



KAPĀLAMA CANAL CATALYTIC PROJECT

State TOD Council
January 12, 2021

Harrison Rue

Where We Left Off

1. PAC Meeting #2: December 2016
2. Public Workshop: January 2017
3. Master Plan: September 2017
4. State of Hawai'i Sea Level Rise Vulnerability and Adaptation Report: December 2017
5. City & County of Honolulu Sea Level Rise Guidance: June 2018
6. Mayor's Climate Change Directive: July 2018

Project Boundaries





2017 Project Goals

COMMUNITY



SOCIAL

BUILT



INFRASTRUCTURE

NATURAL



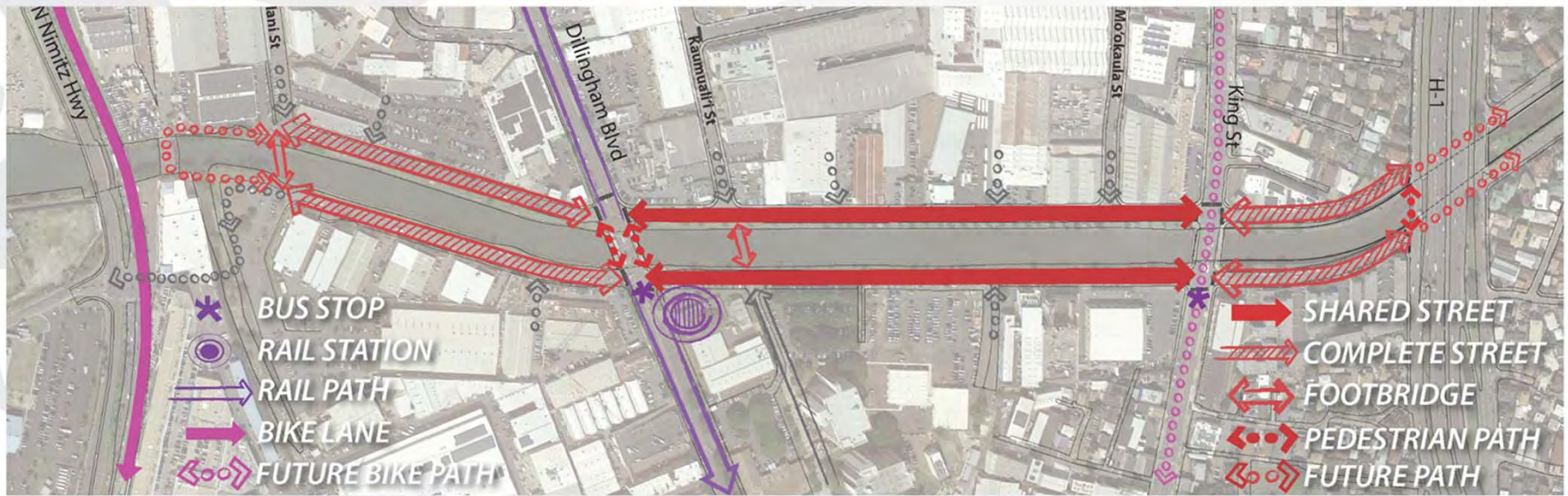
ENVIRONMENT



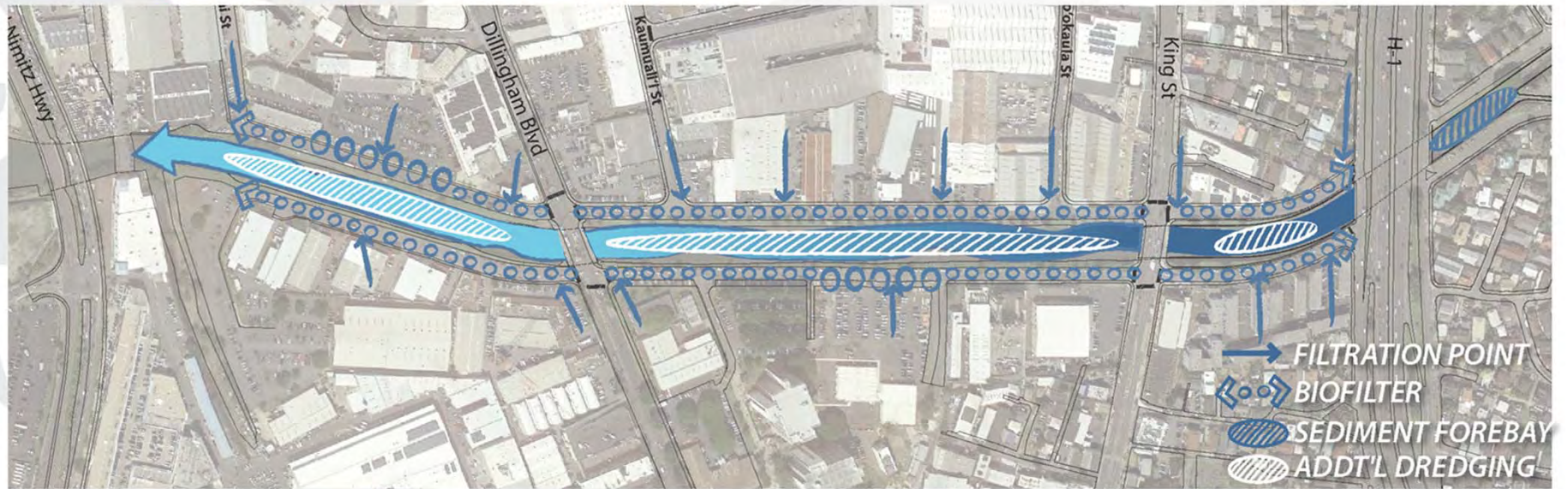
Project Goals: Community



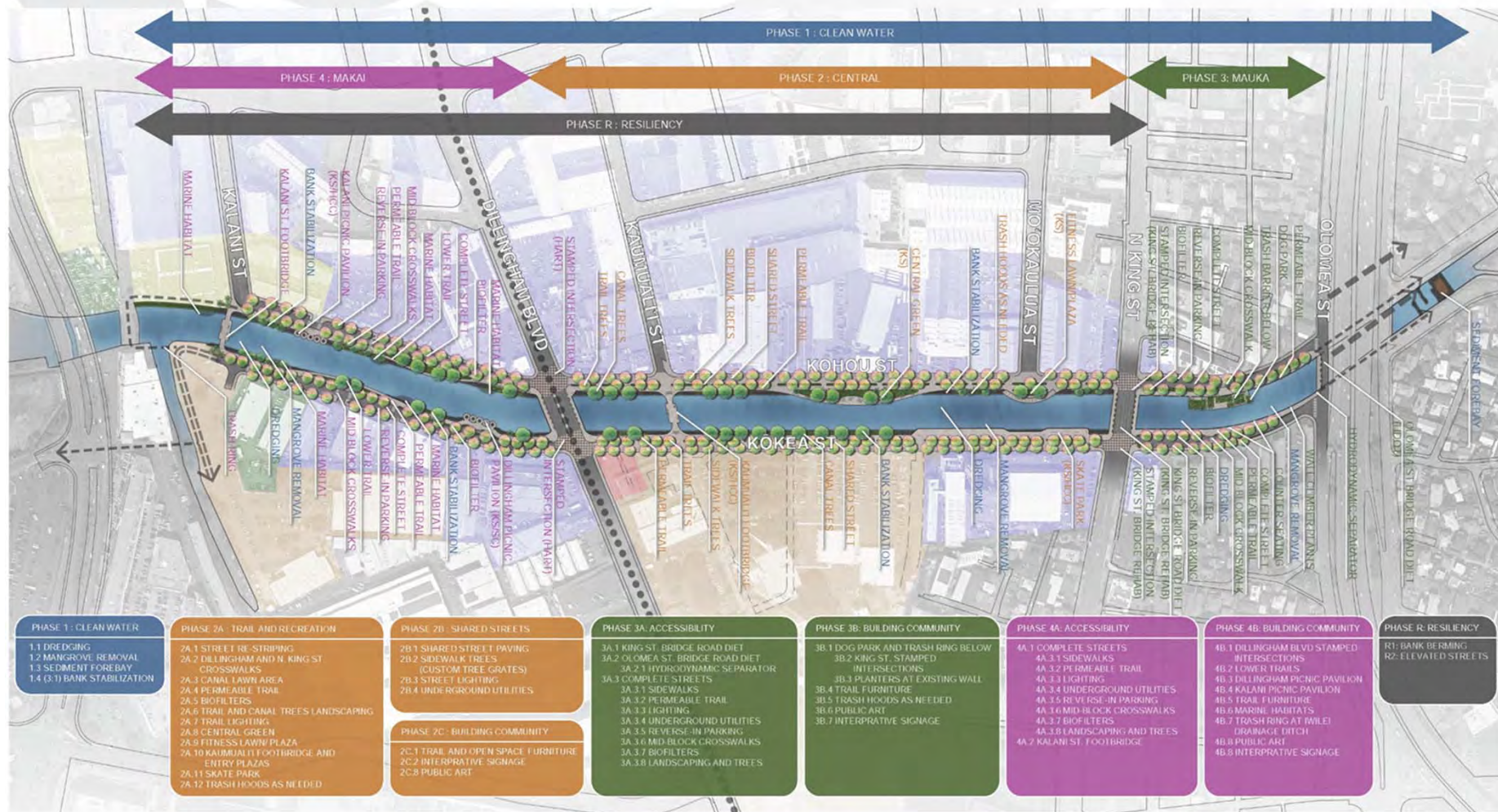
Project Goals: Infrastructure



Project Goals: Environment

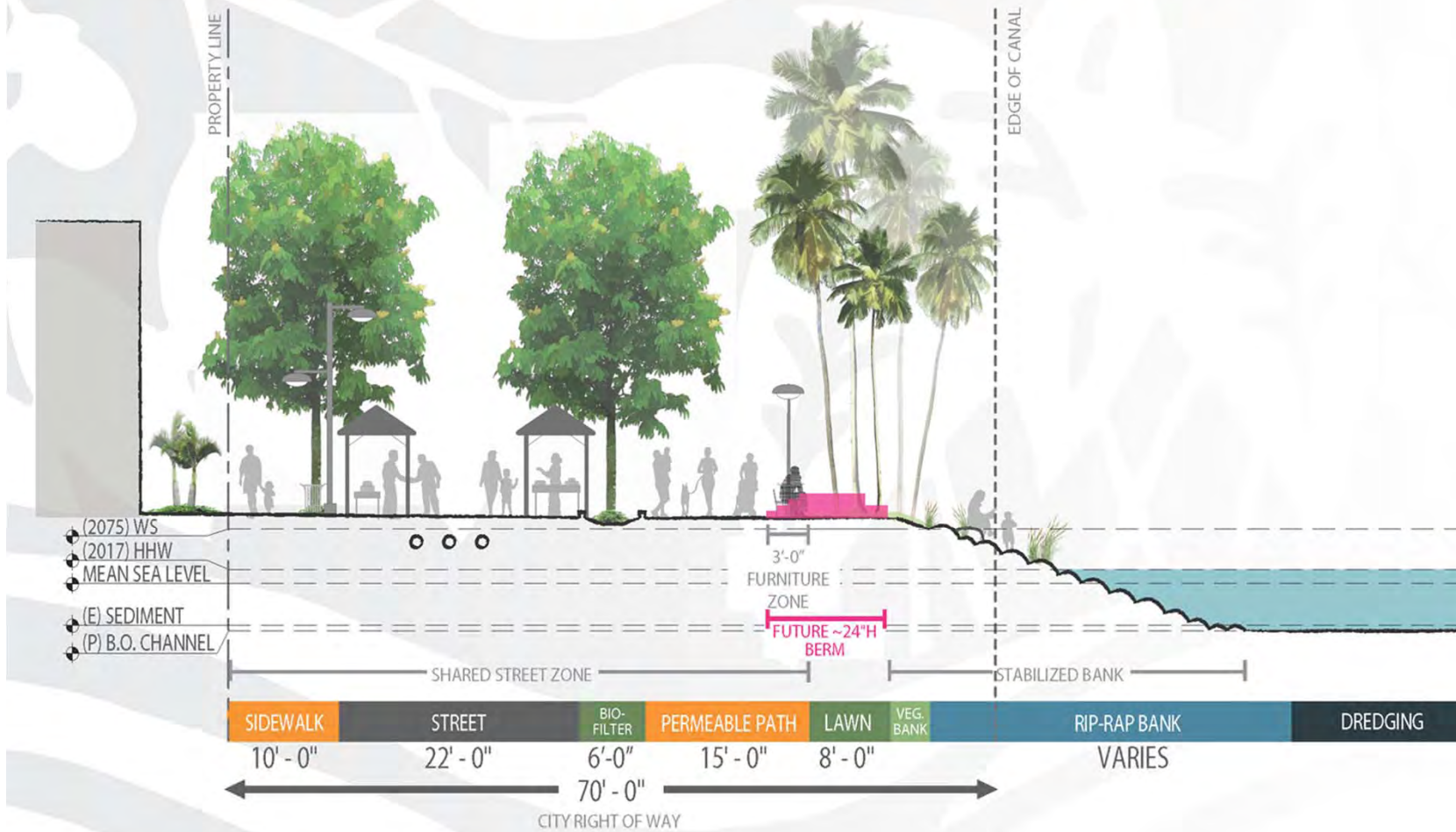


2017 Master Plan : Phasing



<p>PHASE 1: CLEAN WATER</p> <ul style="list-style-type: none"> 1.1 DREDGING 1.2 MANGROVE REMOVAL 1.3 SEDIMENT FORE BAY 1.4 (3:1) BANK STABILIZATION 	<p>PHASE 2A: TRAIL AND RECREATION</p> <ul style="list-style-type: none"> 2A.1 STREET DE STRIPING 2A.2 DILLINGHAM AND N. KING ST CROSSWALKS 2A.3 CANAL LAWN AREA 2A.4 PERMEABLE TRAIL 2A.5 BIOFILTERS 2A.6 TRAIL AND CANAL TREES LANDSCAPING 2A.7 TRAIL LIGHTING 2A.8 CENTRAL GREEN 2A.9 FITNESS LAWN PLAZA 2A.10 KAUMOAHI FOOTBRIDGE AND ENTRY PLAZAS 2A.11 SKATE PARK 2A.12 TRASH HOODS AS NEEDED 	<p>PHASE 2B: SHARED STREETS</p> <ul style="list-style-type: none"> 2B.1 SHARED STREET PAVING 2B.2 SIDEWALK TREES (CUSTOM TREE GRATES) 2B.3 STREET LIGHTING 2B.4 UNDERGROUND UTILITIES <p>PHASE 2C: BUILDING COMMUNITY</p> <ul style="list-style-type: none"> 2C.1 TRAIL AND OPEN SPACE FURNITURE 2C.2 INTERPRETIVE SIGNAGE 2C.3 PUBLIC ART 	<p>PHASE 3A: ACCESSIBILITY</p> <ul style="list-style-type: none"> 3A.1 KING ST. BRIDGE ROAD DIET 3A.2 OLOMEA ST. BRIDGE ROAD DIET 3A.2.1 HYDRODYNAMIC SEPARATOR 3A.3 COMPLETE STREETS 3A.3.1 SIDEWALKS 3A.3.2 PERMEABLE TRAIL 3A.3.3 LIGHTING 3A.3.4 UNDERGROUND UTILITIES 3A.3.5 REVERSE-IN PARKING 3A.3.6 MID-BLOCK CROSSWALKS 3A.3.7 BIOFILTERS 3A.3.8 LANDSCAPING AND TREES 	<p>PHASE 3B: BUILDING COMMUNITY</p> <ul style="list-style-type: none"> 3B.1 DOG PARK AND TRASH RING BELOW 3B.2 KING ST. STAMPED INTERSECTIONS 3B.3 PLANTERS AT EXISTING WALL 3B.4 TRAIL FURNITURE 3B.5 TRASH HOODS AS NEEDED 3B.6 PUBLIC ART 3B.7 INTERPRETIVE SIGNAGE 	<p>PHASE 4A: ACCESSIBILITY</p> <ul style="list-style-type: none"> 4A.1 COMPLETE STREETS 4A.3.1 SIDEWALKS 4A.3.2 PERMEABLE TRAIL 4A.3.3 LIGHTING 4A.3.4 UNDERGROUND UTILITIES 4A.3.5 REVERSE-IN PARKING 4A.3.6 MID-BLOCK CROSSWALKS 4A.3.7 BIOFILTERS 4A.3.8 LANDSCAPING AND TREES 4A.7 KALANI ST. FOOTBRIDGE 	<p>PHASE 4B: BUILDING COMMUNITY</p> <ul style="list-style-type: none"> 4B.1 DILLINGHAM BLVD STAMPED INTERSECTIONS 4B.2 LOWER TRAILS 4B.3 DILLINGHAM PICNIC PAVILION 4B.4 KALANI PICNIC PAVILION 4B.5 TRAIL FURNITURE 4B.6 MARINE HABITATS 4B.7 TRASH RING AT IWLEI DRAINAGE DITCH 4B.8 PUBLIC ART 4B.9 INTERPRETIVE SIGNAGE 	<p>PHASE R: RESILIENCY</p> <ul style="list-style-type: none"> R1: BANK BERMING R2: ELEVATED STREETS
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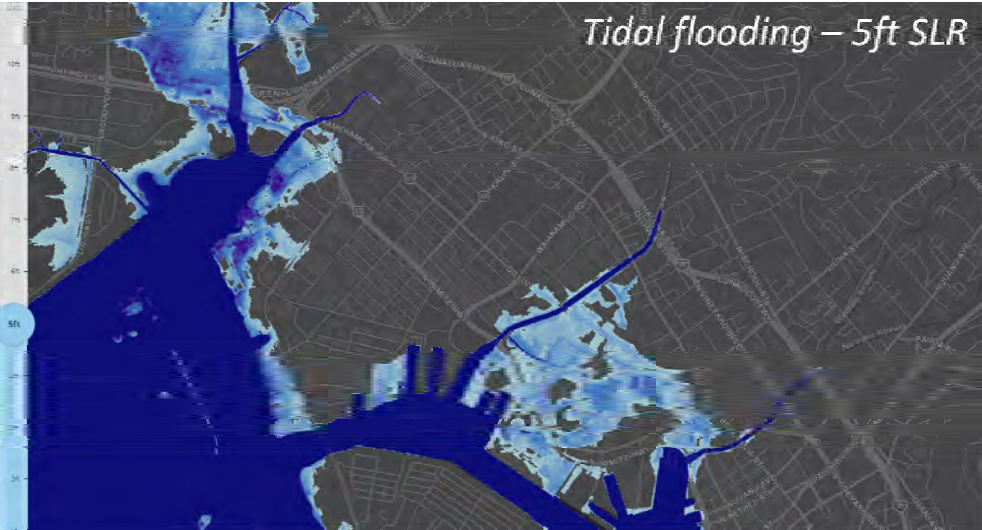
2017 Master Plan : Proposed Central Street Section



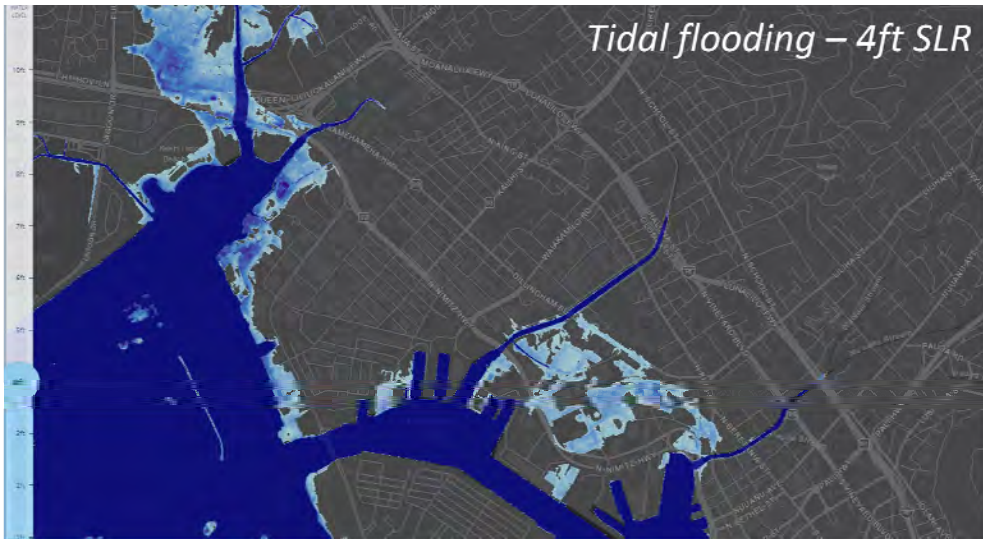
Tidal flooding – 3ft SLR



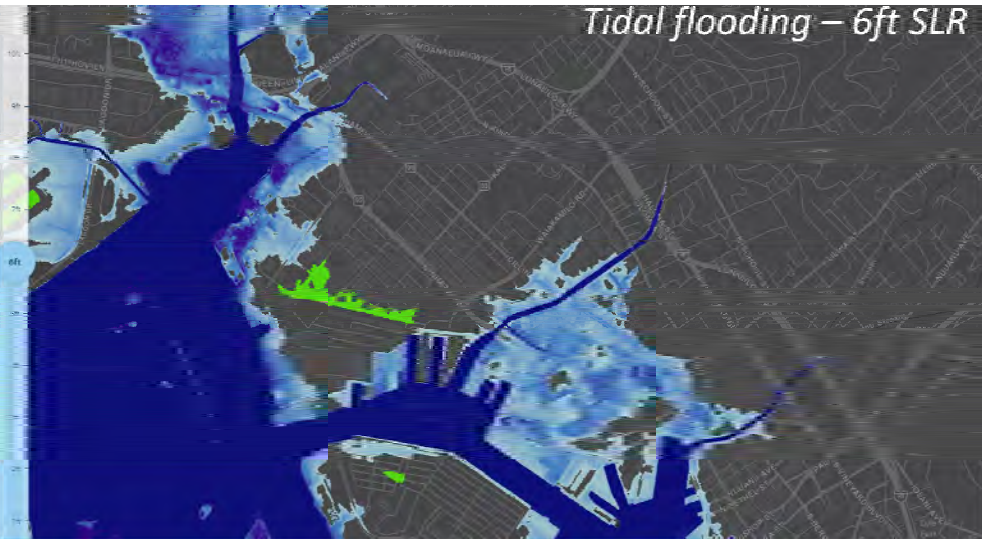
Tidal flooding – 5ft SLR



Tidal flooding – 4ft SLR



Tidal flooding – 6ft SLR



2017 Project Goals

COMMUNITY



SOCIAL

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INFRASTRUCTURE

NATURAL



ENVIRONMENT



2019 Project Goals

COMMUNITY



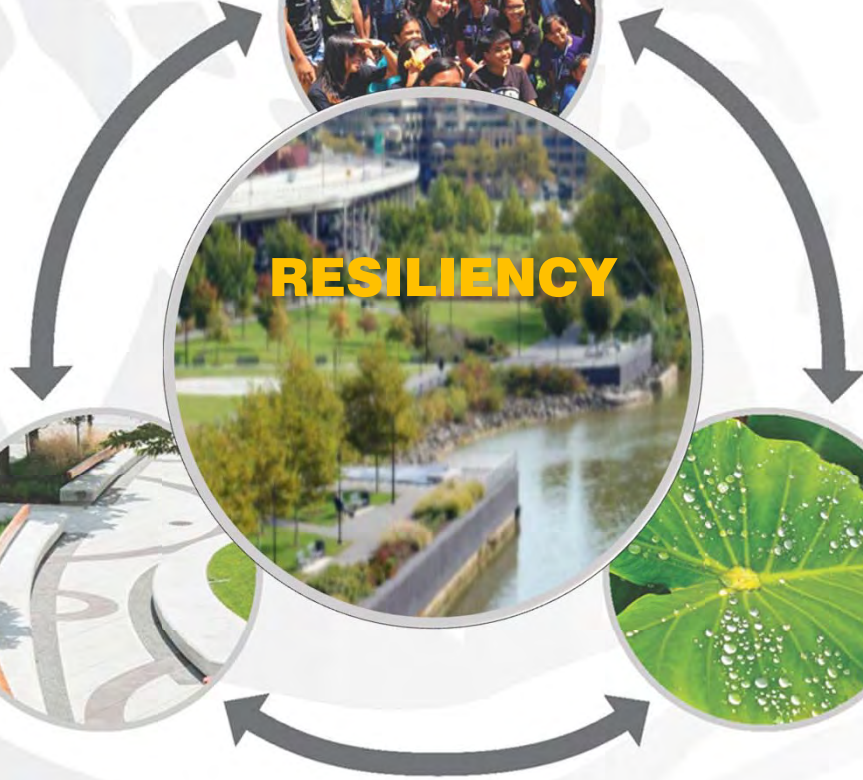
RESILIENCY



INFRASTRUCTURE



ENVIRONMENT



Enhanced Flood Protection Strategies - Generic



1. Tide gate structure + pumping (tidal + storm)



2. Onstream barriers (tidal + storm)



3. Upstream detention / Offstream diversion (storm)



Enhanced Flood Protection Strategies - Project Focus



1. Tide-gate structure + pumping (tidal + storm)



2. Onstream barriers (tidal + storm)



3. Upstream detention / Offstream diversion (storm)

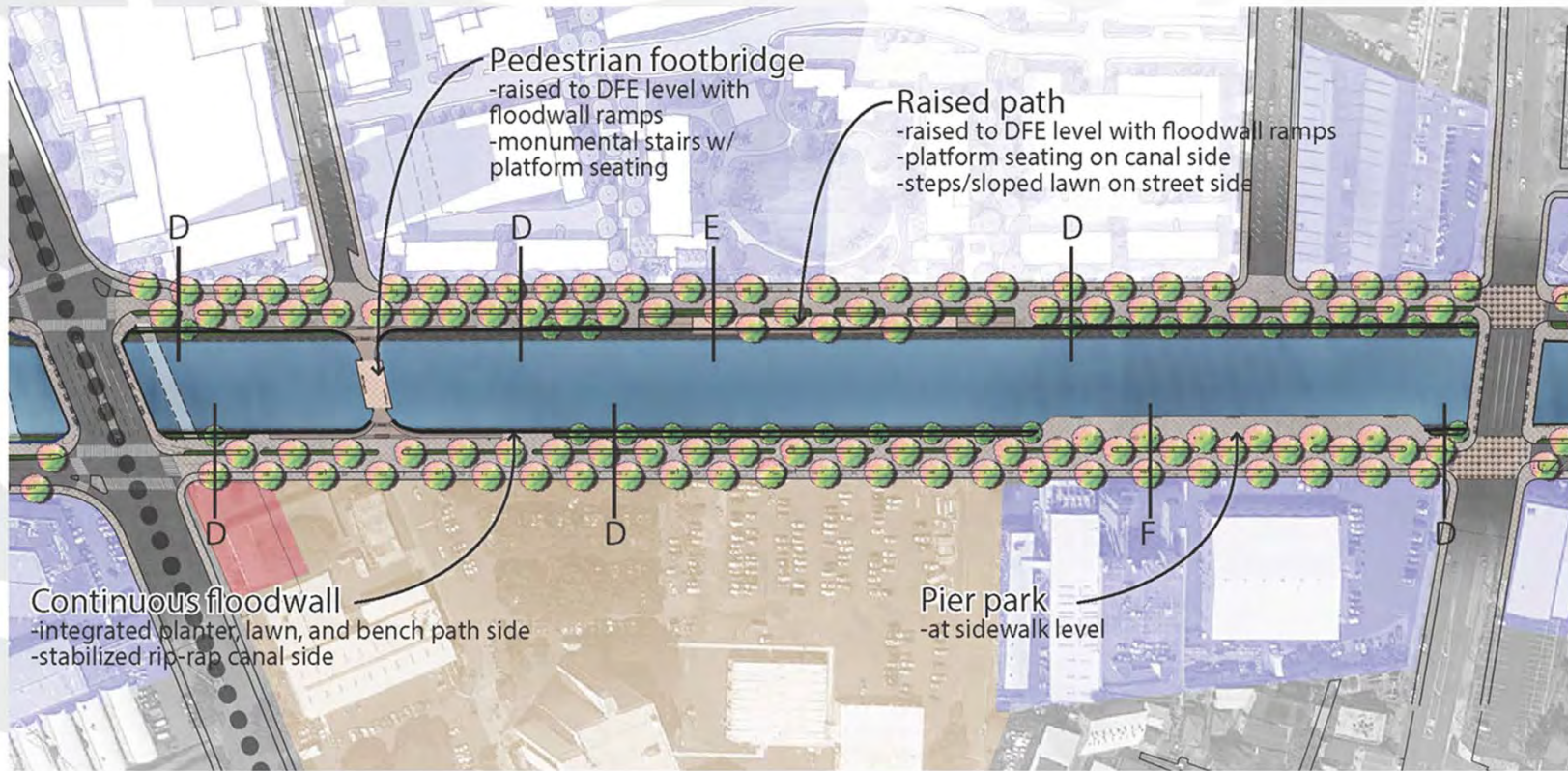


Flood Barrier Strategies - *Onstream focus*

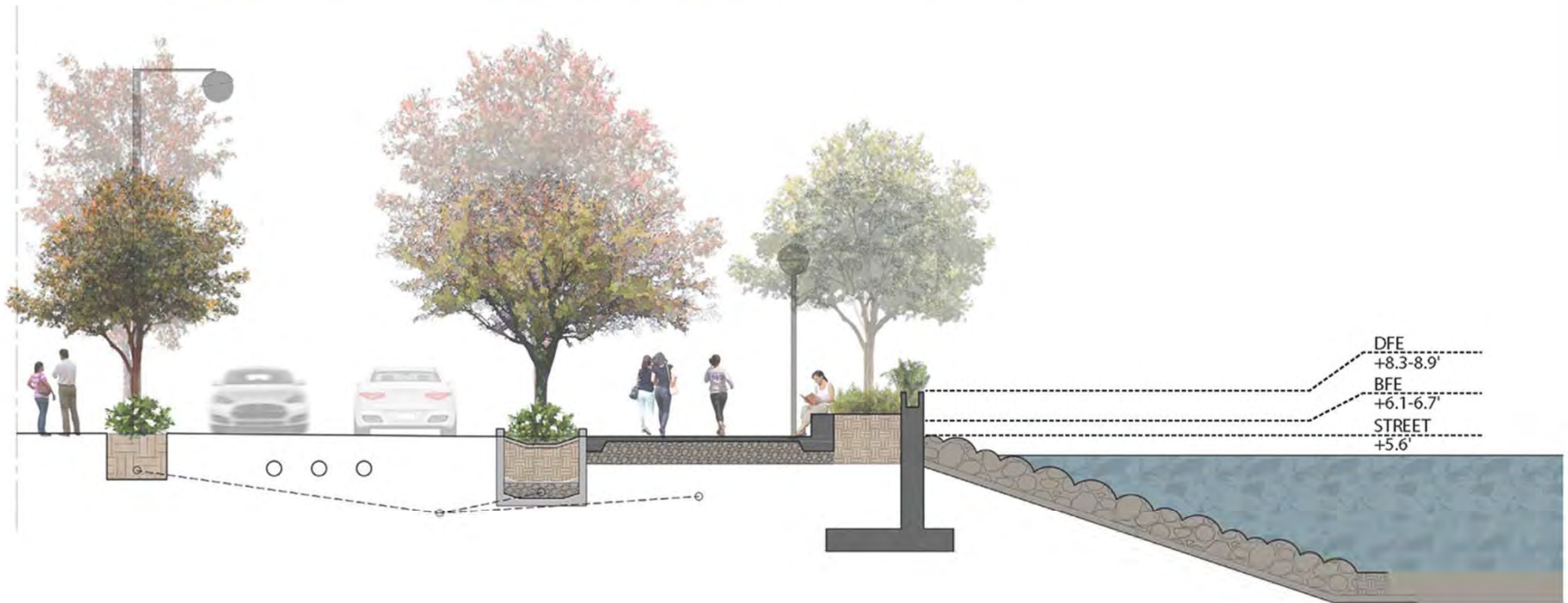
Permanent Options

- **Floodwalls**
- **Bulkheads**
- **Levees / Berms**
- **Raised Roadways / Curbs / Sidewalks**

Central Canal Plan



Central Canal: Section D, typ. (SLR +3.2')



SIDEWALK	STREET	BIO FILTER	PERMEABLE PATH	RAISED FLOOD LAWN WALL	STABILIZED RIP-RAP
10'-0"	22'-0"	6'-0"	15'-0"	1'-6"	

NOTES
 1. POSITION, SPECIES, & ROOT CONTAINMENT OF NEW TREES TO BE DETERMINED AS FLOODWALL DESIGN DEVELOPS SUCH THAT TREES DO NOT DIMINISH INTEGRITY & FUNCTIONALITY OF EMBANKMENT SYSTEM
 2. GRAVITY RETAINING WALL INDICATIVE ONLY. FLOODWALL TYPE SELECTION TBD.

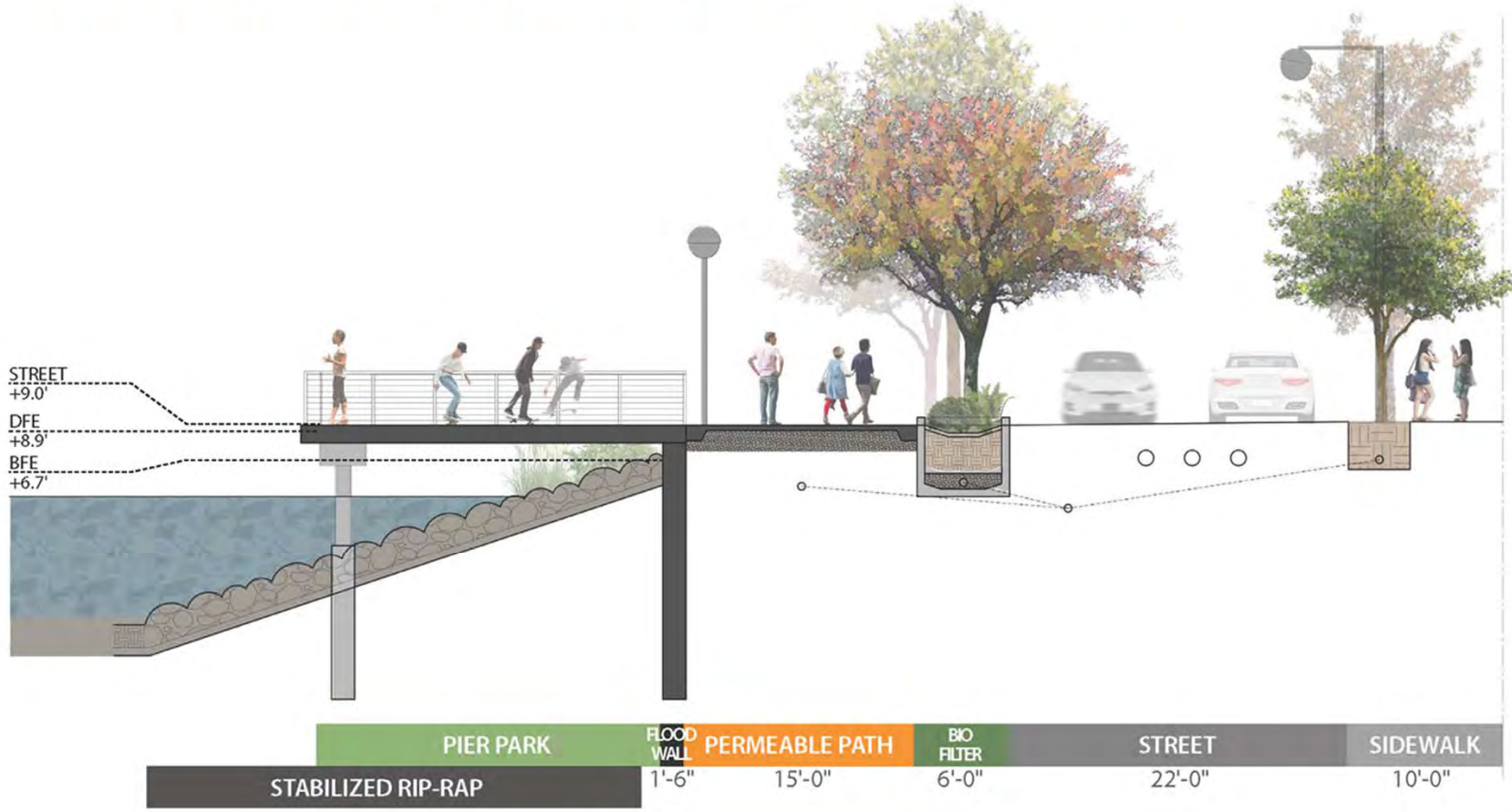
Central Canal: Section E, typ. (SLR +3.2')



SIDEWALK	STREET	BIO FILTER	STAIRS/LAWN	PERMEABLE PATH	FLOOD WALL	STABILIZED RIP-RAP
10'-0"	22'-0"	6'-0"		15'-0"	1'-6"	

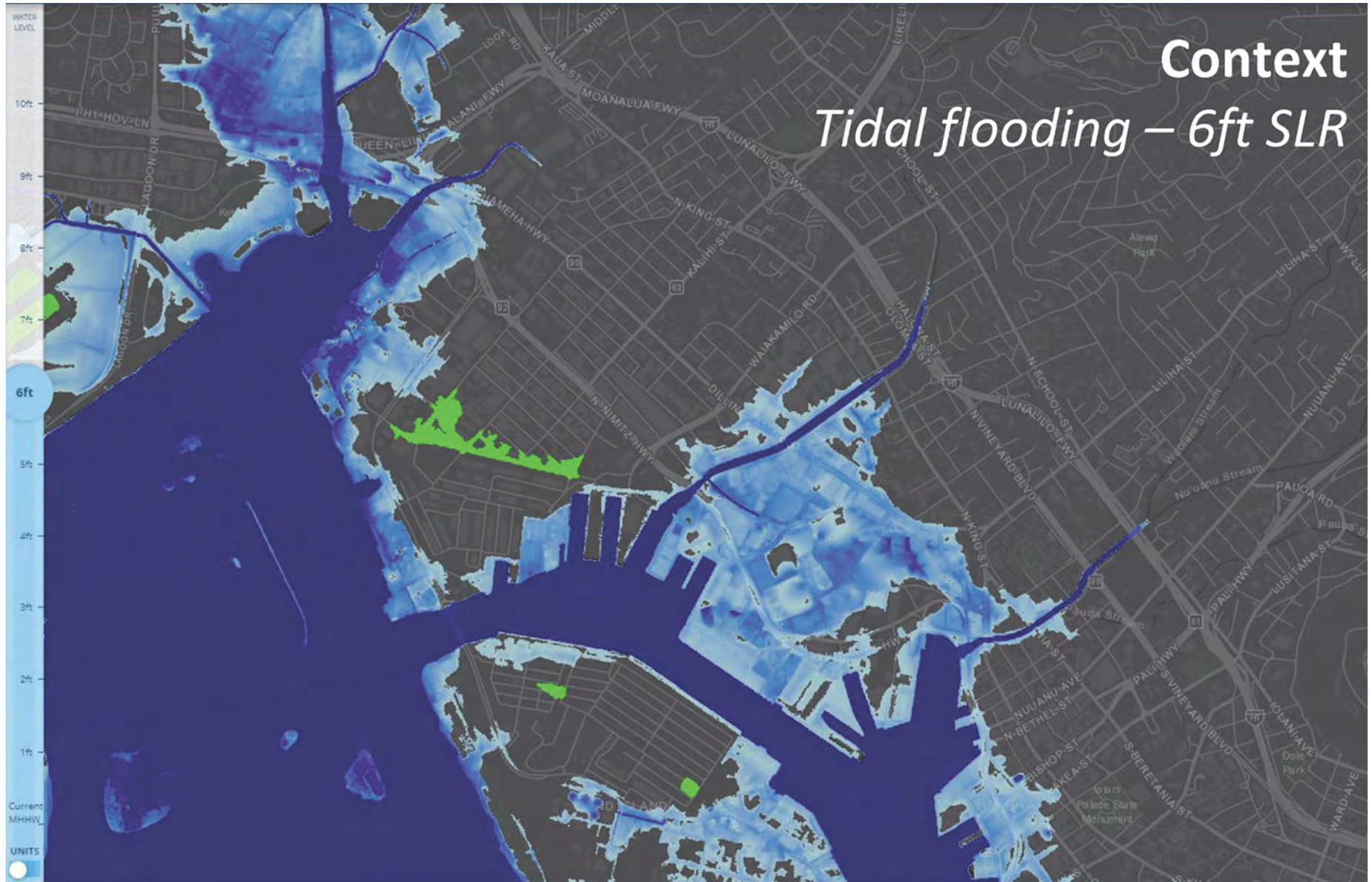
NOTES
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Central Canal: Section F @ Pier Park (SLR +3.2')



Context

Tidal flooding – 6ft SLR

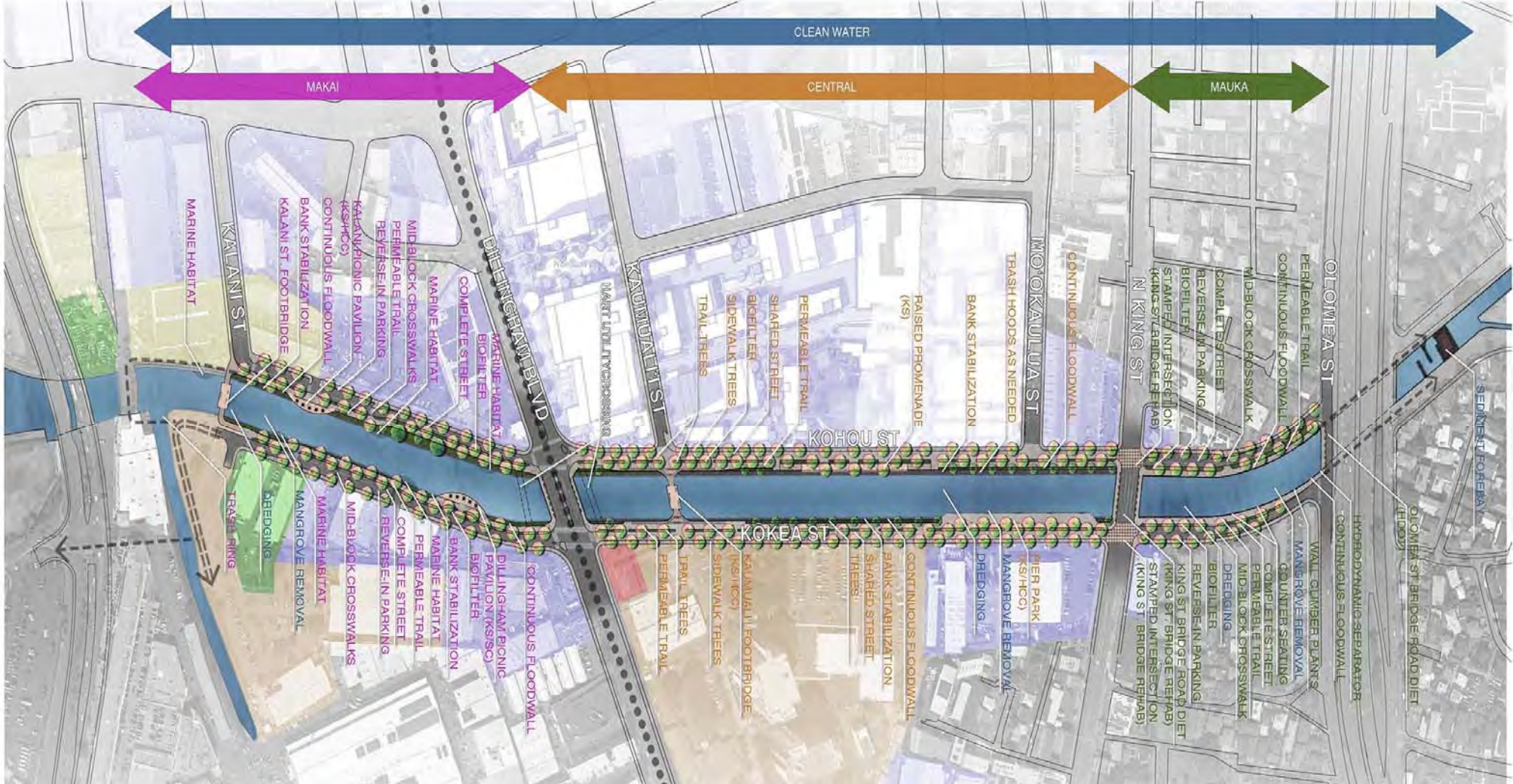






**KAPĀLAMA CANAL
CONCEPTUAL PLAN
JULY 27, 2020**

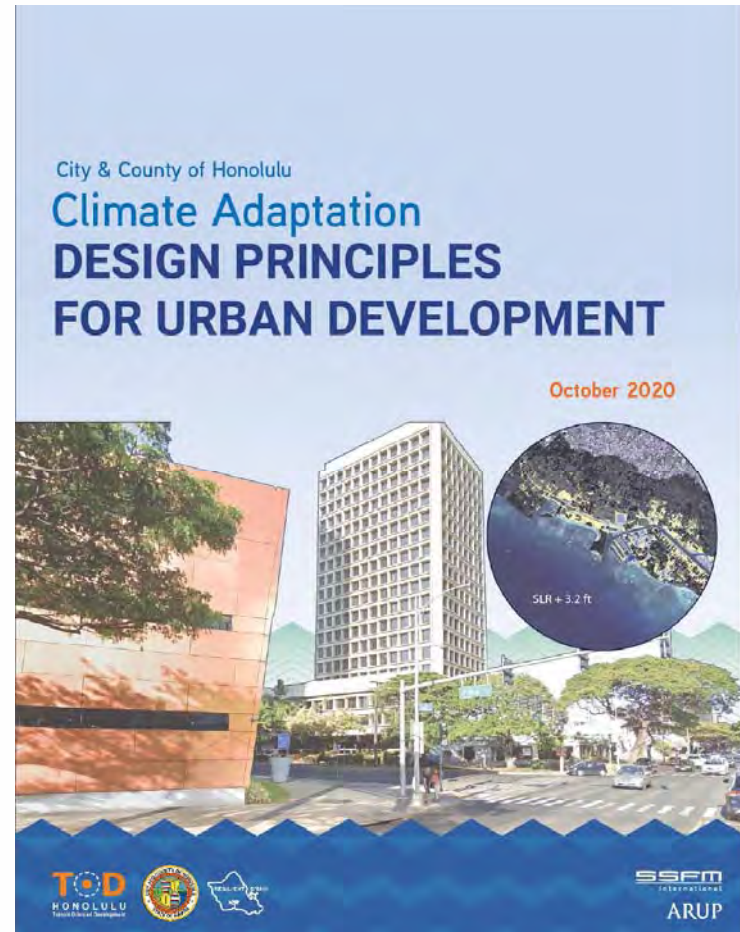
- HART RAIL STATION
- KS PARCEL
- HCC PARCEL
- DHHL PARCEL
- STATE OF HAWAII PARCEL
- RAIL LINE
- FUTURE COMPLETE STREET EXTENSION
- FUTURE PEDESTRIAN/BICYCLE PATH EXTENSION



CLIMATE ADAPTATION DESIGN PRINCIPLES

Outlines key design principles:

- For City agencies updating policies and regulations
- Focused on urban areas vulnerable to sea level rise (SLR) and other climate hazards
- Includes approaches to consider in designing building sites and structures
- To increase resilience to SLR, flooding, extreme heat, and groundwater inundation



Tower & Podium

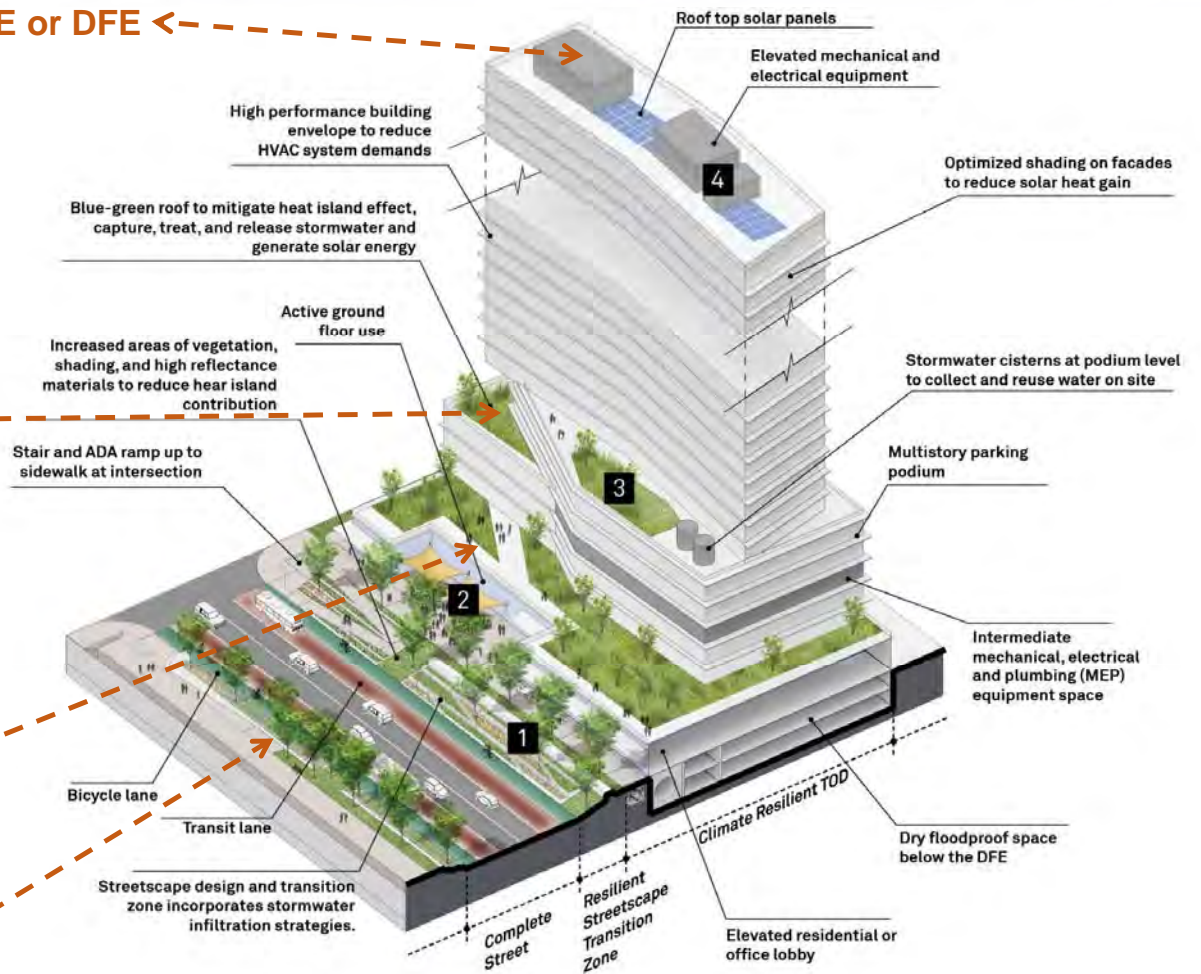
- Locate critical systems above the BFE or DFE ←



- Provide sustainable roof systems ←



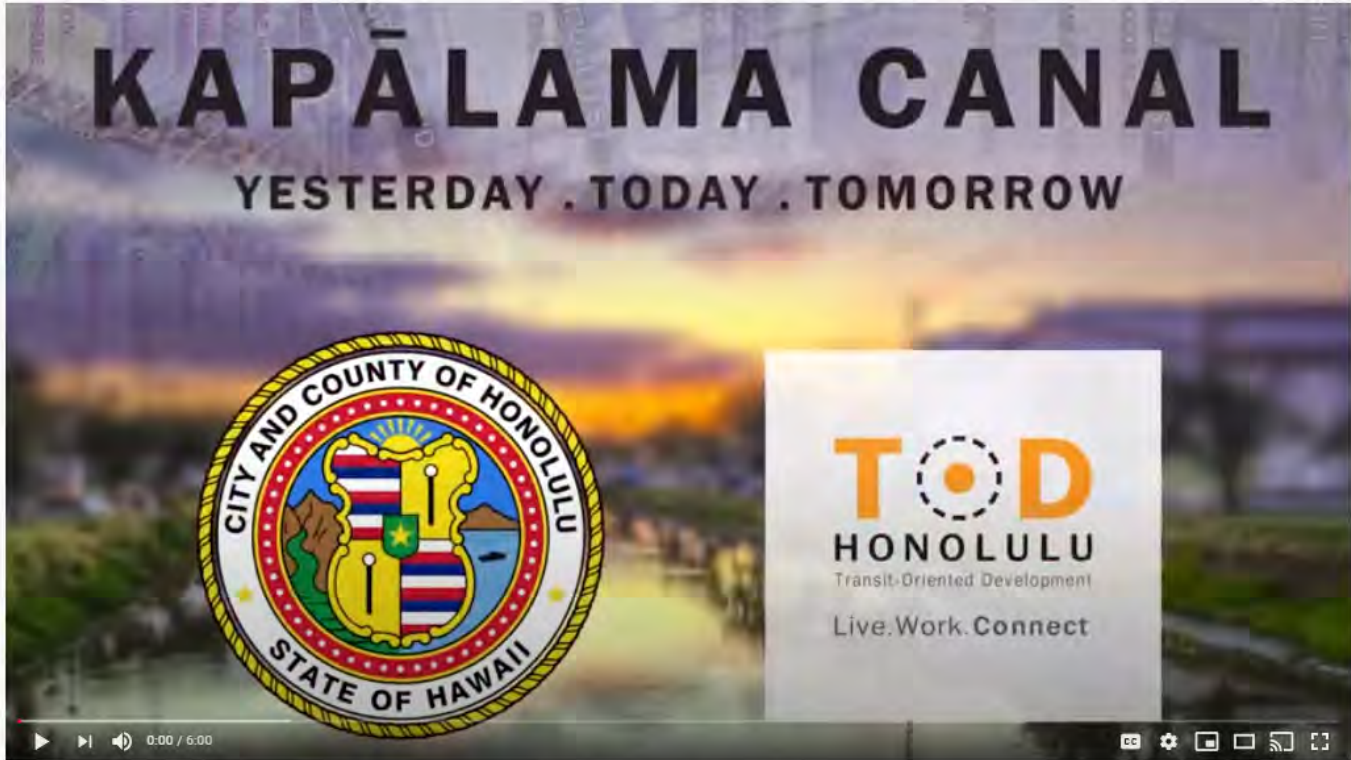
- Podium is designed to be Pedestrian scale with high ground floor transparency ←
- Typically located along a high-volume “complete street” ←



Resilient Streetscape Transition Zone

Resilient Streetscape Transition Zone





Kapalama Canal Catalytic Project: Master Plan Improvements - DEIS 2020 -Transit-Oriented Development

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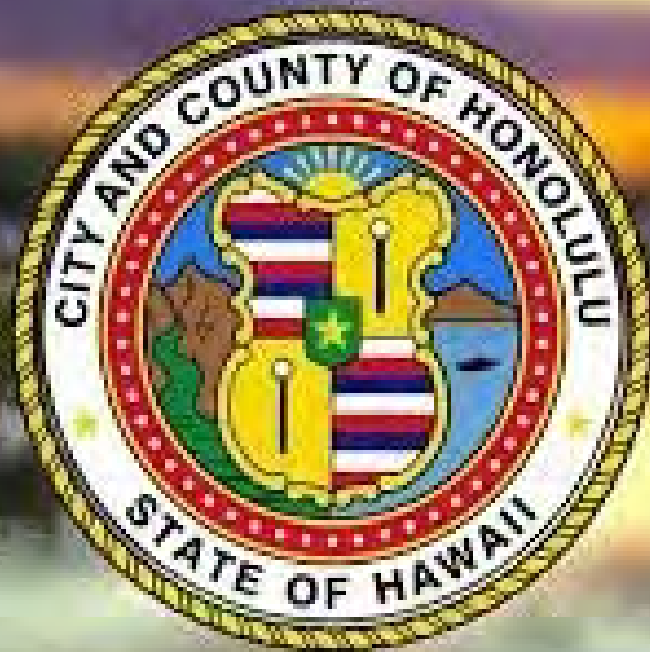
The Kapālama Canal Catalytic project is the outcome of various community plans supported by the City & County of Honolulu Department of Planning and Permitting. These community plans include the Kalihi-Pālāma Action Plan (2004) and the Kalihi Neighborhood Transit-Oriented Development Plan (2014), which provide visions for a linear park along Kapālama Canal, a waterfront promenade, and complete street improvements along Kōkea and Kohou Streets from Nimitz Highway to the H-1 Freeway. In addition to supporting the community's visions, the Masterplan will address green infrastructure and water quality improvements, erosion control, bank stabilization, resiliency

<https://bit.ly/3hg4D5r>

YouTube search:
"Kapalama Canal TOD DEIS"

KAPĀLAMA CANAL

YESTERDAY . TODAY . TOMORROW



TOD

HONOLULU

Transit-Oriented Development

Live. Work. Connect