

SHORELINE PROTECTION

Key Biscayne

v1.1 November 2021



1. Our Way of Life

The residents of Key Biscayne enjoy a peaceful, safe and active quality of life along our oceanfront beach.



2. Threats to Key Biscayne & Our Way of Life

We face a substantial flooding risk caused by sea-level rise and storm surge.

- Barrier island exposed to coastal storms, including hurricanes.
- Subject to sea level rise with parts of the island **already significantly** flooding during King Tides.
- Coastal storm frequency and intensity is **increasing**, putting the Village at risk of major storm damage.
- The combination will wreak havoc on our condominiums, homes, hotels, businesses, and our way of life.



3. US Army Corps of Engineers

After a yearlong study, on September 14, 2021, the US Army Corps of Engineers (USACE) decided on a tentatively selected shoreline protection plan (TSP) to safeguard our oceanfront beach and adjacent properties.

- Miami-Dade County - our local sponsor - has been in a federal shore protection project since 1974.
- This project originally extended from Sunny Isles south to Government Cut.
- Together, in 2020 we fought hard to have Key Biscayne included in the Coastal Storm Risk Management (CSRM) program.
- Brings the USACE's broad expertise, nation-wide experience and significant federal funding.



**US Army Corps
of Engineers®**



4. Shoreline Protection Plan

USACE'S TSP is an approximate \$120 million investment to protect our village and build a safer future.

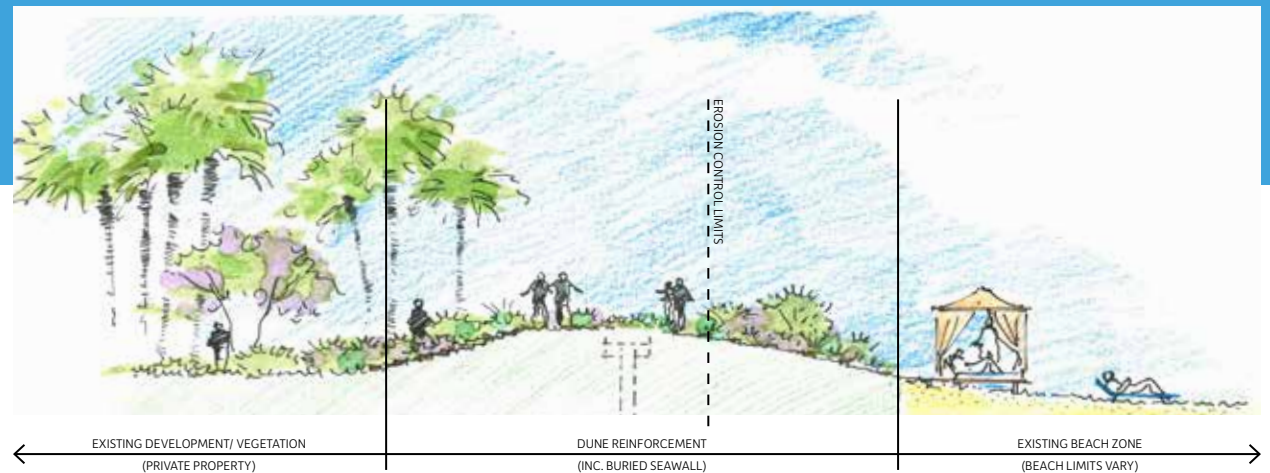
- Periodic beach renourishment.
- Dune enhancement with natural protection.
- Dune reinforcement.
- Protective tie-back systems along north and south of village.
- Estimated \$60 million in construction cost and \$60 million in periodic beach renourishment.



5. Dune Improvements Typical Section

The dune system serves as the first line of defense against storm surge as well as rising sea-level.

- Installation of a buried sheet pile seawall with concrete cap to reinforce the dunes.
- Preservation and enhancement of the existing ecosystem and native plants and fauna.
- Maintaining the existing beach, just at a higher elevation.



R-105: SANDS EXAMPLE SECTION



R-102 ISLAND HOUSE TYPICAL IMPROVEMENTS

PLAN



SECTION

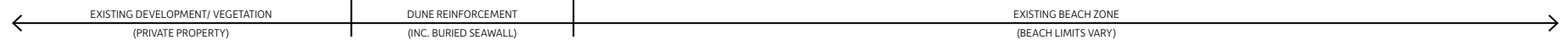


R-104 GRAND BAY TYPICAL IMPROVEMENTS

PLAN

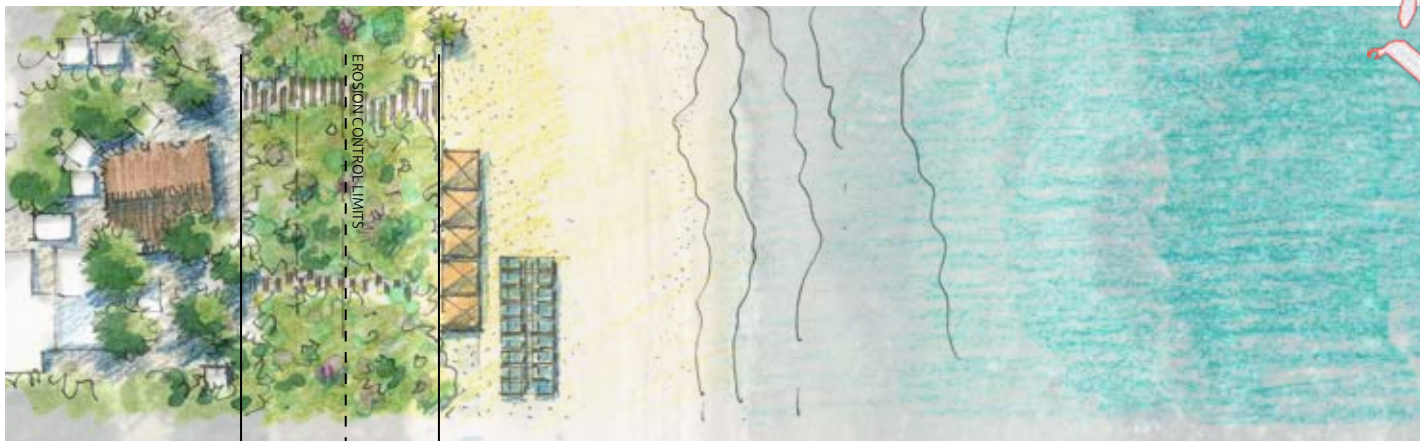


SECTION



R-104.5 RITZ CARLTON TYPICAL IMPROVEMENTS

PLAN



SECTION



← EXISTING DEVELOPMENT/ VEGETATION (PRIVATE PROPERTY) | DUNE REINFORCEMENT (INC. BURIED SEAWALL) | EXISTING BEACH ZONE (BEACH LIMITS VARY) →

R-106 OCEAN CLUB TYPICAL IMPROVEMENTS

PLAN



SECTION



← EXISTING DEVELOPMENT/ VEGETATION (PRIVATE PROPERTY) | DUNE REINFORCEMENT (INC. BURIED SEAWALL) | EXISTING BEACH ZONE (BEACH LIMITS VARY) →

6. Take a Walk With Us

R-102 ISLAND HOUSE PERSPECTIVE VIGNETTE

TODAY



TOMORROW



R-103 SILVER SANDS PERSPECTIVE VIGNETTE

TODAY



TOMORROW



R-104 GRAND BAY PERSPECTIVE VIGNETTE

TODAY



TOMORROW



R-104.5 RITZ CARLTON PERSPECTIVE VIGNETTE

TODAY



TOMORROW



R-105 SANDS PERSPECTIVE VIGNETTE

TODAY



TOMORROW



R-106 OCEAN CLUB PERSPECTIVE VIGNETTE

TODAY

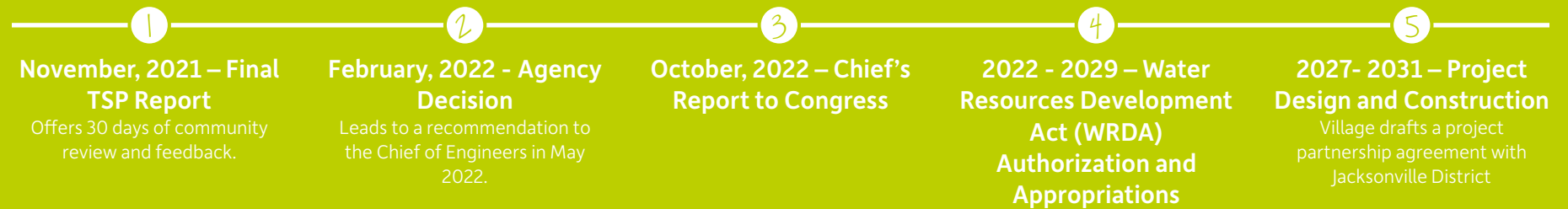


TOMORROW



7. The path Forward

The program follows five key milestones.



8. Building a Safer Future Together

Each step towards getting the Village included in the federal shoreline protection project has involved extensive effort by our Mayor and Council members, the Village staff, the County Mayor and staff, and our Federal and State Representatives.

Ongoing efforts include:

- Coordinating with Miami-Dade County and USACE as the plan evolves;
- Focused one-on-one outreach with landowners, HOAs, community interest groups, and County and City elected officials; and,
- Listening to community feedback to incorporate into the final CSRM study to be released in 2022.



COMING TOGETHER TO PROTECT OUR VILLAGE

To gain the peace of mind and protection against future storms and sea-level rise, we ask all our residents to become knowledgeable, engaged and UNITED with the Village in the federal shoreline protection project

- We all must make sure we are part of the project and receive the \$120 million we deserve to protect our oceanfront beach and the adjacent property.
- A united Village must work together with Miami-Dade County and USACE over the next 10 years to keep the project focused and on course to fully benefit the Village.
- The project and its funding safeguard our beach and property and frees up Village resources to invest in other critical infrastructure across our community.
- To show our commitment, the Village will add three additional public beach access points.

- The Village must develop a comprehensive resilient infrastructure integration and implementation plan to protect the entire village.
- We must also modify certain ordinances, land-use policies, master plans, and building standards to build a stronger and more resilient Key Biscayne.



9. The Future for Key Biscayne

SCENARIO A INUNDATION AND PROPERTY DAMAGE

The Village of Key Biscayne **is not included** in USACE's Federal Shoreline Protection Project.

- Residents will continue to face the threat of the combination of rising sea-level and more severe storms.
- Storms will continue to wreak havoc on our residents' condominiums, homes, hotels and businesses, with steadily increasing insurance rates and decreasing property values.
- The Village will continue to bare the full responsibility and financial burden of regular beach renourishment efforts to address on-going erosion.
- When the environmental conditions reach perilous levels, the Village and our residents will have to pay for the beach shoreline protection ourselves.



SCENARIO B REMAINING THE ISLAND PARADISE

The Village of Key Biscayne **is included** in USACE's Federal Shoreline Protection Project.

- Our residents' lives, property and livelihoods will be more protected from rising sea-level and more severe storms.
- The Village and its residents will benefit from USACE's vast planning, design and construction expertise and experience.
- Approximately \$120 million of federal funding will be invested in the protection of our beach and its adjacent properties.
- Allows the Village to invest its time, money and efforts in other critical resilient infrastructure projects across the village.
- The Village of Key Biscayne can continue its journey in being a vibrant community with a high quality of life, a strong sense of place, a thriving commercial district, and stronger, more resilient infrastructure.



A scenic view of a beach with a sailboat mast, colorful kayaks, and a cloudy sky. The image is split into three vertical panels. The left panel shows a sailboat mast and colorful kayaks on the sand. The middle panel contains the text. The right panel shows the ocean and a cloudy sky.

Our Vision. Our Goal

The residents of Key Biscayne face an increased threat from sea-level rise and more severe storms. Through working with the Village, Miami-Dade County and the US Army Corps of Engineers to fund and protect our oceanfront shoreline, we can all continue to live a safe, thriving and vibrant life with beautiful views and access to our ocean beach.



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