

Meeting with Contra Costa County October 3rd, 2022



North Richmond Shoreline Adaptation *Planning & Preliminary Design*

AGENDA

- **Project Scope and Recent Developments**
 - Stakeholder Working Group; 5-Mile Regional Collaborative Plan, WCW Living Levee Prototype
 - Community Engagement / Co-Design Process
 - Key Near-Term Linkages & “Collaboration Clusters” (X2)
 - Living Levee Pilot footprint & alignment study; Related trail and access opportunities
- **Schedule, Funding Approach & Next Steps**
- **Discussion**

North Richmond Shoreline Adaptation Project Boundary

**~5 Mile North Richmond Shoreline Area
(Scope: Collaborative Shoreline Plan)**

Inclusive of critical sub-tidal habitat, mudflats and aqueous parcel boundaries

Parchester Village in the North

Pt. San Pablo

Pt. Pinole

Giant Marsh

Dotson Family Marsh

Richmond Parkway

San Pablo Marsh

San Pablo Creek

San Pablo

**LIVING LEVEL PILOT STUDY
AREA at WCW FACILITY
(Scope: 30% Drawings)**

WCW

Wildcat Creek

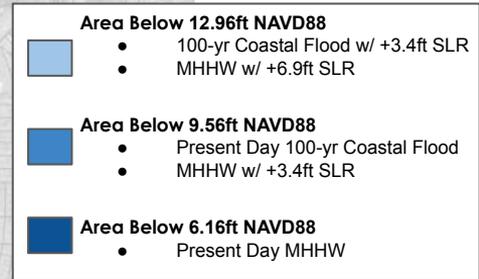
Wildcat Marsh

North Richmond

Chevron Refinery

Richmond

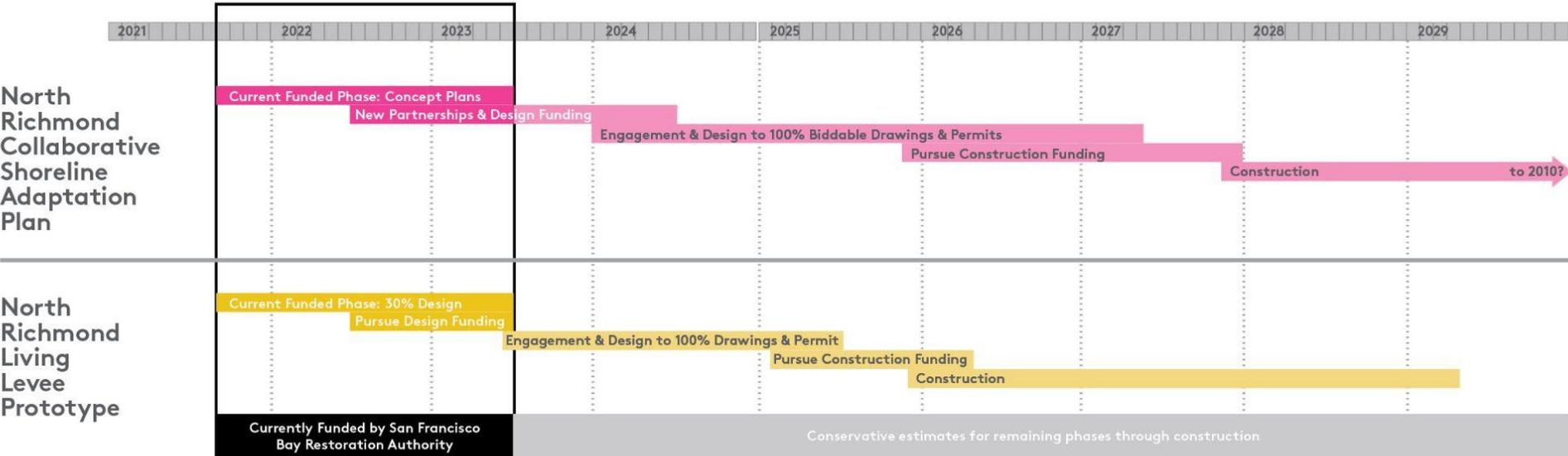
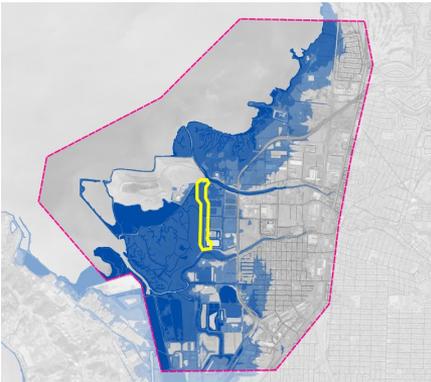
Castro Creek in the South



0 0.25 0.5 1 Miles

Looking Ahead...

- DESIGN DEVELOPMENT FOR PILOT PROJECT AND CONCEPT PLAN FOR COLLABORATIVE SHORELINE ADAPTATION PLAN
- CONTINUED STAKEHOLDER MEETINGS
- COMMUNITY SURVEY REPORTING
- 'COLLABORATION CLUSTERS' DISCUSSIONS & DESIGN OPTIONS
- SECOND BRRIT MEETING IN EARLY 2023
- FINAL REPORT DELIVERED TO SFBRA MAY 2023



Stakeholder Engagement Map

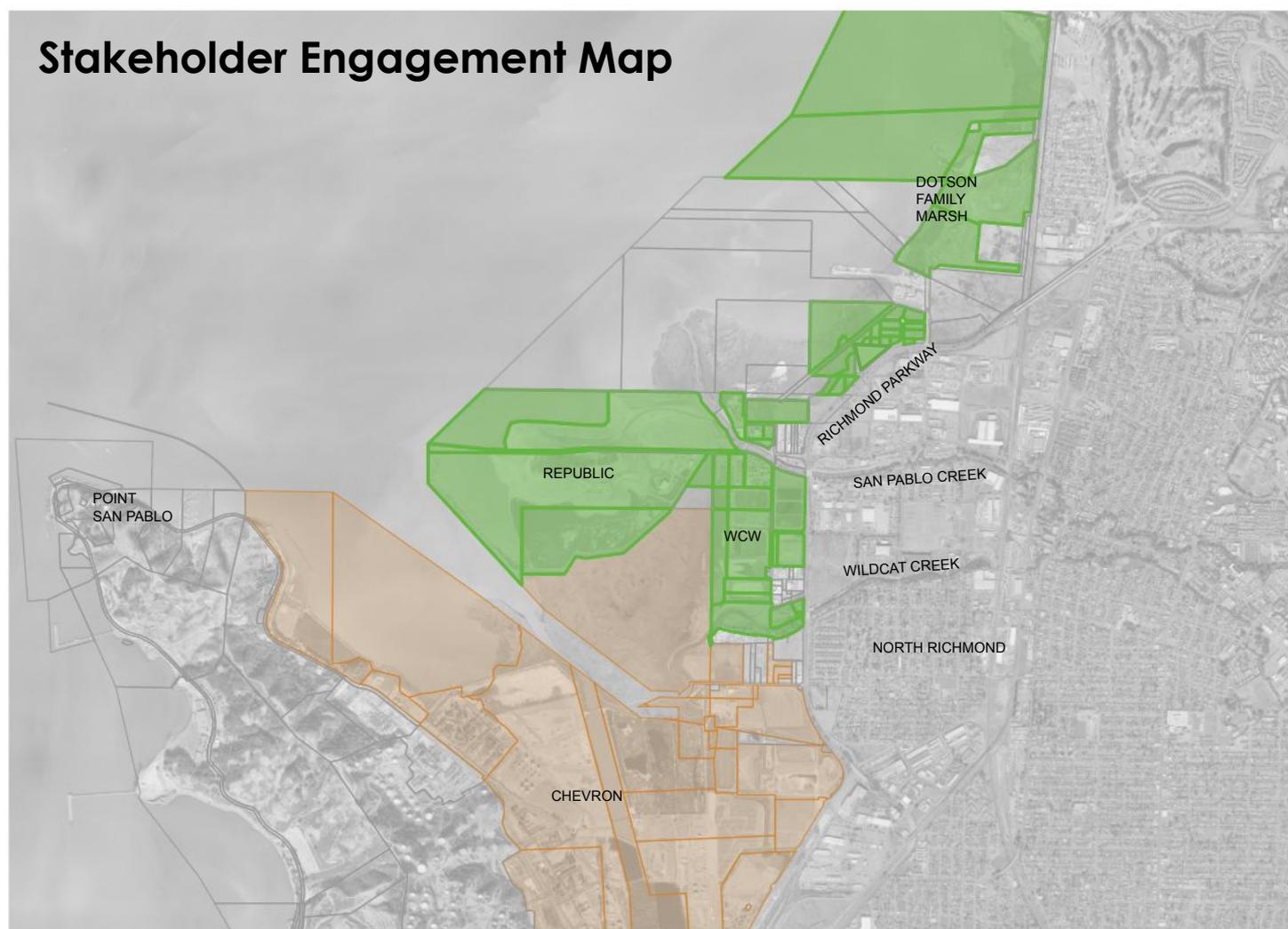
 Stakeholder Conversations/ Collaborations

 Chevron Parcels

One-on-One Stakeholder Workshops

- West County Wastewater
- Republic Services
- Parr Acres
- Contra Costa Flood Control
- East Bay Parks
- City of Richmond
- PowerPlant Park

- County Supervisor Gioia
- Contra Costa County Watershed Program
- Trails Richmond Action Committee
- Watershed Council
- San Francisco Estuary Partnership
- BCDC Planning (scheduling)
- CC Mosquito and Vector Control (scheduled)
- West Contra Costa Transportation Advisory Committee (scheduled)



WHAT WE'VE HEARD: Priorities for Access, Amenities, Activities & Restoration



Live MarkUP:

is there a barge or canal or other besides just levee itself?

loops, not just lines!

prioritize bike and ped, running access

bridge

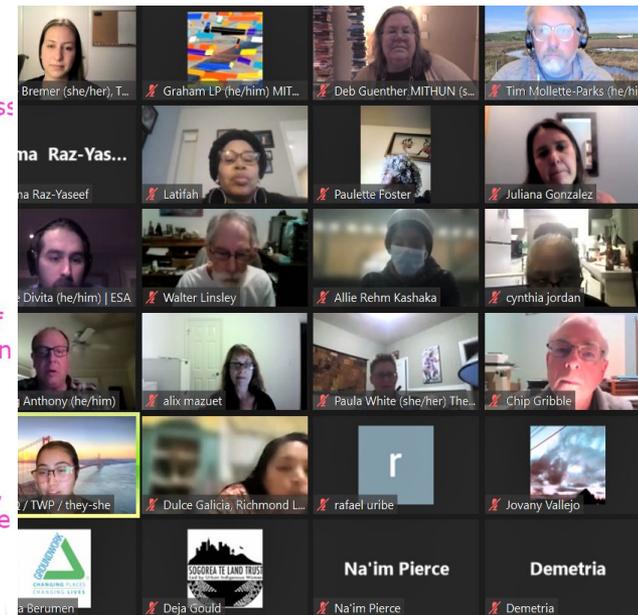
clarity of wayfinding

Signage, wayfinding

can wetlands, etc be more accessible, esp for elderly population

ecology center, arts center
quiet program, yoga, etc - private & meditation
trash & recycling facilities, esp when leaving the flea market (combined w/ environmental)

interactive education component - accessible throughout - in diff languages, etc (so much wildlife etc) more engaging for youth; history ; function of WCW; tribal and indigenous engagement



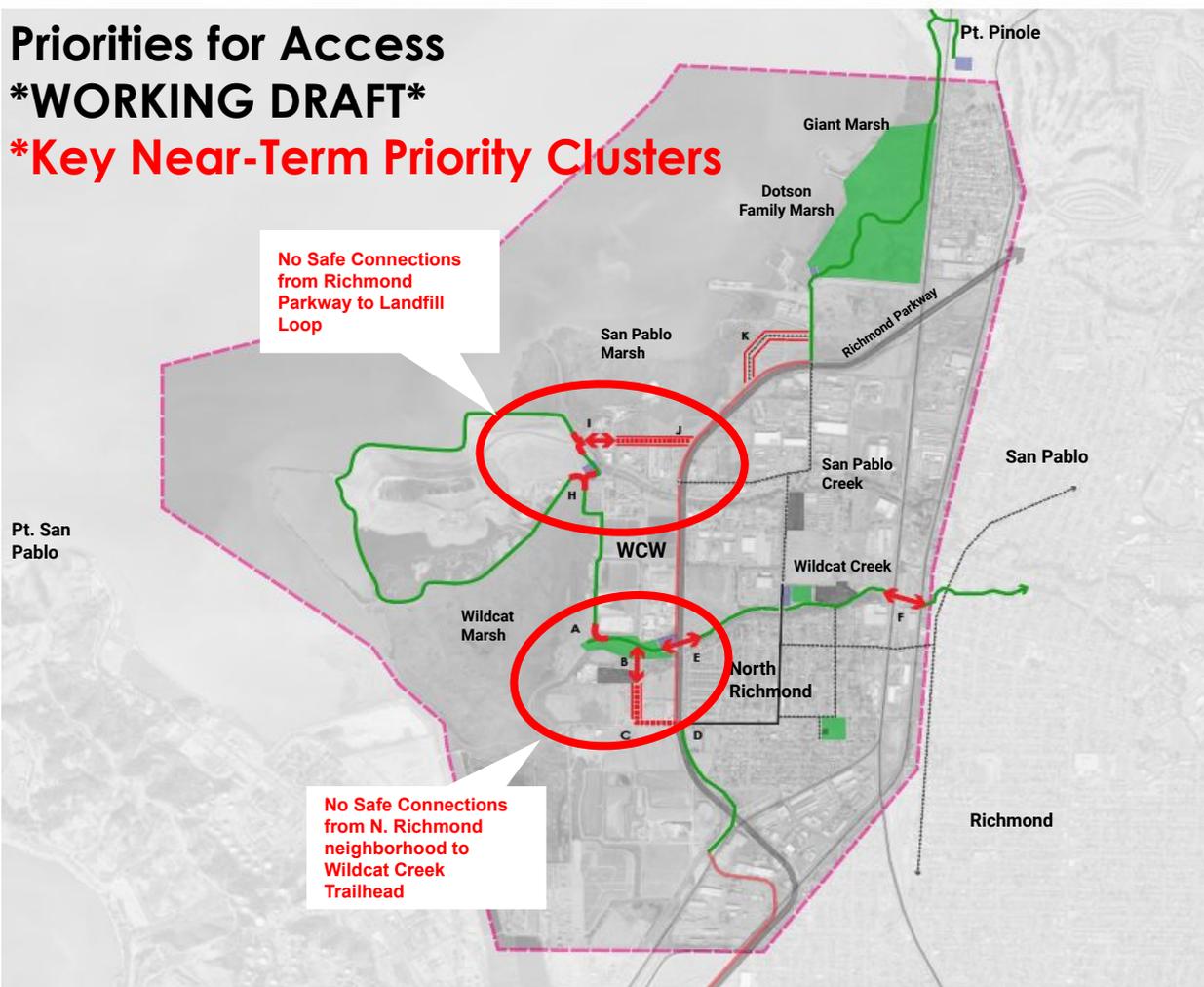
Priorities for Access

WORKING DRAFT

***Key Near-Term Priority Clusters**

No Safe Connections from Richmond Parkway to Landfill Loop

No Safe Connections from N. Richmond neighborhood to Wildcat Creek Trailhead



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING

- A. Lockable gate, locked at times
- B. Prop. Ped/Bike bridge crossing from Wildcat Creek Trail to Flea Market
- C. Prop. Ped/Bike path to N. Richmond neighborhood
- D. Unsafe Richmond Parkway crossing at Gertrude Ave
- E. Prop. Ped/Bike bridge crossing; Underpass at Richmond Parkway impassible, full of sediment, generally uninviting spatially. Key opportunity for trail connectivity
- F. No pedestrian way to cross at Railroad along Wildcat trail east of Verde School.
- H. Trail head accessible by auto only. Must drive into Republic Service operation area to get there; Lockable gate, locked at times.
- I. Prop. Ped/Bike bridge crossing from Bay Trail to Landfill Loop; currently requires crossing in front of Republic Services truck operations at gate house.
- J. Prop. new Trail conxn and separated loop to Richmond Parkway, Dotson Marsh
- K. Prop. new Trail conxn and separated loop to Richmond Parkway, Dotson Marsh Trail Extension to Goodrick Ave.

Priority Amenities

Water's Edge



kayak launch



gravel beach



boardwalk



bird blind

Levee



observatory tower



info kiosk / interpretation



boardwalk



park amenities

Upland



native plant nursery



native garden

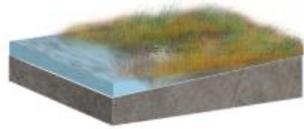


community space



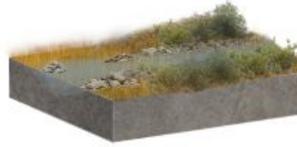
art / research area

Priorities for Restoration: Assessing Feasibility and Location



Tidal Marshes

- Restore tides to diked ponds, remove unneeded historic shoreline fill



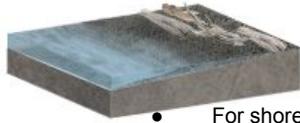
Riparian /
Floodplain Corridors

- Preserve and expand natural corridors along creek channels



Ecotone Slopes

- Create or enhance gently sloped transitions between tidal and riparian habitats and adjacent uplands



Gravel Beach

- For shorelines with larger wave exposure. To reduce erosion of marsh habitats and to protect critical infrastructure



Seasonal Wetlands

- Create wetland habitats in areas where stormwater runoff is concentrated for water quality and habitat benefits



Uplands

- Protect upland open space and apply ecological enhancements to restore natural habitats.

+Ecological Enhancements

- **Establish native vegetation:** Seeding and planting appropriate native plant species
- **Invasive plant management** and eradication
- **Tidal and stormwater channel improvements** (remove barriers, create new channels as needed)
- **Small-scale Habitat Features:**
 - Natural wood habitat structures
 - Oyster reefs
 - Manufactured habitat elements: Owl burrows, bird/bat boxes, etc.
- **Nature-based water treatment:**
 - Stormwater swales
 - Wetland habitat water treatment ponds
 - Subsurface flow water treatment wetlands (“Horizontal Levee”)

“A Flexible Band” Multi-Benefit Adaptations

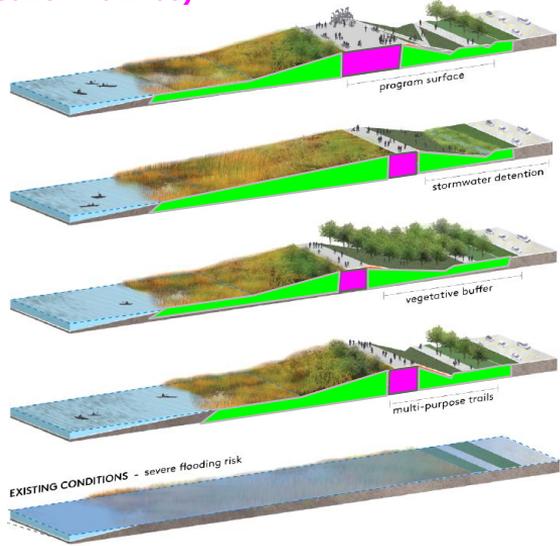
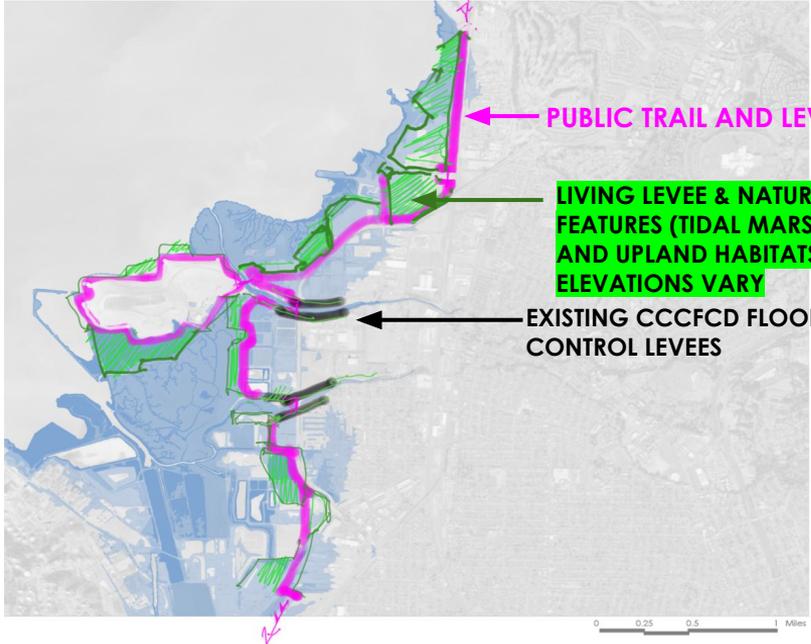


Avoid impacts to existing tidal habitats

Habitat Slope and 'Living' Features outboard of Levee Core allow for habitat restoration, protection, and migration

PUBLIC TRAIL AND LEVEE CORE 20' +/- WIDE, ELEVATION 14' (resilient to 2070), or ELEVATION 18' (resilient to 2100)

Green Stormwater Infrastructure and other 'Living' features back of Levee Core



North Richmond Shoreline Adaptation Project Boundary

“Collaboration Clusters” Address Key Near-Term Linkages & Vulnerabilities

Area Below 12.96ft NAVD88

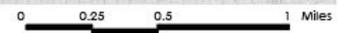
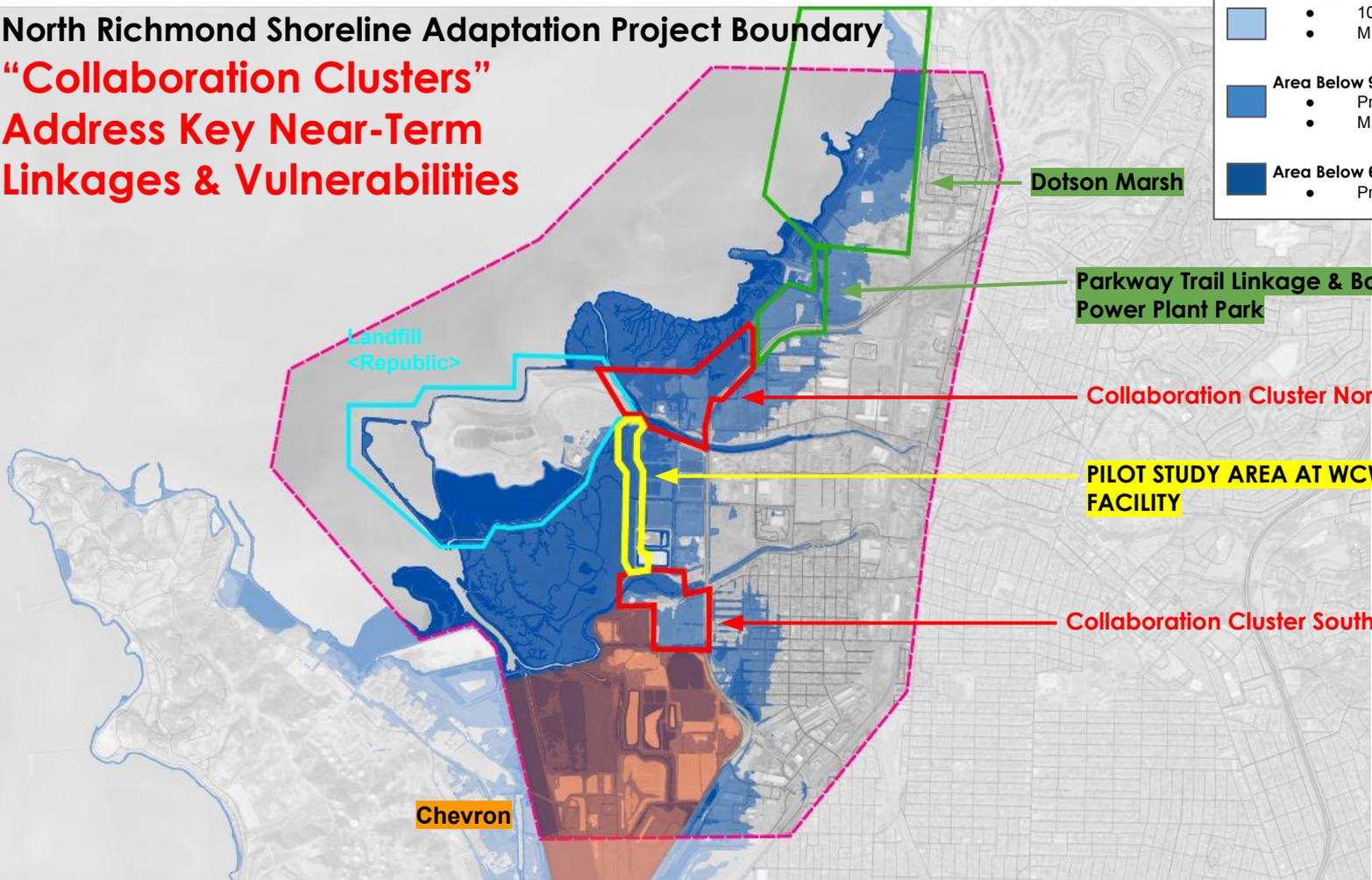
- 100-yr Coastal Flood w/ +3.4ft SLR
- MHHW w/ +6.9ft SLR

Area Below 9.56ft NAVD88

- Present Day 100-yr Coastal Flood
- MHHW w/ +3.4ft SLR

Area Below 6.16ft NAVD88

- Present Day MHHW

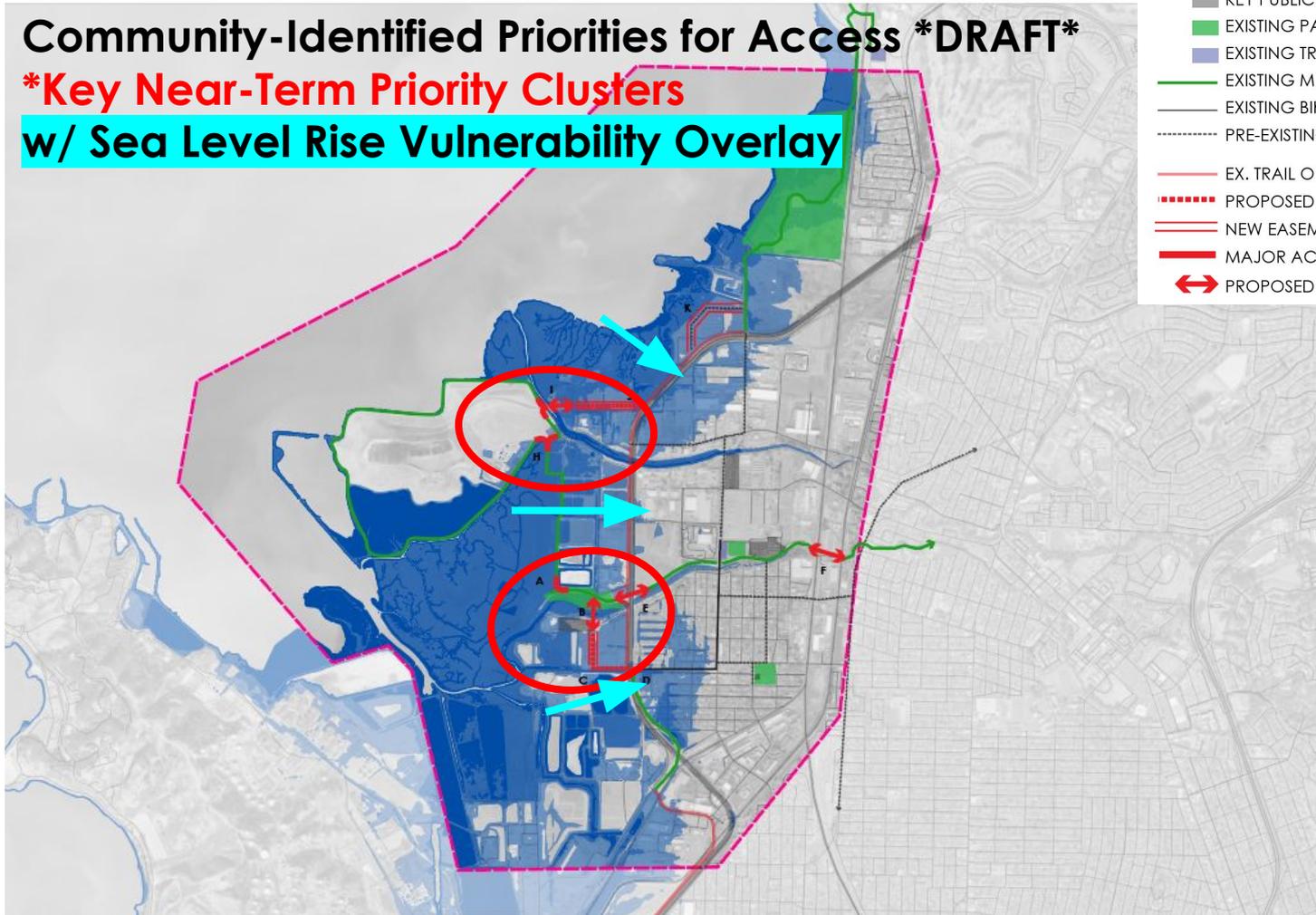


Community-Identified Priorities for Access *DRAFT*

***Key Near-Term Priority Clusters**

w/ Sea Level Rise Vulnerability Overlay

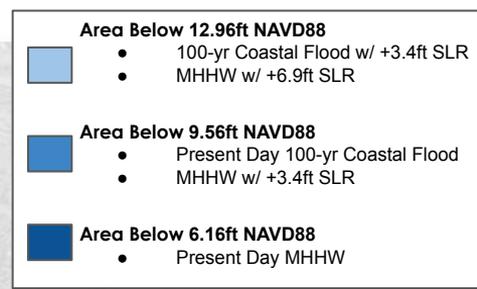
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- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
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0 0.25 0.5 1 Miles

“Collaboration Clusters” Address Key Near-Term Linkages & Vulnerabilities

*parcels + stakeholders highlighted



Collaboration Cluster North

- City of Richmond
- WCCTAC
- East Bay Parks
- Republic Services
- Contra Costa Flood Control
- Independent:
SRE Richmond
PARR Acres
- *potentially other adjacent

Collaboration Cluster South

- City of Richmond / WCCTAC
- East Bay Parks
- Contra Costa Flood Control
- Independent:
Hammond Construction
SRE Richmond
Fass Diane M Tre
R & S Holdings
- *Chevron

0 0.25 0.5 1 Miles

Collaboration Cluster South: Wildcat Creek Reach *DRAFT ONLY*

Aerial View



LANDFILL LOOP

WCW TREATMENT FACILITY

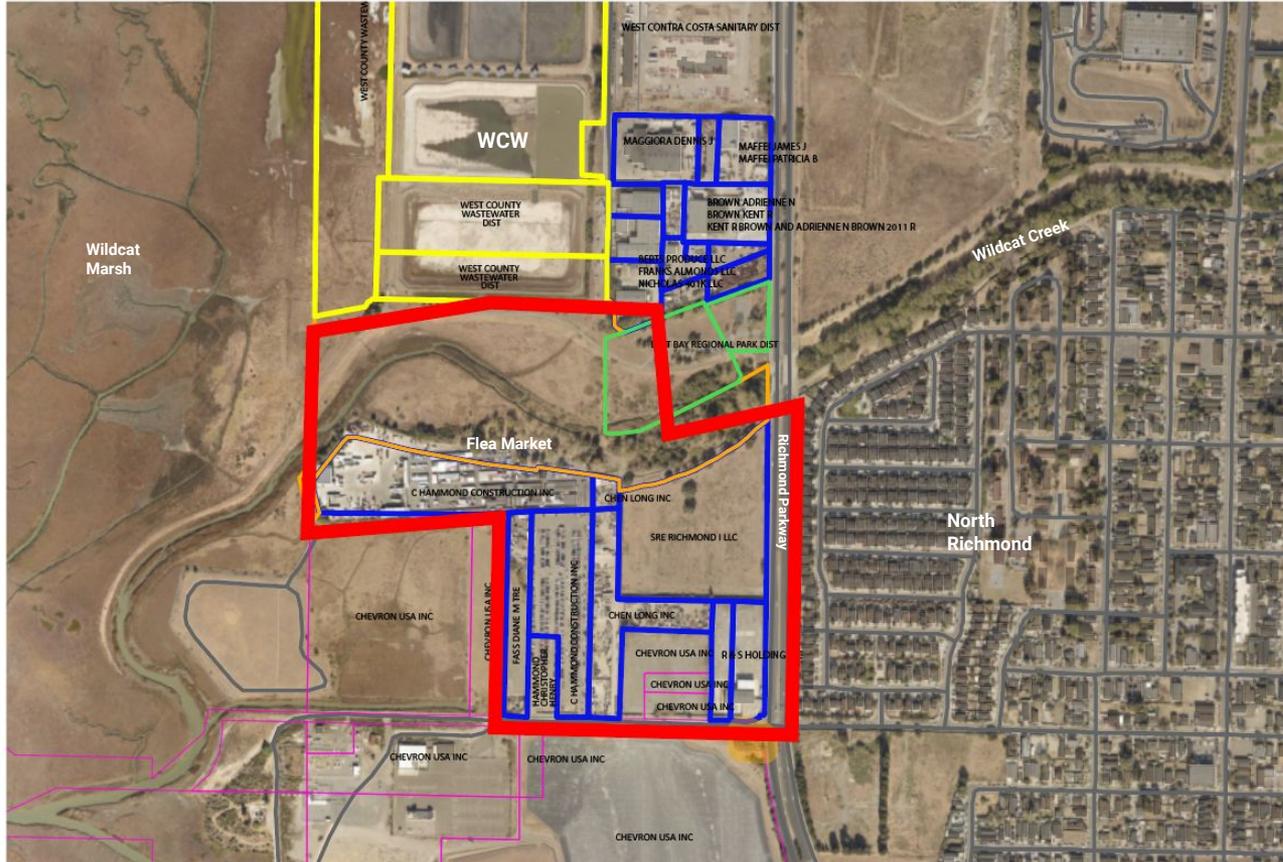
WILDCAT CREEK

RICHMOND PARKWAY

FLEA MARKET

Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Parcel info



Collaboration Cluster South

Agencies:

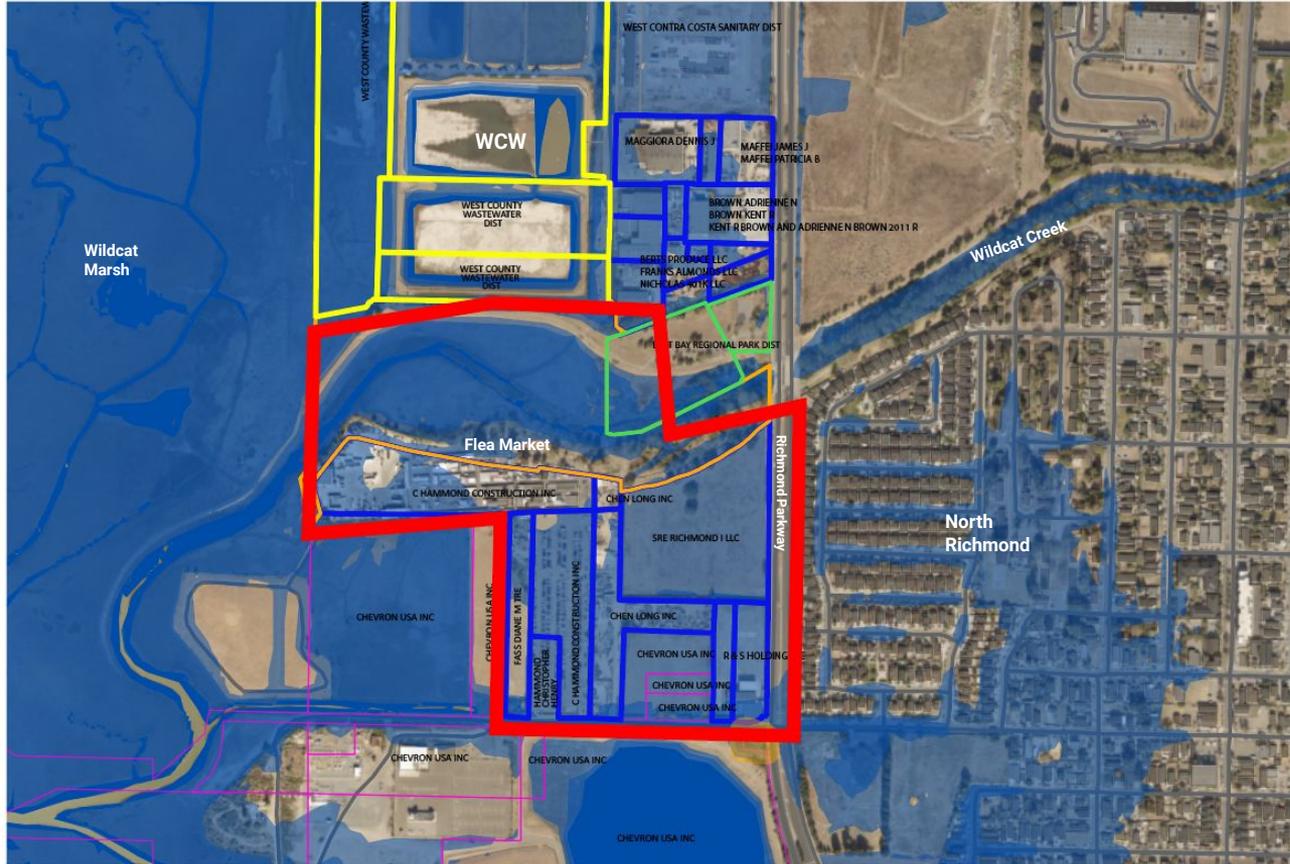
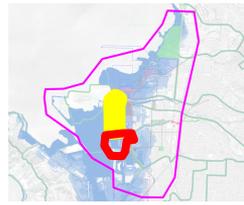
- Contra Costa County District 1
- WCCTAC
- Contra Costa Flood Control District
- City of Richmond
- East Bay Parks
- and?

Independent Property Owners Contact Still Needed:

- C. Hammond Construction Inc
- SRE Richmond I LLC
- Fass Diane M Tre
- Chen Long Inc
- R & S Holdings
- Chevron**

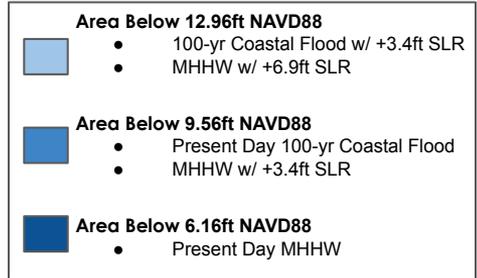
Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Parcel & Flooding info



Collaboration Cluster #2

- City of Richmond / WCCTAC
- East Bay Parks
- Contra Costa Flood Control
- Independent:
- Hammond Construction
- SRE Richmond
- Fass Diane M Tre
- R & S Holdings
- *Chevron
- *and...?



Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Existing Conditions



Levees and Hydraulic Deficiencies Along Wildcat Creek

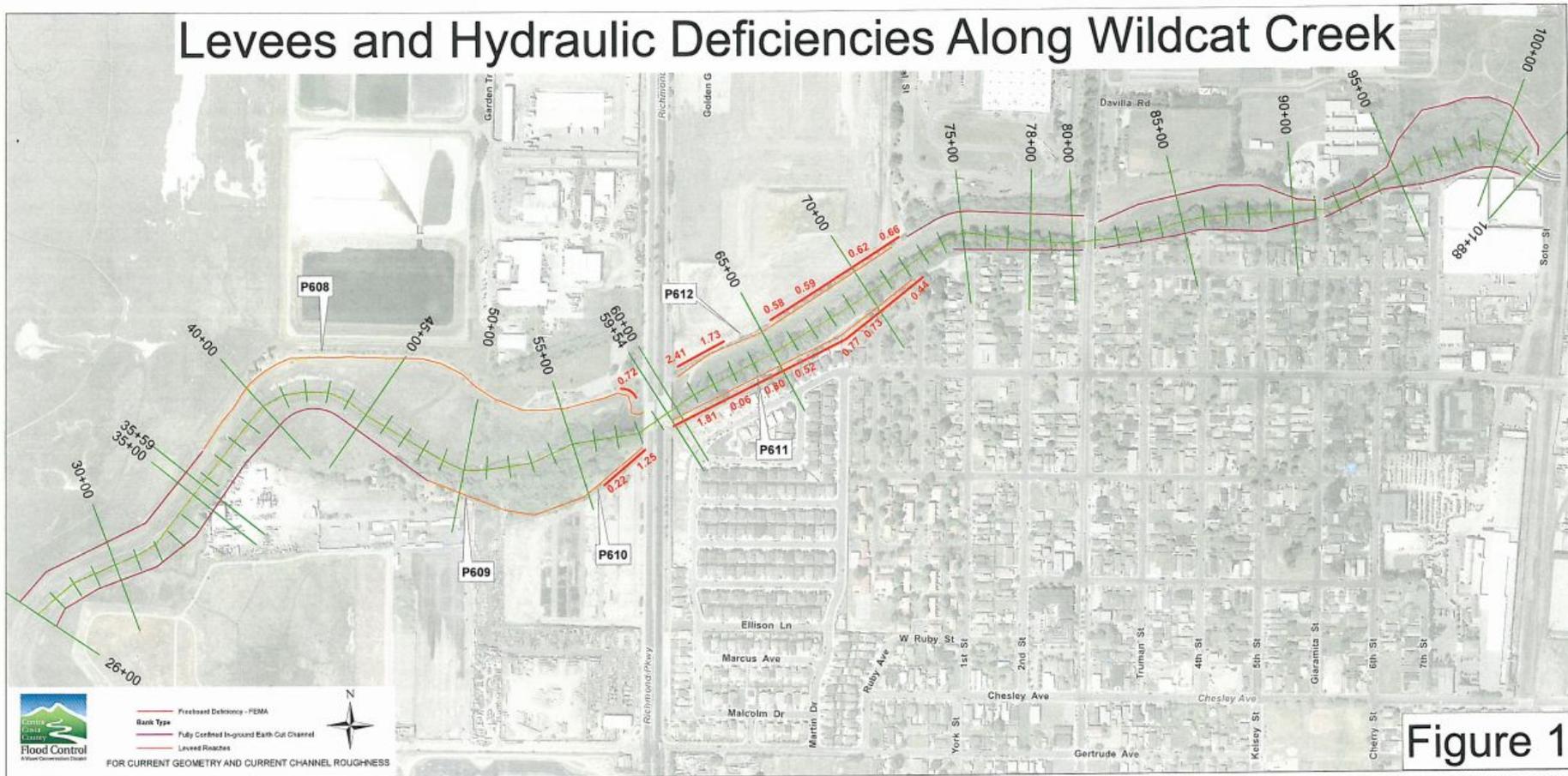
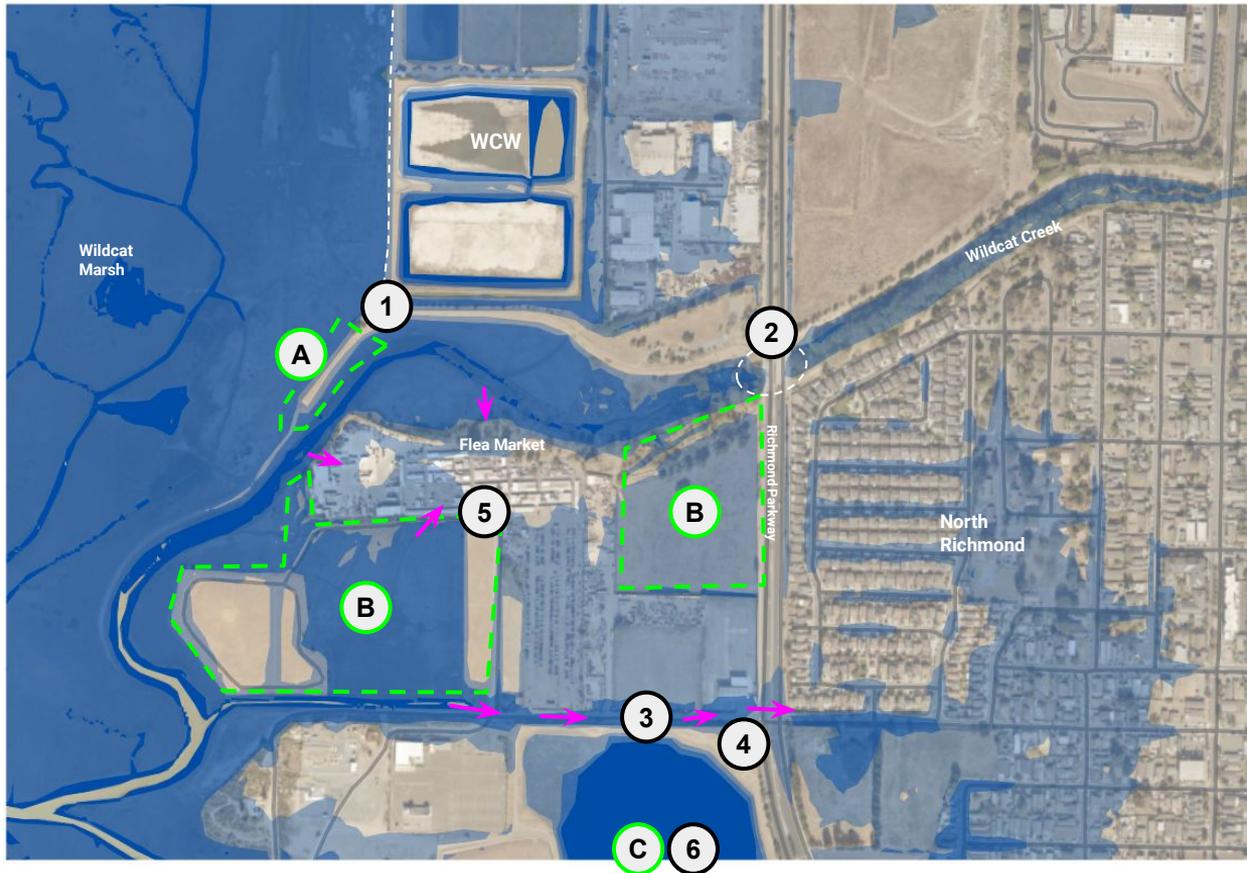


Figure 1

Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Existing Conditions Analysis + Flooding Projection



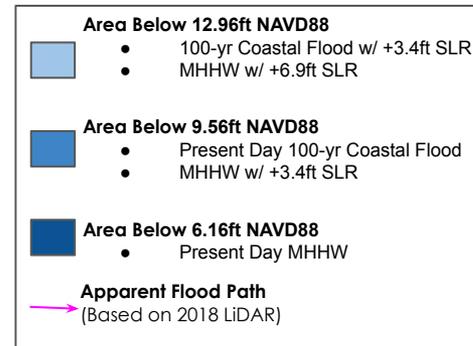
Key Flood Vulnerability

- 1) **Demonstration Project Levee Tie-in**
- 2) **Wildcat Creek Trail Poor/flooded trail connection to neighborhoods**
- 3) **Gertrude Ave & North Richmond Neighborhood:** Vulnerable to present-day coastal flooding, worse with SLR
- 4) **Gertrude Pump Station:** Critical stormwater facility. Access limited during coastal flood.
- 5) **Flea Market:** Vulnerable to coastal flooding w/ 1-2 ft SLR
- 6) **Chevron Ponds (off screen)**



Restoration/Ecological Enhancement

- A. Wildcat Creek Mouth
- B. Preserve/Enhance marsh- and creek- adjacent open space
- C. Pond remediation/restoration (off screen)



Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Key Access info

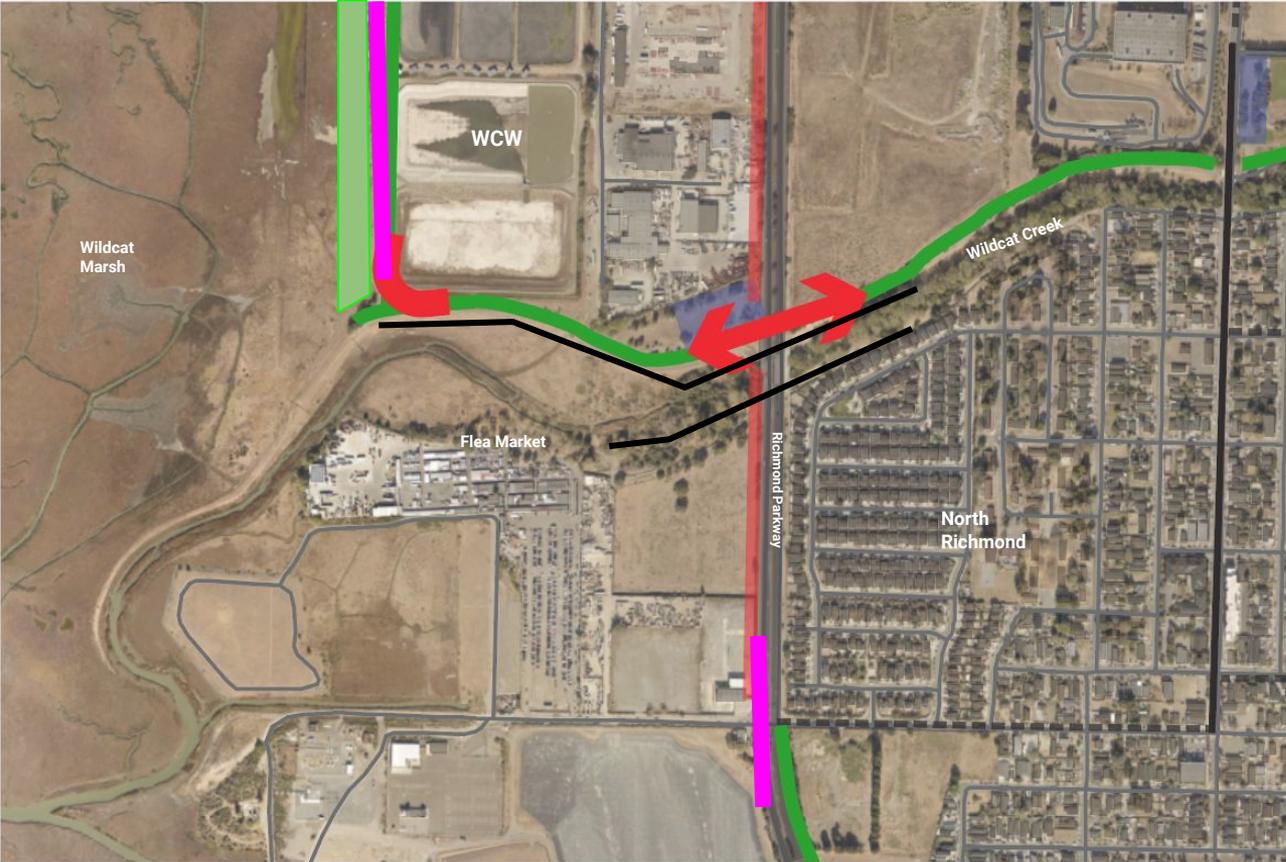


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- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING

No Safe Connections from N. Richmond neighborhood to Wildcat Creek Trailhead

Collaboration Cluster South *DRAFT ONLY*

Concept Design Approach 1

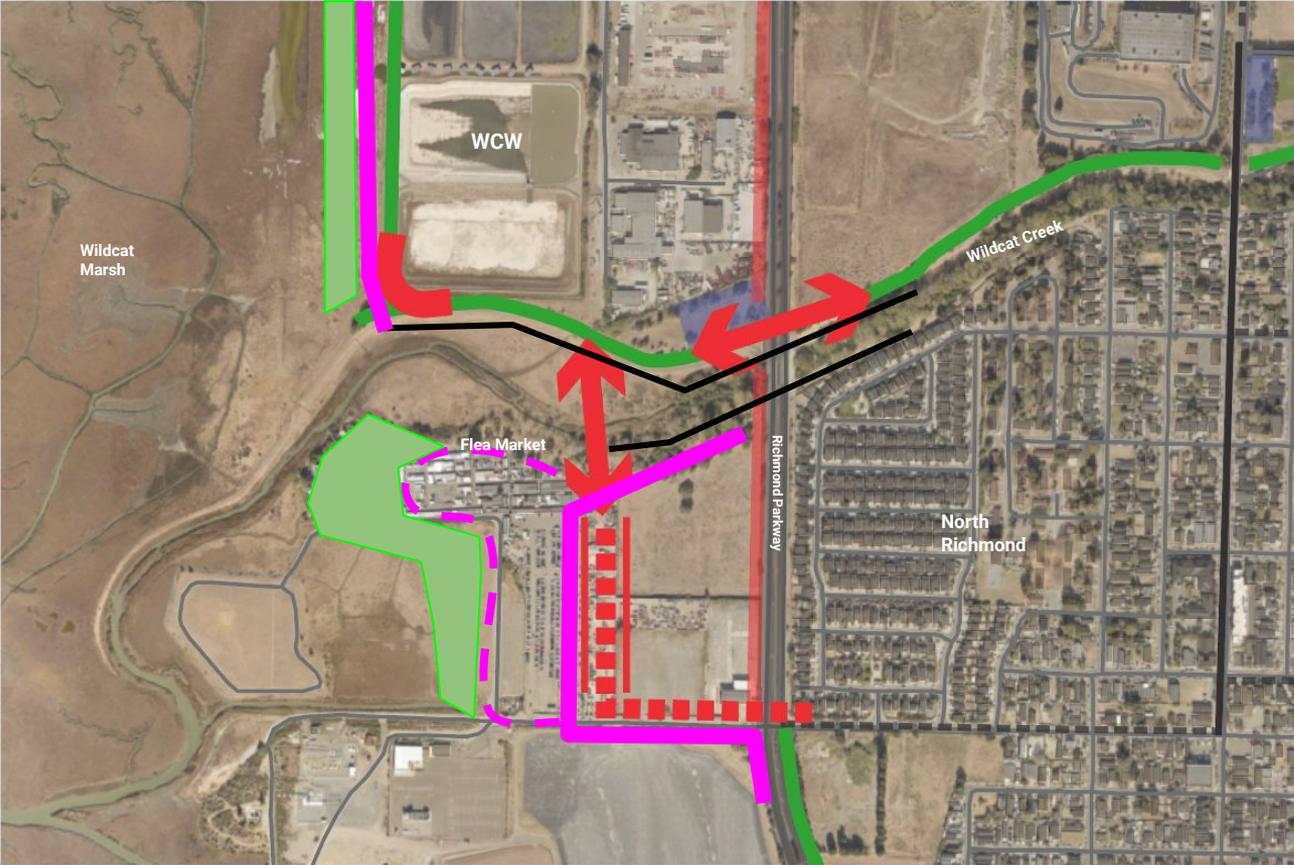


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- PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEEVE
- LINE OF SLR PROTECTION
- HABITAT SLOPE / NATURE-BASED FEATURE

***does not resolve ped/bike challenge at Richmond Parkway / Wildcat Creek trail**
***doesn't resolve flood risk at properties West of Parkway**
***does not address how pilot levee ties in to ex CCFCD levee at N. bank of Wildcat cr.**

Collaboration Cluster South *DRAFT ONLY*

Concept Design Approach 2



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- PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEEVE
- PROPOSED LEEVE CORE
- HABITAT SLOPE / NATURE-BASED FEATURE

***requires additional agency / multi-stakeholder collaboration.**

Collaboration Cluster South *DRAFT ONLY*



bird blind



native plant nursery



community center



boardwalk

Collaboration Cluster South *DRAFT ONLY*



bird blind



native plant nursery



community center



boardwalk

Collaboration Cluster South *DRAFT ONLY*

LANDFILL LOOP

WCW TREATMENT FACILITY

WILDCAT CREEK

RICHMOND PARKWAY

FLEA MARKET



observatory tower



info kiosk / interpretation



art / research area



native plant nursery

Collaboration Cluster South *DRAFT ONLY*



observatory tower



info kiosk / interpretation



art / research area



native plant nursery

Collaboration Cluster South *DRAFT ONLY*

LANDFILL LOOP

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RICHMOND PARKWAY

Flea Market



boardwalk



native garden



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native plant nursery

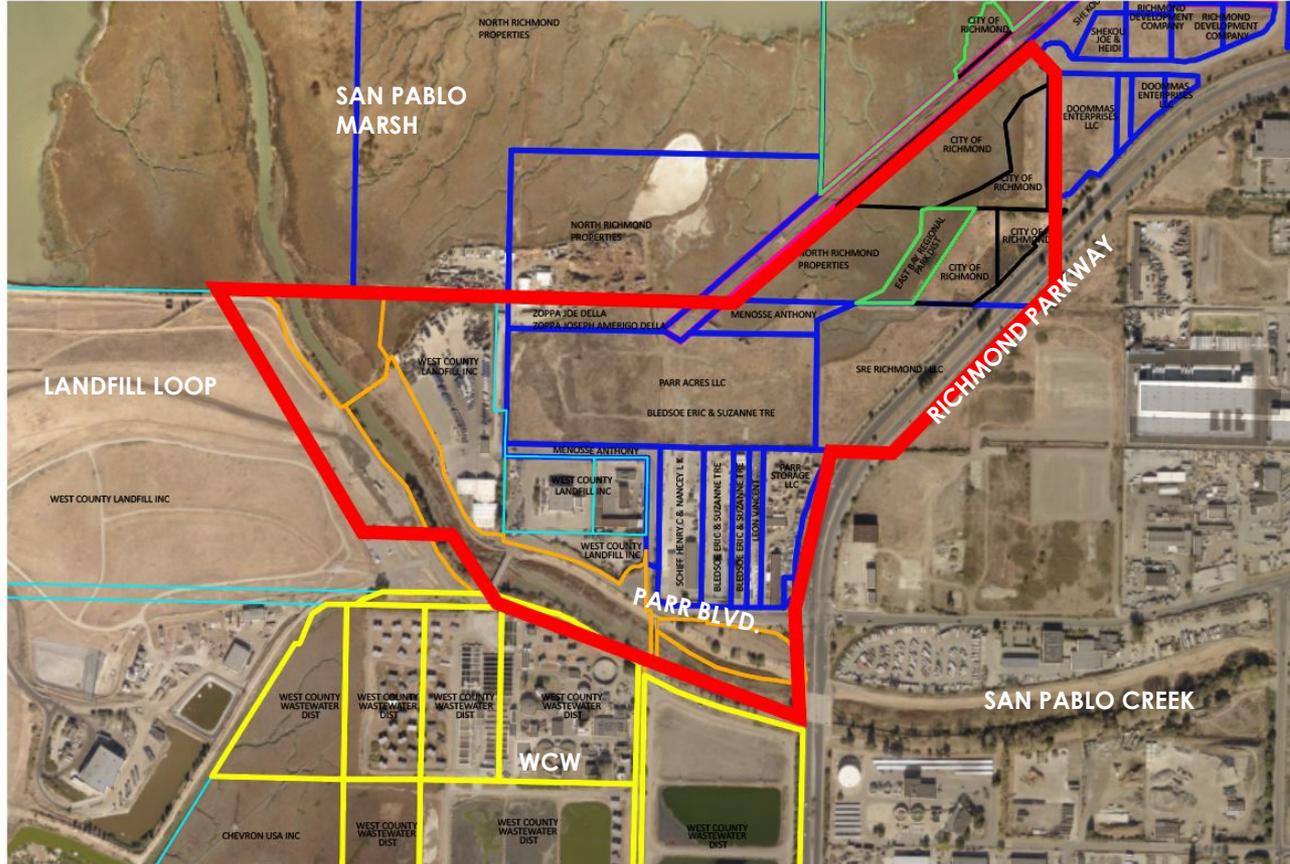
Collaboration Cluster North *DRAFT ONLY*

Aerial View



Collaboration Cluster North *DRAFT ONLY*

Base Plan w/ Parcel info



Collaboration Cluster South

Agencies:

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- WCCTAC
- Contra Costa Flood Control District
- City of Richmond
- East Bay Parks
- and?

Independent:

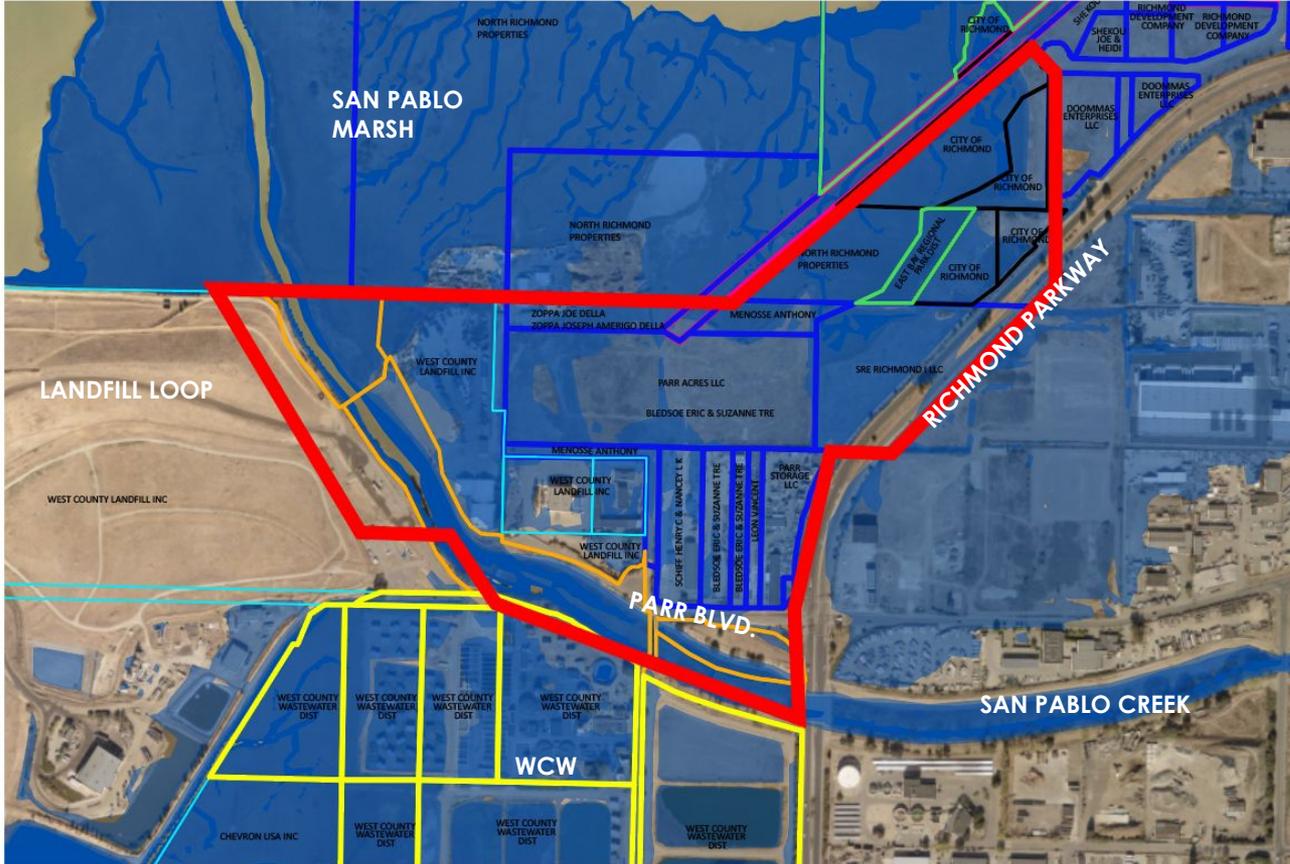
- Republic Services
- Parr Acres LLC

***Independent Property Owners
Contact Still Needed:***

- Menosse Anthony
- SRE Richmond I LLC
- Zoppa Joe Della / Zoppa Joseph Amerigo Della

Collaboration Cluster North *DRAFT*

Base Plan w/ Parcel & Flooding info



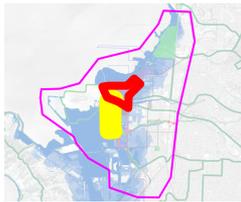
Collaboration Cluster #1

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- And..?

Area Below 12.96ft NAVD88	
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Area Below 9.56ft NAVD88	
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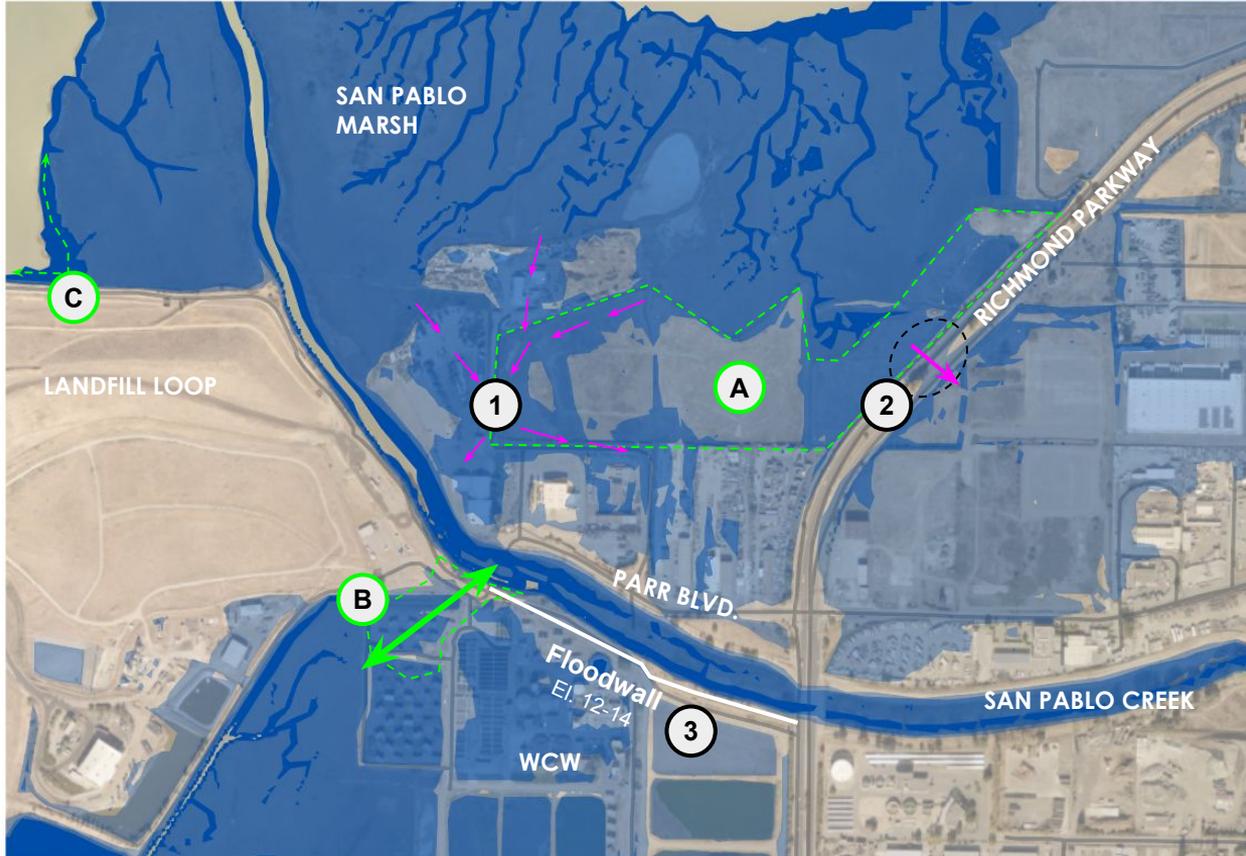
Collaboration Cluster North *DRAFT*

Base Plan w/ Existing Conditions



Collaboration Cluster North *DRAFT*

Base Plan w/ Existing Conditions Analysis & Flooding Projection

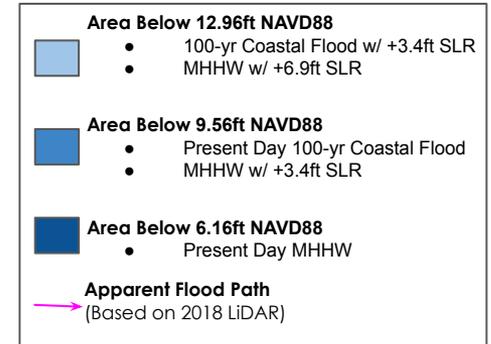


Flood Protection

- 1) **Area north of Parr Blvd:** vulnerable to present-day coastal flooding, worse with SLR
- 2) **Richmond Pkw.:** 100-yr Coastal flood overtops w/ +3.4 ft SLR
- 3) **Floodwall on south bank of San Pablo Creek:** Less freeboard w/ SLR

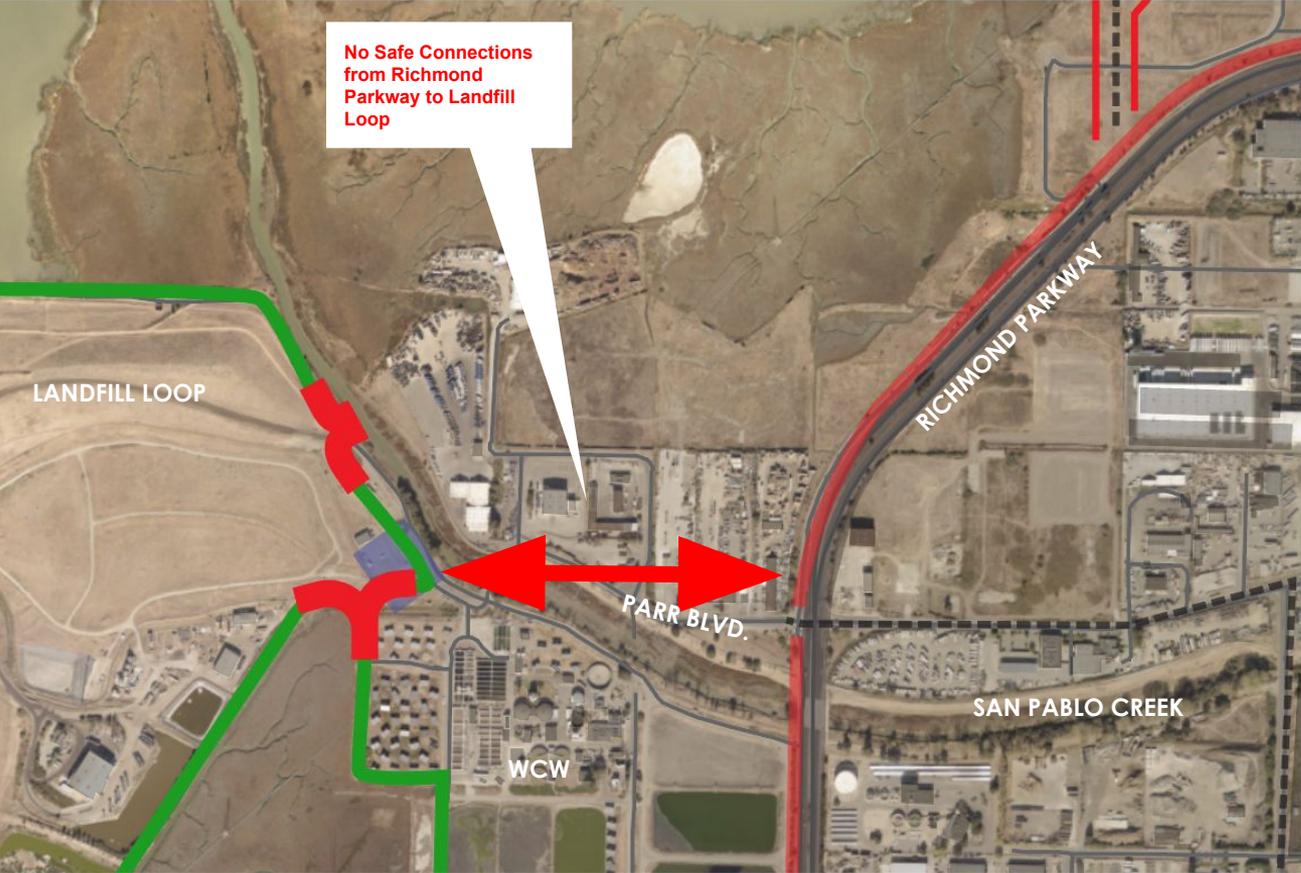
Restoration/Ecological Enhancement

- A. Shoreline openspace north of Parr
- B. San Pablo Ck. connection to Wildcat Marsh
- C. Nature-based erosion management



Collaboration Cluster North *DRAFT ONLY*

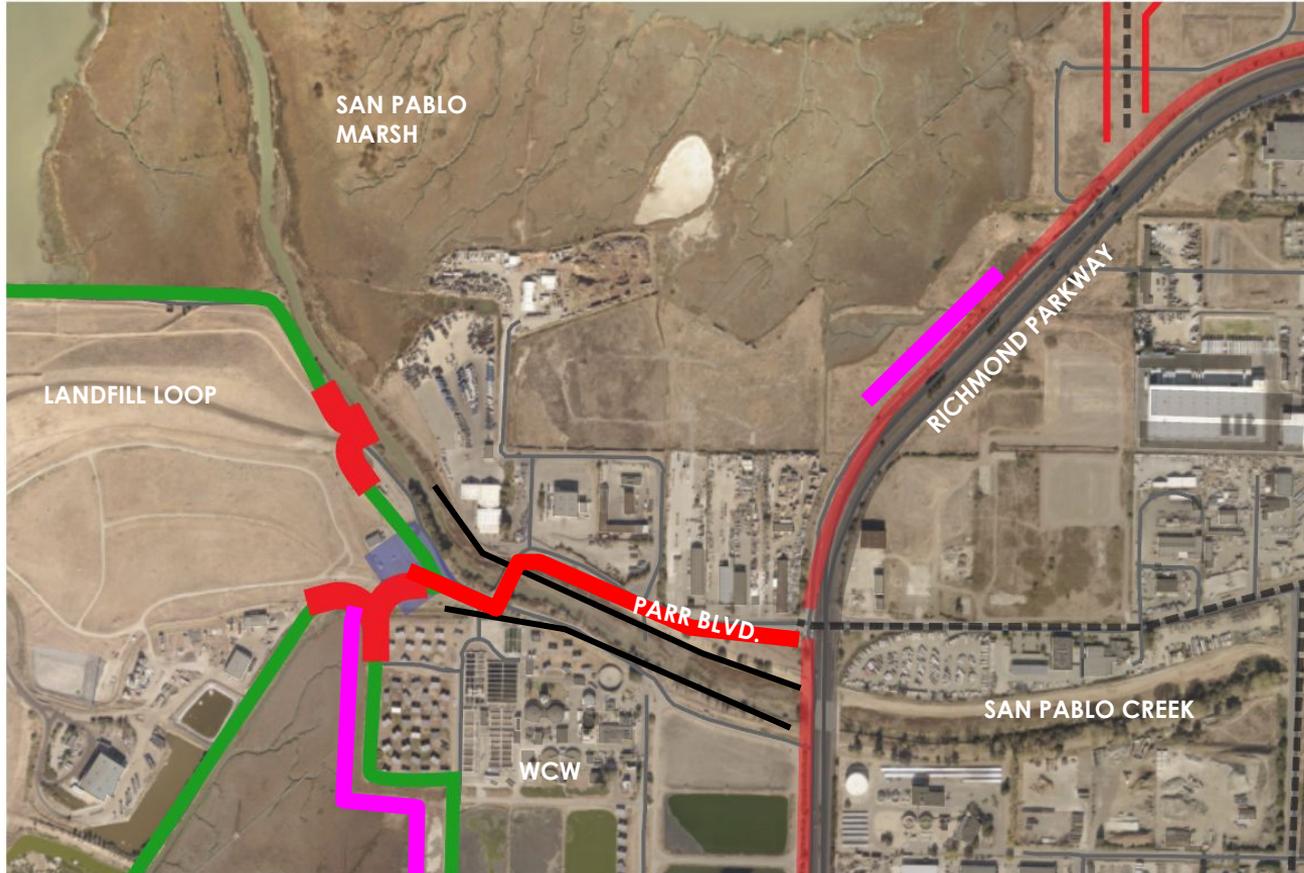
Base Plan w/ Key Access info



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Collaboration Cluster North *DRAFT ONLY*

Concept Design Option 1



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- ↔ PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEVEL
- PROPOSED LEVEL CORE

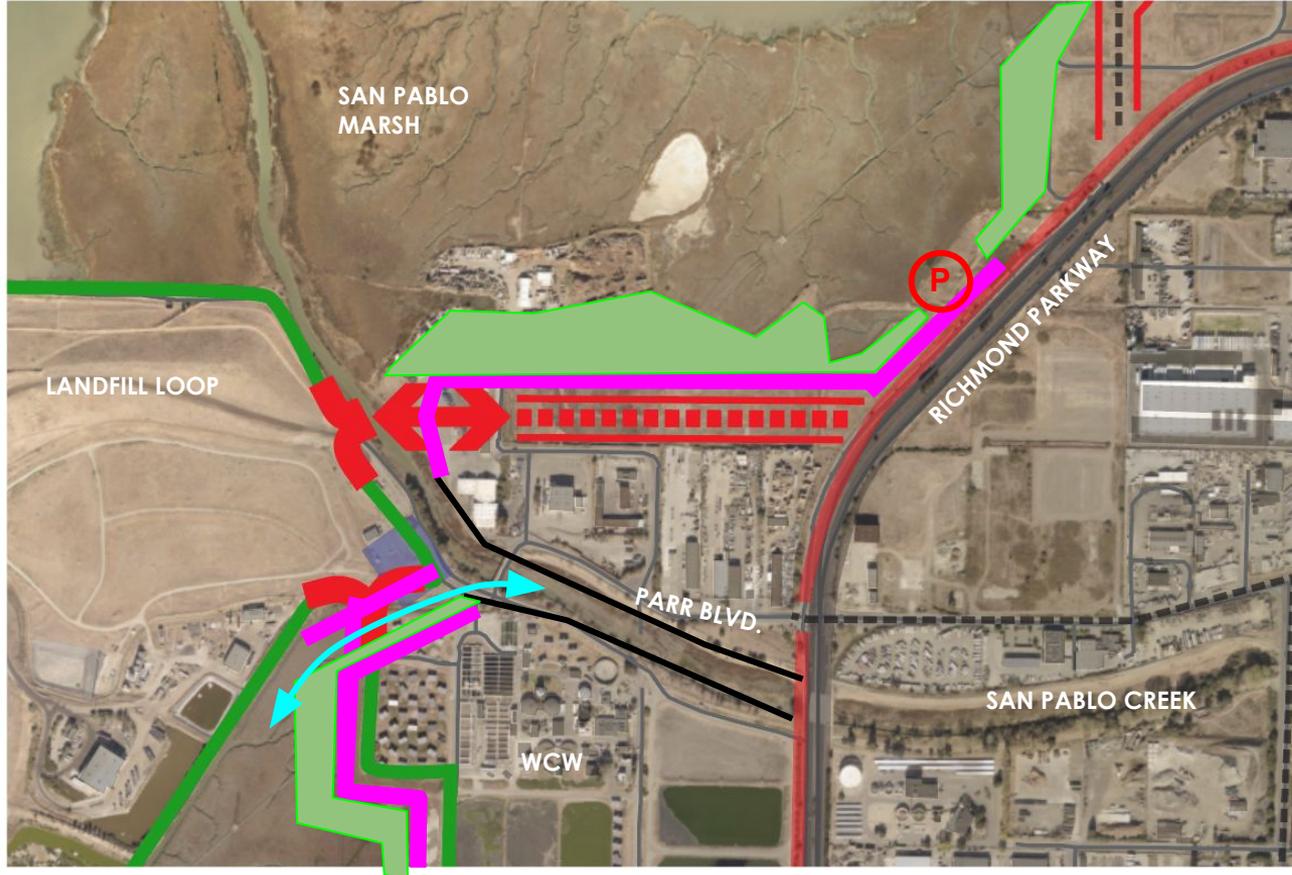
***does not resolve ped/bike challenge at bridge over san pablo cr.**

***doesnt resolve flood risk at peninsular properties**

***does not address how pilot levee ties in to ex CCFLD levee at S. bank of San Pablo cr.**

Collaboration Cluster North *DRAFT ONLY*

Concept Design Option 2



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- HABITAT SLOPE / NATURE-BASED FEATURE

***easement required**
***new ped bridge at San Pablo Cr.**
***San Pablo Creek hydrologically reconnected to Wildcat Marsh**

Collaboration Cluster North *DRAFT ONLY*



boardwalk



boat launch



bird blind



gravel beach

Collaboration Cluster North *DRAFT ONLY*



boardwalk



boat launch



bird blind



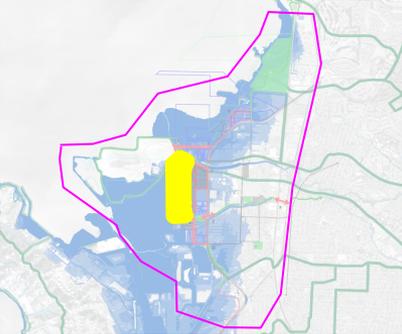
gravel beach

Pilot Project: Living Levee + Access + Amenity Opportunities

Aerial View

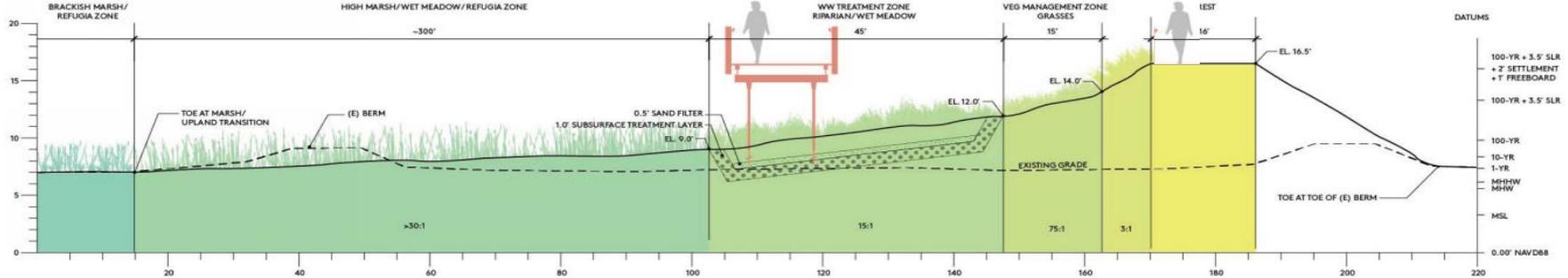


Pilot Project: Living Levee + Access + Amenity Opportunities

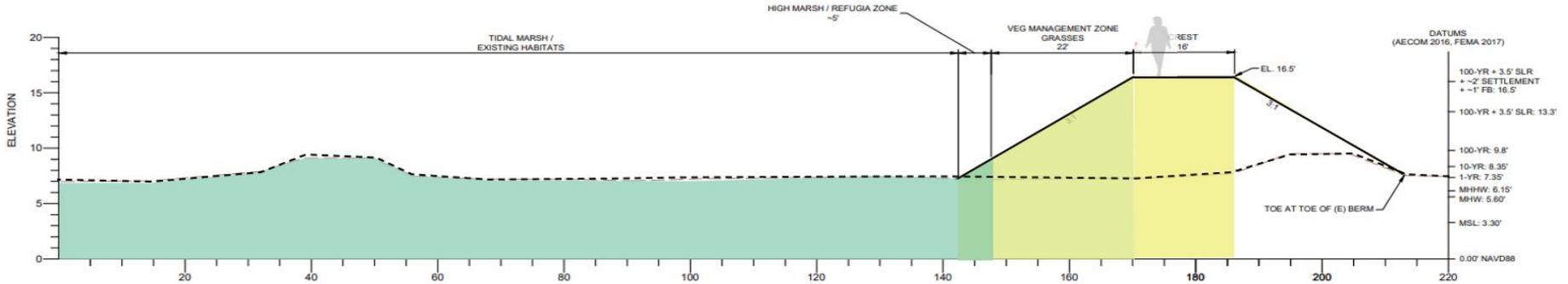


- LEGEND**
- APPROXIMATE PROJECT FOOTPRINT
 - LIKELY TIDAL WETLAND
 - LIKELY TIDAL WATERS OF THE US
 - APPROXIMATE TIDAL WETLAND RESTORATION

Living Levee Sectional Profiles at WCW



Gentle Sloped Habitat Levee (Larger Footprint)



Step Sloped Flood Protection Levee/Structural Levee Core (Minimum Footprint)

Level Crest Design Elevation: 16.5ft NAVD (100yr coastal flood* +3.5ft SLR**, +2ft Subsidence***, +1ft Freeboard)

- * Present day 100-yr coastal flood elevation is ~10ft NAVD (FEMA FIS #06013CV001C, 2017)
- ** SLR Projection for High Emissions, Med/High Risk Aversion Scenario for the year 2070 (OPC 2018)
- *** Assumed value, geotech study will occur during future phase.

Discussion & Feedback—