

# ALA WAI CANAL FLOOD RISK MANAGEMENT PROJECT

## Supplemental NEPA Public Scoping Meeting

14 & 21 November 2020

Honolulu District's Ala Wai project webpage (<https://go.usa.gov/xfARb>)

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# BACKGROUND

**Feasibility Study:** 2001-2017: Chief's Report signed and transmitted

**Record of Decision:** Signed by ASA (CW)- September 18, 2018

**Authority:** Specifically Authorized in WRDA 2018

**Funding:** Funding under BBA 2018, Long-term Disaster Recovery Investment Program (LDRIP) (P.L. 115-123) as a non Harvey, Irma, Maria Construction Project.

**Non-Federal Partner:** City and County of Honolulu

## Timeline of Ala Wai Canal FRM PED:

**October 2018-** Design phase starts with Modeling Update from 1D Steady flow to HEC RAS 1D/2D Unsteady flow.

**May 2019-** Modeling results showed significant differences in future without and future with project conditions

**August 2019-** Preliminary SQRA meeting with Risk Management Center, Dam Safety PCX, Levee Safety PCX and PDT identified risks, uncertainties and need for system feature modifications

**September 2019-** Honolulu District presented findings of modeling update, preliminary SQRA, and a recommendation for path forward using an Engineering Documentation Report to identify technical modifications to system features and a Validation Report to support post authorization change.

**September 28, 2019-** DPM Civil Works directs Honolulu District to investigate system feature modifications and document them in an Engineering Documentation Report.

**February 2020-** Funding frozen on Ala Wai Canal FRM Project pending Programmatic Review and OMB decision on deferment of funds.

**July 16, 2020-** Honolulu District Ala Wai Canal EDR complete and signed by Honolulu District Commander on August 6, 2020.

**November 2020-** Public scoping meetings for Supplemental NEPA



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# HOW DID MODELING CHANGE: THEN AND NOW

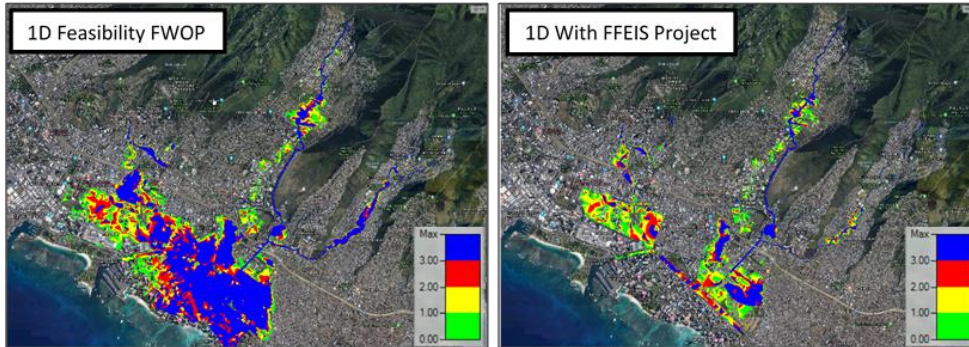


Figure 1: Inundation Depths 1D Future Without Project (left) versus 1D Future With FFEIS Project (right) in a 1% AEP event. Depth models generated May 2019 using data collected during the Feasibility Study.

Utilized Peak of the Hydrograph and cross sections developed for each watershed reach.

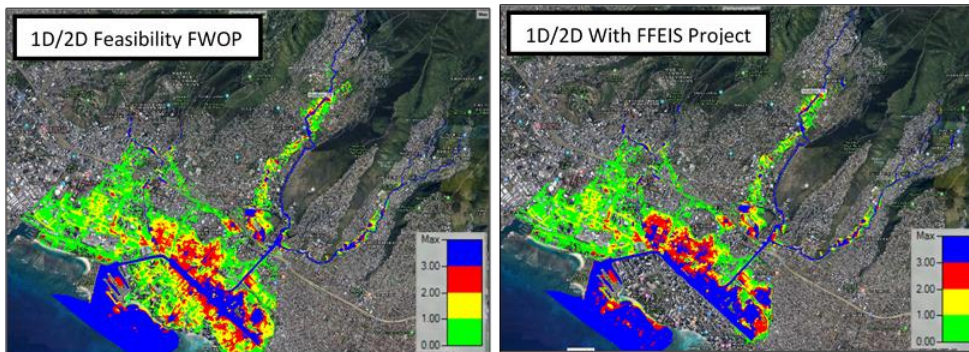


Figure 2: Inundation Depths 1D/2D Future Without Project (left) versus 1D/2D Future With FFEIS Project (right) in a 1% AEP event. Depth models generated May 2019 using data collected during the Feasibility Study.

Utilized the full range of the Hydrograph and updated LiDAR without the cross sections

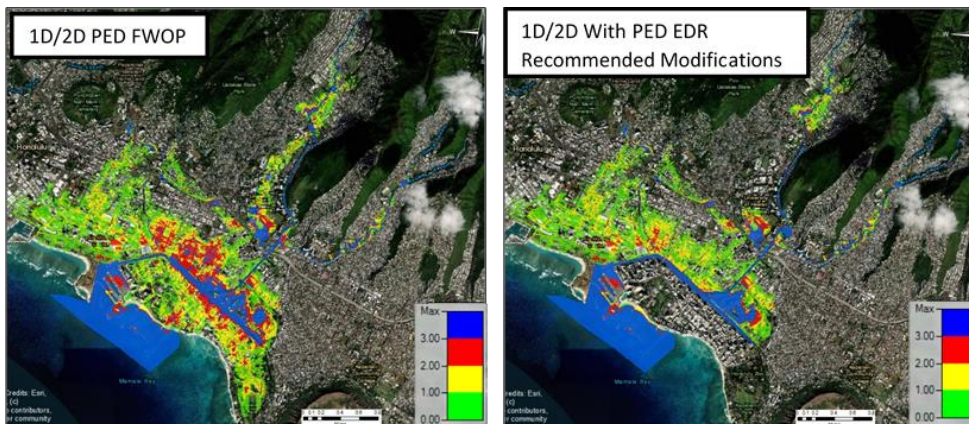


Figure 3: Inundation Depths 1D/2D Future Without Project (left) versus 1D/2D Future With EDR Recommended Modifications (right) in a 1% AEP event. Depth models generated May 2020 using data collected in the PED EDR phase.

3 Points of Interest of Optimized Plan:

- 1- UH Manoa has significantly lower WSE
- 2- McCully and Moiliili has significantly lower WSE
- 3- Waikiki has significantly lower WSE



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# FEASIBILITY STUDY WITH 1D/2D UPDATE

Utilized full range of the Hydrograph with updated LiDAR and no cross sections.

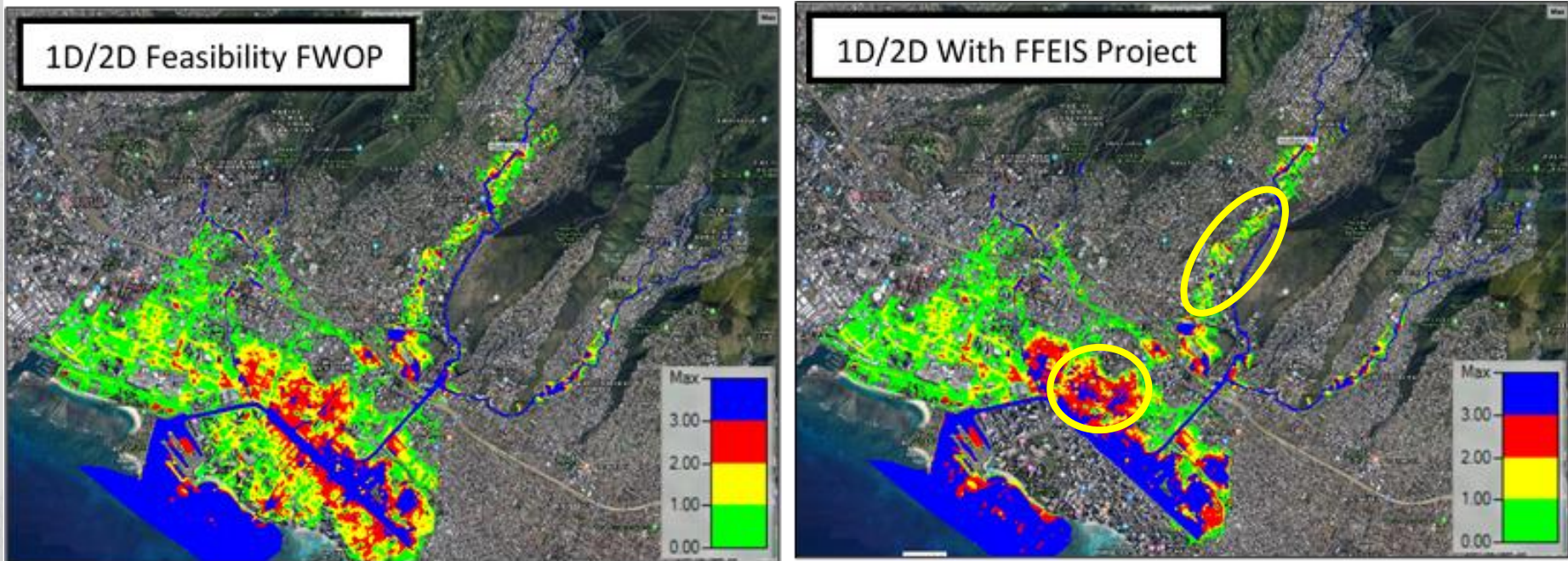


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# EDR FUTURE WITH PROJECT CONDITIONS

(DOES NOT INCLUDE UPDATED HYDROLOGY COMPLETED OCT 2020)

## 3 Points of Interest of Optimized Plan:

- 1- UH Manoa has significantly lower WSE
- 2- McCully and Moiliili has significantly lower WSE
- 3- Waikiki has significantly lower WSE

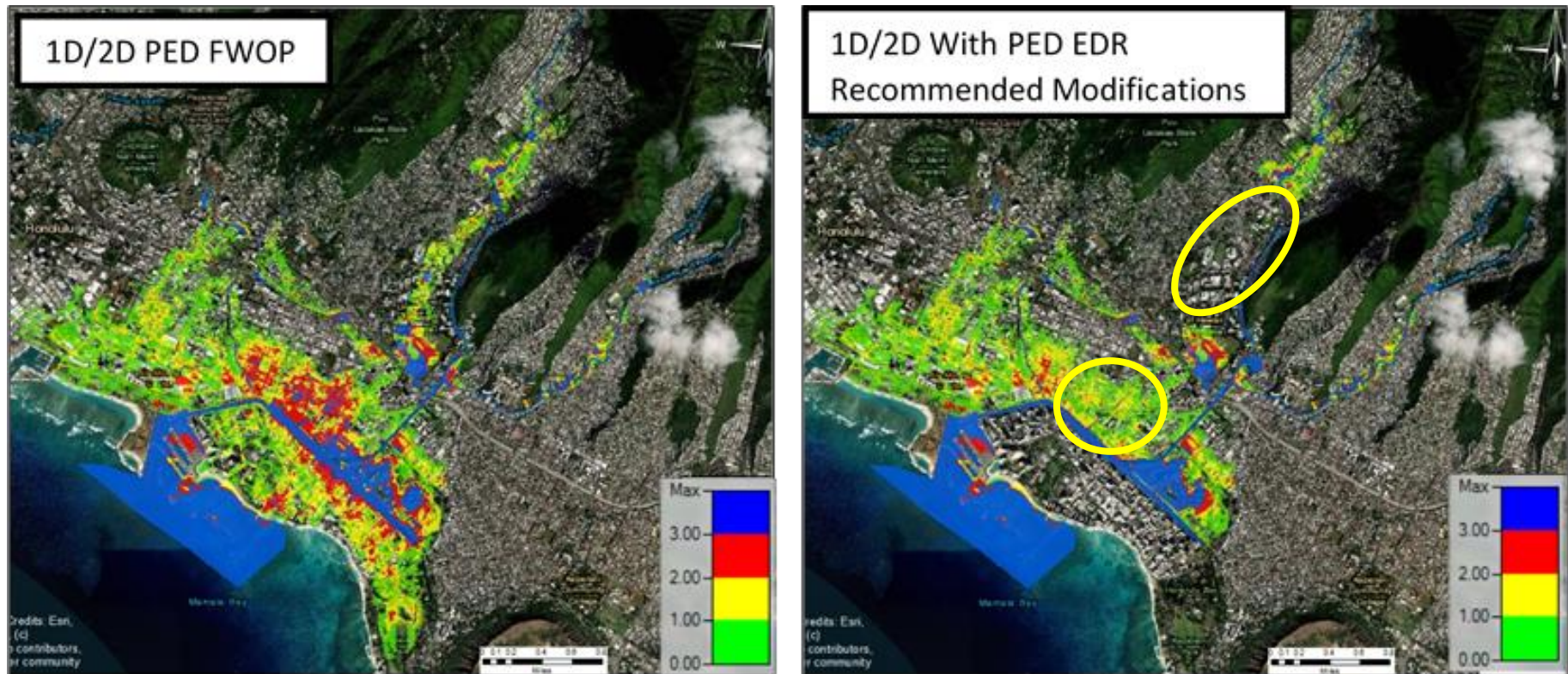


Figure 3: Inundation Depths 1D/2D Future Without Project (left) versus 1D/2D Future With EDR Recommended Modifications (right) in a 1% AEP event. Depth models generated May 2020 using data collected in the PED EDR phase.



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# UPDATED HYDROLOGY 1D/2D – NOV 2020 FUTURE WITH PROJECT CONDITIONS

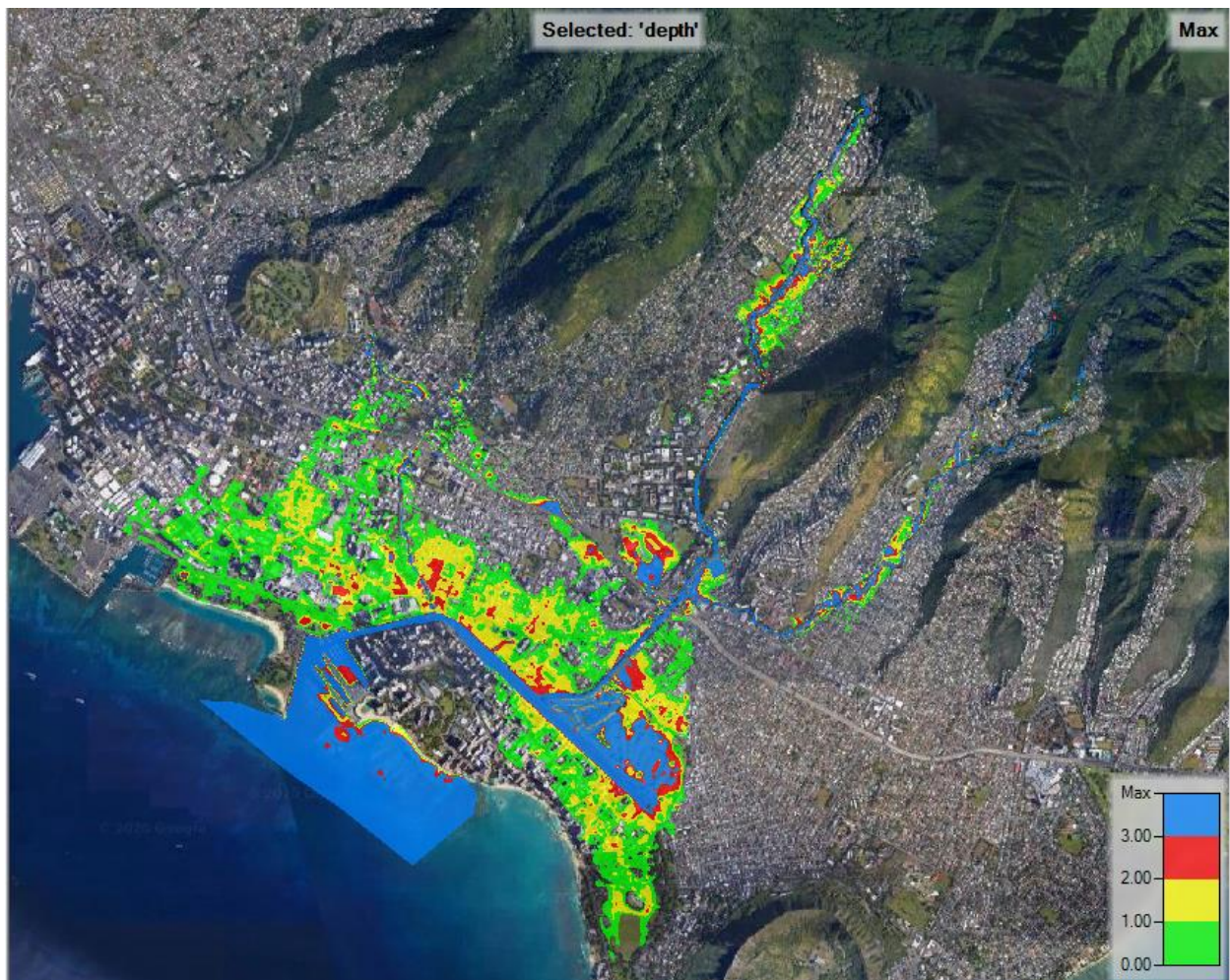


Figure 4: Inundation Depths with updated Hydrology, 1D/2D Future With EDR Recommended Modifications in a 1% AEP event. Depth models generated November 2020 using updated hydrologic data certified in October 2020, following completion of the PED EDR.



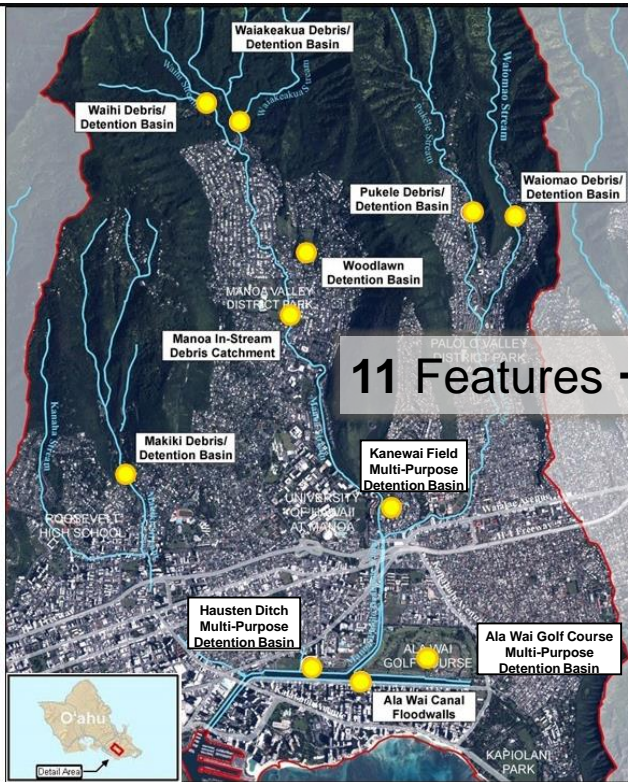
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# RECOMMENDED PLAN: THEN AND NOW

Project location and features:

**NOT ONE MEGA PROJECT  
BUT  
ELEVEN MANAGEABLE  
STRUCTURAL ELEMENTS**

- Upper Watershed Detention
- Lower Watershed Detention
- Urban Flood Control
- 6 debris/detention basins in upper stream reaches
- 1 stand-alone debris catchment structure
- 3 multi-purpose detention basins in open spaces of developed watershed
- Floodwalls along Ala Wai Canal (including two pump stations for interior drainage)



11 Features → 6 Features

Figure 5: Authorized Project Feature Map 2017 Chief's Report

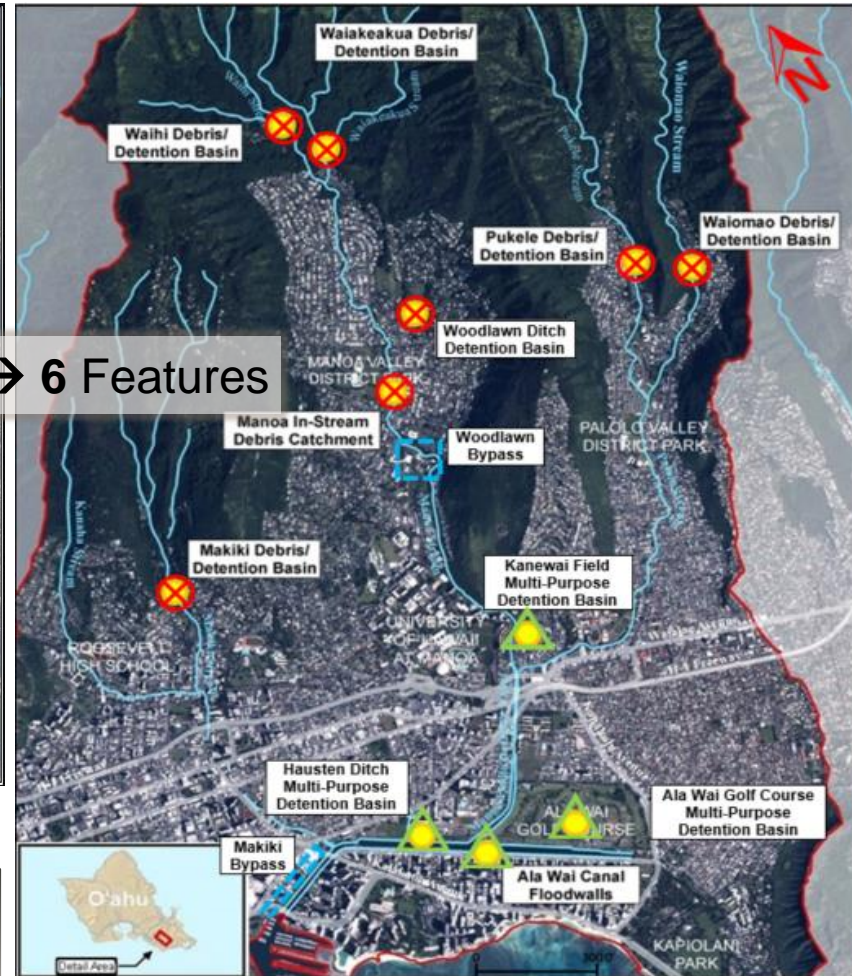


Figure 6: Recommended Modifications in 2020 EDR

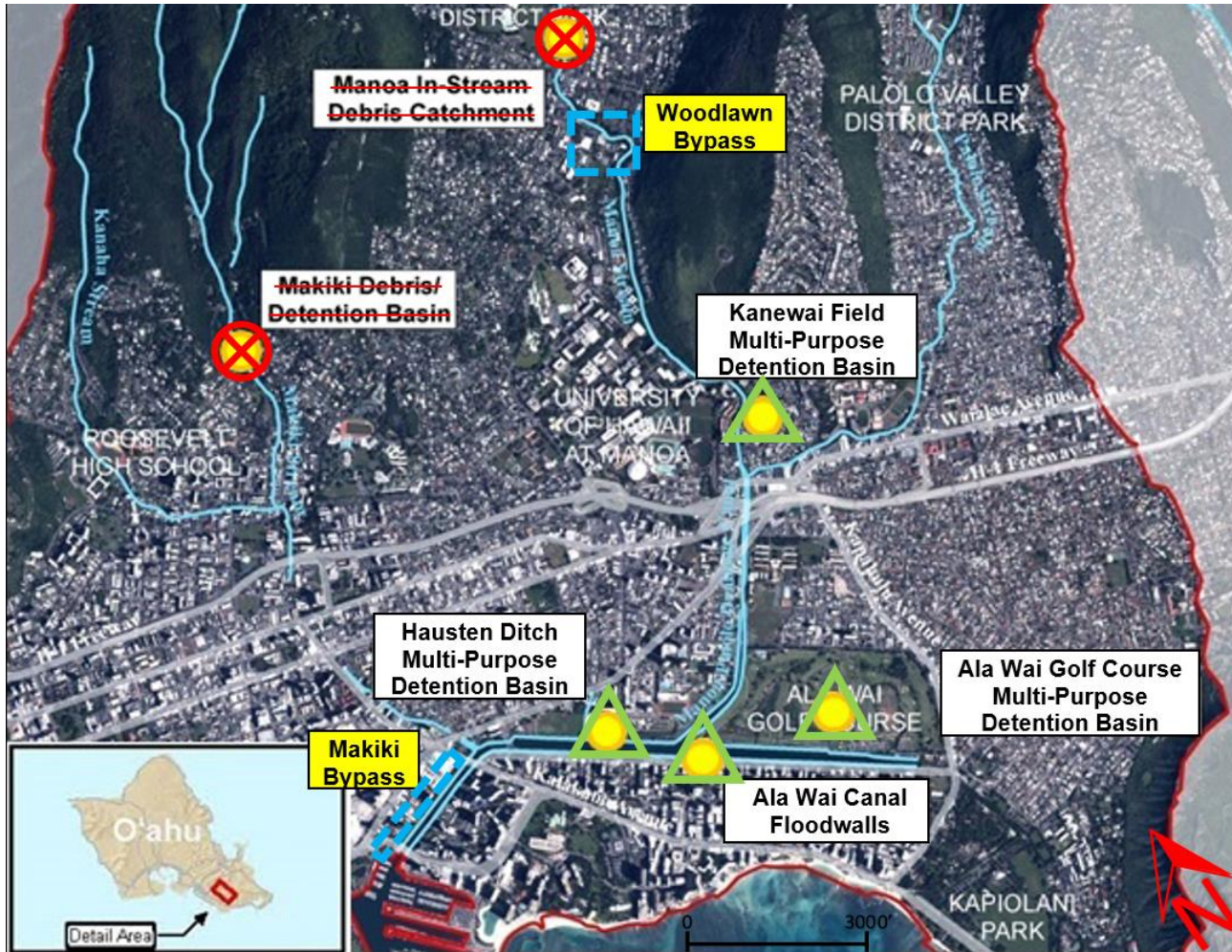
- Feasibility Features as Authorized by Congress in 2018
- Optimize Feature within Feasibility Authority
- Remove Feature and Reallocate Budget to Modifications under Validation Study Authority
- Modification evaluated for Value Engineering under Validation Study Authority

Why? What Changed?



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# RECOMMENDED PLAN: CURRENT SCOPE



	Feasibility Features as Authorized by Congress in 2018
	Optimize Feature within Feasibility Authority
	Remove Feature and Reallocate Budget to Modifications under Validation Study Authority
	Modification evaluated under Validation Study Authority

2017 NEPA EIS

2020 NEPA





# WOODLAWN BYPASS AND ANCILLARY MEASURES

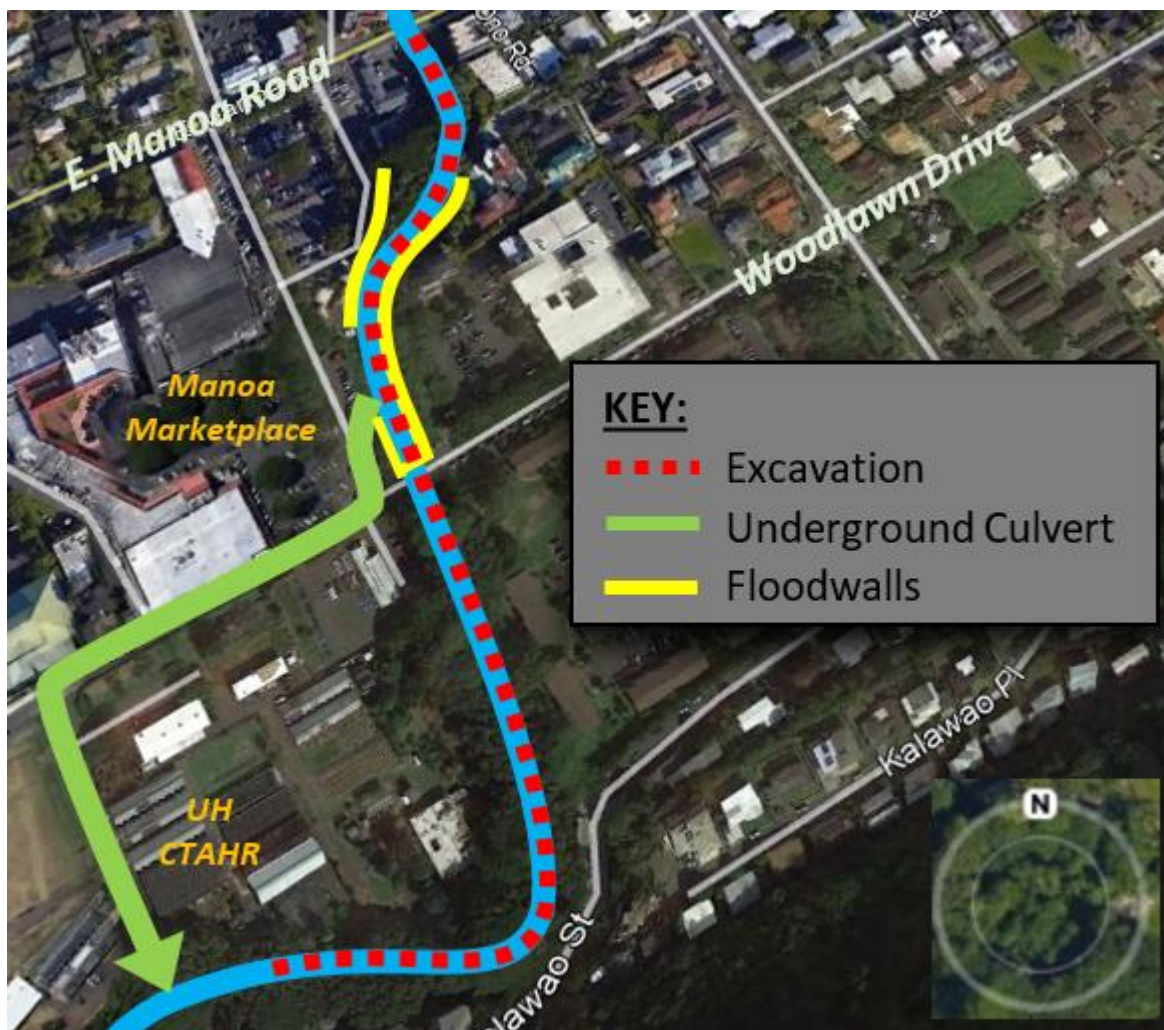


Figure 7: Bypass Culvert Installation at Woodlawn Bridge, Manoa Stream



# WOODLAWN BYPASS EXCAVATION

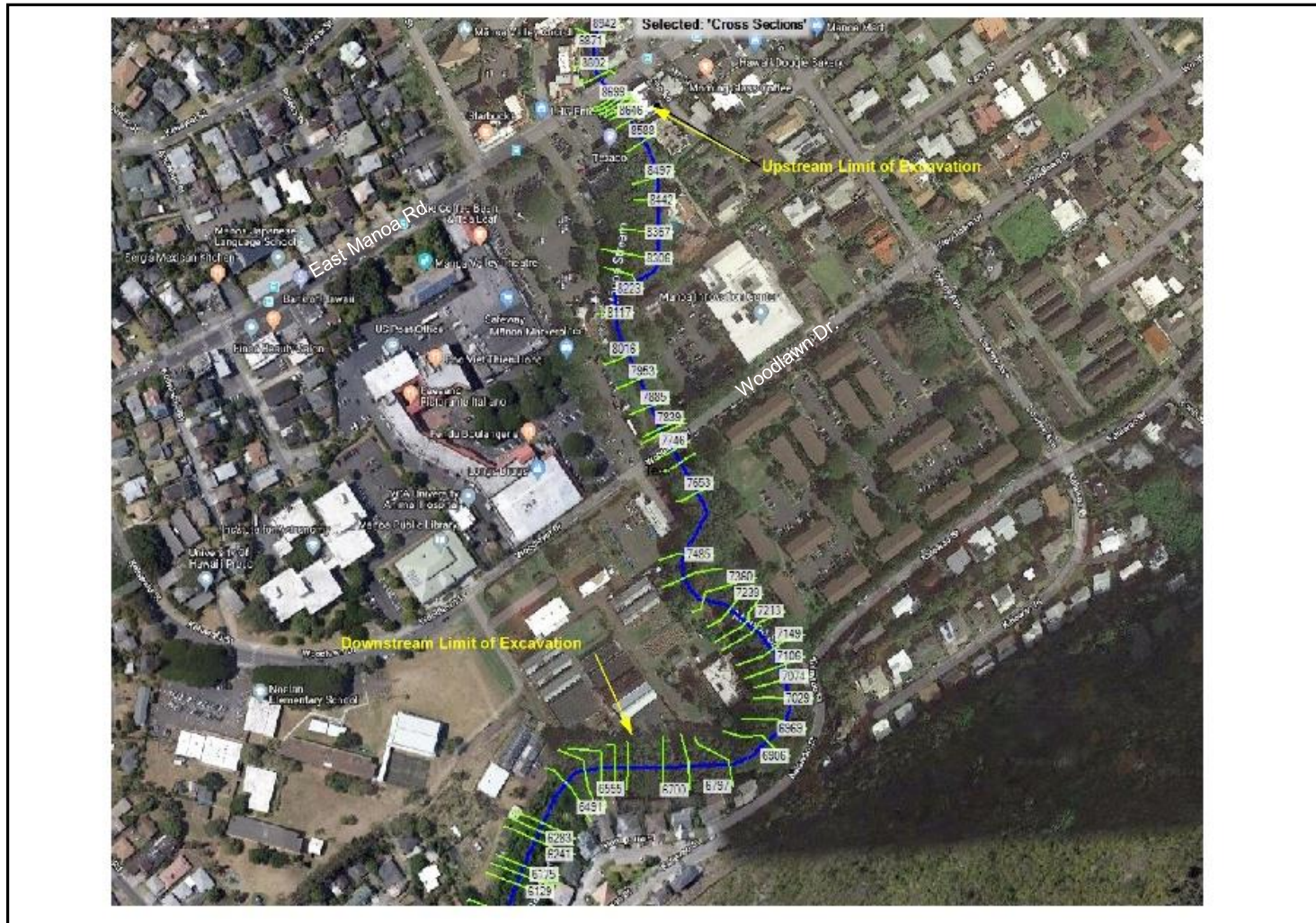


Figure 8: Excavation Area, Manoa Stream-South of East Manoa Road Bridge.



# ALA WAI CANAL URBAN FLOOD CONTROL AND WALL ALIGNMENT

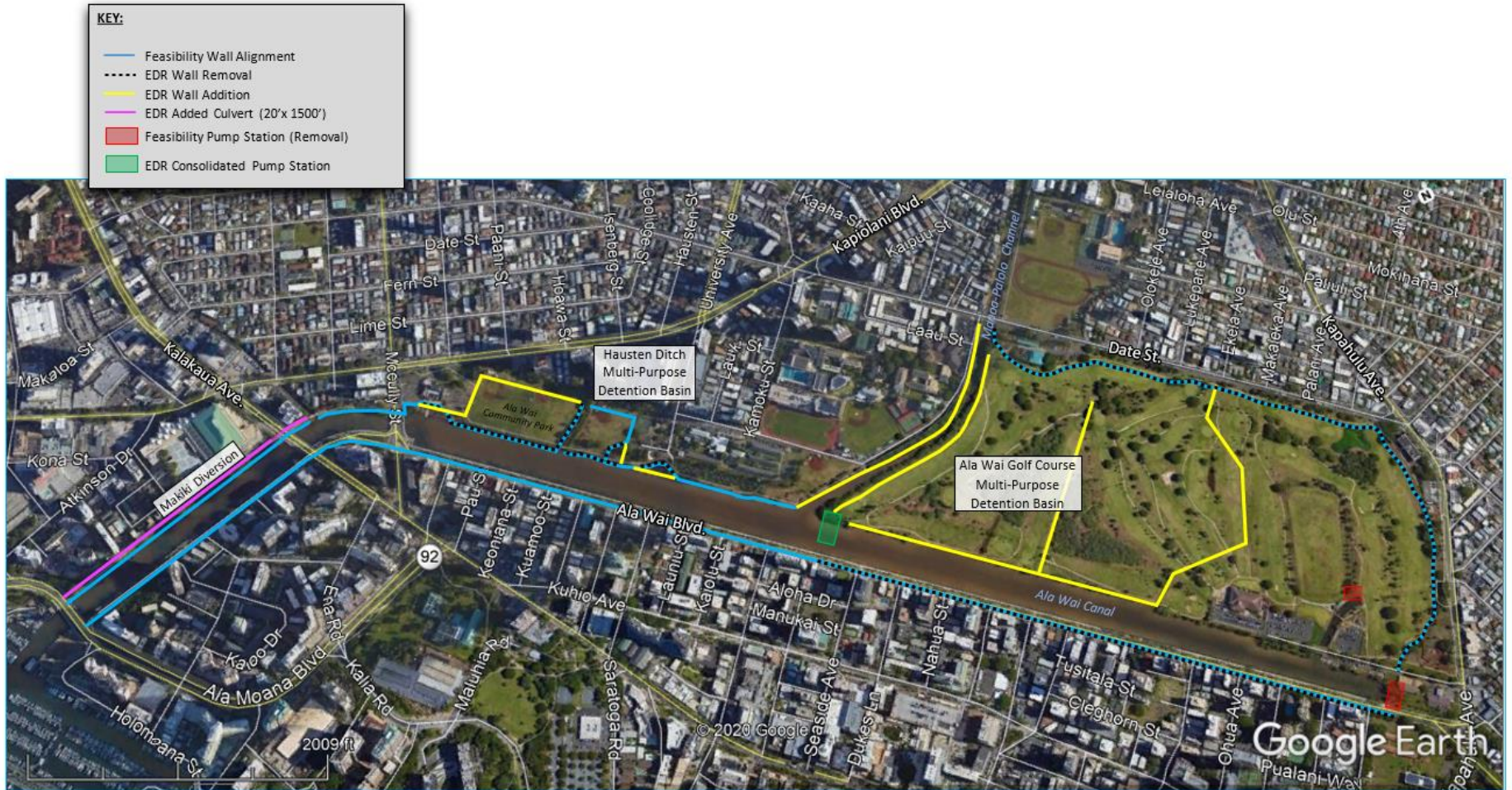


Figure 9: Flood barrier system modifications and alignment in the lower watershed.



# CANAL FLOODWALLS

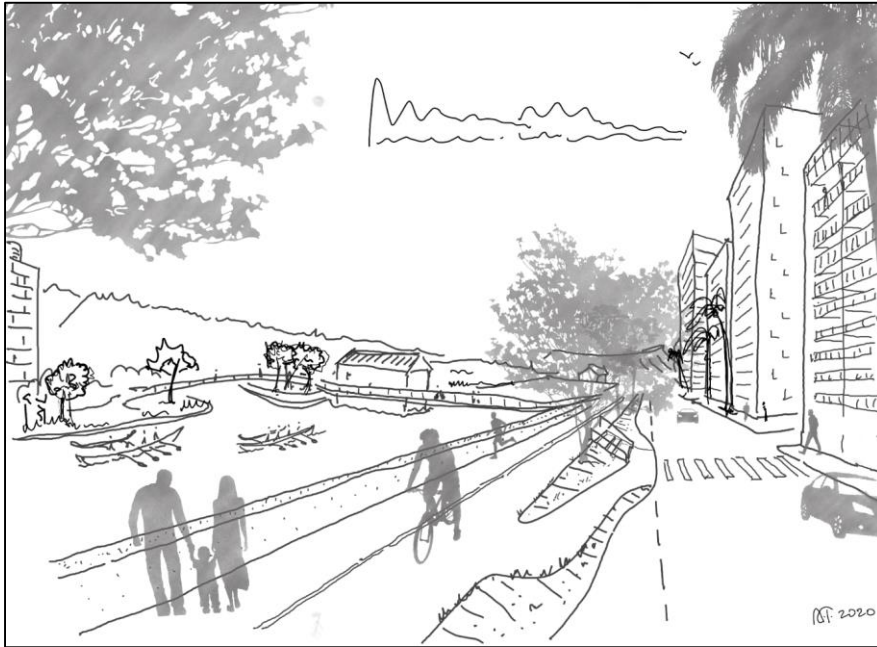


Figure 10: Conceptual sketch of floodwalls near pump station

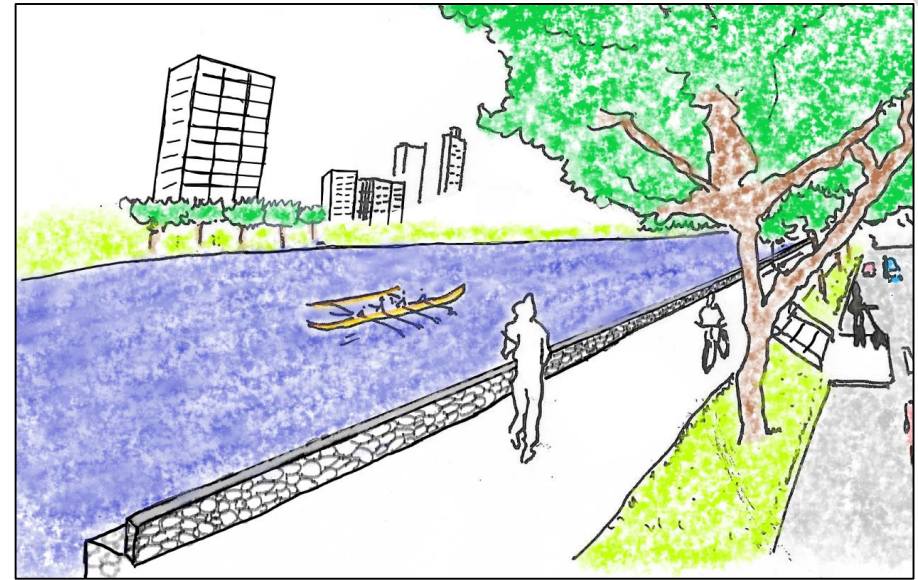


Figure 11: Conceptual sketch of floodwalls, makai side of Ala Wai Canal

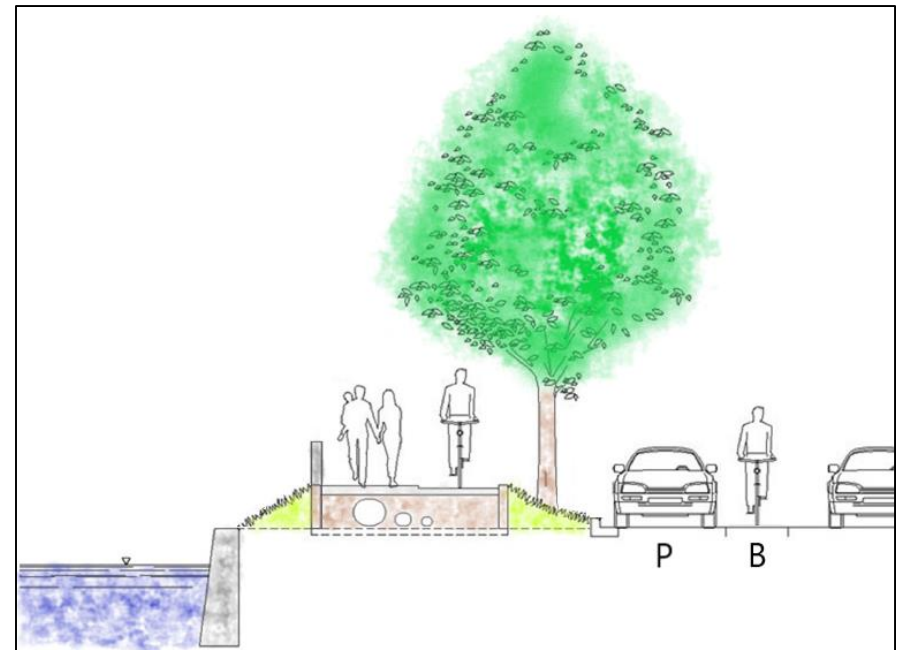
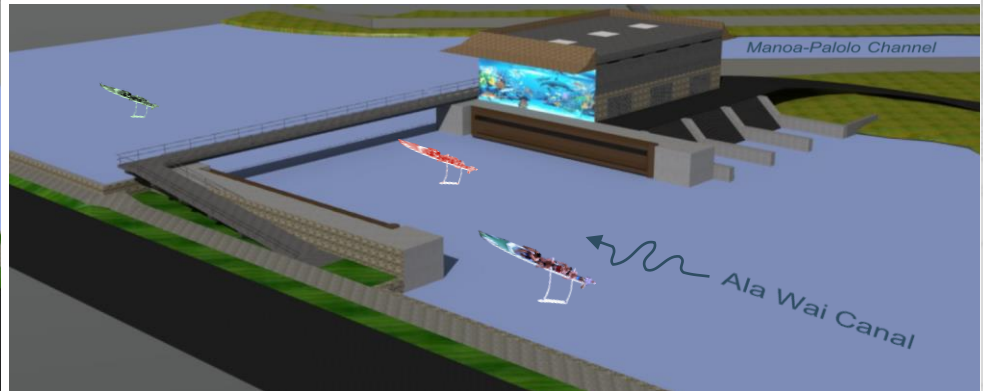
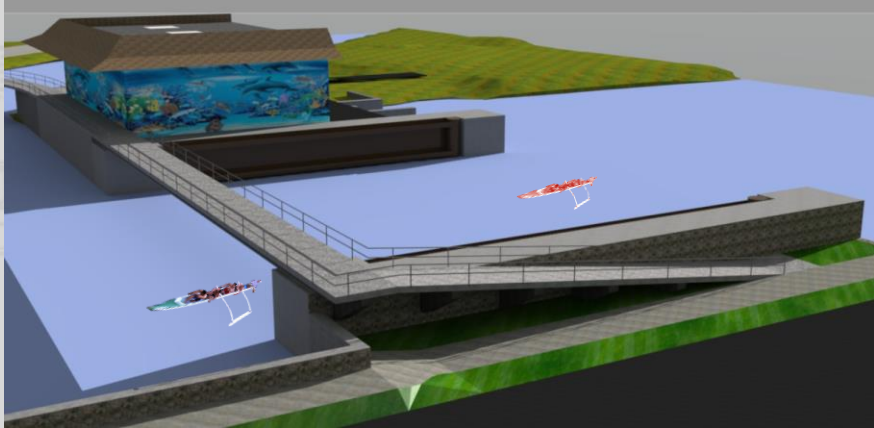
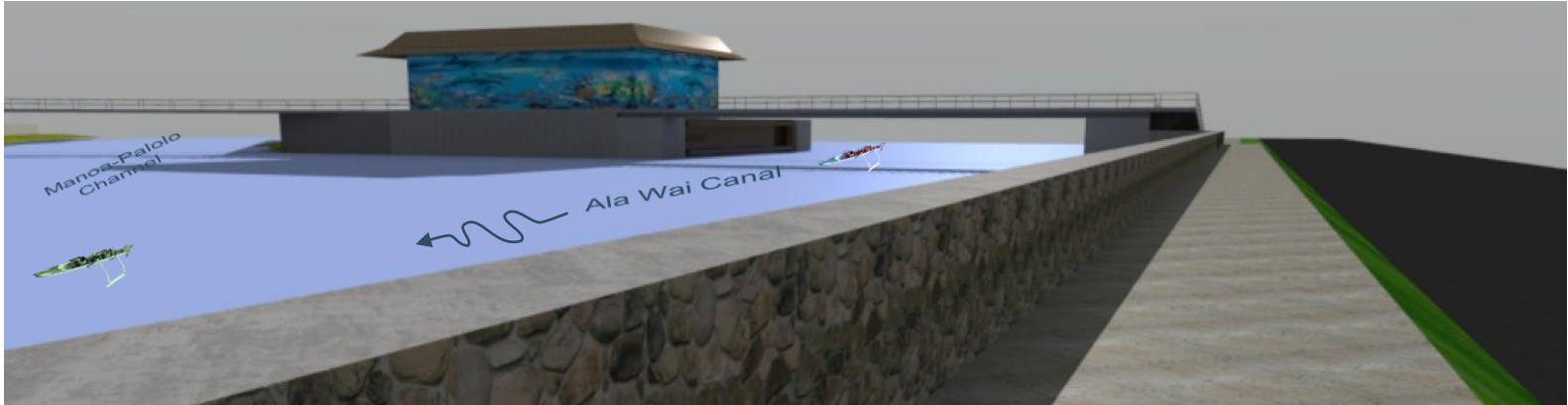


Figure 12: Cross section of floodwalls, makai side of Ala Wai Canal

# PUMP STATION

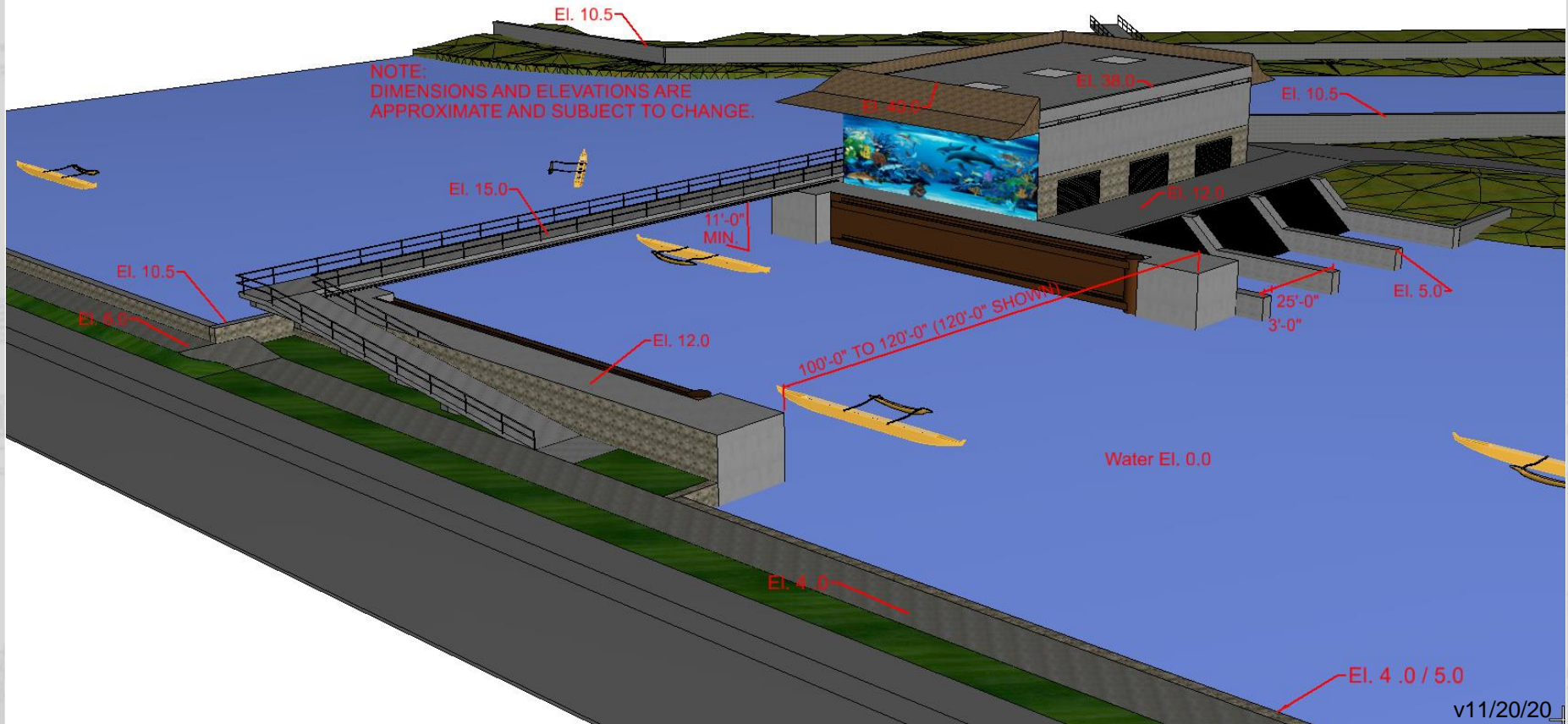


Note: canoe scale is approximate



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# PUMP STATION DIMENSIONS (APPROXIMATE)



v11/20/20



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# PUMP STATION (EWA DIRECTION)



# PUMP STATION (DIAMOND HEAD DIRECTION)





# SUMMARY OF SYSTEM

- Remove Debris and Detention Basins from Upper Watershed
- Construct a bypass feature with ancillary measures at Manoa Marketplace to keep water from overtopping and inundating University of Hawaii at Manoa and Lower Watershed
- Consolidate from two pump stations to one pump station on the Golf Course
- Modifications to Golf Course Multipurpose Detention Basin
- Modifications to Husten Ditch Multipurpose Detention Basin
- Makiki Stream Diversion Feature to mitigate backwater effect and close the system
- Raise existing wall ~2' along Koali Road



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# FEDERAL CONSULTATIONS UPDATE

- July 28, 2020. Agency Meeting to roll out USACE plans to develop a Supplemental EA and revise proposed action.
- National Marine Fisheries Service: Endangered Species Act, Section 7 Consultation, Informal Consultation.
- National Marine Fisheries Service: Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat Consultation.
- Fish and Wildlife Service: Endangered Species Act, Section 7 Consultation, Information Consultation.
- Fish and Wildlife Service: Fish and Wildlife Coordination Act, Planning Aid Letter with Conservation Recommendations.



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# NATIONAL HISTORIC PRESERVATION ACT (NHPA)

## Section 106 Consultation Update - Historic Properties

- Ala Wai FRM components are consulted on within the framework of the signed **2016 Programmatic Agreement (PA)** – See Appendix F of the EIS.
- PA Signatories: 1) USACE, 2) SHPD, 3) DLNR, 4) OHA, 5) OIBC, 6) HHF.
- PA provides roadmap for evaluating impacts to Historic Properties and lists a variety of possible mitigations.
- Most work locales were evaluated and Historic Properties identified during the original EIS phase, however . . .



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# NATIONAL HISTORIC PRESERVATION ACT (NHPA)

## Section 106 Consultation Update - Historic Properties

- Based on design updates, one new area will need to be evaluated for the presence of Historic Properties (Manoa Stream-South of East Manoa Road Bridge), in consultation with PA signatories.
- Current design is conceptual. PA consulting parties will review 35%, 65%, and 90% designs.
- Public involvement is also important and valuable in the Section 106 process.
- All public comment on Historic Properties will be carefully considered.

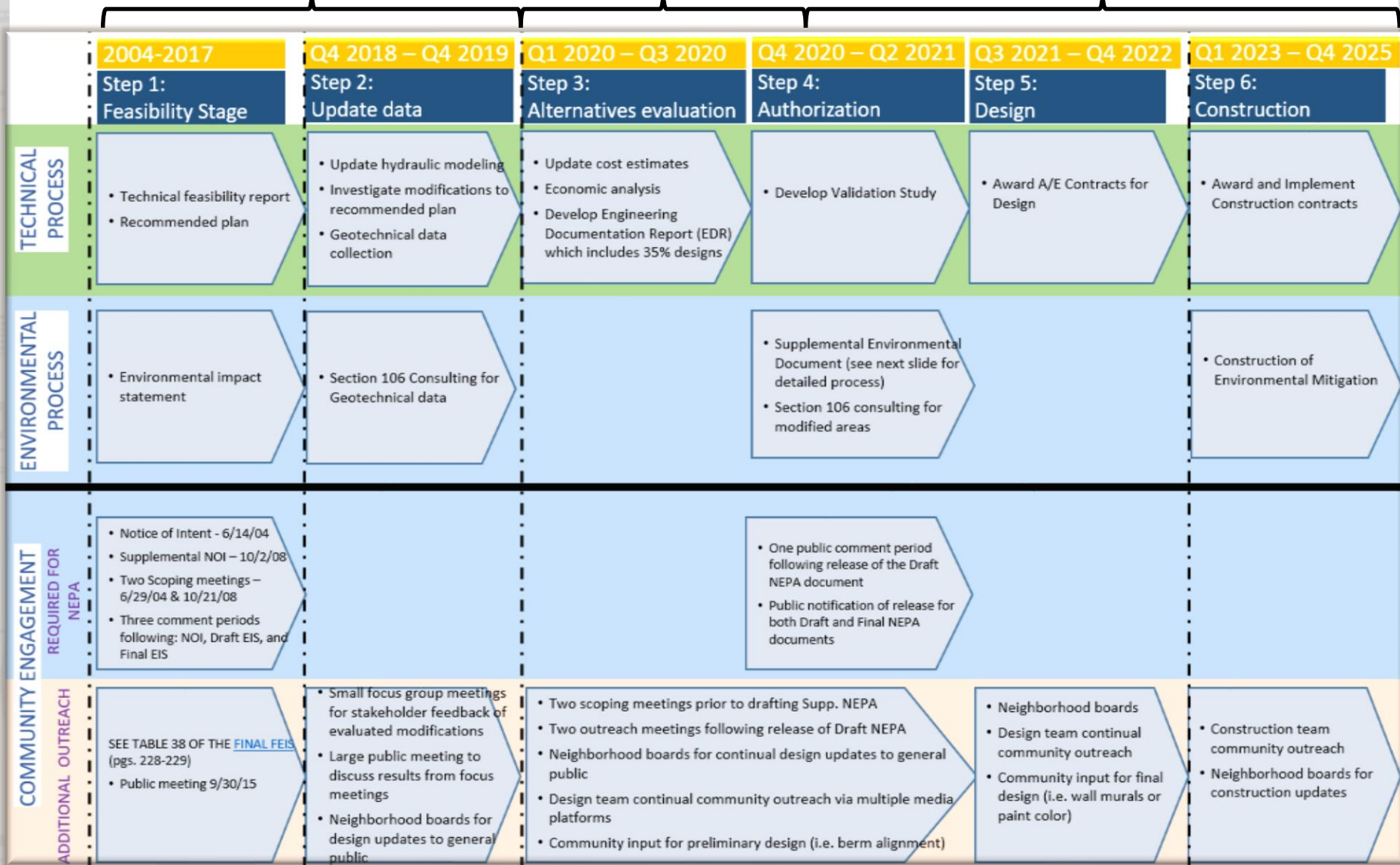


# TECHNICAL & ENVIRONMENTAL PROJECT TIMELINE

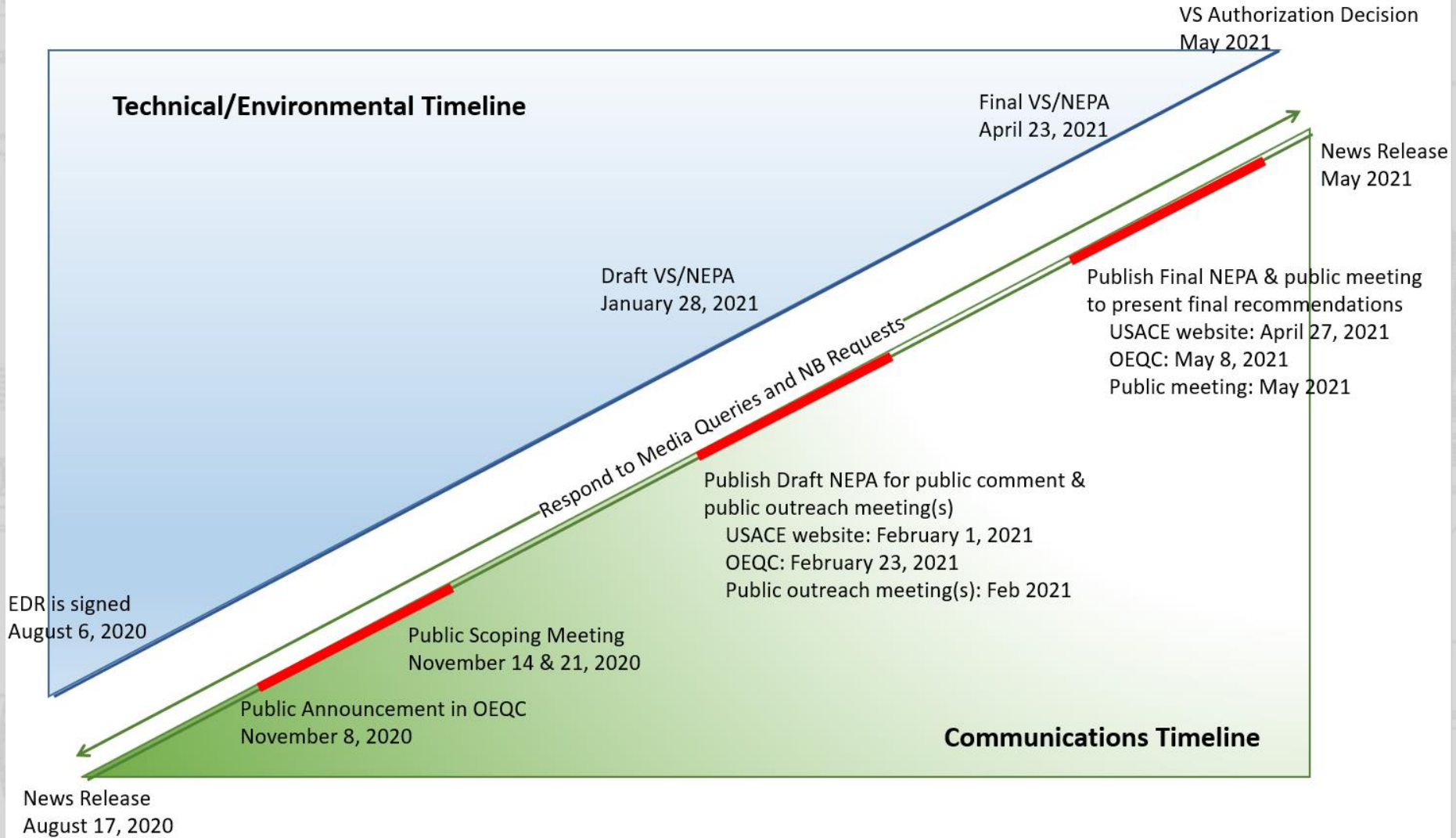
Complete

Ongoing

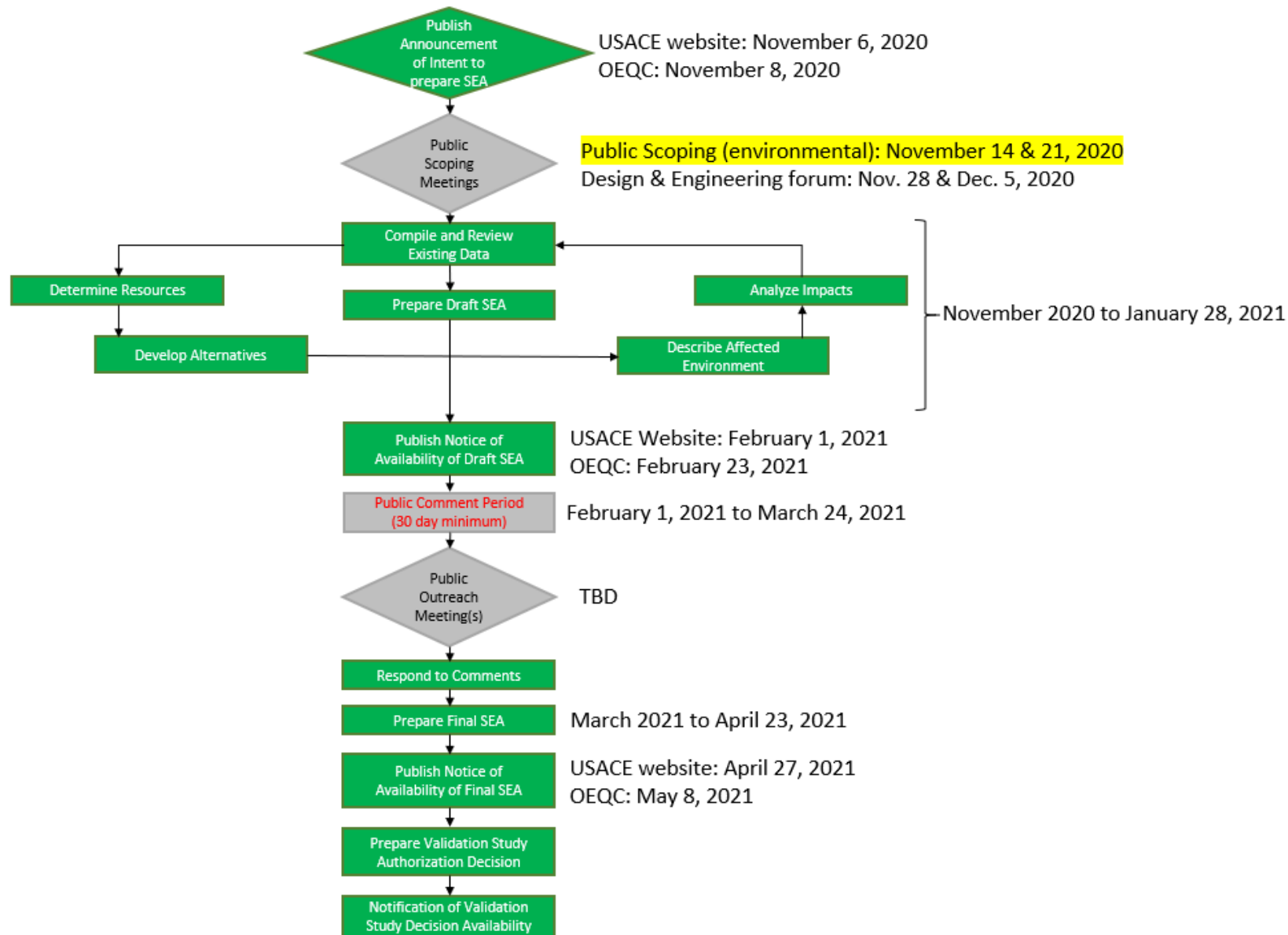
Upcoming



# TECHNICAL & ENVIRONMENTAL SEA TIMELINE



# SUPPLEMENTAL NEPA/HEPA PROCESS



**OPEN FOR  
PUBLIC COMMENT**  
via phone and WebEx

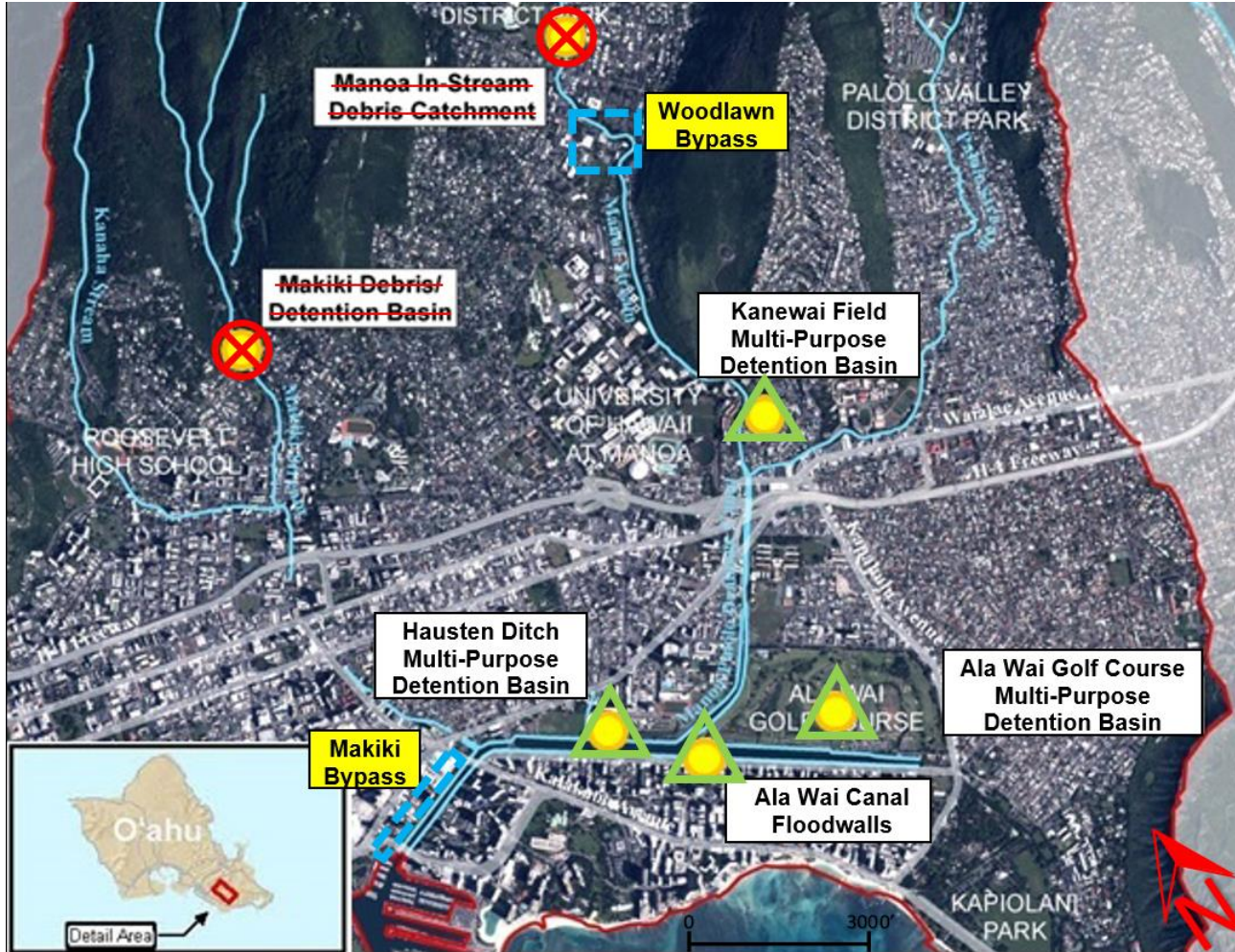
Note: You may also provide written comment via email to [AlaWaiFloodProject@usace.army.mil](mailto:AlaWaiFloodProject@usace.army.mil)







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# OPEN FOR PUBLIC COMMENT



-  Feasibility Features as Authorized by Congress in 2018
-  Optimize Feature within Feasibility Authority
-  Remove Feature and Reallocate Budget to Modifications under Validation Study Authority
-  Modification evaluated under Validation Study Authority

2017 NEPA EIS

→ 2020 NEPA



# NOV 2020 NEPA PUBLIC SCOPING COMMENT

Please submit any questions or comments  
you may have about the  
environmental, NEPA, archaeological, or cultural  
impacts of the proposed action

via email to

[AlaWaiFloodProject@usace.army.mil](mailto:AlaWaiFloodProject@usace.army.mil)

by **December 8, 2020**

for inclusion in the Draft NEPA document,  
scheduled for publication February 2021