors into the HSHEP model, if feasible, and summarize the results, accordingly.

Identify, in the FFS/EIS, additional mitigation measures to offset specific project impacts that cannot be avoided or further minimized.

Dispersal of Contaminated Sediment

Historically, large quantities of sediment have been deposited in nearshore waters during storm events. Sediment loading contributes to habitat degradation in the streams and in the nearshore marine environment by smothering substrate, filling interstitial spaces, and harming coral reef communities. Both dieldrin and chlordane have been detected in fish and stream bed sediment samples from Manoa Stream in quantities that exceed aquatic life and wildlife protection guidelines (pg. 5-27). According to the DFS/EIS, the project is not expected to result in significant water quality impacts, either within the streams or nearshore waters (including essential fish habitat); rather, some degree of benefit may be realized through the capture and removal of sediment from the debris and detention basins (pg. 5-45).

According to the DFS/EIS, the detention basins will require periodic removal of sediment/debris (pg. 5-31). The document does not discuss how this will be accomplished, what type of equipment will be required, the frequency of clean-up or other maintenance activities, such as erosion control, that may be necessary. After a storm event, sediment and debris will cover the detention basins. The sediment may contain contaminants and could pose a health risk. Rainfall will generate overland flow and may cause erosion. Infiltration could also lead to further dispersal of contaminants. Removal of sediment and debris from the detention basins will likely be accomplished using heavy equipment and this will be destructive to the natural habitat. Exposure of topsoil to erosive forces may also result in increased transport of

sediment downstream. The mobilized contaminants in the sediment have the potential to impact water quality, as well as fish and wildlife resources within stream and coral reef habitat. These impacts, however, are not discussed within the DFS/EIS.

Recommendations:
Discuss, in the FFS/EIS, the potential for sediment reaching nearshore waters during storm events, or possibly during tidal fluctuations, and how contaminants in the sediment could impact water quality as well as fish and wildlife resources within stream and coral reef habitat.

Describe, in the FFS/EIS, maintenance activities that would be conducted for the detention basins, including the types of equipment required to remove sediment and debris, how frequently the basins would be inspected and cleaned, whether the sediment would be tested for contaminants prior to disposal, where the sediment and debris would be transported, and how long these activities are anticipated to take.

Describe any management actions that would be taken in the event that new vegetation infills the detention basins. For example, would it be allowed to grow or would it be removed? If the latter, how would it be removed and how frequently?

Incorporating Strategies to Improve Stormwater Management and Reduce Nonpoint Source Pollution

Nonpoint source pollution can be reduced with smart planning efforts. When properly designed and maintained, detention basins can reduce fine sediment concentrations in suspension; trap large particles, resulting in protection and maintenance of downstream channel geometry and flow conveyance; reduce downstream peak flows, decreasing in-channel erosion rates; enhance groundwater recharge; and attenuate flood impacts. We urge the Corps to consider ways to reduce nonpoint source pollution in tandem with the design of components (debris and detention basins) in the tentatively selected plan.

Recommendations:
Consider ways to minimize nonpoint source pollution, particularly during the design of the debris and detention basins. For example, revegetation practices can decrease overland flow and erosion. Baffle boxes can be used to reduce the concentration of fine sediments, nutrients, and other NPS pollutants.

Consider other opportunities or programs to reduce runoff volumes and improve runoff/water quality in the project area. For example, harvesting runoff and storing it in rain barrels or subsurface water tanks can also be effective in reducing peak flows.

Describe, in the FFS/EIS, the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) permit. Consider this regulatory overlay and any pertinent requirements of the NPDES MS4 permit when looking for additional opportunities to reduce runoff volumes and improve runoff water quality.

Dredging of the Ala Wai Canal

As noted in the DFS/EIS, the Ala Wai Canal was originally constructed to provide drainage, not flood protection. Based on current modeling, the Canal is expected to only contain a 20-percent annual chance exceedance (ACE) flood (pg. 2-4). The Ala Wai Canal captures sediment that is transported via its tributary streams and generally serves as a sink for the watershed (pg. 5-28). According to the DFS/EIS,

maintenance dredging of the Canal is expected to start in 2017, but is not expected to reduce flood impacts, or significantly affect potential flood damages (pg. 1-8).

Recommendations:
Explain, in the FFS/EIS, why maintenance dredging of the Canal would not result in a reduction in flood impacts. Provide, if possible, the ACE flood the Canal would be expected to contain after dredging.

Clarify, in the FFS/EIS, whether the current capacity and post-dredging capacity of the Ala Wai Canal have been accounted for during the design of the upstream detention basins, as well as the design of the floodwalls along the Canal.

Discuss, briefly, the environmental benefits that may be realized in conjunction with regular dredging of the Canal.

Implications of Aging and Undersized Infrastructure

According to the DFS/EIS, the City and County of Honolulu (CCH) is responsible for the island's storm drain system, which captures storm water and conveys it directly to streams, canals, and/or the ocean to prevent flooding in developed areas (pg. 5-82). The storm drainage system is aging and in need of improvements to meet present day development and runoff levels (pg. 2-4). Portions of the drainage system in the lower elevations of the watershed are also influenced by tidal waters, further reducing their capacity (pg. 5-11). The extent to which the aging and undersized infrastructure affects flooding within the study area is not discussed, except to note that CCH is developing plans and projects to address storm drainage issues (pg. 2-4).

Recommendations:
Discuss, in the FFS/EIS, the deficits associated with aging and undersized infrastructure in the project area. Describe, at least qualitatively, how these deficits contribute to flooding, both on a local and regional scale, within the project area.

Describe, in the FFS/EIS, how projected sea level rise will further impact stormwater conveyance infrastructure and how this may contribute to an increase in flooding within the lower reaches of the watershed.

Provide, in the FFS/EIS, an update on CCH plans and projects to address storm drainage infrastructure. Evaluate the extent to which these plans and projects can be expected to reduce flood risk within the project area.

Critical Infrastructure Remaining in the 1-percent ACE Floodplain

According to the DFS/EIS, although Alternative 3A.2-2 would protect the majority of the watershed from the 1-percent ACE floodplain, it would not entirely eliminate flood risk, and areas of the Makiki watershed would incur greater damage than other areas (pg. 8-4). For Alternative 2A, infrastructure remaining in the 1-percent ACE floodplain includes two fire stations (Makaloa station in Ala Moana and Wilder station in Makiki), two nursing facilities (Hale Nani in Makiki and Manoa Cottage in Kaimuki), and two emergency shelters (Lunalilo Elementary and Washington Intermediate in McCully-Moiliili). It is unclear whether Alternative 3A would reduce flood risk to these six structures. Notably, Hale Nani is a large skilled nursing facility with approximately 288 beds. Given the aforementioned vulnerability to

damage of areas in the Makiki watershed and the challenges of evacuating residents in a skilled nursing facility during an emergency, EPA is concerned about the residual flood risk in that area.

Recommendations:
Illustrate, in the FFS/EIS, the location of critical infrastructure that would remain in the 1-percent ACE floodplain for both Alternative 2A and 3A. Clarify whether Alternative 3A would reduce the flood risk to such structures and assess the likely effectiveness of any measures in place to protect critical infrastructure or inhabitants in the event of flooding, such as plans to evacuate residents at Hale Nani and Manoa Cottage.

Evaluate, in the FFS/EIS, whether incorporating the Roosevelt debris and detention basin, or other measures, would reduce the residual flood risk, particularly to the Hale Nani nursing facility and other critical infrastructure. If so, reconsider adding these measures to the tentatively selected plan.

Flood Risk from Tsunamis and Hurricanes

The management measures proposed are designed specifically to reduce riverine flood risks in the Ala Wai Watershed and are not designed to protect against hurricane storm surge or tsunamis. As noted, hurricane-related storm surge and tsunamis can cause flood damage in the lower portions of the watershed (pg. 2-5). Flood-producing rainfall usually occurs during the wet season (October to April); whereas, hurricanes are most likely to occur between June and November. The DFS/EIS indicates that, 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 (pg. 2-5). The EPA is concerned about the decision to not include storm surge in the hydraulic model, as it seems possible that a slow moving hurricane could drop a significant amount of rainfall over the watershed, resulting in riverine flooding as well as storm surge. It is important to understand the limitations associated with flood protection measures that focus on riverine flooding, as opposed to flooding from storm surge or tsunamis.

Figures 15a and b illustrate the 1-percent ACE flood, as well as the Flood Insurance Rate Map (FIRM) 1-percent ACE flood boundary and coastal surge zone (pgs. 5-19 and 20). The FEMA Flood Zone A encompasses a large area outside the 1-percent ACE flood. According to the DFS/EIS, some of the flood-risk reduction measures – such as the Ala Wai Canal floodwalls – would be expected to provide protection from storm surge (pg. 2-5). The extent to which the walls would provide protection, however, is unknown. According to the DFS/EIS, additional risk analysis may be conducted by running a performance check of a worst-case scenario involving coincident events (e.g., hurricane-related surge at high tide, with 1-percent ACE riverine flooding), and comparing the effect relative to the height of the proposed floodwalls (pg. 8-7).

Recommendations:
Describe, qualitatively, in the FFS/EIS, how storm surge and tsunamis could impact the Ala Wai Watershed. Illustrate the storm surge zone clearly.

Run a performance check of coincident rainfall and storm surge or tsunami events, as described above, and discuss the results in the FFS/EIS.

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

ATTN: Kathleen Martyn Goforth
US Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

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:

- Impacts to Waters of the United States
- Impacts to Endangered Species and Habitat Loss
- Hawaiian Stream Habitat Evaluation Procedure (HSHEP) Model
- Dispersal of Contaminated Sediment
- Incorporating Strategies to Improve Stormwater Management and Reduce Nonpoint Source Pollution
- Dredging of the Ala Wai Canal
- Implications of Aging and Undersized Infrastructure
- Critical Infrastructure Remaining in the 1-percent ACE Floodplain
- Flood Risk from Tsunamis and Hurricanes

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. Materials utilized in the designs may also be reevaluated to meet site conditions. Given the level of certainty, impacts to waters of the United States in the form of wetlands, riffle and pool complexes have been estimated, but not delineated. Estimates are included in the 404(b)(1) determination included in Appendix E3 of the FEIS. Results included in the draft FEIS are updated in the final FEIS based on information received from US Fish and Wildlife Service (USFWS) since the release of the draft FEIS.

Comparison of the final array of alternative plans to determine the least environmentally damaging practicable alternative (LEDPA) is included in Sections 5.4.2.2 and 5.4.2.3. Work within channel areas of streams is assumed to be jurisdictional wetland (see Appendix E, 404(b)(1) analysis). Impacts identified to stream riffle and pool habitat are therefore assumed to be impacts to jurisdictional wetlands. Table 19 is amended with the acreage of impacts to wetlands as requested based on an assessment of the area of project features within wetland areas identified by the National Wetland Inventory.

Formal Endangered Species Act (ESA) Section 7 consultation has been completed with USFWS since the release of the draft FEIS. The terms a biological opinion to determine compliance with ESA is complete and included the final FEIS. Section 5.7.3 and Appendix E5 are updated in the final FEIS to document the outcome of ESA consultation.

Appendix E2 details the species-specific analysis included in the Hawaiian Stream Habitat Evaluation Procedure (HSHEP) Model. The ESA-protected blackline Hawaiian damselfly is not included in this analysis and has been evaluated under biological assessment completed by USACE and the biological opinion negotiated between USACE and USFWS under ESA consultation. The methodology outlined in the HSHEP mimics the habitat modeling developed by USFWS under the Habitat Evaluation Procedure (HEP). This approach is rooted in the use of the habitat suitability of specific species serving as proxies for evaluation of the impact of an action on the larger environment. Species are selected which are believed to be representative of the important ecosystem functions and values found within the study area. Species evaluated under HSHEP are listed in Appendix E2 and include five species of freshwater fish, two species of freshwater crustaceans and a species of freshwater snail. A suite of habitat mitigation measures has been proposed and evaluated in detail in Appendix E2. The recommended plan includes mitigation to compensate for quantified impacts.

The potential for the project to mobilize stream sediment and potential contaminants is addressed in Section 5.4 (Surface Water) and Section 5.6 (Water Quality) of the FEIS, and discussed in particular in Section 5.6.2.2. The recommended plan is designed to generally reduce stream velocities during flood events, but allow normal flows otherwise. The in-stream structures are not specifically designed to capture sediment, but to the extent that they do trap sediment and contaminants that would then be removed and properly disposed of, they may in the long-term provide some water quality benefit to the watershed (Section 5.6.2.2). In the short term, impacts from sediment mobilized during construction and maintenance would be minimized through the selection of appropriate BMPs, which, as is discussed elsewhere, will be identified in future phases of the project. On 26 FEB 2016, USFWS hosted an interagency meeting which included USFWS, EPA, and National Marine Fisheries Service staff to discuss the impacts of the Ala Wai Canal FEIS recommended plan on the loss of pool and riffle habitat and effect on sedimentation in downstream waters. Based on that discussion, two conclusions were reached:

1. The mitigation plan included in the FEIS for compensation for loss of pool and riffle habitat with measures that improve fish passage is acceptable to review agencies; and
2. The characterization of sediment and sediment impacts included in the FEIS is acceptable to review agencies provided that temporary best management measures are in place during construction to off-set construction site erosion

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. Table 18 further elaborates on each feature by site. These operations and maintenance obligations are identified during the feasibility phase for the purpose of developing initial cost estimates and evaluating environmental impacts. If approved, a detailed operations and maintenance plan will be developed during the design phase of the study. 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, per the guidelines of the operation and maintenance plan. For vegetation maintenance, woody vegetation around detention basins is of primary concern and the

frequency of clearing around these structures is currently anticipated at twice per year (Table 9). The area to be maintained for this purpose includes the immediate project area and a twenty-foot buffer around the permanent structure. The FEIS does not designate a specific method for removal, but will detail further requirements in the design phase of the study.

Compliance with the Non-Point Discharge Elimination System (NPDES) is described in Section 5.6.2.2 of the report. Control measures (i.e. best management practices) to demonstrate compliance with NPDES are detailed in Table 24 of the final FEIS. As described in Appendix E3, the 404(b)(1) analysis details the construction intent of constructing detention basins during periods of low flow with diversion/dewatering of flows around the area of disturbance to minimize the risk of downstream sediment transport during construction.

The Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress. Dredging was initially considered as a management measure to obtain the multiple benefits of water quality and ecosystem improvement. Dredging, in the vertical sense, does not lower the water surface elevation of the canal given that dredged sediments are displaced with water and water surface elevations in the canal are tidal-dependent, therefore no subsequent flood storage is provided by dredging and this action was dropped from consideration as a flood risk management feature. Dredging of the Ala Wai Canal and its effects are described in Table 1 of the draft FEIS.

USACE is limited by policy from addressing flood problems that are deemed to be local in nature, defined as follows:

“Water damage problems may be addressed under the flood control authorities downstream from the point where the flood discharge is greater than 800 cubic feet per second for the 10 percent flood (one chance in ten of being exceeded in any given year) under conditions expected to prevail during the period of analysis. Drainage areas of less than 1.5 square miles shall be assumed to lack adequate discharge to meet the above criterion.” (USACE Engineering Regulation 1165-2-21)

As such, the FEIS makes reference to the real problems experienced by the undersized infrastructure, but does not evaluate flooding resulting from undersized infrastructure, as the agency is prevented from doing so by policy. Damages resulting from undersized infrastructure are not taken into account in the FEIS analysis nor are the benefits of local improvements to that system. The FEIS does not propose changes to the existing local drainage system with the exception of the installation of flap gates at stormsewer outfalls on the Ala Wai Canal to prevent backwater flooding and utilize storage within the canal for a flood risk benefit. Appendix A3 accounts for the effects of sea level change on flooding in the with- and without-project conditions. This analysis will be updated in the final FEIS to better assess the effects of a projected high level of sea level change on the residual economic flood risk.

The final FEIS is updated to evaluate the remaining critical infrastructure in the .2-percent ACE floodplain resulting from the implementation of the recommended plan. Review of Table 23 of the final FEIS

shows that within the Makiki drainage, the recommended plan (identified as NED) shows flood stages less than or equal to Alternative 2A, the alternative which includes the Roosevelt Debris and Detention Basin.

Coastal storm damage and flood risk management are separate authorities for USACE. Coastal storm damage in the study area would primarily focus on wave run-up to the shoreline and the resulting flooding, whereas, flood risk management will focus on riverine flooding from rainfall runoff in the watershed. 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. While implementation of the recommended plan will produce a benefit from wave run-up through the canal reaches, protection from coastal storm damage to Waikiki would involve study of shoreline protection measures which is not a part of this 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

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.

I am opposed to the construction of an earthen dam on the Pukele Stream in the Carlos Long area.

First of all as a homeowner on Ipulei Place, I am directly impacted by the proposed project. The stream bed runs through an easement on my property. In its natural state the Pukele stream cleans itself of debris and stagnant water. I believe this dam would require frequent maintenance to keep it free flowing. I seriously doubt that maintenance will be performed often enough since similar existing structures already suffer from lack of maintenance. Accumulated debris and water will surely be a breeding ground for mosquitoes which would be health concern for neighborhood residents.

It is also a serious concern for many residents that this dam could cause flooding in the immediate area our neighborhood – an area which should never have had to worry about flooding. Heavy storms can bring a great amount of large debris downstream, perhaps enough to clog even the overflow and divert water into the neighborhood. Fallen trees would be enough of a concern even without a dam in place.

I also believe this structure will be an eyesore that none of the homeowners in this area ever thought a possibility. The entire site is located on beautiful private land which is to be seized from unwilling owners and spoiled. I also know that this seizure of land takes away housing and revenue producing property from private individuals. I think this is morally wrong, especially when there are alternatives.

Finally, I think that the necessity of this project as a whole could be questioned. Computer modelling on this scale is not a proven science. And some of the presentation of this project to the public seems to me to be exaggerated. Figure ES-1 on page 7 of the Main Report showing the "extent of inundation" is very misleading. This "rendering" suggests to the casual viewer that this inundation covers entire neighborhoods to above the rooftops! I have also noticed that the use of the word "berm" seems to have supplanted the more accurate term "dam", perhaps to make the project sound more innocuous and avoid scrutiny. I think a more thorough vetting by the public is called for, this period of public discussion has been far too brief for a project of this extent.

Thank you for your consideration,

Sincerely, David Youtz

CONTACT INFORMATION

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

Name: David Youtz

Address: 2671 Ipulei Place
Honolulu HI 96816

Phone: (808) 368-5239

Email: youtz@hawaii.rr.com

ALA WAI CANAL PROJECT, O'ahu, Hawai'i

Honolulu District, U.S. Army Corps of Engineers
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858

From:	David Youtz
To:	Ala Wai Canal Project
Subject:	[EXTERNAL] Opposition to Pukele stream earthen dam
Date:	Monday, November 09, 2015 11:00:50 AM

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to whom it may concern,
I am opposed to the construction of an earthen dam on the Pukele Stream in the Carlos Long area.

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Thank you for your consideration,
Sincerely, David Youtz

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: David Youtz
2671 Ipulei Place
Honolulu, Hawaii 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:

- Design elements of debris and detention basins
- Concerns of affected landowners regarding real estate acquisition
- Operations, maintenance and public safety of the project features
- Mosquito control

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.

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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures.

Implementation of the recommended plan will require the acquisition of private property. The exact timing of land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ("Uniform Act"). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate

Table 9, page 3-22 of the draft FEIS (page 3-23 in 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.

Unfortunately, the issue of mosquito control is not a topic addressed by the FEIS nor does USACE have the authorization to study that issue. Mosquitoes live in riparian environments and it is not anticipated that the availability of habitat will change as result of the recommended plan. For concerns regarding mosquitoes as disease vectors, it is suggested that you contact the State of Hawaii Department of Health.

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. David Youtz
2671 Ipulei 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.

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 following:

- Specific Concerns raised in your Comment Sheet submitted at the Ala Wai Project DFEIS Public Meeting dated September 30, 2015
- Specific Concerns raised in your email dated November 9, 2015 to the Ala Wai Canal Project general inbox

1. *I am opposed to the construction of an earthen dam on the Pukele Stream in the Carlos Long area.*

   First of all as a homeowner on Ipulei Place, I am directly impacted by the proposed project. The stream bed runs through an easement on my property.

   RESPONSE: Thank you for identifying your property and concerns about any feature in the Carlos Long neighborhood.

2. *In its natural state the Pukele stream cleans itself of debris and stagnant water.*

   RESPONSE: In its natural state the Pukele Stream cleans itself of debris and stagnant water by sending it further downstream. It requires maintenance to clear out the stream of debris and sediment at some point along the stream.

3. *I believe this dam would require frequent maintenance to keep it free flowing. I seriously doubt that maintenance will be performed often enough since similar existing structures already suffer from lack of maintenance.*

   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.

   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. Additionally, upstream and downstream of these features often fall on the individual landowners who own the stream on their property. As mentioned in #2 above, the cleaning of the stream on one person's property without maintenance just sends the problem downstream to the next property owner.

4. *Accumulated debris and water will surely be a breeding ground for mosquitoes which would be health concern for neighborhood residents.*

RESPONSE: There will not be a permanent pool of water in these catchment or detention basins. They will be designed to continuously flow and only detain water temporarily when upstream flows exceed the capacity of the outlet feature. Once upstream flows return to a volume below the outlet capacity, the stream will flow naturally without detaining water behind the feature.

We understand your concern is that the berm will be blocked by debris and cause a dam like situation, which would then threaten the community along Ipulei Way where the Pukele Stream has never overtopped. The proposed action in the feasibility placed a debris catch structure upstream from the berm to prevent the outflow culvert from being blocked. However, in the Design phase the updated data, modeling and community engagement will all be used to determine a final system design.

5. *It is also a serious concern for many residents that this dam could cause flooding in the immediate area our neighborhood - an area which should never have had to worry about flooding. Heavy storms can bring a great amount of large debris downstream, perhaps enough to clog even the overflow and divert water into the neighborhood. Fallen trees would be enough of a concern even without a dam in place.*

RESPONSE: We understand your concern to be creating new problems with the current implementation plan. To address this, it is important to understand that during the design phase of the project, modeling, data and community concerns will be updated to inform the design features. Included in the Design phase will be community engagement and several levels of review and risk analyses. Reviews and risk analyses include USACE Agency Technical review; USACE Safety Assurance Reviews, USACE Quantitative Risk Analysis Reviews; our own State of Hawaii Safety Assurance Reviews; as well as an Independent External Peer Review conducted by a team of experts not associated with the Corps of Engineers. Your concerns of creating new risk are understood, and we will continue to inform the community of our progress throughout the review process to mitigate those concerns.

6. *I also believe this structure will be an eyesore that none of the homeowners in this area ever thought a possibility.*

RESPONSE: Thank you for expressing the concerns of project feature aesthetics.

7. *The entire site is located on beautiful private land which is to be seized from unwilling owners and spoiled. I also know that this seizure of land takes away housing and revenue producing property from private individuals. I think this is morally wrong, especially when there are alternatives.*

RESPONSE: The impacts of land use and private property acquisition are listed as an unresolved issue in the HEPA FFEIS. During the Design Phase of the project modeling will be updated, engineering data will be refined, community engagements will occur, all leading to a final real estate and land use plan. 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 at the time of the study not to acquire any property until the design phase. They advised that there is always the possibility that updated data, modeling, or community engagements may require either the elimination or relocation of proposed features from the feasibility study. The acquisition process is important to understand. Whomever is the non-Federal sponsor, whether it is us or the City and County, they are responsible to acquire property in accordance with State and Federal laws. It would be pre-decisional to start assessing values, compensation, or other potential acquisition alternatives without a final real estate plan.

8. *Finally, I think that the necessity of this project as a whole could be questioned. Computer modelling on this scale is not a proven science.*

RESPONSE: Thank you for your comment, we view this project as an opportunity to be proactive in building community resilience. The storms and impacts of storms are increasing, and there is tangible evidence to support this: April 17, 2018, both Hawaii Kai on Oahu and Hanalei on Kauai were impacted heavily. In Hawaii Kai, Kuliouou and Hahaione Valleys experienced a 1% event, nearly 10" of rain in 5 hours. In Hanalei, it was the most rain ever recorded in a 24 hour period and it wasn't associated with a large storm. Although a storm of this magnitude may not be have occurred directly in the Palolo Valley, a similar size even occurred only one Valley over along the same Koolau Mountain Range.

9. *And some of the presentation of this project to the public seems to me to be exaggerated. Figure ES-1 on page 7 of the Main Report showing the "extent of inundation" is very misleading. This "rendering" suggests to the casual viewer that this inundation covers entire neighborhoods to above the rooftops!*

RESPONSE: We apologize for any confusion, however, inundation depths do vary throughout the project area. Anything deeper than 6" proposes a risk to property, life, safety. During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Updated modeling will include flood inundation maps with depth grids.

10. *I have also noticed that the use of the word "berm" seems to have supplanted the more accurate term "dam", perhaps to make the project sound more innocuous and avoid scrutiny.*

RESPONSE: Dams permanently impound water which is not how these features function. The berms as described in the HEPA FFEIS serve as detention features to only temporarily detain

waters that exceed the existing flow of the natural stream to reduce the flows downstream. Regardless of where a feature is placed in this project area, there are no recommendations for dams within the project. The intent is only to temporarily detain water to reduce risk of overwhelming downstream infrastructure.

11. *I think a more thorough vetting by the public is called for, this period of public discussion has been far too brief for a project of this extent.*

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.

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.

P O Box 2902
Honolulu, HI 96802
October 8, 2015

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

To the Project engineers:

I have lived in Palolo Valley near Pukele Stream for 40 years and in Waikiki for several years. A landscape architect and planner, I have worked on the University of Hawaii Manoa campus for 24 years. I appreciate the tremendous amount of data collection and analysis represented in the DEIS.

While you have outlined a feasible plan to minimize the risk to Waikiki from a catastrophic flood produced by a 1% or 2% chance storm event, I am concerned that the focus on Waikiki , per the stated objective in the funding request for the study, has left too much land and valuable public infrastructure in the path of the 2004 storm too vulnerable in the Tentatively Selected Plan to another overflow due to sediment and debris blockage at the Woodlawn bridge. The problem at the bridge and the high cost of the 2004 flood damages are reported in the DEIS but there is no follow-up on the choice to drop the Innovation Center measure in Alternate 2A that would address this.

The stream bed upstream and downstream from the bridge has very low slope gradient, which makes that part of Manoa Stream a natural place for sediment deposit. This situation puts a continuing maintenance burden on either the State or the City because dredging will need to be done regularly. I urge you to revisit this part of the Manoa Stream and look for other alternatives to reduce the risk it poses. Perhaps the bed could be altered to stop most of the sediment drop just upstream of the bridge, together with a service road and debris catchment measure. Perhaps the raising the elevation of the bridge 2 or 3 feet and addition of debris catchment would be more feasible. The Palolo Avenue road surface rises at the bridge over Palolo Stream. In the larger picture, since, as noted in the DEIS, the volume of sediment reaching the Ala Wai Canal is a problem, a natural sediment place well above the Canal is beneficial.

The 7 foot high berms associated with the proposed use of Kanewai Park field as a detention and debris catchment basin takes good advantage of this green open space but presents another risk along Manoa Stream unless the invert at the outflow spillway is carefully calibrated to minimize flooding of the University student housing area on the other side of the stream.

Increasing the amount of stream water that beneficially infiltrates into the aquifer is a measure that would benefit both the Ala Wai Canal and the inland watershed aquifer. Although the DEIS notes that high amount of run-off from the urbanized valleys and the encasement of much of the length of the streams in concrete through the urban areas add to the flood risk to Waikiki, there is no mention of reducing the volume of storm water reaching the Canal. This could at least be capped via the City's 2013

amendment of its storm water rules that require Low Impact Development measures for commercial areas to be extended to residential areas.

Most of Palolo Stream has a concrete floor as well as walls, and this stream passes over part of the basal lens of the most valuable part of the Honolulu aquifer. The DEIS notes that water levels in the aquifer underlying the Ala Wai watershed have declined due to urbanization. Retro-fitting the bottom of the approximately 2 miles of Palolo Stream, along the lines of a recent USACE project for Menomonee River in urban Milwaukee, which replaced the concrete bottom with a gravel and boulder bed that allows water to infiltrate through part of the new river bed while it restores fish migration. Such a measure in at least some of the Ala Wai watershed, such as in Palolo Stream, might produce enough future benefit to offset the construction cost.

Many people have been concerned about the visual impact from the prospect of 4 foot high flood walls along the Ala Wai Canal. It would seem better to put the wall along the Ala Wai Park, on the mauka side of the canal, back from the edge, such as where the chainlink fence boundary at the Ala Wai School is located. This would also widen the canal's flood capacity during major storms. Together with reducing runoff in the middle reaches, these measures might reduce the canal floodwall height to a more acceptable level.

Last, but not least, as a landscape architect, I am very troubled by the prohibition of any woody vegetation in the basins and on the earth berms in the table that describes the Alternate 2A and 3A measures. The assessment of"No significant impact" is not correct. In addition to the obvious negative visual impact of the removal of the many beautiful and large trees in the middle and lower reaches, including the Kanewai field and , even more, the Ala Wai Golf Course, the removal of this large amount of tree roots and canopy does not recognize the substantial ecosystem services they provide. These include absorption of large amounts of storm water as well as carbon dioxide and air pollutants.

Thank you for considering my concerns.

Janet Thebaud Gillmar

Janet Thebaud Gillmar / ASLA

US Army Corps of Engine
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: Janet Thebaud Gillmar
PO Box 2902
Honolulu, Hawaii 96802

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
- Concerns with flooding at the Woodlawn bridge
- Economic optimization of the recommended plan
- Absence of ecosystem restoration features within the recommended plan
- Loss of trees associated with the recommended plan

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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS. The economic analysis presented in the Feasibility Report and integrated Environmental Impact Statement uses the standard methodology prescribed by the Water Resources Council's "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies" and the USACE Engineer Regulation 1105-2-100. 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. The floodwall height at the Ala Wai Canal and the resulting level of protection was selected as the economically optimized plan. The recommended plan assumes that hydraulic improvements to the Woodlawn bridge are completed. The City-County is currently planning this construction and anticipates completion in 2016.

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.

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with

the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Previous ecosystem restoration improvements considered options for naturalizing stream beds, however, the focus on flood risk management has excluded further consideration of those features. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

Section 5.7.2.2 of the FEIS details the effect of the recommended plan on vegetation. Site restoration will occur throughout impacted areas following construction. At select locations identified in the report where significant trees exist, this site restoration will involve tree planting.

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:

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DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Ms. Janet Thebaud Gillmar
Post Office Box 2902
Honolulu, Hawaii 96802

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

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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 8, 2015 to Honolulu District, USACE:

1. *I have lived in Palolo Valley near Pukele Stream for 40 years and in Waikiki for several years. A landscape architect and planner, I have worked on the University of Hawaii Manoa campus for 24 years. I appreciate the tremendous amount of data collection and analysis represented in the DEIS.*

RESPONSE: Thank you for your community service and participation reviewing the DFEIS.

2. *While you have outlined a feasible plan to minimize the risk to Waikiki from a catastrophic flood produced by a 1% or 2% chance storm event, I am concerned that the focus on Waikiki, per the stated objective in the funding request for the study, has left too much land and valuable public infrastructure in the path of the 2004 storm too vulnerable in the Tentatively Selected Plan to another overflow due to sediment and debris blockage at the Woodlawn bridge. The problem at the bridge and the high cost of the 2004 flood damages are reported in the DEIS but there is no follow-up on the choice to drop the Innovation Center measure in Alternate 2A that would address this.*

RESPONSE: While Waikiki is part of the project area, the entire watershed community shows to benefit from the project. We specifically did a project at Woodlawn Bridge that completed in 2019 to improve the conveyance of flows through the Manoa Marketplace area. We turned that information over to the Corps of Engineers and they are incorporating that data in with the other updates to modeling and engineering data. When this project moves into the design phase, more detailed modeling will be executed; topographic/geological survey will be conducted; data will be refined, and the community will be engaged. According to the data and modeling available during the feasibility study, Alternative 2A and the Innovation Center feature to improve conveyance did not prove as beneficial as Alternative 3A which includes a detention basin at Woodlawn Ditch and debris catchment at Manoa Valley District Park. Discussion of the reasons Alternative 3A was recommended over Alternative 2A in the final array can be found in Appendix B Economics, section 6.3.

During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the System delivers the level of risk reduction authorized by Congress not just in Waikiki but the entire watershed. 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. *The stream bed upstream and downstream from the bridge has very low slope gradient, which makes that part of Manoa Stream a natural place for sediment deposit. This situation puts a continuing maintenance burden on either the State or the City because dredging will need to be done regularly.*

RESPONSE: We specifically did a project at Woodlawn Bridge that completed in 2019 to improve the conveyance of flows through the Manoa Marketplace area. We turned that information over to the Corps of Engineers and they are incorporating that data in with the other updates to modeling and engineering data. Part of this project was intended to help with the sedimentation issue.

4. *I urge you to revisit this part of the Manoa Stream and look for other alternatives to reduce the risk it poses.*

RESPONSE: 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 System delivers the level of risk reduction authorized by Congress not just in Waikiki but the entire watershed. 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.

5. *Perhaps the bed could be altered to stop most of the sediment drop just upstream of the bridge, together with a service road and debris catchment measure.*

RESPONSE: Thank you for your recommendation. 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 System delivers the level of risk reduction authorized by Congress not just in Waikiki but the entire watershed. 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.

6. *Perhaps the raising the elevation of the bridge 2 or 3 feet and addition of debris catchment would be more feasible. The Palolo Avenue road surface rises at the bridge over Palolo Stream.*

RESPONSE: Thank you for your recommendation. During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the System delivers the level of risk reduction authorized by Congress not just in Waikiki but the entire watershed. 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.

7. *In the larger picture, since, as noted in the DEIS, the volume of sediment reaching the Ala Wai Canal is a problem, a natural sediment place well above the Canal is beneficial.*

RESPONSE: Agreed, natural sediment features in the areas above the canal such as multipurpose basins and debris and detention features can help to flush out the sediment before it reaches the canal and the ocean.

8. *The 7 foot high berms associated with the proposed use of Kanewai Park field as a detention and debris catchment basin takes good advantage of this green open space but presents another risk along Manoa Stream unless the invert at the outflow spillway is carefully calibrated to minimize flooding of the University student housing area on the other side of the stream.*

RESPONSE: Thank you for your observation. The invert at the weir will be a critical piece to ensure that Kanewai, if used after modeling and data is updated, is properly configured to maximize benefits.

9. *Increasing the amount of stream water that beneficially infiltrates into the aquifer is a measure that would benefit both the Ala Wai Canal and the inland watershed aquifer.*

RESPONSE: Beneficial infiltration of the aquifer may be an opportunity associated with this project, however, it was not a specific objective of the project or this HEPA FFEIS.

10. *Although the DEIS notes that high amount of run-off from the urbanized valleys and the encasement of much of the length of the streams in concrete through the urban areas add to the flood risk to Waikiki, there is no mention of reducing the volume of storm water reaching the Canal. This could at least be capped via the City's 2013 amendment of its storm water rules that require Low Impact Development measures for commercial areas to be extended to residential areas.*

RESPONSE: While the size and capacity of the storm drainage system is incorporated into the study and model, specifically addressing stormwater and drainage improvements was not within the scope of this HEPA FFEIS.

11. *Most of Palolo Stream has a concrete floor as well as walls, and this stream passes over part of the basal lens of the most valuable part of the Honolulu aquifer. The DEIS notes that water levels in the aquifer underlying the Ala Wai watershed have declined due to urbanization. Retro-fitting the bottom of the approximately 2 miles of Palolo Stream, along the lines of a recent USACE project for Menomonee River in urban Milwaukee, which replaced the concrete bottom with a gravel and boulder bed that allows water to infiltrate through part of the new river bed while it restores fish migration. Such a measure in at least some of the Ala Wai watershed, such as in Palolo Stream, might produce enough future benefit to offset the construction cost.*

RESPONSE: Groundwater resources and impacts to the aquifer are discussed in section 5.3 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 to provide the level of risk reduction 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.

12. *Many people have been concerned about the visual impact from the prospect of 4 foot high flood walls along the Ala Wai Canal.*

RESPONSE: The floodwall presented in the HEPA FFEIS is not a final design, but it is only a conceptual design. The suggestion of hiding the wall, or disguising the wall as a hand rail parapet with blue stone do not impact the structural integrity of the floodwall and can be considered as an aesthetic improvement. Placing a walking path or bike path on top of a berm with a wall inside also would not impact the structural integrity and can be examined further during the design phase. The type of rock whether blue stone or moss also is not integral to the structural integrity of the flood control feature, however, your insight on the type of stone will be further examined after a final alignment, location, and type of flood barrier necessary is determined in the design phase.

13. *It would seem better to put the wall along the Ala Wai Park, on the mauka side of the canal, back from the edge, such as where the chainlink fence boundary at the Ala Wai School is located. This would also widen the canal's flood capacity during major storms.*

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. Floodwalls and other barriers 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.

14. *Together with reducing runoff in the middle reaches, these measures might reduce the canal floodwall height to a more acceptable level.*

RESPONSE: Concur, the more we can influence in the middle reaches, it has a direct correlation to the height of the flood wall.

15. *Last, but not least, as a landscape architect, I am very troubled by the prohibition of any woody vegetation in the basins and on the earth berms in the table that describes the Alternate 2A and 3A measures.*

RESPONSE: Further investigation is necessary as to specific vegetation impacts, however, any vegetation that may cause a seepage issue or compromise the structural integrity of the features need to be avoided. There are lots of opportunity to investigate native vegetation in the project area to serve as erosion and scour protection for the features. These investigations will occur during the design phase after locations, types, function, and sizes are further refined and evaluated for community and environmental impacts.

16. *The assessment of "No significant impact" is not correct. In addition to the obvious negative visual impact of the removal of the many beautiful and large trees in the middle and lower reaches, including the Kanewai field and, even more, the Ala Wai Golf Course, the removal of this large amount of tree roots and canopy does not recognize the substantial ecosystem services they provide. These include absorption of large amounts of storm water as well as carbon dioxide and air pollutants.*

RESPONSE: There is a requirement for mitigation and consultation with state and federal agencies as well as engagement with the community. As we move forward with the design phase, we will re-evaluate the impacts and if necessary mitigate or avoid impacts as deemed appropriate.

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.

UNIVERSITY OF HAWAIʻI

Sea Grant College Program
School of Ocean and Earth Science and Technology

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
Submitted via E-mail: alawaicanalproject@usace.army.mil

State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
Submitted via E-mail: Gayson.Y.Ching@hawaii.gov

November 9, 2015

RE: Draft Feasibility Report and Integrated Environmental Impact Statement (EIS) for USACE Ala Wai Canal Project

Dear Mr. Ching,

In my capacity as the Director of the University of Hawaiʻi Sea Grant College Program (Hawaiʻi Sea Grant), I respectfully submit the following comments on the Ala Wai Canal flood mitigation draft feasibility study. We hope this project can further enhance and support community hazard resilience efforts in the community through the flood mitigation component of the project and likewise foster beneficial sustainable resource management and ecosystem restoration efforts as a broader community-lead effort.

Hawaiʻi Sea Grant is a multi-disciplinary unit of the University of Hawaiʻi which supports an innovative program of research, education and extension services, directed to the improved understanding and stewardship of coastal and marine resources. Founded in 1968, the University of Hawaiʻi Sea Grant College Program is part of a National Oceanographic and Atmospheric Administration (NOAA) affiliated network of 32 programs that promote better understanding, conservation, and use of coastal resources. Hawaiʻi Sea Grant works in partnership with local, state and federal partners to identify Hawaiʻi's critical resource

2525 Correa Road • HIG Room 238 • Honolulu, Hawaiʻi 96822

Telephone: (808) 956-7031 • Facsimile: (808) 956-3014

management issues and guide cutting-edge scientific research to address these challenges.

Hawai‘i Sea Grant supports an innovative program of research, extension, education, and communication services directed to the improved understanding and stewardship of coastal and marine resources. Realizing the necessity of collaboration to address coastal resource issues, Hawai‘i Sea Grant also provides links between academia, federal, state and local government agencies, industries, and local community members. Hawai‘i Sea Grant has five primary focus areas which include; *Sustainable Coastal Development, Hazard Resilience in Coastal Communities, Sustainable Coastal Tourism, Indigenous Cultural Heritage and Water Resource Sustainability*

These five interrelated focus areas emerged from the strategic planning process as areas of critical importance to the health and vitality of the nation's coastal resources and communities. They respond to issues of major importance to NOAA, are consistent with the work of the NOAA coastal program integration effort, and are topical areas in which Sea Grant has made substantial contributions in the past and is positioned to make significant contributions in the future. These focus areas and the broader Sea Grant mission are embodied in components of the proposed flood mitigation plan.

The proposed Army Corps Ala Wai project (Project) has great potential to support and enhance the Hawai‘i Sea Grant goals. Hawai‘i Sea Grant can and has, been assisting in coordinating community and stakeholder engagement for the Ala Wai Project. Our staff have been participating in and facilitating the Ala Wai Watershed Partnership (AWWP) as part of our education, outreach and extension efforts to engage in high-priority natural resource and hazard mitigation projects locally.

At the September 30, 2015 public information meeting on the Ala Wai Flood Control project we heard from a number of stakeholders and community members with a direct interest in the project. A majority of these comments were supportive of the project but also pointed out potential partnership opportunities to expand the scope of the project beyond just flood mitigation. Some of these comments illustrated the need to enhance and foster public private partnerships to leverage federal and local sponsor funding with other non-flood mitigation efforts and better align the project scope with local interests beyond just flood mitigation. Some of these projects include environmental education and outreach, environmental restoration, water quality, recreational use enhancement, Ahupua'a watershed management and wetland restoration. We realize most of these efforts are currently beyond the mandate and scope for the Army Corps of Engineers but we hope the Hawai‘i Sea Grant provide a conduit to facilitate these important project

components and leverage the federal project with local and private interests that may be able to support these non-flood mitigation components.

With respect to the project scope and water quality, Hawai‘i Sea Grant is in support of expanding the scope of this project to include partnerships for other beneficial efforts to improve the water quality of the Ala Wai canal as state receiving waters. Water quality conditions, debris management issues and emergency evacuation are a major community and stakeholder concern and are ongoing problems for the Ala Wai canal. During the development of the flood mitigation design for the Ala Wai, there is an opportunity to invest in an effort to improve the condition of the Ala Wai water quality. There are many benefits and advantages to expanding the current flood mitigation effort to better support improvements to the Ala Wai water quality and ecosystem services either through direct inclusion of ecosystem restoration measures such as wetlands or directly addressing non and point source pollution water quality efforts.

There are many novel and innovative solutions presented in the *2003 Ala Wai Watershed Analysis Final Report*[1]. Hawai‘i Sea Grant believes some of these recommendations could be revisited as part of the flood mitigation effort. Day to day benefits and improvements like these may also further motivate and benefit the community to become more engaged in and supportive of the project. The recreational and aesthetic value of the Ala Wai Canal speaks for itself. Proceeding with this project without water quality and ecosystem restoration as leveraged efforts may be a major missed opportunity.

The Ala Wai Canal flood mitigation project will make important improvements to support the resiliency of the Ala Wai Watersheds and help mitigate flood risk in Waikīkī and the surrounding communities. As with numerous resilient infrastructure projects across the country, the Ala Wai flood Project faces potential hurdles, including possible community opposition, insufficient public funding, and future operating and maintenance costs. However, the Project offers a unique opportunity to facilitate and catalyze important stakeholder partnerships and generate opportunity to create innovative financing and design solutions that can serve as a model for how the United States can begin to close its estimated $3.6 trillion infrastructure gap. This project can also serve as an example for how communities can collaborate with all levels of government, the private sector and the University to develop local solutions to local challenges.

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[1] Prepared By: Townscape, Inc. and Eugene P. Dashiell, AICP in cooperation with Oceanit
Prepared For: Department of Land and Natural Resources and U.S. Army Corps of Engineers
July 2003

Thank you for the opportunity to provide comments on the Ala Wai Watershed Flood Mitigation Project. We hope to the Hawai‘i Sea Grant can serve an important role in providing a partnership framework for a resilient community and look forward to developing a strong and effective affiliation through the Hawai‘i Sea Grant that includes the critical participation of the U.S. Army Corps of Engineers.

Sincerely yours,

Darren T. Lerner

Darren T. Lerner, PhD
Director, University of Hawai‘i Sea Grant College Program

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: Darren Lerner
University of Hawaii – Sea Grant College Program
PO Box 2808
Honolulu, Hawaii 96803-2808

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
- Absence of ecosystem restoration features within the recommended plan
- Planning and collaboration with other agencies
- Improvement to water quality within Ala Wai Canal

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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS. The economic analysis presented in the Feasibility Report and integrated Environmental Impact Statement uses the standard methodology prescribed by the Water Resources Council's "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies" and the USACE Engineer Regulation 1105-2-100. 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

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others including public-private partnerships, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

Unfortunately, the issue of water quality improvement is not a topic addressed by the FEIS nor does USACE have the authorization to study that issues. It is suggested that you contact the State of Hawaii Department of Health for information related to water quality.

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

Testimony Re: Ala Wai Canal Project, O’ahu, Hawai'i

Feasibility Study With Integrated Environmental Impact Statement

Public ReviewDraft Report: August 2015

Attention: The Ala Wai Canal Project/USACE and Gayson Ching/DLNR

The Draft Feasibility Study Report with integrated Environmental Impact Statement (EIS) “assesses the risk of flooding in the Ala Wai Watershed, and describes a range of potential alternative plans formulated to reduce flood risk, with identification of a tentatively selected plan for implementation.” (Executive Summary, p. ES-1)

Comments:

The engineering solutions offered in the ‘Tentatively Selected Plan’ indicate acres of soil disturbance, erosion, sedimentation, the possibility of landslides, and the addition of fill materials to riffle and pool complexes. Although the impacts of these actions are claimed to be “less than significant; no mitigation required,” that is difficult to verify given the insufficient information provided in the report.

The Integrated Environmental Study embedded in the Feasibility Study seems inadequate given the complexity of the proposed actions on three major stream systems, the Ala Wai Canal and Waikiki. As readers, we feel overwhelmed by the amount of information and the responsibility to objectively evaluate whether the plan, as proposed, is the best one to address the problem of flooding in the Ala Wai watershed. The cost of being wrong goes beyond the waste of federal and state dollars. Being wrong is likely to have catastrophic consequences for infrastructure within the formerly drained wetland of Waikiki; for the tourism economy that depends on it; and for the long term health and safety of residents in the Waikiki/Ala Wai sub-watershed as well as those living at higher elevations.

The project plan would benefit from revision based on continued public evaluation before an EIS is submitted for approval.

1314 S. King Street #306 • Honolulu, Hawai‘i 96814
Phone: 808-593-0300 • Fax: 808-593-0525 • Email: mail@outdoorcircle.org • www.outdoorcircle.org

If the intent of the Ala Wai Canal Project is to reduce riverine flood risks in the Ala Wai Watershed (see Abstract), then it should address the role suburban property owners could play in lessening the intensity and amount of water flowing from their land. According to the Tentatively Selected Plan, the drainage pipe system of the City will not handle extreme events—most of the water will be flowing down streets. Part of the problem is the urbanization of our watershed and the resulting uncontrolled sheeting of rainwater over impervious concrete surfaces that sidestep City drainage systems, carrying sediment, pollutants and debris into neighboring yards and waterways.

Given the State and City's public interest responsibility, the updating of storm water regulations to require property owners to institute water capture and containment measures should be part of the plan and listed under "Non-structural measures." Given the state's apparent willingness to commit approximately $1 million dollars per year to the management of the proposed system, wouldn't that money be better directed to funding the installation of systems, such as rain gardens, on private properties draining into our streams and waterways? Collecting water at the mid sub-watershed level would greatly reduce the intensity and volume of water flowing into the Ala Wai Canal during extreme storm events.

Since the Draft Feasibility Study report indicates that the majority of rainfall occurs at the upper elevations, and that the upper elevations are less subject to property owner control, the majority of the proposed debris and detentions systems should be located in the upper areas of the watershed. Detention systems in the upper watershed would also replenish Oahu's reserves of potable water. These detention basins should not be placed within the stream itself, but rather, as an option in the report suggested, should be built parallel to and along the sides of the streams. Every effort should be made to clean (and re-establish if necessary) natural stream segments and to place concrete strips and debris collection poles in the side detention areas to help attenuate heavy rain fall and capture sediment before the water re-enters the natural stream system. Reducing the force of water flow by directing it into side channels would weaken flash flooding, reduce the likelihood of stream channel erosion and capture sediment that otherwise would

1314 S. King Street #306 • Honolulu, Hawai'i 96814
Phone: 808-593-0300 • Fax: 808-593-0525 • Email: mail@outdoorcircle.org • www.outdoorcircle.org

reduce the effectiveness of the flow. Well designed and managed side detention systems at the upper elevations would alleviate flooding problems throughout the Ala Wai watershed.

If improvements are made at the mid and upper levels of the watershed, flood water pressures at the lower sub-watersheds will be reduced and there would be no need for four foot-high walls along the Ala Wai
Canal. The proposed walls, in addition to being a visual blight, are acknowledged in the report to be insufficient to protect the expansive lower watershed from flooding, and while walls may provide the illusion of protection, they will have no preventative effect on sea level rise or tsunami inundation.

To summarize:

1. The Corps of Engineer's efforts in flood water attenuation and retention should focus on the mid and upper level sub-watershed areas.

2. A four foot wall along the Ala Wai Canal should not be built.
3. More community input and review are needed before an EIS is submitted for approval.

TOC has a long-time commitment to clean water, clean air and beautiful view planes. We request continuing participation as a consulting party in the review process.

Respectfully submitted,

Winston Welch

Executive Director, Outdoor Circle

1314 S. King Street #306 • Honolulu, Hawai'i 96814
Phone: 808-593-0300 • Fax: 808-593-0525 • Email: mail@outdoorcircle.org • www.outdoorcircle.org

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: Winston Welch
The Outdoor Circle
1314 South King Street, #306
Honolulu, Hawaii 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:

- Alternative Plan Selection
- Aesthetics of the floodwalls
- Concerns regarding public outreach

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

The design of project features is focused on the most economical design that will provide the needed function while observing compliance with applicable Federal law. The design of floodwalls must meet the criteria set forth in Section 106 of the Historic Preservation Act. This design will be coordinated with the State Historic Preservation Office to ensure appropriate design aspects are integrated into the project to ensure preservation of the historic value of the area.

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase 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

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
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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. Winston Welch
The Outdoor Circle
1314 South King Street #306
Honolulu, Hawaii 96814

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 August 2015 to Ala Wai Canal Project/USACE and Gayson Ching/DLNR:

1. *The Draft Feasibility Study Report with integrated Environmental Impact Statement (EIS) "assesses the risk of flooding in the Ala Wai Watershed, and describes a range of potential alternative plans formulated to reduce flood risk, with identification of a tentatively selected plan for implementation." (Executive Summary, p. ES-1)*

Comments:
The engineering solutions offered in the 'Tentatively Selected Plan' indicate acres of soil disturbance, erosion, sedimentation, the possibility of landslides, and the addition of fill materials to riffle and pool complexes. Although the impacts of these actions are claimed to be "less than significant; no mitigation required," that is difficult to verify given the insufficient information provided in the report.

RESPONSE: Impacts and mitigation to geology, seismicity, and soils, identified as IMP GEO-1, 2, and 3, are discussed in Table ES-6 and section 5.2 of the HEPA FFEIS.

Several levels of review and evaluation was done in this report, both from us and the Corps of Engineers. We understand you believe this to still be insufficient, and that you disagree with our impact analysis of less than significant; no mitigation required for certain impacts identified within 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 recommended in the *'Tentatively Selected Plan'*. 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 Integrated Environmental Study embedded in the Feasibility Study seems inadequate given the complexity of the proposed actions on three major stream systems, the Ala Wai Canal and Waikiki. As readers, we feel overwhelmed by the amount of information and the responsibility to objectively evaluate whether the plan, as proposed, is the best one to address the problem of flooding in the Ala Wai watershed.*

RESPONSE: The integrated study for Feasibility and Environmental analysis review period was extended specifically for the reason you suggest. We recognize the amount of information and complexity of the information and to address this, we extended the statutory 45-day review period for an additional 33 days, starting on August 23, 2015 and ending on November 9, 2015 from the original deadline of October 7, 2015.

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 System delivers the level of risk reduction 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.

3. *The cost of being wrong goes beyond the waste of federal and state dollars. Being wrong is likely to have catastrophic consequences for infrastructure within the formerly drained wetland of Waikiki; for the tourism economy that depends on it; and for the long-term health and safety of residents in the Waikiki/Ala Wai sub-watershed as well as those living at higher elevations.*

RESPONSE: We understand your concern to be creating new problems with the current implementation plan. To address this, it is important to understand that during the design phase of the project, modeling, data and community concerns will be updated to inform the design features. Included in the Design phase will be community engagement and several levels of review and risk analyses. Reviews and risk analyses include USACE Agency Technical review; USACE Safety Assurance Reviews, USACE Quantitative Risk Analysis Reviews; our own State of Hawaii Safety Assurance Reviews; as well as an Independent External Peer Review conducted by a team of experts not associated with the Corps of Engineers. Your concerns of creating new risk are understood, and we will continue to inform the community of our progress throughout the review process to mitigate those concerns.

4. *The project plan would benefit from revision based on continued public evaluation before an EIS is submitted for approval.*

RESPONSE: This HEPA FFEIS is based on information evaluated and assessed during the 17-year feasibility study conducted by the Corps of Engineers. During the feasibility study there was a process done for alternative plan formulation, and selection which was shared with you in 2017. The proposed action recommended in the 2017 feasibility study, which will also be recommended in the 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 System delivers the level of risk reduction 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. Community outreach and engagement will serve a critical role in the design of a final system of features.

5. *If the intent of the Ala Wai Canal Project is to reduce riverine flood risks in the Ala Wai Watershed (see Abstract), then it should address the role suburban property owners could play in lessening the intensity and amount of water flowing from their land.*

RESPONSE: We agree that suburban property owners could play a vital role in reducing the amount of water flowing from their land in two separate ways. First, suburban property owners own the portions of the stream on their property. By maintaining the stream within their property they could help to mitigate against the amount of debris that flows downstream, potentially causing risk to infrastructure. Second, the amount of pervious surface and stormwater runoff from a person's private parcel could help to reduce the amount of stormwater runoff the system needs to accept. However, stormwater runoff and interior drainage were not issues within the scope of the Corps of Engineer's Ala Wai Canal Flood Risk Management Study.

6. *According to the Tentatively Selected Plan, the drainage pipe system of the City will not handle extreme events—most of the water will be flowing down streets. Part of the problem is the urbanization of our watershed and the resulting uncontrolled sheeting of rainwater over impervious concrete surfaces that sidestep City drainage systems, carrying sediment, pollutants and debris into neighboring yards and waterways.*

RESPONSE: The Storm Drainage System capacity was incorporated for model purposes, however, making changes to the storm drainage system is outside the scope for this particular study.

7. *Given the State and City's public interest responsibility, the updating of storm water regulations to require property owners to institute water capture and containment measures should be part of the plan and listed under "Non-structural measures."*

RESPONSE: Updating storm water regulations as a non-structural measure would require studying of the storm water regulations, and this was not within the scope of the authorized study.

8. *Given the state's apparent willingness to commit approximately $1 million dollars per year to the management of the proposed system, wouldn't that money be better directed to funding the installation of systems, such as rain gardens, on private properties draining into our streams and waterways?*

RESPONSE: The non-Federal Sponsor, whether it is us or the City and County, is responsible for the operations and maintenance of the system once constructed. Storm water systems as you suggest could be addressed in separate, but potentially parallel efforts.

9. *Collecting water at the mid sub-watershed level would greatly reduce the intensity and volume of water flowing into the Ala Wai Canal during extreme storm events.*

RESPONSE: We concur with your observation, multipurpose detention basins in open green spaces are a great natural flood risk reduction feature upstream of the Canal. When this project moves into the design phase, more detailed modeling will be executed; topographic/geological survey will be conducted; data will be refined, and the community will be engaged. During that

period of the project, based on updated data and community engagement features and locations will be refined to ensure the System delivers the level of risk reduction authorized by Congress. If features change during the design phase, they will be evaluated for environmental and community impacts and supplemental documentation will be developed commensurate with the level of impacts.

10. *Since the Draft Feasibility Study report indicates that the majority of rainfall occurs at the upper elevations, and that the upper elevations are less subject to property owner control, the majority of the proposed debris and detentions systems should be located in the upper areas of the watershed.*

RESPONSE: We received several suggested alternative site suggestions and alternative features ranging in nature from Ka'au Crater in the upper Palolo Valley to Kaimuki High School fields by the golf course. To list them all in this response would be voluminous, and some are more feasible than others. There are a couple of points to assure you and others that as the project progresses alternative locations will be evaluated against updated modeling, revised engineering data, and community concerns. First, Corps of Engineers is authorized by Congress to deliver a System of Features that reduces flood risk in the Ala Wai Watershed, the final designed System must achieve that authorized risk reduction. Second, the Corps of Engineers will conduct a value engineering study in the design phase to ensure that the most cost-effective use of Federal funds to deliver the level of risk reduction authorized by Congress. As part of the design phase any changes to the recommended system features will be evaluated for environmental and community impacts, supplemental documentation will be developed commensurate with those impacts.

11. *Detention systems in the upper watershed would also replenish Oahu's reserves of potable water.*

RESPONSE: While potable water improvement is not an objective of the study, it could be an opportunity as you suggest. However, there would be no intent to permanently detain water anywhere in the system, so the opportunity would be temporary in nature only.

12. *These detention basins should not be placed within the stream itself, but rather, as an option in the report suggested, should be built parallel to and along the sides of the streams.*

RESPONSE: In the recommended plan, there is a combination of both parallel and in-stream features. Much of the location was determined by available space, however, it was never intended to fully disrupt the natural stream channel. To the contrary, even when the feature is designed in-stream, it is designed to continue the natural flow of the stream only detaining water during catastrophic level, high risk, low probability events.

13. *Every effort should be made to clean (and re-establish if necessary) natural stream segments and to place concrete strips and debris collection poles in the side detention areas to help attenuate heavy rain fall and capture sediment before the water re-enters the natural stream system.*

RESPONSE: Concrete strips in the natural stream bed 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 rock, 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. The remaining streambed is left in a natural state or with natural solutions in accordance with the environmental operating principals.

14. *Reducing the force of water flow by directing it into side channels would weaken flash flooding, reduce the likelihood of stream channel erosion and capture sediment that otherwise would reduce the effectiveness of the flow. Well designed and managed side detention systems at the upper elevations would alleviate flooding problems throughout the Ala Wai watershed.*

RESPONSE: We received several suggested alternative site suggestions and alternative features ranging in nature from Ka'au Crater in the upper Palolo Valley to Kaimuki High School fields by the golf course. To list them all in this response would be voluminous, and some are more feasible than others. There are a couple of points to assure you and others that as the project progresses alternative locations will be evaluated against updated modeling, revised engineering data, and community concerns. First, Corps of Engineers is authorized by Congress to deliver a System of Features that reduces flood risk in the Ala Wai Watershed, the final designed System must achieve that authorized risk reduction. Second, the Corps of Engineers will conduct a value engineering study in the design phase to ensure that the most cost-effective use of Federal funds to deliver the level of risk reduction authorized by Congress. As part of the design phase any changes to the recommended system features will be evaluated for environmental and community impacts, supplemental documentation will be developed commensurate with those impacts.

15. *If improvements are made at the mid and upper levels of the watershed, flood water pressures at the lower sub-watersheds will be reduced and there would be no need for four foot-high walls along the Ala Wai Canal.*

RESPONSE: Concur, the more we can influence in the middle reaches, it has a direct correlation to the height of the flood wall. There will be additional evaluation in the Design Phase with updated modeling, and engineering data. The current flood wall configuration is based on the available data in this HEPA FFEIS.

16. *The proposed walls, in addition to being a visual blight, are acknowledged in the report to be insufficient to protect the expansive lower watershed from flooding, and while walls may provide the illusion of protection, they will have no preventative effect on sea level rise or tsunami inundation.*

RESPONSE: The floodwall presented in the HEPA FFEIS is not a final design, but it is only a conceptual design. The suggestion of hiding the wall or disguising the wall as a handrail parapet with blue stone do not impact the structural integrity of the floodwall and can be considered as an

aesthetic improvement. Sea level rise and storm surge are addressed specifically in Appendix A3 of this HEPA FFEIS. Coastal Storm Damage and Tsunami impacts were not studied in depth in this effort because those are not within the scope of this congressionally authorized study.

17. *To summarize:*
1. The Corps of Engineer's efforts in flood water attenuation and retention should focus on the mid and upper level sub-watershed areas.

RESPONSE: We received several suggested alternative site suggestions and alternative features ranging in nature from Ka'au Crater in the upper Palolo Valley to Kaimuki High School fields by the golf course. To list them all in this response would be voluminous, and some are more feasible than others. There are a couple of points to assure you and others that as the project progresses alternative locations will be evaluated against updated modeling, revised engineering data, and community concerns. First, Corps of Engineers is authorized by Congress to deliver a System of Features that reduces flood risk in the Ala Wai Watershed, the final designed System must achieve that authorized risk reduction. Second, the Corps of Engineers will conduct a value engineering study in the design phase to ensure that the most cost-effective use of Federal funds to deliver the level of risk reduction authorized by Congress. As part of the design phase any changes to the recommended system features will be evaluated for environmental and community impacts, supplemental documentation will be developed commensurate with those impacts.

18. *2. A four foot wall along the Ala Wai Canal should not be built.*

RESPONSE: Floodwalls and other barriers will be further examined in the design phase for location, type, and elevation based on updated data and community engagement. If the location or environmental impacts associated with the feature change, supplemental documentation will be developed commensurate with the level of impacts.

19. *3. More community input and review are needed before an EIS is submitted for approval.*

RESPONSE: This HEPA FFEIS is based on information evaluated and assessed during the 17-year feasibility study conducted by the Corps of Engineers. During the feasibility study there was a process done for alternative plan formulation, and selection which was shared with you in 2017. The proposed action from feasibility study recommended in the 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 System delivers the level of risk reduction 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. Community outreach and engagement will serve a critical role in the design of a final system of features.

20. *TOC has a long-time commitment to clean water, clean air and beautiful view planes. We request continuing participation as a consulting party in the review process.*

RESPONSE: We appreciate your commitment to the project and the City. We encourage you to continue participating actively as this project moves forward.

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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11/8/15

To Whom It May Concern,

My name is Sean Scanlan. My address is 2625 Ipulei Place, Honolulu, HI 96816. I am writing in opposition of the proposed Pukele Stream berm. Pukele Stream is actually part of my property, and my house looks down onto the stream. My opposition has 3 parts.

1. No one is even sure if the berm intervention will even work.

First, the idea of controlling the debris is not well-founded. You haven't seen the stream when it's been raging. The debris only comes down when it rains very hard for several days. Assuming that a 4 foot tube will somehow control this is illogical. Because I've seen firsthand how the stream acts during storms, this is what will happen: Normally, the stream will flow through the tube fine or even dry out. Then the rains will come, then the debris will quickly block the mouth of the tube. Then the water will build and easily flow over the berm. Along with all the water will be any debris, and essentially the berm did nothing. The only way you could reduce debris from flowing downstream would be to have workers come up right when the water starts to rage and somehow remove that flowing debris. Any work before or after that point will be for naught. I'm assuming that you don't have emergency workers to do that difficult task, so I'm certain the berm will not work for what it is intended.

2. No one is even sure if the berm will help.

According to the report, there was a flood in the mid-1900's before much of the infrastructure was built, so we can't really use that as an example. But if we did, we can assume that the Ala Wai portion of the project can prevent that, even if the Pukele stream isn't built. Since that flood, there were only 2 other floods cited. Both occurred on the Manoa side of this project. So technically, there is no cited problems with the Pukele-Palolo flow. The small-to-no impact of a Pukele Stream berm is cited by the report, as it is only a small fraction of the overall flow and has the lowest annual chance of exedance. So to summarize, we're not even sure if the Pukele berm would help; it definitely wouldn't have helped in the last 2 floods, so why would we expect anything different?

3. No one is even sure if the Pukele costs are worth the money and disruption.

The cost of the project in dollars is an easy item to dispute. Obviously, if the berm won't work OR won't help, then it isn't worth the millions of dollars involved. I'd like to at least propose only spending the money for the Pukele Stream project if the other more important portions of this project (i.e., Ala Wai, Manoa) are on or under budget.

But there are other costs. Right now, Pukele is the lowest flood rating for insurance/real estate designations. That is, to my insurance company, my property is not a flood zone, and I don't pay any more than someone on Waialae Iki, for example. However, if you intend to create a berm to actually *retain* water in our backyards, then my insurance company is likely to see things differently and increase my rates. Is that considered anywhere in the drafts? Will my flood zone change from X to D? Will I be compensated by the state for this increase? Will we be compensated for the loss of property value? Another issue is the idea of buying privately owned properties for the sake of this berm. First, I don't want my tax dollars buying land from citizens without a very compelling reason. Second, many of us who bought land in town, bought it with the premise of keeping that land for our families in perpetuity. This land is for generations after

us because of the probable inability to buy land in the future. Again, considering the questionable function of the berm, is all this cost worth it?

To be clear, I am not in opposition to the project as a whole. I absolutely agree that the Ala Wai Canal portion is necessary. Also, the Manoa portion apparently needs to be addressed. However, I am having a hard time understanding why Pukele Stream needs to be included in this project, especially considering that 1) it's questionable if it will work, 2) it's questionable if it will help, and 3) if it's worth the cost to the taxpayers and homeowners. In Palolo, we already have a catch basin in Ka'au Crater and all the pools below it. I am pleading that you please consider removing Pukele Stream from the project. Me, my family, and my neighbors look forward to your response.

Mahalo,

Sean W. Scanlan, Ph.D.
2625 Ipulei Pl.
Honolulu, HI 96826
808-277-7577
seanscanlanphd@yahoo.com

US Army Corps of Engine
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: Sean Scanlon
2625 Ipulei Place
Honolulu, Hawaii 96826

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
- Design elements of debris and detention basins
- FEMA Floodzone Designation
- Concerns of affected landowners regarding real estate acquisition

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.

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. 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. 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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures.

USACE has developed hydraulic information which can be utilized by regulatory agencies and the public as a part of the National Flood Insurance Program (NFIP). It is possible that FEMA could make adjustments to the floodplain without the project in place; however, USACE cannot speculate on the timing of any potential FEMA floodplain map revisions. All homeowners are encouraged to participate in the NFIP to manage risks associated with flooding. Detention basins associated with the recommended plan are designed to be overtopped in high volume flood events. By including these project features it is not anticipated that the recommended detention basins will induce upstream flooding to area homes. Areas of inundation associated with the detention basins has been calculated as a part of the FEIS. These inundation areas will require acquisition of an easement for those portions that adversely affect private property.

Implementation of the recommended plan will require the acquisition of private property. The exact timing of land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (“Uniform Act”). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate

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. Sean Scanlan
2625 Ipulei 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.

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 8, 2015 to USACE and DLNR:

1. *My name is Sean Scanlan. My address is 2625 Ipulei Place, Honolulu, HI 96816. I am writing in opposition of the proposed Pukele Stream berm. Pukele Stream is actually part of my property, and my house looks down onto the stream. My opposition has 3 parts.*

   RESPONSE: Thank you for your interest in this project and participation 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 continued feedback and participation. Community engagement is a critical part of making this a successful project.

2. *1. No one is even sure if the berm intervention will even work.*
   First, the idea of controlling the debris is not well-founded. You haven't seen the stream when it's been raging. The debris only comes down when it rains very hard for several days. Assuming that a 4-foot tube will somehow control this is illogical. Because I've seen firsthand how the stream acts during storms, this is what will happen: Normally, the stream will flow through the tube fine or even dry out. Then the rains will come, then the debris will quickly block the mouth of the tube. Then the water will build and easily flow over the berm. Along with all the water will be any debris, and essentially the berm did nothing.

   RESPONSE: We understand your concern is that the berm will be blocked by debris and cause a dam like situation, which would then threaten your community along Pukele Stream. The design in feasibility placed a debris catch structure upstream from the berm to prevent the outflow culvert from being blocked.

   During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Specifically, the debris and detention basin in Pukele will be evaluated further based on that 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. *The only way you could reduce debris from flowing downstream would be to have workers come up right when the water starts to rage and somehow remove that flowing debris. Any work before or after that point will be for naught. I'm assuming that you don't have emergency workers to do that difficult task, so I'm certain the berm will not work for what it is intended.*

   RESPONSE: An Operations & Maintenance (O&M) manual will be developed by the USACE Honolulu District in partnership with the City and County of Honolulu and the State of Hawaii during and after construction. Frequency and timing of maintenance will be evaluated when developing this O&M manual. 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. After construction completion, 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.

4. *2. No one is even sure if the berm will help.*
According to the report, there was a flood in the mid-1900's before much of the infrastructure was built, so we can't really use that as an example. But if we did, we can assume that the Ala Wai portion of the project can prevent that, even if the Pukele stream isn't built. Since that flood, there were only 2 other floods cited. Both occurred on the Manoa side of this project. So technically, there is no cited problems with the Pukele-Palolo flow. The small-to-no impact of a Pukele Stream berm is cited by the report, as it is only a small fraction of the overall flow and has the lowest annual chance of exedance. So, to summarize, we're not even sure if the Pukele berm would help; it definitely wouldn't have helped in the last 2 floods, so why would we expect anything different?

RESPONSE: We base our design on engineering data, modeling, data from other Agencies, as well as community outreach and participation. Although Palolo Valley and Pukele Stream has never experienced a 1% AEP event, neighboring valleys and areas have recently experienced such events. Hahaione and Kuliouou Valley's in Hawaii Kai received 10" of rain in 5 hours during a single rain bomb on April 17, 2018. That event was not associated with a named storm but just a single event. Damages impacted several homes in Hawaii Kai, as well as on the island of Kauai. Although Palolo Valley has never seen such an event, this is an opportunity to be proactive in building community resilience. We do agree that there must be a balance in engineering solutions to reduce flood risk and community impacts, we are going to address that more in the design phase when we update our data and modeling for the project.

5. *3. No one is even sure if the Pukele costs are worth the money and disruption.*
The cost of the project in dollars is an easy item to dispute. Obviously, if the berm won't work OR won't help, then it isn't worth the millions of dollars involved. I'd like to at least propose only spending the money for the Pukele Stream project if the other more important portions of this project (i.e., Ala Wai, Manoa) are on or under budget.

RESPONSE: The recommended action in the 2017 NEPA FFEIS and subsequent HEPA FFEIS is the economically justified and environmentally acceptable 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 System delivers the level of risk reduction authorized by Congress. Detention basins in the upper watershed and its associated costs 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.

6. *But there are other costs. Right now, Pukele is the lowest flood rating for insurance/real estate designations. That is, to my insurance company, my property is not a flood zone, and I don't pay any more than someone on Waialae Iki, for example. However, if you intend to create a berm to actually retain water in our backyards, then my insurance company is likely to see things differently and increase my rates. Is that considered anywhere in the drafts? Will my flood zone change from X to D? Will I be compensated by the state for this increase? Will we be compensated for the loss of property value?*

RESPONSE: As explained in the 2017 response letter, "USACE has developed hydraulic information which can be utilized by regulatory agencies and the public as a part of the National Flood Insurance Program (NFIP). It is possible that FEMA could make adjustments to the floodplain without the project in place; however, USACE cannot speculate on the timing of any potential FEMA floodplain map revisions. All homeowners are encouraged to participate in the NFIP to manage risks associated with flooding. Detention basins associated with the recommended plan are designed to be overtopped in high volume flood events. By including these project features it is not anticipated that the recommended detention basins will induce upstream flooding to area homes. Areas of inundation associated with the detention basins has been calculated as a part of the FEIS. These inundation areas will require acquisition of an easement for those portions that adversely affect private property."

Compensation for a change in flood insurance classification is not necessary because under the current FEMA flood mapping policy and our modeling (as seen in Appendix A-2, page 71), your property remains outside the 0.2% ACE floodplain.

Acquisition and compensation will be the responsibility of the non-federal sponsor. However, the impacts of land use and private property acquisition are listed as an unresolved issue in this 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 at the time of the study not to acquire any property until the design phase.

7. *Another issue is the idea of buying privately owned properties for the sake of this berm. First, I don't want my tax dollars buying land from citizens without a very compelling reason. Second, many of us who bought land in town, bought it with the premise of keeping that land for our families in perpetuity. This land is for generations after us because of the probable inability to buy land in the future. Again, considering the questionable function of the berm, is all this cost worth it?*

RESPONSE: As explained in the 2017 response letter, "implementation of the recommended plan will require the acquisition of private property. The exact timing of land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ("Uniform Act"). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking, the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate."

The recommended action in the 2017 NEPA FFEIS and subsequent HEPA FFEIS is the economically justified and environmentally acceptable 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 System delivers the level of risk reduction authorized by Congress. Detention basins in the upper watershed and its associated costs 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.

8. *To be clear, I am not in opposition to the project as a whole. I absolutely agree that the Ala Wai Canal portion is necessary.*

RESPONSE: We acknowledge your opposition to the Pukele structure and your support for features at the Ala Wai Canal.

9. *Also, the Manoa portion apparently needs to be addressed.*

RESPONSE: Thank you for your recommendation to address the Manoa area. During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the System delivers the level of risk reduction authorized by Congress. Features in the Manoa, Palolo, and Makiki areas will be further evaluated with the 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.

10. *However, I am having a hard time understanding why Pukele Stream needs to be included in this project, especially considering that 1) it's questionable if it will work, 2) it's questionable if it will help, and 3) if it's worth the cost to the taxpayers and homeowners.*

RESPONSE: Please see responses to #2 to 7 above.

11. *In Palolo, we already have a catch basin in Ka'au Crater and all the pools below it. I am pleading that you please consider removing Pukele Stream from the project. Me, my family, and my neighbors look forward to your response.*

RESPONSE: Thank you for your comment on the catch basin in Ka'au Crater. As the project progresses alternative locations will be evaluated against updated modeling, revised engineering data, and community concerns. The Corps of Engineers is authorized by Congress to deliver a System of Features that reduces flood risk in the Ala Wai Watershed; the final designed System must achieve that authorized risk reduction. The Corps of Engineers will conduct a value engineering study in the design phase to ensure that the most cost-effective use of Federal funds to deliver the level of risk reduction as authorized by Congress. As part of the design phase any changes to the recommended system features will be evaluated for environmental and community impacts, supplemental documentation will be developed commensurate with those impacts.

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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From: Paula Ress
To: Ala Wai Canal Project
Subject: [EXTERNAL] Ala Wai Canal Project
Date: Monday, November 09, 2015 9:14:22 PM

Building walls along the canal is an ill-conceived idea. Does the water just stay behind the walls? What happens when where the walls end? Are you creating another man-made disaster zone like the one in New Orleans?

What will happen to the trees along the promenade?

Please concentrate on flood mitigation along the three streams that feed the Ala Wai. There are demonstration projects all over the country.

Paula Ress (R)
RB16124
Coldwell Banker Pacific Properties
970 N. Kalaheo C-215
Kailua, HI 96734
808-384-9439

US Army Corps of Engine
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: Paula Ress
Colwell Banker Pacific Properties
970 North Kalaheo C-215
Kailua, Hawaii 96734

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:

- Functional elements of the recommended plan
- Loss of trees associated with the recommended plan

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. As a result of the recommended plan, water surface elevations within the canal during flood events will be lower than without the project and contained by the proposed floodwall as the water drains from the canal to the ocean. If the floodwall is overtopped, pump stations are designed to assist in the removal of water from the landward side of the wall.

Section 5.7.2.2 of the FEIS details the effect of the recommended plan on vegetation. Site restoration will occur throughout impacted areas following construction. At select locations identified in the report where significant trees exist, this site restoration will involve tree planting.

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

O‘ahu Island
Parks Conservancy

November 9, 2015

Derek J. Chow, Civil & Public Works Branch Chief
Lt. Col. Christopher W. Crary, Honolulu District Engineer
U.S. Army Corps of Engineers
Building 230, CEPOH-PP-C
Fort Shafter, Hawai‘i 96858-5440
Via email to: AlaWaiCanalProject@usace.army.mil

Carty Chang, Chief, Engineering Division
Gayson Ching, Engineering Division
State of Hawaii Department of Land and Natural Resources
Post Office Box 373
Honolulu, Hawaii 96809
Via email to: Gayson.Y.Ching@hawaii.gov

Re: Proposed Ala Wai Canal Project, O‘ahu, Hawai‘i

Aloha:

The O‘ahu Island Parks Conservancy herein provides review comments on the Draft Feasibility Study Report and integrated environmental impact report for the Army Corps of Engineers (ACOE) proposed Ala Wai Canal Project on O‘ahu Island, Hawaii. The ACOE proposes a determination of “no adverse effect” for the subject undertaking. The O‘ahu Island Parks Conservancy strongly disagrees with this determination and submits associated comments, clarifications and recommendations.

Sincerely,

MichelleS.Matson

Michelle S. Matson
President, O‘ahu Island Parks Conservancy

Copies via email:
Brian Turner, National Trust for Historic Preservation, Region 9
Brian Lusher, National Advisory Council on Historic Preservation
Charles R. Smith, CIV, USACOE Federal Preservation Officer
Suzanne Case, Director, State Department of Land and Natural Resources
Hawaii State Historic Preservation Officer
Alan S. Downer and Jessica Puff, Hawai‘i State Historic Preservation Division
Kiersten Faulkner, Executive Director, Historic Hawaii Foundation
Scott Wilson AIA, President, American Institute of Architects, Hawaii Chapter
John P. Whalen AICP
State Senator Les Ihara, Jr. and State Senator Sam Slom
State Representative Scott Nishimoto and State Representative Bert Kobayashi
City Councilmember Ann Kobayashi
Donna Wong, Executive Director, Hawaii’s Thousand Friends
George West, Chair, Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board

Ala Wai Canal Proposed Flood Risk Management Project
Draft Feasibility Report and Integrated Environmental Impact Statement

An Ala Wai Canal Flood Mitigation Project Proposal
by the Army Corps of Engineers, Honolulu District

The Draft Feasibility Study Report, with a prematurely integrated Environmental Impact Statement, "assesses the risk of flooding in the Ala Wai Watershed, and describes a range of potential alternative plans formulated to reduce flood risk, with identification of a tentatively selected plan for implementation," according to the Executive Summary. The "Tentatively Selected Plan," as explained by applicant Army Corps of Engineers (ACOE), is the "Recommended Plan" - a proposed $170-200 million public works project geared to an envisioned 100-year, 1% chance of occurrence flood event. Notably, the feasibility study readily admits that stormwater flooding cannot be entirely eliminated.

Summary of Proposed Project Review:

- Ala Wai Canal Encasement Walls

  - Strongly Oppose this Significant Cumulative Adverse Impact to the Historic Character, Integrity, Setting, Feeling, and Viewplanes of the following recognized historic structures:
    - The Ala Wai Canal
    - The Ala Wai Clubhouse and Canoe Hale
    - The McCully Street Bridge
    - The Kalakaua Avenue Bridge

- Ala Wai Canal and Ala Wai Golf Course Pump Stations and Flap/Sluice Gates

  - Strongly Oppose this Significant Cumulative Adverse Impact to:
    - The Protected Ala Wai Golf Course Open Space within the Diamond Head Special District
    - The setting, feeling, visual integrity and cultural association of the Ala Wai Canal and its associated historic features including the Ala Wai Clubhouse and Canoe Hale.

- Koo'lau, Manoa, Palolo, St. Louis Heights, Kapahulu and Mo'ili'ili Inland Debris and Water Retention Basins.

  - Support regular debris catchment, cleaning and maintenance program by the City and State to protect against any flood conditions.
  - Support returning designated stormwater detention locations to normal use following any flood event.
  - Oppose the taking of private property for floodwater detention
  - Oppose concrete hardening of streambeds

1. Some History

The Ala Wai Canal was carved out of shoreline wetlands between 1921 and 1928 to drain agricultural fields in the shoreline plain and build up the planned seaside enclave of Waikiki for well-heeled property owners. The canal functioned as a water reclamation project, diverting natural stream waters flowing from Manoa, Palolo and the Tam Pong Ditch that traversed the plain and was used to irrigate Kapi'olani Park following its dedication in 1887 by King Kalakaua.

Throughout the following decades, the Aa Wai Canal became a popular scenic point of interest and recreational waterway for residents and visitors alike. The Ala Wai Canal was listed on the Hawaii State Register of Historic Places in 1992 together with Kapi‘olani Park.

A 1996 Consent Decree between the US Environmental Protection Agency (EPA), the State of Hawaii, and the City and County of Honolulu created and funded a $2.1 million plan for watershed protection "to empower the community to improve… the many watershed areas that drain into the Ala Wai Canal." Community stewardship groups from Makiki, Manoa, Palolo and Diamond Head formed an Ala Wai Watershed Association to embark on stream and waterway projects to restore their natural conditions, including clearing streams of debris and integrating native vegetation within the surrounding landscape. Notable working projects included the Palolo community's stewardship of Pukele and Waiomao streams, and the Diamond Head community's restoration of the Kaneloa Wetland in Kapi‘olani Park, among others.

2. Floodwater Source

Throughout the island of O‘ahu, storm water percolates into the ground and through the porous subsurface where the surface has not been paved over, capped with development foundations or otherwise rendered impermeable. Impermeable surfaces increase floodwater inundation, which must then be controlled by means of constructed infrastructure.

The ACOE concept of 1% flooding throughout the ahupua‘a, from the Ko‘olau Mountains to the Shoreline, is derived from the mauka water flow as the primary source of floodwater gravitating downhill from the mountain ridges, through the valleys, across the Ala Wai plain and jumping the Ala Wai Canal into Waikiki.

Thus retention of the mauka water flow, repairing and improving aging and inadequate storm drain infrastructure, and responsible stream and storm drain maintenance by public agencies should be the primary focus of any flood control project, whether 10-year (10%), 50-year (2%) or 100-year (1%) percentage chance of occurring.

3. Floodwater Retention and Debris Catchment

The ACOE's recommended plan proposes to provide the following designated locations for floodwater detention and debris catchment:

1) Ko‘olau Waiaukeakua debris/water detention basin
2) Palolo Pukele debris/water detention basin
3) Palolo Waiomao debris/water detention basin
4) Manoa Woodlawn water detention basin
5) Manoa in-stream debris catchment
6) St. Louis Heights Kanewai Park Field water detention basin
7) Mo‘ili‘ili Hausten Ditch water detention basin
8) Ala Wai Golf Course water detention basin

The City and State as public property owners and land managers, as well as some private property owners, have been notoriously negligent in clearing, cleaning and maintaining upland stream beds, crossings, channels, and storm drains. These neglected conditions have become a common source of flooding, and at times a significant source.

The State has neglected to regularly dredge the Ala Wai Canal, while the layers of sediment gravitating from higher land contours increase annually. In addition, the canal’s waters are turbid with toxins, heavy metals and bacteria causing health risks to paddlers, fishers, and other recreational users.

The City has been remiss by not addressing commonly-occurring rainwater flood conditions with storm drain improvements along shoreline roadways – especially along Kapi‘olani Park’s Leahi Street and Paki Avenue across from Ala Wai Boulevard. The feasibility study recognizes that, despite ACOE’s well-intentioned flood control pursuits, “localized flooding could still occur due to internal drainage issues (e.g., along streets, etc.).”

These local deferred maintenance practices should be corrected regardless of any proposed flood control projects. A regular stream and culvert debris catchment and sediment cleaning and maintenance program must be responsibly instituted by the City and State to protect against flood conditions, regardless of the level of the event.

Further, private property owners should be encouraged with incentives to incorporate stormwater containment features and other active measures to protect their properties, as will also benefit the lower watershed.

In addition, strategically-placed upper elevation basin areas proposed for floodwater detention and debris catchment will serve to augment responsible and regular public maintenance of streams, crossings, channels, culverts and storm drains under any flood conditions. No private property should be taken for this purpose, and following such flood events the designated locations should be cleaned of collected debris and sediment, restored, and returned to their normal public uses and purposes in the public interest.

The ACOE feasibility study estimates Operations and Maintenance costs for the proposed flood control and mitigation plan to be $1 million annually, and further envisions that the non-federal sponsor, the Hawaii Department of Land and Natural Resources, “is responsible for O & M.” Has the State Legislature agreed and committed to this as a DLNR budget item? If not, such understandings between both the DLNR and the State Legislature through its House Finance and Senate Ways and Means Committees should be achieved and confirmed with notices of intent of budgetary allocation before proceeding further on this proposed project.

4. Central Reservoir

Given the envisioned example of a 100-year, 1% chance of occurrence, flood event[1] within the studied flood plain of 1,358 acres, and potential impacts (to public health and safety, including residents, students, workers and tourists**;** utilities, including power water, sewer and telecommunications**;** streets, including traffic control and emergency response**;** and other infrastructure, including fire and police stations, and hospitals, nursing facilities and emergency shelters), a centralized water reservoir midway between the upper water detention basins and the Ala Wai Canal would serve a multitude of purposes. Together with expanding the water retention and detention purposes of the proposed remote detention basins with a connection system, a centralized mid-level watershed reservoir on State land and/or expansion of the existing reservoir would help ensure the necessary increase in the provision of localized fresh water supply

O‘ahu Island has a finite fresh water supply. Existing subsurface aquifers are shrinking from the effects of high-density development and reduced recharge, and are threatened with toxic pollution from percolating jet fuel as well as corporate agricultural tract herbicides and pesticides. The formerly plentiful cane-field water recharge of the ‘Ewa aquifer has been significantly reduced by sprawling development replacing the irrigated fields and capping permeable surfaces. The Pearl City aquifer is in imminent danger of hydrocarbon infiltration and toxic pollution from leaking jet-fuel storage tanks.

Increasing population and urban high-density development is requiring more fresh water usage, further diminishing the island’s fresh water supply. The Board of Water Supply has been attempting to develop a water “master plan” based on present conditions, but this has been years in the making and has yet to be completed.

The increased reduction of Oahu’s fresh water supply demonstrates the growing need to supplement the diminishing fresh water supply and promote stream ecosystem restoration by providing non-potable water reuse and service connections for sustainable residential, hotel, and street landscaping, public parks, golf courses and agricultural uses, and various commercial and industrial uses. Separate non-potable water conveyance and storage should be integrated with the connected detention basin system, and a separate central fresh water reservoir system should properly and safely serve the residents and businesses within this ahupua‘a.

5. Kapi‘olani Park Karst Connection

The ACOE appears to neglect information provided by Cultural Surveys in the Ala Wai Canal Project Cultural Resources Appendix E. This relates to the 1998 Ala Wai Watershed Kaneloa Wetland Project in Kapi‘olani Park, where tilapia were discovered entering the wetland from a drainage opening during periods of heavy rain. It is known that this area is permeated with a natural underground drainage system within the coastal coral bed between the Ala Wai Canal and the Shoreline.

[1] A 1% ACOE flood prediction has a 1-in-100 chance of occurring in any given year, with a 26% chance of a 1% ACOE flood prediction over a 30-year period, and a 100% chance in a 100-years.

The ACOE should take into account that a calculated topping of the Ala Wai Canal during a 1%, 100-year flood event may be well reduced, and likely non-existent with this subsurface connection to Kapi‘olani Park’s wetland and the swale below sea level near the Waikiki Shell.

6. ACOE Evaluations and Determinations

Formulation of Alternative Plans and Strategies

It is noted on the ACOE “Formulation of Alternative Plans” diagram (ACOE Presentation slide #13) that the significant categories of Environmental Impact and Cultural Resources are placed at the bottom of the list. Please explain.

ACOE flood control strategies are listed as the following:

- Hold back water in upper Manoa and Palolo where most peak flows occur;
- Utilize water retention/detention basins to minimize stream channel modifications;
- Focus on the Ala Wai Canal area envisioned as having the highest flood risk.

Yet the feasibility study indeed recognizes the following:

- There are public acceptability issues with the proposed measures recommended over other alternatives;
- Using open space for water storage to reduce stormwater flood damage to urban areas;
- Detaining water in the upper watershed versus building floodwalls in Waikiki.

Adverse Effects

Adverse effects occur when a proposed undertaking has the potential to directly or indirectly alter any characteristics of historic properties, including sites, structures and landscapes, that have been listed on or are eligible for National and State Registers of Historic Places. Adverse effects are those that would directly, indirectly, cumulatively, or foreseeably in the future diminish or destroy the character and integrity of a historic property’s location, setting, feeling, design, materials, workmanship, or association within a historic complex or with important historic events or people.

ACOE has proposed a determination of “no adverse effect” for the Ala Wai Canal Project undertaking. The O‘ahu Island Parks Conservancy strongly disagrees with this determination.

Impacts and Mitigation

The ACOE’s summary of Impacts and Mitigation lists the following:

- “Potential adverse impacts primarily include:
  Biological resources
  Cultural Resources (no mention of Historic Resources)
  Visual Resources
  Recreation”

Further, the ACOE's summary of Impacts and Mitigation is fraught with circumvention, conjecture, misconception and/or misrepresentation, as follows:

- "Measures to avoid, minimize and mitigate impacts have been incorporated"

  This cannot be stated for the Ala Wai Canal historic complex or the Ala Wai Golf Course recreational open space.

- "Analysis did not identify significant, unavoidable adverse impacts that would remain after implementation of mitigation measures."

  This is highly irregular. Why were such identifications not performed?

- "Flood risk management benefits expected to outweigh remaining adverse impacts."

  This is a subjective and open-ended expectation, as several cumulative adverse impacts have yet to be resolved.

Programmatic Agreement Warranted

The ACOE appears to confuse the difference between avoiding adverse effects and mitigating such effects of the proposed project. Further, ACOE proposes findings of "conditional adverse effect" given unknown future conditions and modifications yet to be determined. In addition, the ACOE's claim of "no adverse effect" does not demonstrate that the proposed undertaking will or can avoid adverse conditions and impacts.

National Historic Preservation Act Section 106 requires that adverse effects shall be resolved prior to approval of the project undertaking, agencies' final decisions, and any expenditure of federal funds. Thus the ACOE's suggested intended attempts to "blend," work out", "solicit design" as "feasible" at a future time, together with the ACOE's proposed determination of "no adverse effect" at this time, are inadequate to meet such determination requirements under 36 CFR Part 800 for the proposed undertaking.

Therefore, a Project Programmatic Agreement is needed to resolve several foreseen adverse effects prior to publication of the Final Feasibility Report. The O'ahu Island Parks Conservancy supports development of a Project Programmatic Agreement between the ACOE and interested and affected state, city and community consulting parties to resolve the adverse effects associated with the Ala Wai Canal Project undertaking.

7. Ala Wai Golf Course and the Diamond Head Special District Protected Area

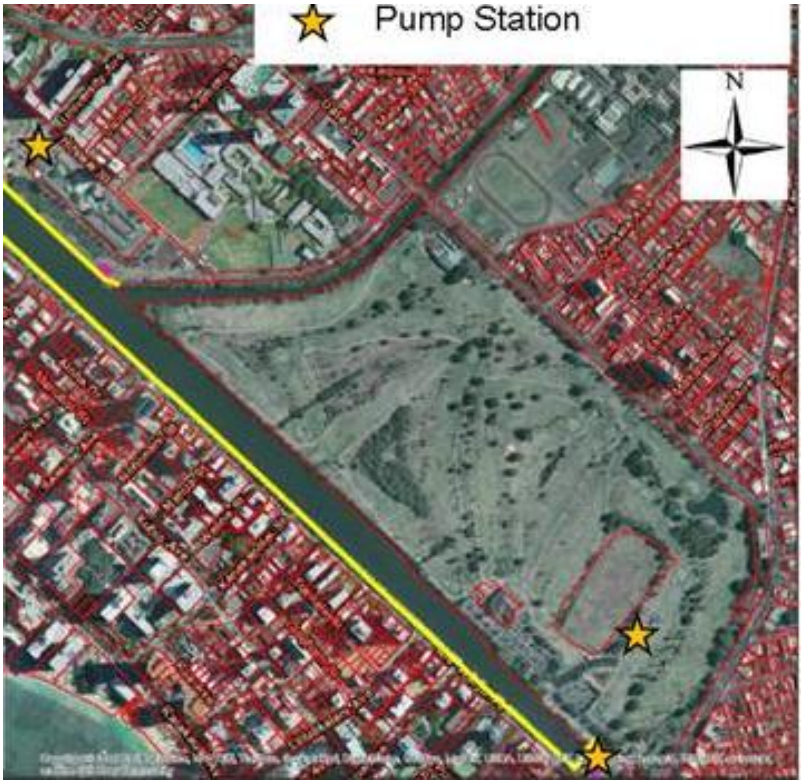
The ACOE completely avoids discussion of the fact that the historic Ala Wai Golf Course public recreational open space is protected under the regulatory guidelines of the Diamond Head Special District, and conversely proposes to industrialize this protected area. In addition, the Draft Feasibility Report fails to list Diamond Head Special District permitting requirements under Required Permits and Environmental Compliance.

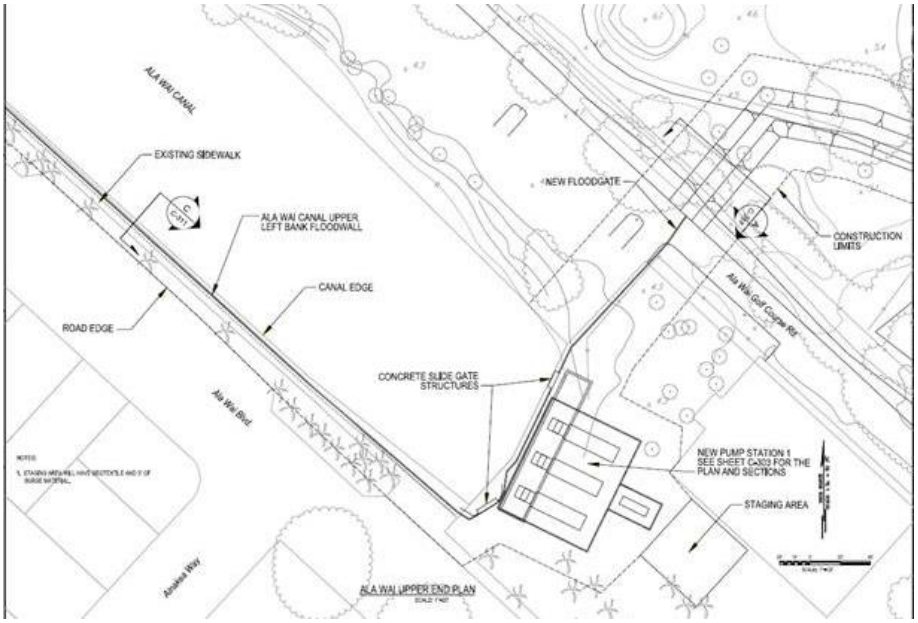
Diamond Head Special District Provisions, Land Use Ordinance of Honolulu
Chapter 21, Revised Ordinances of Honolulu, Section 21-9.40

> "Diamond Head is a volcanic crater that has been declared a state and national monument. Its natural appearance and prominent public views have special values of local, state, national and international significance and are in danger of being lost or seriously diminished through changes in land use and accompanying land development. In accordance with these findings and established pubic policies, it is necessary to protect the views of the Diamond Head monument."
>
> Diamond Head Special District boundaries include all of the Ala Wai Golf Course public open space, Ala Wai School, Ala Wai Park, Ala Wai Field, the historic Ala Wai Clubhouse and Canoe Hale at the McCully Street Bridge, Kapahulu Avenue from Date Street to the Shoreline, the Ala Wai Canal terminus and the Kapahulu Library, Ala Wai Boulevard fronting Jefferson School, the Jefferson School campus, Kapi'olani Park, Diamond Head Crater inclusive of its slopes and beach parks, and the residential areas surrounding the crater to the Kapahulu/Date Street intersection.
>
> Any cumulative, direct, indirect, and foreseeable effects of the proposed undertaking on the above Areas of Potential Effect (APE), including Kapi'olani Park and Diamond Head Crater, should be discussed and evaluated in the Feasibility Report and related documents.
>
> Objectives of the Diamond Head special district are to preserve existing prominent public views and the natural appearance of Diamond Head by modifying construction projects that would diminish these resources. Prominent Diamond Head Special District public viewplane vantage points include:
>
> - Ala Wai Boulevard from McCully Street to Kapahulu Avenue
> - Ala Wai Golf Course
> - Ala Wai Park and Ala Wai School
> - Date Street from the Manoa-Palolo Canal to Kapahulu Avenue
> - Kapahulu Avenue in the vicinity the Ala Wai Golf Course
>
> **The Diamond Head Special District designation for the Ala Wai Golf Course public open space is a zero (0) foot building height precinct.**

Yet, flying in the face of neglected Diamond Head Special District requirements and safeguards, the ACOE proposes to alter the historic, recreational and visual character of Ala Wai Golf Course and its significant views to and from Diamond Head by industrializing this protected recreational open space with three (3) industrial pump stations forty (40) feet in height and sixty (60) feet in width, each displacing 2,400 square feet, totaling 7,200 square feet, at the following locations with significant visual and physical impacts:

- ★ Ala Wai Canal terminus at Ala Wai Boulevard and Kapahulu Avenue
- ★ Ala Wai Golf Course open space in the vicinity of Date Street and Kapahulu Avenue
- ★ University Avenue terminus at Ala Wai Park and Ala Wai Elementary School


Pump Station
N



ACOE Industrialization of the Ala Wai Canal and Golf Course Open Space

The ACOE proposes four-story pump stations with flap/slide/sluice gates to prevent backflow via existing storm drains. The ACOE claims there is no alternative. This ignores substantial preventive and remedial functions that can be reasonably implemented for watershed flood control from the slopes of the Koʻolau Mountains, through the valleys and along the Ala Wai plain before reaching the Ala Wai Canal.

Apart from the above proposed conflicting industrialization and irreversible adverse impacts, reserving an area within this open space for water detention during any level of flood conditions appears to be a proactive measure with minimal impact to the scenic and recreational quality of this protected area. In addition, a contoured 24”+/- berm co-located and integrated with the golf cart path would appear to be compatible with the existing open space contours to not adversely impact the historic open space, protected viewplanes and public recreational use.

8. Ala Wai Canal

Significant Cumulative Adverse Impacts

The ACOE is proposing significant cumulative adverse impacts to the Ala Wai Canal's historic character and integrity, cultural recreational waterway and landscaped sense of place appreciated and enjoyed by residents and visitors alike. The ACOE proposes construction of concrete flood walls encasing the perimeter of the Ala Wai Canal historic structure, ranging from four (4) to five (5) feet in height and formerly proposed to be eleven (11) to thirteen (13) feet in height, to mitigate water overtopping the canal in the event of a 1%, 100-year storm. The ACOE claims there is no alternative to this fixed, irreversible impact to the Aa Wai Canal's historic structure and visual character and integrity. This claim ignores substantial preventive and remedial functions that can be reasonably implemented and increased for watershed flood control from the slopes of the Koʻolau Mountains, through the valleys and along the Ala Wai plain before reaching the Ala Wai Canal.

The Ala Wai Canal is a Historic Scenic and Cultural Resource. The Ala Wai Canal is a significant feature of Honolulu and its intrinsic qualities are appreciated by residents and visitors alike, who regularly experience the Ala Wai Canal's pedestrian promenade as a scenic greenway together with recreational waterway's resplendent cultural Hawaiian canoe paddling activities. Construction of alien floodwall encasements and pump stations will have a significant adverse effect on the Ala Wai Canal's setting, feeling, visual integrity and cultural association.

Recreational access must continue to be provided to and along the length of the Ala Wai Canal for public recreation and enjoyment without altering and disrupting its historic character, integrity, visual association and cultural use. Canoe slips proposed to be built into flood control walls would be unwieldy, difficult to access and dangerous.

The following registered and eligible historic structures will be significantly adversely impacted in their setting, feeling, visual integrity and association by the construction of this secondary wall:

- Ala Wai Canal, State Historic Register Site 50-80-14-9757
- Ala Wai Clubhouse and Boathouse, State Historic Register Site 50-80-14-1388/ Inventory # 90, at the McCully Bridge and Kapiʻolani Boulevard.
- Kalakaua Avenue Bridge, Inventory #2
- McCully Street Bridge, Inventory #3

Contrary to the ACOE claim that the proposed floodwalls and pump stations will result in "no adverse effect" on the above historic properties within the construction footprint, and regardless of ACOE intended attempts to "blend," work out", "solicit design" as "feasible," the proposed connection of floodwalls and a floodgate directly attached to the historic Ala Wai Clubhouse and Canoe Hale will have a significant adverse impact on the historic design integrity and structural character of this historic building. Further, proposed the construction of floodwalls encasing the historic Ala Wai Canal, as well as the proposed addition of three four-story pump stations within the adjacent protected public open space, will significantly cumulatively adversely impact the historic character and integrity of the Ala Wai Canal, its associated contiguous historic features, and the protected viewplanes from and toward Diamond Head, Waikiki and the Ala Wai Golf Course public open space.

9. Aesthetic Improvements

The ACOE claims future opportunity to "partner with organizations to aesthetically improve flood measures." The most necessary aesthetic improvements to the proposed undertaking will be to eliminate the proposed artificial wall encompassing the historic Ala Wai Canal and the four-story pump stations within the adjacent protected public open space.

10. Waikiki and Sea Level Rise

The ACOE estimates 3 feet of flood water moving through Waikiki in the event of a 1%, 100-year flood, and 1-1/2 feet of water moving through Waikiki in the event of a 50-year flood if inland floodwaters top the Ala Wai Canal. This does not appear to take into account the natural subsurface drainage system between the Ala Wai Canal embankments and the Shoreline that is also connected to Kapiʻolani Park wetland and swale areas. Thus this estimate may amount to zero (0).

In addition, in 100 years or less by recent updates, 3 to 4 feet of sea level rise will cause ocean water to move through Waikiki. Will this necessitate the same extreme measures of building walls around the entire perimeter of Waikiki? If so, public monies might be best used for such planning instead.

11. Conjoined Public Review Documents

Since an Environmental Impact Statement, as should be developed in accordance with the National Environmental Policy Act (NEPA) and Hawaii Revised Statutes (HRS) Chapter 343, has been optionally integrated with the Draft Feasibility Report, we must express strong concern that these two distinct documents have been "integrated."

The combination of a draft planning report with an environmental impact statement precludes public due process for each separate and distinct document**:** the first as a preliminary planning document for a recommended project, and the second as a disclosure document for potential environmental effects and impacts of said project. The latter must be developed on the findings, review comments and revisions of the former. Notably, throughout the Draft Feasibility Report the following footnote appears:

"THIS DRAFT DOCUMENT IS BASED ON THE INFORMATION AVAILABLE AT THE TIME OF PUBLICATION . . . IT IS POSSIBLE THAT THE CONTENT HEREIN MAY CHANGE AS A RESULT OF REVIEW COMMENTS RECEIVED."

Indeed, a Final Feasibility Report should address the draft Report's omissions, oversights and shortcomings together with recognition of the stated concerns, considerations and recommendations provided through comprehensive public comments delivered in response to the Draft Feasibility Report. Further, given the shortcomings and oversights within the ACOE Draft Feasibility Report, the conjoined Environmental Impact Study prevents proper sequence of adequate public review and comment, first on the Draft Feasibility Report and followed by the Environmental Impact Statement review process, including a Draft Environmental Assessment with the Findings of Significant Impacts and the Draft Environmental Impact Statement, both with required opportunities for public comment before the final documents are issued and potentially approved.

The present, incomplete Draft Feasibility Report should substantially benefit from the many significant comments provided in response to this draft to produce a revised and refined Final Feasibility Report so as not to continue to confuse the public. Further, the Draft Environmental Assessment and Draft Environmental Impact Statement are separate documents that should be sequentially provided for required public review and comment.

By combining the draft feasibility and environmental disclosure documents from the outset, regardless of such option provided under 40 CFR 1502.25, the ACOE has in effect halved the requisite opportunity for comprehensive public review and comment with the absence of a Draft Environmental Assessment and Draft Environmental Impact Statement developed from the Final Feasibility Report. Noting the ACOE timeline, the often erratic and unpredictable schedule of the US Congress should not be dictating that approval is needed by 2017 in order to begin construction in 2021, thus shortcutting comprehensive analysis, fast-tracking public comment in avoidance of due process, and thwarting necessary reconsideration and refinement of the presently proposed Ala Wai watershed flood control measures and their cumulative effects.

US Army Corps of Engine
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: Michelle Matson
Oahu Island Parks Conservancy
e-mail: msmatson@hawaii.rr.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:

- Concerns related to the integrated Feasibility Study and Environmental Impact Statement (FEIS)
- Concerns regarding public outreach
- Alternative Plan Selection
- Concerns of affected landowners regarding real estate acquisition
- Operations and maintenance of the project features
- Aesthetics of the floodwalls and pump stations
- Concerns regarding sea level change

For Federal decision documents, integrating Feasibility Study reports with NEPA documents is allowed under 40 CFR 1500.4(o) and 1506.4 and is required under USACE Engineering Regulations (ER) 1105-2-100 unless an exception is warranted. The integrated FEIS, therefore, is the standard utilized for decision documents. At a Federal level, the National Environmental Policy Act (NEPA) public review process is no different for integrated documents than separate Feasibility Reports and Environmental Impact Statements.

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of 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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS. The economic analysis presented in the Feasibility Report and integrated Environmental Impact Statement uses the standard methodology prescribed by the Water Resources Council's "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies" and the USACE ER 1105-2-100. 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

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. Materials utilized in the designs may also be reevaluated to meet site conditions.

Implementation of the recommended plan will require the acquisition of private property. The exact timing of land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

Operations and maintenance are the responsibility of the non-Federal sponsor which may be State or local government. Debris and detention structures are intended to pass normal stream flows without impounding water. The structures are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events nor is a significant increase in groundwater recharge expected. 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.

The design of project features is focused on the most economical design that will provide the needed function while observing compliance with applicable Federal law. Pump stations are above ground to avoid costs associated with sub-surface placement and must contain maintenance features which will

allow for annual remove and inspection of pumps. The design of floodwalls and the pump stations must meet the criteria set forth in Section 106 of the Historic Preservation Act. This design will be coordinated with the State Historic Preservation Office to ensure appropriate design aspects are integrated into the project to ensure preservation of the historic value of the area. A programmatic agreement has been executed between agencies to memorialize the negotiated outcome of these discussions.

Coastal storm damage and flood risk management are separate authorities for USACE. Coastal storm damage in the study area would primarily focus on wave run-up to the shoreline and the resulting flooding, whereas, flood risk management will focus on riverine flooding from rainfall runoff in the watershed. 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. While implementation of the recommended plan may produce a benefit from wave run-up through the canal reaches, protection from coastal storm damage to Waikiki would involve study of shoreline protection measures which is not a part of this 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

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. Michelle Matson
Oahu Island Parks Conservancy
Via E-mail: msmatson@hawaii.rr.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 letter dated November 9, 2015 to U.S. Army Corps of Engineers and State of Hawaii Department of Land and Natural Resources:

1. *The O'ahu Island Parks Conservancy herein provides review comments on the Draft Feasibility Study Report and integrated environmental impact report for the Army Corps of Engineers (ACOE) proposed Ala Wai Canal Project on O'ahu Island, Hawaii. The ACOE proposes a determination of "no adverse effect" for the subject undertaking. The O'ahu Island Parks Conservancy strongly disagrees with this determination and submits associated comments, clarifications and recommendations.*

   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. *The Draft Feasibility Study Report, with a prematurely integrated Environmental Impact Statement, "assesses the risk of flooding in the Ala Wai Watershed, and describes a range of potential alternative plans formulated to reduce flood risk, with identification of a tentatively selected plan for implementation," according to the Executive Summary. The "Tentatively Selected Plan," as explained by applicant Army Corps of Engineers (ACOE), is the "Recommended Plan" - a proposed $170-200 million public works project geared to an envisioned 100-year, 1% chance of occurrence flood event. Notably, the feasibility study readily admits that stormwater flooding cannot be entirely eliminated.*

   RESPONSE: The observations that that storm water flooding cannot be entirely eliminated throughout the watershed is correct, particularly the low-lying areas where the deepest, most damaging inundation historically occurs. However, please also note the risk of loss of life and substantial, potentially devastating property damage is significantly reduced with an effective flood risk management system in place.

3. *Summary of Proposed Project Review:*
   · *Ala Wai Canal Encasement Walls*
   ➢ *Strongly Oppose this Significant Cumulative Adverse Impact to the Historic Character, Integrity, Setting, Feeling, and Viewplanes of the following recognized historic structures:*
      - *The Ala Wai Canal*
      - *The Ala Wai Clubhouse and Canoe Hale*
      - *The McCully Street Bridge*
      - *The Kalakaua Avenue Bridge*

   RESPONSE: All reasonable efforts will be made to develop an effective, engineering solution that balances life safety and property loss objectives with historic preservation, integrity, setting, and view plane concerns. In addition, the USACE entered into a Project Programmatic Agreement (PA) in coordination with the Historic Hawaii Foundation (HHF) to develop a measured way forward which addresses these concerns. Additionally, during the design phase, this project will use

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.

4. *Ala Wai Canal and Ala Wai Golf Course Pump Stations and Flap/Sluice Gates*
    - *Strongly Oppose this Significant Cumulative Adverse Impact to:*
        - *The Protected Ala Wai Golf Course Open Space within the Diamond Head Special District*
        - *The setting, feeling, visual integrity and cultural association of the Ala Wai Canal and its associated historic features including the Ala Wai Clubhouse and Canoe Hale.*

RESPONSE: All reasonable efforts will be made to develop an effective, engineering solution that balances life safety and property loss objectives with retaining the setting, feeling, and visual integrity around the canal. It is our understanding that the PA addresses these concerns. Additionally, during the design phase, this project will use 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.

5. *Koo'lau, Manoa, Palolo, St. Louis Heights, Kapahulu and Mo'ili'ili Inland Debris and Water Retention Basins.*
    - *Support regular debris catchment, cleaning and maintenance program by the City and State to protect against any flood conditions.*
    - *Support returning designated stormwater detention locations to normal use following any flood event.*
    - *Oppose the taking of private property for floodwater detention*
    - *Oppose concrete hardening of streambeds*

RESPONSE: We appreciate the support as noted and acknowledge the concerns regarding the need for private property for detention and hardening of streambeds. If private property is required for detention, the amount would be kept to the minimum necessary to meet the intended life safety objectives. The only concrete planned for the stream beds at this time is immediately adjacent to the discharge of the detention basins to prevent the negative impact of erosion. Importantly, during the design phase, this project will use 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.

6. *Some History*
The Ala Wai Canal was carved out of shoreline wetlands between 1921 and 1928 to drain agricultural fields in the shoreline plain and build up the planned seaside enclave of Waikiki for well-heeled property owners. The canal functioned as a water reclamation project, diverting natural stream waters flowing from Manoa, Palolo and the Tam Pong Ditch that traversed the plain and was used to irrigate Kapi'olani Park following its dedication in 1887 by King Kalakaua.

Throughout the following decades, the Ala Wai Canal became a popular scenic point of interest and recreational waterway for residents and visitors alike. The Ala Wai Canal was listed on the Hawaii State Register of Historic Places in 1992 together with Kapi'olani Park. A 1996 Consent Decree between the US Environmental Protection Agency (EPA), the State of Hawaii, and the City and County of Honolulu created and funded a $2.1 million plan for watershed protection "to empower the community to improve… the many watershed areas that drain into the Ala Wai Canal." Community stewardship groups from Makiki, Manoa, Palolo and Diamond Head formed an Ala Wai Watershed Association to embark on stream and waterway projects to restore their natural conditions, including clearing streams of debris and integrating native vegetation within the surrounding landscape. Notable working projects included the Palolo community's stewardship of Pukele and Waiomao streams, and the Diamond Head community's restoration of the Kaneloa Wetland in Kapi'olani Park, among others.

RESPONSE: We are mindful of the long history of the watershed and respect the commitment to restore the waterways to their natural conditions. On multiple occasions, USACE representatives have described and distributed information, including instructions and applications, for the community and State agencies to pursue Federal funding for numerous restoration opportunities within the watershed.

7. *Floodwater Source*
Throughout the island of O'ahu, storm water percolates into the ground and through the porous subsurface where the surface has not been paved over, capped with development foundations or otherwise rendered impermeable. Impermeable surfaces increase floodwater inundation, which must then be controlled by means of constructed infrastructure.

RESPONSE: We appreciate the observations and understand the role impermeable surfaces play in reducing infiltration, which in turn increases surface runoff, overland flow, and flooding if not effectively controlled by engineering controls. The flood risk management system will work to incorporate as much natural and permeable elements into the design as practicable.

8. *The ACOE concept of 1% flooding throughout the ahupua'a, from the Ko'olau Mountains to the Shoreline, is derived from the mauka water flow as the primary source of floodwater gravitating downhill from the mountain ridges, through the valleys, across the Ala Wai plain and jumping the Ala Wai Canal into Waikiki.*

Thus retention of the mauka water flow, repairing and improving aging and inadequate storm drain infrastructure, and responsible stream and storm drain maintenance by public agencies should be the primary focus of any flood control project, whether 10-year (10%), 50-year (2%) or 100-year (1%) percentage chance of occurring.

RESPONSE: Agree, storm water management should target a wide range of flows and frequencies with the most effective, least obtrusive, and most reliable control measures at the lowest cost possible. We are working to design the system that offers the highest level of life safety and property damage risk management as possible.

9. *Floodwater Retention and Debris Catchment*
The ACOE's recommended plan proposes to provide the following designated locations for floodwater detention and debris catchment:
1) Ko'olau Waiaukeakua debris/water detention basin
2) Palolo Pukele debris/water detention basin
3) Palolo Waiomao debris/water detention basin
4) Manoa Woodlawn water detention basin
5) Manoa in-stream debris catchment
6) St. Louis Heights Kanewai Park Field water detention basin
7) Mo'ili'ili Hausten Ditch water detention basin
8) Ala Wai Golf Course water detention basin

The City and State as public property owners and land managers, as well as some private property owners, have been notoriously negligent in clearing, cleaning and maintaining upland stream beds, crossings, channels, and storm drains. These neglected conditions have become a common source of flooding, and at times a significant source.

RESPONSE: The City and County of Honolulu (City) will be responsible for the execution of operation and management (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. Additionally, after construction, the Corps of Engineers will routinely inspect the feature and provide a list of deficiencies to the City. This document will be developed by the USACE Honolulu District in partnership with the City and the State of Hawaii during and after construction. Annual funding requirements will be developed based on the maintenance schedule within the O&M manual and appropriations requested accordingly. O&M requirements are further discussed in Section 3.0 Plan Formulation and Section 8.4 of the HEPA FFEIS.

10. *The State has neglected to regularly dredge the Ala Wai Canal, while the layers of sediment gravitating from higher land contours increase annually. In addition, the canal's waters are turbid with toxins, heavy metals and bacteria causing health risks to paddlers, fishers, and other recreational users.*

RESPONSE: This project's scope is limited to addressing the risk of riverine flooding in the Ala Wai Watershed Community, which poses life safety risks and damages to both private and public property. Note that DLNR is currently undertaking a dredging project in the Ala Wai.

11. *The City has been remiss by not addressing commonly-occurring rainwater flood conditions with storm drain improvements along shoreline roadways – especially along Kapi'olani Park's Leahi Street and Paki Avenue across from Ala Wai Boulevard. The feasibility study recognizes that, despite ACOE's well-intentioned flood control pursuits, "localized flooding could still occur due to internal drainage issues (e.g., along streets, etc.)."*

RESPONSE: This project authority from Congress does not authorize the Corps of Engineers to address runoff, or storm drainage improvements. However, the opportunities and benefits of this project to reduce the risk of riverine flooding in the watershed opens up opportunities for the City and the Corps to work on other efforts such as ecosystem restoration and storm drainage improvements.

12. *These local deferred maintenance practices should be corrected regardless of any proposed flood control projects. A regular stream and culvert debris catchment and sediment cleaning and maintenance program must be responsibly instituted by the City and State to protect against flood conditions, regardless of the level of the event.*

RESPONSE: An O&M manual will be developed by the USACE Honolulu District in partnership with the City and the State of Hawaii during and after construction. Frequency and timing of maintenance will be evaluated when developing this O&M manual. The City 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. After construction completion, the Corps of Engineers will conduct routine, periodic, and emergency inspections of the system features and prepare reports for the City 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.

13. *Further, private property owners should be encouraged with incentives to incorporate stormwater containment features and other active measures to protect their properties, as will also benefit the lower watershed.*

RESPONSE: We agree that suburban property owners could play a vital role in reducing the amount of water flowing from their land in two separate ways. First, suburban property owners own the portions of the stream on their property. By maintaining the stream within their property they could help to mitigate against the amount of debris that flows downstream, potentially causing risk to infrastructure. Second, the amount of pervious surface and stormwater runoff from a person's private parcel could help to reduce the amount of stormwater runoff the system needs to

accept. However, stormwater runoff and interior drainage were not issues within the scope of the Corps of Engineer's Ala Wai Canal Flood Risk Management Study.

14. *In addition, strategically-placed upper elevation basin areas proposed for floodwater detention and debris catchment will serve to augment responsible and regular public maintenance of streams, crossings, channels, culverts and storm drains under any flood conditions.*

RESPONSE: We acknowledge your support for upper watershed debris and detention basins.

15. *No private property should be taken for this purpose and following such flood events the designated locations should be cleaned of collected debris and sediment, restored, and returned to their normal public uses and purposes in the public interest.*

RESPONSE: Acquisition and compensation will be the responsibility of the non-federal sponsor. However, the impacts of land use and private property acquisition are listed as an unresolved issue in this 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. No property will be acquired until after the design phase.

16. *The ACOE feasibility study estimates Operations and Maintenance costs for the proposed flood control and mitigation plan to be $1 million annually, and further envisions that the non-federal sponsor, the Hawaii Department of Land and Natural Resources, "is responsible for O & M." Has the State Legislature agreed and committed to this as a DLNR budget item? If not, such understandings between both the DLNR and the State Legislature through its House Finance and Senate Ways and Means Committees should be achieved and confirmed with notices of intent of budgetary allocation before proceeding further on this proposed project.*

RESPONSE: As explained in the 2017 response letter, "The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project….Operations and maintenance are the responsibility of the non-Federal sponsor which may be State or local government. Debris and detention structures are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events nor is a significant increase of groundwater recharge expected. 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."

To further clarify, the City has been identified as the non-Federal sponsor 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. Additionally, after construction, the Corps of Engineers will routinely inspect the feature and provide a list of deficiencies to the City. This document will be developed by the USACE Honolulu District in partnership with the City and the State of Hawaii during and after construction. Annual funding requirements will be developed based on the maintenance schedule within the O&M manual and appropriations requested accordingly. O&M requirements are further discussed in Section 3.0 Plan Formulation and Section 8.4 of the HEPA FFEIS.

17. *Central Reservoir*

Given the envisioned example of a 100-year, 1% chance of occurrence, flood event[1] within the studied flood plain of 1,358 acres, and potential impacts (to public health and safety, including residents, students, workers and tourists; utilities, including power water, sewer and telecommunications; streets, including traffic control and emergency response; and other infrastructure, including fire and police stations, and hospitals, nursing facilities and emergency shelters), a centralized water reservoir midway between the upper water detention basins and the Ala Wai Canal would serve a multitude of purposes. Together with expanding the water retention and detention purposes of the proposed remote detention basins with a connection system, a centralized mid-level watershed reservoir on State land and/or expansion of the existing reservoir would help ensure the necessary increase in the provision of localized fresh water supply

RESPONSE: Thank you for the well-considered suggestion, which will be evaluated as a part of the design phase. During the design phase, this project will use updated modeling, engineering data, and community input to refine or change the system features. Alternative locations for water detention will be evaluated with the updated information. 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.

18. *O'ahu Island has a finite fresh water supply. Existing subsurface aquifers are shrinking from the effects of high-density development and reduced re-charge and are threatened with toxic pollution from percolating jet fuel as well as corporate agricultural tract herbicides and pesticides. The formerly plentiful cane-field water recharge of the 'Ewa aquifer has been significantly reduced by sprawling development replacing the irrigated fields and capping permeable surfaces. The Pearl City aquifer is in imminent danger of hydrocarbon infiltration and toxic pollution from leaking jet-fuel storage tanks.*

Increasing population and urban high-density development is requiring more fresh-water usage, further diminishing the island's fresh water supply. The Board of Water Supply has been attempting to develop a water "master plan" based on present conditions, but this has been years in the making and has yet to be completed.

The increased reduction of Oahu's fresh water supply demonstrates the growing need to supplement the diminishing fresh water supply and promote stream ecosystem restoration by providing non-potable water reuse and service connections for sustainable residential, hotel, and street landscaping, public parks, golf courses and agricultural uses, and various commercial and industrial uses. Separate non-potable water conveyance and storage should be integrated with the connected detention basin system, and a separate central fresh water reservoir system should properly and safely serve the residents and businesses within this ahupua'a.

RESPONSE: Beneficial infiltration of the aquifer may be an opportunity associated with this project, however, it was not a specific objective of the project or this HEPA FFEIS. The purpose of this project is to mitigate riparian flooding risk.

19. *Kapi'olani Park Karst Connection*
The ACOE appears to neglect information provided by Cultural Surveys in the Ala Wai Canal Project Cultural Resources Appendix E. This relates to the 1998 Ala Wai Watershed Kaneloa Wetland Project in Kapi'olani Park, where tilapia were discovered entering the wetland from a drainage opening during periods of heavy rain. It is known that this area is permeated with a natural underground drainage system within the coastal coral bed between the Ala Wai Canal and the Shoreline.

The ACOE should take into account that a calculated topping of the Ala Wai Canal during a 1%, 100-year flood event may be well reduced, and likely non-existent with this subsurface connection to Kapi'olani Park's wetland and the swale below sea level near the Waikiki Shell.

RESPONSE: We are aware of the karst stratigraphy in the lower Ala Wai watershed. During the design phase we will reach out to local experts and historians to better understand the nature and extent of the geology in the area. Our goal is to maximize the protection of the communities, ecosystem, infrastructure, and efficacy of the flood risk management system.

20. *ACOE Evaluations and Determinations*

<u>Formulation of Alternative Plans and Strategies</u>
It is noted on the ACOE "Formulation of Alternative Plans" diagram (ACOE Presentation slide #13) that the significant categories of Environmental Impact and Cultural Resources are placed at the bottom of the list. Please explain.

RESPONSE: We appreciate the opportunity to clarify. Potential environmental impacts are vitally important and is the central objective of the Environmental Impact Study. The information in the presentation is developed chronologically and sequentially according to execution. The preceding factors needed to be developed and defined before the conclusion to enable an assessment of the potential environmental impact. This important category is literally the "bottom line" because of its high priority.

21. *ACOE flood control strategies are listed as the following:*
    - *o Hold back water in upper Manoa and Palolo where most peak flows occur;*
    - *o Utilize water retention/detention basins to minimize stream channel modifications;*
    - *o Focus on the Ala Wai Canal area envisioned as having the highest flood risk.*

    Yet the feasibility study indeed recognizes the following:
    - *There are public acceptability issues with the proposed measures recommended over other alternatives;*
    - *Using open space for water storage to reduce stormwater flood damage to urban areas;*
    - *Detaining water in the upper watershed versus building floodwalls in Waikiki.*

    RESPONSE: Understood. After completion of this initial feasibility phase, the project will be reviewed holistically and systematically as part of the design phase. During the design phase, this project will use 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.

22. *Adverse Effects*

    Adverse effects occur when a proposed undertaking has the potential to directly or indirectly alter any characteristics of historic properties, including sites, structures and landscapes, that have been listed on or are eligible for National and State Registers of Historic Places. Adverse effects are those that would directly, indirectly, cumulatively, or foreseeably in the future diminish or destroy the character and integrity of a historic property's location, setting, feeling, design, materials, workmanship, or association within a historic complex or with important historic events or people. ACOE has proposed a determination of "no adverse effect" for the Ala Wai Canal Project undertaking. The O'ahu Island Parks Conservancy strongly disagrees with this determination.

    RESPONSE: All reasonable efforts will be made to find an effective engineering solution that balances life safety and property loss objectives with historic preservation, integrity, setting, and feelings of the historic sites. The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns. Additionally, during the design phase, this project will use 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.

23. *…the ACOE's summary of Impacts and Mitigation is fraught with circumvention, conjecture, misconception and/or misrepresentation, as follows:*
    - *"Measures to avoid, minimize and mitigate impacts have been incorporated"*

This cannot be stated for the Ala Wai Canal historic complex or the Ala Wai Golf Course recreational open space.

RESPONSE: During the design phase, additional efforts will be made to find an effective engineering solution that balances life safety and property loss objectives with historic preservation, integrity, setting, and view plane concerns at the Ala Wai Canal historic complex and Golf Course open space. As part of the design phase, this project will use 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. Additionally The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns.

24. · *"Analysis did not identify significant, unavoidable adverse impacts that would remain after implementation of mitigation measures."*
This is highly irregular. Why were such identifications not performed?

RESPONSE: Analysis was performed within the context of the life safety and policy framework, and the findings were documented for public comment. During the design phase, this project will use 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.

25. · *"Flood risk management benefits expected to outweigh remaining adverse impacts."*
This is a subjective and open-ended expectation, as several cumulative adverse impacts have yet to be resolved.

RESPONSE: Analysis was performed within the context of the life safety and policy framework, and the findings documented for public comment. Also, the USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns regarding the characterization and mitigation of adverse effects. Additionally, during the design phase, this project will use 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.

26. *Programmatic Agreement Warranted*
The ACOE appears to confuse the difference between avoiding adverse effects and mitigating such effects of the proposed project. Further, ACOE proposes findings of "conditional adverse effect" given unknown future conditions and modifications yet to be determined. In addition, the ACOE's claim of "no adverse effect" does not demonstrate that the proposed undertaking will or can avoid adverse conditions and impacts.

RESPONSE: A Programmatic Agreement (PA) was agreed upon by 23 consulting parties in addition to the Army Corps of Engineers (Appendix F, pages 100-101). This group was identified in collaboration with the Advisory Council on Historic Preservation, the State Historic Preservation Division of DLNR and other consulting parties. The determinations that were made during the NEPA FFEIS and the HEPA FFEIS were based on coordination, modeling, known information about the areas, the recommended plan being proposed, and regulatory guidelines. These determinations can be referenced in the Programmatic Agreement, Appendix F of the HEPA FFEIS on pages D2-D6.

Discussion on potential adverse impacts as well as unavoidable adverse effects can be found in Section 5.19.4 of the HEPA FFEIS. There, it is also explained that implementation of the proposed project is expected to protect a large portion of the watershed (including residents and visitors) from flooding and flood-related safety hazards, and that these benefits are expected to outweigh any remaining adverse effects.

An *adverse effect*, according to 36 CFR 800.5(a)(1), 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 in a manner that would diminish the integrity of the property's location, design, settling, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably forseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

A finding of *no adverse effect*, per 36 CFR 800.5(b), may be proposed "when the undertaking's effects do not meet the criteria of [an *adverse effect*, as defined by 36 CFR 800.5(a)(1)] or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects."

The PA and the determinations will be evaluated again in the design phase of the project when modeling, engineering data, additional agency coordination, and community engagement occurs. If the recommended plan or features change after further evaluation, an appropriate level of environmental documentation will be developed to ensure compliance. This would include

evaluating changes and features for impacts and coordinating those determinations with the consulting parties. The end state is to ensure a balance between project benefits and impacts to the historic and cultural landscape, and where adverse impacts remain, proper mitigation shall be coordinated.

27. *National Historic Preservation Act Section 106 requires that adverse effects shall be resolved prior to approval of the project undertaking, agencies' final decisions, and any expenditure of federal funds. Thus the ACOE's suggested intended attempts to "blend," work out", "solicit design" as "feasible" at a future time, together with the ACOE's proposed determination of "no adverse effect" at this time, are inadequate to meet such determination requirements under 36 CFR Part 800 for the proposed undertaking.*

RESPONSE: Comment noted. Section 106 considerations were addressed in coordination with the Historic Hawaii Foundation and the PA as part of the design phase.

28. *Therefore, a Project Programmatic Agreement is needed to resolve several foreseen adverse effects prior to publication of the Final Feasibility Report. The O'ahu Island Parks Conservancy supports development of a Project Programmatic Agreement between the ACOE and interested and affected state, city and community consulting parties to resolve the adverse effects associated with the Ala Wai Canal Project undertaking.*

RESPONSE: We appreciate the suggestion. A PA has been generated in coordination with Historic Hawaii Foundation and will be implemented accordingly and in compliance with Section 106 to address these types of concerns.

29. *Ala Wai Golf Course and the Diamond Head Special District Protected Area*

The ACOE completely avoids discussion of the fact that the historic Ala Wai Golf Course public recreational open space is protected under the regulatory guidelines of the Diamond Head Special District, and conversely proposes to industrialize this protected area. In addition, the Draft Feasibility Report fails to list Diamond Head Special District permitting requirements under Required Permits and Environmental Compliance.

RESPONSE: Thank you for bringing this requirement forward. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

30. *Diamond Head Special District Provisions, Land Use Ordinance of Honolulu*
Chapter 21, Revised Ordinances of Honolulu, Section 21-9.40
"Diamond Head is a volcanic crater that has been declared a state and national monument. Its natural appearance and prominent public views have special values of local, state, national and international significance and are in danger of being lost or seriously diminished through changes in land use and accompanying land development. In accordance with these findings and established public policies, it is necessary to protect the views of the Diamond Head monument." Diamond Head Special District boundaries include all of the Ala Wai Golf Course public open space, Ala Wai School, Ala Wai Park, Ala Wai Field, the historic Ala Wai Clubhouse and Canoe Hale at the McCully Street Bridge, Kapahulu Avenue from Date Street to the Shoreline, the Ala Wai Canal terminus and the Kapahulu Library, Ala Wai Boulevard fronting Jefferson School, the Jefferson School campus, Kapi'olani Park, Diamond Head Crater inclusive of its slopes and beach parks, and the residential areas surrounding the crater to the Kapahulu/Date Street intersection. Any cumulative, direct, indirect, and foreseeable effects of the proposed undertaking on the above Areas of Potential Effect (APE), including Kapi'olani Park and Diamond Head Crater, should be discussed and evaluated in the Feasibility Report and related documents.

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward and it will be implemented accordingly and in compliance with Section 106 to address these types of concerns. Effects determinations for direct and indirect Areas of Potential Effect identified during the feasibility phase can be found in Appendix F, Programmatic Agreement. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

31. *Objectives of the Diamond Head special district are to preserve existing prominent public views and the natural appearance of Diamond Head by modifying construction projects that would diminish these resources. Prominent Diamond Head Special District public viewplane vantage points include:*

- *Ala Wai Boulevard from McCully Street to Kapahulu Avenue*
- *Ala Wai Golf Course*
- *Ala Wai Park and Ala Wai School*
- *Date Street from the Manoa-Palolo Canal to Kapahulu Avenue*
- *Kapahulu Avenue in the vicinity the Ala Wai Golf Course*

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106 to address these types of concerns. All applicable laws,

regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

32. *The Diamond Head Special District designation for the Ala Wai Golf Course public open space is a zero (0) foot building height precinct.*

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

33. *Yet, flying in the face of neglected Diamond Head Special District requirements and safeguards, the ACOE proposes to alter the historic, recreational and visual character of Ala Wai Golf Course and its significant views to and from Diamond Head by industrializing this protected recreational open space with three (3) industrial pump stations forty (40) feet in height and sixty (60) feet in width, each displacing 2,400 square feet, totaling 7,200 square feet, at the following locations with significant visual and physical impacts:*

★ *Ala Wai Canal terminus at Ala Wai Boulevard and Kapahulu Avenue*

★ *Ala Wai Golf Course open space in the vicinity of Date Street and Kapahulu Avenue*

★ *University Avenue terminus at Ala Wai Park and Ala Wai Elementary School*

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106

.

All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

34. *ACOE Industrialization of the Ala Wai Canal and Golf Course Open Space*
The ACOE proposes four-story pump stations with flap/slide/sluice gates to prevent backflow via existing storm drains. The ACOE claims there is no alternative. This ignores substantial preventive and remedial functions that can be reasonably implemented for watershed flood control from the slopes of the Ko'olau Mountains, through the valleys and along the Ala Wai plain before reaching the Ala Wai Canal.

RESPONSE: All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

35. *Apart from the above proposed conflicting industrialization and irreversible adverse impacts, reserving an area within this open space for water detention during any level of flood conditions appears to be a proactive measure with minimal impact to the scenic and recreational quality of this protected area. In addition, a contoured 24"+/- berm co-located and integrated with the golf cart path would appear to be compatible with the existing open space contours to not adversely impact the historic open space, protected viewplanes and public recreational use.*

RESPONSE: Functional, unobtrusive integration with existing features and aesthetics is one the key design parameters for all features wherever practicable. The design phase will use 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.

36. *Ala Wai Canal*
Significant Cumulative Adverse Impacts
The ACOE is proposing significant cumulative adverse impacts to the Ala Wai Canal's historic character and integrity, cultural recreational waterway and landscaped sense of place appreciated and enjoyed by residents and visitors alike. The ACOE proposes construction of concrete flood walls encasing the perimeter of the Ala Wai Canal historic structure, ranging from four (4) to five (5) feet in height and formerly proposed to be eleven (11) to thirteen (13) feet in height, to mitigate water overtopping the canal in the event of a 1%, 100-year storm. The ACOE claims there is no alternative to this fixed, irreversible impact to the Ala Wai Canal's historic structure and visual character and integrity. This claim ignores substantial preventive and remedial functions that can be reasonably implemented and increased for watershed flood control from the slopes of the Ko'olau Mountains, through the valleys and along the Ala Wai plain before reaching the Ala Wai Canal.

RESPONSE: We appreciate the input. All reasonable combinations of solutions will be evaluated during the design phase to eliminate or reduce adverse impacts to the historic character and cultural nature of the Ala Wai and vicinity. The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

37. *The Ala Wai Canal is a Historic Scenic and Cultural Resource. The Ala Wai Canal is a significant feature of Honolulu and its intrinsic qualities are appreciated by residents and visitors alike, who regularly experience the Ala Wai Canal's pedestrian promenade as a scenic greenway together with recreational waterway's resplendent cultural Hawaiian canoe paddling activities. Construction of alien floodwall encasements and pump stations will have a significant adverse effect on the Ala Wai Canal's setting, feeling, visual integrity and cultural association.*

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

38. *Recreational access must continue to be provided to and along the length of the Ala Wai Canal for public recreation and enjoyment without altering and disrupting its historic character, integrity, visual association and cultural use. Canoe slips proposed to be built into flood control walls would be unwieldy, difficult to access and dangerous.*

RESPONSE: We appreciate this observation and will address character and function in this area as the project moves from the feasibility phase into the design phase, including detailed coordination with the paddling community. The design phase will use 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.

39. *The following registered and eligible historic structures will be significantly adversely impacted in their setting, feeling, visual integrity and association by the construction of this secondary wall:*

- *Ala Wai Canal, State Historic Register Site 50-80-14-9757*
    - *Ala Wai Clubhouse and Boathouse, State Historic Register Site 50-80-14-1388/ Inventory # 90, at the McCully Bridge and Kapi'olani Boulevard.*
- *Kalakaua Avenue Bridge, Inventory #2*
- *McCully Street Bridge, Inventory #3*

Contrary to the ACOE claim that the proposed floodwalls and pump stations will result in "no adverse effect" on the above historic properties within the construction footprint, and regardless of ACOE intended attempts to "blend," work out", "solicit design" as "feasible," the proposed connection of floodwalls and a floodgate directly attached to the historic Ala Wai Clubhouse and Canoe Hale will have a significant adverse impact on the historic design integrity and structural character of this historic building. Further, proposed the construction of floodwalls encasing the historic Ala Wai Canal, as well as the proposed addition of three four-story pump stations within the adjacent protected public open space, will significantly cumulatively adversely impact the historic character and integrity of the Ala Wai Canal, its associated contiguous historic features, and the protected view-planes from and toward Diamond Head, Waikiki and the Ala Wai Golf Course public open space.

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

40. *Aesthetic Improvements*

The ACOE claims future opportunity to "partner with organizations to aesthetically improve flood measures." The most necessary aesthetic improvements to the proposed undertaking will be to eliminate the proposed artificial wall encompassing the historic Ala Wai Canal and the four-story pump stations within the adjacent protected public open space.

RESPONSE: The USACE entered into a PA with the Historic Hawaii Foundation to develop a measured way forward which addresses these concerns and it will be implemented accordingly and in compliance with Section 106. All applicable laws, regulations, and ordinances will be incorporated as appropriate into the design and construction of this project, beginning with the design phase. The design phase will use 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.

41. *Waikiki and Sea Level Rise*
The ACOE estimates 3 feet of flood water moving through Waikiki in the event of a 1%, 100-year flood, and 1-1/2 feet of water moving through Waikiki in the event of a 50-year flood if inland floodwaters top the Ala Wai Canal. This does not appear to take into account the natural subsurface drainage system between the Ala Wai Canal embankments and the Shoreline that is also connected to Kapi'olani Park wetland and swale areas. Thus, this estimate may amount to zero (0).

RESPONSE: Mapping the extent, dimensions, configurations, and inter-connectivity of the karst stratigraphy, as well as obtaining engineering data such as permeability, porosity, and transmissivity representative of this large, poorly understood, complex subsurface network was beyond the scope of the initial feasibility phase of this project. However, this stratigraphic feature will be considered during the design phase. Additionally, we would appreciate any further details regarding location, size, and flow capacities in inlets and discharge points to the ocean the Conservancy may have available.

42. *In addition, in 100 years or less by recent updates, 3 to 4 feet of sea level rise will cause ocean water to move through Waikiki. Will this necessitate the same extreme measures of building walls around the entire perimeter of Waikiki? If so, public monies might be best used for such planning instead.*

RESPONSE: As discussed in Section 8.3 and Appendices A-2 and A-3, a risk-informed planning approach was utilized to incorporate sea level rise into the hydraulic modeling of this flood risk management scope of work at time periods corresponding to 2025, 2075 and 2125, using a range of scenarios (low/intermediate/high) to forecast future conditions as well as evaluate project performance. An estimated sea level rise of 2.96 feet was used in year 2075. These assumptions will be refreshed in coordination with the non-Federal sponsor's requirements during the design phase.

43. *Conjoined Public Review Documents*
Since an Environmental Impact Statement, as should be developed in accordance with the National Environmental Policy Act (NEPA) and Hawaii Revised Statutes (HRS) Chapter 343, has been optionally integrated with the Draft Feasibility Report, we must express strong concern that these two distinct documents have been "integrated."

The combination of a draft planning report with an environmental impact statement precludes public due process for each separate and distinct document: the first as a preliminary planning document for a recommended project, and the second as a disclosure document for potential

environmental effects and impacts of said project. The latter must be developed on the findings, review comments and revisions of the former. Notably, throughout the Draft Feasibility Report the following footnote appears:

"THIS DRAFT DOCUMENT IS BASED ON THE INFORMATION AVAILABLE AT THE TIME OF PUBLICATION . . .IT IS POSSIBLE THAT THE CONTENT HEREIN MAY CHANGE AS A RESULT OF REVIEW COMMENTS RECEIVED."

Indeed, a Final Feasibility Report should address the draft Report's omissions, oversights and shortcomings together with recognition of the stated concerns, considerations and recommendations provided through comprehensive public comments delivered in response to the Draft Feasibility Report.

RESPONSE: Thank you for the comment. All respective NEPA and HEPA documents, Draft, Interim, and Final, will be prepared in accordance with governing laws, regulations, and statutes, of which these responses to comments and concerns are a part.

44. *Further, given the shortcomings and oversights within the ACOE Draft Feasibility Report, the conjoined Environmental Impact Study prevents proper sequence of adequate public review and comment, first on the Draft Feasibility Report and followed by the Environmental Impact Statement review process, including a Draft Environmental Assessment with the Findings of Significant Impacts and the Draft Environmental Impact Statement, both with required opportunities for public comment before the final documents are issued and potentially approved.*

RESPONSE: Thank you for the perspective. All respective NEPA and HEPA documents, Draft, Interim, and Final, will be prepared in accordance with governing laws, regulations, and statutes, of which these responses to comments and concerns are a part.

45. *The present, incomplete Draft Feasibility Report should substantially benefit from the many significant comments provided in response to this draft to produce a revised and refined Final Feasibility Report so as not to continue to confuse the public. Further, the Draft Environmental Assessment and Draft Environmental Impact Statement are separate documents that should be sequentially provided for required public review and comment.*

By combining the draft feasibility and environmental disclosure documents from the outset, regardless of such option provided under 40 CFR 1502.25, the ACOE has in effect halved the requisite opportunity for comprehensive public review and comment with the absence of a Draft Environmental Assessment and Draft Environmental Impact Statement developed from the Final Feasibility Report.

RESPONSE: Thank you for the comment. All respective NEPA and HEPA documents, Draft, Interim, and Final, will be prepared in accordance with governing laws, regulations, and statutes, of which these responses to comments and concerns are a part.

46. *Noting the ACOE timeline, the often erratic and unpredictable schedule of the US Congress should not be dictating that approval is needed by 2017 in order to begin construction in 2021, thus shortcutting comprehensive analysis, fast-tracking public comment in avoidance of due process, and thwarting necessary reconsideration and refinement of the presently proposed Ala Wai watershed flood control measures and their cumulative effects.*

RESPONSE: We appreciate the dynamic nature of legislative schedules at all levels of the Government and acknowledge the points made in this comment. All respective NEPA and HEPA documents, Draft, Interim, and Final, will be prepared in accordance with governing laws, regulations, and statutes, which will allow for public outreach and comment. Additionally, during the design phase, 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.

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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Nancy L. Marker
2740 Kuilei St. #804
Honolulu, HI 96826

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
Submitted via E-mail: AlaWaiCanalProject@usace.army.mil

State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
Submitted via E-mail: Gayson.Y.Ching@hawaii.gov

November 9, 2015

RE: **RE: Draft Feasibility Report and Integrated Environmental Impact Statement (EIS) for USACE Ala Wai Canal Project**

As a Moiliili resident I thank you for this opportunity to submit comments on the DEIS and for your public meetings. I regularly observe the Streams and Canal and pay attention to their conditions, especially during heavy rains. In our highly urbanized neighborhoods, health and safety concerns are a priority as is the quality of living in a pleasing, attractive environment that supports people, animals and plants. Our water quality and our ability to enjoy activities along our waters and green spaces are important to Honolulu residents.

From the documents and presentations it appears that the Ala Wai Canal flood mitigation project will make important improvements for the resiliency of the Ala Wai Watersheds and help mitigate flood risk, most clearly in Waikīkī. In conjunction with other potential government, community-based, and private sector activities to protect our neighborhoods and to address the environment and aesthetics of these communities, the Canal project is worthwhile.

These impacts of the proposed design and construction of the project on Moiliili stand out in what I've read and viewed:

First, the overflow onto Ala Wai Golf Course may pose a greater hazard to Moiliili residents and institutions (Ala Wai School and Iolani School) than anticipated. It appears that in order to protect Waikiki, the plan calls for allowing overflow on the golf course, a recreation site and our side of the Canal. This provides no protection in Moiliili (aside from the proposed wall) in the case that the Ala Wai Golf Course cannot retain the projected 1%

floodwater. This section of the plan to prevent Moiliili (and possibly Kapahulu) flooding needs more explanation and time for community review.

Second, the design for the two walls along the Canal should be at the same level rather than having Waikiki's wall be higher than Moiliili's.

Third, the affected areas would be better served with underground detention basins with pumps because it would reduce the surface footprint, thus allowing for better use of limited space in the city. Admittedly, these would be more costly but this is the type of measure taken in a city that cares about its urban, livable environment.

Lastly, the original Canal construction that was completed without the Kapahulu outlet appears to have created the problems we've had these years with flooding and flushing of the Canal and its contents. The need remains today for two outlets to the sea not just at the Ala Wai Boat Harbor that becomes filled with debris.

Thank you for this opportunity to provide comments.

Sincerely,

Nancy L. Marker
Moiliili resident

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: Nancy Marker
2740 Kuilei Street, #804
Honolulu, HI 96826

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:

- Level of protection in the vicinity of Ala Wai Canal
- Consideration of sub-surface storage for flood risk management
- Constructing a secondary outlet on Ala Wai Canal

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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS.

The recommended plan includes a floodwall on both sides of the canal and a levee on the perimeter of the Ala Wai Golf Course. The elevation of the top of the floodwall is generally equal on both sides of the canal and corresponds to the 100-year (1-percent chance annual exceedance) flood elevation. The current design does not intentionally flood one area over another. If the floodwall were to overtop, there are two pump stations that will assist in the removal of water from the landward side of the floodwall.

Table 3 of the report details a number of different management measures considered in the initial array. This includes sub-surface storage of stormwater for the purposes of managing stream flows. This idea was eliminated from further consideration due to the limited storage capacity and high implementation costs.

Of historical note, Ala Wai Canal was originally designed with a secondary outlet. This outlet was never constructed and would have negligible effect of water surface elevations within the canal due to the tidal connection. Section 3.6.3 of the FEIS includes documentation of this consideration however the measure was eliminated due to its ineffectiveness and environmental impacts.

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. Nancy Marker
2740 Kuilei Street #804
Honolulu, Hawaii 96826

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 9, 2015 to Honolulu District USACE and State of Hawaii DLNR:

1. *As a Moiliili resident I thank you for this opportunity to submit comments on the DEIS and for your public meetings. I regularly observe the Streams and Canal and pay attention to their conditions, especially during heavy rains. In our highly urbanized neighborhoods, health and safety concerns are a priority as is the quality of living in a pleasing, attractive environment that supports people, animals and plants. Our water quality and our ability to enjoy activities along our waters and green spaces are important to Honolulu residents.*

RESPONSE: Thank you for your interest and participation in the project.

2. *From the documents and presentations, it appears that the Ala Wai Canal flood mitigation project will make important improvements for the resiliency of the Ala Wai Watersheds and help mitigate flood risk, most clearly in Waikīkī. In conjunction with other potential government, community-based, and private sector activities to protect our neighborhoods and to address the environment and aesthetics of these communities, the Canal project is worthwhile.*

RESPONSE: Thank you for your support and comments, and we agree that this project is just one piece that will be combined with other potential efforts to reduce risk.

3. *These impacts of the proposed design and construction of the project on Moiliili stand out in what I've read and viewed:*

First, the overflow onto Ala Wai Golf Course may pose a greater hazard to Moiliili residents and institutions (Ala Wai School and Iolani School) than anticipated. It appears that in order to protect Waikiki, the plan calls for allowing overflow on the golf course, a recreation site and our side of the Canal. This provides no protection in Moiliili (aside from the proposed wall) in the case that the Ala Wai Golf Course cannot retain the projected 1% floodwater. This section of the plan to prevent Moiliili (and possibly Kapahulu) flooding needs more explanation and time for community review.

RESPONSE: The Iolani School made similar comments during the DFEIS review period. While the modeling and data in the feasibility study did not show inundation to the school buildings themselves, the Corps did discuss options for the non-Federal Partner to construct a wall extension along the canal up to Date Street as a betterment (not part of the federally authorized project). Furthermore, the Corps of Engineers informed us that during the design phase modeling and engineering data would be refined and the wall boundaries and footprint to include extension up to Date Street would be evaluated, to include cost estimates. If the modeling and data demonstrates different needs than what is recommended in this HEPA FFEIS, supplemental evaluation of environmental and community impacts will be developed and documented commensurate with the impacts.

4. *Second, the design for the two walls along the Canal should be at the same level rather than having Waikiki's wall be higher than Moiliili's.*

RESPONSE: The floodwall need is based on the water surface elevation not ground elevation. The ground elevation on the Waikiki side of the canal is actually higher than the Moiliili side of the canal, so the risk is higher on the Moiliili side of the canal. If there are any walls, they will be designed so to ensure that on either side of the canal, risk is not transferred to the other; we refer to it as levee superiority.

5. *Third, the affected areas would be better served with underground detention basins with pumps because it would reduce the surface footprint, thus allowing for better use of limited space in the city. Admittedly, these would be more costly, but this is the type of measure taken in a city that cares about its urban, livable environment.*

RESPONSE: We concur that underground detention is more costly; additionally, there are other risks, such as environmental, real estate impacts, operations and maintenance. During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Underground detention basins and pumps 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.

6. *Lastly, the original Canal construction that was completed without the Kapahulu outlet appears to have created the problems we've had these years with flooding and flushing of the Canal and its contents. The need remains today for two outlets to the sea not just at the Ala Wai Boat Harbor that becomes filled with debris.*

RESPONSE: A secondary outlet for the canal was evaluated under Alternative 4A but eliminated from consideration as a flood risk management measure due to the land cost/availability as well as water quality and other environmental impacts, as discussed in Table 3 and Section 3.6.3 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 secondary outlet to the canal will again be evaluated using the 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.

7. *Thank you for this opportunity to provide comments.*

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.

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From: Montana Hunter
To: Ala Wai Canal Project
Subject: [EXTERNAL] Question
Date: Friday, November 06, 2015 2:04:20 PM

Hi,
My name is Montana Hunter. I am a junior at Iolani and I just had a few questions about the project for a journalism story I am writing.

Has there been any opposition to the plan? If so what kind/from who?

How much money and time will it take for the project to be completed if put into action?

What are expected advantages and disadvantages to the project?

If you could please answer these questions or add anything else that I could use in my story that would be fantastic.

Thank you,
Montana

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: Montana Hunter
e-mail: mkh1702@iolani.org

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:

- Opposition to the recommended plan
- Schedule and budget for construction
- Advantages and disadvantages of the project

In compliance with the National Environmental Policy Act (NEPA), the Federal government has developed an integrated FEIS to document the decisions related to the Ala Wai Canal Flood Risk Management Study. As a part of this process, the draft FEIS is released to the public and USACE holds a public hearing to discuss the study with interested parties. It is not uncommon for citizens directly and indirectly affected by the recommended plan to have concerns with a Federal study. During this study, USACE received 62 comment letters from interested parties. As noted below, the comments received and subsequent responses will be included in an appendix to the final FEIS.

Section 8.12 of the FEIS (Section 8.13 of the final) contains the implementation schedule for the recommended plan which includes a design phase (2018-2020) and a construction phase (2021-2024). Implementation costs are estimated in Section 8.9 (Section 8.2 of the final) and total approximately $306 million which would be cost-shared between the Federal government and a non-Federal sponsor.

Table 14 contains a quick comparison between doing nothing (the No Action Alternative) and the two alternatives of the final array. Selecting a recommendation is a comparison of tradeoffs between plans. Section 5 contains a much more in-depth analysis of the specific differences between the plans. 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. The recommended plan is included in Section 8 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

From:	clucas9@gmail.com on behalf of C. Kaui Lucas
To:	Ala Wai Canal Project; Gayson.Y.Ching@hawaii.gov
Subject:	[EXTERNAL] Ala Wai Canal Project
Date:	Monday, November 09, 2015 8:24:34 PM

Honolulu District, U.S. Army Corps of Engineers
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
email: AlaWaiCanalProject@usace.army.mil <mailto:AlaWaiCanalProject@usace.army.mil>

State of Hawai'i DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
email: Gayson.Y.Ching@hawaii.gov <mailto:Gayson.Y.Ching@hawaii.gov>
Testimony Re:
Ala Wai Canal Project, O'ahu, Hawai'i
Feasibility Study With Integrated Environmental Impact Statement
Public Review Draft Report: August 2015

Attention:
The Ala Wai Canal Project/USACE
and
Gayson Ching/DLNR

Fellow Outdoor Circle member Pauline MacNeil submitted an exceptionally well thought out and presented testimony, with which I fully concur. I will repeat here only her summary:

1. The Corps of Engineer's efforts in flood water attenuation and retention should focus on the mid and upper level sub-watershed areas.

2. A four foot wall along the Ala Wai Canal should not be built.

3. More community input and review are needed before an EIS is submitted for approval.

To which I add,

4. the loss of the soccer field to a pump station in the Ala Wai Golf course is too great a loss to the community. The Community at large would be better served by a reduction tin the golf operation area.

5. Fifteen years ago native water plants were successfully employed for water quality remediation, that program should be re-instated and expanded.

6. Reducing channelization, increasing permeable surfaces, and storm water retention on smaller scales are less expensive and far better long term strategies.

7. Rather than separating the Ala Wai Canal further visually and physically, we should incorporate it into an overall redesign of the canal/golf course ecosystem which makes it more safe, clean and user friendly for residents and visitors. Paris has recently done this along the Seine. <http://lesberges.paris.fr/en/become-a-partner/> Two years

ago the project completed its first section, and I happened to be there. This year again I was lucky enough to be invited to Paris and was able to see how it has become a focal point of the city and they've expanded the project to the other side of the river. There's more than one way to divert storm water.

malama honua,

Kaui Lucas

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: Kaui Lucas
e-mail: clucas9@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:

- Alternative Plan Selection
- Aesthetics of the floodwalls
- Concerns regarding public outreach
- Improvement of water quality within Ala Wai Canal

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

The design of project features is focused on the most economical design that will provide the needed function while observing compliance with applicable Federal law. The design of floodwalls must meet the criteria set forth in Section 106 of the Historic Preservation Act. This design will be coordinated with the State Historic Preservation Office to ensure appropriate design aspects are integrated into the project to ensure preservation of the historic value of the area.

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of the FEIS.

Unfortunately, the issue of water quality improvement 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 for information related to water quality.

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
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STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 23, 2020

Mr. Kaui Lucas
Via E-mail: clucas9@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.

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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 9, 2015 to Honolulu District USACE and State of Hawaii DLNR:

1. *Fellow Outdoor Circle member Pauline MacNeil submitted an exceptionally well thought out and presented testimony, with which I fully concur. I will repeat here only her summary: The Corps of Engineer's efforts in flood water attenuation and retention should focus on the mid and upper level sub-watershed areas.*

RESPONSE: We concur, the more we can influence in the middle and upper reaches, the lower the height of the flood wall need be.

2. *A four-foot wall along the Ala Wai Canal should not be built.*

RESPONSE: Floodwalls and other barriers will be further examined in the design phase for location, type, and elevation based on updated data and community engagement. If the location or environmental impacts associated with the feature change, supplemental documentation will be developed commensurate with the level of impacts.

3. *More community input and review are needed before an EIS is submitted for approval.*

RESPONSE: This HEPA FFEIS is based on information evaluated and assessed during the 17-year feasibility study conducted by the Corps of Engineers. During the feasibility study there was a process done for alternative plan formulation, and selection which was shared with you in 2017. The proposed action from feasibility study recommended in the 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 System delivers the level of risk reduction 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. Community outreach and engagement will serve a critical role in the design of a final system of features.

4. *To which I add, the loss of the soccer field to a pump station in the Ala Wai Golf course is too great a loss to the community. The Community at large would be better served by a reduction tin the golf operation area.*

RESPONSE: The golf course is being utilized to the maximum extent feasible in the proposed action under this HEPA FFEIS. The proposed action does not recommend a pump station in a soccer field, there is one pump station recommended near the Kapahulu Library, as well as on the Golf Course.

5. *Fifteen years ago, native water plants were successfully employed for water quality remediation, that program should be re-instated and expanded.*

RESPONSE: Page 1-2 of the Federal NEPA Document, as well as this HEPA FFEIS proposed action discusses the USACE Environmental Operating Principles (EOP) which requires "mutually supporting economic and environmental sustainable solutions." This occurred in the feasibility despite a 2012 shift in focus to strictly a flood control study; the study team evaluated ways to maintain in-stream habitat and migratory pathways. These same EOP will be applied during the design phase as data is updated and designs are refined. Any changes in the design will be evaluated for environmental impacts both positive and negative.

6. *Reducing channelization, increasing permeable surfaces, and storm water retention on smaller scales are less expensive and far better long-term strategies.*

RESPONSE: We received several suggested alternative sites and alternative features ranging in nature from Ka'au Crater in the upper Palolo Valley to Kaimuki High School fields by the golf course. To list them all in this response would be voluminous, and some are more feasible than others. There are a couple of points to assure you and others that as the project progresses alternative locations will be evaluated against updated modeling, revised engineering data, and community concerns. First, Corps of Engineers is authorized by Congress to deliver a System of Features that reduces flood risk in the Ala Wai Watershed, the final designed System must achieve that authorized risk reduction. Second, the Corps of Engineers will conduct a value engineering study in the design phase to ensure that the most cost-effective use of Federal funds to deliver the level of risk reduction authorized by Congress. As part of the design phase any changes to the recommended system features will be evaluated for environmental and community impacts, supplemental documentation will be developed commensurate with those impacts.

7. *Rather than separating the Ala Wai Canal further visually and physically, we should incorporate it into an overall redesign of the canal/golf course ecosystem which makes it more safe, clean and user friendly for residents and visitors.*

RESPONSE: Utilizing the EOP listed above in response #5, as well as updated modeling, engineering data, and community engagement we can further investigate during the design phase how to develop a project that reduces flood risk, increases safety and balances engineering with nature and community.

8. *Paris has recently done this along the Seine. <http://lesberges.paris.fr/en/become-a-partner/> Two years ago the project completed its first section, and I happened to be there. This year again I was lucky enough to be invited to Paris and was able to see how it has become a focal point of the city and they've expanded the project to the other side of the river.*

RESPONSE: Thank you for the recommendation. The regulatory and environmental compliance requirements between the United States and France are significantly different, and while there may be similarities in our approach to resilience, there are significant differences in funding mechanisms and federal authority.

9. *There's more than one way to divert storm water.*

RESPONSE: We agree, there is more than one way to address flood control. This proposed action is the recommended plan based on Corps of Engineers policy. During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Storm water diversion alternatives will be further evaluated as part of a Value Engineering study to ensure the most cost-effective use of Federal funds to deliver the level of risk 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.

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 Watershed Association
2146 St. Louis Drive
Honolulu, HI 96816

November 9, 2015

To: Ala Wai Canal Project
Honolulu District, US Army Corps of Engineers
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858

From: Karen Ah Mai, Executive Director

Subject: Comments on AWC Project DEIS

Thank you for attending the **Community Conversation** on the Ala Wai Canal Project on October 5, 2015 sponsored by the South Oahu Soil and Water Conservation District, the Ala Wai Watershed Association, and the League of Women Voters Environment Committee. We think the format enabled landowners to respectfully express their concerns regarding their properties to real people, one-on-one, rather than to a monolithic person behind a microphone. Judging from the extended interaction of attendees after the session ended, it brought people together and enhanced the connection between the Corps (and DLNR) and the community. Special thanks to Michael Wyatt, Michael Wong, and Gayson Ching (DLNR) for their presence.

Comments

1. Most of the public are not capable of understanding the technical aspects of flood mitigation in the Ala Wai watershed. They tend to be most concerned with effects of the project that have an immediate impact on their properties. We suspect that many comments will concentrate on these.

2. However, in the larger context, we see flood mitigation as only one component in the protection of the watershed leading to the possible inundation of the low-lying areas, the Ala Wai Canal, and Waikiki. Other factors include ecosystem restoration and maintenance, disaster preparedness, community resiliency, and the incorporation of community benefits into the structural elements proposed. Taken together, a successful cooperative venture can be accomplished that would benefit most. If only the structural elements are considered, along with negative impacts to specific properties, the project's long-term success is questionable.

3. We are aware that the Corps is restricted to certain types of activities related to their core mission. Communication with the community is important to avoid a backlash of public opinion. We note the lingering resentment for Hawaii's Superferry venture and the H-3.

We also note the Corps' project at Hoomaluhia Botanical Gardens, providing public benefit and enjoyment 99% of the time, while serving as flood protection for surrounding communities. We hope that this would be a model for the Ala Wai project.

4. We highly encourage community interaction for the Corps project with the understanding that it is only one component of the defense against devastating flooding. Residents and businesses must also be prepared. Give-and-take in engineering designs would also be requisite to involve the stakeholders in survival and resilience plans. At this time, from public comments, we do not sense whole-hearted support behind the project. The checklist delivery of information from Corps to public is insufficient. Interaction and stakeholder involvement is key – it is a relatively inexpensive investment that would be well worth it in the future.

   It is not within the Corps' purview to accomplish the external elements but it is within their capacity to accommodate the community's concerns so that other entities can be encouraged, not stifled, in providing the political will for maintenance and in building resilience needed if the 1% occurs.

US Army Corps of Engine
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: Karen Ah Mai
Ala Wai Watershed Association
2146 St. Louis Drive
Honolulu, Hawaii 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:

- Concerns regarding public outreach
- Absence of ecosystem restoration features within the recommended plan

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures including a presentation to your organization. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of the FEIS.

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

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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300 Kuulei Road, Unit A Suite A * Kailua, HI 96734 * Phone/Fax: (808) 262-0692 E-mail: htf3000@gmail.com

November 2, 2015

Christopher W. Crary
Lieutenant Colonel, U.S. Army
U.S. Army Corps of Engineers
Honolulu District
Building 230 (CEPOH-PP-C)
Fort Shafter, Hawai`i 96858
AlaWaiCanalProject@usace.army.mil

Carty Chang
Chief Engineer
Department of Land and Natural
1151 Punchbowl Street, Room 130
Honolulu, Hawai`i 96813
Gayson.Y.Ching@hawaii.gov

RE: Ala Wai Canal Project, O`ahu, Hawai`i Feasibility Study
With Integrated Environmental Impact Statement

Hawaii's Thousand Friends (HTF) has the following comments on the proposed Ala Wai Canal flood control project.

The EIS states that while maintenance of stream channels is shared between property owners who own to the middle of a stream channel and the City and County of Honolulu (CCH) regular maintenance has been limited to the properties and bridges owned by CCH or the State of Hawai`i.

The EIS points out, "There is no regular comprehensive maintenance program for the entire stream system within the watershed."

2.1.1 Flood related problems states that the CCH storm drainage system is aging and in need of improvements to "meet the present day development and runoff levels." While CCHs drainage system is not in the scope of this EIS project it is assumed that for the project to operate effectively a reliable and functioning storm drainage system is essential.

The EIS states that CCH is preparing storm drainage plans. Where in the approval, funding and implementation process are CCHs plans? What is the scope of those plans?

Where in the approval, funding and implementation process are the projects needed to address storm drainage issues within the project area?

What are the short and long-term and cumulative adverse impacts to the operation and effectiveness of each facet of this project if CCH does not implement needed storm drain improvements?

While Operational and Maintenance (O&M) activities for project structures are outlined in the EIS identification of government agencies responsible for operation and maintenance of the various aspects of the project such as 1) cutting and clearing vegetation from debris and detention basins and multi-purpose detention basins including sediment removal twice a year, 2) cleaning accumulated debris twice a year, 3) inspecting and repairing floodwalls, 4) inspecting for erosion and 5) on going mowing and vegetation clearing from certain areas are not identified.

What government agencies will be responsible for each of the above maintenance activities?

If government agencies and their specific responsibilities are not identified for O&M it is feared that once again there will be "no regular comprehensive maintenance program" and structures will fall into disrepair and stream health and native flora and fauna will negatively impacted and further decline.

The EIS and Appendix E mentions O&M for structures but there is little to no mention of monitoring the health of each stream. Since trees will be cut, stream beds disturbed and altered, and new structures built in the streams it is critical for the streams to be monitored for increase or loss of in-stream and riparian habitat, increase or decrease of native stream life, and increase or decrease of native birds who use these streams for foraging, nesting and habitat.

Once structures are built and streams altered which government agency or agencies are responsible for monitoring the health of the streams ecosystem to ensure that the streams are healthy and native plants and animals that rely on them are thriving?

What agency(s) are responsible for monitoring the streams during construction? Is there a stream monitoring plan?

If it is discovered that that stream alteration and construction of structures within each stream has had a devastating affect on the stream ecosystem, native aquatic species and plants and animals what agency(s) are responsible for correcting the decline?

What remedies will be implemented to help reverse any detected decline in native aquatic and plants and animals within the project streams and area?

Before this EIS is accepted government agencies and their Operational and Maintenance responsibilities must be identified. Including responsibility for monitoring stream ecosystems.
Hawaii's Thousand Friends is extremely troubled by the statement "Biological assessment was transmitted to the USFWS with a request for concurrence with the USACE's determination that the *project may affect but is not likely to adversely affect* the Hawaiian hoary bat, O`ahu `elepaio, and coot, stilt and moorhen." (Emphasis added)

The severity, duration, and physical scope of the adverse impacts associated with this mega project and proposed actions on the fragile and finite native aquatic, plants and animals within the streams and project area warrant special attention and should not be summarily dismissed.

When Hawaii's endemic federally listed threatened and endangered birds like the O`ahu `elepaio are counted in the dozens, 12 birds (5 pairs and 2 single males) within one area that shows that the population is not stable. Any loss of critical habitat, nesting and foraging areas could reduce this fragile population further.

Given the precariousness of Hawaii's endemic and endangered native species isn't the loss of even one O`ahu `elepaio, it's nesting or foraging areas an *adverse affect?*

The EIS only considers impacts to the Oahu `elevation during nesting season January through June.

What are the anticipated short and long-term, direct and indirect and cumulative adverse impacts from construction activities, placement of fill in streams, cutting and clearing riparian vegetation and building structures in the project area streams on the O`ahu `elepaio's foraging, nesting and resting areas in the other months?

What are the anticipated short and long-term, direct and indirect and cumulative adverse impacts to the O`ahu `elepaio if the continuous tree canopy and dense understory is removed?

What is the difference between "may affect" and "not likely to adversely affect?

HTF is offended by the statement "based on project review at the charrett, ecosystem restoration was eliminated as a study objective, as it was determined that the biological resources within the watershed *do not have enough national significance* to adequately justify ecosystem restoration as an objective." (Emphasis added)

The fate of Hawaii's native flora and fauna should be of national concern since our islands have the dubious distinction as the endangered species capital of the world with many of our islands remaining native species counted by the dozens and single digits.

Hawai`i makes up less than 0.2% of U.S. land, but over 25% of species found on the nations endangered species list are endemic to Hawaii.

Preserving Hawaii's diminishing biological resources and endemic species should be a priority and not summarily dismissed as not being *nationally significant.*

What threshold must our endemic and endangered native plants and animals have to reach before being considered *nationally significant*?

ES-16 Environmental Consequences
This section states that, no "identified significant, unavoidable adverse impacts would remain after implementation of proposed mitigation measures" but this is only in reference to impacts to residents and tourists.

There is no reference on how the limited mitigation measures would protect Hawaii's stream ecosystems and native plants and animals even though it was found that there would be:

- Increased channel/bank erosion due to construction
- A new 600 ft culvert along Manoa Stream
- Increased sediment and associated pollutants in stormwater runoff during construction
- Accidental release of hazardous materials during construction
- Displacement of kukui copse at Makiki Detention Basin, and niu and milo trees along Ala Wai floodwall.
- Impacts to in stream aquatic habitat. Approx 1,638 linear ft of stream within construction limits would be lost; compensatory mitigation would be implemented (removal of existing barriers to native species passage at 2 in stream structures
- Potential impacts to Hawaiian hoary bat from construction
- Potential impacts to Oahu `elevation from construction activities
- Potential impacts to Hawaiian waterbirds from construction-related disturbance and increased predation in detention basin during inundation
- Potential impacts to blackline Hawaiian damselfly from construction activities (use of heavy equipment, vegetation removal).

It is not sufficient to state that BMPs will be used without describing the practices in detail including when and where they will be used.

What specific BMPs will be used prevent short and long-term, direct and indirect and cumulative adverse impacts to each streams ecosystem, native aquatic life and plants and animals during construction and after projects are completed?

It is not acceptable to state that approximately 1,638 linear feet of stream within construction limits would be lost but mitigation measures at other streams should compensate for the loss. Each stream is its own diverse ecosystem, which cannot be compensated by measures in two other streams.

What are the anticipated direct and indirect, short and long-term and cumulative adverse impacts to each stream ecosystem and native species within the 1,638 linear feet?

It is unacceptable to state that the placement of 1,234 cubic yards of fill is *less than significant with implementation measures* without defining how the fill will not be insignificant.

What are the anticipated direct and indirect, short and long-term and cumulative adverse impacts on each stream, ecosystem and native plants and animals that will receive fill?

Describe the specific implementation mitigation measures to be used in each stream to combat the negative impacts of construction activities, placement of structures in streams and placing fill in a streambed.

What are the BMPS that will be implemented to prevent and clean up "accidental" releases of hazardous materials?

Identify the BMPS that will be used to prevent increased sediment and stormwater runoff into streams during construction.

The EIS does not provide specific information on where or what trees can be relocated or replaced. Maintaining a healthy tree canopy is critical to ensuring a vibrant understory needed for nesting, resting and foraging.

The determination of "less than signification with mitigation" in relation to tree removal and relocation is insufficient information.

Identify the trees and their location that are slated for removal. Identify the trees and their location that are slated for relocation and identify the relocation sites. Identify the types of trees that will replace displaced trees and identify the location of each.

5.4 Surface Water Resources

Hausten Ditch, as it is now called, is part of a much larger under ground karst and spring system, This underground system once fed many ponds located above an existing network of lava tubes and is a conduit for the waters flowing from Manoa Stream to the ocean off Waikiki.

Blind mullet, blind spiders and shrimp inhabit this underground system, which has a perennial flow.

In 1934 the pond was abruptly lost when a construction accident struck a master conduit of the underground network. The water drained causing a drastic lowering of the water table that had sever consequences for the surrounding area – sidewalks split, water and gas mains ruptured, trees sank, and houses rose and settled.

This proposed project adds a detention/pump system with concrete floodwalls with four floodgates and disturb 70 feet of the stream and require 26 yards of fill.

What are the anticipated direct/indirect, short and long-term and cumulative adverse impacts on the existing underground water system and its inhabitants?

Do the losses at Housten Ditch mentioned in Appendix E refer to adverse impacts to the subterranean inhabitants or the fish and wildlife in the stream?

Water Quality
The high levels of fecal coloriform, enterococcus bacteria, pesticides, and trace metals, found in the Ala Way Canal is not surprising since it is a closed system with no natural flushing ability. What is surprising is the detection of dieldrin and chlordane in fish and Manoa Stream bed that exceed life and wildlife protection guidelines.

Manoa Stream, Makiki Stream, Palolo Stream and the Ala Wai Canal all within the project area have been placed on the Clean Water Act Section 303(d) List of Impaired Waters. For each water body on the Section 303(d) list, a Total Maximum Daily Load (TMDL) must be developed. Unfortunately, the State Department of Health has given the establishment of TMDS a low priority.

If TMDLs are not created for eligible and listed streams what are the anticipated long and short-term, direct and indirect and cumulative adverse impacts to each stream ecosystem, native aquatic species, plants and animals and the ocean? How will these adverse impacts be mitigated?

What are the short and long-term, direct and cumulative adverse impacts on human health, stream flora and fauna from placing fill and doing construction work in highly contaminated project area streams?

What are the short and long-term, direct and cumulative adverse impacts on existing human health and near shore ecosystems from doing construction and placing fill in streams whose contaminated water flows into the ocean?

What "analysis" is referred to in the statement "Although some degree of impact would occur, the analysis has not identified significant, unavoidable adverse impacts that would remain after implementation of proposed mitigation measures"? What does "unavoidable adverse impacts" refer too?

Freshwater Aquatic Species
Hawaii's native freshwater fish are limited to five goby (o`opu) species, including one indigenous (o`opu nakea) and three endemic (o`opu alomo`), o`opu nopili, and o`opu naniha and one endemic eleotrid (o`opu akupa). Native stream species also include several shrimp species and mollusk.

The lifecycle of these species requires the adults to live and breed in freshwater streams where newly hatched larvae drift to the ocean where they remain for several months before migrating back to freshwater habitat. As Hawaii's streams become hardened and channelized this migration becomes very more challenging.

It is noted that while not abundant native species have been documented in all the streams in the project area including the Ala Way Canal. So it is evident that even against great odds these native aquatic species are able to migrate and maneuver through streams that are degraded and fragmented. The question is what and when is the final point of no return. Will placing fill and building structures in these vulnerable streams be the final blow to the fragile and finite aquatic population?

We note that some mitigation measures are planned but those measures are way to few to combat the extreme amount of disturbance that will take place in and around the streams in the project area.

The fate of the native aquatic species must be taken seriously and more protective measures even avoidance must be put in place before this project can proceed.

What are the long and short-term, direct and indirect and cumulative adverse impacts from construction in the project area streams, placement of fill and creation of permanent in the project area streams structures on the native aquatic species that rely on the stream and ocean connection?

Will unobstructed pathways be created in each stream and remain open during construction activities so that the evasive goby and shrimp can be swept out to sea and migrate back to complete their life cycle?

Protected Species and Critical Habitat

Potential impacts to the Federal and State listed hoary bat have been identified during construction, use of heavy equipment and vegetation removal. The only mitigation measures is to remove vegetation outside the breeding season (June 1 through September 15) and require all construction activities to occur during daytime hours to avoid potential bat foraging activities.

What are the short and long-term, direct and indirect and cumulative adverse impacts to the hoary bat's ability to nest and forage from constant construction noise during the day, loss of tree canopy and removal of vegetation?

Identify the streams where dewatering techniques will be implemented.

What are the short and long-term, direct and indirect and cumulative adverse impacts of dewatering on each stream ecosystem, the native aquatic and bird species that rely on a steady flowing stream for foraging?

What are the short and long-term, direct and indirect and cumulative adverse impacts to stream ecosystems, stream flows, and aquatic migration from dewatering streams and routing stream flows through pipes?

What are the short and long-term, direct and indirect and cumulative adverse impacts to stream ecosystems, native aquatic and birds when a pump is used to dewater a stream?

In conclusion the EIS reveals that native aquatic species, plants and animals and their habitat, nesting and foraging areas will be directly and indirectly adversely affected for the long term or completely lost by construction activities, placement of fill in stream beds, dewatering and loss of tree canopy.

The EIS reveals that fill placed in streambeds will migrate to the near shore waters at the mouth of the Ala Wai Canal increasing turbidity and smothering near shore ecosystems

The EIS reveals that increased sediment will create a smoother stream bottom substrate degrading water quality and significantly impacting essential fish habitat.

HTF understands the intent of this project is to reduce riverine flood risks in the Ala Wai Watershed but question whether the project needs to be so extension, invasive and devastating to the native plant, aquatic and animal species who rely on these streams for habitat, foraging and life cycle.

Section 7 of the Endangered Species Act (ESA; 16 U.S.C. 1536) prohibits Federal agencies from authorizing, funding, or carrying out activities that are likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat.

According to the EIS this project will do all of these and should be reconsidered.

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: Hawaii's Thousand Friends
300 Kuulei Road, Unit A, Suite A
Kailua, HI 96734

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
- Assessment of environmental effects
- Implications of Aging and Undersized Infrastructure
- Operations and maintenance of the project features
- Impacts to Endangered Species and Habitat Loss
- Loss of trees associated with the recommended plan

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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS. The economic analysis presented in the Feasibility Report and integrated Environmental Impact Statement uses the standard methodology prescribed by the Water Resources Council's "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies" and the USACE ER 1105-2-100. 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 5 in particular includes detailed analysis of the effects of the final array of alternative plans on the environment, including consideration of the following issues:

- Geology, seismicity and soils
- Groundwater resources
- Surface water resources
- Hydrology and hydraulics
- Water quality
- Biological resources
- Cultural resources
- Land use
- Recreation
- Visual resources
- Hazardous and toxic waste
- Air quality and climate change
- Noise
- Transportation and traffic

- Public health and safety
- Public services and utilities
- Socioeconomic and environmental justice

Thresholds of significance are identified within each sub-section as well as methods to avoid, minimize and/or implement specific best management practices (BMPs) or environmental mitigation to off-set adverse effects, if necessary. Section 5 serves as the basis for demonstration of compliance with applicable Federal laws and policies for discussion with environmental review agencies. Effects of the array of alternative plans is evaluated for geology and groundwater resources in Section 5.2 and for biological resources in Section 5.7. Impacts to specific species of concern have been coordinated with applicable Federal agencies and, in the case of Federally-protected species (see below), consultation is on-going. 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

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. Materials utilized in the designs may also be reevaluated to meet site conditions.

The Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

USACE is limited by policy from addressing flood problems that are deemed to be local in nature, defined as follows:

“Water damage problems may be addressed under the flood control authorities downstream from the point where the flood discharge is greater than 800 cubic feet per second for the 10 percent flood (one chance in ten of being exceeded in any given year) under conditions expected to prevail during the period of analysis. Drainage areas of less than 1.5 square miles shall be assumed to lack adequate discharge to meet the above criterion.” (USACE Engineering Regulation 1165-2-21)

As such, the FEIS makes reference to the real problems experienced by the undersized infrastructure, but does not evaluate flooding resulting from undersized infrastructure, as the agency is prevented from doing so by policy. Damages resulting from undersized infrastructure are not taken into account in the FEIS analysis nor are the benefits of local improvements to that system. The FEIS does not propose changes to the existing local drainage system with the exception of the installation of flap gates at storm-sewer outfalls on the Ala Wai Canal to prevent backwater flooding and utilize storage within the canal for a flood risk benefit.

Operations and maintenance are the responsibility of the non-Federal sponsor which may be State or local government. Debris and Detention Structures are intended to pass normal stream flows without impounding water. The structures are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events nor is a significant increase in groundwater recharge expected. 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. 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. Table 18 further elaborates on each feature by site. These operations and maintenance obligations are identified during the feasibility phase for the purpose of developing initial cost estimates and evaluating environmental impacts. If approved, a detailed operations and maintenance plan will be developed during the design phase of the study. Monitoring of in-stream habitat will occur following implementation of the recommended plan, but only for environmental mitigation features (i.e. fish passage features) to ensure that the measures function as designed. Monitoring is detailed in the “Monitoring and Adaptive Management Plan” included in Appendix E.

Formal Endangered Species Act (ESA) Section 7 consultation has been completed with USFWS since the release of the draft FEIS. The terms of the biological opinion to determine compliance with ESA requirements is complete and included in the final FEIS. Section 5.7.3 and Appendix E5 are updated in the final FEIS to document the outcome of ESA consultation.

Section 5.7.2.2 of the FEIS details the effect of the recommended plan on vegetation. Site restoration will occur throughout impacted areas following construction. At select locations identified in the report where significant trees exist, this site restoration will involve tree planting.

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

Hawaii's Thousand Friends
300 Kuulei Road, Unit A, Suite A
Kailua, Hawaii 96734

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 2, 2015 to U.S. Army Corps of Engineers and Department of Land and Natural Resources:

1. *Hawaii's Thousand Friends (HTF) has the following comments on the proposed Ala Wai Canal flood control project.*

   The EIS states that while maintenance of stream channels is shared between property owners who own to the middle of a stream channel and the City and County of Honolulu (CCH) regular maintenance has been limited to the properties and bridges owned by CCH or the State of Hawai`i.

   The EIS points out, "There is no regular comprehensive maintenance program for the entire stream system within the watershed."

   RESPONSE: Correct, as noted in the HEPA FFEIS, "there is no regular comprehensive maintenance program for the entire stream system within the watershed" at the time the EIS was developed. However, an operation and maintenance program will be a part of the final system design incorporating updated modeling, engineering data, and community input to refine or change the system features. Design of system features take into consideration the reliability and frequency of maintenance requirements. 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. *2.1.1 Flood related problems states that the CCH storm drainage system is aging and in need of improvements to "meet the present day development and runoff levels." While CCHs drainage system is not in the scope of this EIS project it is assumed that for the project to operate effectively a reliable and functioning storm drainage system is essential.*

   RESPONSE: The capabilities of the existing storm drain system were considered during the HEPA FFEIS and will be thoroughly incorporated into the final system design. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

3. *The EIS states that CCH is preparing storm drainage plans. Where in the approval, funding and implementation process are CCHs plans? What is the scope of those plans?*

   RESPONSE: The scope, approval, funding, implementation processes, and how the storm drainage plans will integrate with the flood risk management system will be defined at the conclusion of the design phase of work. If the system features change in location, type, size,

function, or are eliminated, the changes will be evaluated for both environmental and community impacts.

4. *Where in the approval, funding and implementation process are the projects needed to address storm drainage issues within the project area?*

RESPONSE: The scope, approval, funding, implementation processes, and how the storm drainage plans will integrate with the flood risk management system will be defined at the conclusion of the design phase of work. If the system features change in location, type, size, function, or are eliminated, the changes will be evaluated for both environmental and community impacts.

5. *What are the short and long-term and cumulative adverse impacts to the operation and effectiveness of each facet of this project if CCH does not implement needed storm drain improvements?*

RESPONSE: The operation and maintenance program will be a part of the final system design incorporating updated modeling, engineering data, and community input to refine or change the system features. Design of system features take into consideration the reliability and frequency of maintenance requirements. 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.

6. *While Operational and Maintenance (O&M) activities for project structures are outlined in the EIS identification of government agencies responsible for operation and maintenance of the various aspects of the project such as 1) cutting and clearing vegetation from debris and detention basins and multi-purpose detention basins including sediment removal twice a year, 2) cleaning accumulated debris twice a year, 3) inspecting and repairing floodwalls, 4) inspecting for erosion and 5) on going mowing and vegetation clearing from certain areas are not identified.*
What government agencies will be responsible for each of the above maintenance activities?

RESPONSE: The City and County of Honolulu, Department of Facility Maintenance, the project's non-Federal sponsor will be responsible for the operation and maintenance of the flood management system in accordance with the pending Project Partnership Agreement. The design of the system features will take into consideration the reliability and frequency of maintenance requirements. 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.

7. *If government agencies and their specific responsibilities are not identified for O&M it is feared that once again there will be "no regular comprehensive maintenance program" and structures will fall into disrepair and stream health and native flora and fauna will negatively impacted and further decline.*

RESPONSE: In the next phase of the project, a separate agreement will be entered into prior to the construction of the project, a new agreement will be required that outlines all of the responsibilities for maintenance. However, it is outside of the scope for this HEPA FFEIS to identify the agency without the next phase being approved for execution.

8. *The EIS and Appendix E mentions O&M for structures but there is little to no mention of monitoring the health of each stream. Since trees will be cut, stream beds disturbed and altered, and new structures built in the streams it is critical for the streams to be monitored for increase or loss of in-stream and riparian habitat, increase or decrease of native stream life, and increase or decrease of native birds who use these streams for foraging, nesting and habitat.*

RESPONSE: The operation and maintenance (O&M) plan developed during the design and construction phase will include sufficient detail for a successful O&M plan, to include appropriate level of ecosystem monitoring, which is outlined in Appendix E2.

9. *Once structures are built and streams altered which government agency or agencies are responsible for monitoring the health of the streams ecosystem to ensure that the streams are healthy and native plants and animals that rely on them are thriving?*

RESPONSE: Monitoring and mitigation is outlined in Appendix E2. As explained in the 2017 response letter, "Monitoring of in-stream habitat will occur following implementation of the recommended plan, but only for environmental mitigation features (i.e. fish passage features) to ensure that the measures function as designed." Consistent with the requirements of WRDA 2007, monitoring responsibilities will be cost-shared at a 65/35 USACE to non-federal sponsor ratio. Monitoring is further detailed in the Appendix E2, Mitigation, Monitoring and Adaptive Management Plan.

During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

10. *What agency(s) are responsible for monitoring the streams during construction? Is there a stream monitoring plan?*

RESPONSE: See Response #9.

11. *If it is discovered that that stream alteration and construction of structures within each stream has had a devastating affect on the stream ecosystem, native aquatic species and plants and animals what agency(s) are responsible for correcting the decline?*

RESPONSE: The State of Hawaii, Department of Land and Natural Resources (DNLR), Commission of Water Resource Management's Stream Protection and Management Branch would hold the executing agencies and their construction contractor(s) accountable under the conditions established in the required Stream Channel Alteration Permit.

12. *What remedies will be implemented to help reverse any detected decline in native aquatic and plants and animals within the project streams and area?*

RESPONSE: Although not anticipated as rigorous protective measures would be part of the Stream Channel Alteration Permit and implementation requirements, environmental restoration actions, if needed, would be dependent on the extent and nature of the negative impacts. These remedial actions would be in strict adherence to the requirements directed by the State of Hawaii, DLNR's Stream Protection Branch.

13. *Before this EIS is accepted government agencies and their Operational and Maintenance responsibilities must be identified. Including responsibility for monitoring stream ecosystems.*

RESPONSE: The flood risk management system, and the supporting O&M plan to including ecosystem monitoring requirements, will be defined during the design phase of the project. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

14. *Hawaii's Thousand Friends is extremely troubled by the statement "Biological assessment was transmitted to the USFWS with a request for concurrence with the USACE's determination that the project may affect but is not likely to adversely affect the Hawaiian hoary bat, O`ahu `elepaio, and coot, stilt and moorhen." (Emphasis added)*

RESPONSE: The language in the request for a determination from the US Fish and Wildlife Service may be misleading. Federal agencies are required to determine whether their actions may affect listed or proposed species and designated and proposed critical habitat. Once a "may affect" determination is made, the Federal agency must either request concurrence from USFWS with a "may affect, but not likely to adversely affect" finding or request initiation of formal consultation. A finding of "may affect, but not likely to adversely affect" determination was made by the USFWS with pre-agreed conditions to protect the wildlife referenced. These conditions were predominantly related to no/reduced activity during breeding and nesting seasons.

15. *The severity, duration, and physical scope of the adverse impacts associated with this mega project and proposed actions on the fragile and finite native aquatic, plants and animals within the streams and project area warrant special attention and should not be summarily dismissed.*

RESPONSE: Comment acknowledged and concur. Additionally, during design this project will use updated modeling, engineering data, and community input to refine or change the system features as needed. 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.

16. *When Hawaii's endemic federally listed threatened and endangered birds like the O`ahu `elepaio are counted in the dozens, 12 birds (5 pairs and 2 single males) within one area that shows that the population is not stable. Any loss of critical habitat, nesting and foraging areas could reduce this fragile population further.*

RESPONSE: Comment acknowledged and concur. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

17. *Given the precariousness of Hawaii's endemic and endangered native species isn't the loss of even one O`ahu `elepaio, it's nesting or foraging areas an adverse affect?*

RESPONSE: Comment acknowledged and concur. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

18. *The EIS only considers impacts to the Oahu `elevation during nesting season January through June.*

RESPONSE: Comment acknowledged. Consultation and concurrence was made in conference with the USFWS. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

19. *What are the anticipated short and long-term, direct and indirect and cumulative adverse impacts from construction activities, placement of fill in streams, cutting and clearing riparian vegetation and building structures in the project area streams on the O`ahu `elepaio's foraging, nesting and resting areas in the other months?*

RESPONSE: Although not anticipated because rigorous protective measures would be part of the implementation requirements; habitat restoration actions, if needed, would be dependent on the specific nature and extent of the negative impacts. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

20. *What are the anticipated short and long-term, direct and indirect and cumulative adverse impacts to the O`ahu `elepaio if the continuous tree canopy and dense understory is removed?*

RESPONSE: Although not anticipated because rigorous protective measures would be part of the implementation requirements; habitat restoration actions, if needed, would be dependent on the specific nature and extent of the negative impacts. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

21. *What is the difference between "may affect" and "not likely to adversely affect?*

RESPONSE: There are three prescribed determinations when seeking a Section 7 consultation with the USFWS: **(1)** "No effect" means there will be no impacts, positive or negative, to listed or proposed resources, **(2)** "May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. These determinations require written concurrence from the Service, and **(3)** "May affect, and is likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

22. *HTF is offended by the statement "based on project review at the charrette, ecosystem restoration was eliminated as a study objective, as it was determined that the biological resources within the watershed do not have enough national significance to adequately justify ecosystem restoration as an objective." (Emphasis added)*

RESPONSE: The statement was not intended to be offensive, but rather to reference the findings

discussed in Section 1.3, Study Scope (National) in the Feasibility Study, which explains the scale of the ecosystem component of this project was at a regional level rather than a national. Consequently, to qualify for Federal funding, the focus of this project was watershed-wide flood risk management rather than watershed-wide ecosystem restoration. It's important to note that consistent with USACE policy and Environmental Operating Principles, the flood risk management measures were developed to eliminate or minimize the impacts to the ecosystem to the full extent practicable, and ecosystem restoration at the feature-specific level is allowable and anticipated. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *The fate of Hawaii's native flora and fauna should be of national concern since our islands have the dubious distinction as the endangered species capital of the world with many of our islands remaining native species counted by the dozens and single digits.*

RESPONSE: Comment acknowledged. Consistent with USACE policy and the Environmental Operating Principles, this project will develop flood risk management measures to eliminate or minimize the impacts to the ecosystem. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *Preserving Hawaii's diminishing biological resources and endemic species should be a priority and not summarily dismissed as not being nationally significant.*

RESPONSE: The objective of this study is to reduce flood risk in the Ala Wai Canal Watershed community, your comment is outside the scope of the proposed action within this HEPA FFEIS.

25. *What threshold must our endemic and endangered native plants and animals have to reach before being considered nationally significant?*

RESPONSE: This question is outside of the scope of this HEPA FFEIS. Please contact the Corps of Engineers, Honolulu District for answers to your questions.

26. *ES-16 Environmental Consequences*
This section states that, no "identified significant, unavoidable adverse impacts would remain after implementation of proposed mitigation measures" but this is only in reference to impacts to residents and tourists.

RESPONSE: To facilitate an accurate review, the prior sentence from ES-16 has been presented below to help clarify the breadth of impacts considered …. "Potential adverse impacts include those related to biological resources (aquatic habitat), cultural resources, recreation, and visual resources; however, measures to avoid, minimize, and mitigate these impacts have been incorporated to the extent practicable. Although some degree of impact would occur, the analysis has not identified significant, unavoidable adverse impacts that would remain after implementation of proposed mitigation measures."

27. *There is no reference on how the limited mitigation measures would protect Hawaii's stream ecosystems and native plants and animals even though it was found that there would be:*

- *Increased channel/bank erosion due to construction*
- *A new 600 ft culvert along Manoa Stream*
- *Increased sediment and associated pollutants in stormwater runoff during construction*
- *Accidental release of hazardous materials during construction*
- *Displacement of kukui copse at Makiki Detention Basin, and niu and milo trees along Ala Wai floodwall.*
- *Impacts to in stream aquatic habitat. Approx 1,638 linear ft of stream within construction limits would be lost; compensatory mitigation would be implemented (removal of existing barriers to native species passage at 2 in stream structures*
- *Potential impacts to Hawaiian hoary bat from construction*
- *Potential impacts to Oahu `elevation from construction activities*
- *Potential impacts to Hawaiian waterbirds from construction-related disturbance and increased predation in detention basin during inundation*
- *Potential impacts to blackline Hawaiian damselfly from construction activities (use of heavy equipment, vegetation removal).*

RESPONSE: Appendix E2 of the HEPA FFEIS contains the Final Mitigation and Monitoring Plan. Specifically, section 2.0 and 3.0 which discuss impacts to aquatic habitat and evaluation of the proposed mitigation plan, respectively.
During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *It is not sufficient to state that BMPs will be used without describing the practices in detail including when and where they will be used.*

RESPONSE: BMPs, permitting, and regulatory compliance is part of the design process, which will occur after Congress approves the project to move from Feasibility to Design and Construction. Reference Section 7.0 and Appendix E for regulatory compliance and permitting, such as Clean Water Act Compliance.

29. *What specific BMPs will be used prevent short and long-term, direct and indirect and cumulative adverse impacts to each streams ecosystem, native aquatic life and plants and animals during construction and after projects are completed?*

RESPONSE: See Response #28.

30. *What are the anticipated direct and indirect, short and long-term and cumulative adverse impacts to each stream ecosystem and native species within the 1,638 linear feet?*

RESPONSE: Impacts and mitigation to in-stream aquatic habitat, identified as IMP BIO-7 can be found in Table ES-6 and Section 5.7.2.2, Aquatic Habitat of this HEPA FFEIS.

31. *What are the anticipated direct and indirect, short and long-term and cumulative adverse impacts on each stream, ecosystem and native plants and animals that will receive fill?*

RESPONSE: Impacts and mitigation to ecosystem and native plants and animals can be found in Table ES-6 and Section 5.7.2.2 of this HEPA FFEIS.

32. *Describe the specific implementation mitigation measures to be used in each stream to combat the negative impacts of construction activities, placement of structures in streams and placing fill in a streambed.*

RESPONSE: Impacts and mitigation can be found in Table ES-6 and Section 5.7.2.2 of this HEPA FFEIS.

33. *What are the BMPS that will be implemented to prevent and clean up "accidental" releases of hazardous materials?*

RESPONSE: See Response #28.

34. *Identify the BMPS that will be used to prevent increased sediment and stormwater runoff into streams during construction.*

RESPONSE: See Response #28.

35. *The determination of "less than signification with mitigation" in relation to tree removal and relocation is insufficient information.*

RESPONSE: Section 5.7.2.2 of the HEPA FFEIS details the effect of the recommended plan on vegetation. Site restoration will occur throughout impacted areas following construction. At select locations identified in the report where significant trees exist, this will involve tree planting.

36. *Identify the trees and their location that are slated for removal.*

    RESPONSE: To make the avoidance and mitigation plans effective, they need to be specific to the final design and construction means and methods. Therefore, the site-specific plans to address these concerns will be incorporated into the design, permitting, and pre-construction phases when the vital, necessary site-specific details are much better defined.

37. *Identify the trees and their location that are slated for relocation and identify the relocation sites.*

    RESPONSE: See Response #36.

38. *Identify the types of trees that will replace displaced trees and identify the location of each.*

    RESPONSE: See Response #36.

39. *5.4 Surface Water Resources*
    Hausten Ditch, as it is now called, is part of a much larger underground karst and spring system. This underground system once fed many ponds located above an existing network of lava tubes and is a conduit for the waters flowing from Manoa Stream to the ocean off Waikiki.

    Blind mullet, blind spiders and shrimp inhabit this underground system, which has a perennial flow.

    In 1934 the pond was abruptly lost when a construction accident struck a master conduit of the underground network. The water drained causing a drastic lowering of the water table that had severe consequences for the surrounding area – sidewalks split, water and gas mains ruptured, trees sank, and houses rose and settled.

    RESPONSE: We are aware of the karst stratigraphy in the lower Ala Wai watershed. During the design phase we will reach out to local experts and historians to better understand the nature and extent of the geology in the area. Our goal is to maximize the protection of the communities, ecosystem, infrastructure, and efficacy of the flood risk management system.

40. *This proposed project adds a detention/pump system with concrete floodwalls with four floodgates and disturb 70 feet of the stream and require 26 yards of fill.*

    What are the anticipated direct/indirect, short and long-term and cumulative adverse impacts on the existing underground water system and its inhabitants?

    RESPONSE: No adverse impacts to the existing water system and its inhabitants are expected or noted during review of the Integrated Feasibility Study and Environmental Impact Statement by USEPA, DLNR, and USFWS.

41. *Do the losses at Housten Ditch mentioned in Appendix E refer to adverse impacts to the subterranean inhabitants or the fish and wildlife in the stream?*

RESPONSE: Potential losses at Hausten Ditch refer to the inhabitants in the stream.

42. *Water Quality*
The high levels of fecal coloriform, enterococcus bacteria, pesticides, and trace metals, found in the Ala Way Canal is not surprising since it is a closed system with no natural flushing ability. What is surprising is the detection of dieldrin and chlordane in fish and Manoa Stream bed that exceed life and wildlife protection guidelines.

RESPONSE: Water quality improvements within the Ala Wai Canal is outside the scope of the proposed action within this HEPA FFEIS.

43. *Manoa Stream, Makiki Stream, Palolo Stream and the Ala Wai Canal all within the project area have been placed on the Clean Water Act Section 303(d) List of Impaired Waters. For each water body on the Section 303(d) list, a Total Maximum Daily Load (TMDL) must be developed. Unfortunately, the State Department of Health has given the establishment of TMDS a low priority.*

RESPONSE: TMDL development is outside of the scope for the proposed action for this HEPA FFEIS.

44. *If TMDLs are not created for eligible and listed streams what are the anticipated long and short-term, direct and indirect and cumulative adverse impacts to each stream ecosystem, native aquatic species, plants and animals and the ocean? How will these adverse impacts be mitigated?*

RESPONSE: Suspended sediment thresholds in surface waters will be established in the Stream Channel Authorization Permit as well as governing standards set forth by the USEPA for suspended sediment in surface waters. These Federal standards are specific to Hawaii and direct that "appropriate parameters, measures, and criteria for monitoring stream bottom biological communities including their habitat, which may be affected by proposed actions" will be required to prevent negative impact to the aquatic ecosystem.
Impacts and mitigation to ecosystem and native plants and animals can be found in Table ES-6 and Section 5.7.2.2 of this HEPA FFEIS, as well as Appendix E3 CWA 404(b)(1), pages 20-23.

45. *What are the short and long-term, direct and cumulative adverse impacts on human health, stream flora and fauna from placing fill and doing construction work in highly contaminated project area streams?*

RESPONSE: The impacts to human health and the environment will be addressed in the appropriate plans for approval by the governing agencies. However, to make the avoidance and mitigation plans effective, they need to be specific to the final design and construction means and

methods. Therefore, the site-specific assessment and resulting plans to address these concerns will be incorporated into the design, permitting, and pre-construction phases when the vital, necessary site-specific details are much better defined.

46. *What are the short and long-term, direct and cumulative adverse impacts on existing human health and near shore ecosystems from doing construction and placing fill in streams whose contaminated water flows into the ocean?*

RESPONSE: The impacts to human health and the environment will be addressed in the appropriate plans for approval by the governing agencies. However, to make the avoidance and mitigation plans effective, they need to be specific to the final design and construction means and methods. Therefore, the site-specific assessment, and resulting plans to address these concerns will be incorporated into the design, permitting, and pre-construction phases when the vital, necessary site-specific details are much better defined.

47. *What "analysis" is referred to in the statement "Although some degree of impact would occur, the analysis has not identified significant, unavoidable adverse impacts that would remain after implementation of proposed mitigation measures"? What does "unavoidable adverse impacts" refer too?*

RESPONSE: The analysis conducted to support the Integrated Feasibility Study and Environmental Impact Statement is presented in Appendix E, Environmental and Regulatory Compliance. Unavoidable adverse impacts refer to those impacts which cannot be avoided but which even with the goal of zero impact are allowable given the scale of impact relative to the widespread benefits of an effective flood risk management system.

48. *Freshwater Aquatic Species*
Hawaii's native freshwater fish are limited to five goby (o`opu) species, including one indigenous (o`opu nakea) and three endemic (o`opu alomo`), o`opu nopili, and o`opu naniha and one endemic eleotrid (o`opu akupa). Native stream species also include several shrimp species and mollusk.

The lifecycle of these species requires the adults to live and breed in freshwater streams where newly hatched larvae drift to the ocean where they remain for several months before migrating back to freshwater habitat. As Hawaii's streams become hardened and channelized this migration becomes very more challenging.

RESPONSE: Concur, native stream species include shrimp and mollusk species are present in the stream systems as noted in the last sentence of Section 1.3, page 1-2 of the document…" including endemic gobies (o'opu), shrimp ('opae) and mollusk species (*hapawai* and *hihiwai*)." These species were considered during the feasibility phase of the project. The only areas where hardening the stream bed was considered is immediately below detention basin outlets to reduce harmful erosion. The structures would be designed to facilitate migration of native species, and to

the extent possible, deter migration of invasive species. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *It is noted that while not abundant native species have been documented in all the streams in the project area including the Ala Wai Canal. So it is evident that even against great odds these native aquatic species are able to migrate and maneuver through streams that are degraded and fragmented. The question is what and when is the final point of no return. Will placing fill and building structures in these vulnerable streams be the final blow to the fragile and finite aquatic population?*

RESPONSE: Should structural features and/or fill material be placed in the streams, development of structures and ways to facilitate successful migration and population growth will be designed and implemented in coordination with local experts. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

50. *We note that some mitigation measures are planned but those measures are way to few to combat the extreme amount of disturbance that will take place in and around the streams in the project area.*

RESPONSE: See Response #35.

51. *The fate of the native aquatic species must be taken seriously and more protective measures even avoidance must be put in place before this project can proceed.*

RESPONSE: The impact to native aquatic species and disturbance to the ecosystem during construction will be considered in the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features as needed. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *What are the long and short-term, direct and indirect and cumulative adverse impacts from construction in the project area streams, placement of fill and creation of permanent in the project area streams structures on the native aquatic species that rely on the stream and ocean connection?*

RESPONSE: Should structural features and/or fill material be placed in the streams, development of structures and ways to facilitate successful migration and population growth will be designed and implemented in coordination with local experts. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

53. *Will unobstructed pathways be created in each stream and remain open during construction activities so that the evasive goby and shrimp can be swept out to sea and migrate back to complete their life cycle?*

RESPONSE: See Response #48.

54. *Protected Species and Critical Habitat*
Potential impacts to the Federal and State listed hoary bat have been identified during construction, use of heavy equipment and vegetation removal. The only mitigation measures is to remove vegetation outside the breeding season (June 1 through September 15) and require all construction activities to occur during daytime hours to avoid potential bat foraging activities.

What are the short and long-term, direct and indirect and cumulative adverse impacts to the hoary bat's ability to nest and forage from constant construction noise during the day, loss of tree canopy and removal of vegetation?

RESPONSE: Mitigation is a collaborative effort between Federal and State agencies. Appendix E5, Section 4 outlines the analysis on the hoary bat as well as other species. Additionally, see Response #28 for additional information how regulatory compliance and permitting will be accomplished in the next phase of the project.

55. *Identify the streams where dewatering techniques will be implemented.*

RESPONSE: Although temporary stream diversion may be required under permit to implement the project as discussed above, no dewatering is anticipated at this time. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *What are the short and long-term, direct and indirect and cumulative adverse impacts of dewatering on each stream ecosystem, the native aquatic and bird species that rely on a steady flowing stream for foraging?*

RESPONSE: Although temporary stream diversion may be required under permit to implement the project as discussed above, no dewatering or disruption of continuous flow is anticipated at this time. Therefore, no impact to native aquatic or bird species. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

57. *What are the short and long-term, direct and indirect and cumulative adverse impacts to stream ecosystems, stream flows, and aquatic migration from dewatering streams and routing stream flows through pipes?*

RESPONSE: Although temporary stream diversion may be required under permit to implement the project as discussed above, no dewatering is anticipated at this time. Therefore, no impact to native aquatic or bird species. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

58. *What are the short and long-term, direct and indirect and cumulative adverse impacts to stream ecosystems, native aquatic and birds when a pump is used to dewater a stream?*

RESPONSE: Although temporary stream diversion may be required under permit to implement the project as discussed above, no dewatering is anticipated at this time. Therefore, no impact to native aquatic or bird species. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

59. *In conclusion the EIS reveals that native aquatic species, plants and animals and their habitat, nesting and foraging areas will be directly and indirectly adversely affected for the long term or completely lost by construction activities, placement of fill in stream beds, dewatering and loss of tree canopy.*

RESPONSE: The impact of construction activities to native aquatic species, plants, animals, and habitat will be considered in the design phase of this project using updated modeling, engineering data, and community input to refine or change the system features as needed. Additionally, during the design phase of this project updated modeling, engineering data, and community input will be

used to refine or recommend changes to 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.

60. *The EIS reveals that fill placed in streambeds will migrate to the near shore waters at the mouth of the Ala Wai Canal increasing turbidity and smothering near shore ecosystems*

RESPONSE: Suspended sediment thresholds in surface waters will be established in the Stream Channel Authorization Permit as well as governing standards set forth by the USEPA for suspended sediment in surface waters. These Federal standards are specific to Hawaii and direct that "appropriate parameters, measures, and criteria for monitoring stream bottom biological communities including their habitat, which may be affected by proposed actions" will be required to prevent negative impact to the aquatic ecosystem. These parameters as outlined in EPA guidance include maximum allowable accumulations of sediments on soft and hard stream bottoms, as well as monitoring impacts to aquatic communities measured against a benchmark prior to the start of project field activities.

61. *The EIS reveals that increased sediment will create a smoother stream bottom substrate degrading water quality and significantly impacting essential fish habitat.*

RESPONSE: Suspended sediment thresholds in surface waters will be established in the Stream Channel Authorization Permit as well as governing standards set forth by the USEPA for suspended sediment in surface waters. These Federal standards are specific to Hawaii and direct that "appropriate parameters, measures, and criteria for monitoring stream bottom biological communities including their habitat, which may be affected by proposed actions" will be required to prevent negative impact to the aquatic ecosystem. These parameters as outlined in EPA guidance include maximum allowable accumulations of sediments on soft and hard stream bottoms, as well as monitoring impacts to aquatic communities measured against a benchmark prior to the start of project field activities.

62. *HTF understands the intent of this project is to reduce riverine flood risks in the Ala Wai Watershed but question whether the project needs to be so extension, invasive and devastating to the native plant, aquatic and animal species who rely on these streams for habitat, foraging and life cycle.*

RESPONSE: Elements of the flood risk management system may be re-evaluated as the project moves from the feasibility phase to the design phase. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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. *Section 7 of the Endangered Species Act (ESA; 16 U.S.C. 1536) prohibits Federal agencies from authorizing, funding, or carrying out activities that are likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat.*

According to the EIS this project will do all of these and should be reconsidered.

RESPONSE: After Section 7 consultation, the USFWS concurred with the determination the project "may affect, but not likely to adversely affect", however, elements of the flood risk management system may be re-evaluated as the project moves from the feasibility phase to the design phase. During the design phase of this project updated modeling, engineering data, and community input will be used to refine or recommend changes to 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.

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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ADDRESS
3442 Waialae Ave., Suite 1
Honolulu, HI 96816

PHONE
808-735-5756

FAX
808-735-7989

EMAIL
bicycle@hbl.org

November 9, 2015

Ala Wai Canal Project
Draft Feasibility Report and Integrated Environmental Impact Statement
Comments

Aloha,
The Ala Wai Canal Project provides the opportunity to not just protect our community from flooding, but to provide new bicycle and pedestrian transportation and recreation facilities in unison, at minimal additional costs.

The Oahu Bike Plan (2012) and Primary Urban Center Development Plan (1999) both include a multi-use path along Manoa Stream from where the stream passes under Kapiolani Boulevard to Dole Street. The project should seek to integrate implementation of this planned path.

While absent from the Oahu Bike Plan, draft City and Count of Honolulu Department of Transportation Services bikeway plans include a multi-use path along the makai bank of the Ala Wai Canal. The project should seek to integrate implementation of this multi-use path with the new wall construction.

The document states that no transportation facilities will be displaced or damaged when construction is complete, however there is no specific mention of the multi-use path and promenade along the mauka bank of the Ala Wai Canal between the Manoa/Palolo Channel outlet and Ala Moana Boulevard. In many places, the multi-use path is in extremely close proximity to the existing canal walls. The project should ensure these important transportation and recreation facilities are not damaged in any way.

We understand that some of the proposed items may add cost to the project, but it is very likely that they can be included at a fraction of the cost compared to constructing them as stand alone improvements. If cost is a limiting factor, we suggest that these items be covered by supplementary funds from the City (likely DTS' budget).

Lastly, we strongly recommend that the City DTS Bicycle Coordinator, Chris Sayers, be contacted to discuss the above comments.

Thank you very much for considering these comments. If you have any questions or would like to discuss these matters further, please contact Chad Taniguchi (chad@hbl.org) or Daniel Alexander (808-275-6717, daniel@hbl.org).

Ride and Drive Aloha,

Chad Taniguchi
Executive Director

Daniel Alexander
Advocacy & Planning 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: Chad Taniguchi/Daniel Alexander
Hawaii Bicycle League
3442 Waialae Avenue, Suite 1
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:

- Absence of bike paths along Ala Wai Canal within the recommended plan

Any existing pathways impacted by the implementation of the recommended plan will be restored to the current conditions, as site conditions permit. Unfortunately, the integration of new pathways is not an issue addressed by the FEIS nor does USACE have the authorization to study that issue. The non-Federal sponsor for construction, however, may amend the existing recommended plan with additional amenities at 100% non-Federal cost during the construction to improve existing access to the area (known as a “betterment”). This approach would allow the sponsor to capitalize on the existing construction activity at the site. Otherwise, sponsor-implemented recreation features may be coordinated with USACE following construction completion, provided that such features do not inhibit the project function.

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
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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. Chad Taniguchi
Mr. Daniel Alexander
Hawaii Bicycle League
3442 Waialae Avenue, Suite 1
Honolulu, Hawaii 96816

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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 9, 2015 to U.S. Army Corps of Engineers and/or the State of Hawaii Department of Land and Natural Resources:

1. *The Ala Wai Canal Project provides the opportunity to not just protect our community from flooding, but to provide new bicycle and pedestrian transportation and recreation facilities in unison, at minimal additional costs.*

RESPONSE: While those are opportunities to be investigated later, they are not objectives of this flood risk management project and outside the scope for this HEPA FFEIS.

2. *The Oahu Bike Plan (2012) and Primary Urban Center Development Plan (1999) both include a multi-use path along Manoa Stream from where the stream passes under Kapiolani Boulevard to Dole Street. The project should seek to integrate implementation of this planned path.*

RESPONSE: The integration of new pathways such as a new multi-use path along Manoa Stream, is not an issue addressed by the HEPA FFEIS nor does USACE have the authorization to study that issue. The non-Federal sponsor for construction, however, may amend the existing recommended plan with additional amenities at 100% non-Federal cost during the construction to improve existing access to the area (known as a "betterment"). This approach would allow the sponsor to capitalize on the existing construction activity at the site. Otherwise, sponsor-implemented recreation features do not inhibit the project function.

3. *While absent from the Oahu Bike Plan, draft City and County of Honolulu Department of Transportation Services bikeway plans include a multi-use path along the makai bank of the Ala Wai Canal. The project should seek to integrate implementation of this multi-use path with the new wall construction.*

RESPONSE: Any existing pathways impacted by the implementation of the recommended plan will be restored to the current conditions, as site conditions permit. Unfortunately, the integration of new pathways is not an issue addressed by the HEPA FFEIS nor does USACE have the authorization to study that issue. The non-Federal sponsor for construction, however, may amend the existing recommended plan with additional amenities at 100% non-Federal cost during the construction to improve existing access to the area (known as a "betterment"). This approach would allow the sponsor to capitalize on the existing construction activity at the site. Otherwise, sponsor-implemented recreation features do not inhibit the project function.

4. *The document states that no transportation facilities will be displaced or damaged when construction is complete, however there is no specific mention of the multi-use path and promenade*

along the mauka bank of the Ala Wai Canal between the Manoa/Palolo Channel outlet and Ala Moana Boulevard.

RESPONSE: Any existing pathways such as the multi-use path and promenade along the mauka bank of the Ala Wai Canal that are impacted by the implementation of the recommended plan will be restored to the current conditions, as site conditions permit. The recommended plan within this HEPA FFEIS maintains that the multi-use path will remain in the future with project condition on both sides of the canal. There may be a temporary displacement during construction, but not permanent.

5. *In many places, the multi-use path is in extremely close proximity to the existing canal walls. The project should ensure these important transportation and recreation facilities are not damaged in any way.*

RESPONSE: Any existing pathways such as the multi-use path along the canal that are impacted by the implementation of the recommended plan will be restored to the current conditions, as site conditions permit. The recommended plan within this HEPA FFEIS maintains that the multi-use path will remain in the future with project condition on both sides of the canal. There may be a temporary displacement during construction, but not permanent. Any damage done during construction will be restored along both sides of the canal.

6. *We understand that some of the proposed items may add cost to the project, but it is very likely that they can be included at a fraction of the cost compared to constructing them as stand-alone improvements. If cost is a limiting factor, we suggest that these items be covered by supplementary funds from the City (likely DTS' budget).*

RESPONSE: The non-Federal sponsor for construction, may amend the existing recommended plan with additional amenities at 100% non-Federal cost during the construction to improve existing access to the area (known as a "betterment"). This approach would allow the sponsor to capitalize on the existing construction activity at the site.

7. *Lastly, we strongly recommend that the City DTS Bicycle Coordinator, Chris Sayers, be contacted to discuss the above comments.*

RESPONSE: We will share your comments with the City and County of Honolulu.

8. *Thank you very much for considering these comments. If you have any questions or would like to discuss these matters further, please contact Chad Taniguchi (chad@hbl.org) or Daniel Alexander (808-275-6717, daniel@hbl.org).*

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.

Date: November 9, 2015

From: Craig C. M. Chun
7948 145th Ave NE
Newcastle Wa. 98059
cgchun@comcast.net

Janice R. Mende
698 Hahaione St
Honolulu, Hi. 96825
janice@pacificpropertygrouphawaii.com

Peggy S. Kawano
3450 Pinao St.
Honolulu, Hi. 96822

To: Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
AlaWaiCanalProject@usace.army.mil

State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
Gayson.Y.Ching@hawaii.gov

Subject: Ala Wai Canal Project, Comments and Questions:

Dear Sir:

1) Our comments and questions are on the planned passage barrier removal at Falls 7 and the increased erosion that will occur downstream of the falls if preventative measures are not included in the Falls 7 improvement plan.
2) The Environmental Impact Statement (Draft Feasibility Report/EIS) and mitigation plan in Appendix E (Environmental and Regulatory Compliance) addresses the important benefit to the native fish habitat and its ability to swim upstream if improvements are made to the Falls 7 location. In the 10% level of design description, an embankment rebuild is proposed for Falls 7, but the improvements described in the EIS do not address how the surrounding downstream embankments will be protected or reinforced to minimize erosion and damage to the surrounding properties. Thus this EIS is incomplete in that it does not address the relevant effects of this development on the existing surrounding areas.
3) This downstream erosion concern could be easily addressed in the design description with a mitigation plan that includes not only a reinforced Falls 7 embankment, but also an additional reinforced embankment immediately downstream of the falls to protect the surrounding properties, and to restore the stream shores to their original site lines.
4) My question is who is the responsible agency to address these issues? And what is the mechanism to ensure that the EIS for Falls 7 provides a mitigation plan that addresses these additional erosion risks?
5) In our discussions with the Corps of Engineers and study contractors before the open community comments (September 30, 2015 Ala Wai Canal Project Public Meeting), it was brought to our attention that the proposed Falls 7 and Falls 8 improvements are not directly a part of the flood mitigation proposal, and is just a part of the documented report. But if Falls 7 and Falls 8 are included in this proposal and is requesting funds for this added construction as an improvement to the community, then the study should take the responsibility for a more inclusive EIS that at least acknowledges the downstream erosion issue to be included in a follow on to the current 10% design effort in the study's final report. Given the cost, study and design effort invested in the assessment of Falls 7 and Falls 8, it would be a beneficial addition to this project by improving its environmental score (metrics) to proceed for funding.
6) I believe that the Ala Wai Canal project is a good endeavor and that its intentions are admirable. We just want to make sure the EIS is inclusive in addressing and mitigating the inherent downstream erosion risks in the proposed improvements.


Pawaina St
Manoa Rd
Falls 8
Structure Footprint
Construction Limits
Peneku Pl
Falls 7
Footpath Access Route
Structure Footprint
Pinao St
Construction Limits

US Army Corps of Engineers
BUILDING STRONG

Ala Wai Canal Flood Risk Management Study
Response to Public Comments Received from Review
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02 May 2017

ATTN: Craig Chun/Janice Mende/Peggy Kawano
7948 145th Avenue NE
Newcastle, WA 98059

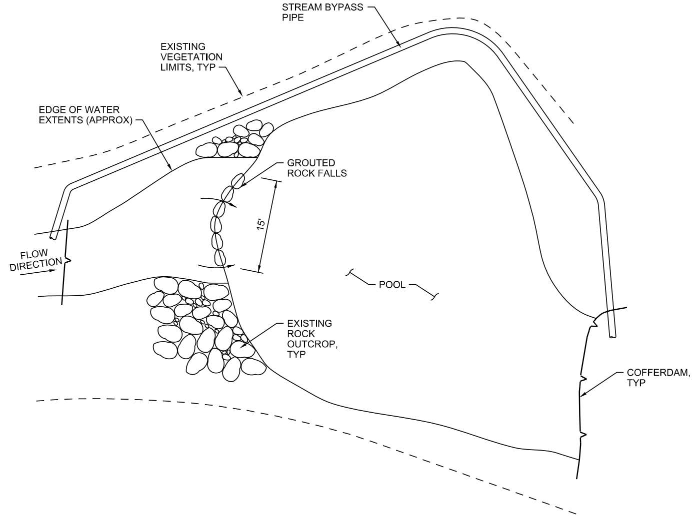
This letter is written in response to the receipt of your comments submitted to the U.S. Army Corps of Engineers (USACE) and/or the State of Hawaii Department of Lands and Natural Resources (DLNR) during the public review of the Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental 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:

- Erosion in Manoa Stream and effect of environmental mitigation measures

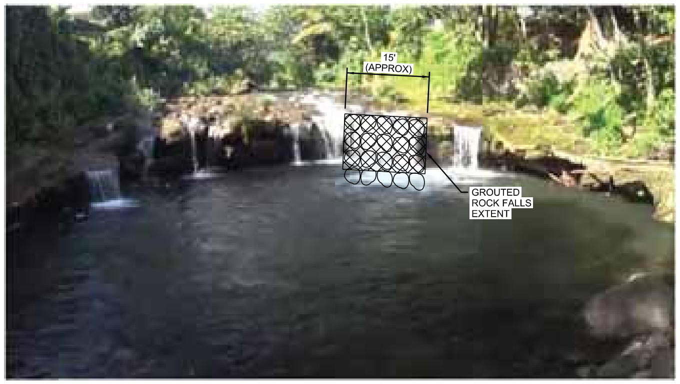
Implementation of the recommended plan will involve the construction of environmental mitigation measures in Manoa Stream at two sites, identified as Falls 7 and Falls 8. As you note, an existing erosion issue has occurred on your property from shear stress associated with stream flows. The intent of the USACE effort is not to address existing erosion problems, but to increase the viability of fish passage through this reach of the stream. The responsibility for protection of private property from streambank erosion generally lies with the property owner. Site drawing C-107 is attached to this letter. This conceptual drawing shows that approximately a 16-foot section of the current vertical barrier will be altered with grouted rock to enable fish passage. The reduction in slope is not expected to increase stream velocities and the vector of flow will be directed towards the existing pool at the site. It is not anticipated that erosion potential will increase as a result of the construction of this feature. Further, detention provided by basins upstream constructed in conjunction with the recommended plan will reduce peak flow velocities within the stream and further lower erosion potential during flood flows.

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



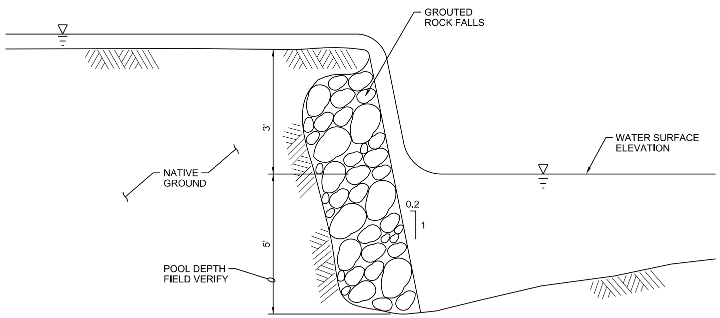
PLAN
NTS



NOTE:

DIMENSIONS ARE APPROXIMATED BASED ON FIELD PHOTO.

SITE PHOTO
NTS



NOTE:

DIMENSIONS ARE APPROXIMATED BASED ON FIELD PHOTO.

SECTION
NTS

FILE: $FILE$
MODEL NAME: $MODELNAME$
DATE & TIME: $DATE$ $TIME$
LAST SAVED BY:

PLOTDRIVER: $PLTDRV$$
PEN TABLE: $PENTBL$$
PRINTED BY: $USER$

US Army Corps of Engineers

10% DESIGN

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

US ARMY CORPS OF ENGINEERS
HONOLULU DISTRICT
HONOLULU, HAWAII

CH2M HILL, INC.
1132 BISHOP STREET, SUITE 1100
HONOLULU, HI 96813

DESIGNED BY: L HAYS
DATE: 5/XX/2015
REVISION:
DRAWN BY: T STIMPSON
CHECKED BY: J YOUNG
SOLICIT./ CONTRACT NO.: 481684
SUBMITTED BY: J YOUNG
LOCATION CODE
PLOT SCALE: AS NOTED
PLOT DATE: 2015\05\12
DRAWING NUMBER:
SIZE: ANSI D
FILE NAME: FILENAME

ALA WAI CANAL PROJECT
MITIGATION MEASURES
MANOA STREAM FALLS 7
REHABILITATION CONCEPT

SHEET IDENTIFICATION
C-107
SHEET 10 OF 14

From: Bruce Black
To: Ala Wai Canal Project
Subject: [EXTERNAL] Ala Wai Canal Natural Ahupua?a Restoration
Date: Monday, November 09, 2015 9:34:52 PM
Attachments: Screen Shot 2015-11-09 at 8.47.38 PM.png

Bruce Black
3715 Diamond Head Circle
Honolulu, Hawaii 96815
(808) 341-5111

Aloha,

These are my comments on the Ala Wai Canal Project 2015. It needs to be revised or rejected because it has no restoration aspect. It destroys the Hawaiian people‘s natural Ahupua‘a system for the benefit of the Waikiki Hotels and not the larger community.

My name is Bruce Black I am a resident of the Waikiki Ahupua‘a Water Shed, a teacher a Mid-Pacific School which does service learning projects with students in Manoa Stream, an Outrigger Canoe Club Member who has paddled for decades in the Ala Wai Canal and surfs Ala Moana Bowl, A Polynesian Voyaging Society Member and Hokule‘a Malama Honua Worldwide Voyage Crew member, and an advocate for the “Hawaii Exemplary State Initiative”.

I made a promise to the children of Hawaii, as a steward and navigator of Hawaii‘s educational community, to teach our students the importance of understanding how to take care of the environment, enabling them to have a healthy sustainable future. Children want clean streams they can play in, plants they can grow and eat, beaches where they can safely surf and fish, and they are willing to do their part to see that it happens. This meeting is an intricate part of that learning process because plans are being presented here about their future. I am here to make sure that their voice is heard and we are all addressing their wants and concerns along with special interest groups.

I am also here today, as all of us are, to HELP stop the perpetuation of the Ala Wai Canals problems. Hundreds of millions of tax payer‘s dollars continue to be spent on piece-meal projects like irregular dredging and flood mitigation projects with out addressing the health of the Wakiki Ahupua‘a System as a whole. The increasing number of heavy rain storms has spiked our community‘s present health concerns, draws fear of the economic impact to tourism when beaches are polluted, and makes us question the sustainable environment‘s well being for our children‘s future. This is a massive problem that will require the unity, collaboration, and aloha of the entire Waikiki Ahupua‘a community. Our resources and commitment to solving the problem needs to be inclusive and use old technology as well as new technology to achieve a sustainable solution.

The propose Ala Wai Canal Project presented by the USACE and the DLNR focuses primarily on flood mitigation for Waikiki Hotels by building higher retention walls and dam basins. We need to broaden the long-term benefits of Ala Wai Canel Project by supporting the community‘s commitment to a sustainable solution which supports ecosystem restoration, an essential part of any kind of flood mitigation project. The Ahupua‘a System has a proven track record for successful conservation and sustainability. We need to perfect it with present day technology and present it as a viable ecological model to the world. The Ala Wai Project can be that model.

I am here with fellow educators, students, and environmentalist, to encourage you to help us help you, help Hawaii

help the World. The inclusion of the "Hawaii Exemplary State Initiative" which plans to band the community together as an Ahupuaʻa Ohana to address and solve real problems at the grassroots level, needs to be a driving force in any Ala Wai improvement effort. It is a win-win solution to solving the Ala Wai Canal Problems that gives ownership to the community, accomplishment to our students, and prosperity and pride to our state.

Ala Wai Canal Natural Ahupuaʻa Restoration

This project has no environmental restoration component, and it will destroy a traditional and cultural Ahupuaʻa System.
There is no indication on the effects to the stream environment, endangered marine life, birds, and plants in the estuary.
It also will not elevate the sediment build up and future flooding will continue to occur. This project is in violation of many law and against the best interest of the greater community and future generation. It is being pushed through to stop the occasional flooding of hotels and does nothing for the surrounding communities, potentially making flooding worse in those communities.

The community needs to be able to provide input into the alteration of the communities watershed and Ahupuaʻa

Sediment accumulation will continue with the building of higher walls and this plan does not address this issue. Restoration would provide sediment reduction by creating a wetland estuary along the golf course

ALA WAI CANAL WATERSHED WATER QUALITY IMPROVEMENT PROJECT STEERING COMMITTEE • CITY & COUNTY OF HONOLULU • STATE OF HAWAII 1998

1. Vehicle Contaminant Reduction

2. Manoa Recreation Center: Stream Bank Erosion Control

3. Ala Wai Canal to Manoa Trail System

4. Kaimuki High School Stream Bank Improvement

5. St. Louis Heights Trail & Erosion Reduction

6. Beautification of Makiki Stream from King St. Along

7. Kalakaua Avenue.

8. Kanaha Stream Restoration and Landscaping
9. Pukele Stream Lo'i Restoration and Trail

10. Waiomao Stream Restoration, Trail and Community Garden

11. Upper Palolo Valley and Ka'au Crater Trail and Stream Restoration
12. Erosion Control in the Urban District, Especially Along Stream Banks
13. Greenbelts and Vegetative Buffers
14. Dredge Manoa-Palolo Canal Between the Ala Wai Canal & Date St. to Serve as a Sediment Catchment Basin

15. Inject Seawater Into the Ala Wai Canal to Clarify the Water, Reduce Odor……

16. Reduce Cans, Bottles, Bags, Cups, and Fast Food Debris from Entering Streams and Canal

17. Reduce Neighborhood Rubbish Collection Problems
18. Flood Damage Reduction Investigation of the Ala Wai Canal
19. Stop Illegal Construction, Filling in Streams and Reduce Rubbish Dumping ….

20. Dredge Ala Wai Canal between Kapahulu Av. & the Ala Wai Boat Harbor
21. Reduce Erosion and Improve Vegetative Cover in the Conservation District

22. Centralize All Watershed Water Quality Implementation within DLNR,

Especially Streams
23. Prepare a Master Plan for Watershed Management Including Project Designs,

plans, and Specifications for Construction and an Environmental Impact Statement

Fishers Study
Paddlers Health Survey
Fish Consumption Risk Assessment

Benefit/Cost Analysis Manoa Stream Restoration & Bike Path Project

None of the recommendation from this 1998 steering committee plans have been included in the 2015 Ala Wai Canal Project, Proposed Flood Risk Management Project, Draft Feasibility Repot. Why Not ! ?

Environmental Impact Statement (EIS) will be required. The EIS will describe the TSP (proposed action) and the range of reasonable alternatives, and will address the potential for direct, indirect, and cumulative effects on the human, natural, and cultural environment; mitigation measures that avoid or minimize the potential adverse effects will also be identified.(2014)

There has not been sufficient number of community meetings to address the publics concerns and it should not be railroaded through by the hotel industry at the expense of tax payers and the natural environment.

Mahalo, Bruce Black

US Army Corps of Engine
BUILDING STRONG

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3715 Diamond Head Circle
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- Concerns regarding public outreach
- Absence of ecosystem restoration features within the recommended plan
- Issues outside of the scope and authority of USACE study

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of the FEIS.

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

Unfortunately, the issues of vehicle contaminant reduction, stream bank erosion control, construction of a trail system, stream bank improvements, erosion reduction, stream beautification, traffic improvements, landscaping, community gardens, greenbelts, vegetative buffers, dredging Ala Wai Canal, water quality improvements, garbage and debris control, land use planning, conducting a fishers study, paddlers survey, or fish consumption advisories are not a topics addressed by the FEIS nor does USACE have the authorization to study those issues.

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:

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FORESTRY AND WILDLIFE
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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. Bruce Black
3715 Diamond Head Circle
Honolulu, Hawaii 96815

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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 email dated November 9, 2015 to the Ala Wai Canal Project general inbox:

1. *These are my comments on the Ala Wai Canal Project 2015. It needs to be revised or rejected because it has no restoration aspect.*

RESPONSE: Ecosystem restoration is not a specific objective of the Ala Wai Canal Flood Risk Management Study. Page 1-2 of the Federal NEPA Document, as well as this HEPA FFEIS proposed action discusses the USACE Environmental Operating Principles (EOP) which requires "mutually supporting economic and environmental sustainable solutions." This occurred in the feasibility despite a 2012 shift in focus to strictly a flood control study; the study team evaluated ways to maintain in-stream habitat and migratory pathways. These same EOP will be applied during the design phase as data is updated and designs are refined.

2. *It destroys the Hawaiian people's natural Ahupua'a system for the benefit of the Waikiki Hotels and not the larger community.*

RESPONSE: We understand your concern is that this project will *destroy the Hawaiian people's natural Ahupua'a system*, which is the traditional Hawaiian land management system from Mauka to Makai. The identified benefits of this project are not only in the Hotels and Waikiki, there are documented benefits in the community mauka of the Ala Wai Canal in Section 3.0 Plan Formulation of the proposed HEPA FFEIS.

While Waikiki is part of the project area, the entire watershed community shows to benefit from the project. During the design phase, updated modeling, engineering data, and community input will be used to refine the project design to ensure the System delivers the level of risk reduction authorized by Congress not just in Waikiki but the entire watershed. 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. *My name is Bruce Black I am a resident of the Waikiki Ahupua'a Water Shed, a teacher a Mid-Pacific School which does service learning projects with students in Manoa Stream, an Outrigger Canoe Club Member who has paddled for decades in the Ala Wai Canal and surfs Ala Moana Bowl, A Polynesian Voyaging Society Member and Hokule'a Malama Honua Worldwide Voyage Crew member, and an advocate for the "Hawaii Exemplary State Initiative".*

I made a promise to the children of Hawaii, as a steward and navigator of Hawaii's educational community, to teach our students the importance of understanding how to take care of the environment, enabling them to have a healthy sustainable future. Children want clean streams they can play in, plants they can grow and eat, beaches where they can safely surf and fish, and they are willing to do their part to see that it happens. This meeting is an intricate part of that learning

process because plans are being presented here about their future. I am here to make sure that their voice is heard and we are all addressing their wants and concerns along with special interest groups.

RESPONSE: Thank you for your community service and educating the children of Hawaii the importance of taking care of the streams and beaches.

4. *I am also here today, as all of us are, to HELP stop the perpetuation of the Ala Wai Canals problems. Hundreds of millions of tax payer's dollars continue to be spent on piece-meal projects like irregular dredging and flood mitigation projects without addressing the health of the Wakiki Ahupua'a System as a whole.*

RESPONSE: We acknowledge your concern for continual *Canal problems* due to *piece-meal projects*. This project's scope is limited to addressing the risk of riverine flooding in the Ala Wai Watershed Community, which poses life safety risks and damages to both private and public property. We understand that your preference is a more holistic approach, however, the Corps of Engineers was limited by Congressional authority for the scope of this partnership.

5. *The increasing number of heavy rainstorms has spiked our community's present health concerns, draws fear of the economic impact to tourism when beaches are polluted, and makes us question the sustainable environment's well- being for our children's future.*

RESPONSE: We agree, the impacts of storms have a significant impact on the community, the environment, and our children's future.

Page 1-2 of the Federal NEPA Document, as well as this HEPA FFEIS proposed action discusses the USACE Environmental Operating Principles (EOP) which requires "mutually supporting economic and environmental sustainable solutions." This occurred in the feasibility despite a 2012 shift in focus to strictly a flood control study. These same EOP will be applied during the design phase as data is updated and designs are refined. Any changes in the design will be evaluated for environmental impacts both positive and negative.

6. *This is a massive problem that will require the unity, collaboration, and aloha of the entire Waikiki Ahupua'a community.*

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.

7. *Our resources and commitment to solving the problem needs to be inclusive and use old technology as well as new technology to achieve a sustainable solution.*

RESPONSE: Concur. There is a wealth of knowledge in the community and traditional Hawaiian culture that in combination with technology can develop a project to reduce flood risk in the Ala Wai Watershed community.

8. *The propose Ala Wai Canal Project presented by the USACE and the DLNR focuses primarily on flood mitigation for Waikiki Hotels by building higher retention walls and dam basins.*

RESPONSE: *Protecting Waikiki* comment- we agree that protecting Waikiki is important, however, reducing the risk in the rest of the community is equally as important. Specifically, in the Moiliili and McCully communities, they are vulnerable because of not only the geography but the urban makeup of the area; 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 it rains in, the water ends up in these lower-lying neighborhoods.

9. *We need to broaden the long-term benefits of Ala Wai Canel Project by supporting the community's commitment to a sustainable solution which supports ecosystem restoration, an essential part of any kind of flood mitigation project.*

RESPONSE: Ecosystem restoration is not a specific objective of the Ala Wai Canal Flood Risk Management Study. Page 1-2 of the Federal NEPA Document, as well as this HEPA FFEIS proposed action discusses the USACE Environmental Operating Principles (EOP) which requires "mutually supporting economic and environmental sustainable solutions." This occurred in the feasibility despite a 2012 shift in focus to strictly a flood control study; the study team evaluated ways to maintain in-stream habitat and migratory pathways. These same EOP will be applied during the design phase as data is updated and designs are refined.

10. *The Ahupua'a System has a proven track record for successful conservation and sustainability. We need to perfect it with present day technology and present it as a viable ecological model to the world. The Ala Wai Project can be that model.*

RESPONSE: The Ahupua'a system is a water management system that resides outside the scope of this HEPA FFEIS.

11. *I am here with fellow educators, students, and environmentalist, to encourage you to help us help you, help Hawaii help the World. The inclusion of the "Hawaii Exemplary State Initiative" which plans to band the community together as an Ahupua'a Ohana to address and solve real problems at the grassroots level, needs to be a driving force in any Ala Wai improvement effort. It is a win-win solution to solving the Ala Wai Canal Problems that gives ownership to the community, accomplishment to our students, and prosperity and pride to our state.*

RESPONSE: The Ahupua'a system is a water management system that resides outside the scope of this HEPA FFEIS.

12. *Ala Wai Canal Natural Ahupua'a Restoration*
This project has no environmental restoration component, and it will destroy a traditional and cultural Ahupua'a System.

RESPONSE: Ecosystem restoration is not a specific objective of the Ala Wai Canal Flood Risk Management Study. However, Page 1-2 of the Federal NEPA Document, as well as this HEPA FFEIS proposed action discusses the USACE Environmental Operating Principles (EOP) which requires "mutually supporting economic and environmental sustainable solutions." This occurred in the feasibility despite a 2012 shift in focus to strictly a flood control study; the study team evaluated ways to maintain in-stream habitat and migratory pathways. These same EOP will be applied during the design phase as data is updated and designs are refined.

13. *There is no indication on the effects to the stream environment, endangered marine life, birds, and plants in the estuary.*

RESPONSE: There is extensive investigation and evaluation of the impacts to stream environment with- and without- project. There is also extensive modeling and investigation for the mitigation of impacts. Please see Appendix E of this HEPA FFEIS.

14. *It also will not elevate the sediment build up and future flooding will continue to occur.*

RESPONSE: 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 the community. Every feature will have a maintenance manual with it that describes procedures for making sure the features functions as designed. Additionally, after construction, the Corps of Engineers will routinely inspect the feature and provide a list of deficiencies to the City and County of Honolulu. Provided the system features are maintained, they will be eligible for federal funding in the event they are damaged or require significant rehabilitation.

15. *This project is in violation of many laws and against the best interest of the greater community and future generation. It is being pushed through to stop the occasional flooding of hotels and does nothing for the surrounding communities, potentially making flooding worse in those communities.*

RESPONSE: The Corps' study as well as the HEPA FFEIS is subject to an extensive legal review for sufficiency and compliance. While Waikiki receives some benefit from this project, so does the rest of the Ala Wai Watershed community. Please see response to #8 above for additional detail.

16. *The community needs to be able to provide input into the alteration of the communities watershed and Ahupua'a*

RESPONSE: During the design phase of this project updated data, modeling and community input will be used to update system features, type, location, construction material, and design

considerations. Any changes to the design features, location, type, or function, or elimination will be evaluated for environmental and community impacts, and supplemental documentation will be developed commensurate with the level of impacts, if necessary.

17. *Sediment accumulation will continue with the building of higher walls and this plan does not address this issue.*

RESPONSE: The study examines a variety of impacts to include sediment flows; actually, having debris and detention in the mid-stream reaches of the project, as well as in the golf course will help some of the sediment drop out of the flows before it reaches the canal. You can see such an example of the golf course sediment basin in Appendix I sheet C-103 of this HEPA FFEIS. Analysis on blockages and debris catchment features can be found in Sections 3.1.4 and 5.2 of Appendix A2, respectively.

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. Sedimentation accumulation will be evaluated with 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.

18. *Restoration would provide sediment reduction by creating a wetland estuary along the golf course*

RESPONSE: This suggestion is incorporated into the HEPA FFEIS. An example of the golf course sediment basin can be seen in Appendix I sheet C-103 of this HEPA FFEIS.

19. *ALA WAI CANAL WATERSHED WATER QUALITY IMPROVEMENT PROJECT STEERING COMMITTEE*

• CITY & COUNTY OF HONOLULU • STATE OF HAWAII 1998
1.Vehicle Contaminant Reduction
2.Manoa Recreation Center: Stream Bank Erosion Control
3.Ala Wai Canal to Manoa Trail System
4.Kaimuki High School Stream Bank Improvement
5.St. Louis Heights Trail & Erosion Reduction
6.Beautification of Makiki Stream from King St. Along
7.Kalakaua Avenue.
8.Kanaha Stream Restoration and Landscaping
9.Pukele Stream Lo'i Restoration and Trail

10.Waiomao Stream Restoration, Trail and Community Garden
11.Upper Palolo Valley and Ka'au Crater Trail and Stream Restoration
12.Erosion Control in the Urban District, Especially Along Stream Banks
13.Greenbelts and Vegetative Buffers
14.Dredge Manoa-Palolo Canal Between the Ala Wai Canal & Date St. to Serve as a Sediment Catchment Basin
15. Inject Seawater Into the Ala Wai Canal to Clarify the Water, Reduce Odor……
16.Reduce Cans, Bottles, Bags, Cups, and Fast Food Debris from Entering Streams and Canal
17.Reduce Neighborhood Rubbish Collection Problems
18.Flood Damage Reduction Investigation of the Ala Wai Canal
19. Stop Illegal Construction, Filling in Streams and Reduce Rubbish Dumping â€¦.
20.Dredge Ala Wai Canal between Kapahulu Av. & the Ala Wai Boat Harbor
21.Reduce Erosion and Improve Vegetative Cover in the Conservation District
22.Centralize All Watershed Water Quality Implementation within DLNR, Especially Streams
23. Prepare a Master Plan for Watershed Management Including Project Designs, plans, and Specifications for Construction and an Environmental Impact Statement
Fishers Study
Paddlers Health Survey
Fish Consumption Risk Assessment
Benefit/Cost Analysis Manoa Stream Restoration & Bike Path Project

None of the recommendation from this 1998 steering committee plans have been included in the 2015 Ala Wai Canal Project, Proposed Flood Risk Management Project, Draft Feasibility Report. Why Not ! ?

RESPONSE: This project is one piece of a larger Ala Wai Watershed need. We are aware of the need for additional projects in the Ala Wai watershed. This project, while limited in scope and authority, will help to open other opportunities because of the reduced flood risk benefit that it does provide.

20. *Environmental Impact Statement (EIS) will be required. The EIS will describe the TSP (proposed action) and the range of reasonable alternatives, and will address the potential for direct, indirect, and cumulative effects on the human, natural, and cultural environment; mitigation measures that avoid or minimize the potential adverse effects will also be identified. (2014)*

RESPONSE: This HEPA FFEIS is the document referred to in the comment.

21. *There has not been sufficient number of community meetings to address the publics concerns and it should not be railroaded through by the hotel industry at the expense of tax payers and the natural environment.*

RESPONSE: The hotel industry is not a partner on this HEPA FFEIS, we, the State of Hawaii partnered with the Corps of Engineers to develop this proposed action. The full outline of public involvement can be viewed in Appendix G of this HEPA FFEIS, however, additional community engagement and input will be requested in the next phase of the project along with updated modeling and engineering data.

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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Derek J Chow
Civil & Public Works Branch
Honolulu District
US Army Corps of Engineers
Building 230, CEPOH-PP-C
Fort Shafter HI 96858
Sent to - email: AlaWaiCanalProject@usace.army.mil

Gayson Ching
State of Hawaii
DLNR Engineering Division
PO Box 373
Honolulu HI 96809
Sent to - email: gayson.Y.Ching@hawaii.gov

From:
Brian G Bagnall
1551 Ala Wai Blvd Apt 3004
Honolulu HI 96815
Sent from - email: bbagnall@yahoo.com
Date: 8th November, 2015

RE: ALA WAI CANAL PROJECT - DRAFT EIS - PUBLIC COMMENT

I am a private Waikiki resident who lives right on the Ala Wai Canal and knows it well every day.

My position is:

1. I totally oppose the building of four-foot-high solid walls on both sides of the canal.
This "heavy engineering" solution to prevent a 100-year flood emergency would amount to permanent massive destruction of the canal's historic contribution to the beautiful environment of Waikiki.

2. I am very concerned that the precious trees along and near the canal would be damaged or removed by the construction.
I understand that the Corps will only spend money on strict flood control installations, leaving the costs for environmental preservation and beautification to other unnamed and unfunded parties.

3. I respectfully request that the Corps study other far less damaging solutions to the canal flooding risk.
The current canal flood plan is simply too much industrialization of our neighborhood waterway treasure. There is a commonly used expression - *"Don't Throw The Baby Out With The Bathwater"* - that is exactly what you have proposed with this current plan. Your brilliant engineers need to meet with experienced town planners to reach a compromise that is acceptable to we the residents of Waikiki who live and pay our taxes here.

Respectfully Submitted by email on 8th November, 2015

US Army Corps of Engine
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: Brian Bagnall
1551 Ala Wai Boulevard, Apt 3004
Honolulu, Hawaii 96815

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
- Aesthetics of the floodwalls
- Loss of trees associated with the recommended plan

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

The design of project features is focused on the most economical design that will provide the needed function while observing compliance with applicable Federal law. The design of floodwalls must meet the criteria set forth in Section 106 of the Historic Preservation Act. This design will be coordinated with the State Historic Preservation Office to ensure appropriate design aspects are integrated into the project to ensure preservation of the historic value of the area.

Section 5.7.2.2 of the FEIS details the effect of the recommended plan on vegetation. Site restoration will occur throughout impacted areas following construction. At select locations identified in the report where significant trees exist, this site restoration will involve tree planting.

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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From: Barry Brennan
To: Ala Wai Canal Project; Gayson.Y.Ching@hawaii.gov
Cc: Sherri Hiraoka
Subject: [EXTERNAL] Draft Feasibility Report/EIS Comments
Date: Sunday, November 08, 2015 4:39:44 PM

Honolulu District, USACE

ATTN: Ala Wai Canal Project

State of Hawai‘i, DLNR Engineering Division

ATTN: Gayson Ching

Gentlemen,

First, I would like to compliment both of you on the Ala Wai Draft Feasibility Report/EIS. It is well-written and has a considerable amount of detail. Thank you.

Whatever action you agree to pursue will likely have an impact on my property which straddles Manoa Stream where it intersects with Kolomona Ditch (which, I believe was built by the state, federal, and possibly the City and County, governments in the mid-50s). My property straddles Manoa Stream because one of more government agencies "straightened it out" by cutting across it. A short-term fix on a long-term problem.

When Manoa Gardens (next to Manoa Park) was built about 20 years ago I notified the City and County that I was willing to deed them the portion of my land next to the City's Manoa Gardens. The C&C installed a five foot culvert to drain the Manoa Gardens land. The culvert opens up directly across from Kolomona Ditch. Shortly thereafter I notified the C&C when my neighbor, Mr. Takugawa was filling in Manoa Stream to extend his land to the middle of Manoa Stream. The C&C inspector who investigated the incident told me she couldn't do anything about it since she was retiring at the end of the year and her position was not going to be filled. As a result of these two incidents (filling in Manoa Stream and building a culvert directly across from Kolomona Ditch) both my neighbor and I lost portions of our property during the flood of 2004.

Five years ago I agreed to participate in the C&C's Department of Environmental Services' Adopt-a-Stream program. I’ve attempted to control weeds growing in Kolomona Ditch. On several occasions (including last week) the water in the ditch nearly overflowed. To me, Kolomona Ditch is an important, but overlooked, component of the Ala Wai Watershed. Are there any plans to mitigate its potential impact on flooding?

Alternative 3A 2.2 will again involve my property. In particular, I am concerned about the location of the debris detention basin. On one of your figures it appears to be at the junction of Kolomona Ditch, the culvert outlet, and Manoa Stream. Will I lose more land? Will the construction of the proposed retention basin impact my property?

I am perfectly willing to work with you to facilitate whatever proposed flood mitigation measures are adopted, at least insofar as they do not involve uncompensated taking of my property.

Please contact me if you would like to discuss my comments.

Aloha,

Barry M. Brennan

Emeritus Professor

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: Barry Brennan
e-mail: barryb@hawaii.edu

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
- Concerns of affected landowners regarding real estate acquisition

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. Details regarding planning considerations leading to the development of alternative plans can be found in Section 3 of the FEIS.

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.

Implementation of the recommended plan will require the acquisition of private property. Please note that there are two properties in the vicinity of Manoa Park for which acquisition is anticipated, one is owned by the City and County and the other owned by a private party. Your name is not listed as the owner of this parcel. All landowners affected by private land acquisition were notified prior to the 30 SEP 2015 public meeting. The exact timing of future land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To

address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ("Uniform Act"). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate

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. Barry Brennan
Via E-mail: barryb@hawaii.edu

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 email dated November 8, 2015 to the Honolulu District USACE and State of Hawaii DLNR Engineering Division:

1. *First, I would like to compliment both of you on the Ala Wai Draft Feasibility Report/EIS. It is well-written and has a considerable amount of detail. Thank you.*

RESPONSE: Thank you for your interest in the project and participation in the process.

2. *Whatever action you agree to pursue will likely have an impact on my property which straddles Manoa Stream where it intersects with Kolomona Ditch (which, I believe was built by the state, federal, and possibly the City and County, governments in the mid-50s).*

RESPONSE: Thank you for identifying your general location in the watershed so that we can better understand the impacts on you.

3. *My property straddles Manoa Stream because one of more government agencies "straightened it out" by cutting across it. A short-term fix on a long-term problem.*

When Manoa Gardens (next to Manoa Park) was built about 20 years ago I notified the City and County that I was willing to deed them the portion of my land next to the City's Manoa Gardens. The C&C installed a five-foot culvert to drain the Manoa Gardens land. The culvert opens up directly across from Kolomona Ditch. Shortly thereafter I notified the C&C when my neighbor, Mr. Takugawa was filling in Manoa Stream to extend his land to the middle of Manoa Stream. The C&C inspector who investigated the incident told me she couldn't do anything about it since she was retiring at the end of the year and her position was not going to be filled. As a result of these two incidents (filling in Manoa Stream and building a culvert directly across from Kolomona Ditch) both my neighbor and I lost portions of our property during the flood of 2004.

RESPONSE: Thank you for providing this information, it is very important to have this type of information to validate our model information and make sure that the inputs are as accurate as possible.

4. *Five years ago I agreed to participate in the C&C's Department of Environmental Services' Adopt-a-Stream program. I've attempted to control weeds growing in Kolomona Ditch. On several occasions (including last week) the water in the ditch nearly overflowed. To me, Kolomona Ditch is an important, but overlooked, component of the Ala Wai Watershed. Are there any plans to mitigate its potential impact on flooding?*

RESPONSE: The Manoa Stream and its tributaries are all being fully studied. The Manoa sub watershed within the Ala Wai watershed area is made up of 7 different sub drainage areas that all appear to converge in the areas you describe. The area includes Manoa Valley District Park, Manoa Chinese Cemetery all the way down to the Marketplace and UH Innovation Center.

During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Tributaries such as Kolomona Ditch 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.

5. *Alternative 3A 2.2 will again involve my property. In particular, I am concerned about the location of the debris detention basin. On one of your figures it appears to be at the junction of Kolomona Ditch, the culvert outlet, and Manoa Stream.*

RESPONSE: As described in our 2017 response letter, "Implementation of the recommended plan will require the acquisition of private property. Please note that there are two properties in the vicinity of Manoa Park for which acquisition is anticipated, one is owned by the City and County and the other owned by a private party. Your name is not listed as the owner of this parcel. All landowners affected by private land acquisition were notified prior to the 30 SEP 2015 public meeting. The exact timing of future land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. If approved, the elements of the FFEIS 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress."

6. *Will I lose more land?*

RESPONSE: See Response #5. To further elaborate, the impacts of land use and private property acquisition are listed as an unresolved issue in the HEPA FFEIS. During the Design Phase of the project modeling will be updated, engineering data will be refined, community engagements will occur, all leading to a final real estate and land use plan. 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 at the time of the study not to acquire any property until the design phase.

7. *Will the construction of the proposed retention basin impact my property?*

RESPONSE: See Response #6.

8. *I am perfectly willing to work with you to facilitate whatever proposed flood mitigation measures are adopted, at least insofar as they do not involve uncompensated taking of my property.*

RESPONSE: As described in our 2017 response letter, "The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ("Uniform Act"). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking, the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate."

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.

UNIVERSITY OF HAWAI'I AT MĀNOA
Social Science Research Institute

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
Submitted via E-mail: AlaWaiCanalProject@usace.army.mil

State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
Submitted via E-mail: Gayson.Y.Ching@hawaii.gov

November 09, 2015

RE: Draft Feasibility Report and Integrated Environmental Impact Statement (EIS) for USACE Ala Wai Canal Project

Dear Mr. Ching,

In my capacity as the Coordinator for the Ala Wai Watershed Partnership (AWWP), I respectfully submit the following comments on the U.S. Army Corps of Engineers (USACE) Ala Wai Canal flood mitigation project ("Project"). The AWWP is a multi-sector partnership that coordinates stakeholders across the public, private, academic, non-governmental, community and philanthropic sectors with a joint interest in the Ala Wai Watershed. The AWWP goals include: increasing awareness about catastrophic natural disaster risk; communicating the risk of natural disasters in the Ala Wai Watershed, Waikīkī, and Hawai'i; and forging new partnerships in a variety of sectors to help mitigate current and future climate risks. The AWWP strives to leverage public finances to catalyze private investment in designing, building, maintaining, and operating the Ala Wai Watershed flood mitigation project and associated projects. The AWWP is committed to increasing communication with key community groups, engaging the private sector, and developing and implementing innovative financing and regional planning solutions.

At the September 30, 2015 public information meeting on the Project, we heard from a number of stakeholders and community members with a direct interest in the Project. A majority of these comments were supportive of the Project but also pointed out potential partnership opportunities to expand the scope of the Project beyond just flood mitigation. Some of these comments illustrated the need to enhance and foster public private partnerships (P3) to leverage federal and local sponsor funding with other non-flood mitigation efforts and better align the project scope with local interests beyond just flood mitigation. Some of these projects include environmental education and outreach, environmental restoration, water quality improvement, recreational use enhancement, Ahupua'a watershed management and wetland restoration. We realize

most of these efforts are currently beyond the mandate and scope for the USACE, but we hope to provide a conduit to facilitate these important project components and leverage the federal project with local and private interests that may be able to support these non-flood mitigation components.

The proposed Project has great potential to support and enhance the AWWP goals and in turn, the AWWP can assist in coordinating community and stakeholder engagement for the Project. As presented in the Draft Feasibility Report and Integrated Environmental Impact Statement (DEIS), the Project can be adjusted to better support these goals on several fronts. These can be categorized under the following four overarching themes: (1) Whole Community Education and Preparedness; (2) Risk Transfer; (3) Public-Private Partnerships (P3) and Innovative Finance, including creating a Community Investment Vehicle (CiVic) to manage public and private sector investment; and (4) Ecosystem Restoration.

The Project will make important improvements to support the resiliency of the Ala Wai Watersheds and help mitigate flood risk in Waikīkī. The Project calls for approximately four-foot floodwalls along the canal and improved water detention in the upper and middle watershed. As with numerous resilient infrastructure projects across the country, this Project faces potential hurdles, including possible community opposition, insufficient public funding, and future operating and maintenance costs. However, the Project offers a unique opportunity to facilitate and catalyze important stakeholder partnerships and generate opportunity to create innovative financing and design solutions that can serve as a model for how the United States can begin to close its estimated $3.6 trillion infrastructure investment gap. This project can also serve as an example for how communities can collaborate with all levels of government, the private sector, and civil society to develop local solutions to local challenges.

The Project may help demonstrate how, as outlined in President Obama's Climate Action Plan, climate resilience can create shared value for local communities, mitigate the damage resulting from the current and future climate-related events, and close the national infrastructure gap by leveraging innovative partnerships. Furthermore, the Project – as a result of Hawaii's social, cultural, and economic connections to small island developing states (SIDS) – may be a model for climate resiliency projects in the Pacific islands, Caribbean, and other regions facing increasing climate-related challenges. The Project could be featured at the U.S.-hosted 2016 International Union for the Conservation of Nature (IUCN) World Conservation Congress (WCC) in Hawai'i as a high-level commitment to support resilient infrastructure investments through innovative financing and P3, while also restoring and protecting critical watersheds.

I provide below a condensed summary from the "Hawai'i Disaster Risk Workshop: Mitigating Catastrophic Disaster Risk and Building Resilience in the Ala Wai Watershed" workshop held in Honolulu on January 14, 2015. As an outcome of the workshop, the participants recommended forming the Ala Wai Watershed Partnership to support the below goals (an AWWP was first proposed in the USACE "Ala Wai Watershed Analysis Final Report" (July 2003), Project No. 28, pp.86-87). We believe

the goals of the AWWP are consistent with this Project and could support the Project goals and outcomes.

The Ala Wai Partnership Road Map

Launch a Working Group to increase awareness about catastrophic natural disaster risk, and facilitate stakeholder engagement in designing, funding, building and maintaining integrated infrastructure systems that improve the resilience of vulnerable communities in the Ala Wai Watershed and Waikīkī.

- Coordinate with local, state, and national governments, the private sector, philanthropies, and academic institutions.
- Identify opportunities to leverage the US Army Corps of Engineers Ala Wai Flood Mitigation project to mobilize private investment, engage the community, support ecosystem restoration, and serve as a model for resilient infrastructure initiatives across the country and globally.
- Work with City and State officials to develop the operations and maintenance framework and a new designation for the watershed that facilitates creative financing solutions and encourages private property owners' role in maintaining the system.
- Coordinate with elected officials to draft necessary legislation and identify viable regulatory mechanisms to support risk reduction efforts and the creation of an entity that can formally oversee the resilient infrastructure initiatives in the Ala Wai Watershed.

Communicate the economic, political, and social risk of natural disasters in the Ala Wai Watershed, Waikīkī, and Hawai‘i.

- Develop stakeholder-based strategies to communicate catastrophic natural disaster risk in Hawai‘i, specifically within the Ala Wai Watershed and Waikīkī, and develop a holistic risk reduction strategy, and focused hazard mitigation planning in each community.
- Engage local communities through local stakeholder groups such as neighborhood associations, early and often, on relevant topics, including disaster risk reduction, urban design, ecosystem restoration, and regional planning.

Forge new partnerships with the reinsurance industry to help mitigate current and future climate risks that place substantial financial and political burden on the State economy and on state and county governments.

- Support risk transfer solutions that help protect Waikīkī, the Ala Wai watershed, and the State of Hawai‘i from the devastating impacts of catastrophic natural disasters.
- Engage the private sector in transferring disaster risk to the private market that would provide Hawai‘i with the budgetary certainty and financial liquidity necessary to recover rapidly in the event of a catastrophic natural disaster.

Create an Ala Wai regional planning entity that also serves as a community investment vehicle (CIVic) to align public funds and catalyze private investment in designing, building and maintaining resilient infrastructure.

- Develop new and innovative financing strategies for climate resilient infrastructure projects in the Ala Wai Watershed, including storm water reuse, water efficiency measures, and insurance premium savings securitization.
- Launch and coordinate a prize competition that connects world-class urban planners, engineers, and designers with business groups, policymakers, and community leaders in the Ala Wai watershed to design climate resilient infrastructure and support ecosystem restoration.

I also include here a brief summary of a high-level meeting that took place in Washington, D.C. during Infrastructure Week 2015, "Building Resilience Through New Financing Vehicles – The Ala Wai Watershed Case Study." This meeting, of which participation included USACE leadership, identified specific partnerships and financing opportunities the Ala Wai Project presents.

<u>New Public-Private Partnership Model to support USACE Strategic Initiatives</u>
Participants at a meeting held during Infrastructure Week 2015 discussed that USACE could explore innovative financing options, including public-private partnership (P3) models, using existing authorities. Further, USACE could serve as the lead design entity that could take the project to private market through strategic partnership initiatives. The application of P3s is highly project specific and should be contextualized according to the project's business line and to be locally appropriate. It was noted that a new Community Investment Vehicle (CIVic) could serve as a financing model for other USACE priority infrastructure projects across the country.

Thank you for the opportunity to provide comments on the Ala Wai Watershed Flood Mitigation Project. We hope the AWWP can serve an important role in providing a partnership framework for a resilient community and look forward to developing a strong and effective affiliation through the AWWP that includes the critical participation of the U.S. Army Corps of Engineers.

Sincerely yours,

Michael P. Hamnett
Researcher

2424 Maile Way, Social Sciences Building 704, Honolulu, Hawai'i 96822
Telephone: (808) 959-8930, Facsimile: (808) 959-2884

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 Hamnett
Ala Wai Watershed Partnership
2424 Maile Way, Social Sciences Building 704
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 submitted comments pertaining to the following issues:

- Absence of ecosystem restoration features within the recommended plan
- Planning and collaboration with other agencies

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

Unfortunately, the issues related to water quality improvements, environmental education, recreational use enhancement and wetland restoration are not topics addressed by the FEIS nor does USACE have the authorization to study those issues. Use of public-private partnerships is currently being explored at a local level to potentially serve as a non-Federal sponsor for implementation of the recommended plan.

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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WAIKĪKĪ BEACH
SPECIAL IMPROVEMENT DISTRICT ASSOCIATION

November 6, 2015

Honolulu District, USACE
ATTN: Ala Wai Canal Project
Building 230, CEPOH-PP-C
Fort Shafter, HI 96858
Submitted via E-mail: AlaWaiCanalProject@usace.army.mil

State of Hawai'i, DLNR Engineering Division
ATTN: Gayson Ching
P.O. Box 373
Honolulu, HI 96809
Submitted via E-mail: Gayson.Y.Ching@hawaii.gov

RE: Draft Feasibility Report and Integrated Environmental Impact Statement (EIS) for USACE Ala Wai Canal Project

Dear Mr. Ching,

In my capacity as the President of the Waikīkī Beach Special Improvement District Association (WBSIDA), I respectfully submit the following comments on the Ala Wai Canal project. The Waikīkī Beach Special Improvement District Association (WBSIDA) is a multi-sector partnership that coordinates Waikīkī stakeholders across the public, private, academic, non-governmental, community and philanthropic sectors with a joint interest in Waikīkī Beach. The WBSIDA is dedicated to enhancing the quality of life in Waikīkī, which shall exemplify the quality of life throughout the State of Hawaii, by ensuring the coordinated management and long-term sustainability of Waikīkī Beach. The Waikīkī Beach Special Improvement District works in partnership with government and the private sector to develop and implement programs that promote the overall vitality of Waikīkī Beach and the State of Hawaii by strengthening their roles on behalf of all residents of Hawai'i and as a world-class resort destination area for visitors.

At the September 30, 2015 public information meeting on the Ala Wai Flood Control project we heard from a number of stakeholders and community members with a direct interest in the project. A majority of these comments were supportive of the project but also pointed out potential partnership opportunities to expand the scope of the project beyond just flood mitigation. Some of these comments illustrated the need to enhance and foster public private partnerships to leverage federal and local sponsor funding with other non-flood mitigation efforts and better align the project scope with local interests beyond just flood mitigation. Some of these projects include environmental education and outreach, environmental restoration, water quality, recreational use enhancement, Ahupua'a watershed management and wetland restoration. We realize most of these efforts are currently beyond the mandate and scope for the Army Corps of Engineers but we hope the WBSIDA provide a

conduit to facilitate these important project components and leverage the federal project with local and private interests that may be able to support these non-flood mitigation components.

The proposed Army Corps Ala Wai project (Project) has great potential to support and enhance the WBSIDA goals and in turn, the WBSIDA can assist in coordinating community and stakeholder engagement for the Ala Wai Project. As presented in the EIS, the project can be improved to better support these goals on several fronts. These can be categorized under the following four overarching themes: (1) Watershed management and water quality; (2) Risk Transfer; (3) Public-Private Partnerships (P3) and Innovative Finance, including creating a Community Investment Vehicle (CiVic) to manage public and private sector investment; and (4) Ecosystem Restoration.

With respect to the project scope and water quality the WBSIDA is strongly in support of expanding the scope of this project to include efforts to improve the water quality of the Ala Wai canal as state receiving waters. Water quality conditions and debris management issues are a major community and stakeholder complaint to our organization and are ongoing problems for the Ala Wai canal. It would be irresponsible to invest in the Ala Wai flood mitigation project without some effort to also improve the condition of the Ala Wai water quality. In fact, the Ala Wai receiving waters are in violation of federal and state water quality standards. The WBSIDA would like to see the flood mitigation effort better support the effort to meet federal standards either through direct inclusion of ecosystem restoration measures such as wetlands to directly addressing water quality efforts.

There are many novel and innovative solutions presented in the *2003 Ala Wai Watershed Analysis Final Report*[1]. The WBSIDA believes some of these recommendations need to be revisited as part of the flood mitigation effort. The recreational and aesthetic value of the Ala Wai Canal speaks for its self however to proceed with this project without water quality and ecosystem restoration as a leveraged effort is a major missed opportunity that we cannot afford to let pass by. Without serious consideration of exploring opportunities and supporting partnerships to leverage these water quality and ecosystem restoration components, it will be difficult for the WBSIDA to fully support the project as proposed purely and exclusively as a flood mitigation project.

The Ala Wai Canal flood mitigation project will make important improvements to support the resiliency of the Ala Wai Watersheds and help mitigate flood risk in Waikīkī. The project calls for approximately four to five-foot floodwalls along the canal and improved water detention in the upper and middle watershed. As with numerous resilient infrastructure projects across the country, the Ala Wai flood Project faces potential hurdles, including possible community opposition, insufficient public funding, and future operating and maintenance costs. However, the Project offers a unique opportunity to facilitate and catalyze

[1] Prepared By: Townscape, Inc. and Eugene P. Dashiell, AICP in cooperation with Oceanit
Prepared For: Department of Land and Natural Resources and U.S. Army Corps of Engineers
July 2003

important stakeholder partnerships and generate opportunity to create innovative financing and design solutions that can serve as a model for how the United States can begin to close its estimated $3.6 trillion infrastructure gap. This project can also serve as an example for how communities can collaborate with all levels of government, the private sector, and civil society to develop local solutions to local challenges.

Thank you for the opportunity to provide comments on the Ala Wai Watershed Flood Mitigation Project. We hope to the WBSIDA can serve an important role in providing a partnership framework for a resilient community and look forward to developing a strong and effective affiliation through the WBSIDA that includes the critical participation of the US Army Corps of Engineers.

Sincerely yours,

Rick Egged, President
Waikīkī Beach Special Improvement District Association

For additional information, questions or concerns please contact:

Waikīkī Beach Special Improvement District Association
(808) 923-0775
rickegged@waikikiimprovement.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: Rick Egged
Waikiki Beach Special Improvement Association
2250 Kalakaua Avenue, Suite 315
Honolulu, Hawaii 96815

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:

- Absence of ecosystem restoration features within the recommended plan
- Planning and collaboration with other agencies

As noted, the Ala Wai Canal study was originally developed as a multi-purpose flood risk management and ecosystem restoration study. Congressional mandates forced USACE to focus on critical issues with the study area to bring the on-going study to a conclusion within a mandated three year period, starting in late 2012. Discussions during this time between the USACE Honolulu District, USACE Headquarters, and the non-Federal sponsor, the DLNR, led the study team to focus exclusively on the flood risk portion of the study. This is the foundation of the current recommended plan. Opportunities for ecosystem restoration within the Ala Wai Canal Basin remain and are currently being evaluated by the non-Federal sponsor and others, however, ecosystem restoration features will not be a part of the FEIS recommended plan or a Federal recommendation to Congress.

Unfortunately, the issues related to water quality improvements, environmental education, recreational use enhancement and wetland restoration are not topics addressed by the FEIS nor does USACE have the authorization to study those issues. Use of public-private partnerships is currently being explored at a local level to potentially serve as a non-Federal sponsor for implementation of the recommended plan.

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: Glen D. Lindbo
To: Ala Wai Canal Project
Cc: Wyatt, Michael D POH; wilmayoutz@hawaii.rr.com; Jared Miyahana; Patrick Gilg; Graham Mcivor
Subject: [EXTERNAL] RE: Ala Wai Canal Project Draft Feasibility Report Public Meeting Comments
Date: Thursday, October 01, 2015 1:35:10 PM

Dear All,

My apologies, Our contact for Cultec is now Mr. John Ditullio. His e-mail address is jditullio@cultec.com

Regards,

Glen D. Lindbo

International Wastewater Technologies, Inc.

Phone: 808-833-2298

Fax: 808-842-7719

glen@iwt-epw.com <mailto:jared@iwt-epw.com>

Striving For A Cleaner Environment

Blockedwww.internationalwastewater.com <Blockedhttp://www.internationalwastewater.com/>

Thank you.

From: Glen D. Lindbo
Sent: Thursday, October 01, 2015 12:46 PM
To: 'Alawaicanalproject@USACE.Army.mil'
Cc: 'michael.d.wyatt@usace.army.mil'; 'wilmayoutz@hawaii.rr.com'; Jared Miyahana; 'Bill Argeros'; 'Patrick Gilg'; 'Graham Mcivor'
Subject: Ala Wai Canal Project Draft Feasibility Report Public Meeting Comments

Dear All,

I would like to thank you all for your time. Although I was not a speaker, I do represent equipment that can help answer some of our needs and concerns brought up at your Public Meeting. We in Hawaii as mentioned have a chance to have flooding conditions. Although not as frequent as in other parts of the world, this can be quite devastating to our economy and livelihood.

I did have a short time to meet and speak to Ms. Wilma Youtz who spoke at the meeting, and Michael Wyatt of the Army Core of Engineers. I promised that I would send them some information therefore I am including them on this transmittal as well as my product contact e-mail addresses.

I would like to offer some products that can assist with some of the issues. I'll place them in the order of the flow of water.

1. Cultec Storm Chambers--Contact is Bill Ageros---Very strong product that allows for storage of water below ground. Open ponds create an environment for other pests such as mosquitoes, hazards for curious children, etc.

a. Place them at every home--a flash rain will run off the roof, down the down spout and into a chamber. This will minimize flows into the streams--recharging the ground water supply.

b. Place them under every parking lot. Water run-off will then enter the chambers--replenishing the ground water supply.

c. Place them "Under" the AlaWai Golf course for underground storage instead of eliminating a number of fairways.

d. Place them in strategic areas instead of open water storage. You can have a park above the storage areas.

e. Multiple other areas to place them.

f. Attached are case studies, and a brochure.

2. IBS Gruppe Flood Protection--Contact is Patrick Gilg-- Specialize in Property Flood Protection systems, Demountable Aluminum Flood Defense Systems, Flood Gates, container loaders and the like.

a. A proposal was to install a permanent flood protection wall. This being said, I since impeding 100 year floods are very rare, it may be a solution in which we could install a lower wall that would eliminate the requirement for property acquisition, and be less obtrusive to our views and sight lines. We can also install the product in a flush concrete floor. The only visible item will be the 4-ea hex bolts in the concrete that remain there until the time is required to install the flood protection system.

b. Please see the attached IBS Product pictures. Please watch the YouTube video at this link to gain a better understanding of the product. Blockedhttps://www.youtube.com/watch?v=PBfZ--0a9QA

3. Clear Water Controls Ltd-- Contact is Graham McIvor--

a. The concern was that pumps in Waikiki were failing causing sewage spills. Clear water controls module actually monitors the pump and it's various electrical characteristics. When the load on the pump increases as would be in the event of a clog, a 3-phase pump can reverse rotation to clear the clog. This function is calculated, and set for a predetermined period, and cycle.

b. Energy savings--Grease and other products accumulate on the leading edge of a pump impeller. This being the case, on a determined time, the pump will reverse its rotation cleaning the impeller, increasing efficiency and thus saving energy.

c. There are other modes and information that can be tracked and uploaded to a smart device.

d. Can be retrofit into most if not all 3-phase panels.

e. Physical size is very small.

Conclusion, we have options, and we should also look at protecting our infrastructure such as electrical plants, pump stations, at grade and below grade equipment. Protection of these items comes with a cost, but we should not sacrifice our homes, our aesthetics, our livelihood unless all options are considered.

I would be more than happy to send you additional information on any or all of our products.

Thank you for your time.

Regards,

Glen D. Lindbo

International Wastewater Technologies, Inc.

Phone: 808-833-2298

Fax: 808-842-7719

glen@iwt-epw.com <mailto:jared@iwt-epw.com>

Striving For A Cleaner Environment

Blockedwww.internationalwastewater.com <Blockedhttp://www.internationalwastewater.com/>

immediately notify the sender at (808) 833-2298 if you received it in error and delete this message and any attachment(s) from your system.

Thank you.

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: Glen Lindbo
International Wastewater Technologies, Inc.
1931 Kahai Street
Honolulu, HI 96819

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:

- Consideration of sub-surface storage for flood risk management
- Design components of floodwalls
- Improvement to water quality within Ala Wai Canal

Table 3 of the report details a number of different management measures considered in the initial array. This includes sub-surface storage of stormwater for the purposes of managing stream flows. This idea was eliminated from further consideration due to the limited storage capacity and high implementation costs.

The design of project features is focused on the most economical design that will provide the needed function while observing compliance with applicable Federal law. The design of floodwalls must meet the criteria set forth in Section 106 of the Historic Preservation Act. This design will be coordinated with the State Historic Preservation Office to ensure appropriate design aspects are integrated into the project to ensure preservation of the historic value of the area.

Unfortunately, the issue of water quality improvement 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 for information related to water quality.

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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Rachel Sterling

Period 8

10/28/15

Ala Wai Canal Draft Feasibility Report

The Ala Wai Canal Project's purpose is to reduce flood risks in the Ala Wai Watershed. The 1-percent chance that extreme flooding would occur in Honolulu, Hawaii, causing disruptions in town and the wildlife should be taken very seriously. I believe that this project will help prepare us for that miniscule chance, yet there are many consequences that come with this project.

It is shown that rainfall has been increasing over the years in Hawaii and that the project will improve "navigation, flood control, hydroelectric power development, and other beneficial water uses, and related land resources", which will greatly benefit three thousand properties in risk of being flooded. This will help infrastructures and protect Hawaii's beaches, such as Waikiki, to not experience an overwhelming amount of debris when flooding occurs. The necessity of the concrete floodwalls, debris catchment feature, detention areas in developed watershed, and pump stations is important to Hawaii's nature as the hypothetical floods will bring in trash from the ocean and risk endangered animals and plants' lives.

On the other hand, these new constructions do impact Hawaii's economic state, as these inventions are not cheap. The State of Hawaii Department of Land and Natural Resources Engineering Division predicted that the total project cost would be $173,364,000 over the course of five years. These humongous pieces of

concrete material also negatively impact the visual effect of Hawaii, especially when tourism is the largest source of revenue for the state. Financially, some might argue that this money will come out of the taxpayers; the truth of the matter is that the expected annual benefits of these new constructions are estimated to be $20,256,000 with net average annual benefits of $11,752,000, while the annual cost would only be $8,504,000. Additionally, those who were worried about the health of the aquatic wildlife living in the beaches or in the Ala Wai Canal should be informed that the project includes migratory passage barriers in the Manoa stream to improve connectivity for native species.

Therefore, I believe that this project is considered beneficial to the State of Hawaii because even if the 1 percent chance is not significant, it does not hurt to be prepared and protect our lands before it is too late. Although, there should be more research done on the cultural and resources side of the argument, economically and environmentally, this project should be favorable.

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: Rachel Sterling
1048 Iiwi Street
Honolulu, Hawaii 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 and/or your organization has no comments, requests for information, or concerns regarding adverse effects of the FEIS and are generally supportive of the recommended plan.

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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DEPARTMENT OF PARKS & RECREATION
CITY AND COUNTY OF HONOLULU
1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

August 31, 2015

Mr. Carty Chang, Chief Engineer
DLNR Engineering Division
State of Hawaii
Post Office Box 373
Honolulu, Hawaii 96809

Dear Mr. Chang:

Thank you for your letter of notice for the "Public Comment Period and Public Meeting for the Ala Wai Canal Project."

My staff has had opportunities to be involved in some of the discussions and have been given information on the alternatives and selected plans as it relates to the Department of Parks and Recreation's (DPR) jurisdiction. We have expressed some concerns that our department had on the selected plans via the Department of Design and Construction's (DDC) liaison to this project. Response from USACE to our concerns was noted and although we may not understand the technicalities involved, we do acknowledge the need for a cooperative spirit to address the potential flood risks in our communities.

At this time DPR requests to be continued stakeholders as further discussion and development moves forward for this project. I thank you for the opportunity to be involved in the overall process for this vital project.

Sincerely,

Michele K. Nekota
Director

MKN:as
(621848)

DEPARTMENT OF PARKS & RECREATION
CITY AND COUNTY OF HONOLULU
1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

10/7/15

September 2, 2015

Ms. Suzanne D. Case, Chairperson
Board of Land and Natural Resources
Commission on Water Resources Management
State of Hawaii
Department of Land and Natural Resources
Post Office Box 621
Honolulu, Hawaii 96809

2015 SEP 10 AM 8:28

'15 OCT 07 PM 02:45 ENGINEERING

Dear Chair Case:

Thank you for your letter dated July 16, 2015, regarding the Ala Wai Canal Project, a.k.a. Ala Wai Canal Flood Risk Management Feasibility Study.

The Department of Parks and Recreation strongly objects to the current proposals of using Kanewai Community Park, Ala Wai Neighborhood Park (and adjacent structure proposals through the Ala Wai Community Park) and any other developed parks as sites for prospective flood water retention basins. These parks were placed under the City's jurisdiction specifically for park and recreational use and must be managed as such.

The intrusion of infrastructures such as detention basins, berms, floodwalls, etc. would be inappropriate to the sites and would compromise the designed usage of the sites for the general public.

Please consider and use alternate measures that will not impact park sites to the extent as proposed by this project.

Sincerely,

Michele K. Nekota
Director

MKN:as
(617341)

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
23 June 2017

ATTN: Michele Nakota
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, Hawaii 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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. 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:

- Concerns regarding the use of parks and public lands for project features

Please note that the City and County of Honolulu has been involved in the development of the recommended plan throughout the course of this study. 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. Criteria considered is provided in Table 2 which includes the availability of land, the degree to which people or existing uses would be displaced and the consistency with applicable laws and regulations.

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

The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

In general, designs included in the recommended plan are designed with the intent to minimize the disturbance of existing uses on public lands. Multipurpose basins located within public parks would pass normal flows without impounding water, but detain high flows during floods. The structures are designed to function only during storm events, therefore, no impoundment of water is anticipated outside of such storm events.

Thank you for your interest in the study. Your written comments and this response will be appended to Appendix G in 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

Hard copies of the reports are available for public viewing at the following locations:

- Hawaii State Library, Kaimuki Regional Library (1041 Koko Head Avenue, Honolulu 96813)
- Hawaii State Library, Waikiki-Kapahulu Library (400 Kapahulu Avenue, Honolulu 96815)
- Hawaii State Library, McCully-Moiliili Library (2211 South King Street, Honolulu 96826)
- Hawaii State Library, Manoa Library (2716 Woodlawn Drive, Honolulu 96822)

The 30-day State and Agency review period officially runs May 26 through June 25, 2017. Unfortunately, due to an oversight in the distribution of responses, your response letter was delayed in delivery. As a result, should you choose to provide comments on the final draft, your comments will be accepted until July 25, 2017 by e-mail at alawaicanalproject@usace.army.mil, or mail (must be postmarked by July 25, 2017) at the address below:

U.S. Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

The final Chief's Report is anticipated to be issued by August 30, 2017.

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. Michele Nakota
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, Hawaii 96707

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 following:

A. Specific Concerns raised in your letter dated August 31, 2015 to Chief Engineer, State of Hawaii DLNR Engineering Division

B. Specific Concerns raised in your letter dated September 2, 2015 to Chair, Board of Land and Natural Resources Management

A. Specific Concerns raised in your letter dated August 31, 2015 to Chief Engineer, State of Hawaii DLNR Engineering Division

1. *Thank you for your letter of notice for the "Public Comment Period and Public Meeting for the Ala Wai Canal Project."*

My staff has had opportunities to be involved in some of the discussions and have been given information on the alternatives and selected plans as it relates to the Department of Parks and Recreation's (DPR) jurisdiction. We have expressed some concerns that our department had on the selected plans via the Department of Design and Construction's (DDC) liaison to this project. Response from USACE to our concerns was noted and although we may not understand the technicalities involved, we do acknowledge the need for a cooperative spirit to address the potential flood risks in our communities.

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 and agency engagement is a critical part of making this a successful project.

2. *At this time DPR requests to be continued stakeholders as further discussion and development moves forward for this project. I thank you for the opportunity to be involved in the overall process for this vital project.*

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.

B. Specific Concerns raised in your letter dated September 2, 2015 to Chair, Board of Land and Natural Resources Management

1. *Thank you for your letter dated July 16, 2015, regarding the Ala Wai Canal Project, a.k.a. Ala Wai Canal Flood Risk Management Feasibility Study.*

RESPONSE: Thank you for your interest in the project.

2. *The Department of Parks and Recreation strongly objects to the current proposals of using Kanewai Community Park, Ala Wai Neighborhood Park (and adjacent structure proposals through the Ala Wai Community Park) and any other developed parks as sites for prospective flood water retention basins.*

RESPONSE: We apologize for the confusion, however, in the DFEIS recommended plan developed parks such as Kanewai and Ala Wai were identified as sites for prospective flood water detention basins. The difference between detention and retention is that in a retention basin, there is a permanent pool of water. A retention basin would leave the parks unusable in its current state as a baseball field, soccer field, etc.

The multi-purpose detention parks as proposed in this HEPA FFEIS enables these parks to operate in its current state for a majority of the time with minimal impacts to recreational activities. In the event of a 1-percent annual chance of exceedance storm the park activates as a flood detention facility to reduce flood risk to neighboring and downstream areas. A good example can be seen in the Hilo Bay soccer fields, which serves as a multi-purpose detention basin to reduce flood risk to the downtown Hilo community. The majority of the time the field is a frequently used soccer and recreation landmark to the community; however, during storm and flood events, floodwater is diverted to the field where it is temporarily detained, providing protection to downtown Hilo, the economic center for the County of Hawaii.

Additionally, the parks identified in this HEPA FFEIS are listed in the existing flood insurance rate maps as flood-prone areas. These areas would be impacted by storm water and debris with- or without-project. With-project they reduce the risk to the surrounding residential communities.

3. *These parks were placed under the City's jurisdiction specifically for park and recreational use and must be managed as such.*

RESPONSE: As mentioned in #2 above, these parks will continue to operate and function in its current use.

4. *The intrusion of infrastructures such as detention basins, berms, floodwalls, etc. would be inappropriate to the sites and would compromise the designed usage of the sites for the general public.*

RESPONSE: As mentioned in #2 above, the parks will continue to operate and function in its current use.
During the design phase of this project, updated modeling, engineering data, and community input will be used to refine or change the system features. Detention basins, berms, and floodwalls 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.

5. *Please consider and use alternate measures that will not impact park sites to the extent as proposed by this project.*

RESPONSE: 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 System delivers the level of risk reduction 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.

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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DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

LUD – 1 2 9 054 019 etc
Draft Feasibility EIS
Ala Wai Canal ID2456

September 29, 2015

Mr. Gayson Ching
Department of Land & Natural Resources
Engineering Division
State of Hawaii
P.O. Box 373
Honolulu, Hawaii 96809

'15 OCT 02 AM 10 54 ENGINEERING

Dear Mr. Ching:

Subject: Draft Feasibility Study Report with Integrated Environmental Impact Statement (EIS) for the Ala Wai Canal Project
Various TMKs – using TMK (1) 2-9-054: 019

We appreciate the opportunity to review the subject report and have the following comments to offer.

The subject project is located in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee. At this time, we have no objections since the project scope does not involve the treatment and disposal of domestic wastewater.

Should you have any questions please contact Mr. Mark Tomomitsu of our office at 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:lmj

c: Ms. Laura McIntyre, DOH-Environmental Planning Office (15-219), via email
Ms. Lisa Kettley, CH2M Hill

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
23 June 2017

ATTN: Sina Pruder
State of Hawaii, Department of Health
Wastewater Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. 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 will be appended to Appendix G in 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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- Hawaii State Library, McCully-Moiliili Library (2211 South King Street, Honolulu 96826)
- Hawaii State Library, Manoa Library (2716 Woodlawn Drive, Honolulu 96822)
-

The 30-day State and Agency review period officially runs May 26 through June 25, 2017. Unfortunately, due to an oversight in the distribution of responses, your response letter was delayed in delivery. As a result, should you choose to provide comments on the final draft, your comments will be accepted until July 25, 2017 by e-mail at alawaicanalproject@usace.army.mil, or mail (must be postmarked by July 25, 2017) at the address below:

U.S. Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

The final Chief's Report is anticipated to be issued by August 30, 2017.

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.

CONTACT INFORMATION

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

Name: M. Evan Tector

Address: 2547 Ipuleiwai
Honolulu HI 96816

Phone: (808) 255-3826

Email: ev@kevcom.com

Michael E. Tector

2547 Ipulei Way Honolulu, Hawai'I 96816
(808) 255-3826 ev@kevcom.com

September 30, 2015

To: The Army Corps of Engineers, Hawaii DLNR and State Officials

Re: The Ala Wai Canal Project (Palolo specific concerns)

Greetings Project Leaders and Participants,

Your plans are summarized as to deep in the watershed span the intermittent streams with limited flow berm structures to arrest flash floods and retard over-capacity flows to meter out water volume to reduce downstream confluence of peak flood waters further into the drain basin.

Several concerns of functionality, optimization, community impacts and improvement opportunities relating to the plan as described.

The location and design of the berms is questionable. I would like it examined in detail as to the optimal places in the streams to locate them in relation to topography, containment and relationship to house lots. What is the exact volume of water meant to be retarded at peak function of the berms and how much time will that buy downstream? It seems the flash flood capacity of these streams would quickly exceed the capacity of the berms and make the effect of the project almost useless.

Also, a drain pipe type design offers low functionality and would pose maintenance problems. Once the capacity of the drain was exceeded, water would back up behind the berms until overflow was achieved. If the pipe clogged in the full state, it would be very difficult, time consuming and perhaps dangerous to undo the clog. I ask the Corps to consider a key slot type berm that would allow progressively greater discharge as the waters rose, be less likely to clog and would permit top access for crews acting to relieve any clogs.

Regarding impacts, condemning lots in our small but vital neighborhood would reduce our rental inventory and potentially fiscally destabilize the trust that maintains the rental units. We ask that the housing availability not be impacted and that all access be done from La'i Rd. Lastly, please meet with us to discuss improvements to the stream bed (which is a real clog and flood threat), road improvements and possible park integration into the plans.

Mahalo for your time and considerations.

Michael E. Tector

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
23 June 2017

ATTN: Michael Tector
2547 Ipulei Way
Honolulu, Hawaii 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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. 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
- Concerns regarding the effectiveness of the debris and detention basins
- Concerns of affected landowners regarding real estate acquisition
- Operations, maintenance and public safety of the project features
- Concerns regarding construction access to the Pukele Debris and Detention Structure

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. Criteria considered is provided in Table 2 which includes the availability of land, the degree to which people or existing uses would be displaced and the consistency with applicable laws and regulations.

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

Backwater conditions have been calculated for all detention basins and given the open outlet, the basins are not designed to hold a specific static amount of water, but rather are designed as a dynamic system. 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. The effectiveness of the basins can be shown in both the estimated reduction in economic damages in the Palolo Valley (Section 8 of the FEIS), as well as the changes in flow (Section 5.5 of the FEIS).

Implementation of the recommended plan will require the acquisition of private property, including the tentatively planned access to the site off of La'I Road. The exact timing of land acquisition is unknown at this time. The Ala Wai Canal Flood Risk Management Study is only in the feasibility stage, and land acquisitions are contingent upon Congress authorizing and funding the project. Designs associated with the FEIS are developed to a 35% level adequately assess effectiveness, estimate costs, and consider environmental impacts. If approved, the elements 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, including any necessary amendments for public safety. The specific location and scale of project features may change as additional information is acquired from the site during the design phase. A property by property assessment will be conducted in coordination with the non-Federal sponsor after project authorization, if the project is authorized by Congress.

The process of acquiring property for a project is highly regulated. The Fifth Amendment of the Constitution states that private property shall not be taken for public use without just compensation. To address what constitutes just compensation, Congress passed the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 ("Uniform Act"). The non-federal sponsors will be required to follow the Uniform Act in acquiring any lands. USACE will work with the non-Federal sponsors to ensure the correct process and procedures are adhered to throughout the process.

Generally speaking the value of land acquired is the fair market value of the property. The fair market value includes many aspects of the property in question. Earning potential is one of those aspects to be addressed in developing a fair market value. Regardless of the value determined, Public Law 91-646 outlines the requirements that must be followed to ensure a homeowner/landowner is compensated justly.

Part of the process will be an appraisal, which determines the fair market value of the property. Fair market value is an estimate of the market value of a property based upon what a knowledgeable, willing, and unpressured buyer would pay. The appraisal will attempt to take all objective property features into account when determining fair market value. The fair market value is determined without consideration for the effect the project has had on the value of the land. For more information on the process for acquisitions please go to: http://www.fhwa.dot.gov/realestate

If constructed, ownership, operations and maintenance of the structure would be the responsibility of the non-Federal sponsor. 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.

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of the FEIS.

Unfortunately, the issues of road and park improvements are not topics addressed by the FEIS nor does USACE have the authorization to study that issue. For concerns regarding roads and parks, it is suggested that you contact the City-County of Honolulu.

Thank you for your interest in the study. Your written comments and this response will be appended to Appendix G in 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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U.S. Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

The final Chief's Report is anticipated to be issued by August 30, 2017.

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.

From the street level, the ~~stream~~ drain goes into the stream. Then, the water goes into the Ala Wai & raise the water level. And when its high tide, the water slowly flows into the ocean. Then, when a heavy rain in Waikiki, the drain system is very slow either going to the ocean or stream. The sea wall prevents the water from going into the Ala Wai. The drain pipes will be under water & the rain water in Waikiki cannot go into the Ala Wai.

CONTACT INFORMATION

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

Name: Roy Nakamura Phone: (808) 454-3548

Address: 4583 Kahala Ave 630 Email: _____

Hon HI 96821

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
23 June 2017

ATTN: Roy Nakamura
1583 Kalakaua Avenue, #630
Honolulu, Hawaii 96826

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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. 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:

- Interior flooding in drainage areas around Ala Wai Canal

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

Backwater flooding in the streets from the canal will be reduced through the use of flap gates at storm sewer outfalls entering the canal. These features are proposed to be installed along with the implementation of the floodwall. During flood events, the flap gates will prevent water from moving from the canal to the streets, however, flow from the streets to the canal will be reduced. Two pump stations have been integrated into the design to assist with draining such areas. The analysis related to the residual risk of flooding is included in Section 8.3 of the FEIS. While the pump stations will assist with interior drainage, local drainage improvements may be required to fully minimize backwater surfacing from storm sewers.

Thank you for your interest in the study. Your written comments and this response will be appended to Appendix G in the final FEIS. An electronic copy of this document is currently available to the public at the following location:

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- Hawaii State Library, Manoa Library (2716 Woodlawn Drive, Honolulu 96822)

The 30-day State and Agency review period officially runs May 26 through June 25, 2017. Unfortunately, due to an oversight in the distribution of responses, your response letter was delayed in delivery. As a result, should you choose to provide comments on the final draft, your comments will be accepted until July 25, 2017 by e-mail at alawaicanalproject@usace.army.mil, or mail (must be postmarked by July 25, 2017) at the address below:

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Building 230
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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.

I'd just like to share a couple of things I've Learned about Water along my way ~

1. Water seems to Be more "Happy" or "Content" to flow in a snake Like ~~~ fashion instead of our conducting water to go straight —— so may you find ways to Work WITH Water & it's fluid like way. If you let it Bend - it will Bend for you.

2. Hope you'll take a look at a Book called "Flowforms" — an amazing Book & how Water will work for us

Thank you.

Suzie Garrett

? What plans are Being made for Raw sewage issue that will show up?

3) Might we also have this again w. folk Leaning against this idea 'their suggestions

CONTACT INFORMATION

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

Name: SUZIE GARRETT

Address: 2023 LIME ST. #J
Honolulu Hi. 96826

Phone: (808) 946-7345

Email: @

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
23 June 2017

ATTN: Suzie Garrett
2023 Lime Street, #J
Honolulu, Hawaii 96826

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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. 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:

- Suggestions regarding the use of the physical properties of water, with suggested reading
- Request for additional public outreach
- Concerns regarding raw sewage in the Ala Wai watershed

Thank you for your suggestion regarding the use of the physical properties of water and geomorphology in the management of flooding and the watershed. The FEIS proposes just such an approach in the recommended plan. 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. Criteria considered is provided in Table 2 which includes the availability of land, the degree to which people or existing uses would be displaced and the consistency with applicable laws and regulations.

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
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- 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

Public involvement and agency coordination is summarized in Section 6 of the FEIS. Initial scoping of the EIS was conducted in 2004 with a supplemental scoping meeting conducted in 2008. Table 38 details public and agency coordination that has been undertaken since the re-scoping of the study in 2012. This includes over forty separate outreach measures. In addition, a public meeting to review the FEIS during the public review period was conducted in September 2015 along with multiple follow-up meetings with legislators, interested stakeholders and neighborhood commissions. No further public meetings are planned during the feasibility phase of the FEIS.

Unfortunately, the issue of water quality improvements and sanitary sewer overflows are not topics addressed by the FEIS nor does USACE have the authorization to study that issue. For concerns regarding water quality issues, it is suggested that you contact the State of Hawaii, Department of Health.

Thank you for your interest in the study. Your written comments and this response will be appended to Appendix G in the final FEIS. An electronic copy of this document is currently available to the public at the following location:

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U.S. Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

The final Chief's Report is anticipated to be issued by August 30, 2017.

From: Elizabeth Stone
To: Ala Wai Canal Project
Subject: [EXTERNAL] Ala Wai Project
Date: Tuesday, September 08, 2015 3:31:26 PM
Attachments: image001.png

Aloha,

I was wondering if you are able to share if the project will be put on by HECO or the city?

Mahalo,

Elizabeth

Elizabeth Stone | Account Executive
o 808.531.6087x104 | m 808.265.3493
735 Bishop St. Suite 401 | Honolulu, HI 96813

elizabeth@bennetgroup.com <mailto:%20elizabeth@bennetgroup.com> | Blockedwww.bennetgroup.com <Blockedhttp://www.bennetgroup.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
23 June 2017

ATTN: Elizabeth Stone
e-mail: elizabeth@bennetgroup.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. A recent meeting of the USACE Civil Works Review Board approved release of the proposed Chief's Report for State and Agency Review. The Chief's Report is to be accompanied by the final FEIS. This letter serves as notification of the availability of the Chief's Report and final FEIS for public review. Thank you for taking the time to review the draft FEIS and submit comments. It is noted that pertains to who will serve as the non-Federal sponsor for implementation. USACE will require a non-Federal sponsor to partner on the implementation of the project, if approved and authorized by Congress. No non-Federal entity has currently agreed to serve in that role, but may be identified at a future time.

Thank you for your interest in the study. Your written comments and this response will be appended to Appendix G in the final FEIS. An electronic copy of this document is currently available to the public at the following location:

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Appendix G10
Public and Agency Comments Received from Public Review of the Final Feasibility Report/EIS

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List of Public and Agency Comments Received during the Public Review period for the Final FEIS

AGENCY/ INDIVIDUAL
Lloyd Nakata
Sean Scanlan
Betty Berni
Manoa Shangri-La Community Association - Betty Berni
Ryan & Karyn Inouye
State of Hawaii Office of Planning - Leo Asuncion
City & County of Honolulu Department of Design & Construction - Robert Kroning
City & County of Honolulu Department of Planning & Permitting - Kathy Sokugawa
Iolani School - Timothy Cottrell
Craig Chun, Janice Mende & Peggy Kawano
City & County of Honolulu Department of Planning & Permitting - Mario Siu-Li
U.S. EPA Region IX - Kathleen Goforth
U.S. Coast Guard Sector Honolulu Waterways Management - Jason Olney
Roy Nakamura
U.S. Department of the Interior, Office of Environmental Policy and Compliance - Michaela Noble
State of Hawaii Department of Land and Natural Resources - Suzanne Case

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COMMENTS TO US ARMY CORPS OF ENGINEERS LETTER OF 02 MAY 2017,
ALA WAI FLOOD RISK MANAGEMENT STUDY, RESPONSE TO PUBLIC COMMENTS
RECEIVED FROM REVIEW OF DRAFT FEASIBILITY REPORT

Your letter of 02 May 2017 states "Calibration for the Waiakeakua sub-basin was performed for multiple storm events. This calibration 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."

My comments to the draft EIS showed that the Waiakeakua stream flow data is grossly understated for nearly all flow (rainfall) conditions. Moderate and higher stream flows are grossly understated/inaccurate because the existing flumes are deteriorated, undersized, and do not span the entire cross section of the stream. Therefore, any flow calibration based on the erroneous flow data from these existing flumes will also be grossly inaccurate/understated, and hence be meaningless. Low design flow rates for the streams will result in undersized detention basins and contribute to their premature overflow (prior to a 100-year storm). Your external peer review for the draft EIS does not reflect an awareness of the erroneous flow data for the Waiakeakua Stream.

Your letter of 02 May 2017 also states that "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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures. It is assumed that flood risk to areas downstream of debris and detention basins will be no greater than the future without project condition flood risk."

Your response (above) indicates that overtopping/overflow of the proposed Waiakeakua Stream detention basin berm will be fact-of-life occurrences. Therefore, the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property. As mentioned previously in comments to the draft EIS, the current proposed location of the Waiakeakua detention basin and its access road abuts and is 20 feet higher (or greater) than the adjacent homes in Manoa Shangri-la. Two homes are currently located a few feet away from the edge of the access road, and will be in the direct path of any overflow from the proposed detention basin. Such a danger does not currently exist for these Manoa Shangri-la homes based on current FEMA flood maps for a 100-year storm. In summary, the Waiakeakua detention basin proposed by the subject project will create a flood hazard which directly jeopardizes the lives, safety, and property of Manoa Shangri-la homes.

Therefore, the Waiakeakua Stream detention basin should be located elsewhere and be designed to minimize impacts to any nearby home and property.

Respectfully submitted,

Lloyd Nakata, 6/2/2017

Lloyd Nakata, P.E.
1717 Mott-Smith Drive, Apt. 1008
Honolulu, HI 96822

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From:	Dr. Sean Scanlan
To:	Ala Wai Canal Project
Subject:	[Non-DoD Source] comment on your response to my public comments
Date:	Thursday, June 8, 2017 12:18:39 PM

This is Sean Scanlan of 2625 Ipulei Pl., Honolulu, HI 96826.

I've read carefully through your response, and I still strongly object to your plans for the Pukele stream detention basin plans near my property. Basically, I think it will be a lot of money to build, a lot of money to maintain, someone's property condemned, and ineffective.

There are a dozen or so natural detention basins (pools, craters) that are already doing the job you're proposing. I'm here during the storms; I see how the water behaves. When there's a storm, the stream is essentially dry for several hours. As you'd guess, the upstream pools are filling at this point. Then suddenly a gush of water tears downstream and persists for hours.

If you're spending millions and condemning someone's property for a "100 year flood", why do you think another basin (like the natural ones upstream) will make a difference, especially if your basin is designed to overflow (and it easily will during a 100 year flood)?

If you are concerned about debris clogging the bridges, how about saving millions and dispatching excavators to sit on the bridges and clear debris AS it builds. According to your estimates, you'd only have to do that once or twice every 100 years. If that was done during the past storms, the UH library flooding and the River street flooding wouldn't have happened. But in classic style, the city did it in the days AFTER the damage was done.

I've heard from engineers that this is all an exercise; this project is essentially going forward regardless of what the public thinks. Please prove them wrong. I'm not asking for any other changes, just please reconsider this part of the project.

Mahalo.

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Betty Berni
3551 Waakaua Street
Honolulu, Hawaii 96822
808-988-5318

June 11, 2017

US Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

C17-138
RECEIVED JUN 16 2017

Re: Lloyd Nakata Letter Dated June 2, 2017

Gentlemen:

I am a resident of Manoa Shangri-La Community Association, a gated community of 15 homes at the end of Waakaua Street in Manoa Valley. I am deeply concerned about potential flooding under the current design of the detention basin berm at Waiakeakua Stream and the grossly understated data on which your study was based.

I concur with the information provided in the enclosed Lloyd Nakata letter to you dated June 2, 2017, and the potential flooding of the homes along Waakaua Street causes me great anxiety.

As Mr. Nakata stated in his letter, "... the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property....the Waiakeakua detention basin proposed by the subject project create a flood hazard that directly jeopardizes the lives, safety, and property of Manoa Shangri-La homes."

I appreciate your reviewing the stream flow data and moving the location of the berm to a safer area.

Cordially,

Betty Berni

Encl.

COMMENTS TO US ARMY CORPS OF ENGINEERS LETTER OF 02 MAY 2017,
ALA WAI FLOOD RISK MANAGEMENT STUDY, RESPONSE TO PUBLIC COMMENTS
RECEIVED FROM REVIEW OF DRAFT FEASIBILITY REPORT

Your letter of 02 May 2017 states "Calibration for the Waiakeakua sub-basin was performed for multiple storm events. This calibration 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."

My comments to the draft EIS showed that the Waiakeakua stream flow data is grossly understated for nearly all flow (rainfall) conditions. Moderate and higher stream flows are grossly understated/inaccurate because the existing flumes are deteriorated, undersized, and do not span the entire cross section of the stream. Therefore, any flow calibration based on the erroneous flow data from these existing flumes will also be grossly inaccurate/understated, and hence be meaningless. Low design flow rates for the streams will result in undersized detention basins and contribute to their premature overflow (prior to a 100-year storm). Your external peer review for the draft EIS does not reflect an awareness of the erroneous flow data for the Waiakeakua Stream.

Your letter of 02 May 2017 also states that "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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures. It is assumed that flood risk to areas downstream of debris and detention basins will be no greater than the future without project condition flood risk."

Your response (above) indicates that overtopping/overflow of the proposed Waiakeakua Stream detention basin berm will be fact-of-life occurrences. Therefore, the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property. As mentioned previously in comments to the draft EIS, the current proposed location of the Waiakeakua detention basin and its access road abuts and is 20 feet higher (or greater) than the adjacent homes in Manoa Shangri-la. Two homes are currently located a few feet away from the edge of the access road, and will be in the direct path of any overflow from the proposed detention basin. Such a danger does not currently exist for these Manoa Shangri-la homes based on current FEMA flood maps for a 100-year storm. In summary, the Waiakeakua detention basin proposed by the subject project will create a flood hazard which directly jeopardizes the lives, safety, and property of Manoa Shangri-la homes.

Therefore, the Waiakeakua Stream detention basin should be located elsewhere and be designed to minimize impacts to any nearby home and property.

Respectfully submitted,

Lloyd Nakata, 6/2/2017

Lloyd Nakata, P.E.
1717 Mott-Smith Drive, Apt. 1008
Honolulu, HI 96822

Manoa Shangri-La Community Association
3551 Waakaua Street
Honolulu, Hawaii 96822
808-988-5318

June 11, 2017

US Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

C17-139
RECEIVED JUN 16 2017

Re: Lloyd Nakata Letter Dated June 2, 2017

Gentlemen:

I am the president of Manoa Shangri-La Community Association, a gated community of 15 homes at the end of Waakaua Street in Manoa Valley. Our homeowners have expressed concern about potential flooding under the current design of the detention basin berm at Waiakeakua Stream and the grossly understated data on which your study was based.

We concur with the information provided in the enclosed Lloyd Nakata letter to you dated June 2, 2017 and the potential flooding of our homes along Waakaua Street causes us great anxiety.

As Mr. Nakata stated in his letter, "... the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property....the Waiakeakua detention basin proposed by the subject project create a flood hazard that directly jeopardizes the lives, safety, and property of Manoa Shangri-La homes."

We appreciate your reviewing the stream flow data and moving the location of the berm to a safer area.

Cordially,

Betty Berni, President,
Manoa Shangri-La Community Association

Encl.

COMMENTS TO US ARMY CORPS OF ENGINEERS LETTER OF 02 MAY 2017,
ALA WAI FLOOD RISK MANAGEMENT STUDY, RESPONSE TO PUBLIC COMMENTS
RECEIVED FROM REVIEW OF DRAFT FEASIBILITY REPORT

Your letter of 02 May 2017 states "Calibration for the Waiakeakua sub-basin was performed for multiple storm events. This calibration 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."

My comments to the draft EIS showed that the Waiakeakua stream flow data is grossly understated for nearly all flow (rainfall) conditions. Moderate and higher stream flows are grossly understated/inaccurate because the existing flumes are deteriorated, undersized, and do not span the entire cross section of the stream. Therefore, any flow calibration based on the erroneous flow data from these existing flumes will also be grossly inaccurate/understated, and hence be meaningless. Low design flow rates for the streams will result in undersized detention basins and contribute to their premature overflow (prior to a 100-year storm). Your external peer review for the draft EIS does not reflect an awareness of the erroneous flow data for the Waiakeakua Stream.

Your letter of 02 May 2017 also states that "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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures. It is assumed that flood risk to areas downstream of debris and detention basins will be no greater than the future without project condition flood risk."

Your response (above) indicates that overtopping/overflow of the proposed Waiakeakua Stream detention basin berm will be fact-of-life occurrences. Therefore, the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property. As mentioned previously in comments to the draft EIS, the current proposed location of the Waiakeakua detention basin and its access road abuts and is 20 feet higher (or greater) than the adjacent homes in Manoa Shangri-la. Two homes are currently located a few feet away from the edge of the access road, and will be in the direct path of any overflow from the proposed detention basin. Such a danger does not currently exist for these Manoa Shangri-la homes based on current FEMA flood maps for a 100-year storm. In summary, the Waiakeakua detention basin proposed by the subject project will create a flood hazard which directly jeopardizes the lives, safety, and property of Manoa Shangri-la homes.

Therefore, the Waiakeakua Stream detention basin should be located elsewhere and be designed to minimize impacts to any nearby home and property.

Respectfully submitted,

Lloyd Nakata, 6/2/2017

Lloyd Nakata, P.E.
1717 Mott-Smith Drive, Apt. 1008
Honolulu, HI 96822

RYAN & KARYN INOUYE
3569 Waakaua Street
Honolulu, Hawaii 96822
Ryan.I.Inouye@Gmail.com

June 13, 2017

US Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

C17-140
RECEIVED JUN 19 2017

Re: Lloyd Nakata Letter Dated June 2, 2017

Gentlemen:

We recently purchased the home located at the above-address, which is part of the Manoa Shangri-La Community Association. Our home is one of 15 homes at the end of Waakaua Street located in Manoa Valley which directly borders the Waiakeakua Stream. We are deeply concerned about potential flooding under the current design of the detention basin berm at Waiakeakua Stream and the grossly understated data on which your study was based.

We concur with the information provided in the enclosed letter to you from Lloyd Nakata, dated June 2, 2017, a copy of which enclosed for reference. More specifically, we are deeply concerned about the potential flooding of the homes along Waakaua Street, which would include our home.

As Mr. Nakata stated in his letter, "...the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property....the Waiakeakua detention basin proposed by the subject project create a flood hazard that directly jeopardizes the lives, safety, and property of Manoa Shangri-La homes."

We appreciate your reviewing the stream flow data and moving the location of the berm to a safer area.

Very truly yours,

RYAN INOUYE
KARYN INOUYE

Enclosure:
Letter from Lloyd Nakata, dated 6/2/17

COMMENTS TO US ARMY CORPS OF ENGINEERS LETTER OF 02 MAY 2017,
ALA WAI FLOOD RISK MANAGEMENT STUDY, RESPONSE TO PUBLIC COMMENTS
RECEIVED FROM REVIEW OF DRAFT FEASIBILITY REPORT

Your letter of 02 May 2017 states "Calibration for the Waiakeakua sub-basin was performed for multiple storm events. This calibration 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."

My comments to the draft EIS showed that the Waiakeakua stream flow data is grossly understated for nearly all flow (rainfall) conditions. Moderate and higher stream flows are grossly understated/inaccurate because the existing flumes are deteriorated, undersized, and do not span the entire cross section of the stream. Therefore, any flow calibration based on the erroneous flow data from these existing flumes will also be grossly inaccurate/understated, and hence be meaningless. Low design flow rates for the streams will result in undersized detention basins and contribute to their premature overflow (prior to a 100-year storm). Your external peer review for the draft EIS does not reflect an awareness of the erroneous flow data for the Waiakeakua Stream.

Your letter of 02 May 2017 also states that "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. Future design efforts will take these concerns into account and attempt to minimize future flood risk to downstream structures. It is assumed that flood risk to areas downstream of debris and detention basins will be no greater than the future without project condition flood risk."

Your response (above) indicates that overtopping/overflow of the proposed Waiakeakua Stream detention basin berm will be fact-of-life occurrences. Therefore, the proposed detention basin should be moved a sufficient distance away from nearby homes with provisions for drainage of all overflow back to the stream to prevent flooding of downstream homes and property. As mentioned previously in comments to the draft EIS, the current proposed location of the Waiakeakua detention basin and its access road abuts and is 20 feet higher (or greater) than the adjacent homes in Manoa Shangri-la. Two homes are currently located a few feet away from the edge of the access road, and will be in the direct path of any overflow from the proposed detention basin. Such a danger does not currently exist for these Manoa Shangri-la homes based on current FEMA flood maps for a 100-year storm. In summary, the Waiakeakua detention basin proposed by the subject project will create a flood hazard which directly jeopardizes the lives, safety, and property of Manoa Shangri-la homes.

Therefore, the Waiakeakua Stream detention basin should be located elsewhere and be designed to minimize impacts to any nearby home and property.

Respectfully submitted,

Lloyd Nakata, 6/2/2017

Lloyd Nakata, P.E.
1717 Mott-Smith Drive, Apt. 1008
Honolulu, HI 96822

OFFICE OF PLANNING
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-15640

June 20, 2017

C17-143
RECEIVED JUN 23 2017

U.S. Army Corps of Engineers
CEPOH-PP-C
Building 230
Fort Shafter, Hawaii 96858-5440

Attention: Ala Wai Canal

Subject: Ala Wai Canal Flood Risk Management Study, Feasibility Study with Integrated Environmental Impact Statement, Oahu, Hawaii
TMKs: (1) 2-9-054:019, 029, 034, 004, 002; (1) 2-9-055:009, 001; (1) 2-5-020:005, 008, 001; (1) 2-9-036:003; (1) 2-9-029:053; (1) 2-7-036:001; (1) 2-9-043:002; (1) 3-4-016:059; (1) 3-4-034:001, 008, 009; (1) 3-4-019:003 through 010, 052; (1) 2-8-029:011, 004; (1) 2-7-036:002; and (1) 2-9-067: 008 through 012, 015 through 017

Thank you for the opportunity to provide comments on this Feasibility Study and Environmental Impact Statement (EIS) on the Ala Wai Canal project. The Flood Risk Management Study agency comment request was transmitted to our office via letter dated May 2, 2017.

It is our understanding that the purpose of the project is to study and propose methods to reduce flood risk within the Ala Wai Watershed located in Honolulu, Island of Oahu. Flooding has occurred within the Ala Wai Watershed on multiple occasions, resulting in property damage, health, and safety risks. Analyses conducted in support of this project show that the one percent annual chance exceedance (ACE) floodplain extends over approximately 1,358 acres of land within the Ala Wai watershed. Computer flood hazard modeling results indicate the one percent ACE flood would result in damages to more than 3,000 structures, with over $1 billion in structural damages.

The Ala Wai Canal Flood Risk Management Study assesses the risk of flooding in this watershed, and describes a range of potential alternative plans formulated to reduce flood risk, with identification of a recommended plan for implementation. Five alternatives were evaluated in the feasibility study: Alternative 1 (Manoa Dam); Alternative 2 (Multiple Debris and Detention Basins in Developed Portion of Watershed); Alternative 3 (Multiple Debris and Detention Basins in Upper Watershed); Alternative 4 (Ala Wai Focus); Alternative 5 (Non-Structural). Of those, Alternative 3 is the preferred plan.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Section 5.6.2.2, pages 5-26 to 5-29 presents the preferred Plan (Alternative 3A-2.2), which calls for multiple debris and detention basins in the upper and lower reaches of the Ala Wai Watershed. The intent of the proposed upstream debris and detention basins is to protect lower elevations against flooding, limit downstream erosion, and reducing the suspended solids and contaminated runoff by temporarily retaining these pollutants at their source.

   The flood management measures found in Figure 12, pages 4-7 to 4-12, and Figure 18, page 5-36 show the locations where impaired streams will be restored. These higher elevation Ala Wai Watershed areas include: the Waihi Debris and Detention Basin; the Waiakeakua Debris and Detention Basin; the Woodlawn Ditch Detention Basin; the Manoa In-stream Debris Catchment System; the Kanewai Field Multi-Purpose Detention Basin; the Waiomao Debris and Detention Basin; the Pukele Debris and Detention Basin; the Makiki Debris and Detention Basin; and the Poelua Debris Catchment System.

   Furthermore, the lower Ala Wai Watershed detention basins at the Hausten Ditch, Ala Wai Golf Course Detention Basin, and the Manoa-Palolo Drainage Canal Flow walls may aid in the prevention of flood waters overwhelming the Moilili and Waikiki areas of Honolulu from waters of the Ala Wai Canal.

   These proposed debris and detention basins throughout the project area are consistent with low impact development, and may lead to improvements in water quality.

2. The following provided comments are provided relative to the provisions of Hawaii Revised Statutes (HRS) Chapter 343:

   a. Section 5.1, page 5-1 states that the State Department of Land and Natural Resources is required to comply with HRS Chapter 343. In order for the Final Feasibility Study Report and Integrated EIS (Final Report) to fulfill HRS Chapter 343 requirements, the Final Report must include an analysis on how the project meets State policies such as HRS § 205A-2, the objectives and policies of the Hawaii Coastal Zone Management (CZM) Program.

      The analysis on HRS § 205A-2 is required and is independent of the previous Coastal Zone Management Act Federal Consistency review, as cited in Table

39, Regulatory Compliance Status, pages 7-1 to 7-2, Federal Consistency Determination, Conditional Concurrence Letter, dated April 11, 2016.

HRS Chapter 205A-5(b) requires all state and county agencies to enforce the CZM objectives and policies. As the State Department of Land and Natural Resources is a co-sponsor of this project, their involvement would necessitate that this policy to be addressed in the Final Report.

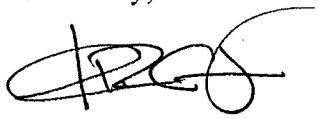
b. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-17(h) – the relationship of the proposed action to land use plans, policies and controls for the affected area; this project should consider the project's relevancy with the Hawaii State Planning Act, HRS Chapter 226. HRS Chapter 226 presents strategies on land use objectives and policies. It provides objectives, policies, and priority guidelines for growth, development, and the allocation of resources throughout the state and in areas of state interest. Therefore, the Final Report should establish how the proposed action is consistent with these land use policies, as well as the Hawaii State Planning Act's environmental, social, and economic guidelines.

   The analysis on the Hawaii State Planning Act should include a discussion on the project's ability to meet all of Part I – Overall Themes, Goals, Objectives and Policies, Part II – Planning Coordination and Implementation (State Functional Plans), and Part III – Priority Guidelines.

   The analysis should examine consistency with these statutes or clarify where it is in conflict with them. If any of these themes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekekia of our office at (808) 587-2845.

Sincerely,



Leo R. Asuncion
Director

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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

June 22, 2017

c17-145
RECEIVED JUN 28 2017

U.S. Army Corps of Engineers
Attn: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, HI 96858

Subject: Ala Wai Canal Flood Risk Management Feasibility Study and Integrated Environmental Impact Statement

To Whom It May Concern,

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comment at this time.

If there are any further questions, please contact me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director

RJK:ms(691138)

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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

2017/ELOG-1064(GT)

June 23, 2017

U.S. Army Corps of Engineers
Attention: Ala Wai Canal
CEPOH-PP-C
Building 230
Fort Shafter, Hawaii 96858

C17-144
RECEIVED JUN 28 2017

Dear Sir:

SUBJECT: Request for Comments
Ala Wai Canal Flood Risk Management Study
Feasibility Study with Integrated Environmental Impact Statement
Interim Final Report
National Environmental Policy Act
Chapter 343, Hawaii Revised Statutes

This is in response to your letter (received May 25, 2017), requesting comments on the above-mentioned Project. We have reviewed the information provided and offer the following comments:

1. Section ES-18 Required Permits and Environment Compliance.

   a. Special Management Area and Waikiki Special Districts permits are expected to be required for various projects.

   b. Although the Watershed project traverses through the Punchbowl and Diamond Head areas, Special District permits are not expected to be required for various projects.

   c. The Watershed project extends to the shoreline, however, Shoreline Variance permits are not anticipated at this time.

2. Section 1.7 Related Projects and Activities (Table 1) - The report does not mention the Waikiki Pre-Disaster Recovery Planning Project. Please consult with the National Disaster Preparedness Training Center at the University of Hawaii. A major concern is the large amount of debris from after a flood or disaster and where to place it. The recovery plan has identified several sites as debris management sites for sorting and reducing disaster debris. Three major sites have been identified as

Fort DeRussy, Ala Wai Golf Course, and Kapiolani Park for the Waikiki area. Coordination of the projects with these debris sites is recommended.

Should you have any questions, please contact Gerald Toyomura of our staff at 768-8056.

Very truly yours,

FOR Kathy K. Sokugawa
Acting Director

Doc 1475066

'IOLANI SCHOOL

June 23, 2017

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

RE: USACE and DLNR Response to Iolani School Comments Received from Review of the Draft Feasibility Report dated 02 May 2017

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") Response to 'Iolani School Comments Received from Review of the Draft Feasibility Report dated May 2, 2017.[1] We request that these comments and attachments be included in the administrative record.[2]

We further make note of our previous letter dated November 9, 2015 (attached).

While 'Iolani School understands the importance of flood risk management and appreciates the USACE and DLNR's efforts to mitigate flooding in the Project areas, we remain opposed to this project as currently proposed and we stand upon the concerns, technical analysis, and conclusions stated in our letter of November 9, 2015.

[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.

OUR REQUESTS

1. 'Iolani School requests a meeting with the USACE and DLNR to clarify our understanding of the process going forward, specifically requesting a timeline and outline detailing future activities. Please contact Reid Gushiken, 'Iolani School's Chief Financial Officer, at 943-2209 or rgushiken@iolani.org.

2. 'Iolani School requests representation/participation in the design phase as a concerned party directly impacted by this project and decisions made related to this project.

ADDITIONAL COMMENTS

'Iolani School submits these additional comments related to the *Ala Wai Canal Flood Risk Management Study, O'ahu, Hawai'i Feasibility Study with Integrated Environmental Impact Statement, Interim Final Report,* dated May 2017, and revised *Ala Wai Canal Project Feasibility Study Honolulu, Hawai'i, Existing Without-Project Hydraulic and With-Project Hydrologic and Hydraulic Appendix A2* in response to the U.S. Army Corps of Engineers (USACE) letter to 'Iolani School dated May 2, 2017

1) Storm surge was not included in the hydraulic analyses. See page 2-5. The reason that the storm surge was not included in the analyses is that the probability of storm surge and riverine flooding occurring simultaneously was considered low.

    a. Although the probability is low, coincident storm surge and riverine flooding should be analyzed so that the potential impacts could be evaluated. The results of the analysis would be used to prepare evacuation plans in case of a rare but possible event, reducing the risk to the students at 'Iolani School and Ala Wai Elementary.

2) The tentatively selected plan (TSP) is still Alternative 3A. Alternative 3A does not include floodwalls to protect 'Iolani School from flooding.

3) 'Iolani School remains in the 1-percent annual chance of exceedance (ACE) floodplain. See Figure 12b and page 5-79.

   a. The extent of flooding shown on Figure 12b does not correspond to the existing topography at 'Iolani School or immediately adjacent areas. Water stops arbitrarily along several buildings and the athletic field. There are no depressions or detention basins in this area.

   b. The elevations of the Ala Wai Golf Course and east bank of the Mānoa-Pālolo Drainage Canal are much higher than the elevations of 'Iolani School and Ala Wai Elementary. Both schools would be flooded before the golf course could act as an effective detention basin. The water surface elevation at the golf course would raise the floodwater elevation at both schools, exacerbating the flooding beyond that shown in the figure.

   c. The water surface elevation at the north floodwall appears to stay within the canal. Because the 'Iolani School elevation is lower than the golf course elevation, any floodwaters against the floodwall at the Ala Wai Canal and the Mānoa-Pālolo Drainage Canal confluence would flow onto the school campus.

4) The TSP will reduce flooding at 'Iolani School (from existing conditions) due to detention of upstream floodwaters in several detention basins, including the Ala Wai Golf Course multi-purpose detention basin. See page 8-8.

   a. It is unclear from the hydrologic and hydraulic analyses if reduced detention basin capacities due to sediment accumulation or poor operation and maintenance were considered.

b. A factor of safety should be included in the hydraulic analyses to account for infrequent or inadequate maintenance and to reflect real world conditions.

For the reasons stated above and in the attached letter dated November 9, 2015, 'Iolani School remains strongly opposed to this project as currently proposed. We do, however, continue to recognize the importance of flood risk management and appreciate your efforts to mitigate flooding in the Project areas. Accordingly, we are hopeful that we will be able to work collaboratively with you on a revised plan that will be in the best interest of all involved and look forward to the opportunity to do so.

Sincerely,

Timothy R. Cottrell
Head of School

'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

Date: June 25, 2017

From: Craig Chun*
7948 145th Ave. SE
Newcastle, WA 98059
*(please note the corrected address)

Janice Mende
698 Hahaione St.
Honolulu, HI 96825

Peggy Kawano
3450 Pinao St.
Honolulu, HI 96822

To: The U.S. Army Corps of Engineers

Subject: Public Response to the Ala Wai Canal Flood Risk Management Study

Dear Sirs-

Thank you for your response to our concerns about the Ala Wai Canal Flood Risk Management Study. This is in regards to the property at 3450 Pinao Street and the Manoa Stream Falls 7 Rehabilitation Concept (Sheet C-107, Sheet 10 of 14). From your response we have repeated your salient points below:

Response from the U.S. Army Corps of Engineers (USACE)

1) The intent of the USACE effort is not to address existing erosion problems, but to increase the viability of fish passage
2) The responsibility for protection of private property from stream bank erosion generally lies with the property owner
3) The reduction in slope is not expected to increase stream velocities and the vector of flow will be directed towards the existing pool at the site.
4) It is not anticipated that erosion potential will increase as a result of the construction of this feature.
5) Detention provided by basins upstream constructed in conjunction with the recommended plan will reduce peak flow velocities within the stream and further lower erosion potential during flood flows.

Response to the USACE

We understand your stated positions and would like to comment on them accordingly

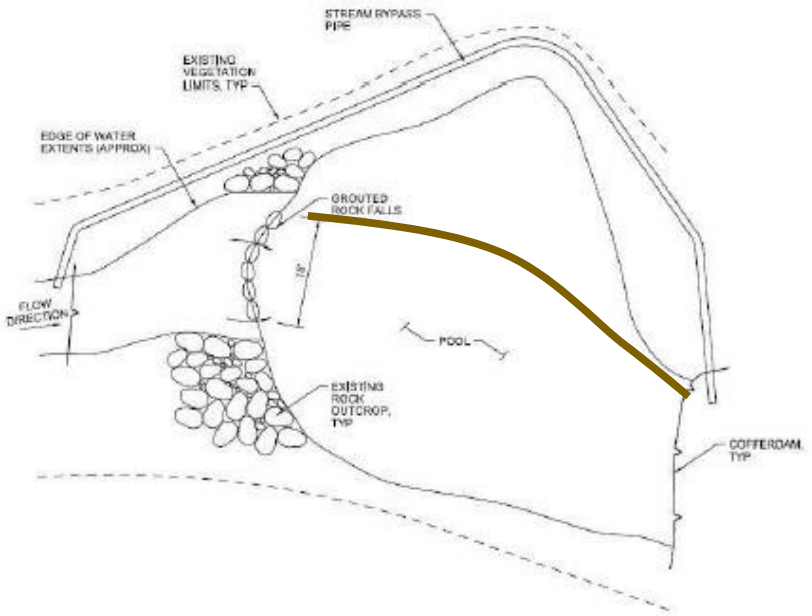
1) Although the intent of your effort is to increase the viability of fish passage, the Environmental Impact Assessment (EIA) by definition still needs to address the basic issue of erosion, regardless of who owns the property, because of erosion's effect on the environment as a whole.
2) Also, please note that because the proposed construction will be on the owners property (in particular Falls 7), it would be in the best interest of the USACE to consult with the homeowner directly during the planning stages to discuss design, build and maintenance of the proposed Falls 7 before construction begins. This would help improve the USACE's EIA purpose for Falls 7 and avoid any issues that may arise in the future due to unclear maintenance responsibilities or further property loss due to this new construction.
3) Since the current drawings are at a 10% Design (very early in the design process) it is hard to predict what the EIA effects will be downstream without future modelling as the design matures or as time passes and the Manoa Stream changes in character.

4) For example, the quoted “existing pool” at the Falls 7 site was never there to begin with (reference figure 1 inclusion on the original stream path) and was created by erosion presumably by manmade effects such as the existing open concrete culvert (Falls 7). Currently (over the past 5-10 years?) the stream is beginning to regain its original path and the land that had eroded is very slowly returning. If allowed to continue the “existing pool” will be removed or at least reduce in size. From the 10% Design Drawings, a bypass pipe will be built that follows the current eroded property line, not the original property line along the stream. This bypass pipe route will only reinforce the existing pool embankment and will not allow the eroded property to be naturally restored. This design may also cause an increased water flow along that path, thus increasing the probability of erosion to the property, than if the bypass pipe was not there at all.
   Past performance of maintenance along the older sections of the Manoa Stream (e.g. the Falls 7 erosion) is indicative of what is to be expected for future maintenance for Falls 7. So the bypass pipe should be expected to clog or corrode, fail, and allow water spillage and erosion along the bypass route. Thus rather than a bypass it becomes an artificial alternate (over pass?) path for the stream to flow, again reinforcing the existing pool to grow and leaving the property owner to try to “fix” this problem later down the road.
5) As this study progresses to a mature state where cost considerations become more important and reductions in the plan often occurs, build efforts upstream of the Falls 7 site should not be considered a given to reduce the upstream flow rates. I assume contingency efforts have already been built into the early design phases of this study to account for these inevitable occurrences. To that end the Falls 7 site should consider higher than expected flow velocities and varied stream vector directions to account for these variances in the current design and to mitigate these risk issues.

   We understand that this is but one small issue for the Ala Wai Canal Flood Project. And as such does not get much attention. But as the current Falls 7 design progresses and matures, it is in the best interest of all parties involved to be open about their concerns and try to proceed to a successful design solution. It is our intent to continue to communicate to that end. It is our hope that we can maintain this type of constructive dialogue with you in the near future.

Very Respectfully

Craig Chun
(Son-in-law to the property owner, Ms. Peggy Kawano)



PLAN
NTS

NOTE:
DIMENSIONS ARE APPROXIMATED BASED ON FIELD PHOTO.

SITE PHOTO
NTS

Original Stream shore line

Figure 1 – Falls 7 Original Stream shore line description
From Sheet C-107 Manoa Stream Falls 7 Rehabilitation Concept

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From: Toyomura, Gerald F.
To: Ala Wai Canal Project
Subject: [Non-DoD Source] FW: Ala Wai Canal Flood Risk Management Study - US Army Corps of Engineers
Date: Monday, June 26, 2017 3:56:02 PM

Dear Sir,

Our comments are as follows:

1. Consent from the City and County of Honolulu is required for the implementation of proposed flood risk management measures affecting City recreational facilities including Kanewai Community Park, Ala Wai Golf Course, Ala Wai Community Park, Ala Wai Promenade, Manoa Valley District Park, and Archie Baker Mini Park. The Department of Land and Natural Resources and the U.S. Army Corps of Engineers should consider initiating discussions with the City regarding impacts to City facilities.

2. Updated 1-percent annual chance floodplain information (Figures 16a and 16b) should be made available to the City and the Federal Emergency Management Agency (FEMA) for potential revisions to the Federal Flood Insurance Rate Maps. In order to reduce potential flood losses, the additionally identified flood areas should be subject to the City's flood hazard ordinance.

Thank you for the opportunity to comment.

Mario Siu-Li
Department of Planning & Permitting
Subdivision Branch
650 South King Street, 8th Floor
Honolulu, Hawaii 96813
Ph: 768-8098

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 26 2017

C17-146
RECEIVED JUL 03 2017

Ala Wai Canal Project
U.S. Army Corps of Engineers
Honolulu District
ATTN: Mr. Derek Chow
Chief, Civil and Public Works Branch
Building 230 (CEPOH-PP-C)
Fort Shafter, HI 96858-5440

Subject: Ala Wai Canal Project Final Feasibility Study with Integrated Environmental Impact Statement, Oahu, Hawaii [CEQ# 20170088]

Dear Mr. Chow:

The U.S. Environmental Protection Agency has reviewed the Final Feasibility Study with Integrated Environmental Impact Statement (FFS/EIS) for the Ala Wai Canal Project, Oahu, Hawaii. Our review and comments are pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The EPA reviewed the Draft Feasibility Study with Integrated Environmental Impact Statement (DFS/EIS) and provided comments to the U.S. Army Corps of Engineers on November 9, 2015. We rated the DFS/EIS as *Environmental Concerns – Insufficient Information* (EC-2) due primarily to concerns about potential impacts to aquatic resources, the presence of the endangered blackline Hawaiian damselfly within the project area, and potential dispersal of contaminated sediment. We requested further information on proposed maintenance of the detention basins; critical infrastructure remaining in the floodplain; and flood risk associated with tsunamis and hurricane storm surge. We also requested clarification of how some actions, such as improving the storm drainage system and routine dredging of the canal, could affect flood risk and water quality.

The FFS/EIS identifies Alternative 3A-2.2 as the Recommended Plan, and as the least environmentally damaging practicable alternative (LEDPA) for the project. Several features of Alternative 3A-2.2 were modified between the DFS/EIS and the FFS/EIS, as described in Table 16 (pgs. 3-39 to 40). Based on phone conversations with the Corps' Project Manager Michael Wyatt, it is EPA's understanding that the Corps determined, after incorporating updated hydrologic and hydraulic modeling results and ensuring that 35% design-level values were utilized, that several detention basins required additional storage capacity to meet storage goals. As described in the FFS/EIS, this would be accomplished by increasing excavation upstream of some detention basins (Waiomao, Pukele, and Ala Wai) or using higher earthen structures and longer berms to increase storage volumes (Waihi, Waiakeakua, Waiomao, Pukele, and Makiki), or a combination, thereof. Additional modifications proposed include the use of box culverts instead of arch culverts at three locations, resizing of arch culverts, and the addition of 150 linear feet of

rip-rap scour protection downstream of culverts at five detention basins (Waihi, Waiakeakua, Waiomao, Pukele, and Makiki).

Per the FFS/EIS, a formal jurisdictional determination of Waters of the U.S. has not yet been completed for the project area and the full extent of impacts to jurisdictional waters, including *Special Aquatic Sites*, is not yet known. Compensatory mitigation has been proposed for unavoidable impacts to aquatic resources using the Hawaii Stream Habitat Equivalency Procedure (HSHEP) Model to quantify the loss of habitat function, as described in Section 3.13. We understand that the U.S. Fish and Wildlife Service (FWS) has expressed concern that (1) the HSHEP model does not sufficiently consider the importance and unique riffle/pool and riparian ecological qualities of Waihi Stream and Waiakeakua Stream, and (2) the Corps' proposed mitigation would not offset expected project impacts to Resource Category 2 riffle/pool and riparian habitat. The FWS has recommended that the Corps restore riffle/pool and riparian habitat to adequately offset planned project construction-related impacts at a 3:1 ratio, and proposed restoration of 21.6 acres of such habitat to similar quality to that currently at Waihi and Waiakeakua streams (Final Fish and Wildlife Coordination Act Report, Appendix E7 – pp. 25 & 26). Pool and riffle sequences are *Special Aquatic Sites* under EPA's 404(b)(1) Guidelines because of their importance to the life stages of various aquatic organisms. Impacts to *Special Aquatic Sites* must be avoided or minimized to the extent practicable, and suitable mitigation must be provided for unavoidable impacts. For these reasons, the EPA supports the FWS' recommendations for offsetting any unavoidable impacts to pool-riffle habitat through restoration at a 3:1 ratio. Please keep EPA informed as to the status and implementation of the proposed mitigation. The EPA contact for this purpose is Rob Leidy, who can be reached at 415-972-3463 or Leidy.Robert@epa.gov.

Alternative 3A-2.2 would include approximately 150 linear feet of riprap scour protection added downstream of culverts at five debris and detention basins (Waihi, Waiakeakua, Waiomao, Pukele, and Makiki). Incorporation of riprap would result in additional impacts to *Special Aquatic Sites* (riffle and pool habitat) that must be avoided and minimized in accordance with Section 404(b)(1) Guidelines. We recommend that the Corps thoroughly evaluate Low Impact Development (LID) techniques as alternatives to riprap. The EPA document *National Management Measures to Control Nonpoint Source Pollution from Hydromodification*, specifically Chapter 7, provides information on bank stabilization techniques that can be used in place of, or in combination with, riprap.

During our review of the FFS/EIS, we noted discrepancies[1] between values in Table 16 and Table D-1 for the size (height and/or length) of the earthen dams and berms. On June 9, 2017, EPA staff discussed these discrepancies with Mr. Wyatt. He subsequently confirmed that the dimensions in Table D-1 are correct -- except for the height of the berms at Kanewai Field Multi-Purpose Detention Basin, which should be 9 feet high instead of 7 feet – and the values in Table 16 that differ from those in Table D-1 are erroneous. We understand that the Corps is currently preparing an Errata Sheet that will correct such errors in the following tables: Table ES-2, Table 16, Table 18, Appendix D – Table D-1, and Appendix E3 – Table 1.

The design modifications described in the FFS/EIS would result in greater impacts to aquatic resources than were predicted in the DFS/EIS. Per Table 19, the length of stream to be disturbed has increased

[1] For example, consider the Waihi Debris and Detention Basin. Values range from 24 feet high and 225 feet across (DFS/EIS); 37 feet high and 225 feet across (FFS/EIS – Table 16); and 42 feet high and 477 feet across (FFS/EIS – Table D-1).

(1,638 to 3,503 ft), as has the amount of excavated material (2,000 to 57,487 yd^3) and the amount of fill (1,234 yd^3 to 5 acres [3,734 yd^3] – Appendix E3 – Table 3). During our review, we noted discrepancies in the estimates of discharge and fill between values in Table 19 and those in Appendix E3 – Table 3. EPA staff discussed these issues with Mr. Wyatt on June 13, 2017, and we understand that errors in Table 19 will also be addressed in an Errata Sheet. In addition, we found incorrect references to Table 17 (which should be Table 18) throughout the FFS/EIS, and errors in Table 20 and Table 21, all of which were also conveyed to Mr. Wyatt. We appreciate the spirit of collaboration and responsiveness exhibited by Mr. Wyatt throughout our review.

Thank you for the Corps' attention to these important details and the opportunity to review and comment on this FFS/EIS. We are available to discuss the recommendations provided. When the Record of Decision is released for public review, please send one hard copy and one CD to the address above (Mail Code: ENF 4-2). Should you have any questions, please contact me at (415) 972-3521, or contact Ann McPherson, the lead reviewer for the project. Ann can be reached at (415) 972-3545 or mcpherson.ann@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

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From:	Olney, Jason R BMC
To:	Ala Wai Canal-chiefs-report
Cc:	Samuel, Rachelle N CDR; Jarboe, Nicolas A LCDR
Subject:	USCG Sector Honolulu Waterways Management Review of ACOE Project: Ala Wai Canal Flood Risk Management Study, Oahu, Hawaii
Date:	Monday, June 26, 2017 12:14:27 PM

Good Afternoon ACOE Planning and Policy Division,

After reviewing your plans sent to the Sector Honolulu Commanding Officer dated May 24, 2017, we have determined that your proposed Ala Wai Canal Flood Risk Management Study to reduce flood risks by improving the flood warning system, and constructing six in-stream debris and detention basins in the upper reaches of Makiki, Manoa and Palolo streams, Oahu will not pose any waterway impacts. Thank you!

Very Respectfully,

BMC Jason Olney
U.S. Coast Guard Sector Honolulu
Waterways Management
433 Ala Moana Blvd.
Honolulu, HI 96813
jason.r.olney@uscg.mil
Work: (808) 522-8265
Cell:(808) 673-1986

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C17-147
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TO: WHOM IT MAY CONCERN NO BRIGDE

① IN 1924 WHEN DILLINGHAM CORPORATION DREDGE THE ALA WAI CANAL TO CREATE WAIKIKI HOTELS HAVE CAUSE THIS MASSIVE PROMBLEM TODAY. AND SHOULD BE HELD ACCOUNTABLE FOR CLEANING AND DREDGING THE ALA WAI CANAL EVERY YEAR WITH THERE OWN MONEY.

② HURRICANE DARBY MUST BE REMEMBER FOREVER FOR THE DAMAGE IT DID TO MIDDLE ST, SAND ISLAND AREA AND DILLINGHAM BLVD AND OTHERS PLACES IN THAT FLOOD RISK ZONE. THE BRIDGE WAS THE PROBLEM.

③ THE ALA WAI SHOULD BE CLEARED AT ALL TIMES FOR HEAVY RAIN TO FLOW OUT INTO THE OCEAN.

④ AFTER A HEAVY RAIN YOU WILL FIND MUD AND TREES BRANCHES WITH OTHERS DEBRIES UNDER THE MUD. THAT WILL CAUSE THE AREA TO BE SHALLOW. AND KEEP THAT AREA FOR CLEANING.

⑤ THE ALA WAI ONCE WAS 30 FEET DEEP OR MORE AND IN MODERN TIME WE NEED TO HAVE IT CONCRETED ON THE BOTTOM FOR PUMPING THE MUD OUT

⑥ WE NEED A STEADY FLOW OF WATER TO KEEP THE ALA WAI CLEAN.

⑦ THE POLLUTED WATER IS KILLING THE REEF OUTSIDE THE ALA WAI.

⑧ DEVELOPEMENTS HAVE CAUSE ALL THESE PROBLEMS. WHY NOT THE HOTEL INDUSTRIES PAY FOR THE ALA WAI FUTURE.

⑨ THE TAXPAYERS PAID ENOUGH MONEY FOR DEVELOPEMENTS FOOLISHNESS FOR GREED FOR MONEY.

⑩ BEFORE THE DREDGING OF THE ALA WAI NATURE HAVE PROVIDED A NATURAL FLOW INTO THE OCEAN. WE WOULD NOT BE IN THIS MESS TODAY BY CHANGING THE COURSE OF WATER FLOW AND ADDING BRIDGE OR BRIDGES. WE ALL SHOULD THINK WISELEY FOREVER IN THE FUTURE FOR HAWAII.

ROY NAKAMURA
1583 KALAKAUA AVE #630
HON HI 96826

C.C.

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United States Department of the Interior

Office of the Secretary
Office of Environmental Policy and Compliance
1849 C Street, NW - MS 5538 - MIB
Washington, D.C. 20240

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Theodore A. Brown, P.E.
Chief, Planning and Policy Division
Directorate of Civil Works
U.S. Army Corps of Engineers
CECW-P (SA)
7701 Telegraph Road
Alexandria, VA 22315-3860

Re: Ala Wai Canal Flood Risk Management Project – Draft Chief of Engineers Report and Final Environmental Impact Statement

Dear Mr. Brown:

The Department of the Interior (Department) has reviewed the Draft Chief of Engineers' Report (Chief's Report) and the Final Environmental Impact Statement (FEIS) for the Ala Wai Canal Flood Risk Management Study, Oahu, Hawaii. The U.S. Army Corps of Engineers (USACE) has worked with the U.S. Fish and Wildlife Service (USFWS) throughout the development of the project and we thank USACE for an additional opportunity to provide comments. We submit the following comments for the USACE consideration as it moves forward with finalizing the documents. The Department's comments pertain to the project's potential impacts to the unique riffle and pool habitat and riparian habitat, which support the federally listed blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatu.* For the reasons described below, the Department requests that the USACE relocate the proposed debris and detention basins downstream or, if not possible, to provide mitigation for the loss of unique habitat that supports the federally listed blackline Hawaiian damselfly.

This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401], as amended (NEPA) the Clean Water Act of 1977 [33 USC 1251 *et seq.*; 91 Stat. 1566], as amended; the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 U.S.C. 1531 *et seq.;* 87 Stat. 884], as amended (ESA), and other authorities mandating the Department's concern for environmental values.

The USACE's recommended plan calls for the construction of six in-stream debris and detention basins to be constructed at various reaches within the Ala Wai Canal Watershed. Along the Waihi and Waiakeakua streams, the USFWS has documented unique riffle and pool habitat and riparian habitat that supports specialized ecological functions, such as recruitment, forage and shelter habitat from predators, for the federally listed blackline Hawaiian damselfly. The construction of the debris and detention basins at Waihi stream and Waiakeakua stream will

result in unavoidable impacts and the permanent loss of riffle and pool habitat and riparian habitat.

Waihi and Waiakaekua streams are located in the upper Ala Wai watershed, above the influence of the residential communities, where suitable habitat for damselflies remains unmodified by human development. However, in the lower reaches of Manoa stream, damselflies are no longer observed due to habitat modifications and contaminated stream sediments.

The USACE has relied upon the Hawaii Stream Habitat Evaluation Procedure (HSHEP), developed by Dr. Jim Parham, to evaluate the project's potential environmental impacts to stream ecological units and to identify mitigation to offset those impacts. The HSHEP was certified for single-use approval by the USACE in 2015 for its use in the Ala Wai Flood Management Study. The HSHEP model does account for a wide range of fish and wildlife resources and artificial structures; however, the model does not distinguish the unique riparian and riffle and pool habitat important to the survival of the federally listed blackline Hawaiian damselfly, because it was completed prior to the discovery of the damselfly populations along these two streams and was not updated once this unique habitat was discovered.

At the request of the USACE, the USFWS undertook the Fish and Wildlife Coordination Act (FWCA) evaluation of the project and identified damselflies within the project area during field observations on July 28, 2015. Once the damselflies were identified, USFWS contacted the USACE project manager and followed up with an email correspondence. The USFWS further described the specialized ecological functions associated with riparian and riffle and pool habitat at Waihi and Waiakeakua streams that support blackline damselflies in the Draft FWCA Report (December 1, 2015) and Final FWCA Report (October 31, 2016). The HSHEP was conducted prior to July 28, 2015 and does not account for resources at Waihi stream and Waiakeakua stream in terms of habitat contributions to the survival of blackline Hawaiian damselflies, and therefore, the model does not accurately describe the totality of the project's environmental impacts.

The Department has evaluated planned project design construction limits associated with the debris and detention basins for the Waihi and Waiakeakua streams. Based on information received from the USACE, we have determined that approximately 111,070 square feet of unique stream and riparian habitat that supports blackline Hawaiian damselflies will be permanently lost at Waihi Stream. Also, based on USACE information, we have determined that 202,960 square feet of similar quality habitat will be lost at Waiakeakua stream.

The USACE has proposed the removal of Falls 7 and 8 at Manoa Stream to mitigate the project's environmental impacts, based on information from the HSHEP. As noted in the draft Chief's Report, the USACE believes that "unavoidable environmental impacts would be fully compensated for by modifying two existing in-stream structures to eliminate migratory passage barriers for native aquatic species." Falls 7 and 8 are located down-stream of the confluence of Waihi stream and Waiakeakua stream, adjacent to residential properties, in the Manoa Stream. While the removal of Falls 7 and 8 would likely benefit native gobies by removing migratory barriers, there would be no direct or indirect benefit to the federally listed blackline Hawaiian damselfly. As noted above, habitat modifications have resulted in the loss of riparian habitat and riffle and pool habitat and the presence of contaminated stream sediments make Manoa unsuitable for damselflies. Therefore, the Department finds that the USACE's proposal would

not replace project-related losses of unique habitat resources associated with Waihi stream and Waiakeakua stream.

Given the project's impact on the unique habitat that supports the federally listed blackline Hawaiian damselfly, the Department continues to support USFWS' request, made to the USACE on December 1, 2015, that the USACE evaluate an alternative to relocate the debris and detention basin downstream. Moving the basin downstream should still meet the project goals for flood protection but would minimize the project's limits of disturbance and would minimize the impact to the riffle and pool habitat and riparian habitat that supports the federally listed blackline Hawaiian damselfly.

If this alternative is not possible, the Department requests that the USACE provide mitigation that addresses the unavoidable loss of approximately 314,030 square feet of riffle and pool habitat and riparian habitat that supports the federally listed blackline Hawaiian damselfly. We recommend that the USACE coordinate with the USFWS to develop an appropriate plan. The Department requests that loss of this unique habitat be identified and further coordination and collaboration between USACE and USFWS on a potential mitigation plan be committed to in the Record of Decision (ROD) for the FEIS and reflected in the draft Chief's Report. USACE and USFWS have coordinated throughout the project development and we look forward to further coordination efforts.

We appreciate the opportunity to provide input on the proposed project. If you have questions regarding the report, please contact the USFWS, either Kevin Foster at kevin_b_foster@fws.gov or 808-792-9420 or Dan Polhemus, Aquatic Ecosystem Conservation Program Coordinator, at Dan_Polhemus@fws.gov or 808-792-9400.

Sincerely,

Michaela E. Noble
Director
Office of Environmental Policy and Compliance

Electronic distribution: ala-wai-canal-chiefs@usace.army.mil

cc: Janet Whitlock, REO San Francisco, janet_whitlock@ios.doi.gov
Kevin Foster, USFWS, kevin_b_foster@fws.gov
Kristi Young, USFWS, kristi_young@fws.gov
Dan Polhemus, USFWS, dan_polhemus@fws.gov
Derek Chow, USACE: derek.j.chow@usace.army.mil
Jeff Strahan, USACE: jeffrey.p.strahan@usace.army.mil
Glenn Higashi, DAR, glenn.r.higashi@hawaii.gov
Gerry Davis, NOAA, gerry.davis@noaa.gov
Lance Smith, NOAA, lance.smith@noaa.gov
Ann McPherson, EPA, mcpherson.ann@epa.gov

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DAVID Y. IGE
GOVERNOR OF HAWAII

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

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
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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

JUL 1 1 2017

Mr. Theodore A. Brown, P.E.
Chief, Planning and Policy Division
Headquarters
U. S. Army Corps of Engineers
CECW-P (SA)
7701 Telegraph Road
Alexandria, Virginia 22315-3860

Dear Mr. Brown:

Ala Wai Canal Flood Risk Management Study, Oahu, Hawaii

In response to your letter, dated May 24, 2017, we offer the following:

1. We acknowledge Public Law 78-534 (as amended by Public Law 104-303) pertaining to coordination procedures on water resources reports and Public Law 85-624 pertaining to fish and wildlife.

2. We have no additional comments on the Ala Wai Canal Flood Risk Management Study, Oahu, Hawaii, Final Feasibility Study Report with Integrated EIS.

3. We accept the proposed report of the Chief of Engineers as-is and acknowledge it can be transmitted to the Secretary of the Army.

We look forward to continue working with the U. S. Army Corps of Engineers on the next phases of the project. If you have any questions, please contact Mr. Carty Chang, Chief Engineer of Engineering Division in Honolulu, at (808) 587-0230.

Sincerely,

SUZANNE D. CASE
Chairperson