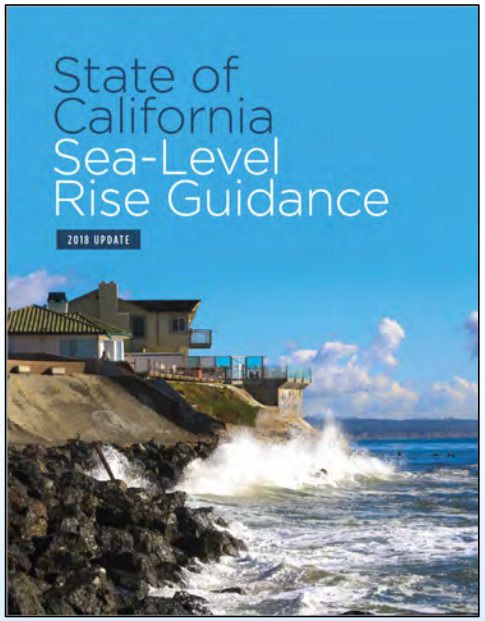
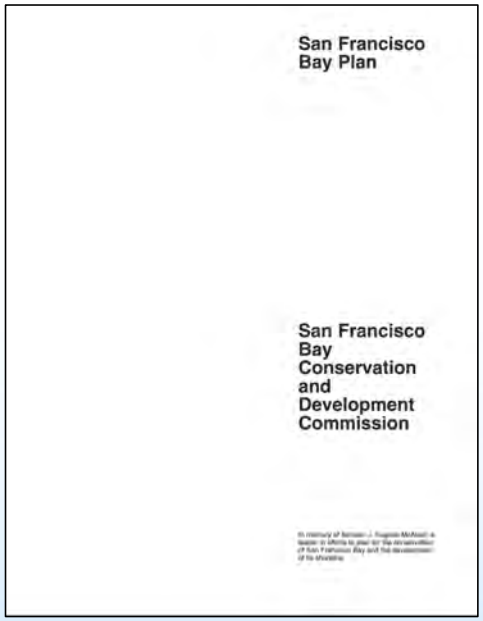
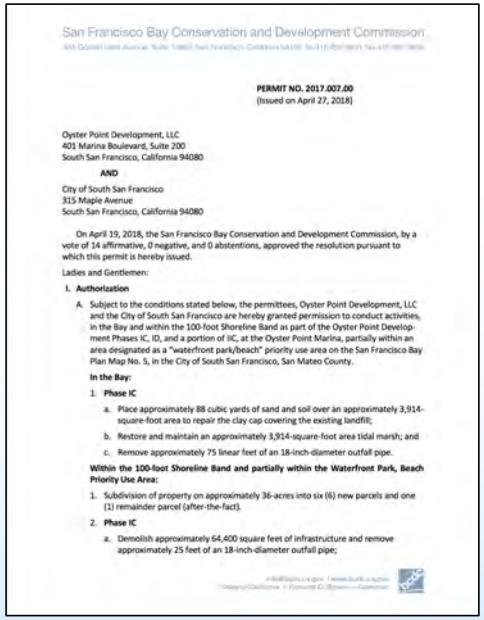
Policies to Permits:
Applying State SLR Guidance






San Francisco Bay Conservation and Development Commission

PERMIT NO. 2017.007.00
(Issued on April 27, 2018)

Oyster Point Development, LLC
401 Marina Boulevard, Suite 200
South San Francisco, California 94080

AND

City of South San Francisco
315 Maple Avenue
South San Francisco, California 94080

On April 19, 2018, the San Francisco Bay Conservation and Development Commission, by a vote of 14 affirmative, 0 negative, and 0 abstentions, approved the resolution pursuant to which this permit is hereby issued.

Ladies and Gentlemen:

I. **Authorization**

A. Subject to the conditions stated below, the permittees, Oyster Point Development, LLC and the City of South San Francisco are hereby granted permission to conduct activities, in the Bay and within the 100-foot Shoreline Band as part of the Oyster Point Development Phases IC, ID, and a portion of IIC, at the Oyster Point Marina, partially within an area designated as a "waterfront park/beach" priority use area on the San Francisco Bay Plan Map No. 5, in the City of South San Francisco, San Mateo County.

In the Bay:

1. **Phase IC**
   a. Place approximately 88 cubic yards of sand and soil over an approximately 3,914-square-foot area to repair the clay cap covering the existing landfill;
   b. Restore and maintain an approximately 3,914-square-foot area tidal marsh; and
   c. Remove approximately 75 linear feet of an 18-inch-diameter outfall pipe.

Within the 100-foot Shoreline Band and partially within the Waterfront Park, Beach Priority Use Area:

1. Subdivision of property on approximately 36-acres into six (6) new parcels and one (1) remainder parcel (after-the-fact).
2. **Phase IC**
   a. Demolish approximately 64,400 square feet of infrastructure and remove approximately 25 feet of an 18-inch-diameter outfall pipe;

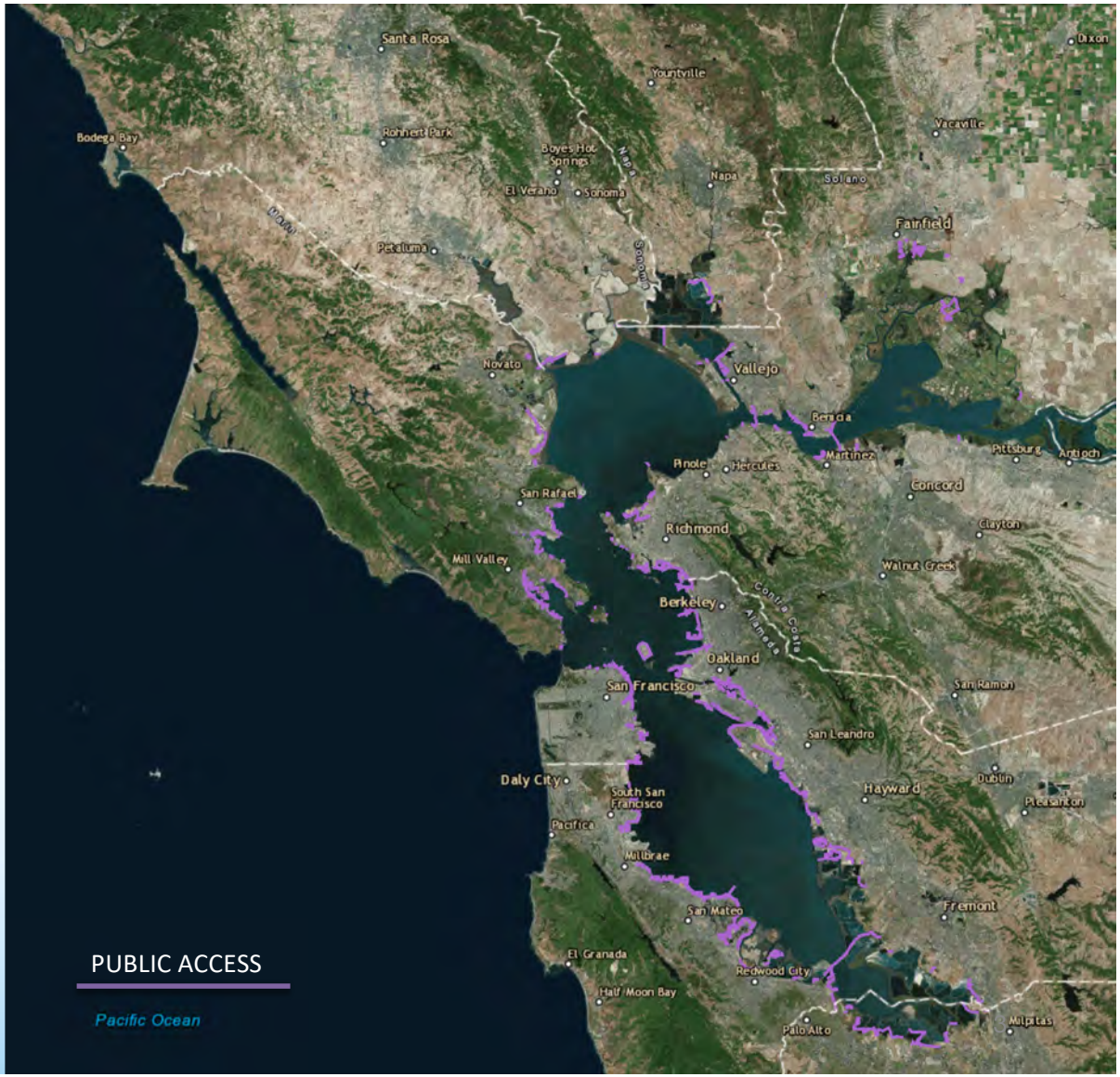
Erik Buehmann
Chief of Federal Consistency and Permits
Andrea Gaffney
Bay Development Design Analyst

November 15, 2018

1. Quick Update on Jurisdiction
2. Climate Change Policy Review
3. Permit Condition Examples
4. Applying the 2018 Guidance
5. Discussion & Questions

Jurisdiction

- Bay
- Certain Waterways
- 100-foot Shoreline Band
- Salt Ponds
- Suisun Marsh



Bay Fill

Key Requirements

(McAteer-Petris Act § 66605)

Shoreline Band

100 Feet Inland from Bay Jurisdiction

"Maximum Feasible Public Access Consistent With The Project"

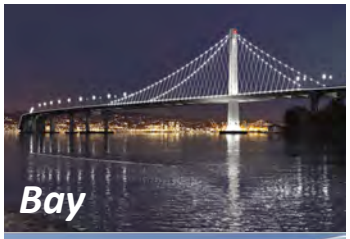
Bay Plan – Climate Change Policies

- Larger Shoreline Projects need a Risk Assessment
- Risk Assessments should:
  - Use current 100-year base flood elevation + **"best estimate of future sea level rise."**
  - Use **"best scientific data"** for mid-century and end of century sea level rise projections
  - Include current and planned flood protection
  - Depict all types of flooding, **degrees of uncertainty**, consequences of defense failure, and risks to habitat from proposed flood protection devices

Bay Plan - Climate Change Policies

- If a risk assessment determines an area is vulnerable to flooding that threatens public safety all projects should be designed to be:
  - "Resilient" to mid-century
    - **Resilient:** System is built to "absorb and rebound from the impacts of weather extremes or climate change and continue functioning without substantial outside assistance"
  - "Adaptive Management Plan" to end-of-century
    - **Adaptation:** "Project can adjust to climate change impacts by taking actions to reduce the potential damages, taking advantage of new opportunities arising from climate change, and accommodating the impacts"

Public Access Policies



Public Access Policies:

- Public Access "permanently guaranteed"
- Design public access to avoid impacts to flooding
- Public access must be viable in the event of future sea level rise and flooding

Climate Change Policies:

- Larger shoreline projects require a Risk Assessment
- IF risk to public safety, THEN Resilient to mid-century of sea level rise projections
- IF project life beyond mid-century, THEN Adaptation Plan

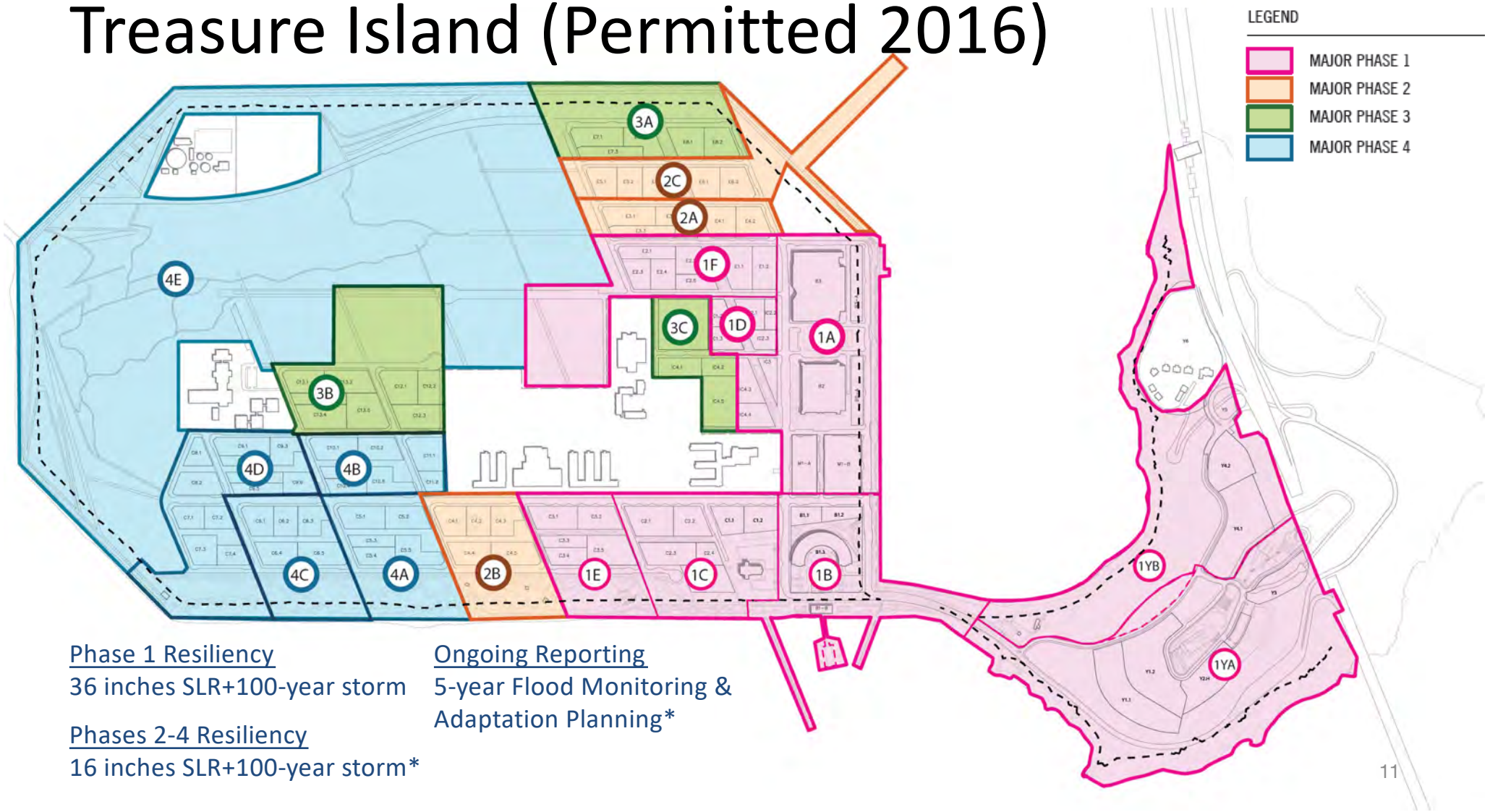
Climate Change Related Policies

- Tidal Marsh Policy 6

Climate Change Related Policies

- Shoreline Protection Policy 1
- Safety of Fills Policy 4

Treasure Island (Permitted 2016)



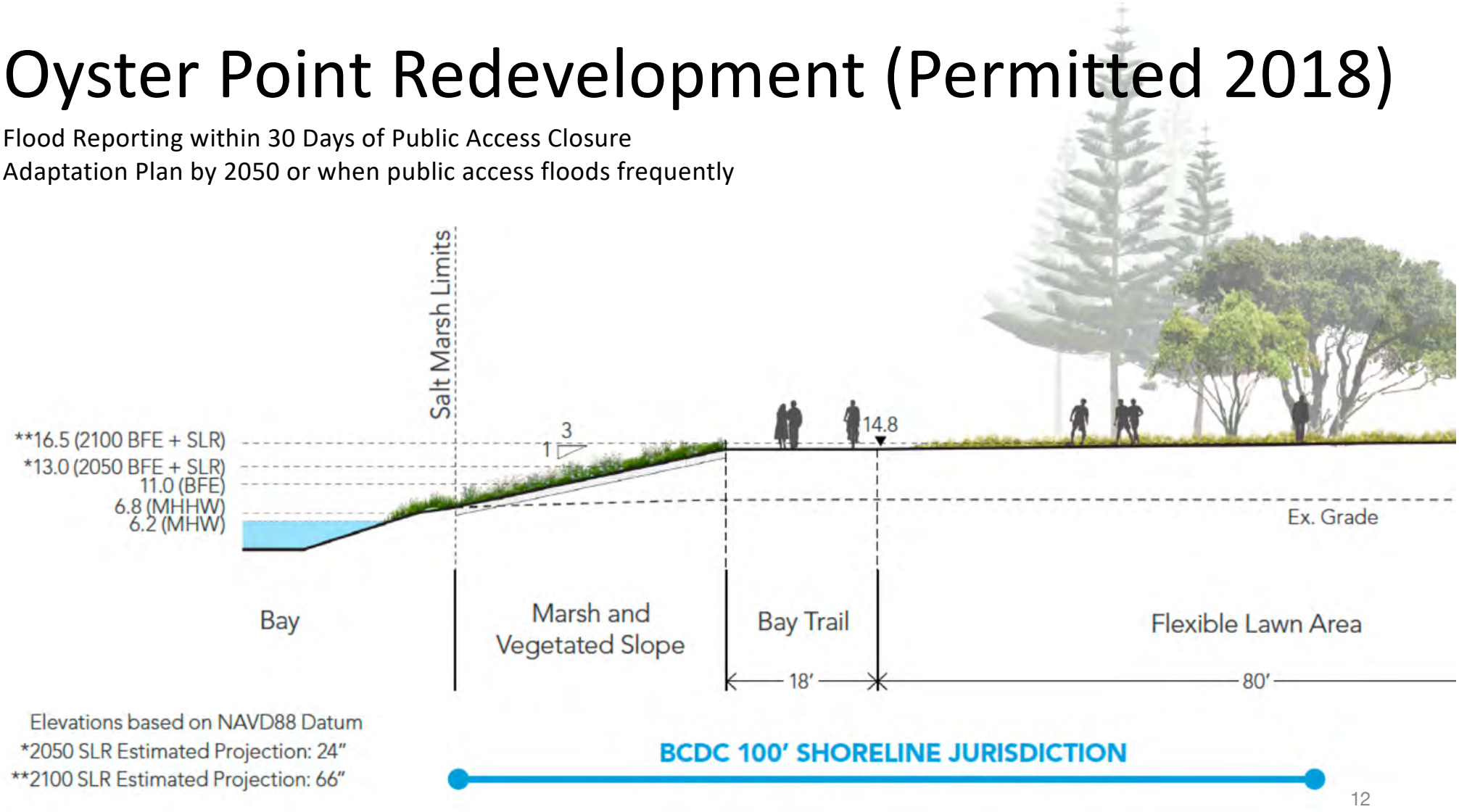
Phase 1 Resiliency
36 inches SLR+100-year storm

Phases 2-4 Resiliency
16 inches SLR+100-year storm*

Ongoing Reporting
5-year Flood Monitoring & Adaptation Planning*

Oyster Point Redevelopment (Permitted 2018)

Flood Reporting within 30 Days of Public Access Closure
Adaptation Plan by 2050 or when public access floods frequently

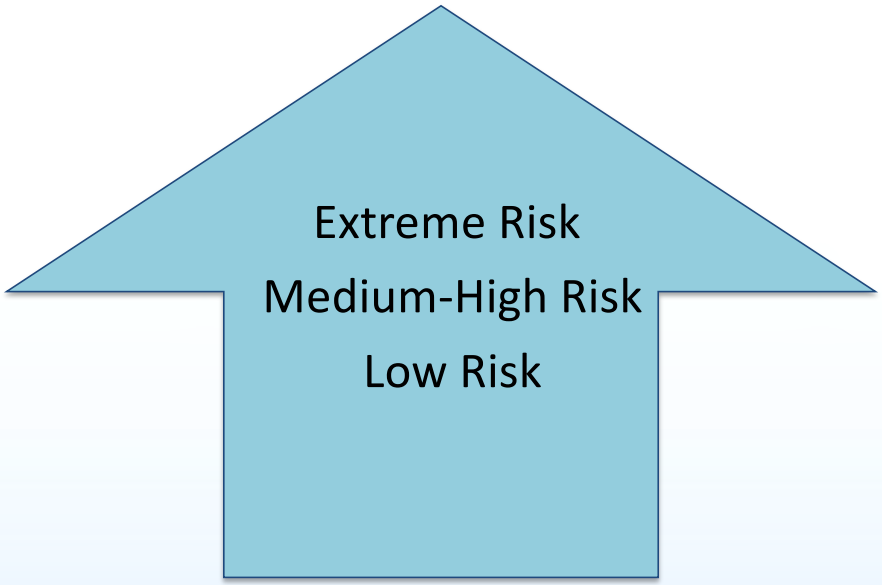


BCDC Staff Approach to Analysis

One Map, Many Futures – Provide a variety of scenarios for flooding from sea level rise and storms to show risk in an uncertain future.

Adaptation Pathways – Condition projects to provide flexibility in the future.

Risk Aversion



- Potential Impacts
- Adaptive Capacity

Project Types

- Habitat Restoration
- Shoreline Protection
- Shoreline Development

Emission Scenarios

- High Emissions
- Low Emissions

Applying the Guidance

Permitted 2017

Hill Slough: Habitat Restoration & Roadway Improvement

Permitted 2018

Cesar Chavez Park: Shoreline Protection

Upcoming Project Presentation Format

Shoreline Development

Existing Permit Issued Prior to Climate Change Policies

Jack London Square: Shoreline Development

Updated 2018 Guidance

Hill Slough

- 1 mile road elevate/widen
- Striped bike lanes on road
- 2 miles of public access trails
- 640 acres restored tidal wetland
- Limited Tidal Gauges in the Marsh
- Project Life: Long! Complicated!

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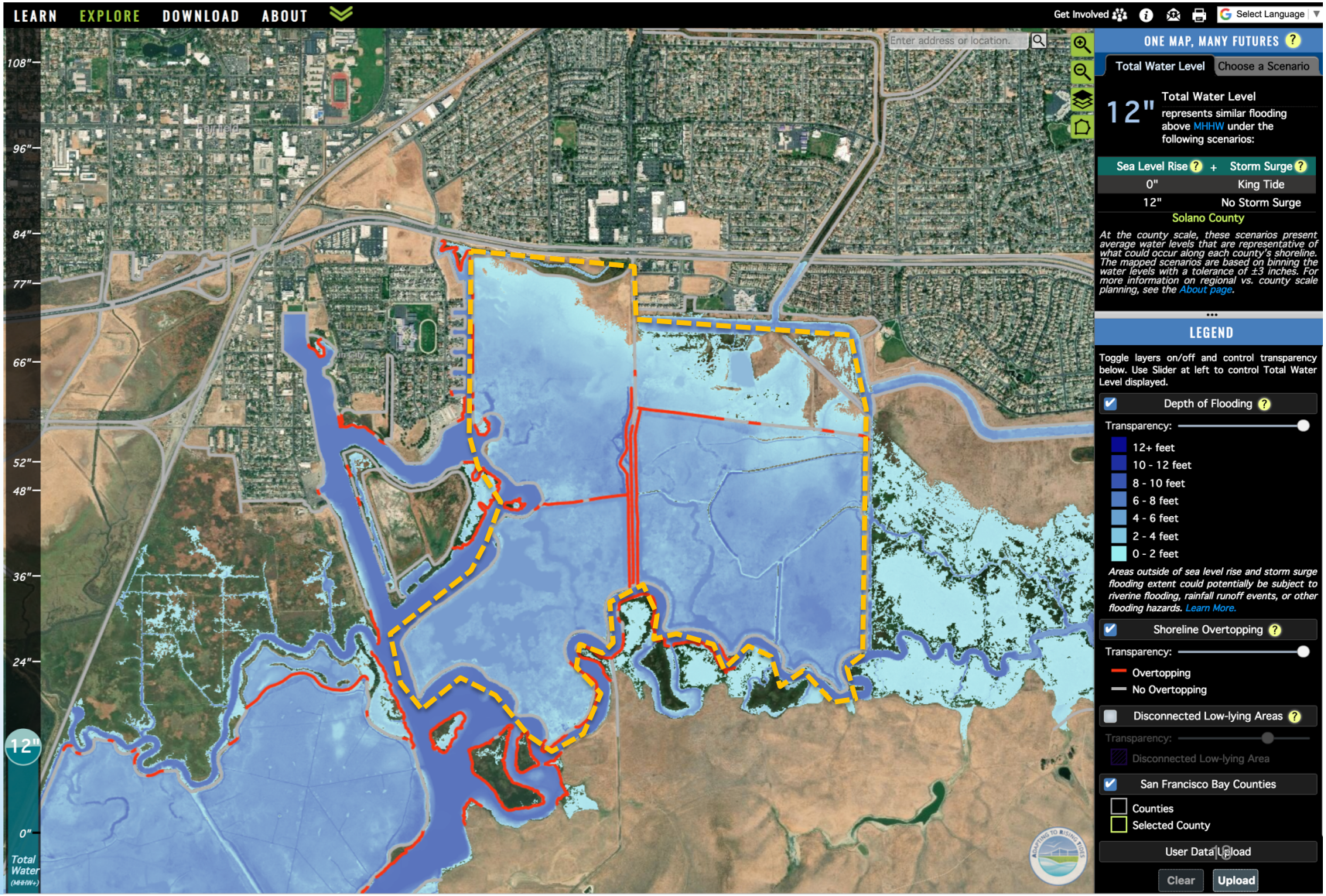
Permit 2017.003.00md issued 2017

Hill Slough

12” SLR

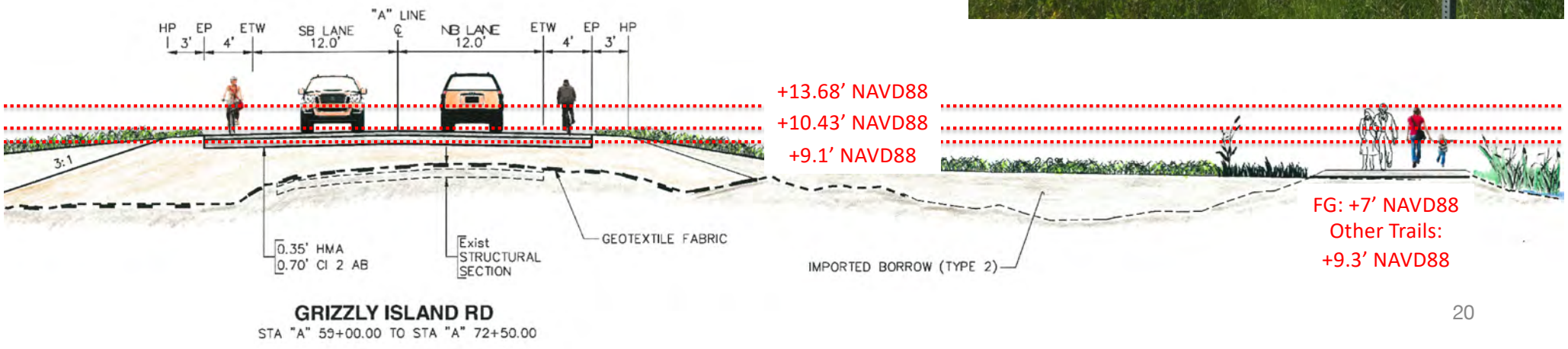


Hill Slough

Hill Slough Restoration Sea Level Projected Impacts									
Road Elevation	10								
Trail Elevation	9.3								
	Curent Elevation in feet NAVD88			Elevation Project at 2050 (+1.33 feet)			Elevation Projected at 2100 (+4.58 feet)		
Blue means infrastructure is flooded	--			1.33			4.58		
Seasonal Water Level									
Mean lower low water (MLLW)	0.95	road	trail	2.28	road	trail	5.53	road	trail
Mean low water (MLW)	1.69	road	trail	3.02	road	trail	6.27	road	trail
Mean tide level (MTL)	3.78	road	trail	5.11	road	trail	8.36	road	trail
Mean high water (MHW)	5.86	road	trail	7.19	road	trail	10.44	road	trail
Mean higher high water (MHHW)	6.35	road	trail	7.68	road	trail	10.93	road	trail
Spring high tide level (12/14/2008)	7	road	trail	8.33	road	trail	11.58	road	trail
Flood Event									
FEMA 10 year non-coastal stillwater elevations (10%)	8.3	road	trail	9.63	road	trail	12.88	road	trail
FEMA 25 year coastal flood (4%)*	8.6	road	trail	9.93	road	trail	13.18	road	trail
FEMA 50 year non-coastal stillwater elevations (2%)	8.9	road	trail	10.23	road	trail	13.48	road	trail
100 year high tide (1% non-coastal stillwater elevation)	9.1	road	trail	10.43	road	trail	13.68	road	trail
FEMA 100 year coastal flood (1%)	10	road	trail	11.33	road	trail	14.58	road	trail
*estimate based on Stillwater elevations at Carquinez Strait									
July 17, 2017									

Hill Slough

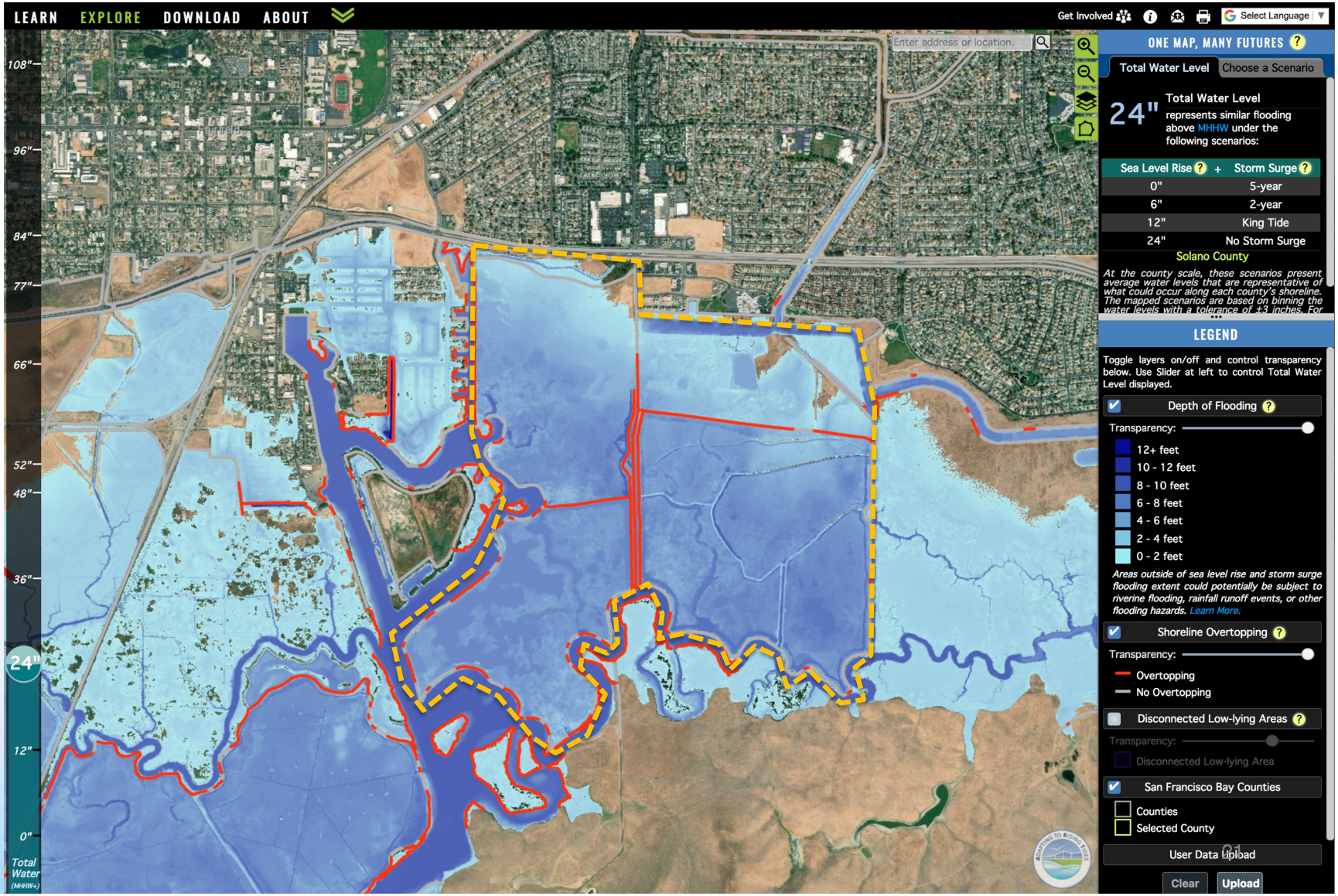
+13.68’ Est. Year 2100 100 YR Flood (+55” SLR)
+10.43’ Est. Year 2050 100 YR Flood (+16” SLR)
+9.1’ Current Stillwater 100 YR Flood



GRIZZLY ISLAND RD
STA "A" 59+00.00 TO STA "A" 72+50.00

Hill Slough

24” SLR



Cesar Chavez Park

- 900’ Shoreline Repair
- Capped Solid Waste Landfill
- Long Range Planning for Park will consider SLR

>> STEP 1: *Identify the nearest tide gauge.*

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>> STEP 3: *For the nearest tide gauge and project lifespan, identify range of sea-level rise projections.*

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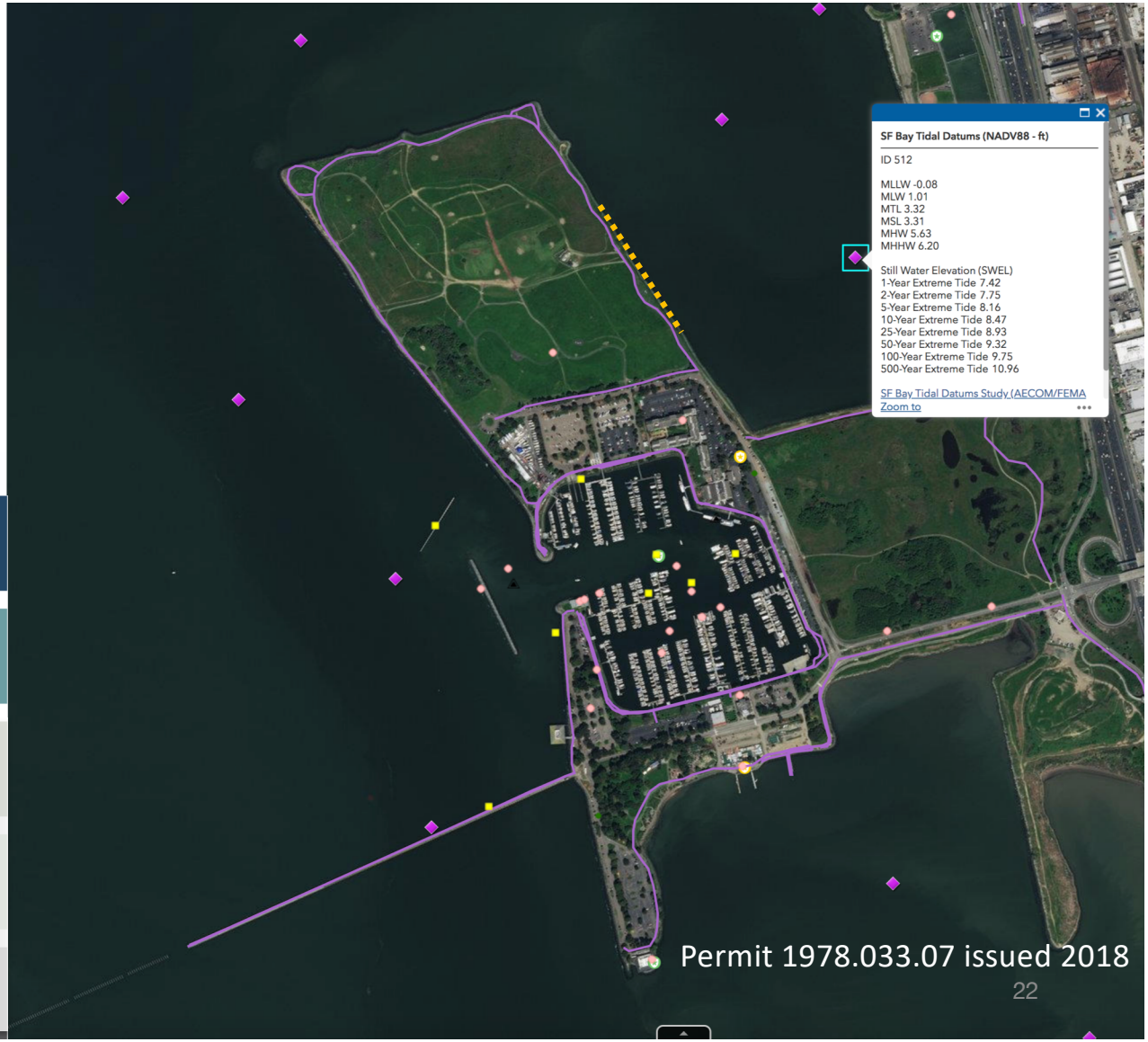
>> STEP 5: *Select sea-level rise projections based on risk tolerance and, if necessary, develop adaptation pathways that increase resiliency to sea-level rise and include contingency plans if projections are exceeded.*



Permit 1978.033.07 issued 2018

Cesar Chavez Park

- Project Life: 2050
- High Emission Scenario
- 0.9 - 2.7 feet SLR

>> STEP 1: *Identify the nearest tide gauge.*

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		Probabilistic Projections (in feet) (based on Kopp et al. 2014)					H++ scenario (Sweet et al. 2017) *Single scenario
		MEDIAN	LIKELY RANGE		1-IN-20 CHANCE	1-IN-200 CHANCE	
		50% probability sea-level rise meets or exceeds...	66% probability sea-level rise is between...		5% probability sea-level rise meets or exceeds...	0.5% probability sea-level rise meets or exceeds...	
				Low Risk Aversion		Medium - High Risk Aversion	Extreme Risk Aversion
High emissions	2030	0.4	0.3 -	0.5	0.6	0.8	1.0
	2040	0.6	0.5 -	0.8	1.0	1.3	1.8
	2050	0.9	0.6 -	1.1	1.4	1.9	2.7
Low emissions	2060	1.0	0.6 -	1.3	1.6	2.4	
High emissions	2060	1.1	0.8 -	1.5	1.8	2.6	3.9
Low emissions	2070	1.1	0.8 -	1.5	1.9	3.1	
High emissions	2070	1.4	1.0 -	1.9	2.4	3.5	5.2
Low emissions	2080	1.3	0.9 -	1.8	2.3	3.9	
High emissions	2080	1.7	1.2 -	2.4	3.0	4.5	6.6
Low emissions	2090	1.4	1.0 -	2.1	2.8	4.7	
High emissions	2090	2.1	1.4 -	2.9	3.6	5.6	8.3
Low emissions	2100	1.6	1.0 -	2.4	3.2	5.7	
High emissions	2100	2.5	1.6 -	3.4	4.4	6.9	10.2
Low emissions	2110*	1.7	1.2 -	2.5	3.4	6.3	
High emissions	2110*	2.6	1.9 -	3.5	4.5	7.3	11.9
Low emissions	2120	1.9	1.2 -	2.8	3.9	7.4	
High emissions	2120	3	2.2 -	4.1	5.2	8.6	14.2
Low emissions	2130	2.1	1.3 -	3.1	4.4	8.5	
High emissions	2130	3.3	2.4 -	4.6	6.0	10.0	16.6
Low emissions	2140	2.2	1.3 -	3.4	4.9	9.7	
High emissions	2140	3.7	2.6 -	5.2	6.8	11.4	19.1
Low emissions	2150	2.4	1.3 -	3.8	5.5	11.0	
High emissions	2150	4.1	2.8 -	5.8	7.7	13.0	21.9

Cesar Chavez Park

- Project Life: 2050
- High Emission Scenario
- Capped Solid Waste Landfill

>> STEP 1: *Identify the nearest tide gauge.*

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Photo: Nicole Boliaux / The Chronicle

Cesar Chavez Park

- Project Life: 2050
- High Emission Scenario
- High Adaptive Capacity
- Medium-High Risk Scenario*
- Time-limited Authorization

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Low emissions	2060	1.0	0.6 -	1.3	1.6	2.4	
High emissions	2060	1.1	0.8 -	1.5	1.8	2.6	3.9
Low emissions	2070	1.1	0.8 -	1.5	1.9	3.1	
High emissions	2070	1.4	1.0 -	1.9	2.4	3.5	5.2
Low emissions	2080	1.3	0.9 -	1.8	2.3	3.9	
High emissions	2080	1.7	1.2 -	2.4	3.0	4.5	6.6
Low emissions	2090	1.4	1.0 -	2.1	2.8	4.7	
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Cesar Chavez Park

- Project Life: 2050
- High Emission Scenario
- High Adaptive Capacity
- Medium-High Risk Scenario*
- Time-limited Authorization

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Shoreline Development

- Large Shoreline Project
- Project Life: +2100

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Shoreline Development

- Large Shoreline Project
- Project Life: +2100
- Medium-High Risk Aversion

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	2050	0.9	0.6 -	1.1	1.4	1.9	2.7
Low emissions	2060	1.0	0.6 -	1.3	1.6	2.4	
High emissions	2060	1.1	0.8 -	1.5	1.8	2.6	3.9
Low emissions	2070	1.1	0.8 -	1.5	1.9	3.1	
High emissions	2070	1.4	1.0 -	1.9	2.4	3.5	5.2
Low emissions	2080	1.3	0.9 -	1.8	2.3	3.9	
High emissions	2080	1.7	1.2 -	2.4	3.0	4.5	6.6
Low emissions	2090	1.4	1.0 -	2.1	2.8	4.7	
High emissions	2090	2.1	1.4 -	2.9	3.6	5.6	8.3
Low emissions	2100	1.6	1.0 -	2.4	3.2	5.7	
High emissions	2100	2.5	1.6 -	3.4	4.4	6.9	10.2
Low emissions	2110*	1.7	1.2 -	2.5	3.4	6.3	
High emissions	2110*	2.6	1.9 -	3.5	4.5	7.3	11.9
Low emissions	2120	1.9	1.2 -	2.8	3.9	7.4	
High emissions	2120	3	2.2 -	4.1	5.2	8.6	14.2
Low emissions	2130	2.1	1.3 -	3.1	4.4	8.5	
High emissions	2130	3.3	2.4 -	4.6	6.0	10.0	16.6
Low emissions	2140	2.2	1.3 -	3.4	4.9	9.7	
High emissions	2140	3.7	2.6 -	5.2	6.8	11.4	19.1
Low emissions	2150	2.4	1.3 -	3.8	5.5	11.0	
High emissions	2150	4.1	2.8 -	5.8	7.7	13.0	21.9

Proposed Project Flood Table

Promenade	13								
Upper Walk	14								
White cell shows freeboard in (##) feet	Curent Elevation in feet (NAVD88)			Projected Sea Level Rise (feet)	Year: *2050*		Projected Sea Level Rise (feet)	Year: *2100*	
Blue means asset is flooded by amount shown (-##) feet					Emissions Level: *High Emissions*			Emissions Level: *Low Emissions*	
					Risk Category: *Medium - High Risk*			Risk Category: *Medium - High Risk*	
	Water Level	**Promenade**	**Upper Walk**	**1.9**	**Promenade**	**Upper Walk**	**5.7**	**Promenade**	**Upper Walk**
Seasonal Water Level									
Mean lower low water (MLLW)	-0.10	13.10	14.10	1.80	11.20	12.20	5.60	7.40	8.40
Mean low water (MLW)	0.97	12.03	13.03	2.87	10.13	11.13	6.67	6.33	7.33
Mean tide level (MTL)	3.34	9.66	10.66	5.24	7.76	8.76	9.04	3.96	4.96
Mean sea level (MSL)	3.28	9.73	10.73	5.18	7.83	8.83	8.98	4.03	5.03
Mean high water (MHW)	5.70	7.30	8.30	7.60	5.40	6.40	11.40	1.60	2.60
Mean higher high water (MHHW)	6.28	6.72	7.72	8.18	4.82	5.82	11.98	1.02	2.02
Flood Event									
FEMA 1 year stillwater elevation (100%) (AKA King Tide)	7.54	5.46	6.46	9.44	3.56	4.56	13.24	-0.24	0.76
FEMA 2 year stillwater elevation (50%)	7.83	5.17	6.17	9.73	3.27	4.27	13.53	-0.53	0.47
FEMA 5 year stillwater elevation (20%)	8.21	4.79	5.79	10.11	2.89	3.89	13.91	-0.91	0.09
FEMA 10 year stillwater elevation (10%)	8.50	4.50	5.50	10.40	2.60	3.60	14.20	-1.20	-0.20
FEMA 25 year stillwater elevation (4%)	8.90	4.10	5.10	10.80	2.20	3.20	14.60	-1.60	-0.60
FEMA 50 year stillwater elevation (2%)	9.24	3.76	4.76	11.14	1.86	2.86	14.94	-1.94	-0.94
FEMA 100 year stillwater elevation (1%)	9.61	3.39	4.39	11.51	1.49	2.49	15.31	-2.31	-1.31
FEMA 500 year stillwater elevation (0.2%)	10.59	2.41	3.41	12.49	0.51	1.51	16.29	-3.29	-2.29
FEMA Base Flood Elevation (1%)	10.00	3.00	4.00	11.90	1.10	2.10	15.70	-2.70	-1.70

FEMA/AECOM2016 Tidal Datum Location ID	561

Water Depth Color/Value Range
< 0
< -0.5
< -1
< -1.5
< -2
< -2.5
< -3
< -3.5
< -4
< -4.5
< -5
< -5.5
< -6
< -6.5
< -7
< -7.5
< -8

Orange value to be manually entered

Blue values are variable and are tied to formulas and conditional formatting in cells with black values/text

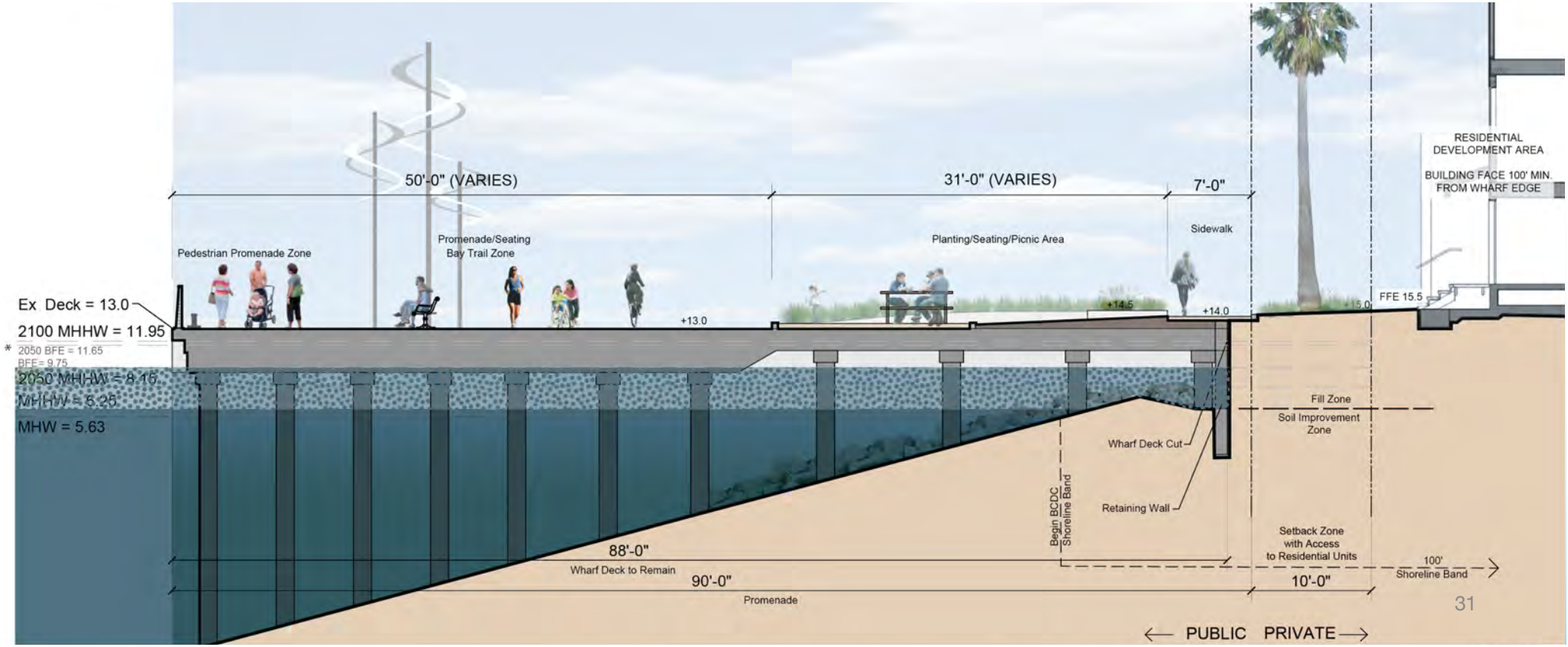
Revised May 3, 2018

CURRENT

High Emissions

100 YR FLOOD 1% (BFE) +10’

MHHW +6.25’

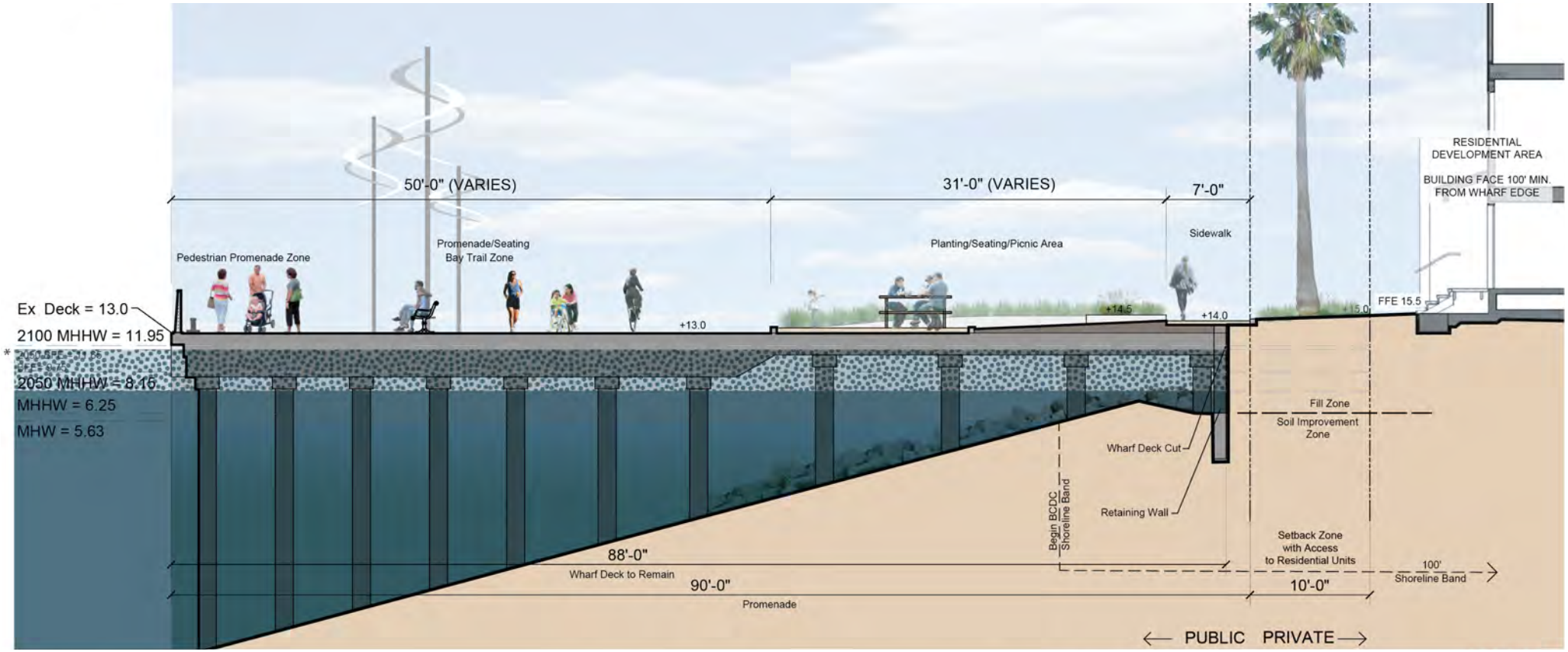


2050 (+1.9FT)

Med-High Risk - High Emissions

100 YR FLOOD 1% (BFE) +11.65’

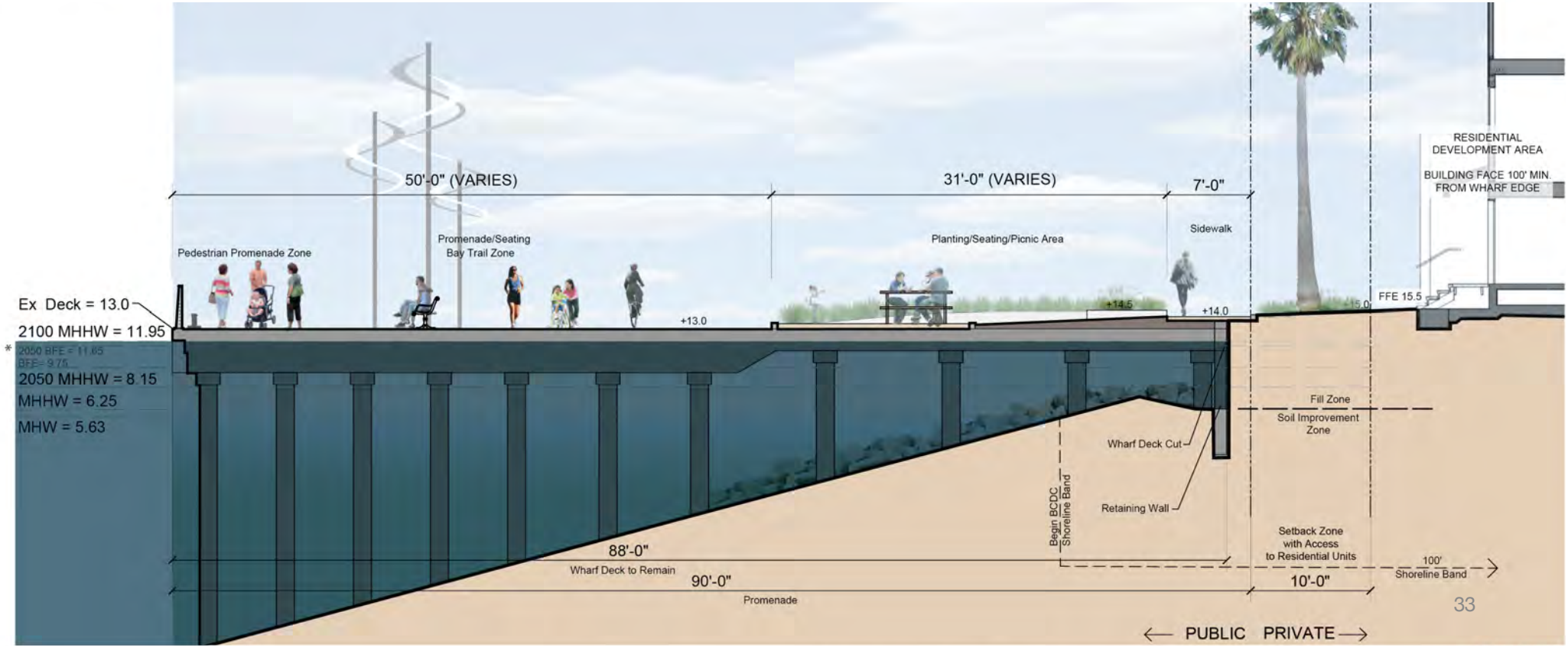
MHHW +8.15’



2100 (+5.7FT)

Med-High Risk - Low Emissions

MHHW +11.95’

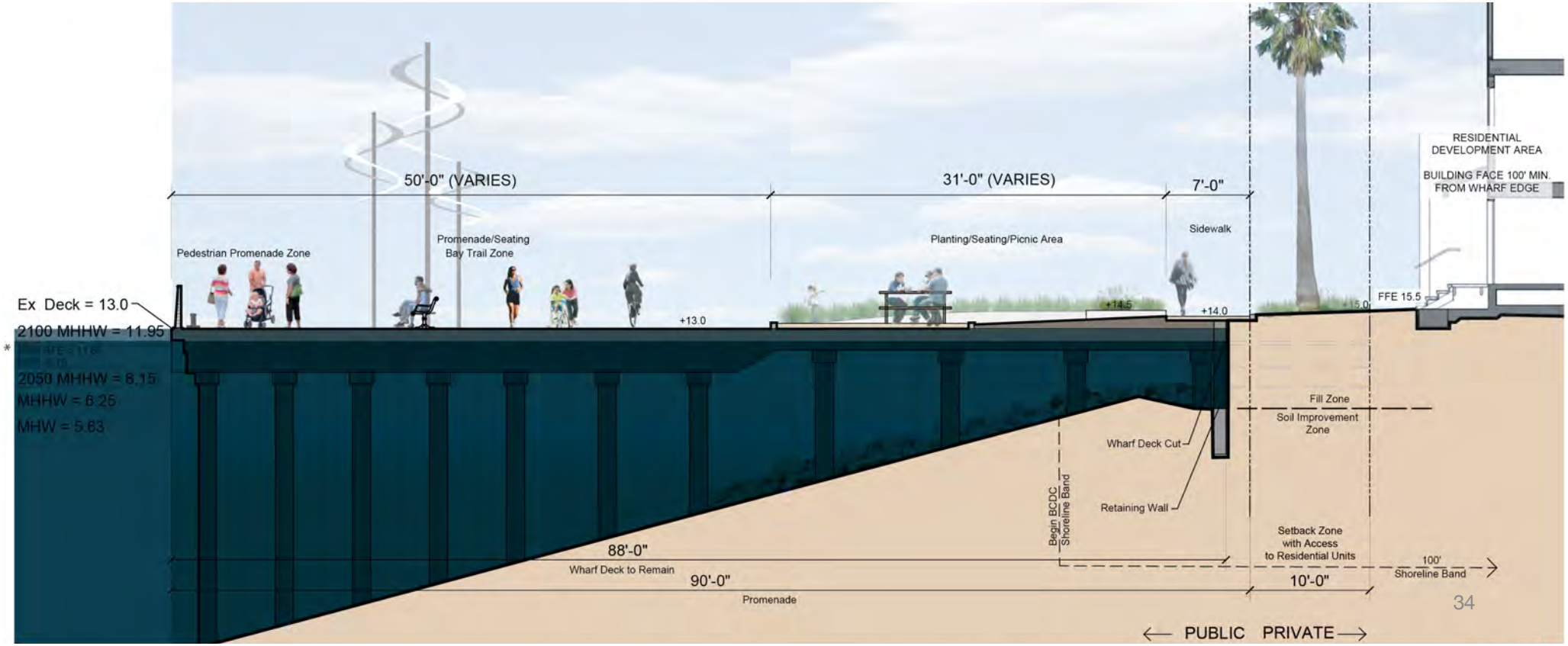


2100 (+5.7FT)

Med-High Risk - Low Emissions

HW +12.95’

1x-2x per Month

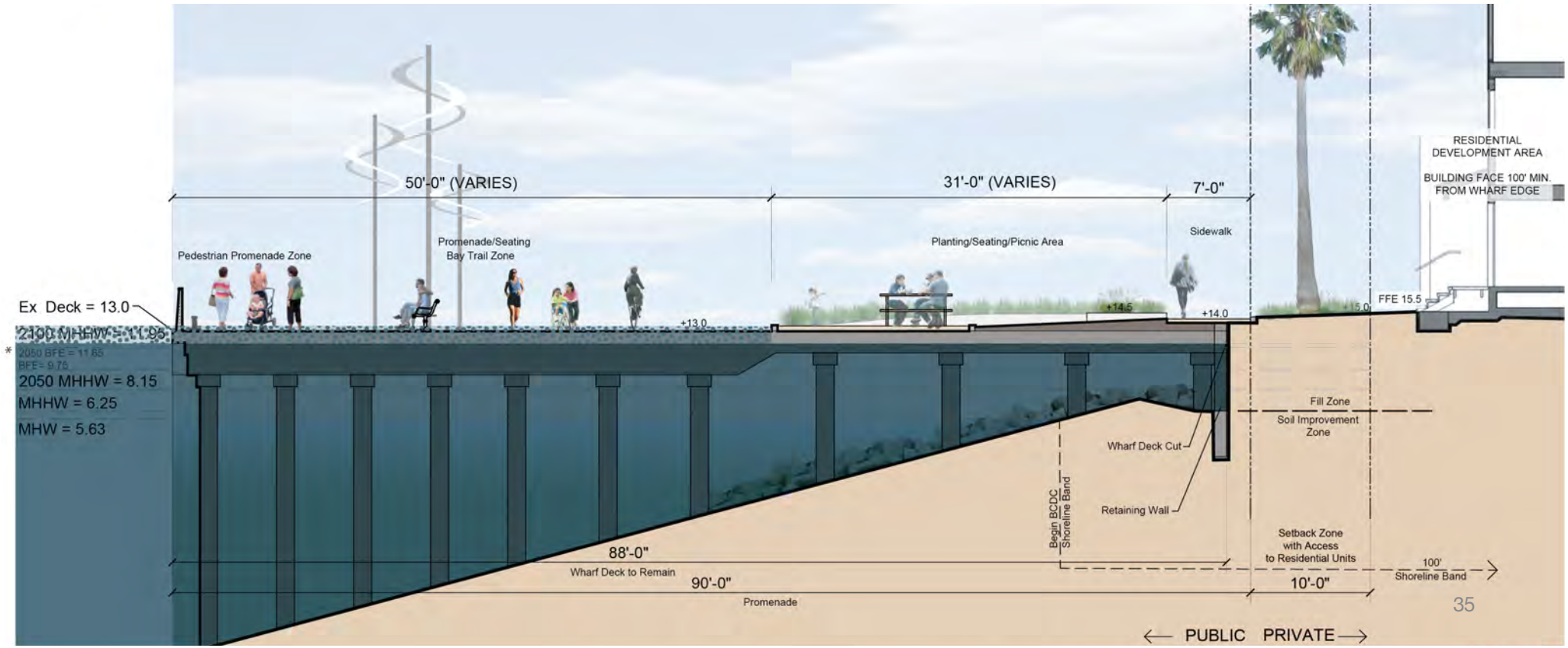


2100 (+5.7FT)

Med-High Risk - Low Emissions

2YR FLOOD (50%) +13.53’

MHHW +11.95’

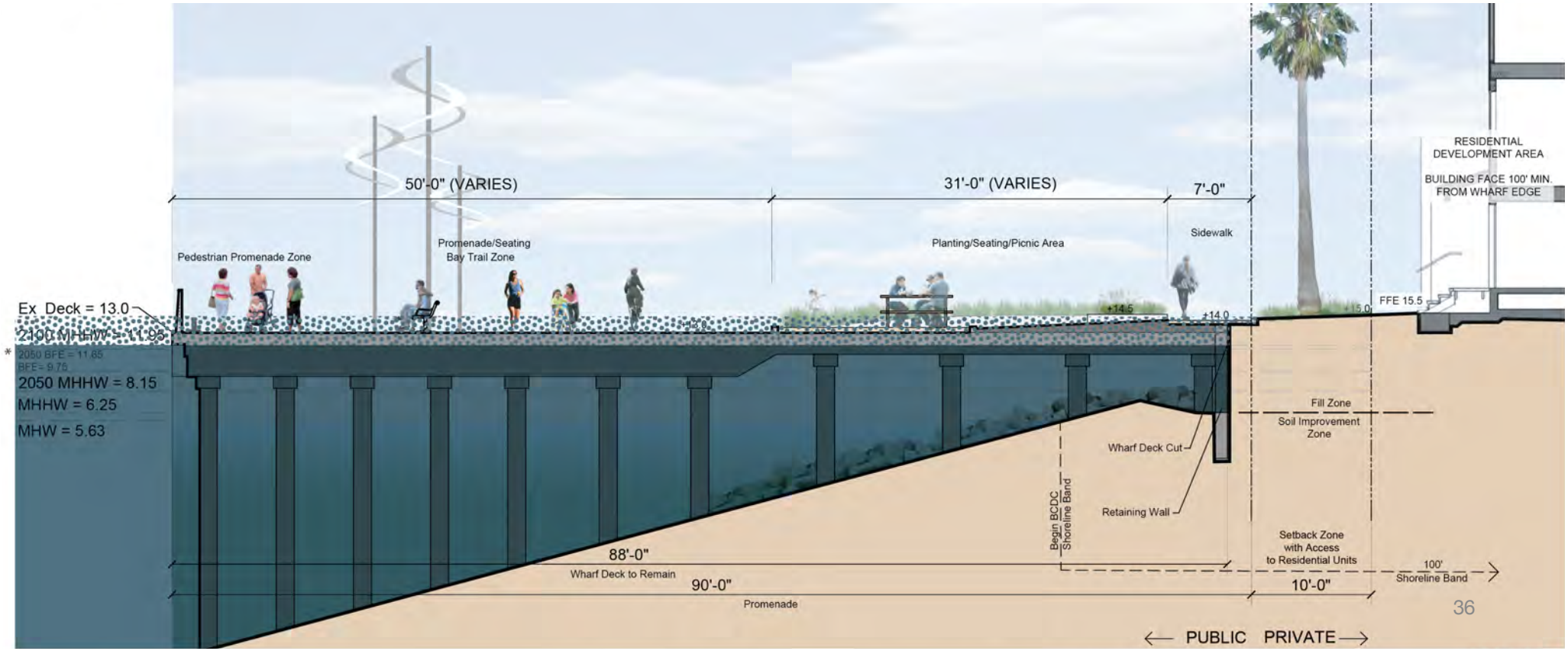


2100 (+5.7FT)

Med-High Risk - Low Emissions

10YR FLOOD (10%) +14.20’

MHHW +11.95’

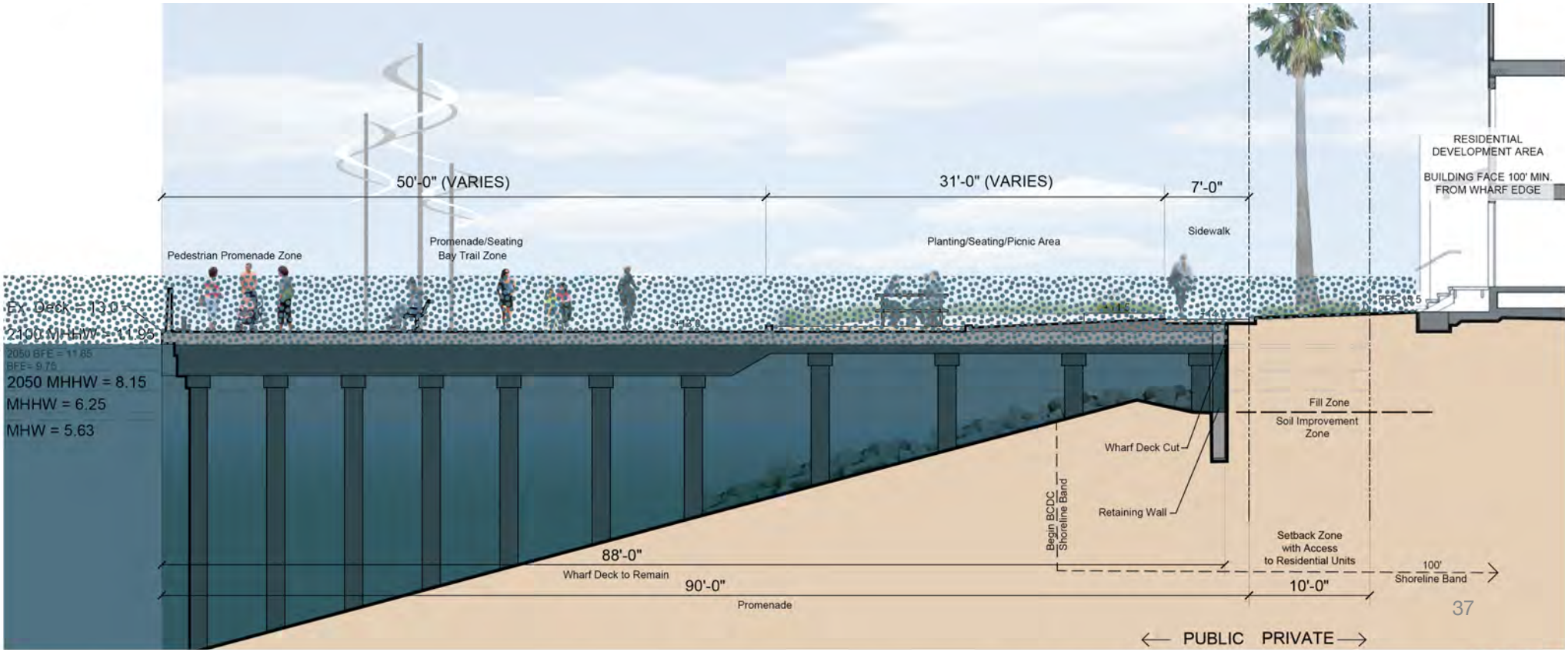


2100 (+5.7FT)

Med-High Risk - Low Emissions

100 YR FLOOD 1% (BFE) +15.7’

MHHW +11.95’

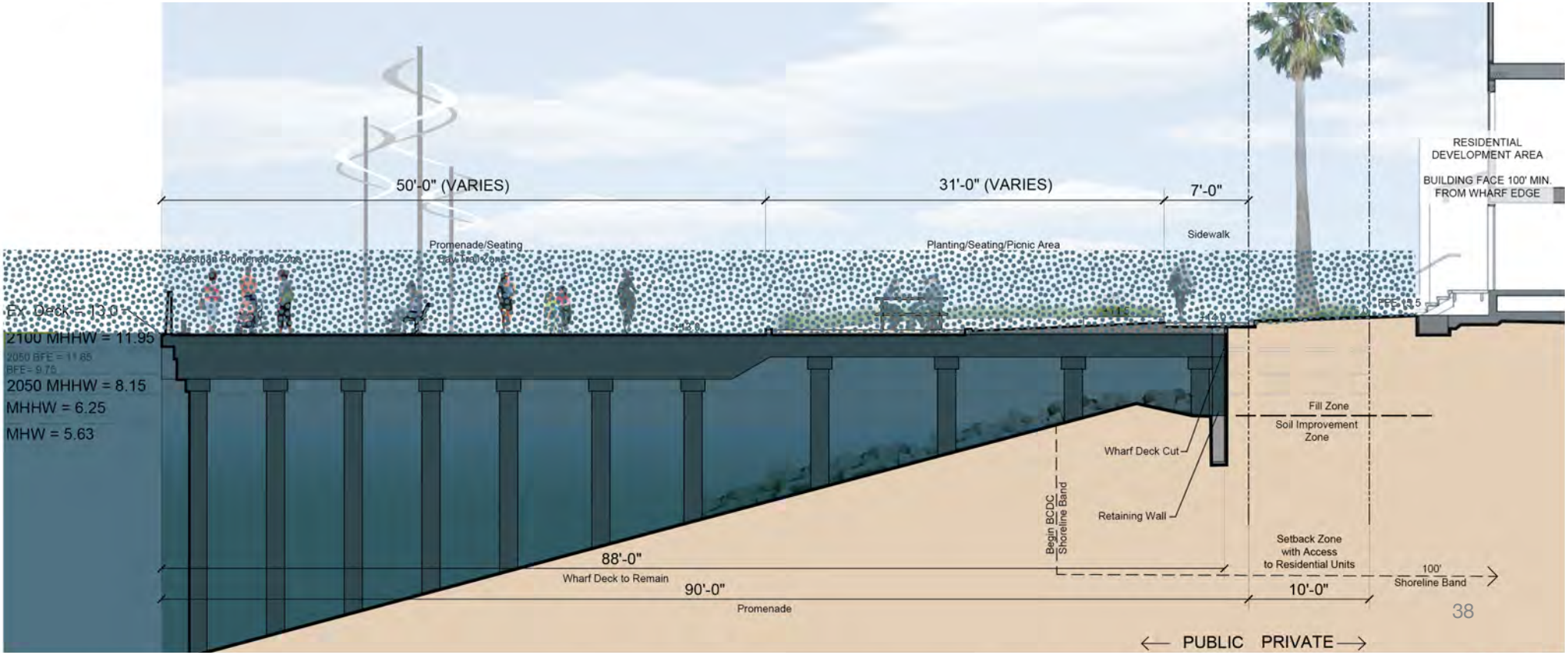


2100 (+6.9FT)

Med-High Risk - High Emissions

100 YR FLOOD 1% (BFE) +16.9’

MHHW +11.95’



Jack London Square Hotel Site F3

- Existing Permit with Required Public Access
- Maintenance Clause

>> **STEP 1:** *Identify the nearest tide gauge.*

>> **STEP 2:** *Evaluate project lifespan.*

>> **STEP 3:** *For the nearest tide gauge and project lifespan, identify range of sea-level rise projections.*

>> **STEP 4:** *Evaluate potential impacts and adaptive capacity across a range of sea-level rise projections and emissions scenarios.*

>> **STEP 5:** *Select sea-level rise projections based on risk tolerance and, if necessary, develop adaptation pathways that increase resiliency to sea-level rise and include contingency plans if projections are exceeded.*

Jack London Square Hotel Site F3

Jack London Square Hotel Site F3

- Existing Permit with Required Public Access & Maintenance Clause
- Project Life: 2100

>> STEP 1: *Identify the nearest tide gauge.*

>> STEP 2: *Evaluate project lifespan.*

>> STEP 3: *For the nearest tide gauge and project lifespan, identify range of sea-level rise projections.*

>> STEP 4: *Evaluate potential impacts and adaptive capacity across a range of sea-level rise projections and emissions scenarios.*

>> STEP 5: *Select sea-level rise projections based on risk tolerance and, if necessary, develop adaptation pathways that increase resiliency to sea-level rise and include contingency plans if projections are exceeded.*

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)					H++ scenario (Sweet et al. 2017) *Single scenario
		MEDIAN	LIKELY RANGE		1-IN-20 CHANCE	1-IN-200 CHANCE	
		50% probability sea-level rise meets or exceeds...	66% probability sea-level rise is between...		5% probability sea-level rise meets or exceeds...	0.5% probability sea-level rise meets or exceeds...	
				Low Risk Aversion		Medium - High Risk Aversion	Extreme Risk Aversion
High emissions	2030	0.4	0.3 -	0.5	0.6	0.8	1.0
	2040	0.6	0.5 -	0.8	1.0	1.3	1.8
	2050	0.9	0.6 -	1.1	1.4	1.9	2.7
Low emissions	2060	1.0	0.6 -	1.3	1.6	2.4	
High emissions	2060	1.1	0.8 -	1.5	1.8	2.6	3.9
Low emissions	2070	1.1	0.8 -	1.5	1.9	3.1	
High emissions	2070	1.4	1.0 -	1.9	2.4	3.5	5.2
Low emissions	2080	1.3	0.9 -	1.8	2.3	3.9	
High emissions	2080	1.7	1.2 -	2.4	3.0	4.5	6.6
Low emissions	2090	1.4	1.0 -	2.1	2.8	4.7	
High emissions	2090	2.1	1.4 -	2.9	3.6	5.6	8.3
Low emissions	2100	1.6	1.0 -	2.4	3.2	5.7	
High emissions	2100	2.5	1.6 -	3.4	4.4	6.9	10.2
Low emissions	2110*	1.7	1.2 -	2.5	3.4	6.3	
High emissions	2110*	2.6	1.9 -	3.5	4.5	7.3	11.9
Low emissions	2120	1.9	1.2 -	2.8	3.9	7.4	
High emissions	2120	3	2.2 -	4.1	5.2	8.6	14.2
Low emissions	2130	2.1	1.3 -	3.1	4.4	8.5	
High emissions	2130	3.3	2.4 -	4.6	6.0	10.0	16.6
Low emissions	2140	2.2	1.3 -	3.4	4.9	9.7	
High emissions	2140	3.7	2.6 -	5.2	6.8	11.4	19.1
Low emissions	2150	2.4	1.3 -	3.8	5.5	11.0	
High emissions	2150	4.1	2.8 -	5.8	7.7	13.0	21.9

Jack London Square Hotel Site F3

Jack London Square Hotel Sea Level Projected Impacts

Bay Trail	11
Water Street	12

White cell shows freeboard in (##) feet *Blue means asset is flooded by amount shown (-##) feet*	Curent Elevation in feet (NAVD88)			Projected Sea Level Rise (feet)	Year: *2050* Emissions Level: *High Emissions* Risk Category: *Medium - High Risk*		Projected Sea Level Rise (feet)	Year: *2100* Emissions Level: *High Emissions* Risk Category: *Medium - High Risk*	
	Water Level	Bay Trail	Water Street	1.9	Bay Trail	Water Street	6.9	Bay Trail	Water Street
Seasonal Water Level									
Mean lower low water (MLLW)	-0.11	11.11	12.11	1.79	9.21	10.21	6.79	4.21	5.21
Mean low water (MLW)	0.97	10.03	11.03	2.87	8.13	9.13	7.87	3.13	4.13
Mean tide level (MTL)	3.34	7.66	8.66	5.24	5.76	6.76	10.24	0.76	1.76
Mean sea level (MSL)	3.28	7.72	8.72	5.18	5.82	6.82	10.18	0.82	1.82
Mean high water (MHW)	5.71	5.29	6.29	7.61	3.39	4.39	12.61	-1.61	-0.61
Mean higher high water (MHHW)	6.28	4.72	5.72	8.18	2.82	3.82	13.18	-2.18	-1.18
Flood Event									
FEMA 1 year stillwater elevation (100%) (AKA King Tide)	7.55	3.45	4.45	9.45	1.55	2.55	14.45	-3.45	-2.45
FEMA 2 year stillwater elevation (50%)	7.83	3.17	4.17	9.73	1.27	2.27	14.73	-3.73	-2.73
FEMA 5 year stillwater elevation (20%)	8.22	2.78	3.78	10.12	0.88	1.88	15.12	-4.12	-3.12
FEMA 10 year stillwater elevation (10%)	8.50	2.50	3.50	10.40	0.60	1.60	15.40	-4.40	-3.40
FEMA 25 year stillwater elevation (4%)	8.91	2.09	3.09	10.81	0.19	1.19	15.81	-4.81	-3.81
FEMA 50 year stillwater elevation (2%)	9.24	1.76	2.76	11.14	-0.14	0.86	16.14	-5.14	-4.14
FEMA 100 year stillwater elevation (1%)	9.60	1.40	2.40	11.50	-0.50	0.50	16.50	-5.50	-4.50
FEMA 500 year stillwater elevation (0.2%)	10.57	0.43	1.43	12.47	-1.47	-0.47	17.47	-6.47	-5.47
FEMA Base Flood Elevation (1%)	10.00	1.00	2.00	11.90	-0.90	0.10	16.90	-5.90	-4.90

FEMA/AECOM2016 Tidal Datum Location ID	562

Water Depth Color/Value Range
< 0
< -0.5
< -1
< -1.5
< -2
< -2.5
< -3
< -3.5
< -4
< -4.5
< -5
< -5.5
< -6
< -6.5
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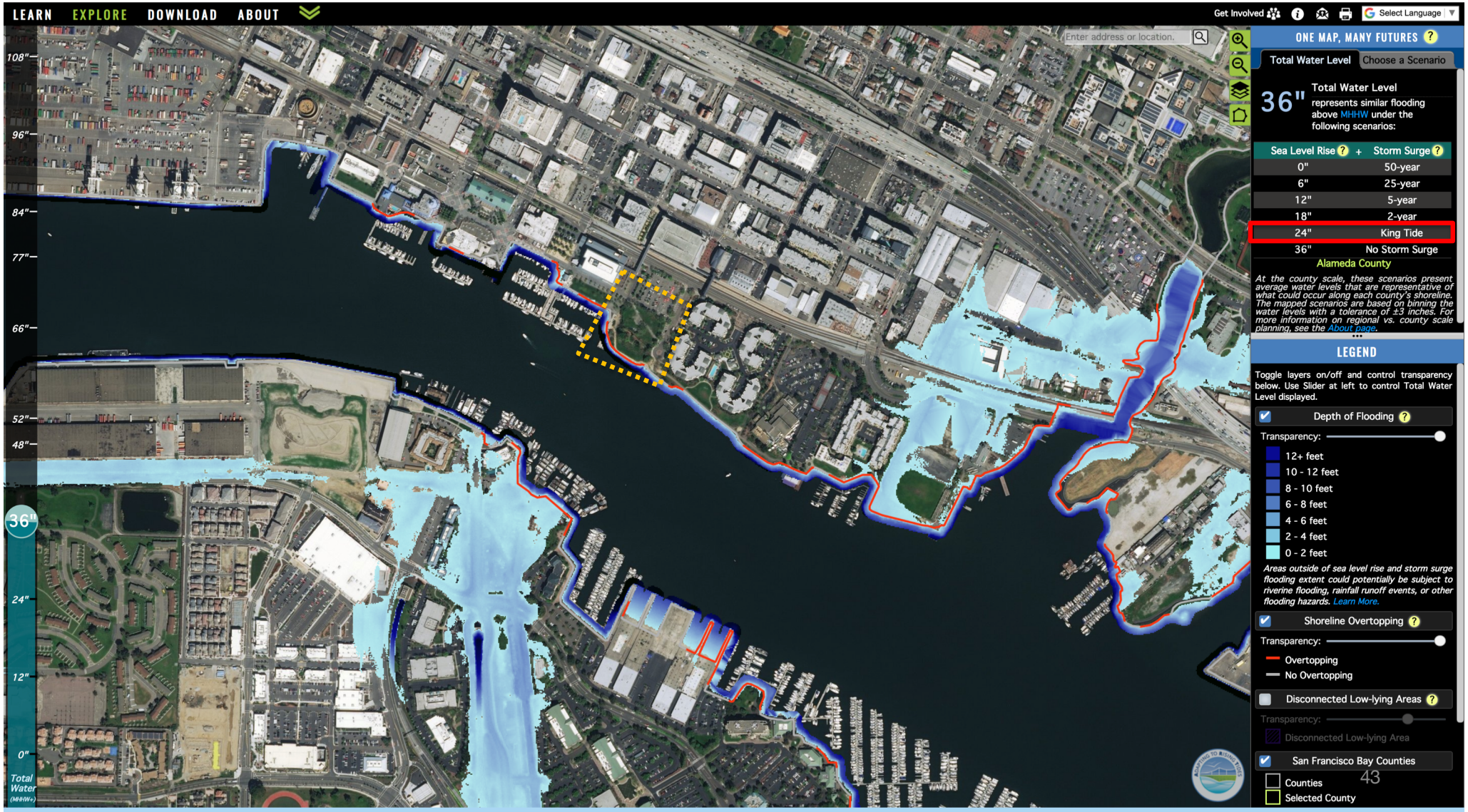
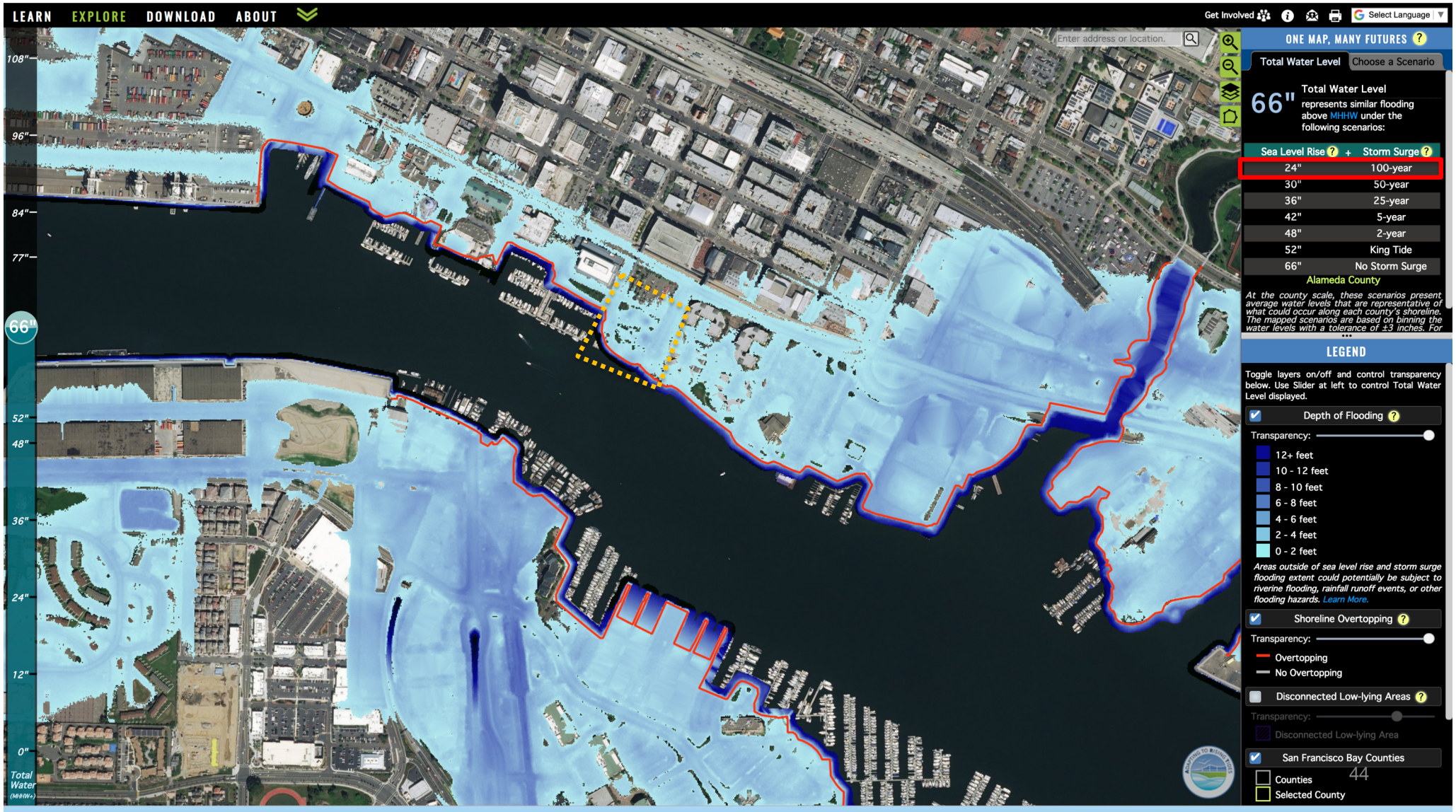
< -8

Orange value to be manually entered

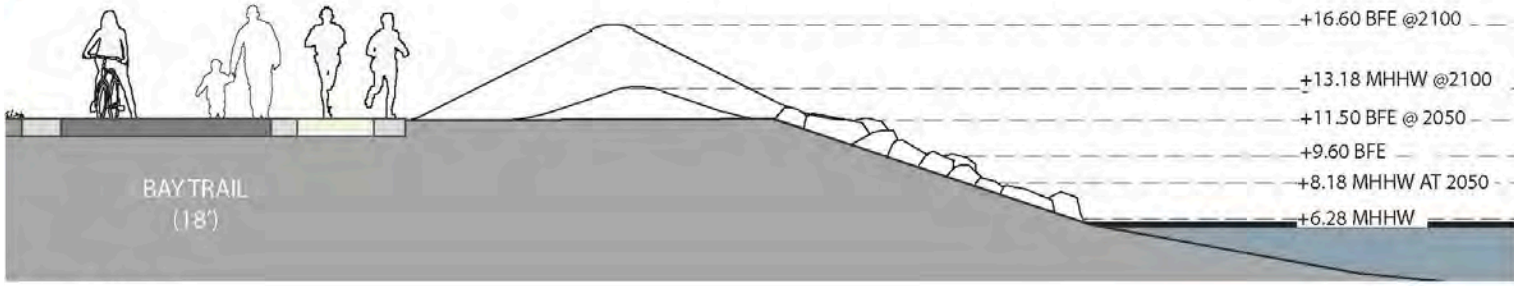
Blue values are variable and are tied to formulas and conditional formatting in cells with black values/text

Revised May 3, 2018


LEARN
EXPLORE
DOWNLOAD
ABOUT
Get Involved
Select Language
Enter address or location.
108"
96"
84"
77"
66"
52"
48"
36"
24"
12"
0"
Total Water (MHHW+)
ONE MAP, MANY FUTURES
Total Water Level
Choose a Scenario
36"
Total Water Level
represents similar flooding above MHHW under the following scenarios:
Sea Level Rise + Storm Surge
0" 50-year
6" 25-year
12" 5-year
18" 2-year
24" King Tide
36" No Storm Surge
Alameda County
At the county scale, these scenarios present average water levels that are representative of what could occur along each county's shoreline. The mapped scenarios are based on binning the water levels with a tolerance of ±3 inches. For more information on regional vs. county scale planning, see the About page.
LEGEND
Toggle layers on/off and control transparency below. Use Slider at left to control Total Water Level displayed.
Depth of Flooding
Transparency:
12+ feet
10 - 12 feet
8 - 10 feet
6 - 8 feet
4 - 6 feet
2 - 4 feet
0 - 2 feet
Areas outside of sea level rise and storm surge flooding extent could potentially be subject to riverine flooding, rainfall runoff events, or other flooding hazards. Learn More.
Shoreline Overtopping
Transparency:
Overtopping
No Overtopping
Disconnected Low-lying Areas
Transparency:
Disconnected Low-lying Area
San Francisco Bay Counties
Counties
Selected County

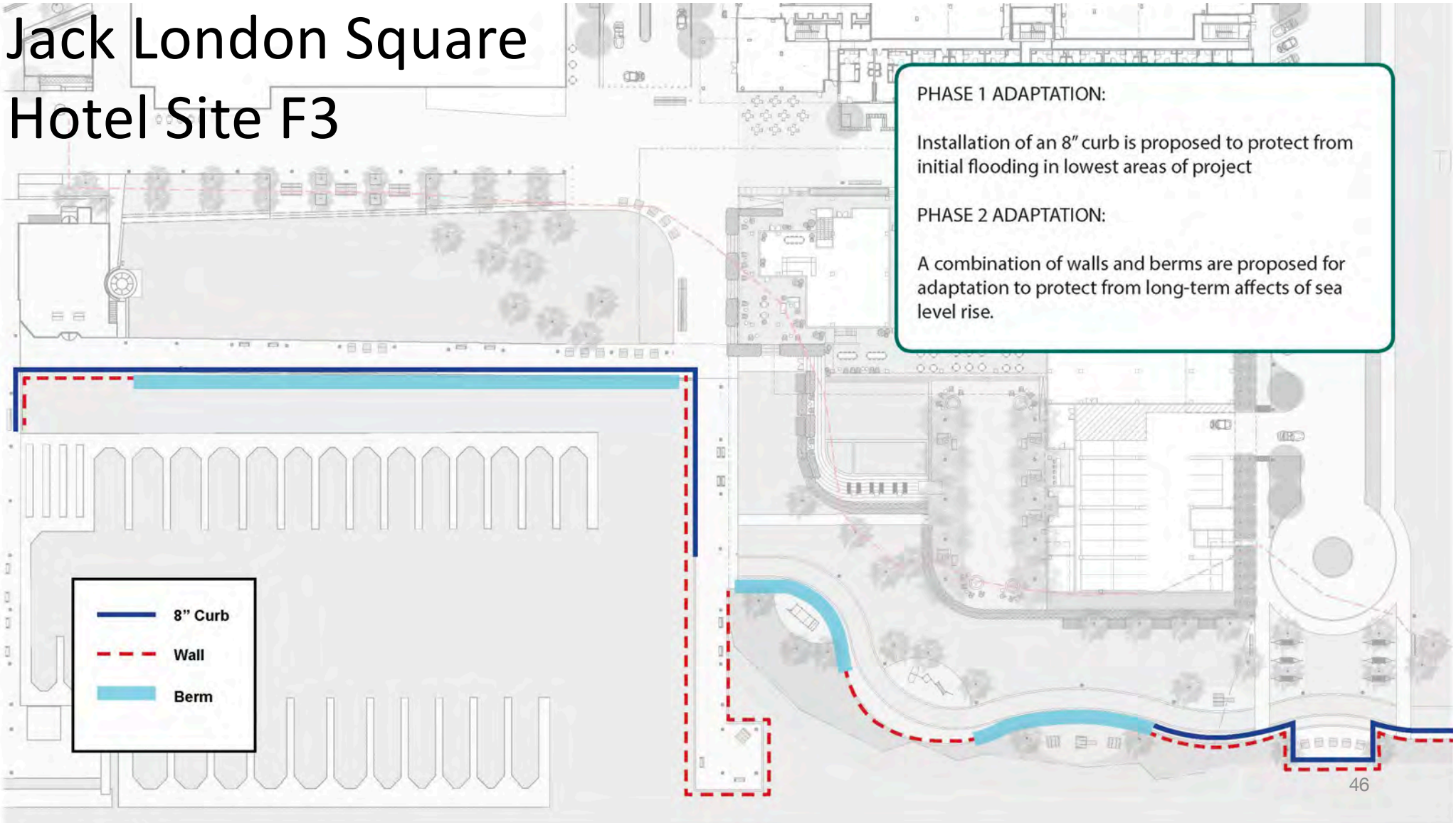

LEARN
EXPLORE
DOWNLOAD
ABOUT
Get Involved
Select Language
Enter address or location.
108"
96"
84"
77"
66"
52"
48"
36"
24"
12"
0"
Total Water (MHHW+)
ONE MAP, MANY FUTURES
Total Water Level
Choose a Scenario
66"
Total Water Level
represents similar flooding above MHHW under the following scenarios:
Sea Level Rise + Storm Surge
24" 100-year
30" 50-year
36" 25-year
42" 5-year
48" 2-year
52" King Tide
66" No Storm Surge
Alameda County
At the county scale, these scenarios present average water levels that are representative of what could occur along each county's shoreline. The mapped scenarios are based on binning the water levels with a tolerance of ±3 inches. For
LEGEND
Toggle layers on/off and control transparency below. Use Slider at left to control Total Water Level displayed.
Depth of Flooding
Transparency:
12+ feet
10 - 12 feet
8 - 10 feet
6 - 8 feet
4 - 6 feet
2 - 4 feet
0 - 2 feet
Areas outside of sea level rise and storm surge flooding extent could potentially be subject to riverine flooding, rainfall runoff events, or other flooding hazards. Learn More.
Shoreline Overtopping
Transparency:
Overtopping
No Overtopping
Disconnected Low-lying Areas
Transparency:
Disconnected Low-lying Area
San Francisco Bay Counties
Counties
Selected County

Jack London Square Hotel Site F3

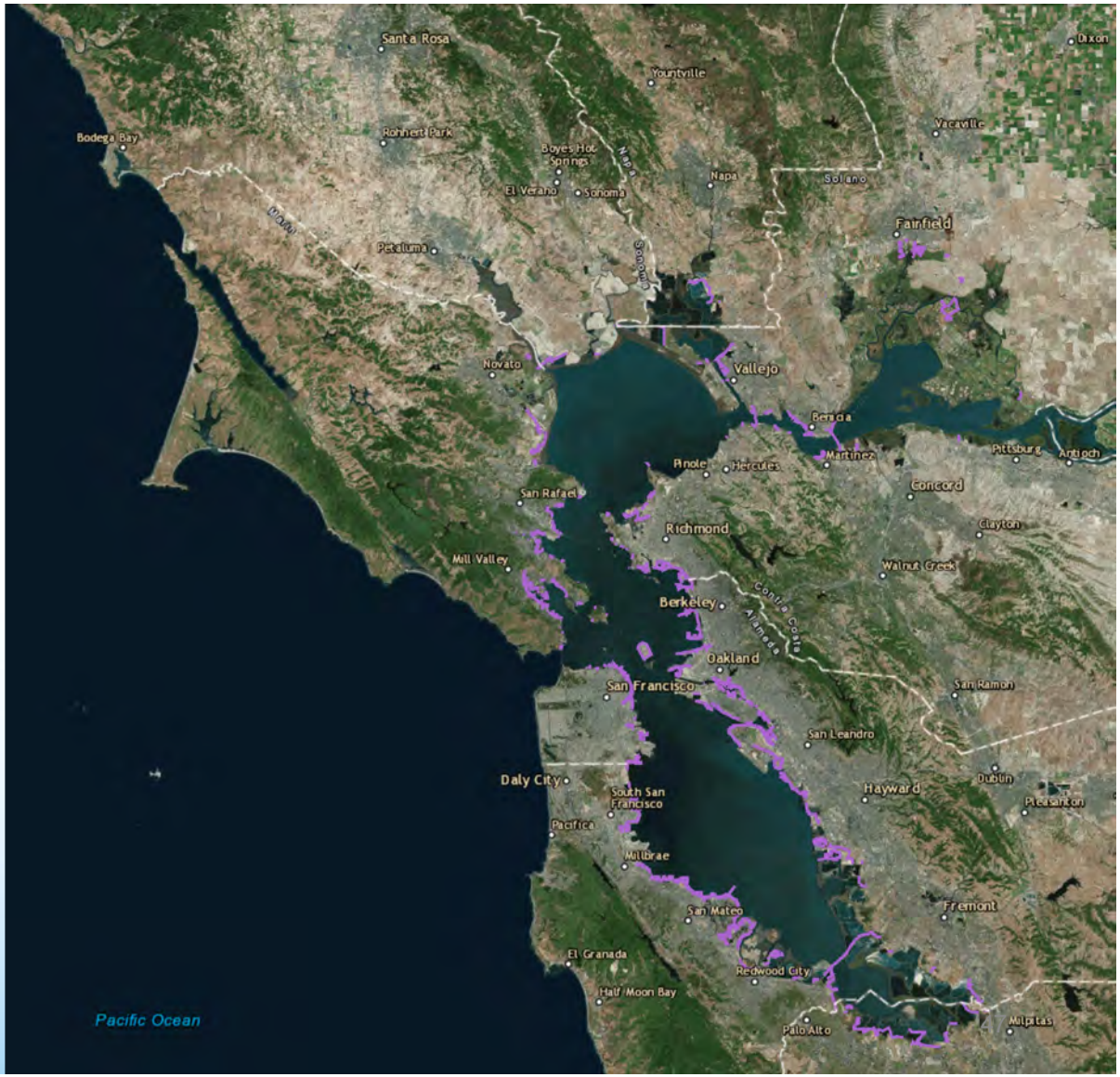


SCALE 1/8"=1'

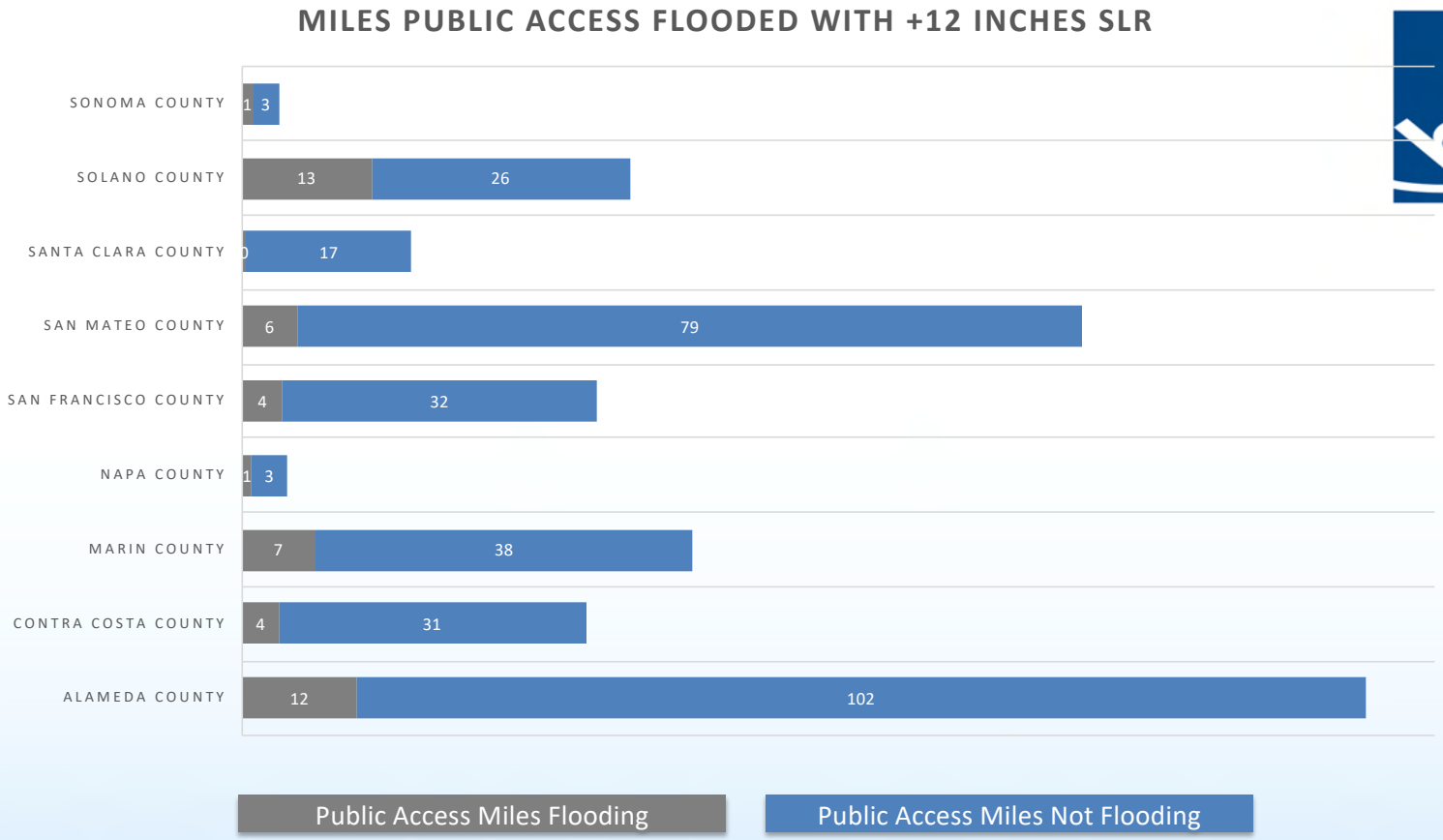
Jack London Square Hotel Site F3



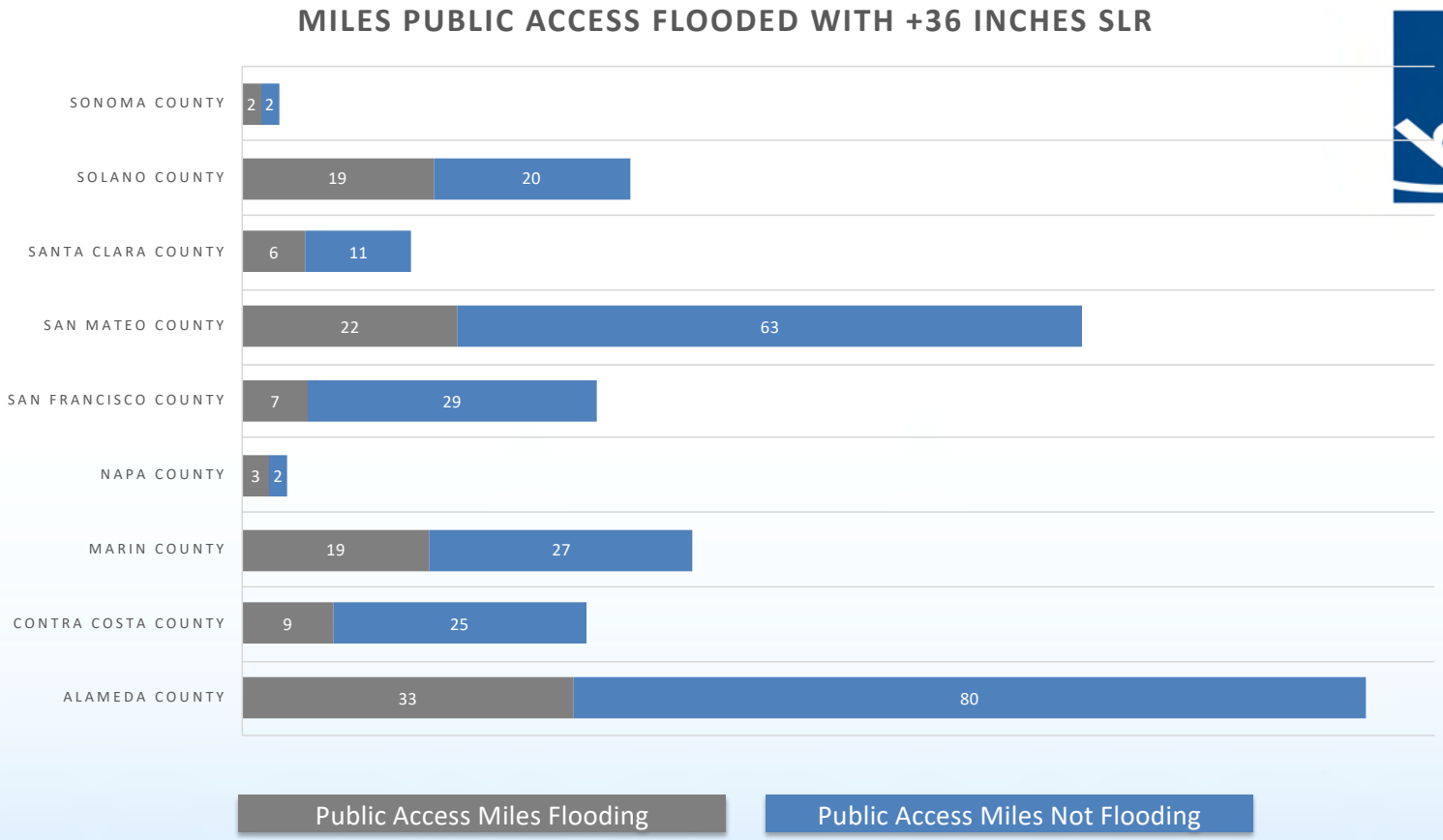
Existing Public Access & Potential Impacts from Flooding



Public Access for Existing Permits
*Very Rough Approximation
= 377 Miles

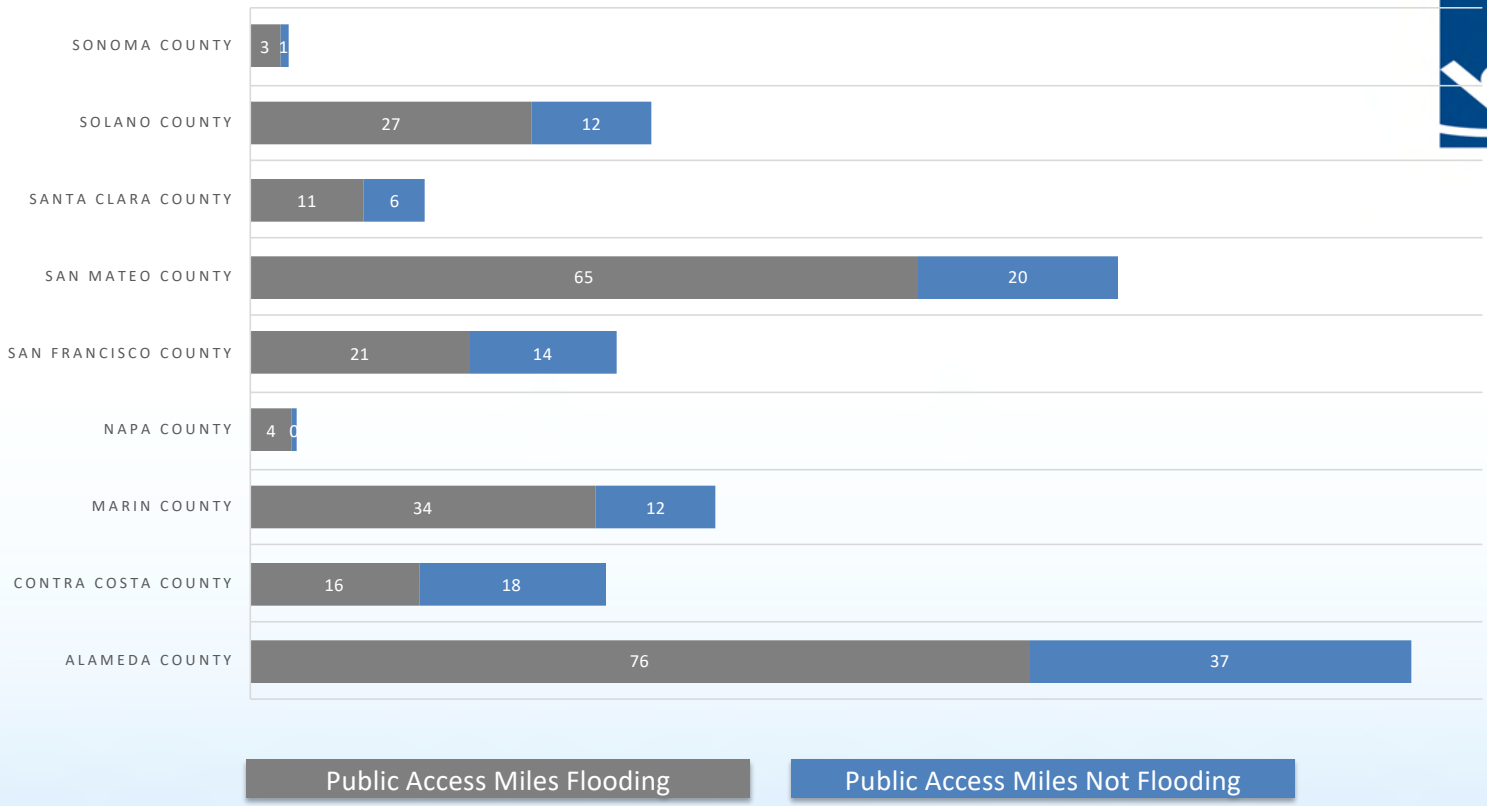


King Tide at Current Water Level
(48 miles)



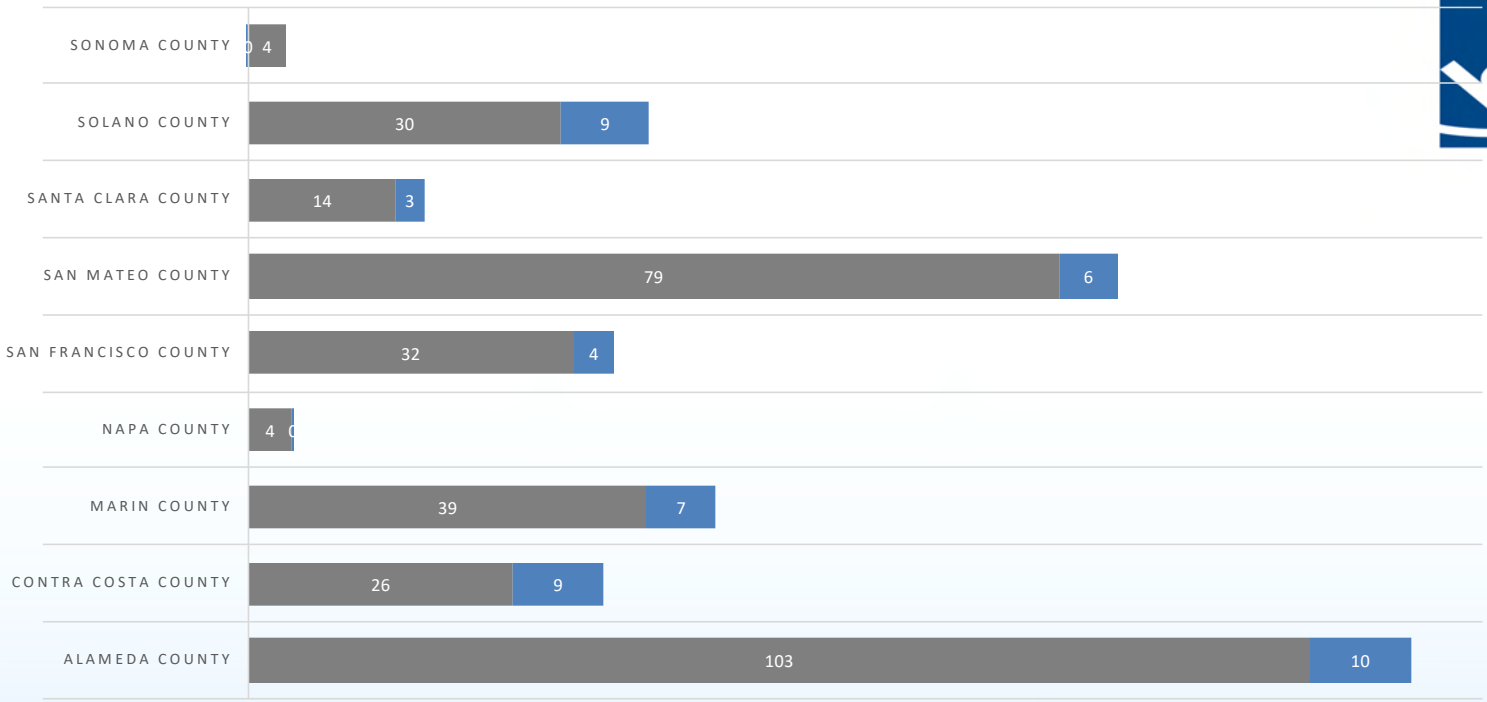
50-year Storm at Current Water Level
(120 miles)

MILES PUBLIC ACCESS FLOODED WITH +66 INCHES SLR

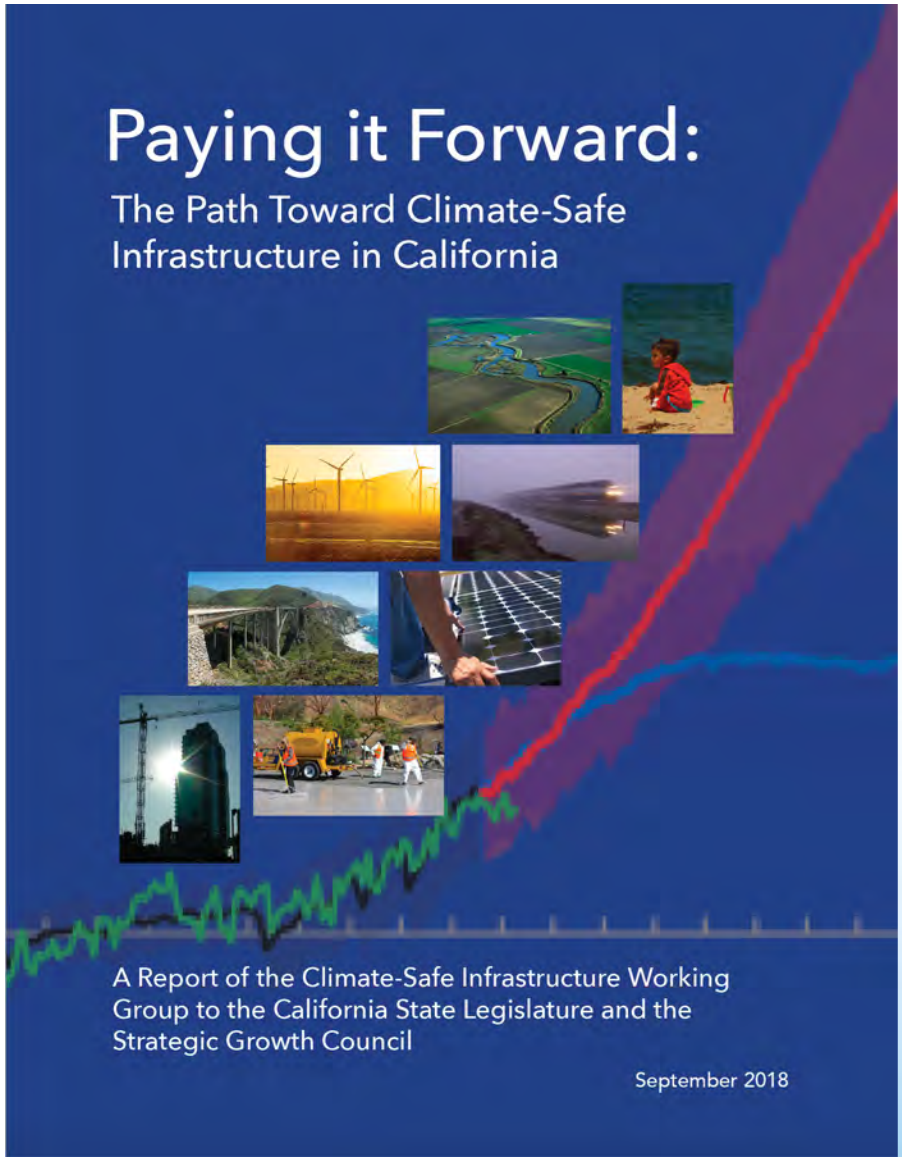


100-year Storm at +24”SLR Water Level
Medium-High Risk Aversion @2050
(258 miles)

MILES PUBLIC ACCESS FLOODED WITH +108 INCHES SLR



100-year Storm at +66”SLR Water Level
Medium-High Risk Aversion @ 2100
(331 miles)



AB 2800

State agencies should update all relevant infrastructure standards and guidelines that they can directly affect.

They should develop new state-specific guidelines where there are gaps to address climate resiliency by incorporating forward-looking climate information in those standards and codes.

Policies to Permits:
Applying State SLR Guidance

- Thoughts on Risk Aversion analysis method?
- Risk Aversion applied to restoration projects?
- Risk Analysis applied to Maintenance clauses in permits?
- Criteria for adaptation thresholds associated with risk categories?
- H++ projects on the horizon – when to apply this risk category?
- Funding mechanisms as permit conditions?