

focus areas



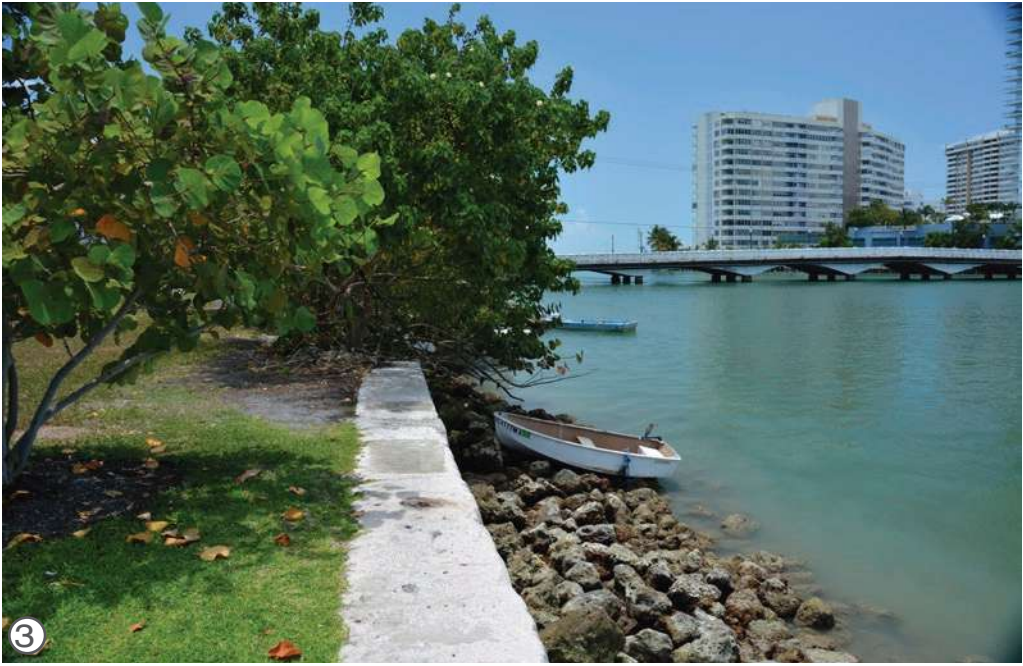
FOCUS AREAS: SITE ENLARGEMENTS

- 1. SOUTH POINTE PARK
- 2. TYPICAL SOUTH BEACH STREET END
- 3. MAURICE GIBB PARK
- 4. COLLINS CANAL
- 5. LAKE PANCOAST
- 6. INDIAN BEACH PARK
- 7. TYPICAL RESIDENTIAL NEIGHBORHOOD



FOCUS AREAS: CITY-WIDE ACTIVITIES

- LIVING SHORELINES
- MANGROVE HABITATS
- KAYAK/SUP LAUNCHES
- PEDESTRIAN PROMENADES
- SEA LEVEL RISE ADAPTATION
- SIGNAGE AND BRANDING



CONCEPT MASTER
PLAN



EXISTING SITE PHOTOS

SOUTH POINTE PARK
MEDIUM TO LONG TERM IMPLEMENTATION

KEY MAP



- POTENTIAL IMPROVEMENTS:
- 1. WATER TAXI STOP
 - 2. DAY-USE DOCK
 - 3. LIVING SHORELINE ENHANCEMENT
 - 4. MANGROVE HABITAT
 - 5. SUNKEN VIEWING CLASSROOM
 - 6. PROMENADE EXTENSION



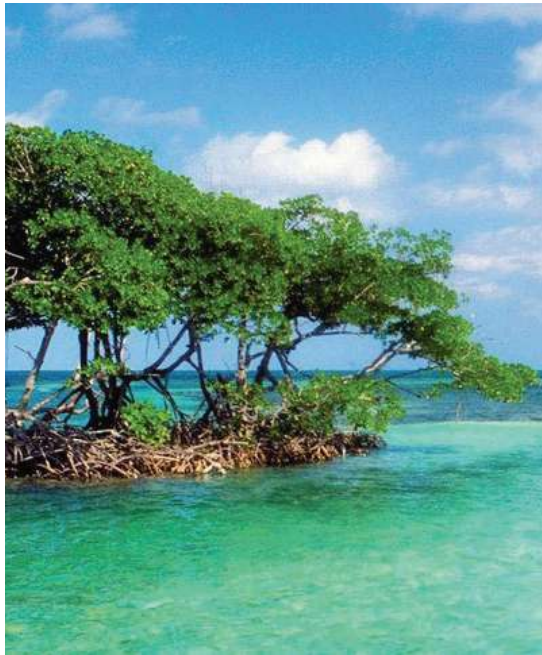
EXISTING SITE PHOTOS

SOUTH POINTE PARK CONCEPT ENLARGEMENT



PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. WATER TAXI SERVICES
2. DAY-USE BOAT DOCKING
3. LIVING SHORELINE HABITAT
ENHANCEMENT
4. MANGROVE VIEWING HABITAT
5. SUNKEN VIEWING CLASSROOM/
OBSERVATION DECK
6. PEDESTRIAN PROMENADE
7. PARK SPACE
8. SAFE WATERFRONT SEATING
WITH LIGHTING
9. BIRD WATCHING POINT
10. LOOK-OUT POINT/VIEWING
TELESCOPE
11. BIKE TRAIL WITH BIKE RACKS



SOUTH POINTE PARK PROGRAMMING ACTIVITIES

SOUTH BEACH STREET END
MEDIUM TERM IMPLEMENTATION

KEY MAP



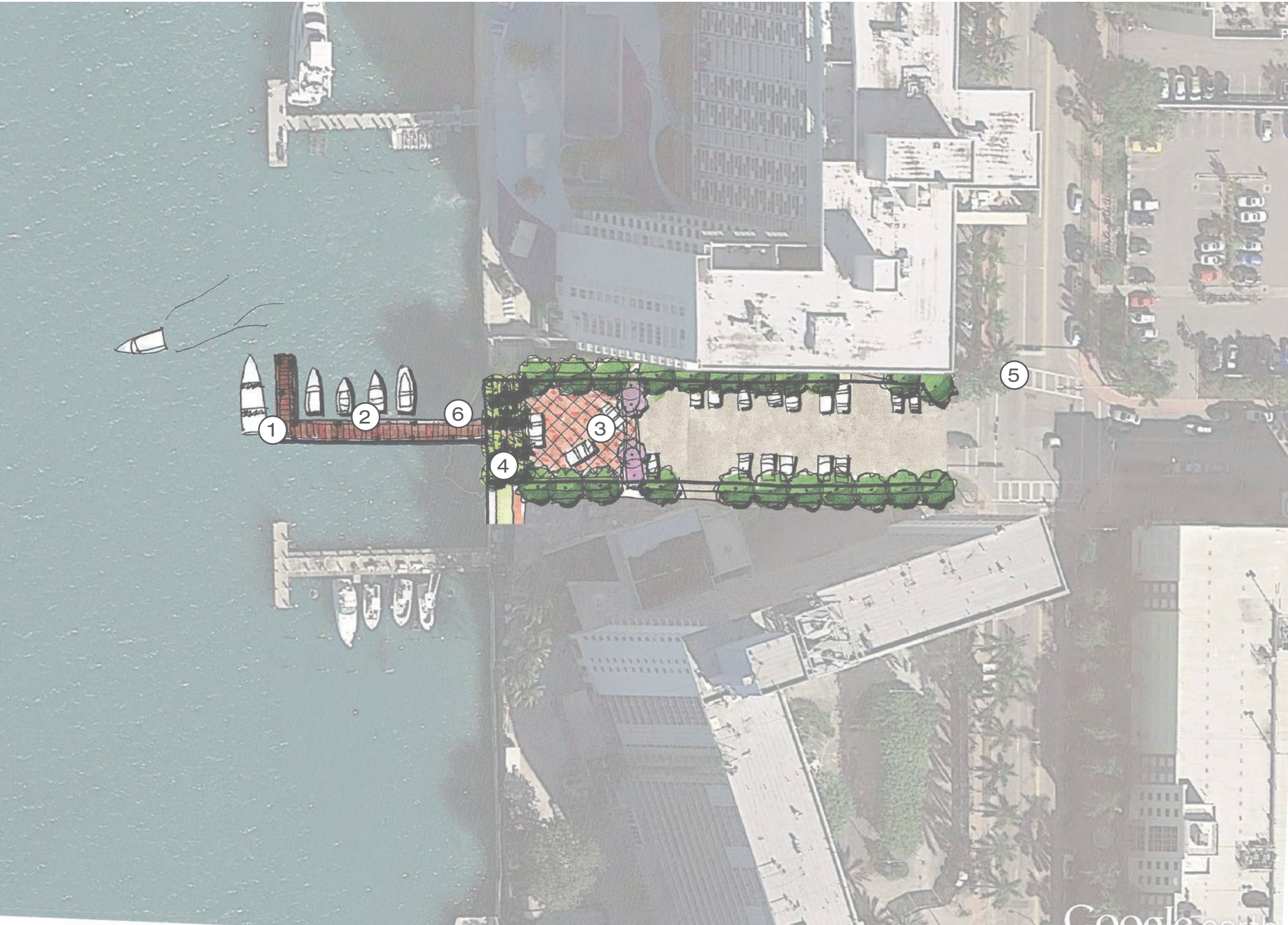
POTENTIAL IMPROVEMENTS:

- 1. WATER TAXI STOP
- 2. DAY-USE DOCK
- 3. DROP-OFF AREA
- 4. VIEWING/SEATING AREA
WITH SITE FURNITURE:
BENCHES, TRASH/RECYCLING
RECEPTACLES, BIKE STORAGE,
AND LIGHTING
- 5. IMPROVED PEDESTRIAN
CONNECTIVITY
- 6. KAYAK/SUP LAUNCH*

* AT LOCATIONS WITH APPROPRIATE WATER
CONDITIONS (WAVE SIZE, CURRENTS, TIDES)



EXISTING SITE PHOTOS



SOBe STREET END POCKET PARK CONCEPT ENLARGEMENT



PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. WATER TAXI SERVICES
2. DAY-USE BOAT DOCKING
3. PEDESTRIAN PROMENADE
CONNECTION
4. SAFE WATERFRONT SEATING
WITH LIGHTING
5. CONNECTION TO BIKE
NETWORK WITH BIKE RACKS
6. PERPENDICULAR ON-STREET
PARKING FACILITIES
7. KAYAKING, CANOEING, AND
STAND-UP PADDLEBOARDING



SoBe STREET END POCKET PARK PROGRAMMING ACTIVITIES

MAURICE GIBB PARK

SHORT TO LONG TERM IMPLEMENTATION

Key Map

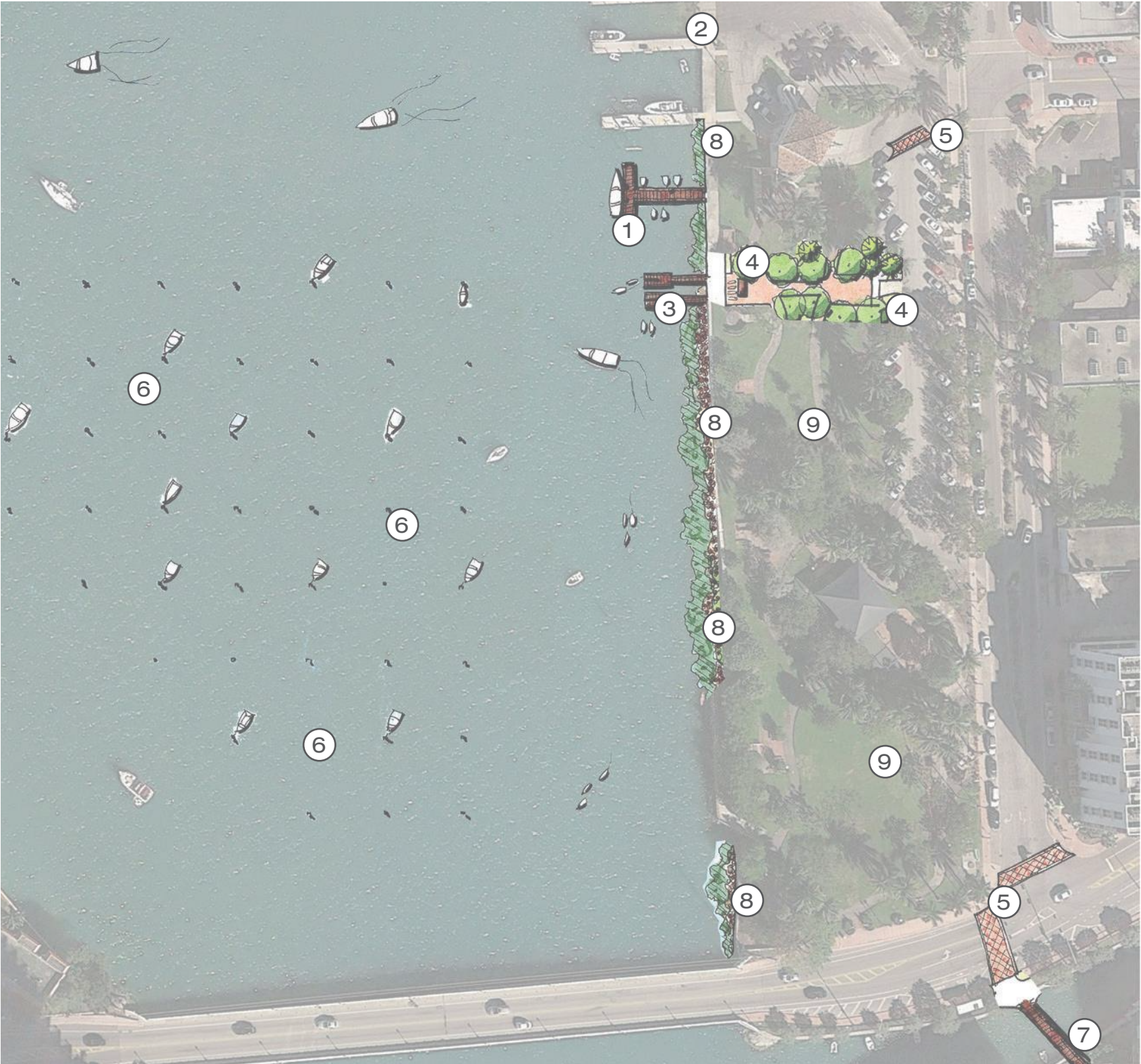


POTENTIAL IMPROVEMENTS:

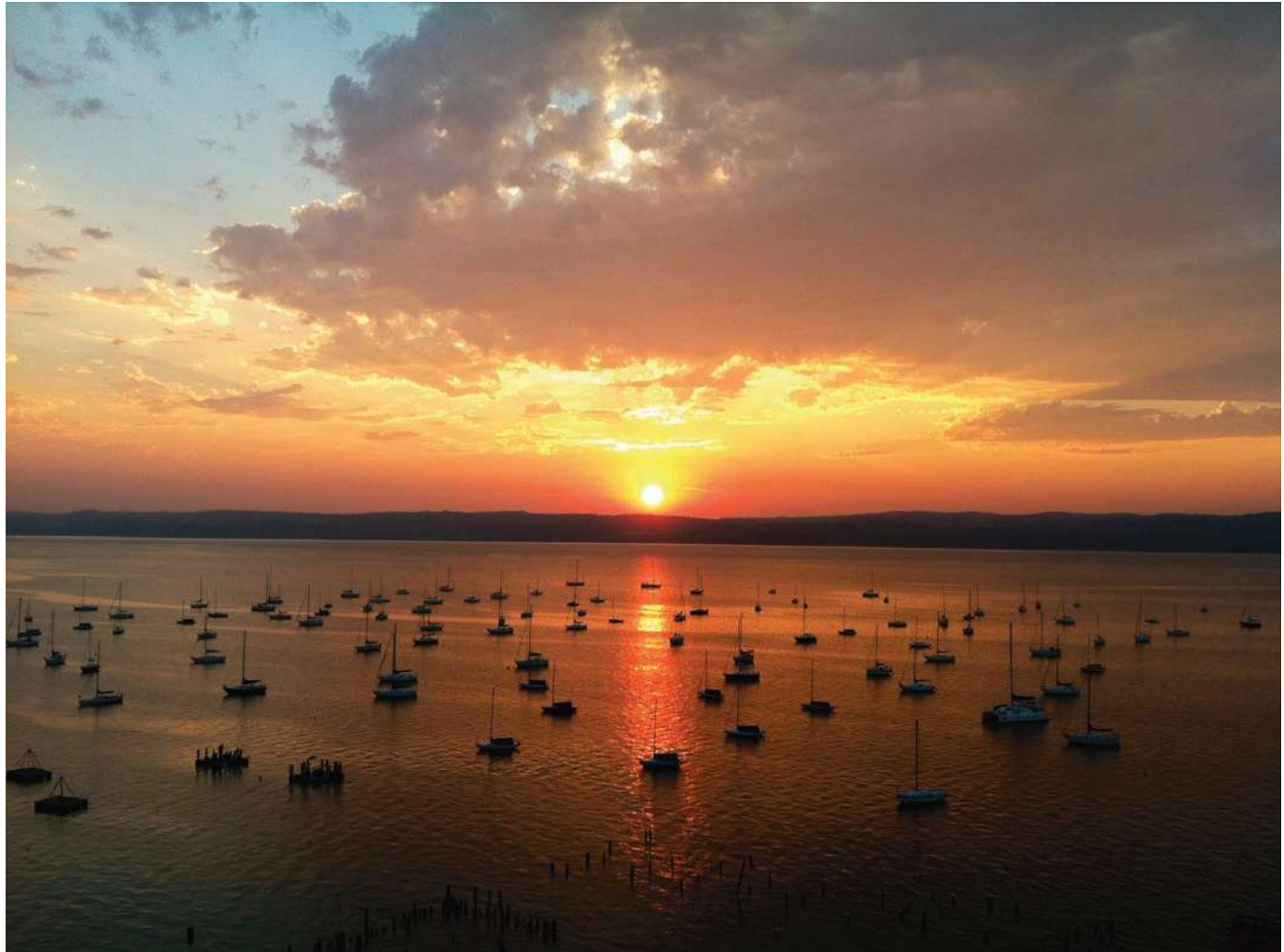
1. WATER TAXI STOP/DINGHY DOCK
2. EXISTING BOAT LAUNCH
3. KAYAK/SUP LAUNCH
4. KAYAK/SUP VENDOR PAVILION AND DROP-OFF
5. IMPROVED PEDESTRIAN ACCESS TO LAUNCH
6. POTENTIAL MANAGED MOORING FIELD OR TRANSIENT DOCK OPPORTUNITY
7. PEDESTRIAN BRIDGE ACROSS CANAL IMPROVING PEDESTRIAN ACCESS FROM THE SOUTH AND LINCOLN ROAD
8. LIVING SHORELINE ENHANCEMENTS
9. EXISTING PARK SPACE



EXISTING SITE PHOTOS



MAURICE GIBB PARK CONCEPT ENLARGEMENT



PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. WATER TAXI SERVICES
2. BOAT LAUNCH
3. DAY-USE DINGHY DOCKING
4. LIVING SHORELINE HABITAT
ENHANCEMENT
5. PARK SPACE
6. SAFE WATERFRONT SEATING
WITH LIGHTING
7. BIRD WATCHING POINTS/
VIEWING TELESCOPE
8. INCREASED PEDESTRIAN
CONNECTIVITY AND PEDESTRIAN
BRIDGE
9. INCORPORATION INTO CITY-
WIDE BIKE NETWORK AND
INCLUSION OF BIKE RACKS

MAURICE GIBB PARK PROGRAMMING ACTIVITIES

COLLINS CANAL
MEDIUM TERM IMPLEMENTATION

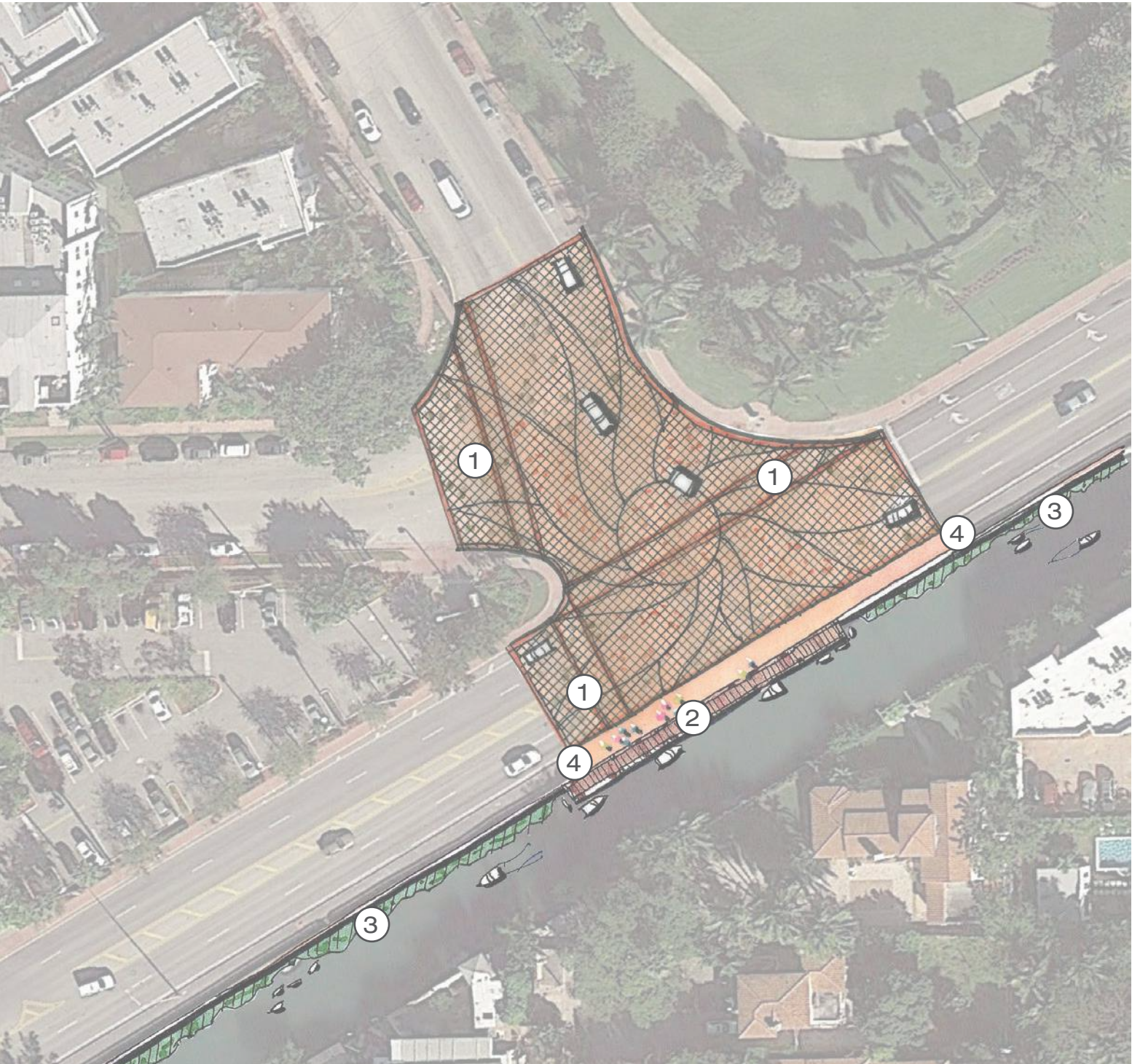
KEY MAP



- POTENTIAL IMPROVEMENTS:
- 1. IMPROVED PEDESTRIAN CROSSWALK AND CONNECTION
 - 2. SIDE-TIE DAY-USE BOAT/ KAYAK DOCK
 - 3. MANAGED LIVING SHORELINE ENHANCEMENTS
 - 4. CONNECTION TO COLLINS CANAL MULTI-USE PATH



EXISTING SITE PHOTOS



COLLINS CANAL CONCEPT ENLARGEMENT



- PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:
1. SIDE-TIE DAY-USE MOTORIZED AND NON-MOTORIZED DOCK
 2. INCREASED PEDESTRIAN CONNECTIVITY
 3. INCORPORATION INTO CITY-WIDE BIKE NETWORK
 4. LIVING SHORELINE AND HABITAT ENHANCEMENT
 5. POTENTIAL LOCAL FISHING LOCATIONS



COLLINS CANAL PROGRAMMING ACTIVITIES

LAKE PANCOAST

LONG TERM IMPLEMENTATION

Key Map



- POTENTIAL IMPROVEMENTS:
1. DAY-USE DOCK
 2. IMPROVED CROSSWALKS AT INTERSECTIONS
 3. SIDEWALK WITH PROTECTIVE BARRIER ALONG ROADWAY
 4. ELEVATED PEDESTRIAN BOARDWALK PROMENADE
 5. MANAGED LIVING SHORELINE ENHANCEMENTS
 6. SITE FURNITURE: SEATING, TRASH/RECYCLING RECEPTACLES, BIKE STORAGE, AND LIGHTING



EXISTING SITE PHOTOS



LAKE PANCOAST CONCEPT ENLARGEMENT

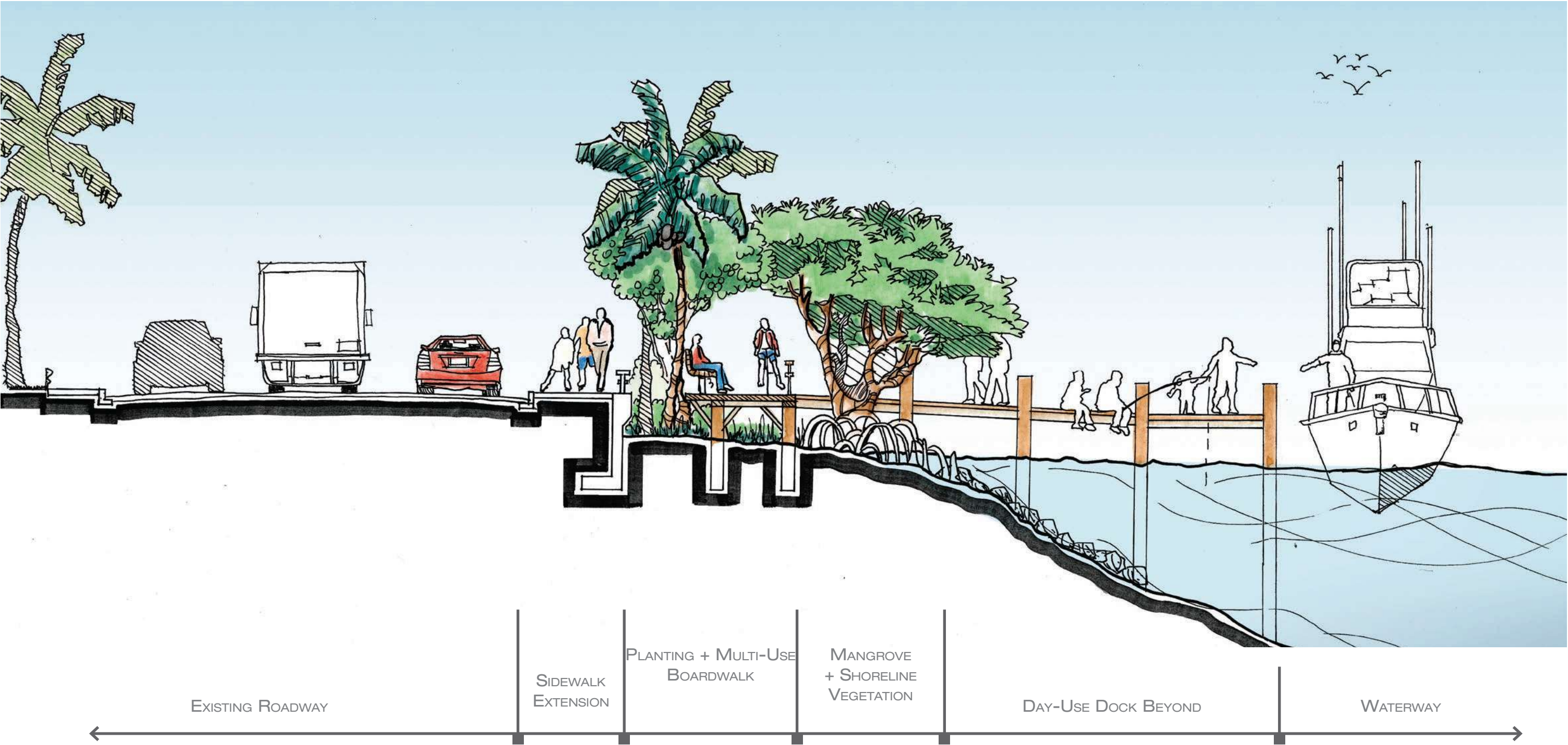


PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. PEDESTRIAN PROMENADE
BOARDWALK CONNECTION
2. INCORPORATION INTO CITY-
WIDE BIKE NETWORK
3. IMPROVED SHORELINE NATURAL
LANDSCAPING AND LIVING
SHORELINE ENHANCEMENT
4. EXTENSION OF EXISTING
SIDEWALK
5. IMPROVED PEDESTRIAN
CONNECTIVITY TO SURROUNDING
AREAS
6. HEIGHTENED TRASH CLEANUP
AND COLLECTION MEASURES

LAKE PANCOAST PROGRAMMING ACTIVITIES

LAKE PANCOAST CONCEPTUAL SITE SECTION





LAKE PANCOAST CONCEPTUAL VIEW

INDIAN BEACH PARK

LONG TERM IMPLEMENTATION

Key Map



- POTENTIAL IMPROVEMENTS:
1. IMPROVED PEDESTRIAN CONNECTION TO BEACH
 2. VENDOR PAVILION
 3. EXPANDED DAY USE DOCK (PERFORMANCE BASED)
 4. MAINTAINED LIVING SHORELINE
 5. SITE FURNITURE: SEATING, TRASH/RECYCLING RECEPTACLES, BIKE STORAGE
 6. EXISTING INDIAN BEACH PARK
 7. EXISTING PARKING



EXISTING SITE PHOTOS



INDIAN BEACH PARK CONCEPT ENLARGEMENT



PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. IMPROVED PEDESTRIAN
CONNECTIVITY TO SURROUNDING
AREAS
2. INCORPORATION INTO CITY-
WIDE BIKE NETWORK
3. LIVING SHORELINE
ENHANCEMENT
4. ENHANCEMENT OF EXISTING
SIDEWALK
5. DAY-USE BOAT DOCKING
6. POTENTIAL KAYAK LAUNCH
AND VENDOR KIOSKS

INDIAN BEACH PARK PROGRAMMING ACTIVITIES

RESIDENTIAL NEIGHBORHOOD
SHORT TERM IMPLEMENTATION

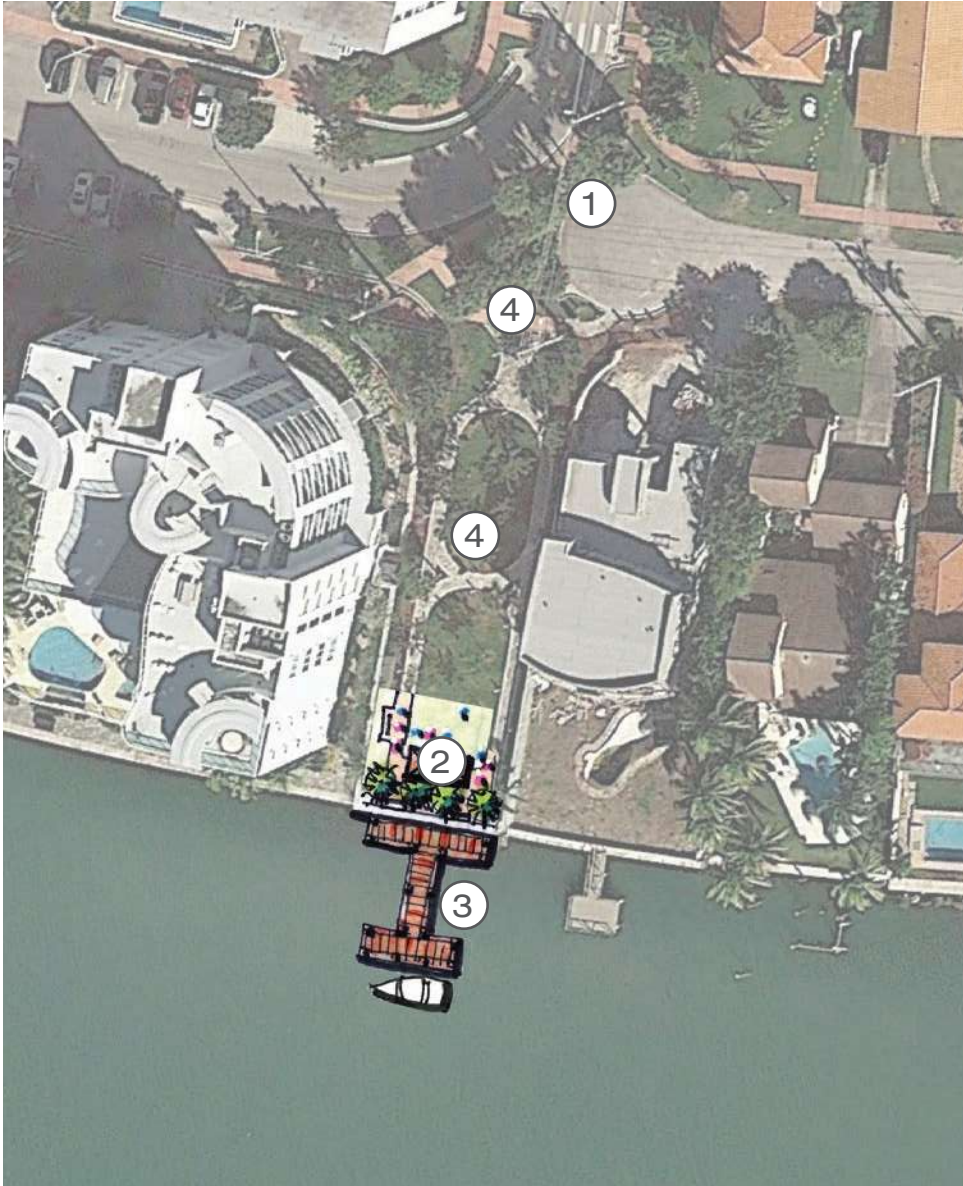
KEY MAP



- POTENTIAL IMPROVEMENTS:
- 1. DROP-OFF AREA
 - 2. VIEWING/SEATING AREA
 - 3. NEIGHBORHOOD DAY USE DOCK
 - 4. NEIGHBORHOOD KAYAK AND STAND-UP PADDLE BOARD LAUNCH
 - 5. SITE FURNITURE: SEATING, TRASH/RECYCLING RECEPTACLES, BIKE STORAGE, AND LIGHTING



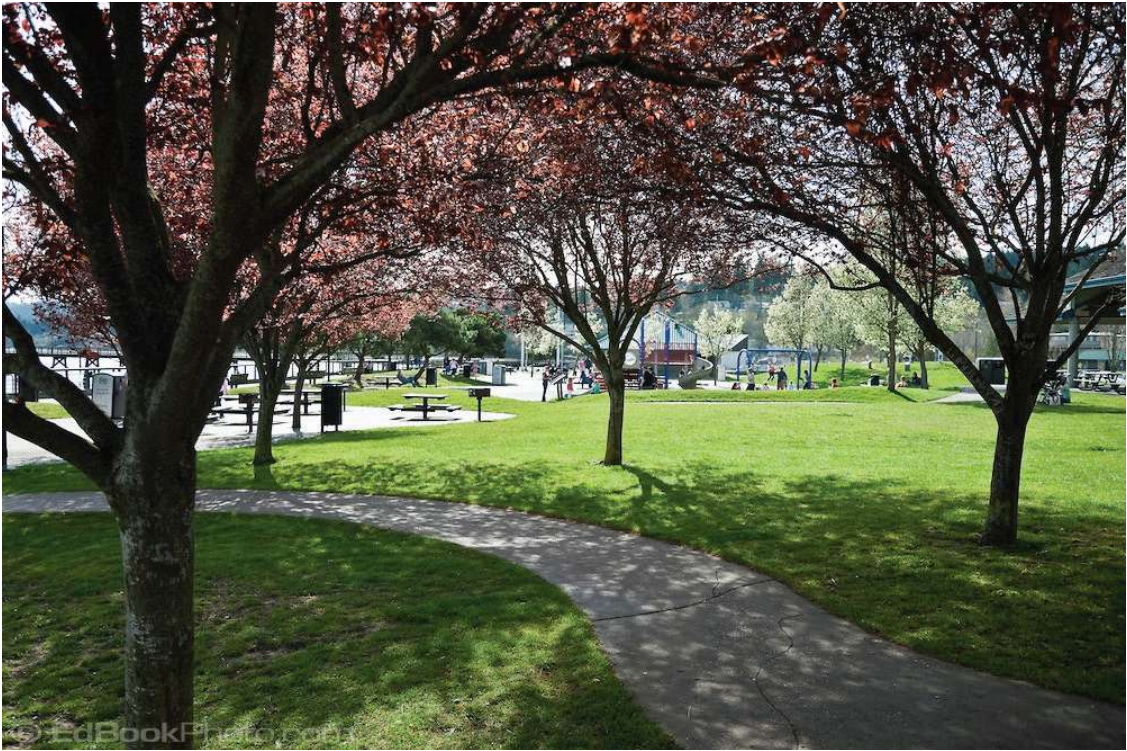
EXISTING SITE PHOTOS



TYPICAL RESIDENTIAL NEIGHBORHOOD POCKET PARK
CONCEPT ENLARGEMENT



TYPICAL RESIDENTIAL NEIGHBORHOOD POCKET PARK CONCEPT ENLARGEMENT

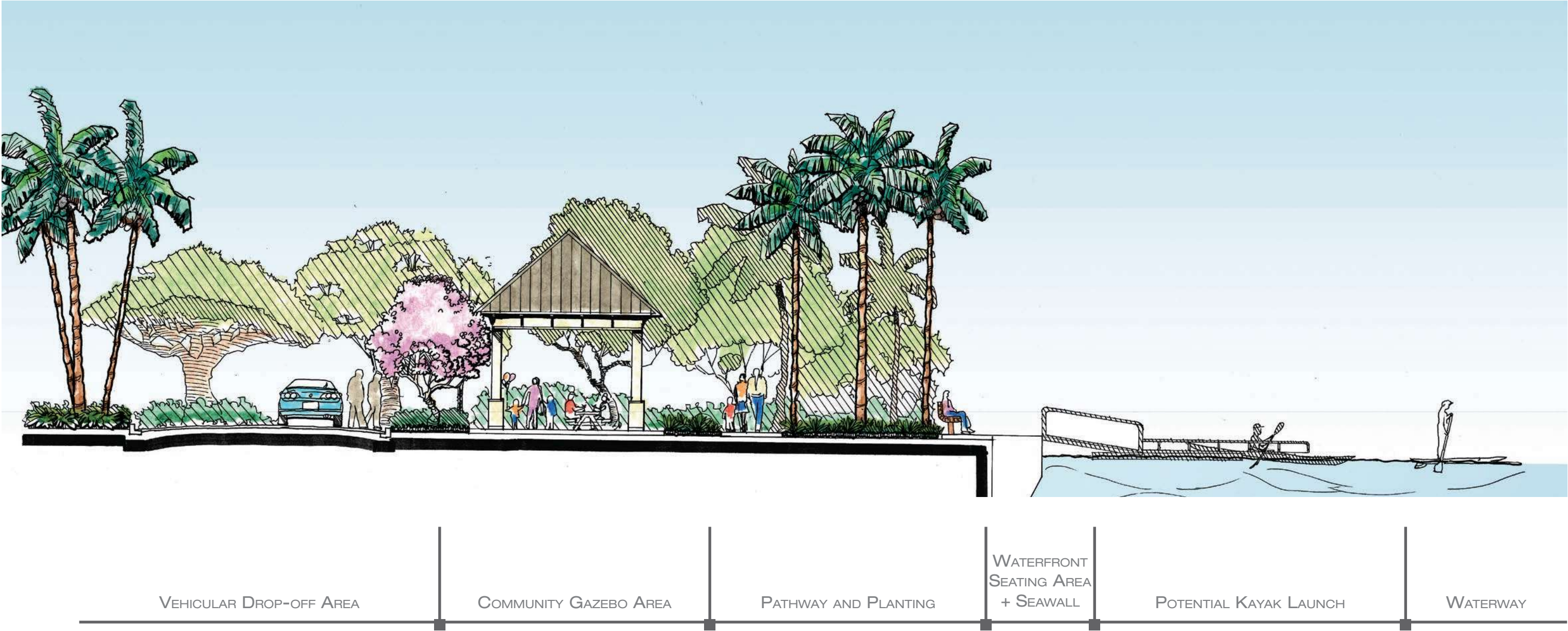


PROGRAMMING INITIATIVES AND
CONCEPT ACTIVITIES:

1. POTENTIAL DOCK LOCATION
FOR SHORT TERM USE
(NEIGHBORHOOD USE LOADING
AND UNLOADING)
2. POTENTIAL KAYAK/SUP
LAUNCH
3. IMPROVED LANDSCAPING, AND
SITE LIGHTING
4. WATERFRONT SEATING AND
PUBLIC USE EVENT SHELTERS
5. CONNECTION INTO CITY-WIDE
BIKE NETWORK AND PEDESTRIAN
CONNECTIVITY
6. BIKE RACKS

RESIDENTIAL NEIGHBORHOOD POCKET PARK PROGRAMMING ACTIVITIES

RESIDENTIAL NEIGHBORHOOD CONCEPTUAL SITE SECTION



VEHICULAR DROP-OFF AREA

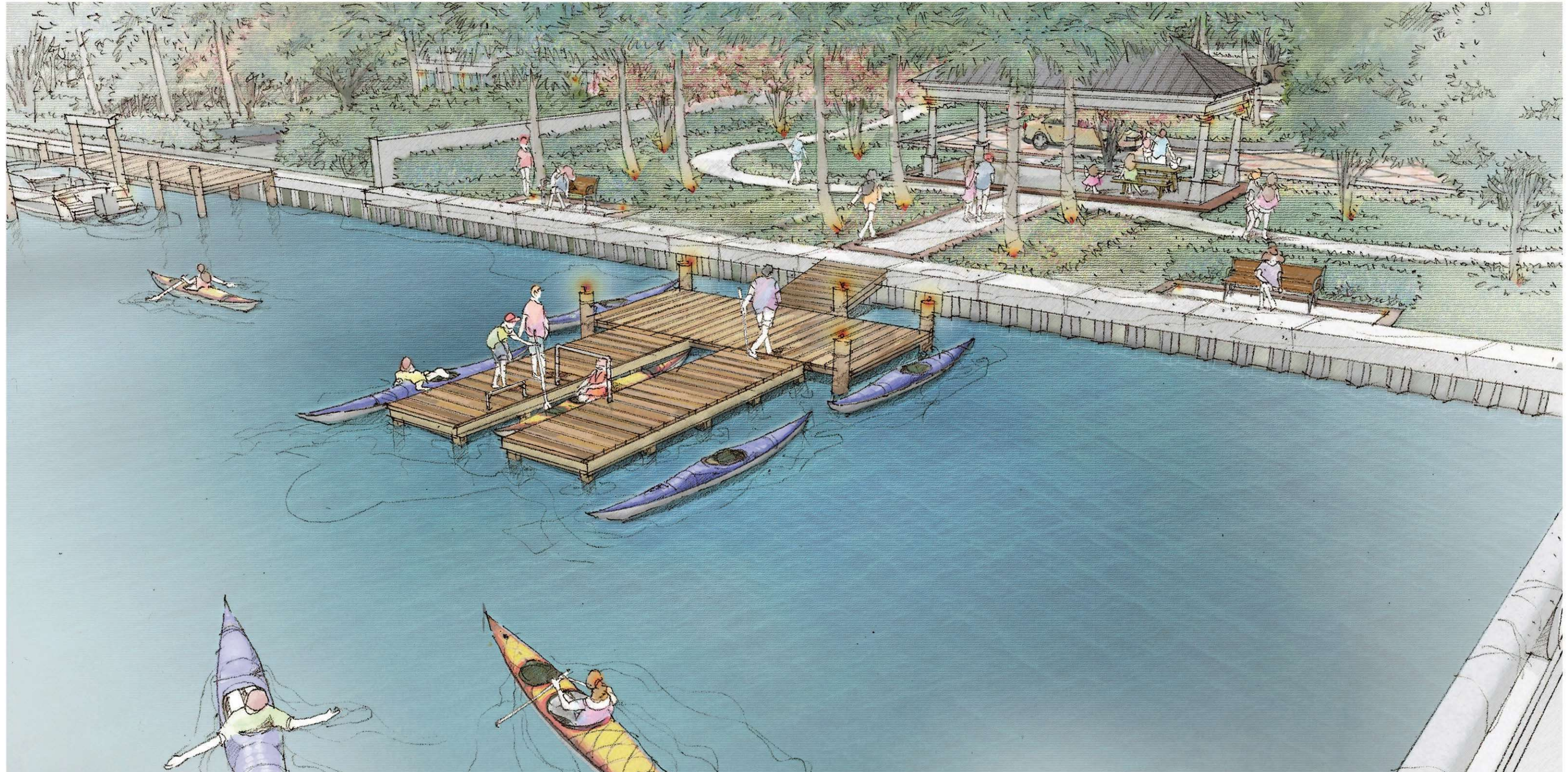
COMMUNITY GAZEBO AREA

PATHWAY AND PLANTING

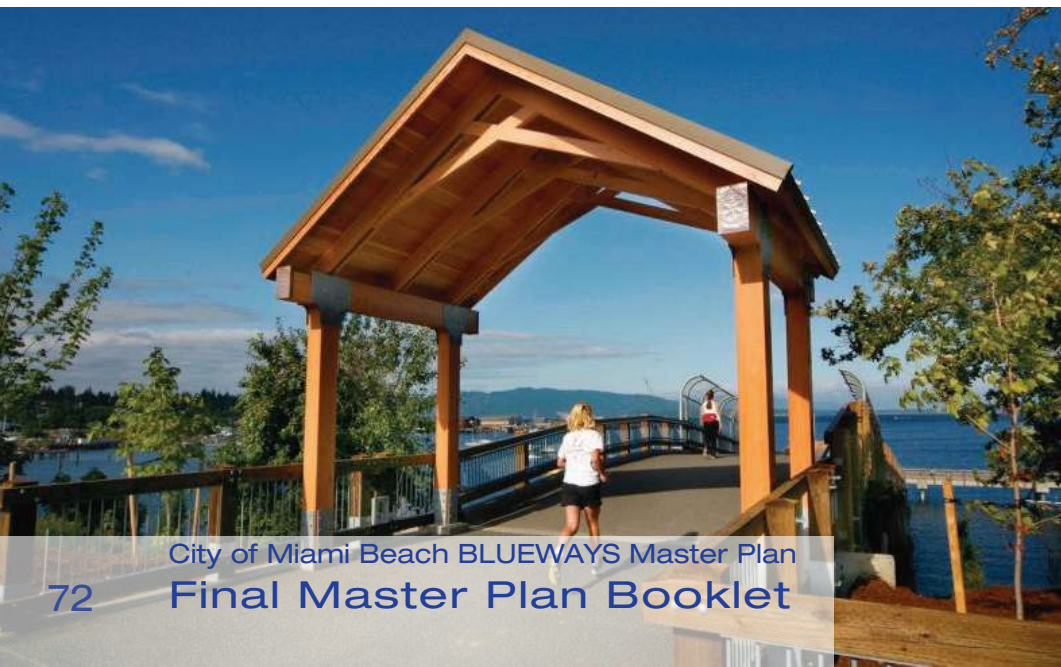
WATERFRONT
SEATING AREA
+ SEAWALL

POTENTIAL KAYAK LAUNCH

WATERWAY



RESIDENTIAL NEIGHBORHOOD CONCEPTUAL VIEW



CITY-WIDE ACTIVITIES

Pedestrian Promenades

Pedestrian connections throughout the City are important not only for residents to navigate their neighborhoods, but also for visitors to experience the Island and it's waterways.

Major Pedestrian thoroughfares should be placed at key locations to enhance the pedestrian's experience along the water.

The Convention Center and Indian Creek both host key events such as the Boat Show. This creates potential for a pedestrian promenade that connects the Convention Center back to Indian Beach.

Another key location for a pedestrian promenade is the proposed Bay Walk running along the bay in South Beach. This promenade could also connect to Lincoln Road and other key corridors.

Kayak & Stand-up Paddle boarding Launches

The addition of non-motorized launches throughout the community creates an opportunity for an added amenity. These launches can utilize existing parks and open spaces in both residential and tourist areas and create interaction with the water. Launches in residential areas can be catered to surrounding residents by only adding the launch and those in tourist or higher density areas can include parking and a kiosk for kayak and stand-up paddle board rentals.

Living Shorelines

Seawalls are the common method utilized throughout the City to stabilize the shoreline. This solution is expensive to maintain and adapt for future sea level conditions.

This plan recommends the careful consideration of cost-effective and environmentally sensitive solutions for improvement and adaptation of existing shoreline structures. In particular, new solutions may include engineered slope revetments with intertidal habitat creation generally referred to in this report as living shorelines.

A living shoreline includes plant material that can help to improve the water quality (by filtering runoff) and provide a small aquatic habitat. This solution may be retrofitted in front of failing seawalls and designed to adapt to higher sea levels.

CITY-WIDE ACTIVITIES

Mangrove Habitats

Engineered mangrove planters can be designed as a first line of defense during storm conditions. They also provide a habitat/shelter for local birds and marine life. A mangrove habitat placed away from the shoreline can help to protect properties along the shore, add interest to the views from waterfront properties, and create a destination for visiting kayakers/stand-up paddle boarders.

Sea Level Rise Adaptation

City of Miami Beach is currently undergoing an overhaul of its stormwater management infrastructure in order to alleviate the impacts from flooding due to higher water levels. It assumed by this plan that any shoreline structure repair or improvement should account for expected increase in sea level rise. New works should at least be fully compatible with other upland infrastructure projects by the City and with regional guidelines such as the Southeast Florida Regional Climate Change Compact. Ideally, the new shoreline design should incorporate additional flexibility for adaptation to uncertain future conditions derived from climate change.

The tasks and projects proposed in this Blueways Master Plan, from sea wall replacement and mangrove islands to day use docks and kayak launches, will need to be designed considering adaptation to sea level rise. It is not only for the functionality of the projects themselves but the protection of the City's land assets as well.

Signage and Branding

Increasing efforts to connect people to the water and to help people keep the water clean and safe for marine life can be improved by helping people to be more aware.

Efforts to increase signage, and create branding coupled with all other marketing efforts are key to providing a comprehensive approach and improving awareness.

A signage, branding, and marketing campaign should be created to increase awareness about surrounding marine life such as manatees and Johnson's seagrass. It can also help in understanding how stormwater interacts with the surrounding water bodies. This campaign should also address healthy and active lifestyles, and how the community can and should utilize the waterways around them.



ECONOMIC CONDITIONS AND THE BOATING COMMUNITY

Current Economic Conditions

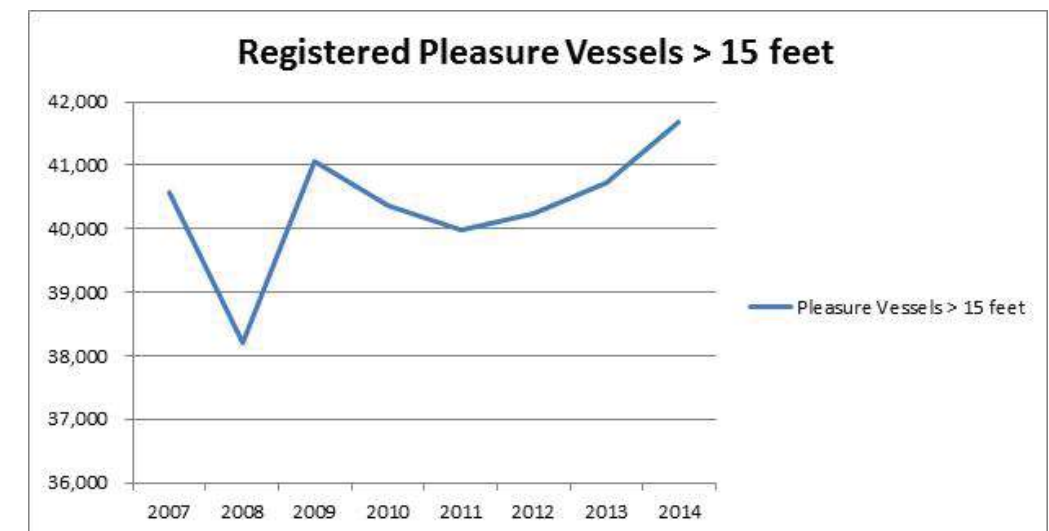
Economic conditions in Miami-Dade County have continued to strengthen since the recession in 2007/8. This is supported by a few key indicators such as unemployment which continues to decrease, and housing values which continue to strengthen.

Current Boating Registrations

Miami-Dade County vessel registrations (16 feet or greater) increased from roughly 38,200 in 2008, to just under 41,700 in 2014, which is a record level. All of these indicators portend well for the region's boating community, of which Miami Beach serves as one of the most active boating communities due to its waterfront location.

Observations

To support the strengthened economic conditions and growth of boating activity in the region, there should be an increase in infrastructure to address, improve or increase boat launches, day use docks, transient slips and other associated facilities.





RECREATIONAL AND COMMERCIAL BOATING EXISTING CONDITIONS AND INFRASTRUCTURE IMPROVEMENTS

Marinas and Moorings

Existing Infrastructure

Throughout the City of Miami Beach there is limited recreational and commercial boating infrastructure. The Miami Beach Marina is the only marina in the City and is home to most of the fishing and yacht charter operations. Transient opportunities are also available here and this location is convenient to shopping, beaches, and restaurants in the South Beach area.

There are moored vessels north and south of the Venetian Causeway adjacent to Maurice Gibb Memorial Park. These moorings are not regulated by the City and many of the vessels are derelict.

There are no other options for day use docking or transient slips.

Improvements

Additional Marina opportunities should be sought to accommodate boating activities to more points along the City of Miami Beach's bay/creek side. Various points are identified in this Master Plan along Indian Creek which could be developed into day use opportunities to connect residents to the beaches and parks throughout the City.

A managed mooring field at Maurice Gibb Memorial Park would create income producing transient space for boats to tie up for short periods.

Boat Ramps

Existing Infrastructure

The only boat ramp within the City is the Barry Kutun Public Boat Ramp, located at Maurice Gibb Memorial Park. This ramp is currently used by both boats and non-motorized vessels such as kayaks and SUPs. Nearby there is a surface lot with 39 parking spaces. The next nearest boat ramp is located at Haulover Park north of Haulover Inlet or Pelican Harbor Park located on John F. Kennedy Causeway.

Improvements

Redesign of the boat ramp to organize uses and discourage unintended use of the ramp (SUP and kayak launch). Separate from the boat ramp, facilities would be created to accommodate the SUP and kayak users to provide appropriate, safe access to the water.

SUP/Kayak Launches

Existing Infrastructure

There is currently one official kayak launch located at Pine Tree Park. Kayak and SUP users also use the boat ramp designated for motor boats at Maurice Gibb Memorial Park. There are instances where other, less official, access to the water has been found and used such as street ends and through the vegetation at the parks along Indian Creek.

Improvements

Access to the water would be created at several points along the waterways so that SUP and kayak users can enter and exit the water more safely. These points also correspond to fairly direct access to the beaches by way of cross streets.

Support Facilities for Boating Infrastructure

Existing Infrastructure

There are restrooms at Maurice Gibb Memorial Park but no other facilities which would be required to accommodate boating needs.

Improvements

In the event that a mooring field (or marina) is created, additional amenities would be considered. Expanding the existing restrooms to include showers or create separate facilities for registered boat tenants. A pump-out facility would be recommended to accommodate boaters. Dockside electric and water would be available if a marina option is pursued. Trash and recycling receptacles will be made available for all options including the expansion and separation of the boat ramp facility.

WATERWAY INFRASTRUCTURE EXISTING CONDITIONS AND IMPROVEMENTS

Navigation

Existing Infrastructure

The waterways adjacent to the City of Miami Beach seem to be navigable and channels appear to be marked as necessary. Some inland waterways such as Collins Canal and thinner canals at the north end of Indian Creek appear to be shallow in some areas. However these shallower areas are not intended for use by motor boats at this time.

Improvements

Analysis of improvements to navigation would begin with a survey of the waters of the City. Local knowledge of areas of concern would be integral in determining need for dredging as well as public input regarding the desires of use for the waterways.

Bulkheads and Retaining Walls

Existing Infrastructure

Many of the bulkhead and retaining walls throughout the City, mainly along undeveloped properties, roads, and street ends are in disrepair and of insufficient elevation to protect from rising tides and sea levels.

Improvements

An assessment of the sea walls, bulkheads, and retaining walls would be made at all proposed project locations. There are several options available to provide armoring of the upland. Depending on the specific site conditions (use of upland, available, etc.), the bulkhead can be replaced by a new bulkhead or be connected to a living shoreline. In both cases, the upland will be raised to sufficiently accommodate for forecasted sea level rise. The living shoreline option will allow for the managed planting of mangroves and other natural shoreline vegetation and become a natural habitat for a variety of species.

Breakwaters/Mangrove Habitats

Existing Infrastructure

There are currently no breakwaters or man-made mangrove habitats in Biscayne Bay near the City of Miami Beach. The closest are the picnic islands near the Intracoastal Waterway.

Improvements

The creation of a chain of mangrove islands immediately west of the City of Miami Beach in the shallower waters of Biscayne Bay may have several benefits. First they may create new habitats for many species. Properly engineered mangrove islands would provide a natural barrier against waves and chop created from strong west winds, protecting homes and property. Additionally, they would create a destination for kayak and SUP users to go, reducing the need to travel through residential canals.







implementation

PHASING PLAN AND IMPLEMENTATION STRATEGIES

To complete the recommendations outlines in this planning document, a tiered approach is suggested to phase elements in throughout the City, as funding and resources arise.

Utilizing the “low-hanging fruit” opportunities is a good way to immediately create an impact and start to see changes. Also, developing a kit of parts can help to implement a standard set of elements that can be modified to adjust to each location and it’s parameters.



Low Hanging Fruit: Coordinate all programs and initiatives	Short	The City should coordinate all efforts with relative City-wide initiatives, such as the Atlantic Greenway Network Master Plan, the Comprehensive Plan, the Storm Water Master Plan, the Municipal Mobility Plan, the Sustainability Plan and all others.
Low Hanging Fruit: Landscape Improvements	Short	Utilize a standard City-wide plant palette to improve the appearance of all public waterfront properties. Create inviting open spaces, that are pleasant for the community to enjoy and utilize safe designs such as CPTED standards.
Low Hanging Fruit: Implement Kayak Launches	Short	Determine standard kayak launch specifications and pre-approved products to utilize City-wide. This will facilitate easy implemen- tation of kayak launches as funding becomes available throughout the City.
Low Hanging Fruit: City Maintenance	Short	Continue to proceed with the implementation of the City-wide stormwater plan and systems. Complete regular maintenance and cleaning of stormwater systems and catch basins.
Low Hanging Fruit: Site Furniture	Short	Utilize City-wide site furniture standards to implement at all waterfront public properties. Each space should include benches, bike racks, and lighting to create a safe and pleasant environment easy for the community to enjoy.



Low Hanging Fruit: Marketing Campaign	Short	Create and implement a marketing campaign to help keep waterways clean. Utilize digital media, signage, and other marketing efforts to spread awareness throughout the community. These efforts should address recycling, littering, and pollution. Efforts could include signage on or near manhole covers highlighting where the water goes.
Water Taxi	Short	This effort should be coordinated with City-wide boat docking implementation to help create shared use spaces. The City should continue to consider vendors to provide a water transportation service for the City. The City should provide the space for these vendor locations and the vendors should implement the necessary facilities to provide their service.
Artificial Habitat Creation	Short	Decide on standard design, specifications and pre-approved products. Artificial reef products can be utilized for habitat enhancement. They can rehabilitate coral reefs, create oyster reefs, create fishing sites, and help to protect young mangrove plants. The City should replace submerged debris currently being utilized to create habitats for fish in the waterways and replace with intentional artificial habitats. These efforts should be coordinated with near-shore coral patch reef protection and restoration.
Living Shorelines	Medium	While continuing efforts to renovate seawalls based on the Seawall Assessment and other reports, each location should be evaluated for the possibility to implement living shorelines and similar initiatives during its renovation.
Day-Use Boat Docks	Medium	As funds become available, the City should have day-use boat docks constructed at the locations specified in this master plan. Some docks, such as the suggested dock for Indian Beach Park along Indian Creek, can be phased, starting with a side-tie dock, that can expand based on demand. This effort should be coordinated with potential water taxi routes to create shared facilities.
Waterway Dredging	Medium	The City should have surveys created to evaluate dredging needs for its water bodies, including Collins Canal and Indian Creek. These efforts should be based on need, and can help increase navigability and to remove debris.



Potential Mooring Field/Transient Dock	Medium	The City should consider converting the area currently utilized by many near Maurice Gibb Park into a City-owned Mooring Field or transient docks/slips. Once feasibility and approvals have been acquired, proper facilities should be created.
Improve Pedestrian Connectivity	Medium	The City should coordinate efforts with the Atlantic Greenways Network Master Plan and similar documents to improve pedestrian connectivity throughout the City and to its waterways. Improved crosswalks are suggested at locations such as at Dade Boulevard and 19th Street, and at Collins Avenue and 46th Street.
Bike Network	Medium	The City should coordinate with the Atlantic Greenways Network Master Plan, the Bike Master Plan and similar documents to help create a cohesive bike network and improve access to the waterfront. These efforts should include signage to improve awareness of bicyclists to users and automobiles that may be sharing roadways. The purpose is to create a bike friendly urban setting with equal consideration for automobiles, pedestrians and bikes.
Vendor Kiosks and Stands	Medium	The City should provide space for vendor kiosks and stands near to kayak launch locations, to allow the community the opportunity to interact with the water in multiple ways.
Pedestrian Boardwalks and Promenades	Medium + Long	The City should continue existing efforts to create a complete pedestrian promenade/bay walk along the western portion of South Beach. It should also create a complete pedestrian promenade/boardwalk along Indian Creek extending north from Lake Pancoast. This promenade can create a much needed space for events such as the International Boat Show.
Shelters and Gazebos	Long	Public waterfront spaces should continue to improve, once funding is in place by adding shelters and gazebos in waterfront park spaces. These spaces can be utilized by the community on a daily basis and can become a space to host functions and a rental space for community members events.



Pedestrian Bridge	Long	To help improve pedestrian and bicycle connectivity, the City should develop a pedestrian bridge over Collins Canal, connecting Bay Road to Dade Boulevard. This will help to provide access from South Beach residents and amenities to Maurice Gibb Park and vice-versa.
Sunken Classroom	Long	At the South Pointe Park location, the location previously used for U.S. Army can be renovated to include a sunken viewing area/ classroom. The space would provide a visual connection to underwater habitats.
Mangrove Habitat	Long	Once funding is in place, there should be a City-wide initiative to implement Mangrove Habitats along the City’s waterways. Mangroves are key to help stabilize shorelines due to erosion and storm surge, and can also aid with sediment control efforts. In addition, mangroves are critical for some bird and marine life habitats. Mangrove habitats should be placed throughout the entire City to provide a visual point of interest for community members utilizing jet skis, kayaks, stand-up paddleboards, etc. This can also help to focus these users and help to reduce recreation in unwanted areas.
Lookout Pier	Long	At the South Pointe Park location, create an extension of the existing promenade to extend over the water. This can terminate in a structure to provide a lookout point.
City Marina	Long	The City should conduct studies evaluating the feasibility of City owned marina facilities at Maurice Gibb Park. This can provide an alternate boating infrastructure element, potentially alleviate transient boaters parking near private property and can potentially provide a revenue producing element.

POTENTIAL FUNDRAISING OPPORTUNITIES

Summary of Potential Funding Resources

Presently, there are a number of funding related issues impacting the Miami Beach Blueways Master Plan and the ability to support the broad range of planning initiatives and capital improvements programs as envisioned herein. There is a myriad of potential funding sources for the Miami Beach Blueways Master Plan and related redevelopment and programming initiatives including funding availability from sources such as local (City or County) redevelopment funds, state, transportation, or other federal, county and state grant/lending programs. However, it is difficult to ascertain the level of funding that is available from these sources and, given the heightened competitiveness among municipalities (and other public and/or related agencies) to access these funding resource as a result of current economic conditions, most funding utilized to support this planning effort likely represents a small portion of the total capital improvement budget.

Private/Public Funding

Public/Private Partnership (PPP) is generally structured between a government agency and one or more private sector entities. Depending on the proposed project, government participation can range from a one-time funding contribution, financial/operational incentives, or ongoing subsidy for development or programming. In most cases, an important component to a PPP is revenue generation from one or more elements of the development plan that can be used to support at least some degree of investment return for the private sector partner and/or the public participant. The revenue available to support public/private investment may be generated from operating profit, increased tax revenue, user fees or other revenue producing mechanism. Public/Private funding for this master plan may be considered for activities related to eco-tourism and recreation/event based programs.



Grants/other

Federal and state grants offer an additional funding opportunity that can directly support development or supplement other funding resources; however, these grants are generally highly competitive and application period is relatively narrow. Therefore, it is important to have a master plan in place that is perceived as “shovel ready” and provides marked benefit to the surrounding community. There are numerous grant programs to consider in support varying elements of the master plan. However, many grants require matching funds, particularly those for major capital improvements; as a result, additional funding sources will need to be identified before many grants can be considered. Moreover, most grant opportunities are very specific in terms of project eligibility; therefore, a development or event program needs to be in place before grant opportunities can be pursued.

In light of current economic conditions, the grant funding environment is highly competitive. Nonetheless, a summary of potential grants and related funding for the master plan include:

- Transportation grants associated with traffic mitigation and pedestrian safety, as well as water-related transportation and coastal navigation;
- Arts and Cultural grants that may be utilized to promote eco-tourism activity and local arts and performance events;
- Small Business grants made available to support local businesses particularly those aimed at promoting health and wellness.
- NOAA Funding Opportunities
- Florida Inland Navigation District (FIND) funding

Specific Recreational Navigation Funding

The Florida Inland Navigation District (FIND) represents a significant grant funding partner, as several proposed elements of the Blueways Master Plan could be eligible for FIND grant funding assistance. FIND administers several grant programs which are designed to improve conditions, access, and recreational amenities along the Atlantic Intracoastal Waterway.

The FIND Cooperative Assistance Program (CAP) is a grant program for state and regional government entities allowing for funding assistance with waterway related projects. There is no limitation on the amount funding that may be requested. The District is authorized to provide up to 75% for public navigation projects while all other project categories are eligible for up to 50% funding assistance. Annually the District allocates approximately \$1 million for the program. Cash and other grant funds may be utilized as the local match.

The Waterways Assistance Program (WAP) is a grant program for the purpose of financially cooperating with local governments to alleviate problems associated with the Atlantic Intracoastal Waterway and associated waterways. Eligible waterway related projects include navigation channel dredging, channel markers, navigation signs or buoys, boat ramps, docking facilities, fishing & viewing piers, waterfront boardwalks, inlet management, environmental education, law enforcement equipment, boating safety programs, beach re-nourishment, dredge material management, environmental mitigation, and shoreline stabilization. FIND is authorized to provide up to 75% for public navigation projects, while all other project categories are eligible for up to 50% funding assistance. Elements of the Blueways Master Plan may be eligible to participate in this program.

FIND also administers the Small-Scale Spoil Island Restoration & Enhancement Program. The program is open to any governmental agency who owns a spoil island, or any agency, organization, group, or individual who has leased, or has a management agreement for, a spoil island from a governmental entity for restoration, enhancement, and management.





conclusion

This master plan document is a living document to be revisited and built upon as needed. It should be used as funding and capabilities become available to improve the City of Miami Beach’s waterfront areas.

Through the use of this master plan document, the City of Miami Beach has many opportunities to revitalize their existing waterfront public spaces and create inviting and interactive moments along the water. This document also emphasizes the need to expand pedestrian connectivity throughout, allowing everyone to travel from the land to the water. This will allow residents and visitors alike to take advantage of the water, a surrounding amenity, and will lead to healthier lifestyles throughout. This document reflects a combined effort of designers, the city and public input to create a foundation that will serve as a guide moving forward.

The suggested improvements take advantage of underutilized spaces and start by suggesting “low-hanging fruit” and less expensive renovations such as landscape and site furnishings that address the appearance and usefulness of the City’s open space, as well as including bike facilities and proper trash and recycling receptacles. Additionally the master plan suggests enhancements for each of these spaces that are specific to their location and can be applied in other similar locations throughout the City. This will help to save costs by reducing the need for completely new designs. These recommendations include but are not limited to kayak launches, boat docking facilities, mangrove habitats, living shorelines, improved maintenance efforts and pedestrian and bicycle networks.

The next steps shall be to utilize community consensus to select projects to be completed. This master plan provides recommendations for future consultants to be refined into detailed design documents addressing budget, environmental regulations, permitting and identifying funding before each project enters the construction phase.



appendices



master plan specifications

The Blueways Master Plan will provide a network for a system of canals, rivers, waterways and lakes with a similar environmental theme, connecting people to the water at convenient locations, providing aquatic recreational opportunities, as well as transportation by water within a community. Through the Blueways Master Plan, the City of Miami Beach aims to revitalize waterfront public spaces, creating a sustainable and thriving environment, while connecting people from land to water and encouraging healthy lifestyles.

To ensure environmental sustainability, protection of natural areas and quality of urban life the city shall continue to protect publicly accessible urban greenspace and scenic open space vistas, while supporting the use of environmentally-preferable standards and requirements.

Therefore, in addition to any technical or other requirements established herein, the following environmentally-preferable standards and requirements shall serve as a foundation for all work related to the design of this Master Plan.

1.1 Governing Standards

1.1.1 Standard Signage

Each site shall have a standard signage identifying the sites of the Blueways Master Plan. Signage will be tailored and standardized for the Blueways Master Plan. The standard signage for the sites shall include: the Miami Beach Blueways Hybrid Logo, the name of park, a brief description of the site with information about the recreational areas, the Blueways Master Plan’s main goals and the link for the Blueways’ website for further detailed information.

Environmental educational signage will also be included at each site. For sites with motorized and non-motorized vessels zoning, the signage shall also provide recreational routes for non-motorized vessels, as well as safety tips. These signs will be developed by the City and tailored to each site.

1.1.2 Planting palette

The planting palette for the mangrove restoration shall be allocated within the below elevation ranges using North American Vertical Datum (NAVD) and average Mean High Water (MHW):

- a) Red mangroves (*Rhizophora mangle*) to be planted at approximately -0.56 to -0.36 ft NAVD (allowable vertical tolerance 10%), on three-foot centers;
- b) Black mangroves (*Avicennia germinans*) to be planted at approximately -0.36 to -0.16 ft NAVD (allowable vertical tolerance 10%), on three-foot centers;
- c) White mangroves (*Laguncularia racemosa*) to be planted at approximately -0.2.6 to 0.04 ft NAVD (allowable vertical tolerance 10%), on five-foot centers;
- d) Bottom wood trees (*Conocarpus erectus*) to be planted at approximately 0.04 to 0.94 ft NAVD (allowable vertical tolerance 10%);
- e) Gulf cordgrass (*Spartina spartinae*) to be planted at approximately 0.54 to 0.94 ft NAVD (allowable vertical tolerance 10%);

The planting species, spacing, height, quality and size, as well as fertilization and planting methods shall also be approved by the Greenspace Management Division and Environmental & Sustainability Division.

1.1.2.1 Planting removal

All projects shall remove all vegetative mass, including leaves, stems, and trunks, plus all gross roots of Category I and II Invasive Exotic Pest Plants, as identified by the Florida Exotic Pest Plant Council (FLEPPC), including but not limited to Hawaiian seagrape (*Scaevola taccada*), Brazilian pepper (*Shinus terebinthifolis*), Australian pine (*Casaurina equisetifolia*). Native coin vine (*Dalberghia ecastophylum*) and gray nickerbean (*Ceasalpinia bonduc*) are also considered invasive as well.

1.1.2.2 Living Shoreline Enhancement

For living shoreline design elements including but not limited to loose aggregate rip-rap and/or mangrove planters shall be considered. Only native vegetation species shall be considered for planting and shall be approved by the Greenspace Management Division and Environmental & Sustainability Division. For the native species selection, visual barriers and maintenance concerns shall be considered, according to each site. The planting palette, spacing, height, quality and size, as well as planting methods and fertilization shall also be approved by the Greenspace Management Division and Environmental & Sustainability Division. Conditions on site at the time of planting may necessitate modification of the planting design and number of planting units required at the Greenspace Management and Environmental & Sustainability Divisions’ discretion.

1.1.3 Furniture

All public furniture, including benches, trash receptacles, signs, bicycle racks and lighting shall be reviewed and approved by the Public Works Department, Greenspace Management Division, Parks & Recreation Department, Planning Department and Environmental & Sustainability Division. Materials using recycled and recyclable building and landscape materials and regionally extracted and/or manufactured materials shall be considered and used to the greatest extent possible. Finish materials, paints, adhesives caulks and sealants that contain low or no volatile organic compounds shall be prioritized when feasible.

1.1.3.1 Benches

The City’s standard style of benches currently used high-traffic areas throughout the public right-of-way shall be considered, subject to change based on new and updated specifications made by the City.

1.1.3.2 Litter receptacles

The Sanitation Division and Parks & Recreation Departments standard styles of litter and recycling receptacles used in public right-of-way and in parks shall be utilized, subject to change based on new and updated specifications made by the City.

1.1.3.3 Bicycle storage

The standard style of bicycle racks currently used in high-traffic areas throughout the public right-of-way, shall be considered, subject to change based on new and updated specifications made by the City.

1.1.3.4 Lighting

LED solar lights shall be considered when feasible, as well as certified wildlife lighting as specified by Florida Fish and Wildlife Conservation Commission.

1.1.4 Dock usage and design

Extensive use of recycled and recyclable building and landscape materials and regionally extracted and/or manufactured materials shall be considered for the dock design. Finish materials, paints, adhesives caulks and sealants that contain low or no volatile organic compounds shall be prioritized when possible. Natural wood decks and composite decking (blend waste wood fiber and recycled plastics) shall be prioritized within the materials to be chosen for the deck construction.

1.1.4.1 Day-Use dock

The dock usage shall be designed when feasible to separate motorized and non-motorized vessels, aiming to avoid water users’ conflicts. Signage shall be provided for motorized and non-motorized vessels zoning.

1.1.4.2 Water Taxi Stop

Water taxi stops shall be designed with a drop-off area and a covered waiting area, as well as the taxi stop in a way that avoids conflict with other water users (boaters, kayakers, paddle-boarders, marine patrol, etc). If feasible, restrooms shall be considered within the surrounding area.

1.1.5 Pedestrian Connectivity

The pedestrian connectivity design shall prioritize existing or planned pedestrians’ walkways and boardwalks within the selected sites. The connectivity shall allow bicycle traffic, improving both bicycle and pedestrian safety with traffic-free connections. When bicycle traffic is allowed, signage should be considered for bicycle and pedestrian use.

signage specifications



BLUEWAYS MIAMIBEACH

MAURICE GIBB PARK KAYAK ROUTES

★ YOU ARE HERE

B BLUEWAYS ACCESS POINTS
For more information visit the website - www.miamibeachfl.gov/blueways

..... KAYAK ROUTE

POINTS OF INTEREST

1. Mangrove habitat
2. Monument Island
3. Pedestrian Promenade
4. 14th Street Park
5. 10th Street Park
6. South Point Park
7. Lake Pancoast

SAFETY TIPS

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

OCEAN RULES

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.



BLUEWAYS MIAMIBEACH

MAURICE GIBB PARK



1. Water Taxi Stop / Dinghy Dock
2. Kayak / Stand-up Paddleboard Launch
3. Drop-off/Vendor Pavilion
4. Gazebo
5. Picnic Area
6. Pedestrian Bridge to Lincoln Rd.

★ YOU ARE HERE

B BLUEWAYS ACCESS POINTS
For more information visit the website - www.miamibeachfl.gov/blueways



BLUEWAYS MIAMI BEACH MAURICE GIBB PARK LOCAL/SYSTEM MAP



★ YOU ARE HERE
B BLUEWAYS ACCESS POINTS

1. Water Taxi Stop / Dinghy Dock
2. Kayak / Stand-up Paddleboard Launch
3. Drop-off/Vendor Pavilion
4. Gazebo
5. Picnic Area
6. Pedestrian Bridge to Lincoln Rd.

**BLUEWAYS
MIAMIBEACH**
For more information visit the website - www.miamibeachfl.gov/blueways



BLUEWAYS MIAMIBEACH

MAURICE GIBB PARK

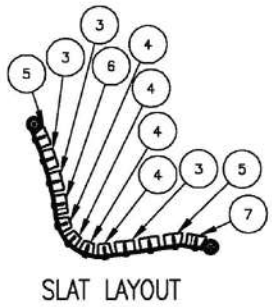
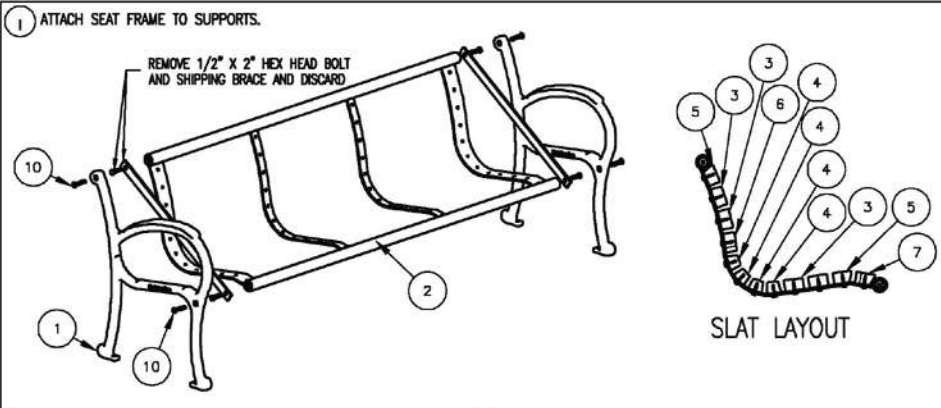
Blueways Access Point
Drop-off Location



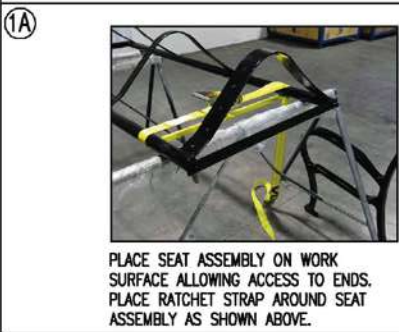
*Please note signage is still conceptual in nature and will be finalized at a later date.



bench specifications



PARTS LIST			
ITEM	QTY	PART NO	DESCRIPTION
1	2	0-160-00-01	CAST IRON BENCH SUPPORT FOR BACKREST
2	1	0-165-60-01	6' SEAT FRAME
3	4	0-165-60-02	2" X 3" X 71" SLAT, WOOD
4	4	0-165-60-03	71" TRAP SLAT, WOOD
5	2	0-165-60-04	71" WOOD PROFILE SLAT
6	1	0-165-60-32	2" X 3" X 71" WOOD INT'R SLAT FOR CTR ARM
7	1	0-165-60-34	71" WOOD PROFILE SLAT FOR CTR ARM
8	1	0-6173-01	CAST IRON ARM REST W/ DECORATIVE
9	2	1-11-045	1/2" X 2 1/2" SS CGE BOLT
10	4	1-12-065	1/2" X 2 1/2" FLT SKT HD CAP SCR
11	48	1-13-023	5/16" X 1 1/2" SS BTN SKT HD LAG
12	2	1-20-018	1/2" SS THIN NYLON LOCKNUT
13	2	1-22-015	1/2" SS FLAT WASHER
14	48	1-22-017	5/16" SS FLAT WASHER



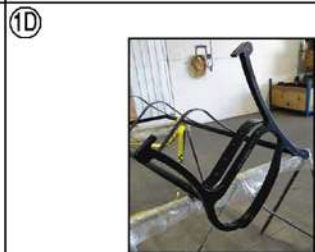
PLACE SEAT ASSEMBLY ON WORK SURFACE ALLOWING ACCESS TO ENDS. PLACE RATCHET STRAP AROUND SEAT ASSEMBLY AS SHOWN ABOVE.



TIGHTEN STRAP UNTIL SHIPPING BRACKET BECOMES LOOSE. THEN REMOVE AND DISCARD BOLTS & SHIPPING BRACKET.



ATTACH CAST SUPPORT TO SEAT ASSEMBLY. IF HOLES IN CASTING DO NOT ALIGN WITH THE SEAT ASSEMBLY, ADJUST BY USING THE RATCHET STRAP.



TIGHTEN HARDWARE THEN REMOVE RATCHET STRAP AND REPEAT THIS PROCEDURE ON THE OTHER END OF BENCH.

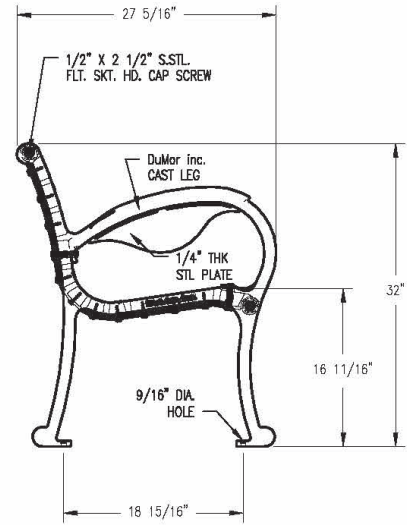
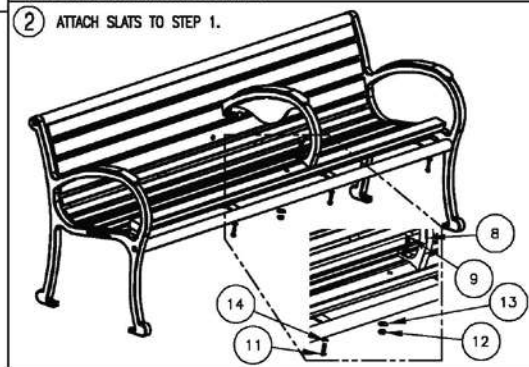
KITS PROVIDED			
ITEM	QTY	PART NO	DESCRIPTION
15	1	K-ANCO860-4	1/2" X 3 3/4" SS ANCHOR KIT (4PC)
16	2	K-BLOS24-24	5/16" LAG HARDWARE KIT (24PC)
17	1	K-CO0840-ZTL	1/2" CGE BOLT HARDWARE KIT (2PC)
18	1	K-FC0840-4	1/2" CAP HARDWARE KIT (4 PCS)

NOTES:

- 1.) DURING ASSEMBLY PROCEDURE; DO NOT COMPLETELY TIGHTEN HARDWARE.
- 2.) THE ACTUAL PARTS WILL NOT BE NUMBERED. NUMBERS ONLY APPLY TO DRAWING.
- 3.) UPON COMPLETION OF ASSEMBLY SQUARE ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.
- 4.) MOUNT AND ANCHOR AS SPECIFIED.

TOOLS REQ'D

- 3/4" WRENCH
- 5/16" ALLEN WRENCH
- 1/4" ALLEN WRENCH
- 1/2" MASONRY DRILL BIT
- DRILL
- RATCHET STRAP (PROVIDED)

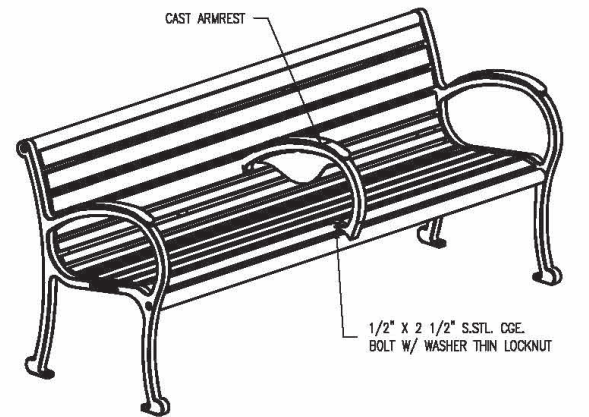
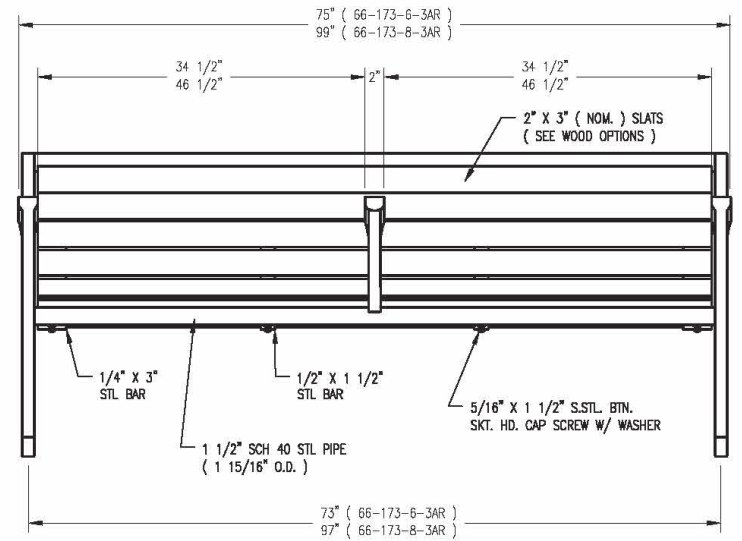


WOOD OPTIONS

- ☐ 'C' & BTR. DOUGLAS FIR KD S4S EE
- ☐ IPE S4S EE
- ☐ OTHER _____

NOTES

- 1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
- 2.) ALL WOOD MEMBERS TREATED W/ CLEAR PRESERVATIVE.
- 3.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.



LENGTH OPTIONS

- ☐ 6' BENCH
- ☐ 8' BENCH

DuMor, inc.

ASSEMBLY
INSTRUCTIONS

DATE DRAWN : 06/02/08
DRAWN BY : AWH
DATE REV. : 00/00/00
REV. BY : XXX

REV.
A

DRAWING
NUMBER

66-173-3AR

SHEET
2 OF 2

DuMor, inc.

BENCH

DATE DRAWN : 01/13/06
DRAWN BY : JSB
DATE REV. : 01/19/12
REV. BY : ESS

REV.
D

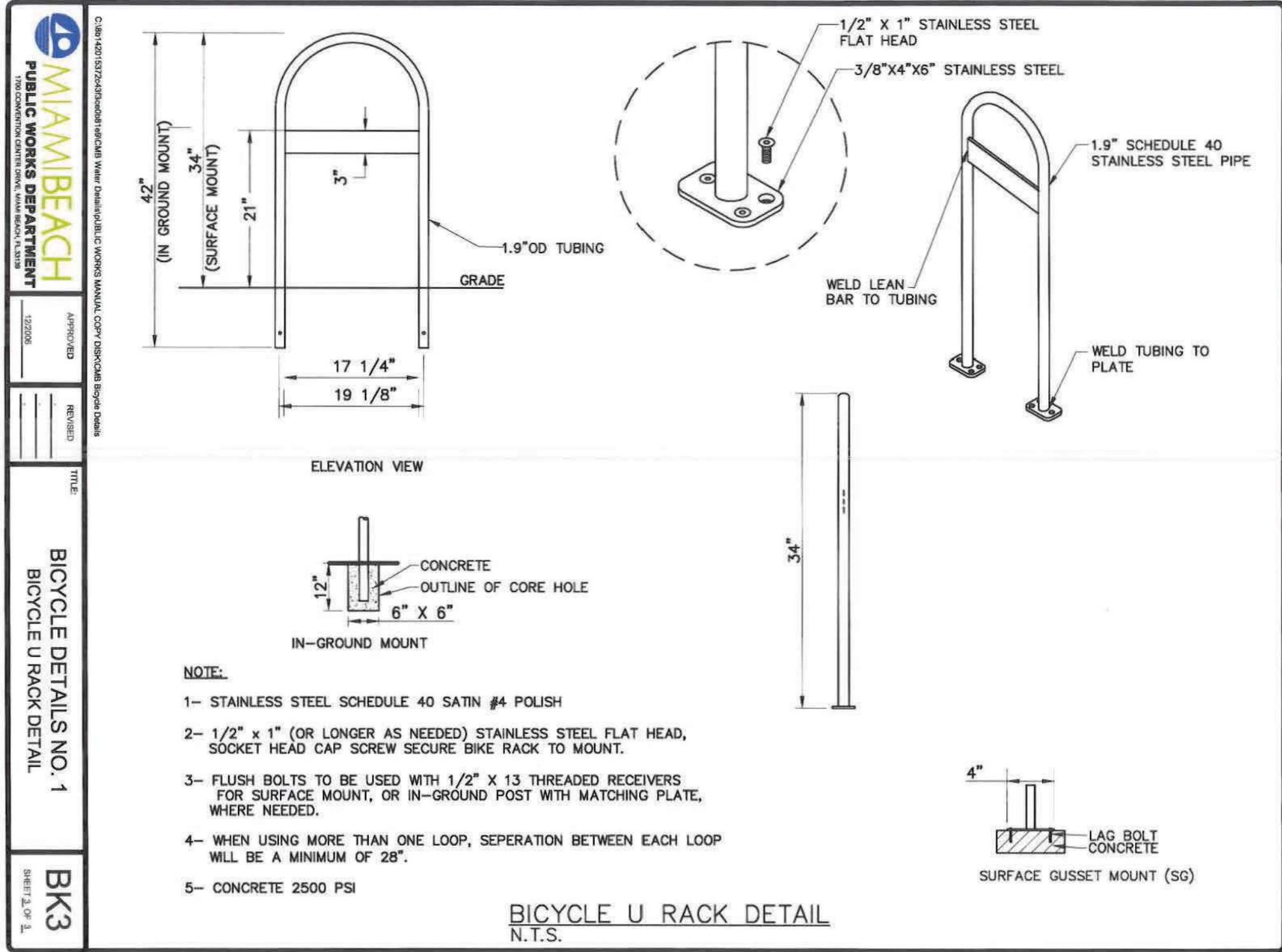
DRAWING
NUMBER

66-173-3AR

SHEET
1 OF 2



bicycle rack specifications





If there is one magic on this planet, it is contained in water.
-Loren Eiseley