

**City of Coral Gables City Commission Meeting**  
**Agenda Item H-3**  
**August 28, 2018**  
**City Commission Chambers**  
**405 Biltmore Way, Coral Gables, FL**

**City Commission**

**Mayor Raul Valdes-Fauli**  
**Vice Mayor Frank Quesada**  
**Commissioner Pat Keon**  
**Commissioner Vince Lago**  
**Commissioner Michael Mena**

**City Staff**

**City Manager, Cathy Swanson-Rivenbark**  
**Assistant City Manager, Peter Iglesias**  
**City Attorney, Miriam Ramos**  
**City Clerk, Walter J. Foeman**  
**Deputy City Clerk, Billy Urquia**  
**Public Works Director, Ed Santamaria**  
**Deputy Public Works Director, Hermes Diaz**  
**Senior Sustainability Analyst, Matt Anderson**

**Public Speaker(s)**

---

Agenda Item H-3 [4:40:04 p.m.]  
City actions regarding Sea Level Rise.  
(Sponsored by Commissioner Keon)

Mayor Valdes-Fauli: City actions regarding Sea Level Rise. Commissioner Keon.

Commissioner Keon: You know, I had met with Matt Anderson and his staff on this because we keep hearing so much -- we do constantly talk about sea level rise and what we're doing with

sustainability. And I have had people ask me, so what exactly are you doing. And it was really very interesting to me. When I met with them, they laid out the, you know, evaluation of critical infrastructure and City buildings that they're doing and actually what they are doing. So, I don't -- you know, to go through it now, that's kind of up to you, but I thought it was a very interesting presentation that you did. And for the public, I wish that -- I almost wish that MR had been with us and that could be translated into a newsletter that would go out so that the public -- I mean, we talk about it a lot and, you know, there's still people that don't quite believe in it. And we know it's, you know, a long-range problem, and so we deal with what are the immediate problems, and then we, you know, look forward. But, I think it will bring to the consciousness of our residents this issue of sea rise that it is real and it is something that we really do have to deal with and we allocate dollars to and we spend a lot of time talking about. So, I think it -- you know, if you have a presentation -- if people are willing -- want to see it now, that's fine. But, I'm like even if you could just go through some of things that you -- you know, that you're doing right now, the short-term goals with regard to -- for the City.

Public Works Director Santamaria: So, good afternoon, members of the Commission. Ed Santamaria, Director of Public Works. You asked for a report on what the City is doing in terms of sea level rise and responding to the potential effects that it will have in the future, and I'm going to turn it over now to Hermes Diaz, Deputy Director of Public Works, who was involved in putting together this report, as well as Matt Anderson. They worked with Jessica Keller on this and they put together something I think is going to be very informative in terms of what it is that we're doing.

City Manager Swanson-Rivenbark: So, you may not have met Hermes before. He is a professional engineer. He is our City Engineer, which is an official title, as well as Deputy Director for Public Works. He designs water, sewer, storm water systems. He does project management for right-of-way. He does significant complicated construction projects. He oversees our Utilities Division. He handles all the engineering and permitting functions of the department. It is a technical infusion, as the Public Works Director called it, by being able to

lure him here to have him help us address seriously the critical infrastructure issues associated with sea level rise, as well as the challenges of an aging infrastructure. So, he is a strong partner with Matt Anderson and the good sustainability work that has already done -- already happened with our City. And so, the two of them together will give you a good understanding of what we are doing today.

Deputy Public Works Director Diaz: Good afternoon and thank you for the kind words. And it's a pleasure and I'm happy to be here. This is collaborative effort, but I want to say that it's -- you know, I think he deserves most of the credit for putting this together, so I'm going to let him do the presentation. I'll be here to answer any questions you need.

Senior Sustainability Analyst Anderson: And I know it's been a long day, so I'll try to rush through this. But if Coral Gables TV can pull up the presentation, it's just highlighting what we're doing in the City. Basically, I want to start off by giving a snapshot of what -- Coral Gables. We have 42 miles of coastline. We have elevation heights between 0 and 22 feet, approximately \$15 billion in property value and \$3.5 billion just along our coastline. We have over 300 boats and 30 bridges in the City; 2,500 catch basins, 5,000 households that are served by septic systems and 265 miles of roadway and 295 acres of parks; a very diverse city. We're very fortunate in the fact that we do have a large mangrove system to the south of us with Matheson Hammock and south of there that helps protect us against our erosion and any time we have any storms. So, we're very fortunate in having that. So, what has the City done? We've done a lot. First -- one of the first orders of business, back in 2015, we joined the South Florida Regional Climate Compact, which is a regional effort going on in South Florida between Palm Beach, Broward, Miami-Dade and Monroe Counties. It's all the municipalities working together to help come up with adaptation and mitigation strategies to deal with climate and sea level rise. And, Coral Gables has been active in the workgroup. We attend the annual conferences every year. We attend workgroup meetings. We're actually going to be presenting at one of the upcoming meetings on our -- on the work we've been doing on our Bloomberg project, Mayor's challenge project. They're very excited to hear about that work we're doing. What else have we

done? In collaboration with Mark Hebert and the IT Department, we put together “LIDAR Maps” that we have available on our website that residents and businesses can all look at and look at different elevation points throughout the city. We were able to gather this data through Miami-Dade County and put together really looking at our critical infrastructure, our bridges, our schools, you know, any of the FPL substations, those sort of things and looking at those -- that critical infrastructure and looking at the elevation we have around the city. What else have we done? This has been, you know, the first of its kind in putting together -- working with outside counsel and the City Attorney’s Office, putting together the sea level rise adaptation paper. This was a very forward-thinking document, and we’ve shared this document with municipalities around the country, especially around the state, but even around the country. And just looking at different adaptation policy options, financing options and all looking at it from the legal perspective and the need to update comprehensive plans -- which, Ramon, I’ll give him credit. We went through and worked on updating our coastal management element within our own comprehensive plan. What else have we been doing? We partnered with FIU, and we’ve been doing a tide gauge study and sediment elevation study over the last year. We have three monitoring stations. One set up on Blue Road, one on Cocoa Plum, and one in Matheson Hammock Park, and really just studying water level data that’s recorded every 15 minutes. And we have this data that’s available on the City’s Smart City webpage, where residents can go in and check that data whenever they feel appropriate. What else? We’ve also recently gone through our Coral Gables Community Rating System, our CRS score. We’re currently at a 7, and we’re working on -- we submitted all our documentation, and we’re awaiting back the results on that currently. This was very innovative. Back in 2016, we were selected of one of five communities around the country to participate in a resiliency dialogue, basically allowing us access to experts in the industry and really getting kind of a consulting with these experts and talking about potential partners, sea level rise prediction models, funding sources, and it was associated with the White House Climate Action Champions. And, then we were asked to come back in 2017 as an expert city and guide Boynton Beach, just north of us, and help them along with their efforts. So, that was very exciting as well. Vulnerability assessment. The Commission, back in 2016, appropriated \$190,000 to do a vulnerability assessment, to look at all

of our critical infrastructure, from our fire stations to our pump stations, to hospitals, to pretty much all of that critical infrastructure we have within the city. The assessment has been completed. We have a final copy. We just received it this week, so we're in the process of going through that. But it's really looking at future prediction models, king tides, storm surge, looking at all of our infrastructure and how resilient it is, and also coming up with adaptation strategies, along with how much it would cost to upgrade those facilities that might be vulnerable, like a pump station that's in a low-lying area and so on and so forth. And also, take into account storm surge modeling with hurricanes categories 1, 3 and 5.

Commissioner Lago: Matt would you be so kind and do me a favor and send a copy of that assessment to the Commission?

Senior Sustainability Analyst Anderson: Yes.

Commissioner Lago: Whenever you're done reviewing it.

Senior Sustainability Analyst Anderson: Yes.

Commissioner Lago: With maybe just some highlights and some notes.

Commissioner Keon: A summary.

Commissioner Lago: Yeah, a real quick summary. Anything -- nothing major. I want to review it. I want to see it.

Senior Sustainability Analyst Anderson: Okay.

Commissioner Lago: Thank you.

Senior Sustainability Analyst Anderson: Another thing we wanted to highlight is hurricane preparedness and catastrophe resiliency. I think, you know, the City of Coral Gables, we do an excellent job, you know, especially with our experience we went through with Irma. We did a lot of great social media and engaging our residents and making them aware, you know, on our hurricane guide, our hotline. You know, we're putting out messages on WLRN, Coral Gables TV, eNews, social media. So, we just wanted to highlight that as another way of building more resilience within the City of Coral Gables. Current infrastructure upgrades that we have going on. We're actually using Envision, which is basically LEED. We all know LEED for public buildings. We passed -- you know, City of Coral Gables has been a leader on that in passing an ordinance and requiring it. Envision looks at public infrastructure projects and it looks at it the same way they do look at making it resilient, making it energy efficient, water efficient. So, we're actually one of the first entities to use Envision, which also looks at climate and risk, here in South Florida. And, we actually have -- we've already been awarded a Resilient Project of the Year award on the project, so we're really excited about that, at our pump station we're working on in Cocoa Plum. And, we're also looking at beginning to install backflow preventers in some of our city outfalls.

Commissioner Keon: That was the part that I found was particularly interesting is the actual -- the actual changes that we're making to our infrastructure as a result of all of the work that you had done.

Senior Sustainability Analyst Anderson: Correct. The other thing we're really, really excited about is. Obviously, you've heard about it, the Coral Gables being a champion city, as part of the Mayor's challenge, received \$100,000 from the Bloomberg Foundation, and we've been working actively on that project and working in collaboration with the University of Miami on developing a simulation model for a resilient energy system we called it, RES. And we just submitted our final application to Bloomberg last week, and we're excited and -- excited about that project. And also, the transferability, which is what Bloomberg is really looking at, I can't tell you the number of cities that reached out to us and conferences that we've been requested to speak at on

the work we're doing on this project. So, it's just another example of how we're taking, you know, a local solution and it's not only having a local impact, really, a national impact and even international, because we've talked to places outside of the country that have been interested in implementing something similar to this.

Commissioner Lago: What I'm going to have Chelsea do, maybe some time next week, I'll have her send a copy of the actual submission, which is online.

Senior Sustainability Analyst Anderson: Yes.

Commissioner Lago: But I think it's worth, you know, reviewing because the work that was done by Chelsea, Matt, the whole team -- I'm forgetting people, but...

Senior Sustainability Analyst Anderson: Raimundo is still here. Raimundo...

Senior Sustainability Analyst Anderson: Raimundo was active in this as well. It was truly a team effort between the City and the University of Miami.

Commissioner Lago: It's pretty exceptional. It's pretty exceptional, the effort, and it's incredibly professional. And you're going to see -- hopefully, I think we're going to be in contention.

Senior Sustainability Analyst Anderson: I -- we feel very confident about...

Unidentified Speaker: Very confident.

Senior Sustainability Analyst Anderson: The application. We put in a lot of time and a lot of effort into that, and we feel really confident in the product that we came up with, and again, its transferability around the world. Funding, what have we done so far in the City? We've -- the

City -- you guys were very forward-thinking as a Commission and due credit also to our Finance Department in putting this together. But really, starting to allocate money now into an infrastructure reserve to deal with sea level rise in the future. And I think that's incredibly important because, you know, we see other cities that are having to go out for bonds. I know City of Miami, City of Miami Beach have gone out for bonds to help pay for these. For us to think now to start setting aside money now into an infrastructure reserve is very forward thinking. We've done \$1.4 million in FY-18. I believe, in FY-17, it was a million dollars. And now, this year, we'll hopefully be setting aside more, with the goal of accumulating over \$100 million into this -- to help fund storm water improvements by 2040. And then, additionally, the City does annually fund about \$500,000 for ongoing storm water improvements and 1.2 for ongoing sanitary sewer improvements. So, we're still -- we're making those improvements along the way as well. Just some other potential adaptation actions we're also looking at as you can create and preserving natural infrastructure, we're obviously acquiring a lot of green space around the city. That's incredibly important. We're, you know, looking and evaluating and looking at living shorelines, bio swales, those sort of things. Also, we're looking at discussing on seawall heights and evaluating that and looking at what's been -- what other cities are doing around the county and around the state and what our current Zoning Code calls for when it calls for seawall heights at five feet. Also, you know, cities like Miami Beach are obviously in the process of raising roads, so, you know, we're looking at that in possible vulnerable areas. Again, that's something our vulnerability assessment is looking at as well. Storm water pump stations. I've already talked about what we're doing in Envision, and then, obviously, upgrading our sewer system as we go. Just real quickly. We've heard about this a lot, the mitigation efforts on the mitigation side. We, obviously, have our Sustainability Master Plan and we've set goals as a city that we're abiding by. We have reducing our electricity, water, fossil fuel and greenhouse gas emissions by 20 percent by 2025 and reducing our solid waste by 75 percent. So, not only on the adaptation side, like we said before, but also focusing in on the mitigation side and doing our part to reduce our emissions as a city. And then, some of the ongoing mitigation progress we have. We have the largest electric vehicle fleet in the state, very proud of that. We're continuing to move for that. We just got our latest batch of 8 vehicles, so we're up to 43 right now. We



also -- obviously, with alternative transportation, we talked a lot about that today with the trolley, bikes, Freebee, Spin; we are doing a lot of great things in alternative transportation. The green building ordinance, I've already touched on. Upgrading our facilities. We've done a lot of LED lighting upgrades throughout our facilities, and we have a long way to go. We're looking at the Youth Center and Fire Station 3 now. And then, obviously, our tree canopy, one of the things we're best known for. Plastic bags, PACE solar, green business program, and again, acquiring green space. We're doing a lot of great things and really leading on that effort, not only in South Florida, but throughout the state. Community outreach, that's a very important point that we like to focus on. A personal point of mine is getting out into the community and engaging with the community on these sorts of topics related to sea level rise, related to climate, related to sustainability and resilience, in general. So, just an example, a snapshot of all the events that we do, we partner with the police department down on the bottom right to actually go out to Matheson Hammock and do a cleanup, which is great. And then also, the sea level rise discussions we had a few years ago in partnership with FIU. And on that, we've had experts come in from Dr. Hal Wanless from the University of Miami and also partnering with FIU on doing those discussion series and really engaging the public on this issue and making the public aware of this issue and we have all those recordings on our website, which is the next slide, which -- well, that highlights -- but all this information -- we're very transparent in all the work we're doing and we have all this information available on our website at [CoralGables.com/sealevelrise](http://CoralGables.com/sealevelrise). Any resident -- anybody in general that wants to go and look at all the work that Coral Gables is doing and also additional resources, that is all available to the public on our website. And that is it.

Commissioner Keon: Thank you. It is amazing what you have done, and you have moved us forward and, you know, placed us among the most aggressive communities around.

Senior Sustainability Analyst Anderson: It's truly a team effort from everybody...

Commissioner Keon: Thank you all.

Senior Sustainability Analyst Anderson: Public Works to IT. I mean, that's the beauty of what -  
- you know, my position is -- I get to work with all City departments and it's really a pleasure to  
do that, because we have our directors and our staff that we have here in the City are very  
forward-thinking and are very supportive of all these issues, and it really allows us to become a  
leader in this.

Mayor Valdes-Fauli: You've done a very, very, very fine job, congratulations, we are very  
proud of what you've done. Thank you.