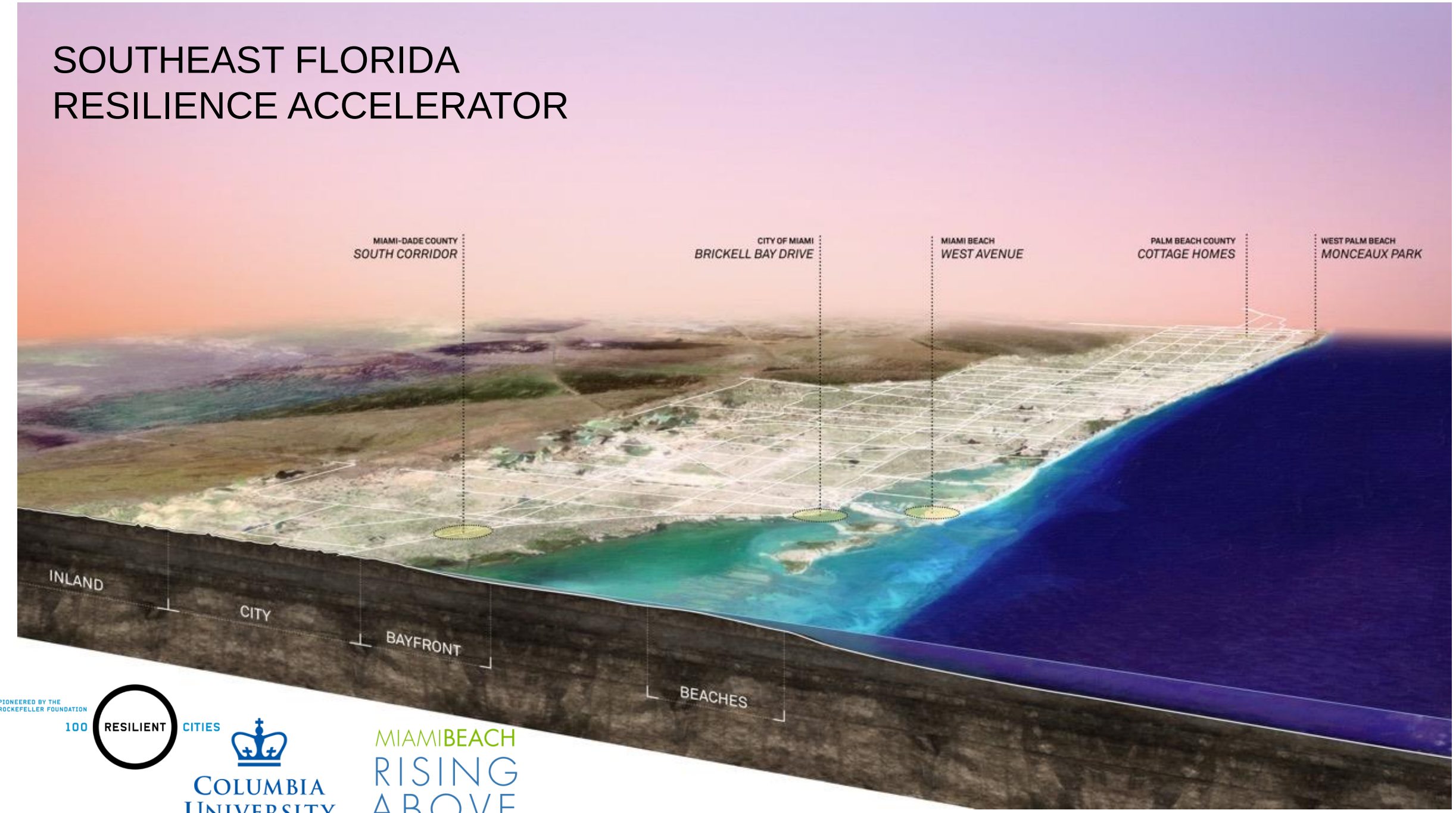
SOUTHEAST FLORIDA RESILIENCE ACCELERATOR



PIONEERED BY THE ROCKEFELLER FOUNDATION
100 RESILIENT CITIES

COLUMBIA UNIVERSITY

MIAMIBEACH RISING ABOVE

West Avenue

Statement of Purpose

Considering the need to adapt to sea level rise stressors and invest in infrastructure (using best available data and public engagement), we propose integrated planning and improved above and below ground streetscape to reduce instances of flooding and improve quality of life.

The purpose of this meeting is to present the results of the Resilience Accelerator and discuss next steps.

West Avenue

Pre-phase 1 Conditions

West Avenue

Next Steps

September 4	WAvNa Association Meeting
September 12	NOFA Association Meeting
September 26	Sustainability & Resiliency Committee (Public Presentation)
October 17	Commission Meeting – Accelerator Recommendations
November 14	Commission Meeting – Change Order

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Accelerator Observations

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Community Feedback

1. Aging Infrastructure
2. Road Raising / Harmonization / Drainage on Private Property
3. Road Width
4. Bicycle Facilities
5. Walkability (Sidewalks, Tree Canopy, Landscaping)
6. Construction Phasing

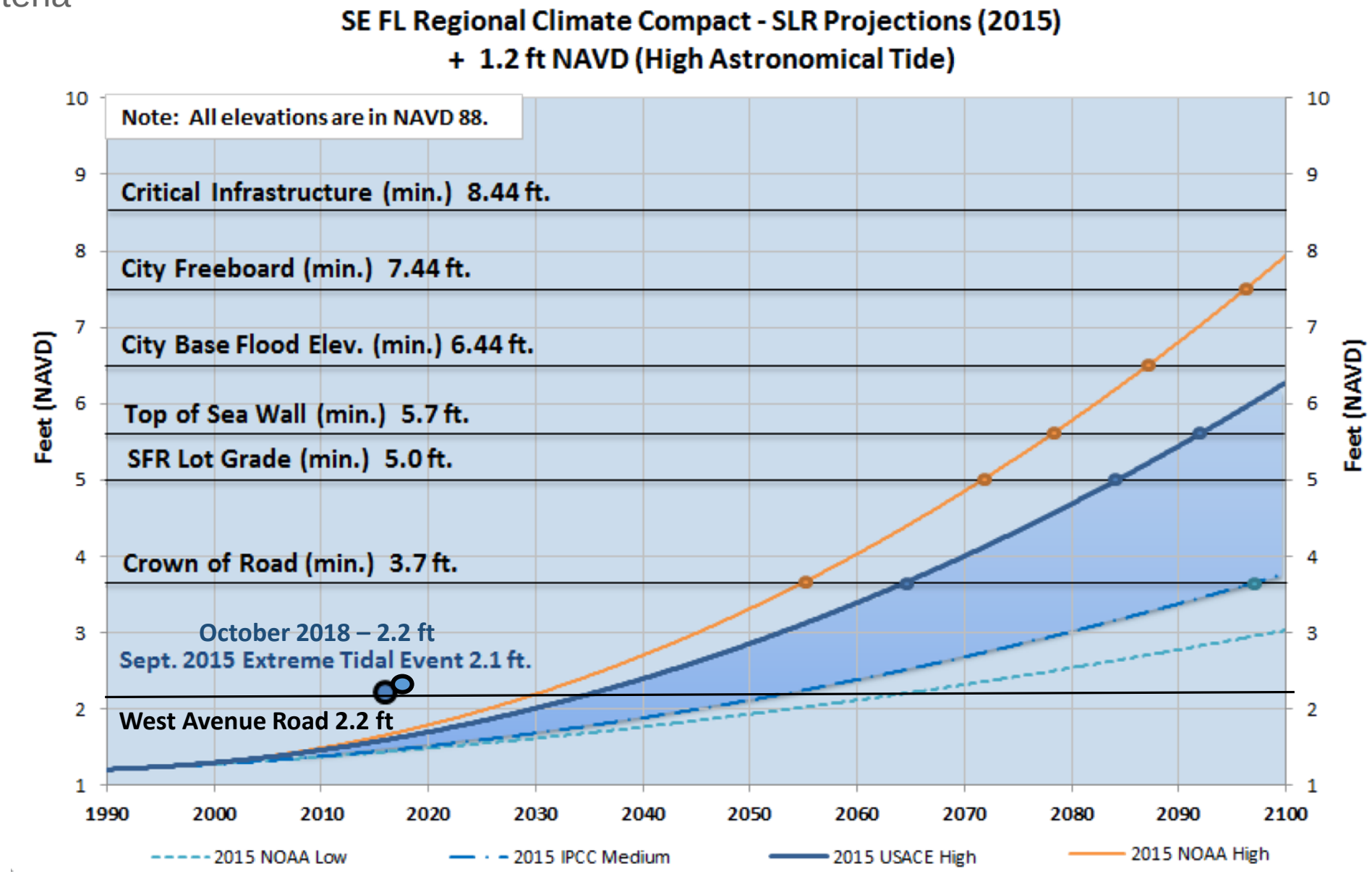
West Avenue

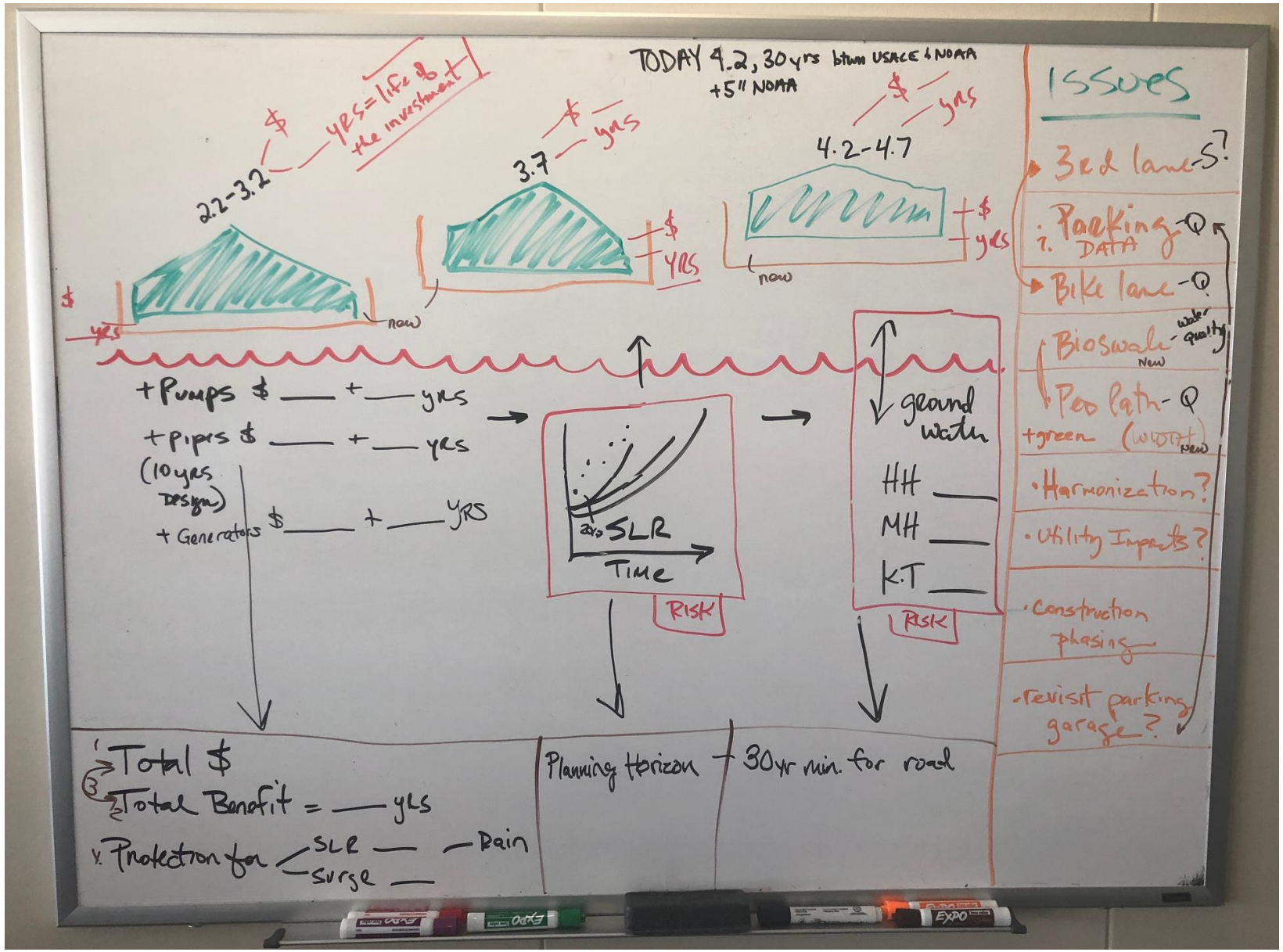
Design Considerations

1. 2015 Transportation Master Plan – Prioritization of Pedestrians & Bicycles
2. Emergency Response Needs
3. Parking Requirements – Prioritize residential segments
4. Moving from a 5-Year to a 10-Year Storm Event
5. Maximize areas for greenspace and tree canopy
6. Sea Level Rise Projections and Implications to Groundwater
7. Project's Design Life
8. Fiscal Responsibility
9. Environmental Regulatory Requirements – groundwater, water treatment, water retention
10. Construction Phasing
11. Encroachments

West Avenue

Design Criteria




TODAY 4.2, 30 yrs btwn USACE & NOAA
+5" NOAA
YRS = life of the investment
2.2-3.2
3.7
4.2-4.7
now
+Pumps $ ___ + ___ yrs
+pipes $ ___ + ___ yrs
(10 yrs design)
+ Generators $ ___ + ___ yrs
2035 SLR
Time
RISK
ground water
HH ___
MH ___
K.T ___
RISK
Total $
Total Benefit = ___ yrs
% Protection for SLR ___ Rain
surge ___
Planning Horizon
30yr min. for road
ISSUES
3rd lanes?
Parking DATA
Bike lane
Bioswale New water quality
Ped path
+green (WOTT) New
•Harmonization?
•Utility Impacts?
•Construction phasing
•revisit parking garage?

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Sharing Decision Making Tools | Project Scoping

Road and Pedestrian Right-of-Way Raising Analysis

Description of Effects	Minimum Crown of Road Elevation (NAVD)			
	Exist. (2.2±)	3.2	3.7	4.2
1. Roadway				
1.1 Estimated time to roadway impact or reconstruction	**< 10 Years**	**±10 Years**	**±30 Years**	**±40 Years**
1.2 Sea Level Rise exceeds bottom of roadway base	Yes	Yes	No	No
1.3 Roadway Base Protection	Yes	Yes	No	No
1.4 Fill Material Required	<As Bid	< As Bid	As Bid	>As Bid
1.5 Environmental Impacts	High	Medium	Low	Low
2. Harmonization				
2.1 Estimated Harmonization Impacts†	**< 143**	**< 143**	**143**	**179**
2.2 Harmonization Issues	<4	<4	4	±20
2.3 Average Accessibility Route Length 5% Max. (No Handrails)	0	±30'	±40'	±50'
2.4 Average Accessibility Ramp Length 8.3% Max. (Handrails)	0	±20'	±25'	±35'
2.5 Retaining Wall and Handrail Lengths	0	<As Bid	As Bid	>As Bid
2.6 Retaining Wall and Handrail Heights	0	<As Bid	As Bid	>As Bid
3. Utilities				
3.1 Ideal location of watermains	Complex	Complex	As designed	As designed
3.2 Storm Drainage System - Larger Pipes	Deeper Structures	Deeper Structures	As Bid	Taller Structures
3.3 Impacts to Other Utilties, FPL & AT&T	**> 30± Conflicts**	**> 30± Conflicts**	**30± Conflicts**	**< 30± Conflicts**
3.4 Yard Drainage Impacts	±50	<179	179	179
4. Landscaping†				
4.1 Lifespan of plant material due to SLR and saltwater intrusion	**Less desireable**	**Less desireable**	**As designed**	**More desireable**
4.2 Preservation of Existing Trees	More desireable	More desireable	As designed	Less desireable
5. Construction Related Impacts				
5.1 Additional Dewatering for Utility Construction	Yes	Yes	No	No
5.2 MOT Duration	< As Bid	< As Bid	As Bid	> As Bid
5.3 Construction Schedule Impacts	< As Bid	< As Bid	As Bid	> As Bid
5.4 Future Construction Frequency	**High**	Medium	**Low**	**Low**

Darker shades of red denote higher negative Impact

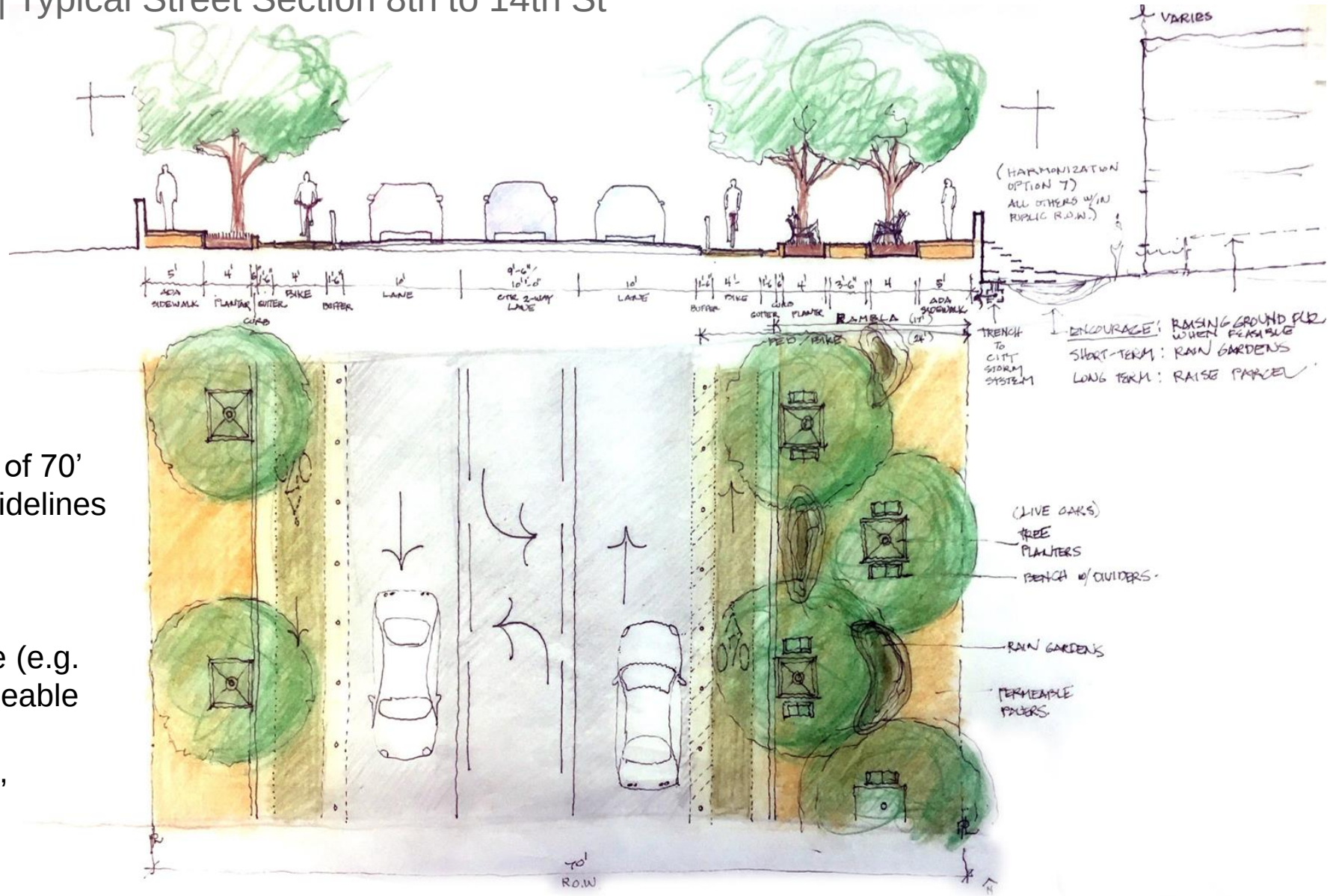
Darker shades of green denote higher positive Impact

† Impacts include impacts to trees, gates, walls, lighting, irrigation, fences, walls, parking, drainage, etc.

West Avenue

Improve Current (2020 - 2050) | Typical Street Section 8th to 14th St

- Delivering intent of Approved Transportation Plan (prioritizing pedestrians and bike lanes – 40’ of 70’ ROW) and City Street Design Guidelines
- Optimizing use of roadspace for community desires:
  - Parking
  - Use of green infrastructure (e.g. bioswales, trees and permeable pavers)
  - Aesthetics, street furniture,
  - Ensures fire safety



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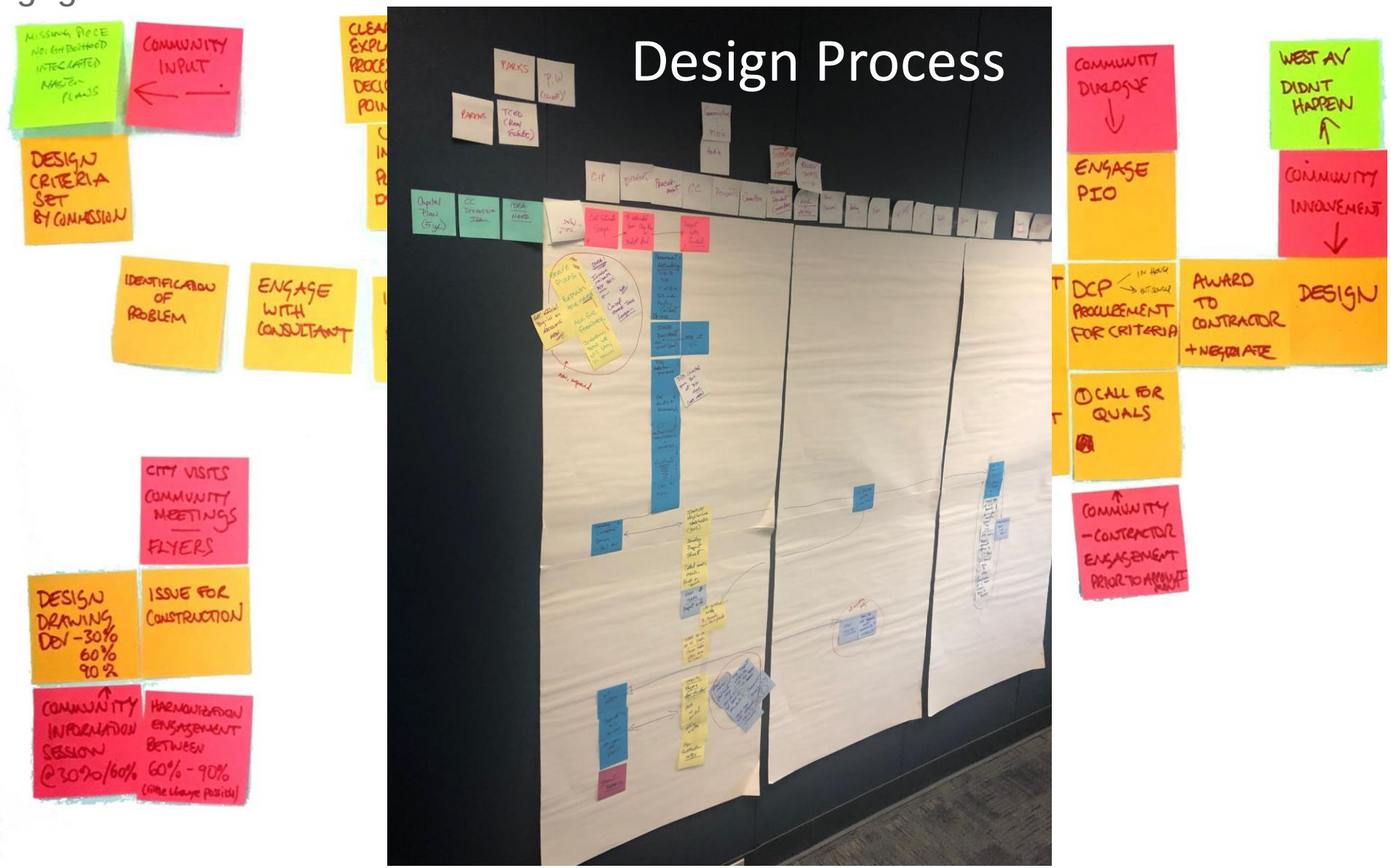
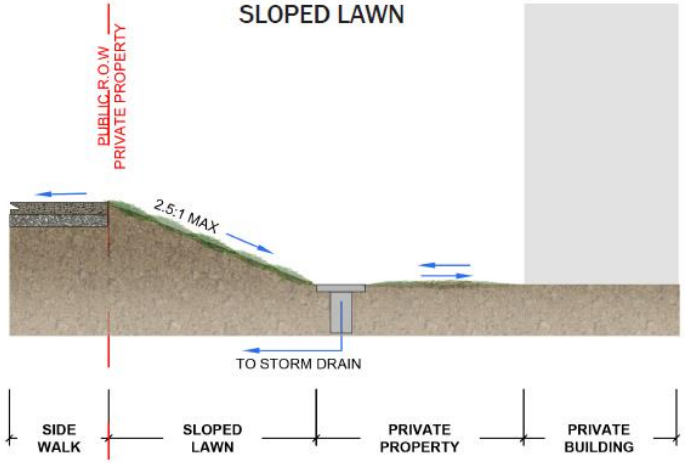
Improved Engagement



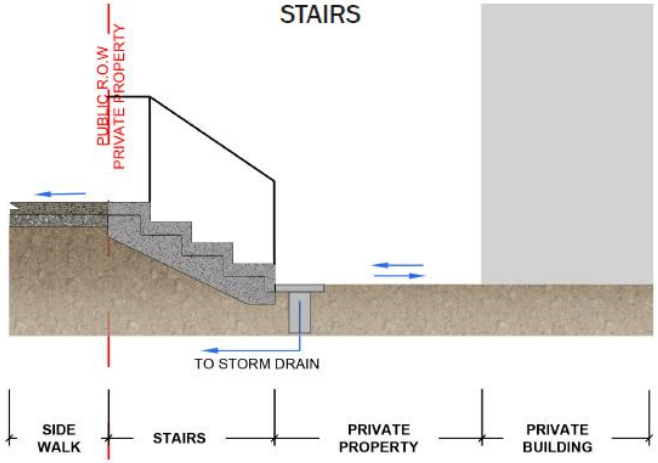
West Avenue

HARMONIZATION TYPOLOGIES

SLOPED LAWN



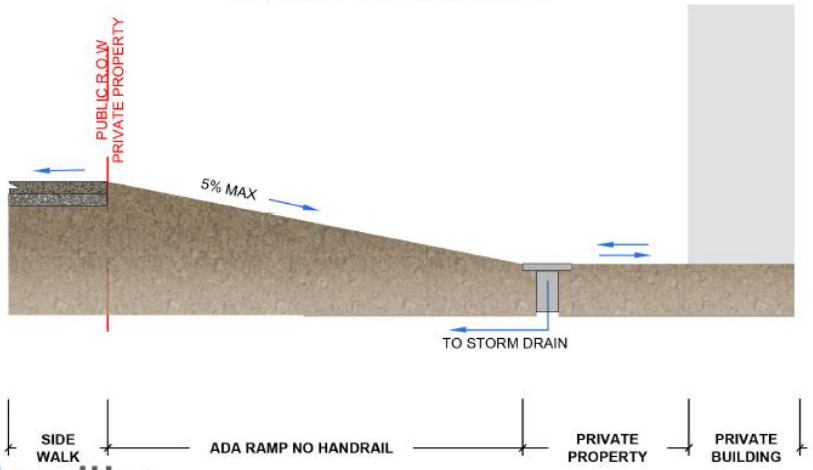
STAIRS



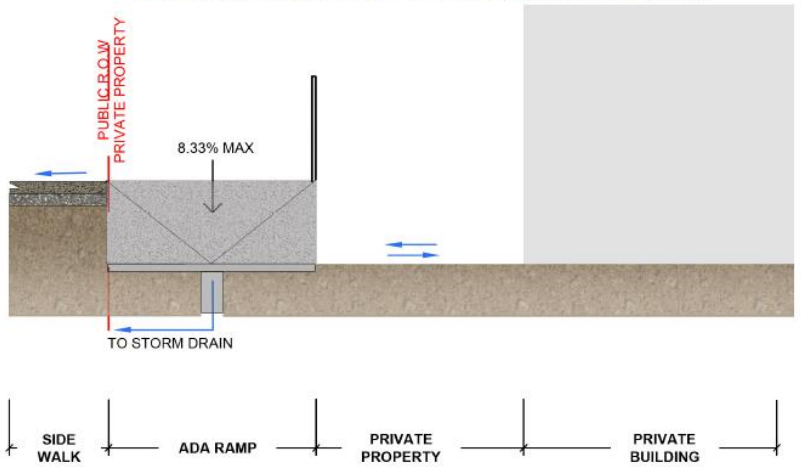
0 2' 4' 6'

SCALE: 3/8" = 1'-0"

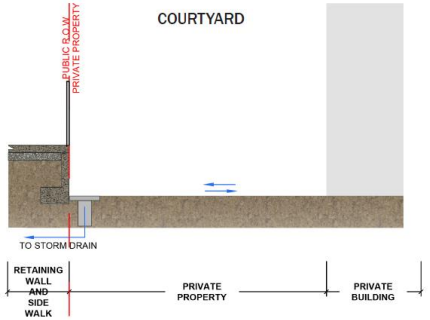
ADA RAMP (NO HANDRAIL)



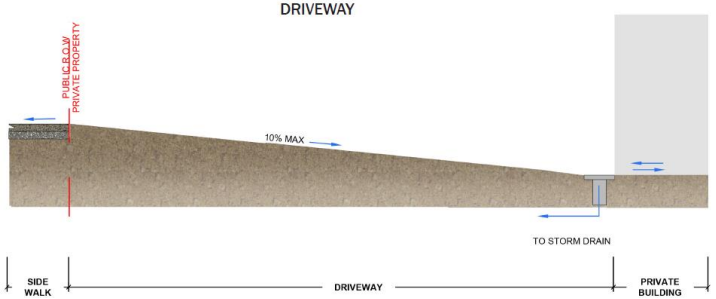
ADA RAMP (PARALLEL TO ROAD, WITH HANDRAIL)



COURTYARD



DRIVEWAY



savinomiller
DESIGN STUDIO
LANDSCAPE ARCHITECTURE | URBAN DESIGN | ARCHITECTURE

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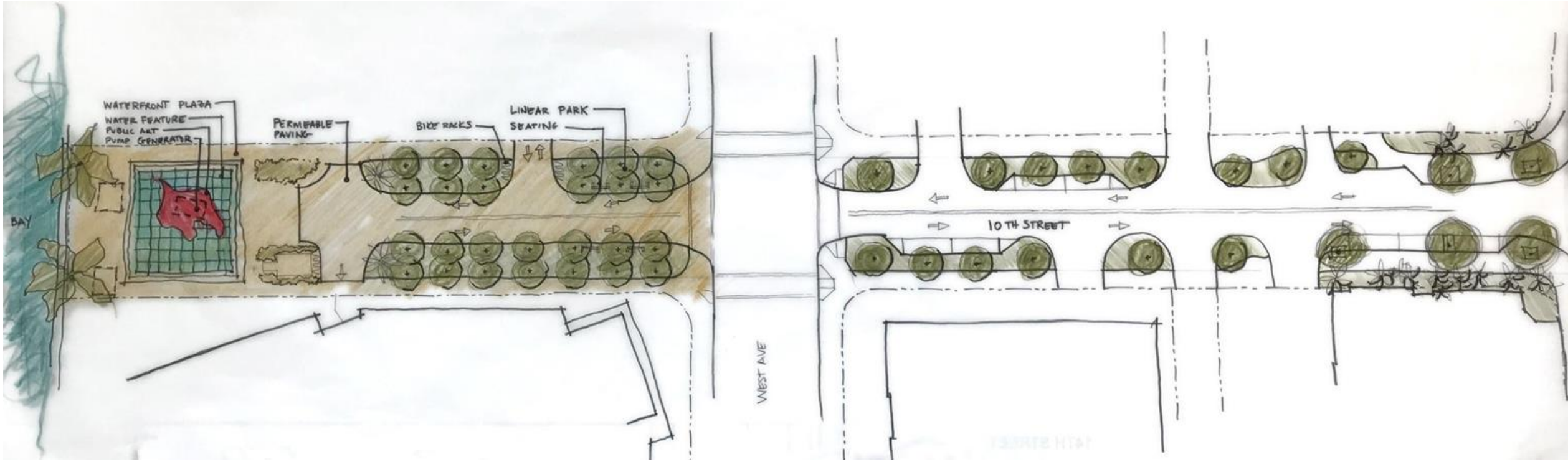
Improve Current (2020 - 2050) | Creation of Streetend Parks



- Improved connectivity to very limite public waterfront area
- Opportunities for place-making
- Expanded pedestrian walkway and greenspace

West Avenue

Change Order Recommendation

1. Road Elevation: 3.7’ NAVD with harmonization
2. Mobility
    1. Two travel lanes with center turn lane
    2. Two Typical Sections:

        North of 14th Street

        1. Protected Bike Lanes
        2. Parking to Remain

        South of 14th Street

        1. Reduced Parking
        2. Protected Bike Lanes
        3. Wider Sidewalks
        4. Green Infrastructure
3. Streetends: Enhanced Design – remove parking, add tree canopy
4. Storm Protection: 10 year storm event

West Avenue

To conclude

We will continue to adapt to sea level rise - we are in this together in the evolution of our community to improve quality of life

We will communicate to educate and listen

We will integrate internally on city projects

We will integrate all city projects with the private realm

MIAMIBEACH
RISING
ABOVE

Elizabeth Wheaton
Environment & Sustainability
City of Miami Beach
ewheaton@miamibeachfl.gov