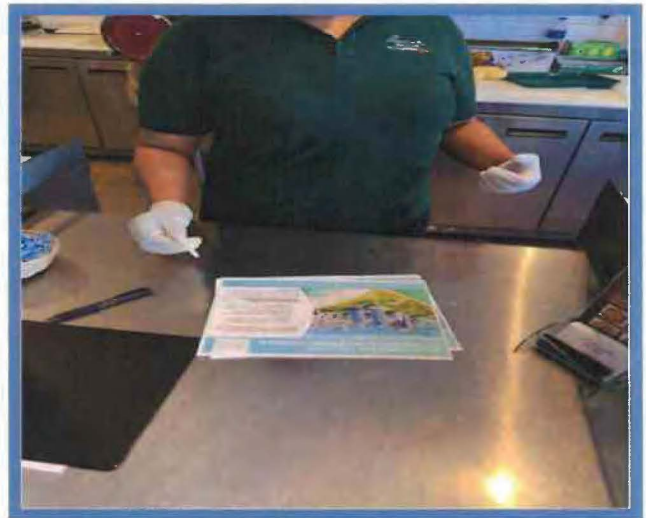
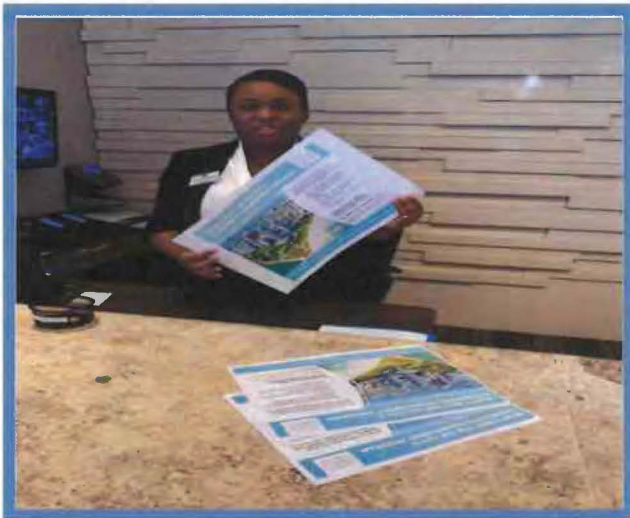


# Stormwater Management Program Presentation

Community Outreach

Door to Door - January 20, 2020

MIAMIBEACH  
RISING  
ABOVE



# Public Workshop

## **Discussion Briefing Summary**

January 21, 2020 | 5:45 p.m.

City of Miami Beach City Hall Commission Chambers  
1700 Convention Center Drive, Miami Beach, FL 33139

### **Staff:**

Jacobs Engineering  
Infinite Source Communications  
City of Miami Beach Staff  
See the attached sign-in sheets for attendees

### **Key Items Discussed**

- Public Works Director Roy Coley started the presentation by giving a brief introduction of The City of Miami Beach plans regarding the project. He also explained the purpose of the meeting, which was to obtain public input about the different elevation strategies. Furthermore, Mr. Coley encourage residents to participate in the comments section to provide their feedback.

### **Presentation**

- Matt Alvarez of Jacobs Engineering thanked the residents for attending the meeting and gave a brief introduction of the topics that will be presented. Mr. Alvarez also mentioned the overall purpose of the meeting, which was to explain different road elevation strategies and invited the public to participate and provide their feedback at the end of the meeting.
- The Jacobs Engineering team members presented each slide and provided a detailed explanation on each topic, as well as encouraged feedback from the audience.
- The following topics were discussed during the presentation:
  - Road Elevation Strategies
  - Neighborhood Project Prioritization
    - Methodology and Criteria

## Comments/Notes

- A resident expressed that there is no harmonization in the examples showed for the type of build-up character, as well as for a neighborhood with commercialization. He stated that these strategies are designed for single family neighborhoods, but not for the type of neighborhoods in the city.
- Resident Andres Asion mentioned that it would be helpful to see before and after photos of real-life projects instead of illustrations. Mr. Asion stated that the difference in elevation between the streets and the property driveways can cause significant issues such as losing driveways, flooding, etc.
- Resident Bob Kunst stated that the We Love Lakeview Association invited the team multiple times to Lakeview Vista to speak with the residents directly; however, he said they still have not heard back from the team. Mr. Kunst added that more prevention is necessary such as cleaning pipes more than once a year as well as improving their maintenance program. He stated that lakeview does not flood and that the elevation of the streets will only cause further issues for the residents.
- A resident who lives in Toledo Island, expressed concerns on how the projects are being prioritized. He added that the city should have a better order of priority regarding on-going projects before starting new projects.
- Resident Rick Kendle stated that he has not heard the team talk about swales. He mentioned that there are many neighborhoods with existing swales. He thinks it would be helpful to make these areas lower than the streets. He stated the team should consider incremental improvements rather than directly developing street raising.
- Resident Gustavo Brian mentioned that he is a business owner in the Sunset Harbor area. He explained that he experiences high flooding in his business and that the pumps take a long time to start draining this water. He encouraged the team to look at these issues first, before they continue moving forward with the project.
- Chairman of the city's advisory committee stated that he did not see how the cost of the project was being factored in. He also mentioned that there should be a budget for each of this projects overtime. Another important factor is over how long of a period the city would take to complete this project. He explained that it is not the same to spend a certain amount of money over five years than over 20 years. He added that he wants to make sure that the modeling that the team is presenting shows that type of optimization on the financial piece.

- A resident stated that the team did not present an expected sea level increase for the years that construction will be going on. He suggested the team make a presentation on how they would make a restoration five or ten years from now when things have change slightly.
- A resident stated that there was a point on the presentation that concerned him, which was the 35.8 percent for aesthetics. He mentioned that aesthetics is one of the best things Miami Beach is known for. He recommended the team to try to come up with an idea that includes maintaining the aesthetics of the city. He also mentioned that it would be helpful to have more details on how the project will impact the aesthetics of the city.
- A resident asked why the city continues to prioritize streets over private property. He agreed to keeping streets dry; however, he thinks the main project should be first keeping the properties dry and protecting the living space.
- Resident Chi-Chi Truong thanked the team for the presentation and expressed several questions and recommendations. He asked if the team has considered geogrids and geotextiles to strengthen the pavement section and reduce the thickness. He also asked how these new criteria will impact the on-going Capital Improvement projects.
- A resident asked if the team considered developing seawalls instead of raising the streets.
- A resident mentioned that she did not heard about public parks and natural green spaces. She recommended to push the water into the public green spaces, so when the time of elevating the streets comes, the parks and public spaces can help absorb all the water instead of having this water going into the properties.
  - Mr. Matt Alvarez responded that it was an excellent comment and that they did incorporate green spaces as part of the first meeting.
- Resident Louise Bauer asked the team to look at some completed projects in the city. One was done by Florida Department of Transportation on Alton Road and 20 Street, in the Publix area. She mentioned that the department change the pipes and it was not necessary to raise the streets. The second one was right behind the Bal Harbour Shops; they are also changing their pipes instead of raising the streets. Ms. Bauer asked the city to focus on on-going projects first in order to complete them and then execute new projects.
- A resident mentioned that during the presentation he did not hear anything about what is going to happen with stormwater management. He mentioned Biscayne Bay is dying and that sea grass may never return. He recommended the city look at all the consequences

that this is bringing to the ecosystems, tourism etc. He asked what the team is doing about studying the circulation panels on the bay. He suggested the team to include more details on where the stormwater will be discharge.

- A resident stated there is a perfect test case for the team to look at in North Beach Town Center. He mentioned that there is a nine-block area slated for redevelopment, major 74 Street water tanks surrounded by a park ready to go into developing. He further expressed developers are waiting to start because they want to know first what level the streets will be raised to.
- A resident Andres Asion stated that when it rains in Palm Island his property backyard gets about six feet of water, but the streets are dry. Mr. Asion added that for the new properties and new developments street elevation is not an issue, but for existing properties it presents a major issue.
- A resident asked the team where the water will go after they raised the streets. He added that currently the water sits on the streets, but if the streets get elevated that water will go to the properties. He expressed concerns regarding this matter and encouraged the team to bring solutions before going to the next step.
- A resident asked what is needed to provide proper stormwater management for a large geographic area. He asked how the houses, buildings and businesses can be protected once the streets get elevated. He also recommended the team create a master plan for stormwater management.
- A resident expressed that new street infrastructure is needed. He also recommended the team include on the presentation current conditions of the streets and how this project will improve the current conditions.
- Resident Abraan Gonzalez mentioned that since the Blue-Green Infrastructure meeting there has not been any interaction with the community. There is a lot of messages going around and this creates chaos among the community. He added that one thing the team is missing is reaching out to the different homeowners associations. Mr. Gonzalez added that it is important for the team to make sure residents understand all the key points of the project and get as much feedback from the community as possible.
- A resident said every neighborhood has specific needs and that is why is important for the team to reach out to them and listen to their thoughts and opinions. She added that she is asking the City Manager, and the commissioners, to do the same thing they have done in the past with other projects with this project. She stated it is important the team understands what each community issues are to come up with better recommendations.

- A resident expressed concerns regarding the proposed street elevations. He said property values will go down, and this will affect all the residents. He said he asked several questions at the last meeting but did not receive any response back from the team.
- A resident expressed concerns regarding a project on Lincoln Road. She mentioned they are trying to put generators at the park on Lincoln road and the Bay, which will affect all the residents of the area as well as the location.
- Residents inquired on where to find the meeting presentation and further project information.
  - Ms. Monica Diaz responded that the presentation would be available after the meeting, and that a link will be send out through email to all the people who sign-in.

## Interactive Boards/Comments

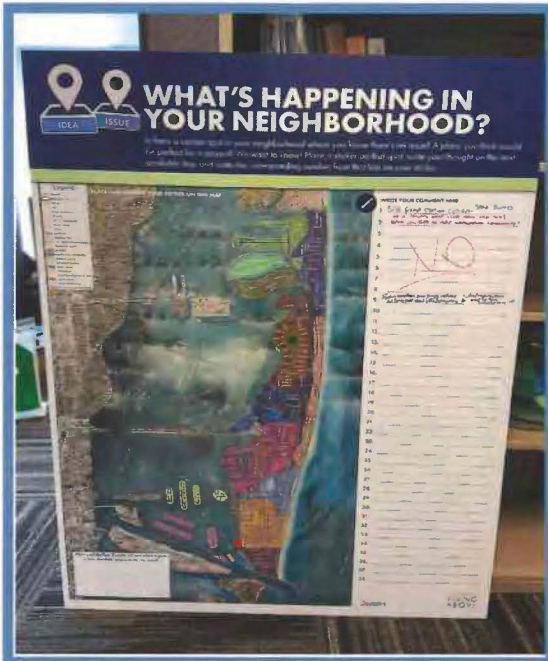
- **Board #1**
  1. Bad pump station design - Dark plumes
  2. As a private golf club, how are they being utilized to help the surrounding community?
  3. NO
  4. Illegible
- **Board #2**
  1. More green space, less asphalt - 1st Street
  2. Pump Station not functioning, intentionally shut down. Help!
  3. Alton/5th Street near bus stop stink on sewer
  4. We must put the future of Miami Beach residents first, before luxury amenities for "snow birds"
  5. Water going over the seawalls
  6. Address the original unacceptable design of 14th Street pumping station. It was one nice park - no more.
  7. Sunset Harbour very pleased with our high streets and pump system. Thank you!
  8. Not done in 1999. G.O. bond - needs to be privatized
  9. Swale Management plans need to be prepared
  10. Water collection/Storage
  11. Concrete not asphalt
- **Board #3**
  1. My street never floods - Sheridan and 45th Street

Public Works Director Roy Coley thanked the audience for attending the meeting and for sharing their thoughts and questions with the team.

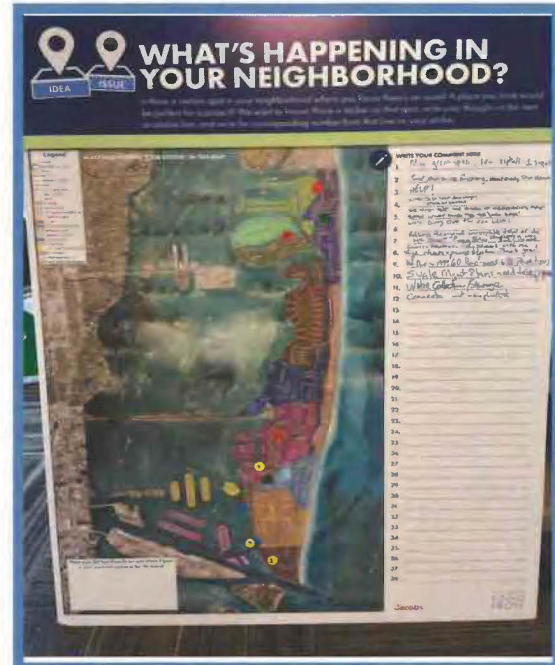
# Stormwater Management Program Presentation

Interactive Boards - Photos

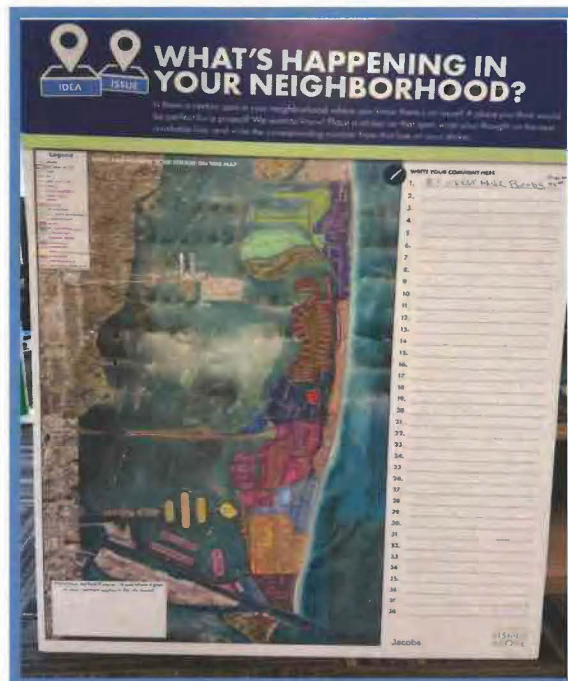
# MIAMIBEACH RISING ABOVE



Board #1



Board #2



Board #3



# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020/5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Walter Pina-Lanza	self	305 582-1882	wpin@northmiami.gov
Paul Freeman	self	305 970 0805	freeman.ph@aol.com
Jordan Gindelstein	self	305-610-3711	
Ian Kuffoff	self	305-903-0187	ian.kuffoff@aol.com
STOLAND WEINER		305 861 7828 773 259 4415	subazaid@tattoo.com
Barry Miller	self	305-895-9082	barry@savinomiller.com
Adriana Savino-Miller	self	305.895.9082	adriana@savinomiller.com
Colleen Martin	Self		dennojunk@hotmail.com
Danny Martin	Self		& ↑ same

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020/5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
	← GUSTAVO BRIAND STUDIO	786 859 2454	GUSTAVOBRIAND@HOTMAIL.COM

# Stormwater Management Program

## Presentation

Public Workshop - January 21, 2020

Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 9:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Melissa Juge	Arcadis	757-478-4795	melissa.juge@arcadis.com
Melissa Beattie	VIHA	305 799 5785	melgbeattie@gmail.com
Peter Coakley	Resident	781-254-1074	COAKLEYKP@GMAIL.COM
Alberto Argudin	A.D.A. Eng.	305-551-4608	aargudin@adaeng.net
Christiane Westhoff		786-7528777	christiane@bnetraill.com
Vanessa Vazquez	CMO - CIP	(760) 779-6773	
JASON HAGOPIAN	TEAD DESIGN GROUP	305 215 2739	JHAGOPIAN@TEADDESIGN.COM
Rafael A. Velasquez	self	305-303-9098	rv@sunsetrealty.miami.com

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Henry Blinder	Murano	305-523-9595	henryblinder@gmail.com
Marc Breslow	Self	(305) 992-5282	marc.breslow@Marumllp.com
Bruce Backman	self	017-513-9954	bruce.backman@yahoo.com
DAVE DOEBLER	self	954.415.7434	dave.doublet@gmail.com
Jack Glatkowski	Self	305-704-3103	JGGLAW@SAGLO.COM
LLOYD MANDELL	SELF	305-978-4662	LLOYD1741@AOL.COM
Jane Gross	self	305-318-5559	jane.gross@gmail.com
Jill Swartz	Self	305 915 7654	JILLYSWARTZ@gmail.com
MARIO CORTELL	Self	305-773-6530	MARIOCORTELL@GMAIL.COM

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Claudia Sonnenkrey	-	305-785-5044	claudia.sonnenkrey@gmail.com
David McKinney		202/294-2754	daviddmckinney@yahoo.com
Jim Freundlich		604 402-9957	jim@cmr-adl.com
Mercedes Padon		(305) 2180817	mfreundlich@gmail.com
Jack Johnson		(305) 487-1109	mep1025@gmail.com
Karen + Jeff Miller		786-340-2630	J.Johnson@gmail.com
Helen Kristal		1786-213-1721	M_KarenLabe1@south.net
Drew Kristal		305-968-8836	hvc.ohen@hotmail.com
		954 647 6024	Drew.Kristal@gmail.com

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Dave Bender	Myself	305-975-0002	DB305@aol.com
Jess Christof	EKS 4	918-285-0844	vchristof@ekok.com
Mark Sandlin	Commission		
Robert Manning	Self	305 538 3270	brmwr@univ.com
Gary Goussier Laura Gunn	SELF Self	768 4986	GARY3040@ADL.COM lauragunn@psnet.com
Matthew Culberty			
ESTRAN PORCELLI	MBNA	917-294-3511	erporcelli@yahoo.com

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020, 5:45 PM City Hall Commission Chambers 1750 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Carmen Datoce		796 2852625	cocm1402009@hotmail.com
The Felling	LDEMS	954-622-4219	efelling@edons.com
Curt Dyer		305-975-0003	CurtDyer305@msn.com
Ch. Chi Truong		954-435-7010	ctruong@shiffin.com
Viviana Villamizar	BCC Eng.	3053109891	Villamizar@bcceng.com
James W Moore	resident	305-542-7011	Mooreal.ty@gmail.com
KARAH CARNEIRO	RESIDENT	310 384 2624	KMONDORINE@MSN.COM
Andres Asion	Resident	(305) 613-3669	Andres@AndresAsion.com
Brian Harris	SOFNA	917-225-2846	brian@bdharris.com

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020, 6:45 PM City Hall Commission Chambers 1750 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Luis Casas	Sulzer/ABS	305-951-7286	luis@hydrasulzer.net
Alex Uzares	BCC ENG	305-412-2680	ALEXUZA@BCCENG.COM
John Rutherford	self	617-223-0901	rutherford.kimi@gmail.com
William Platt	Self	305 4482451	platt@BELSAUTH.NET
Omar Herrera	300 Engineering	305 904 6218	oherrera@300-engineering.com
Alexander Zaslara	Climate Crusader	904-314-5096	zaslara@gmail.com
Jorge Lopez	MB	305-975-6186	JorgeLopez9310@Gmail.com
ROBERTO CARNEIRO	HOME OWNER/RESIDENT	310 733 7998	ROBERTOCARNEIRO@GMAIL.COM
Amy Little	HOME OWNER	305 2061215	a-little@icloud.com

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Franklin A. Torrealba	300 Engineering	305-763-9829	fatorrealba@300engineering.com
ERIC SHEPHERD	HIMSELF	203-253-2022	ERIC.SHEPHERD@OUTLOOK.COM
Patrick Kymagin	Chem Mgmt	31336-7451	pkymagin@chemmgt.com
Stephen P. Keady	Muraco	3052985780	Steve@muracomy.com
Joe Orsato	GHD	305 962-2034	joe.orsato@ghd.com
Jo Mannig	myself	786-269-4087	jomannig1940@gmail.com
Adrian Gonzalez	Unoliver	305-206-8248	adrian@unoliver.com
Ether Overton	SOFNA	3-606-9071	—
Ripley Rubenolt	Wade Trim	710-590-1190	RRubenolt@WadeTrim.com

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Chris Perrin		973-493-7726	CHRISTIAN122543@HOTMAIL.COM
JAY R LEVY		305-785-7847	Jayrlevy@Coldwellbanker.com
SOPHIA SIECZKOWSKI	self		SOPHIASIEC2241400.com
Gary Touer	RESIDENT	305 812 7924	gtouer@gmail.com
Larry Malkovich		305 321 6705	larrym77@yahoo.com
ALEC JIMENEZ	RESIDENT	303/85/0978	alecjimenez@gmail.com
Shawn Patrick Bryant	WAVNA		WAVNA305@gmail.com
Terry Eisenstock	Sunset 384	305 903-4000	tbryenstock@bbierstock.com
Liam Muller	Wade trim	813 431-2785	LMuller@WadeTrim.com

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
		MIAMIBEACH RISING ABOVE	
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Neil Bienstock	Lakeview	786 566 2831	bienstock@gmail.com
Aarin DeMoya MICHAEL #2413	FVS	-	AARINDEMOYA@GMAIL.COM
Roger Miller	Calcuious	<del>786</del> 305 793-4610	r.miller@millerengd.com
John Frankel	UNBR HOA	305-867-1313	JFrankel@the-beach.net
Daniel Veitig			
Irina Katz FRANK EILEN		305.588.9050	kaviri8@yahoo.com
Jesse Davis	GH0	786-477-7972	jesse.davis@ghd.com
MIAMIBEACH			

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
		MIAMIBEACH RISING ABOVE	
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
BRADLEY CUMEN	DECO CAPITAL inc	305-749-0921	BRAD@DECOCAPITAL.COM
BOB KUNST	We Love Lakeview	305-864-5110	Defund@uncolateralmarketing.com
Teresa Morell	US1000	305 742 7440	tereharrells@yaho.com
Louis Kostanza	CHINA SB	570 706 233 3170	LAC3355@POL.COM
Galen Treuer			galen.treuer@miamidade.gov
Kevin Burgoynne Karen Rivo		305	PLBvrgoynne@yahoo.com
MIAMIBEACH			

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

**STORMWATER MANAGEMENT PROGRAM PRESENTATION**  
Tuesday, January 21, 2020, 5:45 PM  
City Hall Commission Chambers  
1700 Convention Center Drive, Third Floor

MIAMIBEACH RISING ABOVE

NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Melissa Tabares	Smulle Realty	(917) 862-5595	meli.tabaram@gmail.com
MARYANN ZIMMERMAN	Lincoln Cr. Assn	973-471-1117	MAZKOSOFF@GMAIL.COM

MIAMIBEACH

**STORMWATER MANAGEMENT PROGRAM PRESENTATION**  
Tuesday, January 21, 2020, 5:45 PM  
City Hall Commission Chambers  
1700 Convention Center Drive, Third Floor

MIAMIBEACH RISING ABOVE

NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
+ Stephen Miller Peter Caldwell	(home owner) on self use	(414) 345-8077	peter_caldwell2000@gmail.com
Diana Costanzo		670-905-5001	dmc5592@aol.com
R. J. Scasso	Coastal Syst.	6059989-1048	rjsscasso@ashleyhampint.com
Orlando Batista	Coastal Systems	305 525 6461	obatacort@coastalsystemsint.com
FRANCOIS MONOT		726 212 7631	FRANCOISMONOT@YAHOO.FR
Josefina Borges	"me"	305-478-0850	borgesjo@msn.com

MIAMIBEACH

# Stormwater Management Program Presentation

Public Workshop - January 21, 2020  
Sign-in Sheets

MIAMIBEACH  
RISING  
ABOVE

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
STAFF SIGN-IN			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Laurens van der Valk	JACOBS	301-204-2436	Laurens.vandervalk@jacobs.com
JASON BIND	JACOBS	970-214-1495	Jason.Bind@jacobs.com
Joe Rosen	JACOBS	404 667 0564	jr.rosen@jacobs.com
Maria Abad Barzola	ISC	973-220-2697	mbabar@isc.edu
Raymond Scioctino	JACOBS	561-799-3855	Raymond.Scioctino@jacobs.com
Olga Mikhalukhina		347 205 4865	mihalelga@gmail.com
<del>XXXXXXXXXX</del>			
Rody de la Torre	CMB - PW		
Roy Coley	CMB - PW		

MIAMIBEACH

STORMWATER MANAGEMENT PROGRAM PRESENTATION			
Tuesday, January 21, 2020 / 5:45 PM City Hall Commission Chambers 1700 Convention Center Drive, Third Floor			
MIAMIBEACH RISING ABOVE			
STAFF SIGN-IN			
NAME	REPRESENTING	TELEPHONE NUMBER	EMAIL ADDRESS
Amy Knobel	CMB		
Judy Hansvelt	CMB	(305) 673-7010	
Nelissa Lindas	Acadus	787 307 5483	
GUSTAVO BRIEND	Gustavo Briend Studio	786 859 2454	
J. Dussanck	Bayshore HOA		

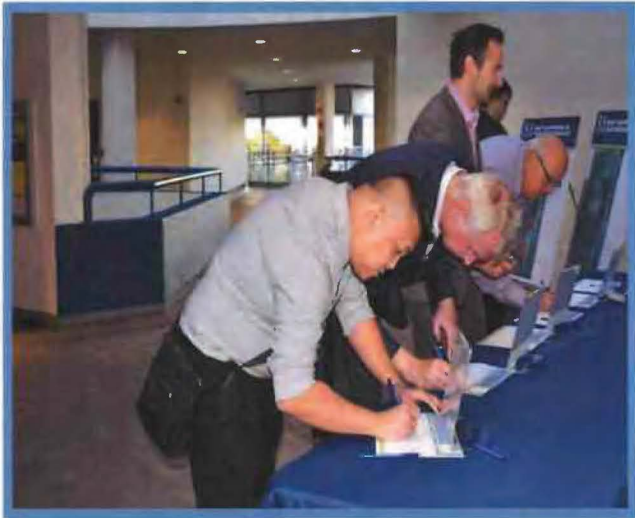
MIAMIBEACH



# Stormwater Management Program Presentation

Public Workshop - January 21, 2020

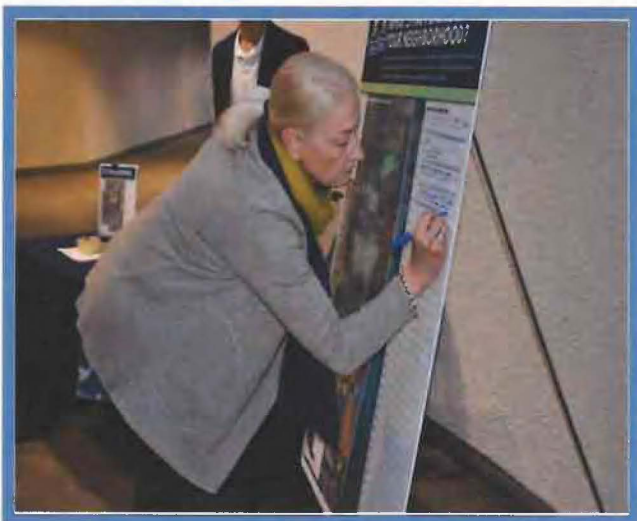
MIAMIBEACH  
RISING  
ABOVE



# Stormwater Management Program Presentation

Public Workshop - January 21, 2020

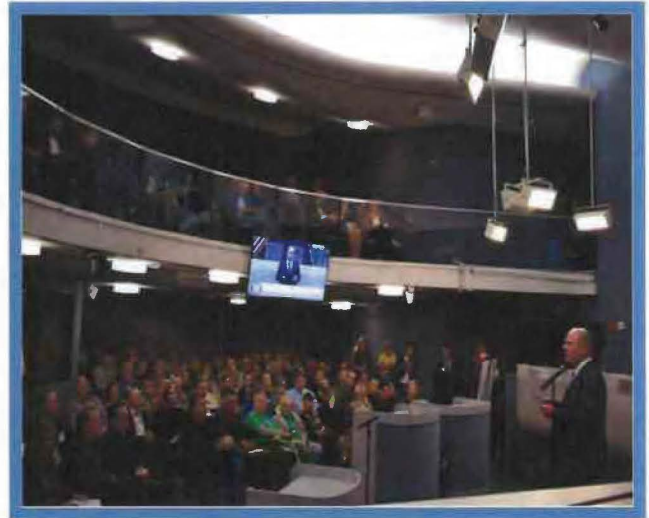
MIAMIBEACH  
RISING  
ABOVE



# Stormwater Management Program Presentation

Public Workshop - January 21, 2020

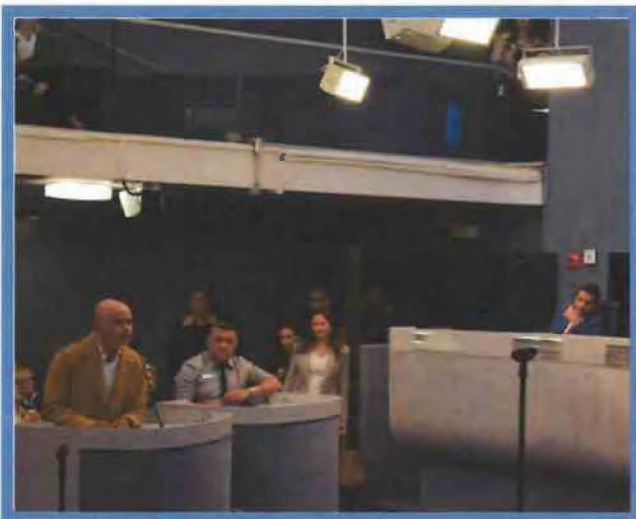
MIAMIBEACH  
RISING  
ABOVE



# Stormwater Management Program Presentation

Public Workshop - January 21, 2020

MIAMIBEACH  
RISING  
ABOVE



# APPENDIX

# Road Elevation Strategy and Neighborhood Project Prioritization

January 21, 2020

**Jacobs**

MIAMIBEACH  
RISING  
ABOVE

## Meeting Outline

- Purpose
  - Jacobs is finalizing their recommendations
  - Our team is here to listen
  - Use comments/questions received to inform final recommendations
- Providing a comment
  - Speak during the meeting, or
  - Submit comments/questions after the meeting
- Comment ground rules during meeting:
  - Form a line to ask a comment/question
  - Speakers are limited to 2 minutes
- Online viewers email questions to: [MBRisingAbove@miamibeachfl.gov](mailto:MBRisingAbove@miamibeachfl.gov)

## Comments After the Meeting

- Open comment period through January 24, 2020
- Questions on Citywide Stormwater Management? Please contact:

**Liz Bello-Matthews**

Public Information Officer – Public Works Department

305-673-7000 ext. 6902

E-mail: [LizBello-Matthews@miamibeachfl.gov](mailto:LizBello-Matthews@miamibeachfl.gov)



## Project Leadership



**25**  
years



**23**  
years



**30**  
years

**Juan Aceituno**  
Deputy Project Manager/  
Implementation Task Lead

**Laurens van der Tak**  
Climate Adaptation  
Advisory Panel



**20**  
years



**25**  
years



**15**  
years

**Jason Bird**  
Planning Task Lead

**Joe Rozza**  
Blue-Green & Sustainability

**Monica Diaz**  
Public Outreach

## Agenda

- Road Elevation Strategy
- Neighborhood Project Prioritization
  - Methodology and Criteria
- Questions and Comments



**WHAT'S NEXT FOR THE CITY'S  
STORMWATER MANAGEMENT PROGRAM**

MIAMI BEACH  
RISING  
ABOVE

Join the City of Miami Beach and Jacobs Engineering in a presentation about the road elevation policy and projects prioritization list:

- Learn more about how the recommended road elevation policy will help reduce flooding caused by sea level rise and high tides;
- Gain a better understanding of the criteria that Jacobs is using to evaluate and prioritize future projects;
- Provide input prior to the delivery of their recommendations.

**Tuesday, January 21, 2020**  
**City Hall Commission Chambers**  
1700 Convention Center Drive, Third Floor

**Open House - 5:45 PM | Presentation - 6:15 PM**

Or watch LIVE on MBTV: AT&T U-verse 99/ Atlantic Broadband 660

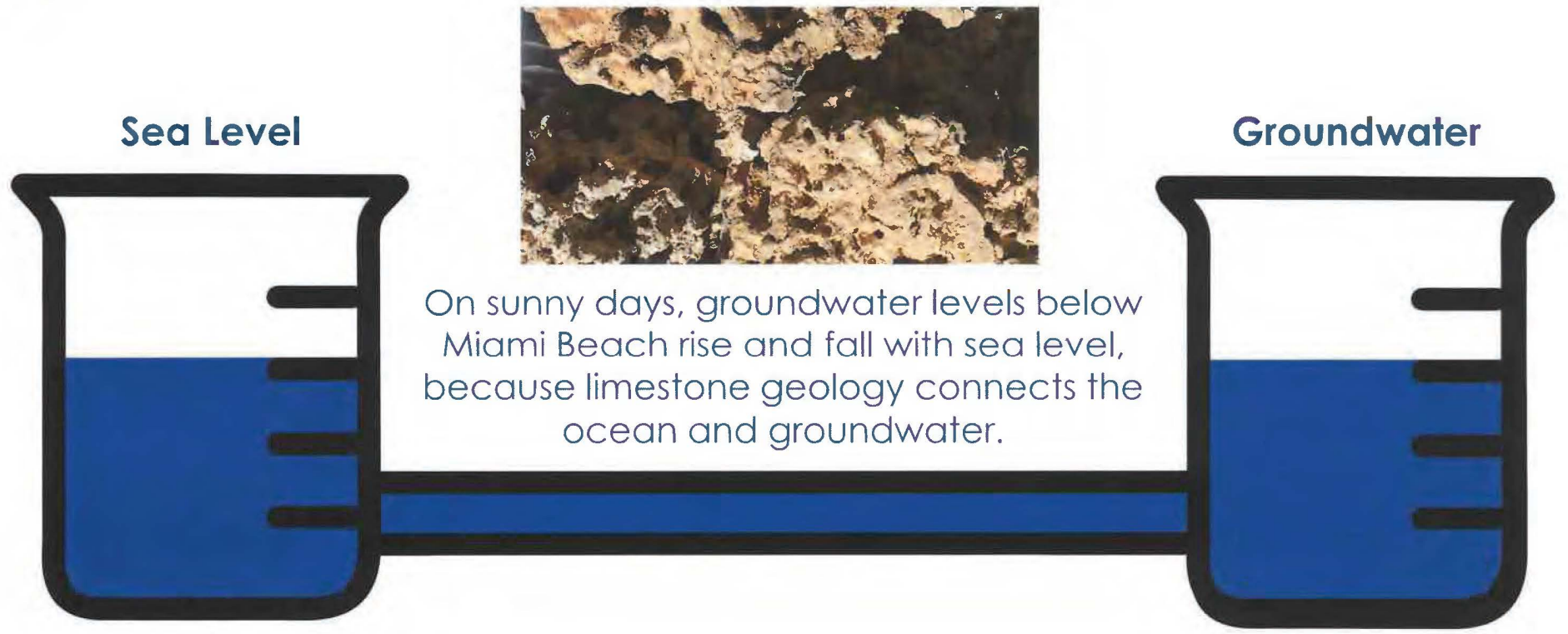
To learn more about this public meeting, visit [www.miamibeachfl.gov/stormwaterprogram](http://www.miamibeachfl.gov/stormwaterprogram)



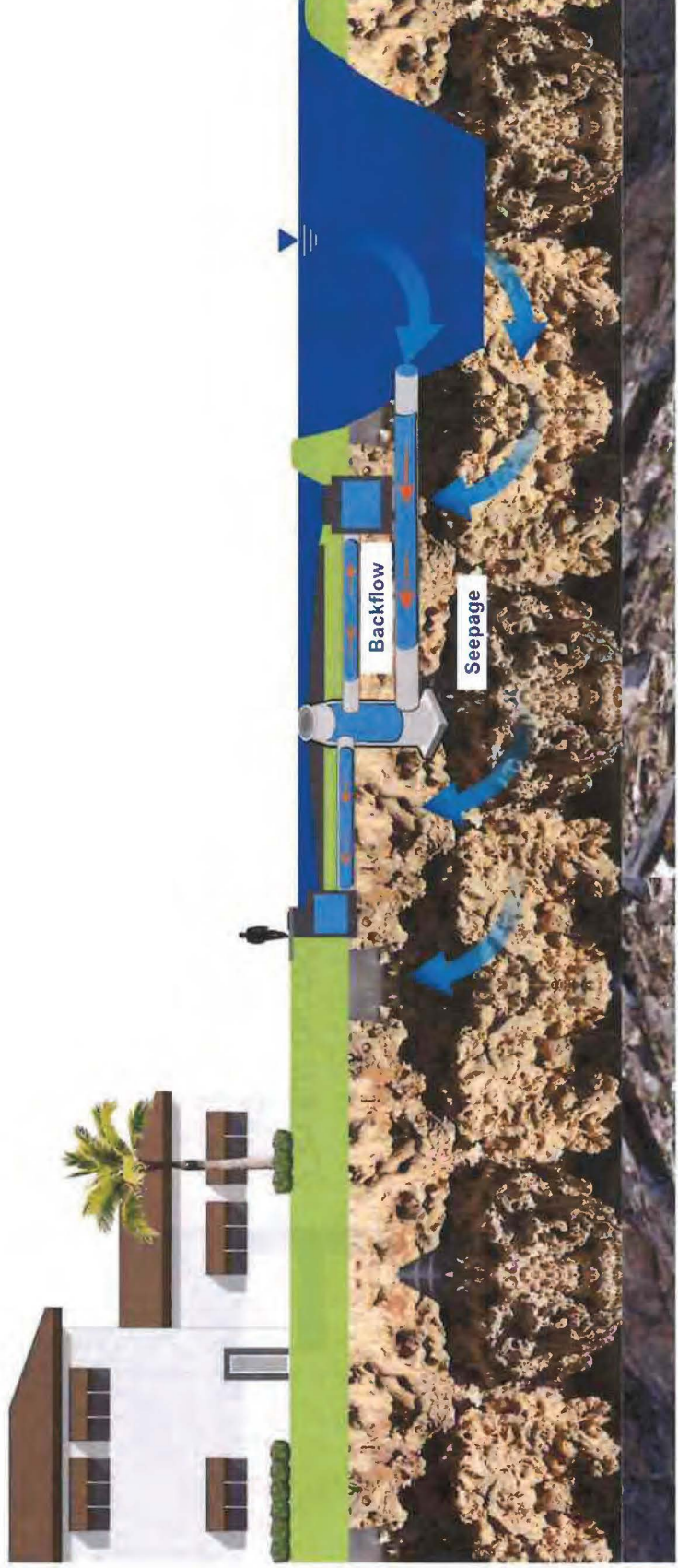
# Task 2

## Road Elevation Strategy

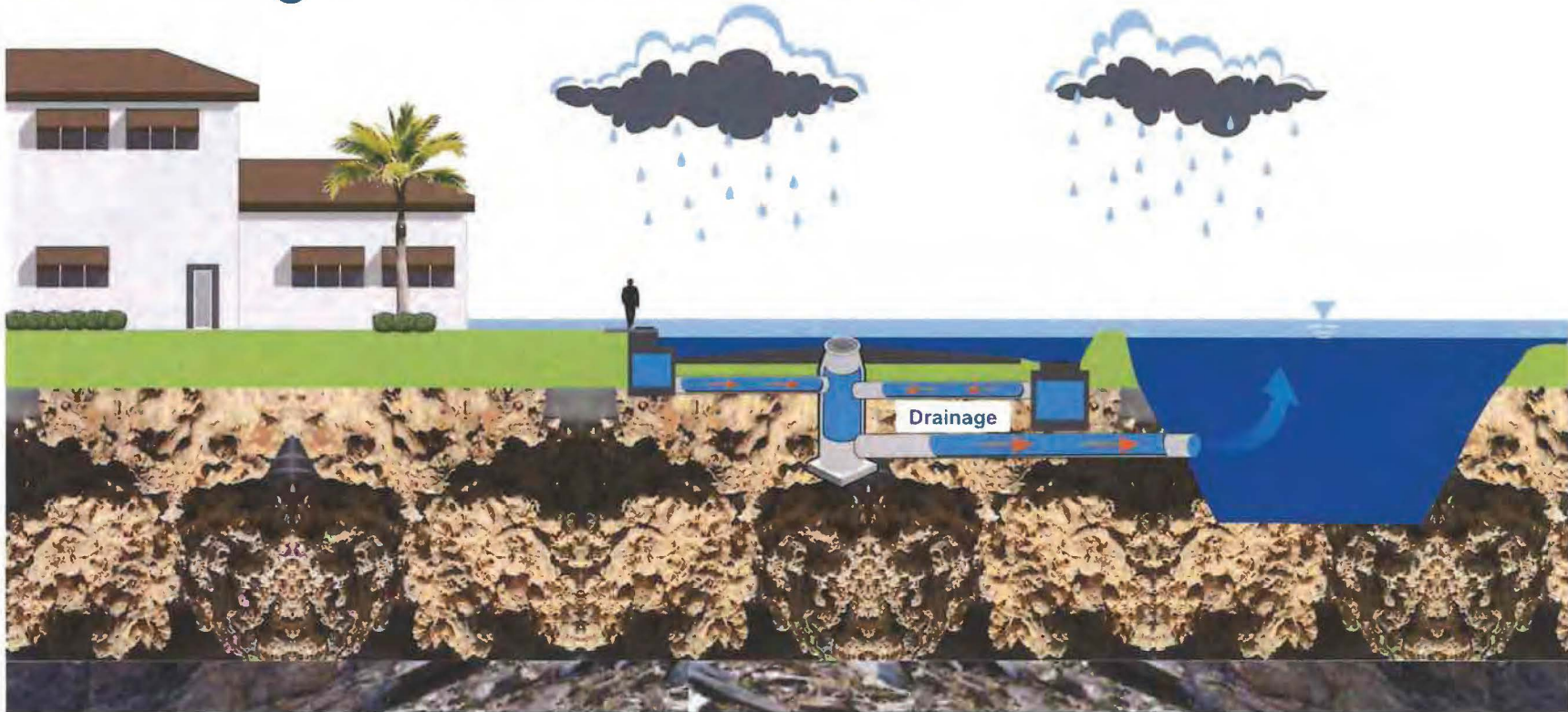
## Water seeks its own level



## Tidal flooding is problematic in low-lying areas



## Tidal Flooding increased with Rainfall

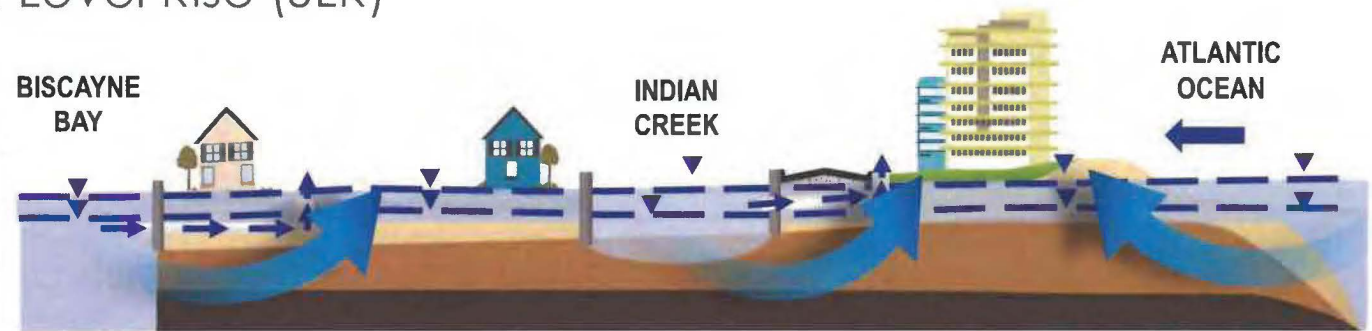


# Long Term Strategy includes Elevated Roads, Sea Walls and Pumps



## Raising roads is an important strategy to address sunny day tidal flooding in public right-of-way

- Through storm drains
- Through groundwater
- Through overtopping of coastal barriers (e.g., seawalls)
- Exacerbated by Sea Level Rise (SLR)





## Road Elevation Strategy Overview

### • Intent of Updated Policy

- Incorporate updated tide data and SLR projections
- Improve harmonization with private property

**ROADWAY HARMONIZATION:**  
 A roadway design approach that maintains private property access, stormwater management, and neighborhood aesthetics through adaptable design standards.

### • Current Policy

- Minimum road crown elevation for all roads: 3.7 ft NAVD (established 2014)

### • Draft Policy Approach

- Flexible design options to address local needs and conditions
- Address access, stormwater, and aesthetics while reducing flood risk
- Tiered road elevations based on road classification
- Alternative strategies to design road elevation below minimum elevation criteria if constrained by harmonization with private property

## Guiding Principles of New Road Raising Strategy

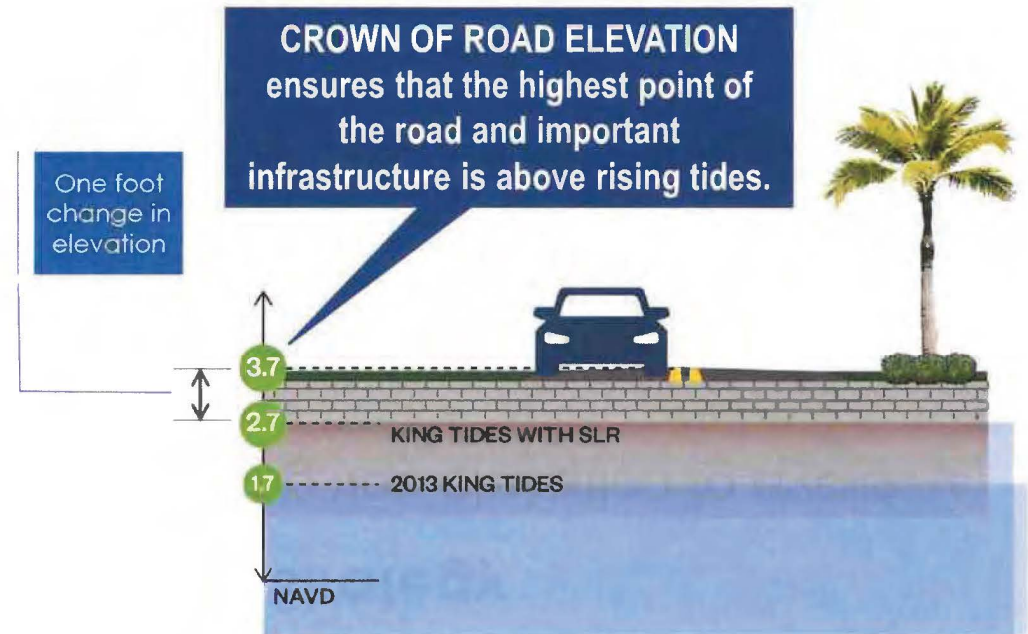
- Support keeping road surfaces above the king tide elevation to avoid sunny day tidal flooding
- Establish new minimum elevations for City roads based on updated tidal records and SLR projections
- Address increasing groundwater elevations and concern for poor pavement performance, including premature pavement failure related to saturated road base
- Address concern for private property harmonization
- Standardize application so policy is unbiased, objective, and transparent
- Consider cost implications

## Key Factors that Influenced Current 2014 Road Elevation Design Guidelines

**Recommended Road Elevation =  
A + B + C**

- A. Historical “King Tide” = 1.7 ft NAVD\*
- B. Sea Level Rise for assumed Service Life of 30 years: 1.0 ft
- C. Freeboard (1 ft assumed for road cross-slope, drainage, and road base)

\*NAVD = North American Vertical Datum



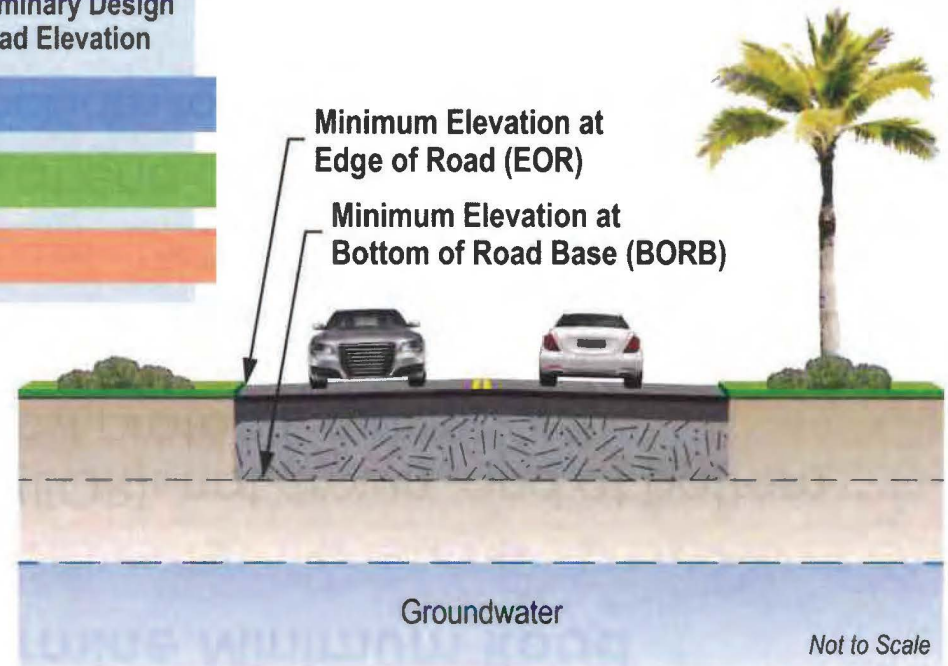
## Summary of Key Factors that Determine Minimum Road Elevation Criteria

- Evaluates elevations at edge of road (EOR), not crown, and at bottom of road base (BORB), and picks the most protective standard
- Assumes 30-year road service life
- Updated Sea Level Rise projections
- Target frequency of flooding (applies at end of road service life):
  - **Local Roads:** 50% chance per year (includes roads classified by City as “Local”, mostly residential roads)
  - **Major Roads:** 20% chance per year (includes roads such as Washington Ave. classified as “Minor Arterial” and “Minor Collector”)
  - **Emergency Roads:** 10% chance per year (includes roads such as Alton Rd. classified as “Evacuation Route and access to First Responders”)

# Updated decision process calculates minimum road elevations at two points on road section

Level of Service by Road Type	Sea Level Rise for 2020 Start Year*	Freeboard/Clearance	Preliminary Design Road Elevation
CALCULATION METHOD 1: Limited Flooding at Edge of Road			
CALCULATION METHOD 2: Limited Groundwater/Tidal Wetting at Base of Road			
METHOD 3: Roadway Harmonization with Adjacent Property			

\* Sea Level Rise increment will increase for later start years



# Calculation Method 1: Limited Flooding at Edge of Road (EOR)

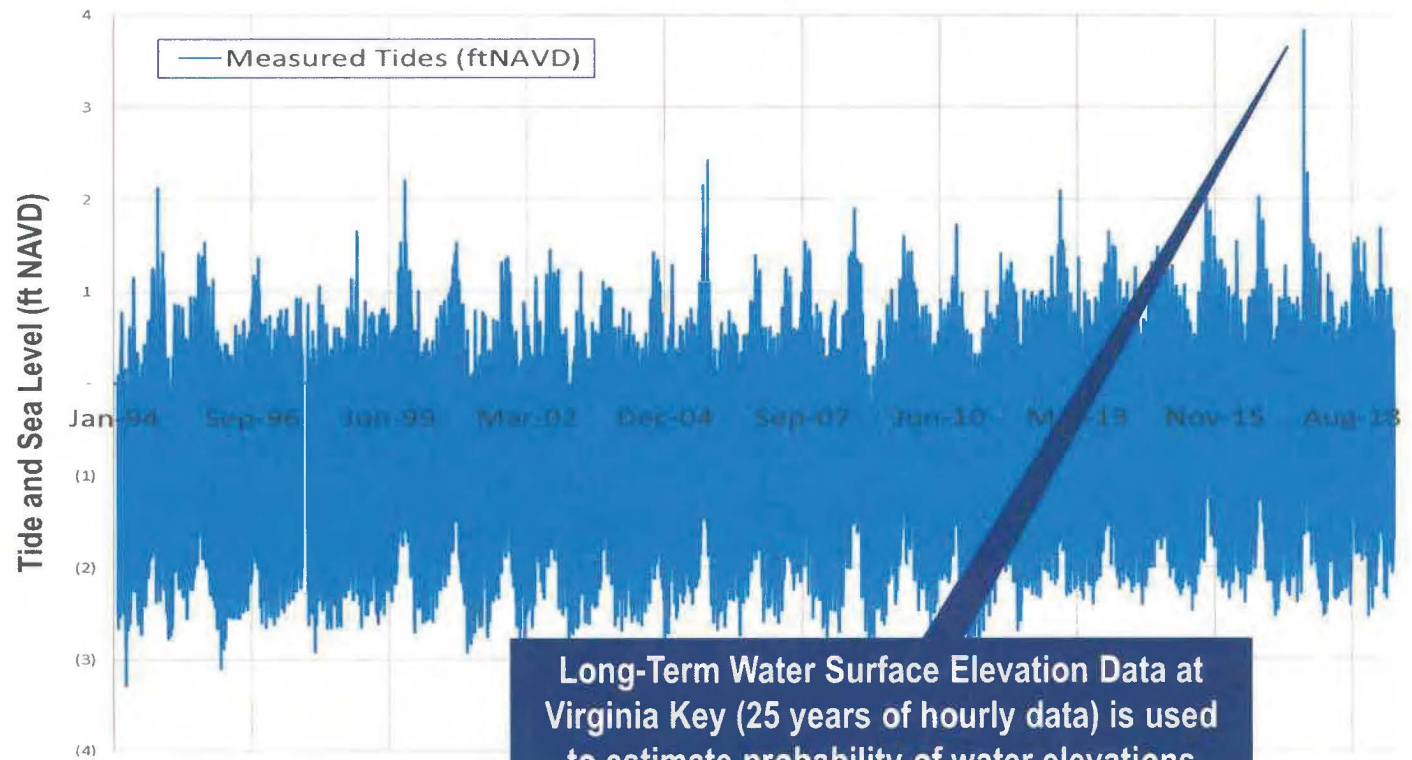
Level of Service  
 by Road Type

## CALCULATION METHOD 1

**Emergency Roads**  
 10% (1 per 10-year):  
 3.0 ft NAVD

**Major Roads**  
 20% (1 per 5-year):  
 2.3 ft NAVD

**Local Roads**  
 50% (1 per 2-year):  
 1.7 ft NAVD



Long-Term Water Surface Elevation Data at Virginia Key (25 years of hourly data) is used to estimate probability of water elevations being exceeded.

# Calculation Method 1: Limited Flooding at Edge of Road (EOR)

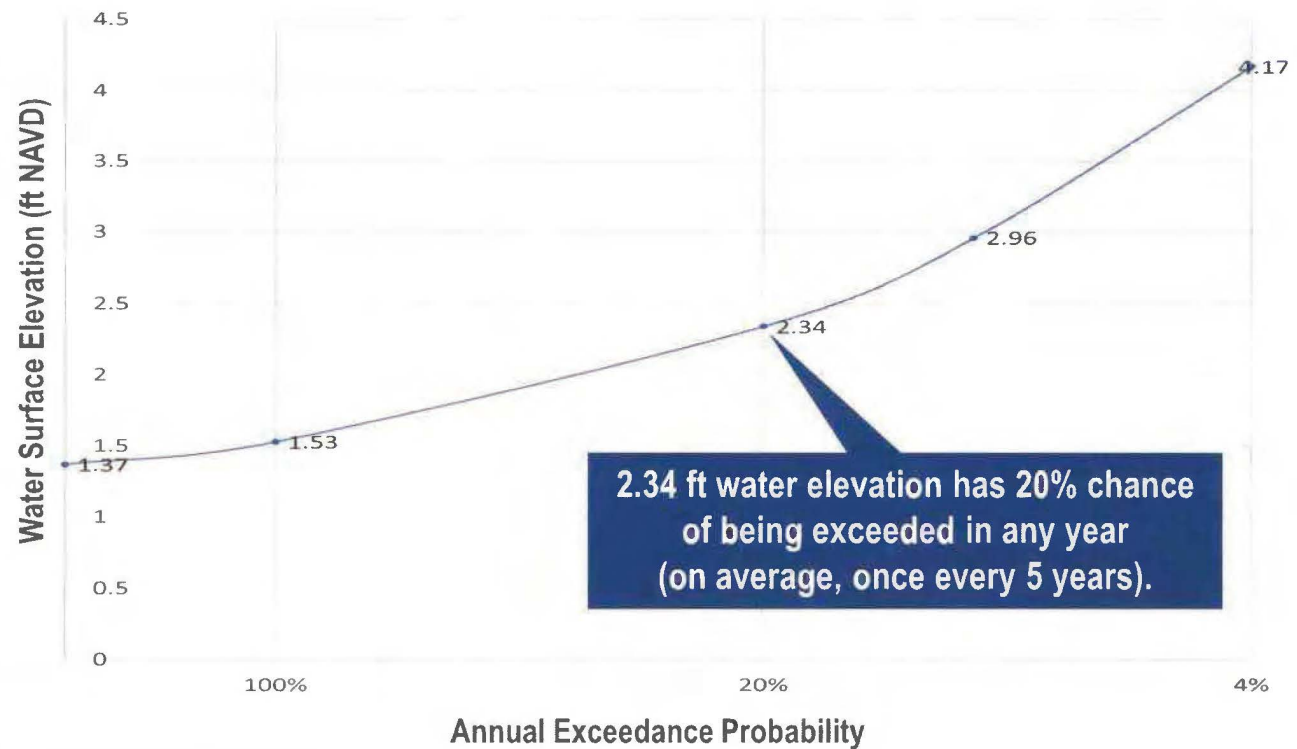
Level of Service  
by Road Type

## CALCULATION METHOD 1

**Emergency Roads**  
10% (1 per 10-year):  
**3.0 ft NAVD**

**Major Roads**  
20% (1 per 5-year):  
**2.3 ft NAVD**

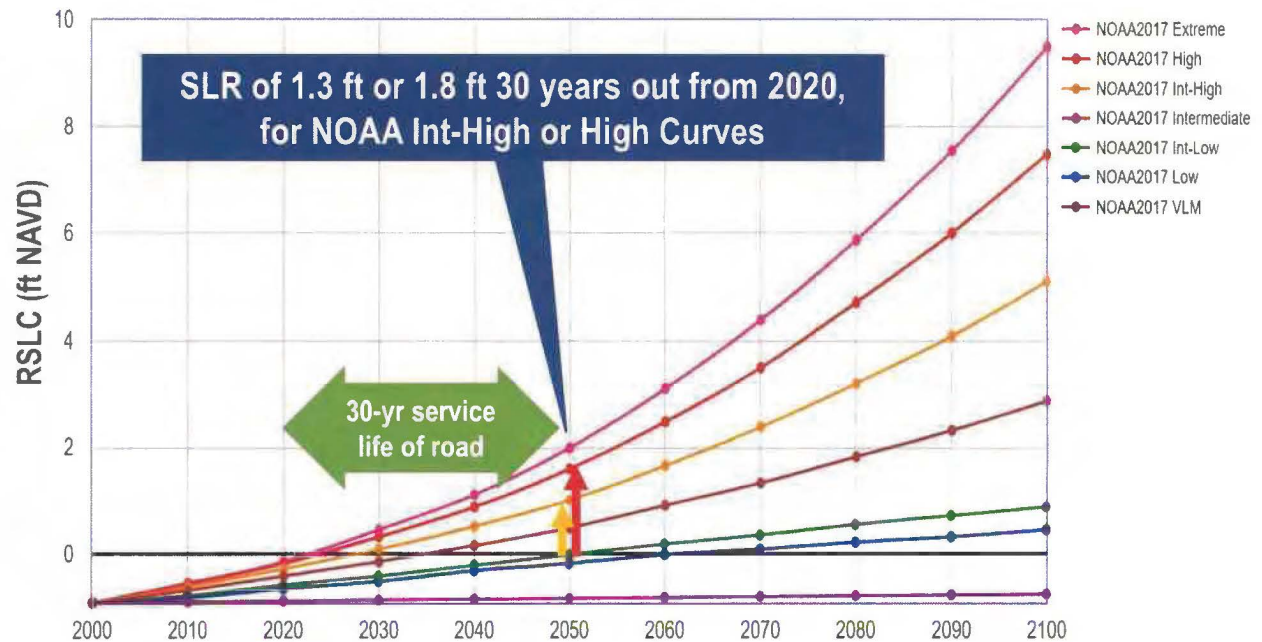
**Local Roads**  
50% (1 per 2-year):  
**1.7 ft NAVD**



# Calculation Method 1: Limited Flooding at Edge of Road (EOR) results in EOR Minimum Elevation of 3.0 ft to 4.8 ft NAVD

Level of Service by Road Type	Sea Level Rise for 2020 Start Year*
<b>CALCULATION METHOD 1</b>	
<b>Emergency Roads</b> 10% (1 per 10-year): 3.0 ft NAVD	2020 Start: 1.8 ft
<b>Major Roads</b> 20% (1 per 5-year): 2.3 ft NAVD	2020 Start: 1.3 ft
<b>Local Roads</b> 50% (1 per 2-year): 1.7 ft NAVD	2020 Start: 1.3 ft

\* Sea Level Rise increment will increase for later start years



\*NOAA = National Oceanic and Atmospheric Administration



## Calculation Method 1: Limited Flooding at Edge of Road (EOR) results in EOR Minimum Elevation of 3.0 ft to 4.8 ft NAVD

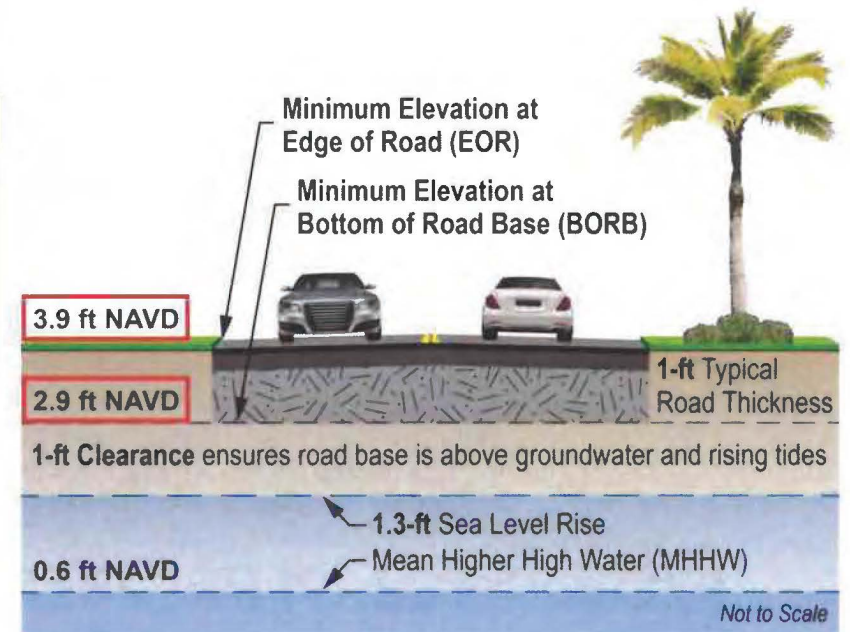
Level of Service by Road Type	Sea Level Rise for 2020 Start Year	Freeboard/ Clearance	Preliminary Design Road Elevation
<b>CALCULATION METHOD 1: Limited Flooding at Edge of Road</b>			
<b>Emergency Roads</b> 10% (1 per 10-year): 3.0 ft NAVD	2020 Start: <b>1.8 ft</b>	Edge of Road: Freeboard <b>0 ft</b>	Edge of Road: <b>4.8 ft</b>
<b>Major Roads</b> 20% (1 per 5-year): 2.3 ft NAVD	2020 Start: <b>1.3 ft</b>	Edge of Road: Freeboard <b>0 ft</b>	Edge of Road: <b>3.6 ft</b>
<b>Local Roads</b> 50% (1 per 2-year): 1.7 ft NAVD	2020 Start: <b>1.3 ft</b>	Edge of Road: Freeboard <b>0 ft</b>	Edge of Road: <b>3.0 ft</b>

\* Sea Level Rise increment will increase for later start years

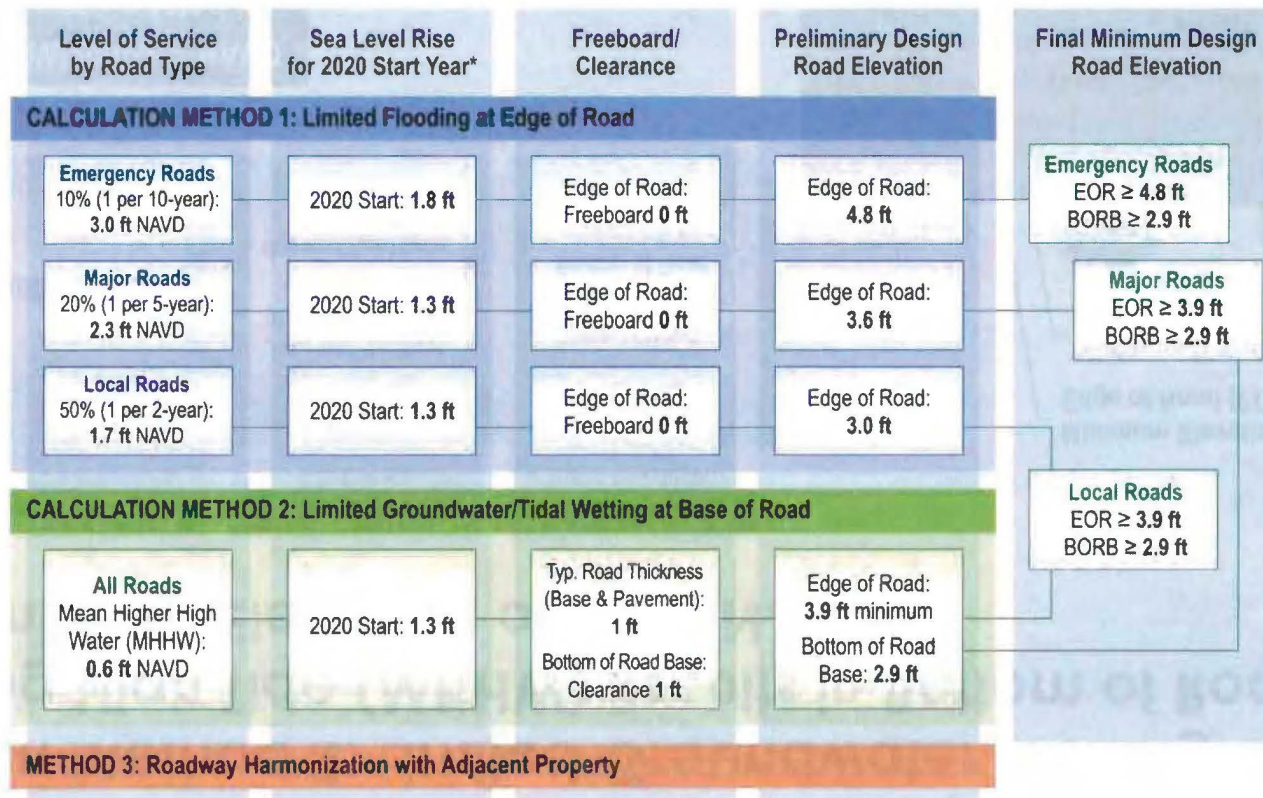
## Calculation Method 2: Limited Groundwater Wetting at Road Base during High Tide (MHHW) Results in Bottom of Road Base (BORB) Minimum Elevation of 2.9 ft NAVD

Level of Service by Road Type	Sea Level Rise for 2020 Start Year	Freeboard/Clearance	Preliminary Design Road Elevation
<b>CALCULATION METHOD 2: Limited Groundwater/Tidal Wetting at Base of Road</b>			
All Roads Mean Higher High Water (MHHW): <b>0.6 ft NAVD</b>	2020 Start: <b>1.3 ft</b>	Typ. Road Thickness (Base & Pavement): <b>1 ft</b> Bottom of Road Base: Clearance <b>1 ft</b>	Edge of Road: <b>3.9 ft minimum</b> Bottom of Road Base: <b>2.9 ft</b>

**NOAA Published MHHW of 0.2 ft NAVD for 1983-2001 epoch was updated to 0.6 ft NAVD based on recent tidal data.**

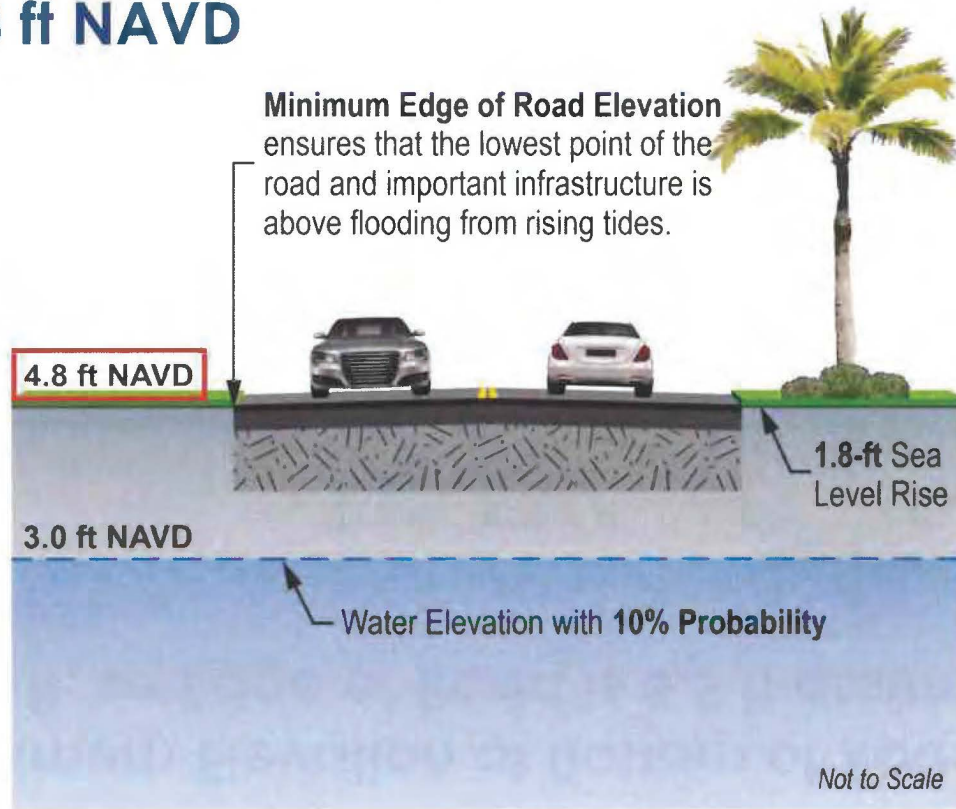


## Higher of two calculation methods is selected for EOR or BORB

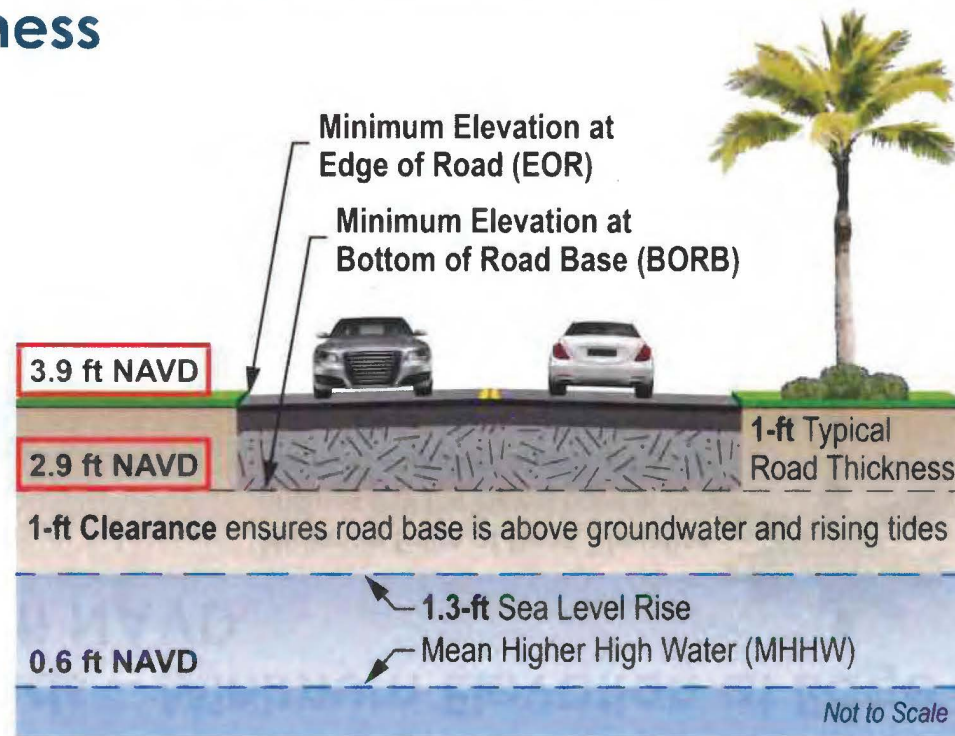


\* Sea Level Rise increment will increase for later start years

## Emergency Roads – Minimum Elevation at Edge of Road (Method 1): 4.8 ft NAVD

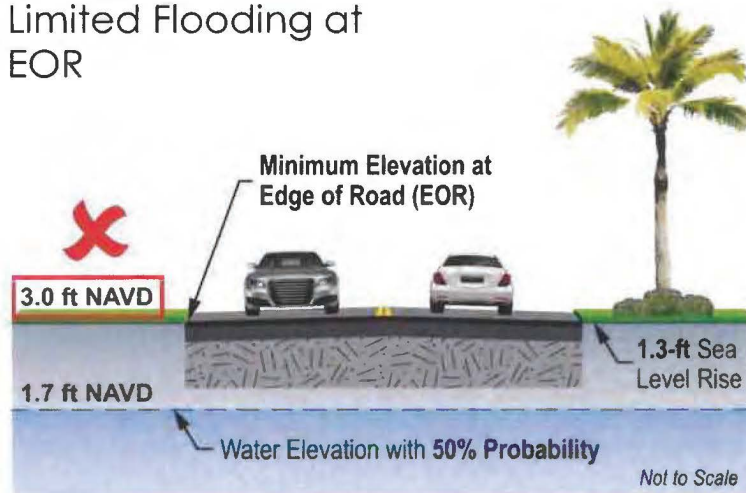


## All Roads – Minimum Elevation of Bottom of Road Base (Method 2): 2.9 ft, so Edge of Road is 3.9 ft assuming 1-ft road thickness



# Major Roads – Minimum Elevation of Edge of Road (Method 1): 3.6 ft NAVD, so Bottom of Road Base (Method 2): 3.9 ft NAVD is preferred

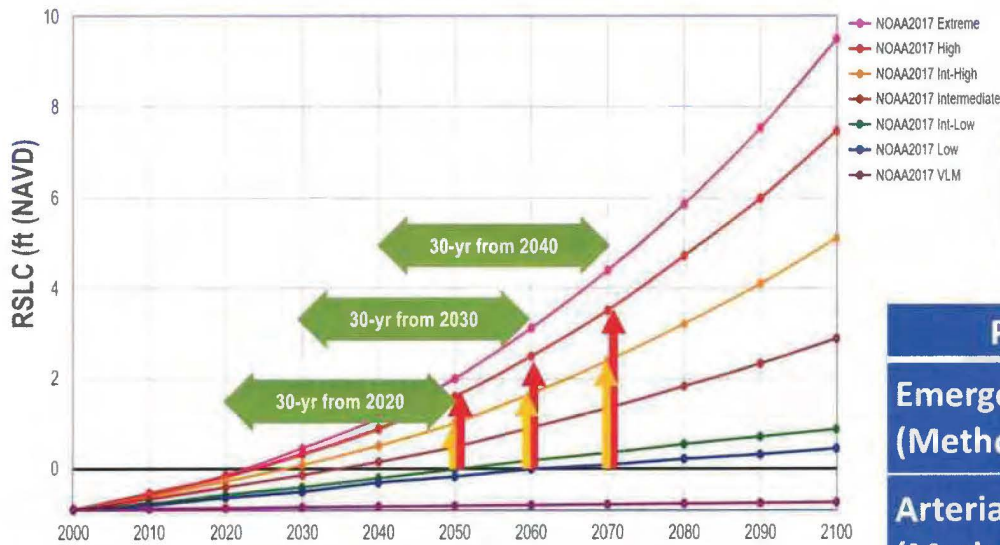
**Method 1:**  
Limited Flooding at  
EOR



**Method 2:**  
Limited Groundwater/Tidal  
Wetting at BORB



# Road raising strategy for future projects increases in recognition of accelerating Sea Level Rise projections



SLR of 1.8 ft or 1.3 ft  
30 years out from 2020

SLR of 2.7 ft or 1.9 ft  
30 years out from 2030

SLR of 3.7 ft or 2.7 ft  
30 years out from 2040

Project Start Date	2020	2025	2030	2035	2040
Emergency Roads (Method 1)	4.8	5.2	5.7	6.2	6.7
Arterial and Local Roads (Method 2) *	3.9	4.2	4.5	4.9	5.3

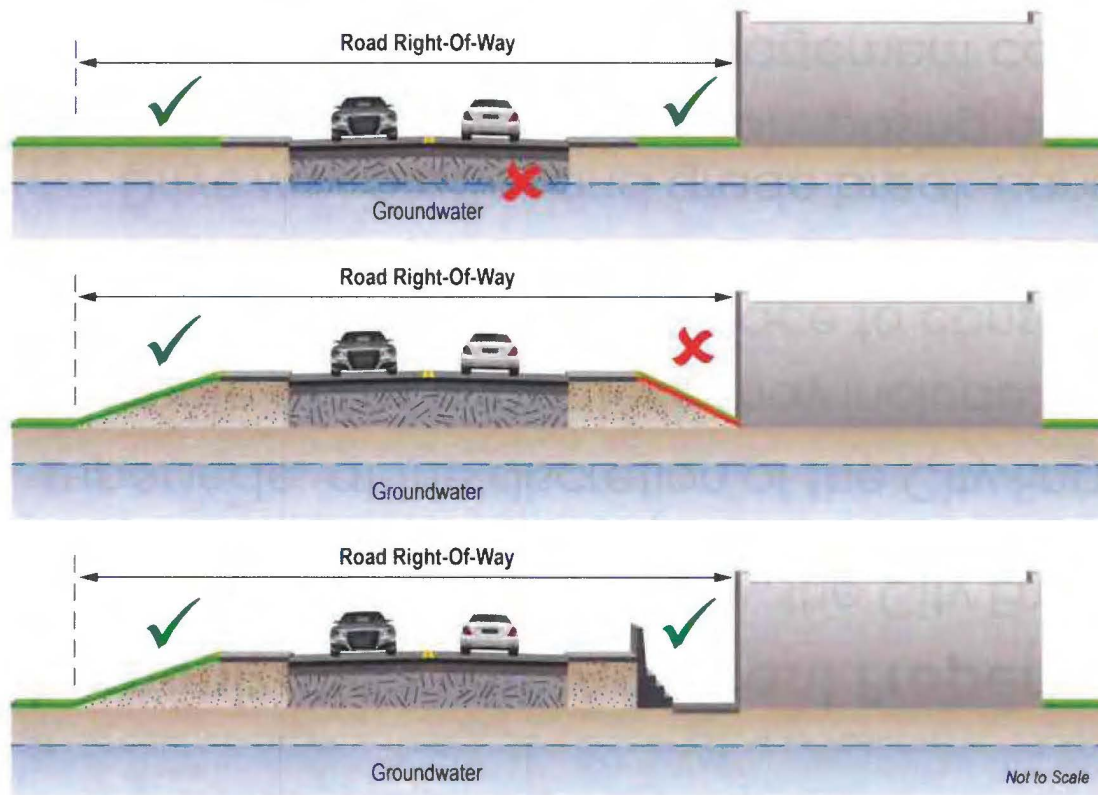
\* Method 2 assumes 1 ft road thickness above bottom of road base.

## Harmonization with Adjacent Property

- If constraints are identified by the City Engineer, as a result of the minimum road elevation, then harmonization exception criteria supersede, at the discretion of the City Engineer.
- Example exception criteria may include:
  - Inadequate horizontal space to construct road improvements and tie back to existing grade
  - Driveway grades and grade break cannot meet City standards at new elevation, posing access concerns
  - Adverse stormwater management conditions created

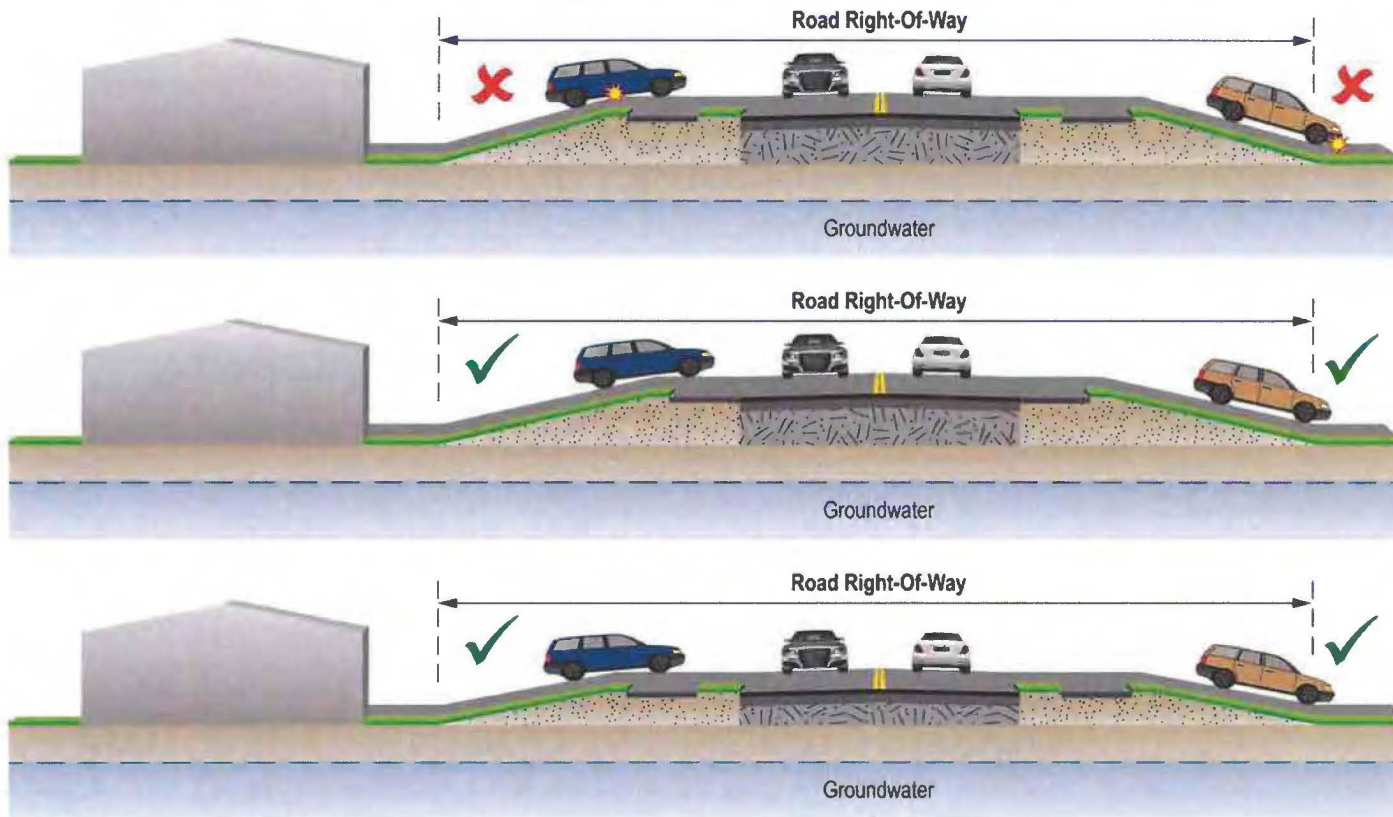


## Harmonization with Adjacent Commercial Property



- Existing issue (saturated base causing road system failures)
- Proposed road elevation creates conflicts with buildings
- Harmonization solution includes use of edge treatment to mitigate

## Harmonization with Adjacent Residential Property



- Proposed road elevation may create driveway access issues.

- Shift sidewalks to decrease angle of slope.

- Raising sidewalk and roadway less to decrease angle of slope.