

Ala Wai Watershed Project

Quarterly Stakeholder Meeting

DATE: December 4, 2009

ATTENDEES: See attached table

1. Introduction

Lisa Kettley started the meeting with a description of the meeting purpose, which was (1) to provide an update to the stakeholders on the status of the project, (2) to learn from the stakeholders about other activities occurring in the watershed, and (3) to present and seek input/feedback on the results of the revised floodplain mapping recently completed by the U.S. Army Corps of Engineers (USACE).

2. Project Overview

Lisa then reminded the group that the project goal is to improve the overall quality of the Ala Wai watershed, from the crest of the Ko`olau Mountains to the nearshore waters, while minimizing the risk of flood damages to the public. The primary planning objectives are flood risk management and ecosystem restoration; the secondary objectives are water quality, water supply, infrastructure maintenance, recreation and stakeholder involvement. She reminded the group that the primary objectives are those that are within the USACE's authority and will be comprehensively addressed by the project. She explained that although they are generally not within the purview of the USACE, the secondary objectives are important components of a holistic watershed plan, and as such, the project team will be actively seeking the participation of other entities who can address these objectives. She explained that the upcoming deliverable that is currently being prepared is a Feasibility Scoping Meeting Report (FSMR), which will include a description of the planning objectives, baseline and future without-project conditions, conceptual measures, and methodology for the alternatives formulation and screening process. The FSMR is expected to be completed in the spring. Alternatives formulation will occur in the next project phase, which is expected to occur next year.

3. Project Update

Lisa then provided the group with an update on recent and ongoing project activities, presented according to the specific planning objectives. Starting with flood risk management, she explained that the USACE and the hydrology and hydraulics (H&H) technical advisory team (TAT) were in the process of finalizing the sub-objectives (detailed statements to further clarify the objective) and associated metrics (used to evaluate how effectively an alternative is addressing each objective), which will include considerations of riverine flooding, sheet flow flooding (from hillsides), ocean storm events, and climate change/sea level rise. She noted that the revised hydraulic mapping for the existing conditions was recently completed, and would be discussed in detail during the second half of the meeting.

Relative to the ecosystem restoration objective, Lisa explained that the specific sub-objectives and metrics had been established in coordination with the ecosystem restoration TAT. Based on the identified metrics, the TAT has identified an ecosystem valuation model for use in quantifying the

change in habitat value for the different alternatives. The model recommended for use is the habitat assessment component of the Hawaii Stream Bioassessment Protocol (HSBP), developed by Mike Kido at UH. Moving forward, the next steps will be (1) to make minor modifications to the model to reflect the project sub-objectives, and (2) to implement the model to quantify the habitat values for the baseline and future without project conditions; these activities would occur in the next phase. For the purposes of the FSMR, the existing conditions will include a summary of the previous results obtained using the HSBP within the watershed.

With respect to water quality, Lisa explained that in coordination with the water quality TAT, the project team had identified sub-objectives and metrics, based upon which, the USACE will be modeling the baseline and future without-project water quality conditions using WARMf. She reminded the group that ENV had contributed funds to conduct water quality sampling specifically for termiticides. She stated that CH2M HILL had submitted the draft sampling plan for review, and was expecting to conduct the sampling effort as part of the next phase (likely in late winter). The intent of the sampling effort is to obtain data that will help guide the development of measures (e.g., best management practices [BMPs]).

Lisa explained that sub-objectives had also been identified for the stakeholder involvement objective, in coordination with the stakeholder involvement TAT. She reminded the group that Townscape is the lead for this component of the project, and stated that they had recently completed a Stakeholder Assessment. The purpose of the assessment is to focus the stakeholder involvement plan and ensure that all the relevant parties are involved in the project process, in order to ensure a reasonable understanding of issues and concerns, and improve project development.

Lisa then provided an update on the other project objectives, including water supply, recreation and infrastructure maintenance. She stated that a water supply assessment, based on a review of existing literature, had been submitted to the USACE for review. Similarly, a recreation assessment is in the final stages of completion. With respect to the infrastructure maintenance objective, the project team is working to coordinate with the relevant agency staff.

Lisa then provided an update on a number of different watershed-scale assessments. She stated that the following assessments have been completed: (1) hazardous, toxic and radioactive waste (HTRW) assessment, (2) geotechnical assessment, (3) stakeholder assessment, (4) historic properties, and (5) water supply assessment. The remaining assessments, which are all in the process of being completed, include a natural resources assessment, cultural resources assessment, and coastal resources assessment. She reminded the group that the purpose of these assessments are to provide screening-level information (as there are not yet specific project locations identified) to help inform the alternatives development and evaluation effort, and that more detailed assessments would be conducted as part of the EIS, once the specific project locations are identified.

Lisa then completed the summary of the project status by providing an overview of the path forward. She explained that the resource assessments and modeling efforts will be completed, and conceptual measures will be identified for inclusion in the FSMR, which is expected to be completed in the spring. She explained the next phase will be detailed alternatives formulation (expected to occur next year), with the draft/final Feasibility Report and EIS expected in 2011/2012, respectively.

4. Update on Associated Projects

Lisa then asked for the meeting attendees to provide an update on any relevant activities or projects within the watershed. The updates included:

- Danielle Jayawardene (NOAA) explained that she is currently involved with the review of beach restoration projects in Waikiki, as well as supporting other coastal research.

- Risa Minato (Hawaii Coral Reef Initiative [HCRI]) stated that the HCRI board is currently evaluating where to focus the next round of funding, and is considering the Waikiki area. She is conducting a review of past and ongoing coastal research to support this effort.
- Cindy noted that HCRI is funding an intern at the USACE to assist with tasks related to coral reef and ecosystem restoration. She also stated that she is currently working on increasing the project budget, and is trying to capitalize on the in-kind services that have been provided by DLNR and City & County staff. She asked the group to provide her with information related to any relevant reports or studies that are either ongoing or completed since 2001.
- Chris Ball explained that Mitsunaga and Associates has been contracted by DLNR to investigate the potential use of the golf course for detention. He explained that Mitsunaga is working on the preliminary engineering report and potential layouts.
- Dolan Eversole explained that he works with UH SeaGrant, but is also a technical advisor to DLNR. He provided a summary of several recent and ongoing activities in the watershed, including (1) recently completed (2006) and upcoming (estimated for 2011) beach restoration efforts, (2) preparation of a climate change impact report by SeaGrant, (3) a potential seawater cooling project (and associated flushing) for Waikiki, and (4) a coral restoration project (“Aquarium Without Walls”) funded by DLNR, Waikiki Aquarium, UH and the Castle Foundation.
- Stuart Coleman explained that he is the Hawaii coordinator for the Surfrider Foundation. He stated that in response to the recent sewage spill in the Canal, Surfrider Foundation started a wastewater spill response group to assist with similar events in the future. In addition, he explained that they are working on initiatives to restore coastal wetlands and create opportunities for detention of stormwater on the golf course.
- Jimmy Lagunero (UH) noted that he was involved in response activities the previous night in response to heavy rains and limited flooding in the vicinity of the parking structure at UH. He also noted that there are ongoing issues with mold in Hamilton Library as a result of the previous flooding.
- Marvin Fukugawa (City & County DPP) stated that DPP is currently updating the stormdrain standards, with a draft expected next year. He explained that the updates will address both flooding and water quality, and may potentially include low impact development (LID).
- Dennis Imada (DLNR Engineering Division) provided an update on the Woodlawn Bridge chute structure, noting that RM Towill was working on the design, which was expected to be complete by November 2010. He explained that FEMA had decided to delay construction until NEPA compliance had been granted for the Ala Wai Watershed Project.
- Eric Crispin (UH) explained that funding had been requested to complete a campus-wide drainage master plan for the UH campus. He expected the funding would become available in July 2010.

5. Discussion of Revised Floodplain Mapping

Michael Wong then presented the results of the revised floodplain mapping to the group. He started by explaining some of the challenges that were faced during the mapping effort, including varying channel widths and depths, presence of dense vegetation cover, structures covering the stream (e.g., walkways), and addition of new walls on top of the originally-designed flood walls. With respect to the addition of new walls, he explained that it was unclear whether these are permitted structures

and whether they are structurally reinforced such that they would adequately function as flood walls. He noted that USACE will need to work with City & County staff to determine the status of these structures. If it is determined that they are not structurally sound, then the model will need to be adjusted accordingly (the model currently assumes all of the existing structures would function as floodwalls). He noted that these changes could increase the extent of the floodplain. Michael noted that there are areas with hydrologic input from stormdrains and/or groundwater (e.g., along Makiki Stream near King Street).

Michael explained that the revised map did not show an associated floodplain for some stream reaches, such as those in lower Makiki, because these reaches are located underground. Jimmy asked about responsibility for inspecting and maintaining these reaches. Michael stated that he assumes that the underground reaches are privately owned, with the exception of those in City-owned streets (e.g., between Beretania and King Streets). Marvin agreed with this statement.

Dudley asked about the specific capacities of the various stream reaches. Michael explained that he would need to obtain the details from the model; he noted they are not grossly undersized, but many issues are associated with sharp bends and underground sections. Dudley asked about the strategy for flood risk management solutions (e.g., bypass channels vs. detention). Michael notes that the focus for the solutions would likely be detaining flood waters in the upper watershed.

Dolan asked if the floodplain mapping indicated the associated water depths. Michael explained that the depths were not shown on the maps, but the information is included in the model results and can be portrayed on a map. Dolan noted that the depths would likely affect the adaptation response.

Michael then provided an overview of the specific model attributes. Specifically, he noted that the model had been modified to represent the shoreline as a lateral structure, thus allowing water to flow to the ocean (rather than forcing it to all flow through the mouth of the Ala Wai). He explained that this significantly changed the extent of flooding around the mouth of the Canal. Sharon asked if the model included flooding from the ocean (e.g., wave run-up). Michael explained that the model currently does not include wave run-up as it is assumed the probability of coincident events is low, but USACE will be confirming that this assumption is sound. Jimmy asked if the results of the recent hurricane modeling would be incorporated. Michael stated that historically hurricane events have not been coincident with flooding and so would not be modeled, but the USACE will also be confirming this assumption. Cindy noted that even if hurricane events are not incorporated into the model, the report would still include a description of the hurricane modeling results. Michael noted that tsunami events would not be considered in the modeling as frequency analyses are required for the USACE's risk and uncertainty analysis, and this information cannot be generated for tsunamis. Michael also explained that the model accounts for rainfall occurring over the entire watershed, but noted that the hydrology data needs to be compared against the newly updated NOAA rainfall data.

Dolan asked how the revised floodplain map relates to FEMA's FIRM maps. Michael explained that there is currently no tie between the two maps. He explained that the USACE floodplain map is currently only for USACE purposes to guide project development, and it would be up to the City & County to decide if they want to pursue an update to the FEMA FIRM maps. Updates to the FIRM maps typically require 1-2 years, and include a public review process. Cindy noted that in many cases, the local jurisdiction will choose to pursue a FIRM map update after the flood risk management projects have been implemented. Gene stated that the USACE map is a valuable tool for landowners to identify early implementation measures (e.g., purchasing flood insurance), and it would be useful for these ideas to be widely publicized.

Tom Heinrich asked if the model accounts for "side events", such as what occurred at Woodlawn Bridge during the 2004 flood. Cindy noted that events caused by debris jams, sediment bulking, etc. are

not accounted for in the model, but will be incorporated for the modeling of future without-project conditions.

Michael noted that the USACE now requires three climate change scenarios to be considered for the modeling of future without-project conditions, and USACE was working to define those scenarios (including changes in sea-level rise, precipitation, land use patterns, etc.). However, he explained that the model had been run for randomly selected changes in sea-level rise and increased precipitation, just to get an idea of the potential degree of change. He showed the group the modeling results for changes in water surface elevation along the length of the Canal, but emphasized that the details for the three scenarios still need to be determined. Dolan noted that there is still a lot of uncertainty about future changes in precipitation frequency and intensity, and stated that CWRM has indicated an interest in funding research on precipitation changes relative to water supply issues. He emphasized the need for local modeling efforts, as opposed to relying on mainland-based models.

Michael stated that the next steps will be for USACE to provide the revised mapping and associated report to the sponsoring and cooperating agencies within the next week for their review and comment. He noted that the issue related to the flood walls along Makiki Stream would be identified as part of that review, and the USACE would work to resolve outstanding questions with the City & County concurrent with the review process. Jimmy asked if the map would be available to the public; Cindy explained that a draft copy of the map (clearly indicated as a draft) would be available in meetings such as the stakeholder meeting, but the full extent of information would be made public once the existing hydraulics report has been reviewed by the State, City & County, NRCS and FEMA, and finalized. It will be distributed as part of the FSMR.

Jimmy questioned the status and timing of the Woodlawn Bridge chute structure project. Dennis reiterated that the design process was underway, but FEMA had decided the construction of the project would not occur until NEPA compliance was obtained for the Ala Wai Watershed Project. Rick Stercho concurred with the status. Cindy explained that the USACE has determined that the Ala Wai Watershed Project EIS will address the Woodlawn Bridge chute structure as part of the cumulative effects analysis. The cooperating agency agreement has been canceled. FEMA continues to participate as a stakeholder in the Ala Wai Watershed Project. The USACE will be sharing documents with FEMA and asking for FEMA's technical review on such documents as the hydraulic analysis. Any questions regarding the FEMA process, policies, and regulatory requirements should be directed to FEMA (Gen Tamura).

Dudley suggested that anyone who is affected by the project should talk directly with the local FEMA representatives. Tom suggested that the status of this project should be discussed at the next public meeting for the Ala Wai project; Cindy stated that she would recommend to FEMA that a representative be present to provide an update.

Tom reminded the group of the need to keep the elected officials updated. Cindy asked if there was a need for a legislative update on the status of the Ala Wai Watershed Project; Tom suggested a short written update be provided to interested parties.

Cindy explained to the group that the USACE was also working to arrange a meeting with the directors of the relevant City & County departments in early January, to provide a project update and to make sure that the City & County's concerns were being incorporated into the project.

Lisa closed the meeting and stated that the next meeting would be in early March; she explained that the date would be identified based on the furlough schedule and provided to the stakeholders via email.

Ala Wai Watershed Project
Stakeholder Meeting Attendance List
December 4, 2009

Last Name	First Name	Organization	Email Address	Phone Number
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