

TAMPA RIVERWALK PHASE IV

MARINE VESSEL DOCKING OPPORTUNITIES STUDY



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1.0 INTRODUCTION

This study evaluates potential docking opportunities for private watercraft and water taxi service along the proposed Tampa Riverwalk. The area extends from Beneficial Bridge to North Boulevard Bridge (Riverwalk Segments 4 to 24) along the north side of Garrison Channel and the east side of Hillsborough River in accordance with Moffatt & Nichol's (M&N) Scope of Work, Task 7 dated June 5, 2007 as referenced in Task 4, Amendment No. 3 dated November 26, 2007 between the City of Tampa and EDAW.

1.1 BACKGROUND

The Master Plan for the Tampa Riverwalk was developed in 2006 and consists of 24 segments extending from the Channelside Shops and Florida Aquarium on Channelside Drive (Segments 1-3), along the north side of Garrison Channel from the west side of Beneficial Bridge to the entrance of the Hillsborough River (Segments 4 to 7), and along the east side of the river to North Boulevard Bridge (Segments 8 through 24). This report does not address Segments 1-3 which will be developed at a future date and are not located along either waterway. Figure 1 shows an aerial overlaid with the alignment of the proposed Riverwalk including segment designations. The following lists the status of the Riverwalk segments:

- Construction complete: Segments 5, 6, 7 (existing), 8, 9, 12, and 18
- Under construction: Segments 4 and 16
- Permitting/Design Phase: Segments 7 (future), 7A, 10, 11, 13, 14, 15, 19, 20, 21, 22, 23, and 24
- Concept Phase – Segment 17

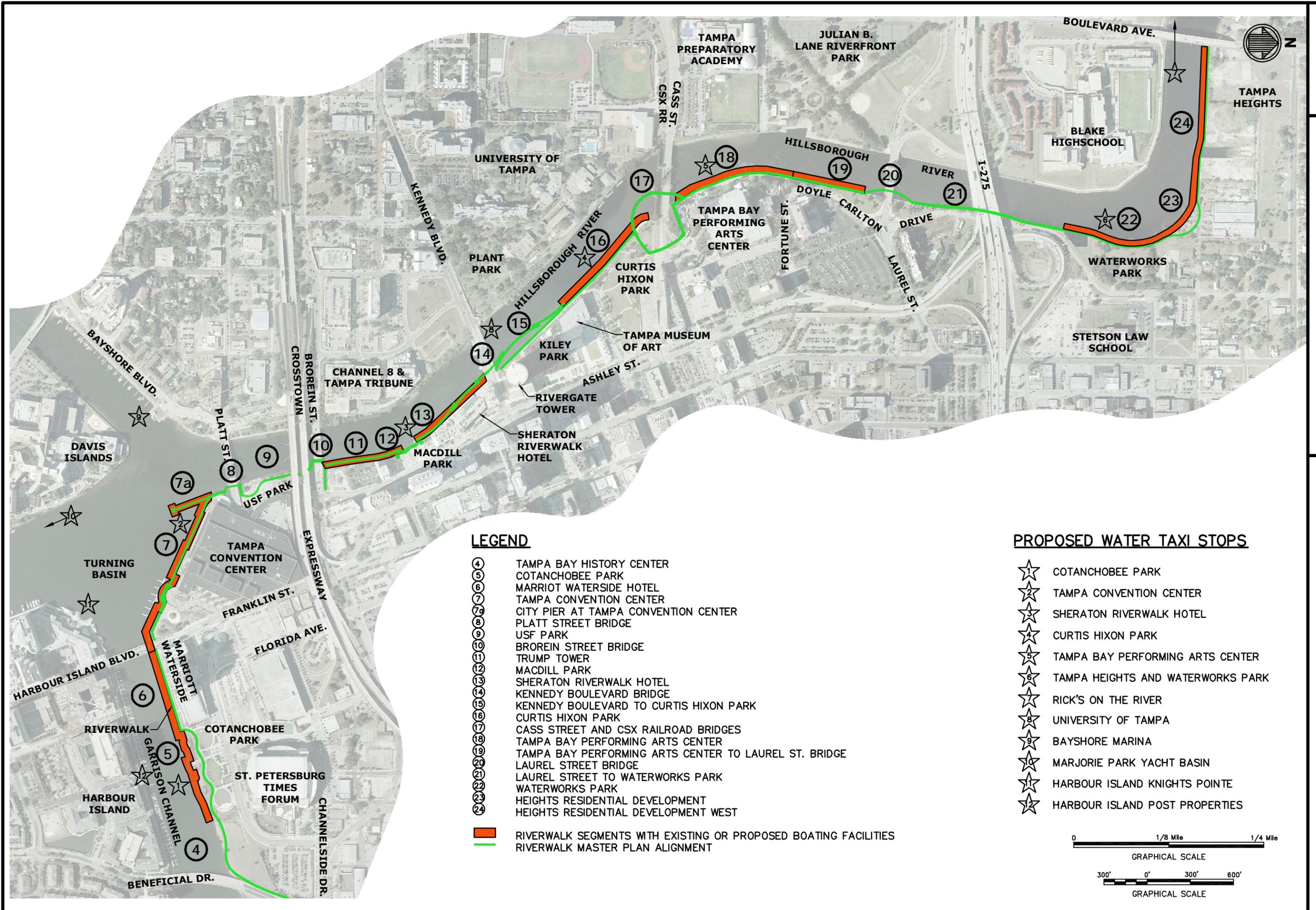
1.2 DESIGN CONSIDERATIONS

Four categories of design considerations – environmental permitting, boat density, design vessels, and upland amenities – are used to evaluate the potential docking opportunities along the Tampa Riverwalk. Discussions of each follow.

1.2.1 Environmental Permitting

Three agencies have jurisdiction over environmental permitting for Tampa waterfront properties – Tampa Port Authority (TPA), Florida Department of Environmental Protection (FDEP) or Southwest Florida Water Management District (SWFWMD), and U.S. Army Corps of Engineers (USACE). For TPA, FDEP/SWFWMD and USACE, the main concerns revolve around structures in the water and their potential impacts to existing habitat, use of the waterway, water quality, and protected species. An environmental survey has been completed for the Riverwalk area and no habitat was found within the project limits. Concerns for the overwater structures include potential impacts to manatees and close proximity to the navigational channel in the river. Also, if treated timber piles are used, the agencies may require the piles be wrapped to prevent leaching of copper into the water.





LEGEND

- ④ TAMPA BAY HISTORY CENTER
 - ⑤ COTANCHOBEE PARK
 - ⑥ MARRIOTT WATERSIDE HOTEL
 - ⑦ TAMPA CONVENTION CENTER
 - ⑧ CITY PIER AT TAMPA CONVENTION CENTER
 - ⑨ PLATT STREET BRIDGE
 - ⑩ USF PARK
 - ⑪ BROREIN STREET BRIDGE
 - ⑫ TRUMP TOWER
 - ⑬ MACDILL PARK
 - ⑭ SHERATON RIVERWALK HOTEL
 - ⑮ KENNEDY BOULEVARD BRIDGE
 - ⑯ KENNEDY BOULEVARD TO CURTIS HIXON PARK
 - ⑰ CURTIS HIXON PARK
 - ⑱ CASS STREET AND CSX RAILROAD BRIDGES
 - ⑲ TAMPA BAY PERFORMING ARTS CENTER
 - ⑳ TAMPA BAY PERFORMING ARTS CENTER TO LAUREL ST. BRIDGE
 - ㉑ LAUREL STREET BRIDGE
 - ㉒ LAUREL STREET TO WATERWORKS PARK
 - ㉓ WATERWORKS PARK
 - ㉔ HEIGHTS RESIDENTIAL DEVELOPMENT
 - ㉕ HEIGHTS RESIDENTIAL DEVELOPMENT WEST
- RIVERWALK SEGMENTS WITH EXISTING OR PROPOSED BOATING FACILITIES
 RIVERWALK MASTER PLAN ALIGNMENT

PROPOSED WATER TAXI STOPS

- ★ COTANCHOBEE PARK
- ★ TAMPA CONVENTION CENTER
- ★ SHERATON RIVERWALK HOTEL
- ★ CURTIS HIXON PARK
- ★ TAMPA BAY PERFORMING ARTS CENTER
- ★ TAMPA HEIGHTS AND WATERWORKS PARK
- ★ RICK'S ON THE RIVER
- ★ UNIVERSITY OF TAMPA
- ★ BAYSHORE MARINA
- ★ MARJORIE PARK YACHT BASIN
- ★ HARBOUR ISLAND KNIGHTS POINTE
- ★ HARBOUR ISLAND POST PROPERTIES

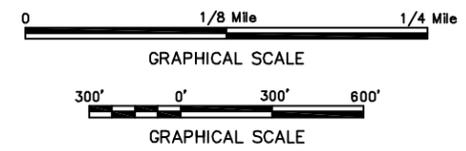


FIGURE 1
OVERALL RIVERWALK PLAN

The addition of new slips may require water quality testing and a new biological impact assessment which may in turn require mitigation and signage to offset potential water quality, navigation, and manatee impacts. In 1995, the Hillsborough River was given the designation of Outstanding Florida Waters which may result in stricter environmental review and regulations for additional docking facilities.

An overall permit application for the waterside components of the Riverwalk from Franklin Street to Waterworks Park (Segments 7-21) was submitted to USACE in May 2008; the public notice was advertised in September 2008. The application included the reconfiguration of existing docking at Segments 7 (Tampa Convention Center) and 13 (Sheraton Riverwalk Hotel) and maintaining docking at Curtis Hixon Park but did not include any new docking areas. Any additional docking or modifications to existing structures to accommodate docking require permits from the appropriate agencies. In addition, the location of the federal channel with relation to the proposed Riverwalk structures is depicted in the permit drawings; some structures may require variances from USACE for encroachment on the minimum channel offset, typically 75 to 100 feet.

The federally designated channel is 200 feet wide from the mouth of the Hillsborough River to Kennedy Bridge, 100 feet wide to Boulevard Bridge, and 50 feet wide beyond. As the river is no longer used for commercial operations (i.e., barge traffic), the 200-foot-wide channel is not as necessary as it was in the past. Reducing the width of the channel south of Kennedy to 100 feet increases the distance between the seawall and channel limits thereby providing more potential docking opportunities in this area.

Due to the current permitting environment, locating docking in areas where dredging is not required is recommended. Considering the facilities historically located along the Hillsborough River, riverbed contamination (i.e., high metal content per current State standards) is expected.

1.2.2 Boat Density

Boat density refers to the availability of nearby docking facilities and guidelines or ordinances related to maximum docking for an area. The number, slip size, use and location of nearby docking facilities were evaluated. Proposed docking facilities are expected to enhance existing waterside use and not detract or compete with existing docking facilities.

The Hillsborough River from Beneficial Bridge to the I-275 Bridge is subject to the Downtown Tampa Central Business District Development of Regional Impact (DRI) adopted in 1983 (Ordinance No. 8249-A) as amended on December 8, 2000 (Ordinance No. 2000-328, Third Amendment). Section 2.g of the DRI permits one-hundred and twenty (120) full service wet boat slips and seventy-five (75) in-out slips in this section of the Hillsborough River. The DRI indicates that “overnight stays” will not be permitted in these slips. This may be interpreted as referring to persons remaining aboard the boats overnight or more restrictively limit boats from remaining in the slips overnight. This verbage may require revision to clarify the intent should the City wish to allow boats to remain in slips overnight.

A brief data search for additional guidelines or ordinances concerning Riverwalk docking was conducted. The 1989 Riverwalk Design Guidelines and subsequent documentation refrain from



discussing docking requirements along the Riverwalk. An ordinance was created establishing Water Taxi Regulations (Ord. No. 90-207, § 2[26-122 through 26-131]) and is discussed in Section 4.0 Water Taxi Stops.

1.2.3 Design Vessels

Design vessels for the docking facilities discussed in this report were selected considering horizontal and vertical clearances in the River. The typical vessel traversing the Hillsborough River would be a 30-foot-long vessel, but vessels up to 90 feet in length could utilize the proposed docking facilities provided horizontal and vertical clearances are met.

Table 1 and Table 2 list typical parameters for powerboats 30 to 90 feet in length and recommended horizontal and vertical clearances, respectively. Given the narrow river width and numerous bridges, it is not anticipated that sailboats (50-foot minimum mast height) will regularly travel the river and are not included as design vessels.

Table 1: Design Vessel Parameters and Horizontal Clearances

Overall Length (ft)	Average Beam (ft)	Maximum Beam (ft)	Minimum Berth Length (ft)	Minimum Berth Width (ft)	Minimum Clear Fairway Width (ft)
30	10.0	11.0	35	10	45
40	12.5	15.0	40	13	60
50	15.1	17.3	50	16	75
60	16.6	18.3	65	18	90
75	19.4	21.4	80	20	110
90	21.3	21.5	100	25	150

Table 2: Design Vessel Parameters and Vertical Clearances

Overall Length (ft)	Average Draft (ft)	Maximum Draft (ft)	Minimum Water Depth (ft MLLW)	Vertical Height Range (ft)	Minimum Vertical Clearance (ft above water line)
30	2.3	3.3	5.0	4 – 15	10
40	3.2	4.8	6.0	10 – 20	15
50	3.8	5.8	6.5	15 – 35	20
60	4.8	5.3	7.0	15 – 35	20
75	5.2	5.6	7.5	20 – 35	25
90	6.4	7.0	9.0	25 – 40	30

Horizontal clearance refers to total river width, channel width and distance between seawall and channel. Recommended clear fairways to accommodate vessel navigation to and from slips, turning, and two-way traffic range from 25% to 75% greater than the longest vessel. The channel widths (100 and 200 feet) accommodate two-way traffic for the gamut of design vessels. Turning and maneuvering of vessels at docking facilities could be limited for the narrower channel width. For a channel width of 100 feet, the largest design vessel able to easily turn within those limits is a 75-foot vessel. For a channel width of 200 feet, a 90-foot vessel could turn within the channel limits.



Vertical clearances refer to clear distance under bridges and water depth. From Beneficial Drive to Boulevard Avenue, the extents of the Riverwalk, there are five drawbridges (Platt Street, Brorein Street, Kennedy Boulevard, CSX Railroad, and Cass Street) and three elevated bridges (Crosstown Expressway, Interstate 275 and Boulevard Avenue) along the Hillsborough River and two bridges (Harbour Island and Beneficial Drive) along Garrison Channel. Vessels with vertical heights (above the water line) less than ten feet should be able to travel the extents of the Riverwalk; vessels with heights between ten and fifteen may be more restricted at higher tides; and vessels with heights greater than fifteen feet may require open drawbridges, especially at high tide, for passage on the river.

Recommended water depth is two feet greater than the vessel draft at low tide. Both Garrison Channel and the Hillsborough River are tidally influenced with a mean tidal range of 2.5 feet (mean lower low water to mean higher high water). Limited information is available on water depths between the seawall and channel limits water. Depths vary from two (2) feet NGVD at the seawall to at least ten (10) feet NGVD at the channel edge. For the purposes of this report it was assumed that adequate water depth (at least five feet at low tide, suitable for a 30-foot vessel) is present at the site and no dredging (except at the Tampa Heights Development) will be required. Prior to further development of any of the proposed facilities, a bathymetric survey should be conducted to verify if adequate water depth is available and also to locate any submerged pipelines or other potential obstructions in the river.

1.2.4 Upland Amenities

Upland amenities were also considered in identifying potential docking facilities along the Riverwalk. Upland amenities refer to the use of the adjacent landside component. These uses include cultural and sporting venues, restaurants, residential development, public parks, hotels and shops. Areas that have the potential to either be a popular destination, such as the Tampa Museum of Art or the St. Petersburg Times Forum, or to be a home base such as residential districts, were considered for transient docking and water taxi service. Studies show that pedestrians are willing to walk up to a quarter of a mile for shopping, restaurants and other entertainment-related venues and a half-mile for residences and businesses. Beyond these limits, pedestrians prefer to use motorized transportation (i.e., cars, public transportation) between destinations. As a reference point, from the Performing Arts Center, Franklin Street and Jefferson Street are approximately one-quarter mile and one-half mile, respectively, and from the Cotanchobee Park shoreline, Brorein Street and Kennedy Boulevard are approximately one quarter-mile and one-half mile, respectively. Water taxi stops were located generally within one-half mile of each other and docking facilities within one-quarter mile of high-density entertainment and/or residential venues.



2.0 MARINE VESSEL DOCKING OPPORTUNITIES

The goal of the Tampa Riverwalk is to provide a waterfront thoroughfare among the various venues in downtown Tampa including access from the water. There are several areas along the Riverwalk alignment that could accommodate recreational boaters and/or water taxi service to help achieve this goal. The majority of areas identified include existing docking facilities of various types, some of which are not utilized to their fullest extent. Figure 1 presents an overall view of the Tampa Riverwalk project area with segment designations. Areas identified in this study as potential docking facilities include Segments 5, 6, 7, 7A, 11, 13, 16, 18, 22, 23 and 24 and are highlighted in the figure.

A discussion of each area is presented in the following paragraphs including dock type, boat sizes and slip configuration, permitting concerns, and potential revenue. Areas outside those identified in this study are not considered adequate for docking primarily due to limited navigational access, upland amenities, or upland access. Except for Curtis Hixon Park, docking facilities for vessels other than canoes, kayaks and water taxi service are not recommended at city parks to maintain the natural settings and unobstructed water vistas. Additionally, segments under bridges are not recommended for docking facilities primarily due to lack of unobstructed waterway and for safety and security concerns.

Docking structures considered in this study include separate concrete fixed and floating docks and modifications to the fixed concrete Riverwalk structure to incorporate side tie docking. Except where there are existing fixed docks, floating docks are the preferred docking mechanism for the majority of the vessels because the difference between the boarding height of the vessel and dock would be constant. In addition, the Riverwalk docking structures are well protected from wind-generated waves and boat wake in the river can be controlled with enforcement of no wake zones. Where feasible, the Riverwalk and docking structure are distinct units, maintaining a separation between the pedestrian and boat traffic routes. Water depths and utility clearances are assumed to be suitable for docking at each location; however, detailed bathymetric and utility surveys are recommended prior to development.

2.1 TAMPA BAY HISTORY CENTER AND COTANCHOBEE PARK (SEGMENT 5)

West of Beneficial Drive Bridge is the Tampa Bay History Center and Cotanchobee Park. The new Tampa Bay History Center is under construction on the parcel adjacent to the bridge, including the remainder of the landside Riverwalk (Segment 4) connecting to Channelside Drive. The remaining portion of the park (Segment 5) includes a meandering Riverwalk landward of the reveted shoreline. A pedestrian overlook and small concrete floating dock are located at Cotanchobee Park (Photograph 1). Figure 2 shows the dock location relative to the Riverwalk. The original intent of the dock (constructed in the 1990s) was to provide a loading station for the Tampa Water Taxi. The dock, approximately 30 feet long by 10 feet wide, can be used by canoes and kayaks touring the adjacent waterways. Revenues could be generated through use of the water taxi service, similar to the nearby trolley system. The dock, along with the remainder of the park, is operated and maintained by the City Parks Department.



No additional docking structures are proposed in this segment for several reasons. The park has a natural shoreline and any additional structures would contradict the conservation easement and detract from the natural setting of the park. In addition, clearances at the Beneficial Drive and Harbour Island Boulevard Bridges restrict the size of vessels that can access the area. Furthermore, the area is in close proximity to numerous existing docking facilities at Harbour Island, the Marriot Hotel, and the Tampa Convention Center where the later two are located on the Riverwalk.



Photograph 1: Cotanchobee Park Floating Dock

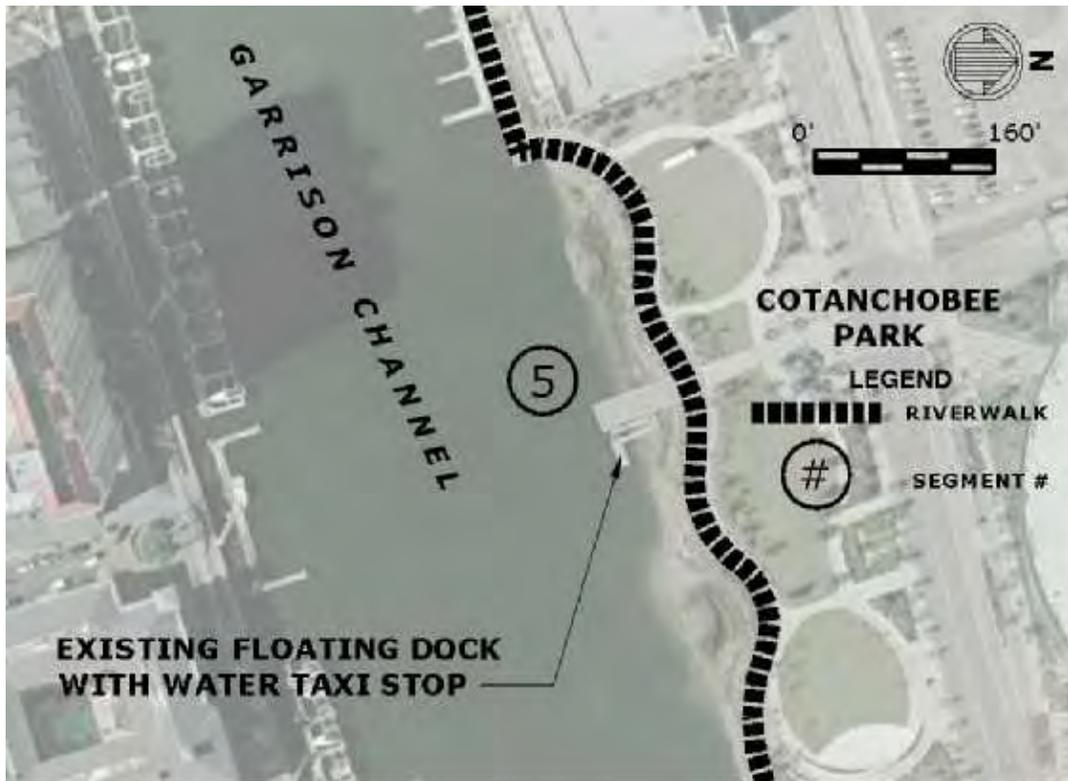


Figure 2: Cotanchobee Park

2.2 MARRIOTT WATERSIDE HOTEL (SEGMENT 6)

Segment 6 fronts the Marriott Waterside Hotel which has 32 transient slips that can accommodate vessels up to 75 feet in length (Photograph 2). Figure 3 shows the docks in relation to the Riverwalk. The limiting factor for vessels to use these concrete floating docks is the low Harbour Island Boulevard Bridge clearance - approximately 17 feet at high tide and 19 feet at low tide (clearances under Beneficial Bridge are less). The docks are designated for the

use of hotel guests, including the restaurants, and the Marriott charges \$2.90 per vessel linear foot per day; electrical and water service are available at each slip.

In addition to the transient docks, the Marriott manages the use of the 30-foot long floating dock on the west side of Harbour Island Boulevard Bridge (Photograph 3). The dock has water and electrical service available and is currently used by dinner cruise vessels for loading/offloading customers. This dock could also serve as a water taxi platform and overnight slip.

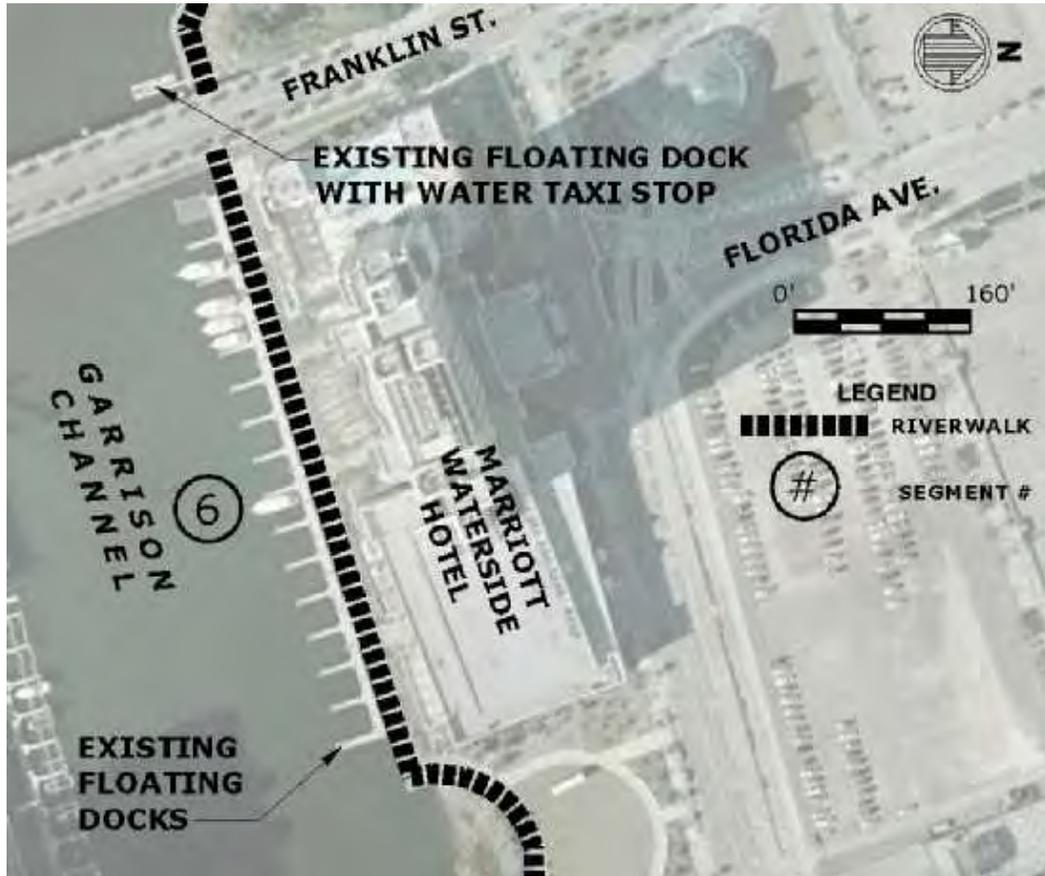


Figure 3: Marriott Waterside Hotel



Photograph 2: Marriott Transient Docks



Photograph 3: Marriott Dinner Cruise Dock



2.3 TAMPA CONVENTION CENTER (SEGMENT 7)

The Tampa Convention Center is located at the mouth of the Hillsborough River and is the first viewpoint for visitors coming into downtown Tampa from the water or driving along Bayshore Boulevard. The Convention Center facility is used year-round for a variety of events with two main waterside-related events occurring annually – the Tampa Boat Show (early fall) and the Gasparilla Festival (February). During special events, such as Gasparilla, larger vessels (greater than 90 feet in length) tie up to the existing seawall to load and offload passengers. During events such as the Tampa Boat Show, temporary floating docks are added spanning between and waterward of the two existing docks.



Photograph 4: Tampa Convention Center Transient Docks

The existing transient docks were constructed in 2003 with grant money from the Florida Fish and Wildlife Conservation Commission (FFWCC) and are operated and maintained by the City Parks Department. The existing configuration consists of two sets of floating concrete docks with sixteen (16) doubly loaded slips for vessels up to 40 feet in length, two (2) end ties for vessels up to 50 feet in length and 415 linear feet of side tie docking for vessels up to 100 feet in length (maximum of seven (7) slips). Photograph 4 shows the existing eastern dock.

Any modifications to the dock configuration require approval from FFWCC. Caveats of the grant stipulate that vessels moored at this facility be at least 26 feet in length and not remain for more than three days consecutively or ten days in a month. There are no utilities except for solar powered lighting on the docks, although there are pre-installed utility chases in the main piers. In addition, the current dock configuration allows for mooring larger vessels along the seawall of the Tampa Convention Center during special events, such as docking of the José Gaspar (a 350-foot-long vessel) and other vessels for offloading at the Tampa Convention Center during the Gasparilla Day Parade festivities.

The existing Riverwalk at the Tampa Convention Center is located landward of the seawall and does not impact the existing docks at the site. The proposed Riverwalk alignment (future alignment) at the convention center is located waterward of the seawall and would displace the existing western dock; the eastern dock would remain in its current location with some modification to the gangway and landing platform required, and the western dock would be relocated to the west end of the eastern dock as shown in Figure 4.

Modifications to the docks and docking locations would require permits from FDEP, USACE and TPA. As there is no net change (increase) in the number of slips, just a reconfiguration of the docking arrangement, and the docking at the convention center is for transient use only,



potential impacts to manatees and water quality should result in no net change. Navigation impacts may be considered by the agencies related to the close proximity to the river channel and around the docking facility itself.

Currently, the Tampa Parks Department charges for the use of the transient docks. The standard rate for short-term docking is \$2.00 per hour for the first 10 hours. The long-term docking rate is \$1.00 per vessel linear foot for 10 to 24 hours with a minimum charge of \$25.00 and a maximum stay of 72 hours. For special events, such as Gasparilla, the dock use fee is increased to \$4.00 per vessel linear foot or per linear foot of slip, whichever is greater. During events such as the Tampa Boat Show, use of the docks is restricted to event exhibitors to showcase their vessels.

2.4 CITY PIER AT TAMPA CONVENTION CENTER (SEGMENT 7A)

The construction of City Pier at the Tampa Convention Center (Segment 7A) could serve multiple purposes that will add to the appeal of the Riverwalk; Figure 4 shows the alignment of the proposed City Pier. The major purpose of the structure is to bring pedestrians to the water, accomplished by increasing the elevation of the pier from that of the Riverwalk (approximately 6 feet) and providing an overlook. The City Pier could also provide docking areas for large vessels during special events, such as Gasparilla. If constructed, the proposed (future) alignment of the Riverwalk at the Tampa Convention Center would hinder docking along the seawall; the City Pier could replace some of that docking. City Pier could also provide additional transient docking for the Tampa Convention Center. As the mouth of the river (and river channel) is adjacent to the proposed City Pier, transient docking should be limited to the east side of the pier.

The elevated height of the pier may limit the use of the pier for docking as few vessels have a boarding height more than six feet above the water line and the use of ladders may be required to access the vessels. A 200-foot floating dock parallel to the pier could be installed with access from the adjacent Riverwalk, as shown on Figure 4. The floating dock would not only accommodate a wider array of vessels including sailboats but would also separate the pedestrian and boat traffic areas. The dock could accommodate a maximum of six vessels and should be designed to accommodate a 200-foot dinner cruise vessel. Docking rates could be the same as those charged for the existing slips at the Convention Center. Permits from FDEP, USACE and TPA are required for the construction of the proposed floating dock and mitigation for potential impacts such as navigation, manatees and water quality may be required.

The west side of the pier should only be used for special event docking to avoid conflicts with the channel. Even if the channel width is decreased to 100 feet (in lieu of the existing 200-foot width), docking should still be limited on the channel side given the high boat traffic and close proximity to the Platt Street Drawbridge. Additionally, allowance of regular transient docking at the pier could impact the intent of City Pier – to provide a panoramic vista from the Riverwalk.



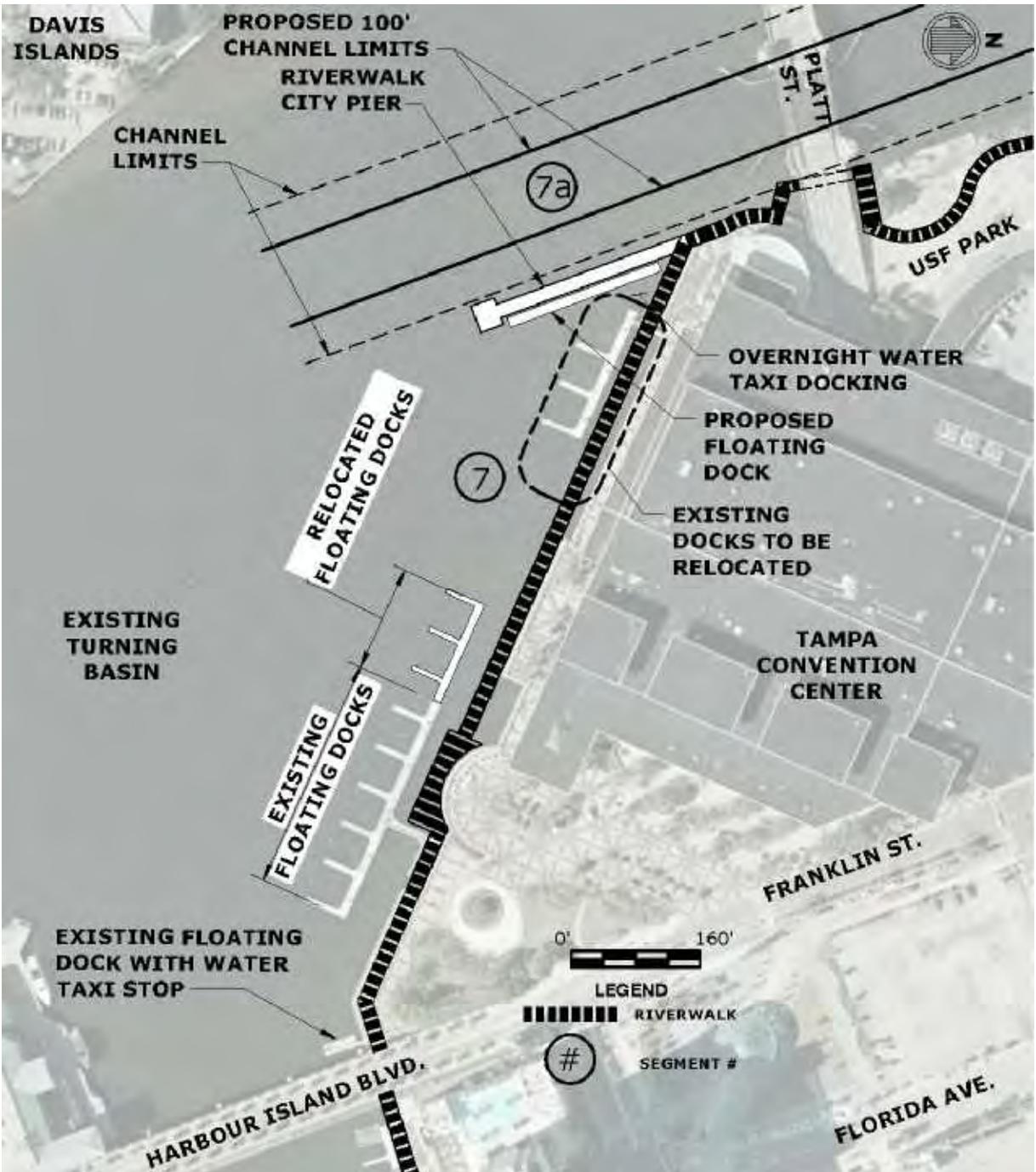


Figure 4: Tampa Convention Center

2.5 TRUMP TOWER (SEGMENT 11)

North of the Brorein Street Bridge are the Trump Tower and CapTrust Building properties which comprise Segment 11 of the Riverwalk. In this location, the river channel is 200 feet wide with its limits less than 50 feet from the existing seawall. Given the close proximity to the channel and entrance to the river, docking is not recommended on this segment unless the channel width is decreased to 100 feet.

If the channel width is decreased, a floating dock could be offset parallel to the over-water Riverwalk structure for approximately 300 feet. Figure 5 depicts the proposed floating dock at Segment 11 with relation to the proposed Riverwalk alignment, existing channel limits and 100-foot-wide channel limits. Permits from FDEP, USACE and TPA are required for the construction of the proposed floating dock and mitigation for potential impacts such as navigation, manatees and water quality may be required.

As the proposed upland use is residential, all or a portion of the docking could be designated as permanent slips and operated and maintained by the upland property owner. If restaurants or shops are incorporated into the residential development, it would be beneficial to designate some slips for transient use. Assuming a minimum vessel size of 30 feet, the proposed dock could accommodate up to nine vessels.

2.6 SHERATON RIVERWALK HOTEL (SEGMENT 13)

Segment 13 of the Riverwalk is defined by MacDill Park to the south and Kennedy Boulevard Bridge to the north. Adjacent to MacDill Park is the Sheraton Riverwalk Hotel. The existing fixed timber dock (approximately 200 linear feet) located at the hotel for hotel customers and water taxi service will be displaced by the proposed waterside Riverwalk; the existing dock is shown in Photograph 5. Usage fees for the existing dock, operated and maintained by the hotel, are \$2.50 per vessel linear foot per day or \$65 per night for vessels greater than 25 feet in length. With the 200-foot-wide channel and water depths, the maximum vessel length for this facility is 100 feet.



Photograph 5: Sheraton Riverwalk Hotel Dock

The proposed Riverwalk alignment is waterward of the seawall with a deck elevation equivalent to the landside walkways at MacDill Park to the south and Curtis Hixon Park to the north. To replace the displaced timber dock, the same linear footage handrail and installing cleats. Figure 5 shows the proposed Riverwalk alignment and the limits of the docking area on the Riverwalk.

If the channel width were decreased to 100 feet, separate docking structures could be installed waterward of the Riverwalk. The general locations of the floating docks with respect to the proposed Riverwalk alignment are also shown in Figure 5. In front of the Sheraton property, a 200-foot floating dock would replace the 200 linear feet of displaced timber dock. A second floating dock, approximately 150 feet long and designated for public use, could be added south of the Kennedy Boulevard Bridge. The docks would accommodate a maximum of six and five vessels up to 75 feet in length, respectively.

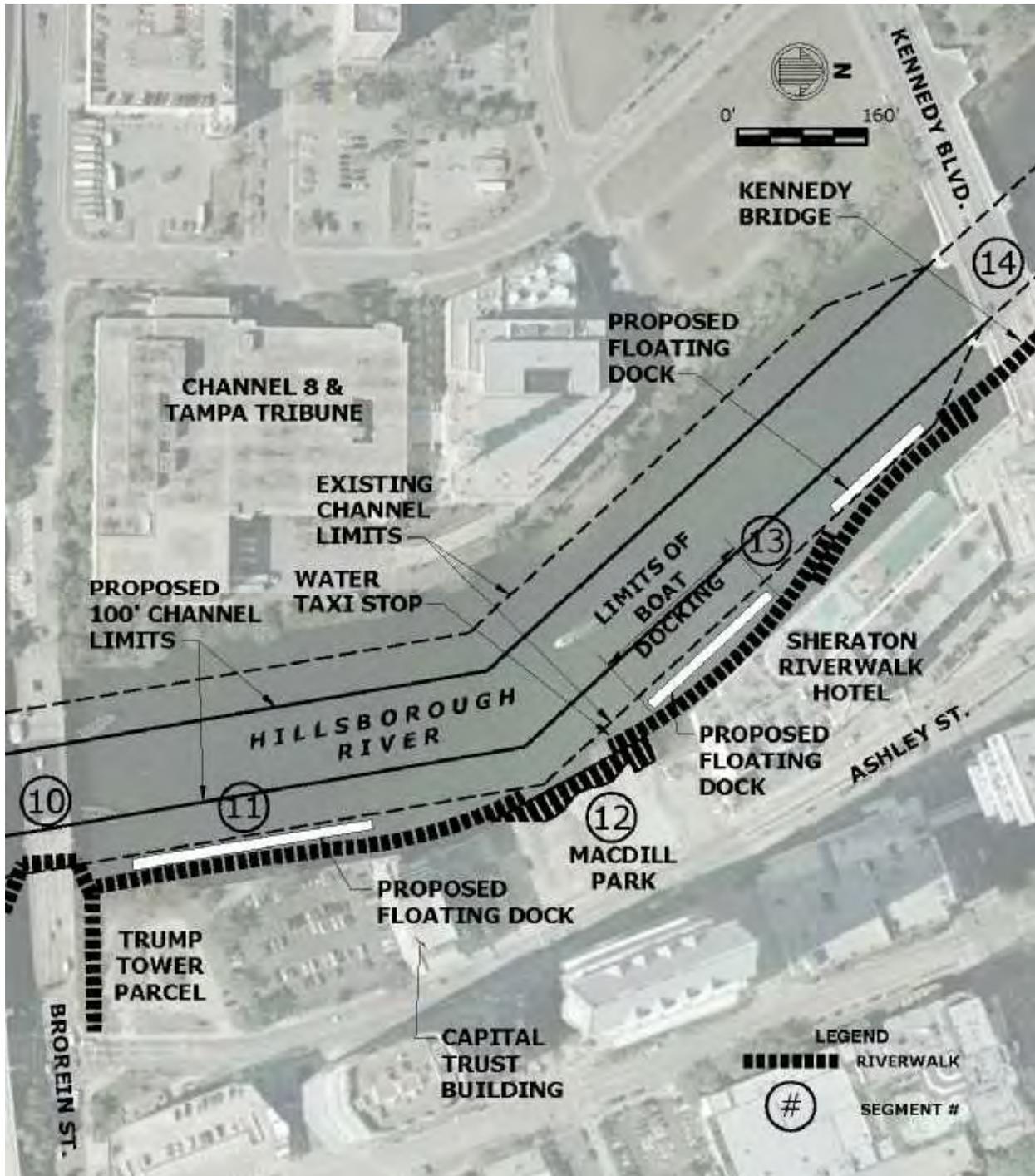


Figure 5: Brorein Street Bridge to Kennedy Boulevard Bridge

The new floating dock structures would require permits from the three environmental permitting agencies and the increase in slip count could instigate review relating to potential impacts to water quality, navigation and manatees. Additionally, new educational signage may be required to remind boaters of the existence of manatees and a no wake zone may need to be enforced year-round to mitigate for the increased boat traffic.

2.7 CURTIS HIXON PARK (SEGMENT 16)



Photograph 6: Curtis Hixon Park Dock

near the middle of the park that is used by day-boaters, especially during special events such as the Gasparilla Arts Festival in the spring. The existing dock can also serve as a loading spot for water taxis. The dock is maintained by the City Parks Department and there is no usage fee at this time. Photograph 6 shows the dock in its existing condition. Construction at the park, including repair to the seawall and replacement of the Riverwalk, is currently underway, but no modifications to the dock are included.

Considering that Curtis Hixon Park is expected to be a key gathering place (home to new Tampa Museum of Art, new Glazer's Children's Museum, and in close proximity to existing downtown residential and commercial buildings), it may be beneficial to increase the docking capacity at this location. The existing dock could be extended to the south by approximately 285 feet to accommodate additional side tie docking, providing an additional nine slips to the existing five. To the north, a floating dock could incorporate canoe and kayak docking at the park; the proposed floating dock is approximately 65 feet long maintaining at least 100 feet from the proposed Riverwalk under the CSX and Cass Street bridges. Figure 6 presents an aerial view of the existing and proposed docks with respect to the Riverwalk and Park. Permits from FDEP, USACE and TPA are required for additional docking structures. While there is no fee to use the existing dock, if additional docking is provided a small fee, similar to rates in the nearby parking garages, could be charged to help offset the maintenance costs.

Extending from the Sheraton under Kennedy Bridge and past Rivergate Tower and Kiley Park, there is an elevated seawall lining the river due to underground parking garages. The seawall slopes down to the Riverwalk lining the Curtis Hixon Park seawall near where the old Tampa Museum of Art (new museum under construction) was located.

It is recommended that docking between Kennedy and Cass Street Bridges be focused at Curtis Hixon Park where currently there is a 160-foot-long concrete fixed dock

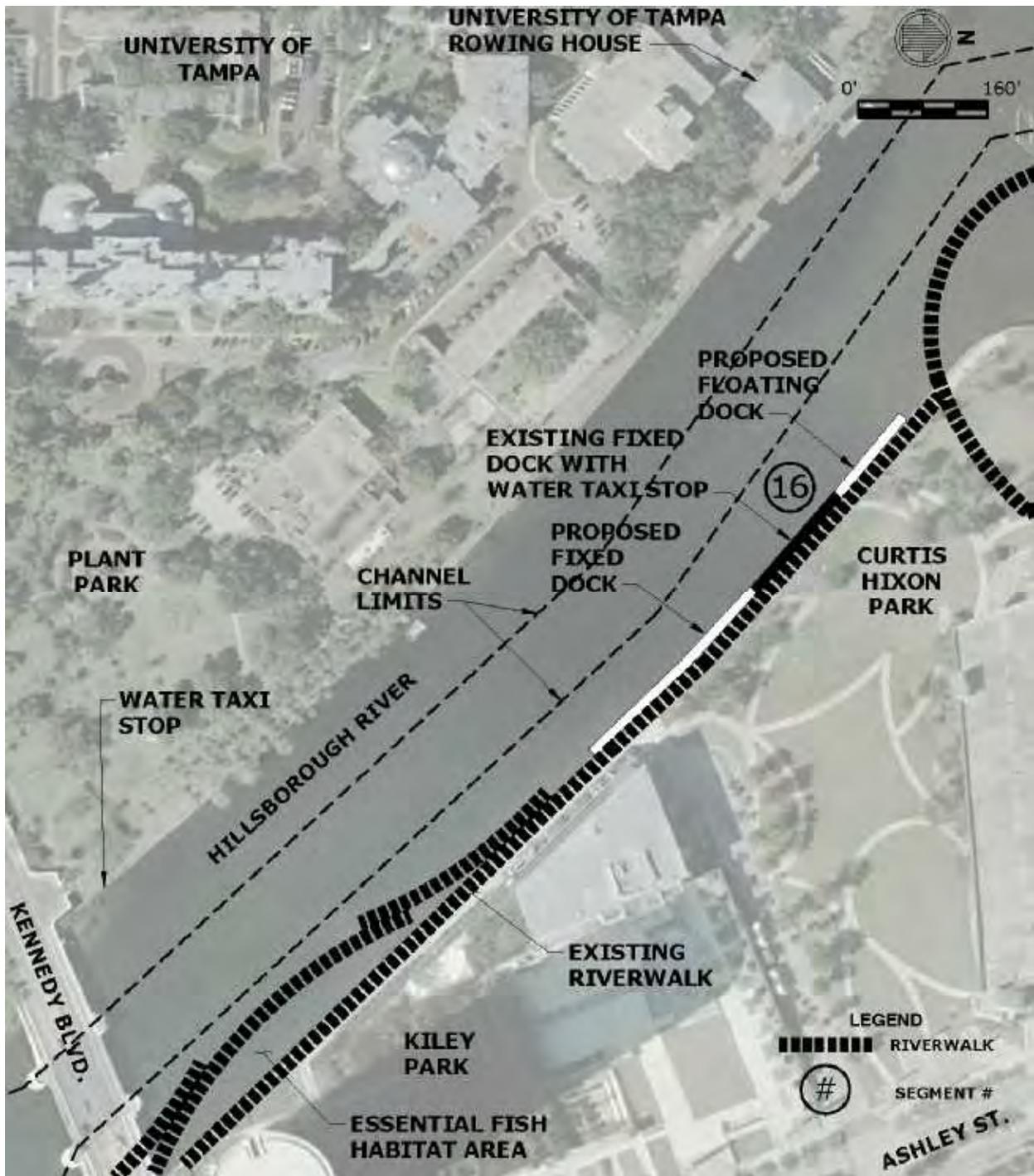


Figure 6: Curtis Hixon Park

2.8 TAMPA BAY PERFORMING ARTS CENTER (SEGMENT 18)

At the Tampa Bay Performing Arts Center (TBPAC), the Riverwalk is in place from north of Cass Street to Fortune Street (Photograph 7). Previously, there was a designated area for water taxi loading/offloading but it is no longer identified; historically, no other docking has occurred at the TBPAC. Given the age of the seawall, it is not recommended to allow boats to tie directly to the seawall, except for water taxi service in the interim.



Photograph 7: Tampa Bay Performing Arts Center

The addition of floating docks for transient docking at the TBPAC would provide a new avenue for visitors to the facility. Figure 7 presents a concept for additional docks at the TBPAC. The water taxi loading area could be located near the Performing Arts Center waterside terrace. The proposed docks, providing docking for a maximum of 30 vessels up to 60 feet in length, would be located between the Cass Street Bridge and Fortune Street, the northern limit of the TBPAC property. The location of the proposed slips minimizes encroachment on the river channel which is approximately 40 to 100 feet from the existing seawall. Access to the proposed docks is limited due to low clearances under the bridges at Cass Street and CSX Railroad unless the drawbridges are open. If multi-use upland facilities with restaurants and/or shops are constructed between the TBPAC and I-275, the proposed docks could also be used (and extended north) by visitors of these venues.

The addition of new slips will require approval by the permitting agencies including evaluation of potential impacts to water quality, manatees and navigation; new permit applications will be required. Prior to further development of TBPAC docking concepts, a bathymetric survey should be conducted to assess existing water depths. Fees to dock during a performance could be similar to those charged for vehicular parking at TBPAC.

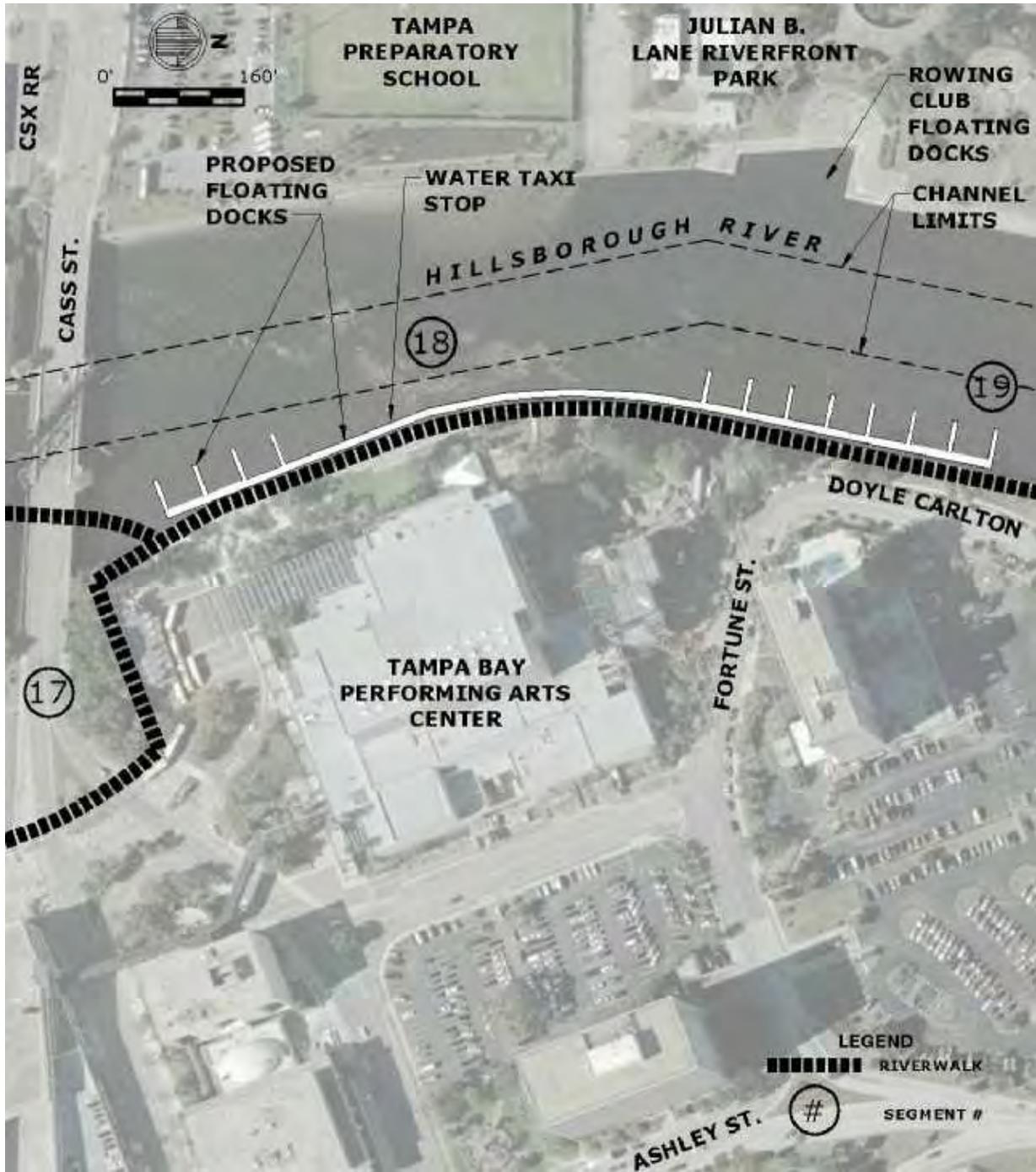


Figure 7: Tampa Bay Performing Arts Center

2.9 TAMPA HEIGHTS DEVELOPMENT (SEGMENTS 22-24)

The Tampa Heights Development is an urban redevelopment project that will consist of a mixed-use residential development including retail, commercial, and office space. Permitting for the proposed development is under way. Incorporated in the proposed development is a marina with thirteen fixed timber pier structures providing 101 public and private slips for vessels 25 to 35 feet in length as shown in Figure 8. Dock amenities include water and electrical service as well

as sewage pump-out. In the agreement with the City of Tampa, the developer has agreed that 20% of the slips in the marina will be transient slips available for public use. In addition, the agreement stipulates that the developer will establish the Riverwalk on, not only the Tampa Heights parcel, but extending downriver to the existing Riverwalk at the TBPAC. Included in the current development phase of the Tampa Heights project is the creation of a more natural shoreline in the existing cutout at the south end of Waterworks Park, also shown in Figure 8. The natural shoreline will result in removal of the seawall, creation of a beach and a canoe/kayak launch area.



Figure 8: Tampa Heights Development



3.0 NEARBY EXISTING DOCKING FACILITIES

The Tampa Riverwalk borders the southern and eastern quadrants of downtown Tampa. In evaluating potential docking areas on the Riverwalk, it is important to note the nearby existing facilities already in use. For the purposes of this report, existing docking facilities were limited to those adjacent to or across the waterway from the proposed Riverwalk alignment where the Riverwalk would be visible from the dock. Existing facilities on Davis Islands, including Marjorie Park Yacht Basin, were not included in the analysis, as the Riverwalk is not visible from these locations.

3.1 HARBOUR ISLAND

Harbour Island, located directly south of downtown Tampa, provides multiple docking opportunities; the northern portion of Harbour Island is shown in Figure 9. On the north side of the island on the Garrison Channel, between Beneficial and Harbour Island Bridges, is a commercial and residential development owned by Post Properties. Included in the development are 75 slips accommodating vessels up to 30 feet in length available for purchase or lease with water and electricity provided at each slip. The majority of slips include a 14,000-pound boat lift that can be operated by remote control. The docks are leased and operated by Tampa Bay Docks for Rent and rates are based on lease duration. For slips including a boat lift, leases cost \$450 per month for 12 months, \$475 per month for 6 months, and \$500 per month for a month to month contract. There are a limited number of wet (no lift) slips available at a rate of \$375 per month. The current purchase price for a slip with a lift is roughly \$135,000 and without a lift \$105,000. Additionally, there are approximately five transient slips available for use by guests of the restaurants and shops.

Just east of Beneficial Drive Bridge on Garrison Channel is the Garrison Condominiums. Included in the development is a small marina tucked into a cove off the channel consisting of a boat ramp, several boat lifts, and concrete floating docks providing 12 permanent slips for vessels up to 50 feet in length. The slips are only available to residents of the condominium.

On the northwest side of the island is Knights Pointe, a retail and office building complex, providing 700 linear feet of waterside transient docking along the marginal wharf and approximately 20 slips for permanent docking for vessels up to 50 feet in length. The slips are owned and operated by Wilder Corporation and can be leased for \$13 per vessel linear foot per month. Electricity and water are available at each slip.

On the west side of Harbour Island, along Seddon Channel, there are multiple privately owned concrete fixed and floating docks used by residents of the Island. These slips can accommodate approximately 165 vessels up to 75 feet in length with boat lifts included at several slips.





Figure 9: Harbour Island

3.2 BAYSHORE MARINA

Bayshore Marina (Figure 10) is located along Bayshore Boulevard south of the mouth of the Hillsborough River and northeast of the Davis Islands Bridge and is owned and operated by the City of Tampa. The marina consists of an “official-use only” boat ramp and 18 fixed concrete docks providing 37 permanent slips that can accommodate vessels up to 40 feet in length. This



marina also provides permanent docking for the José Gaspar. At-slip utilities include water, power, cable, and phone service. Slip rates are \$7.00 per vessel linear foot or per linear foot of slip length, whichever is greater, for monthly leases, \$2.00 per linear foot for transient docking and \$4.00 per linear foot for special event docking. Over the past 20 years there have been multiple discussions to expand the marina to accommodate more vessels of similar size; however, at this time there are no plans to increase the capacity of the facility.

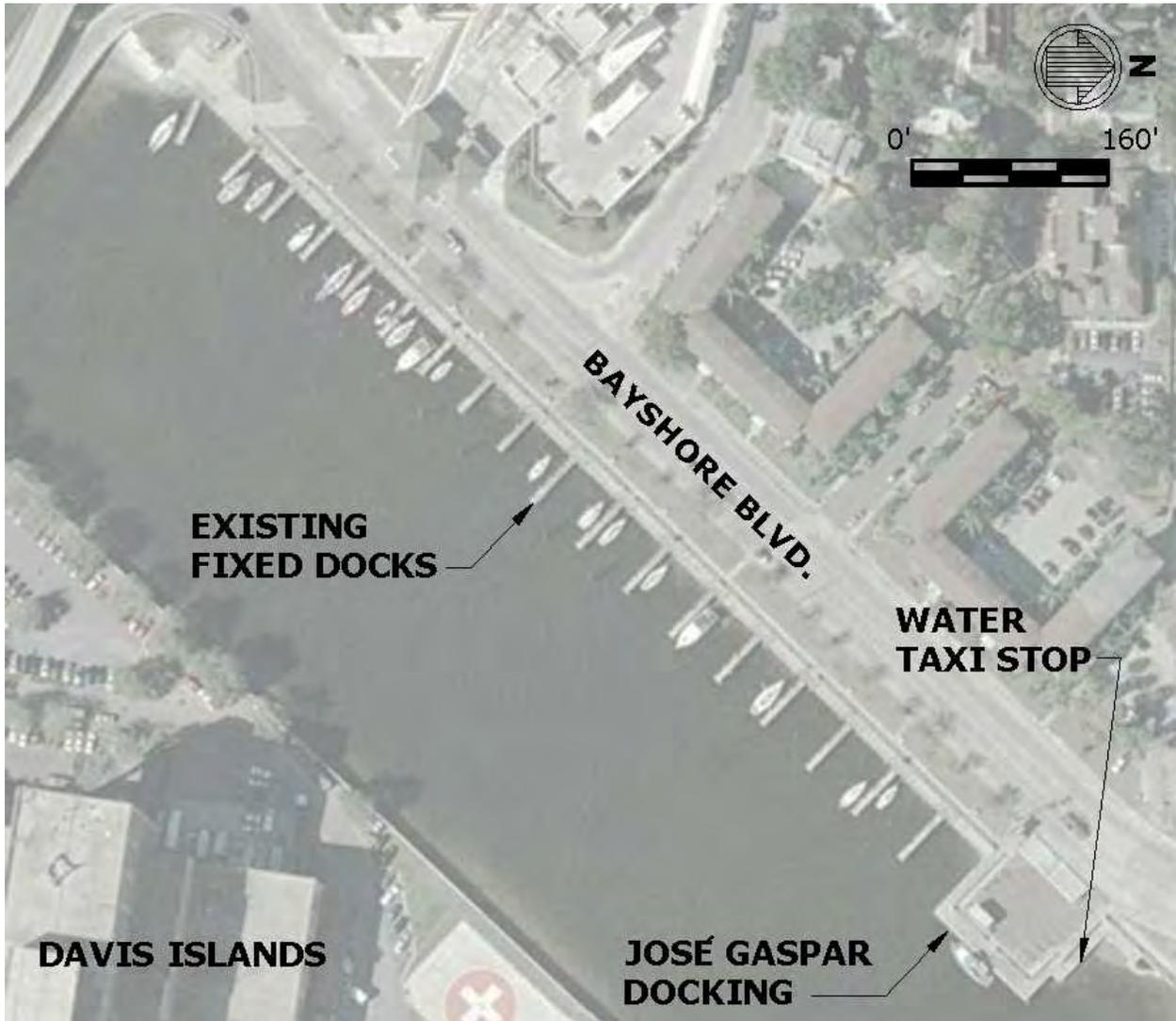


Figure 10: Bayshore Marina

3.3 UNIVERSITY OF TAMPA

On the west side of the Hillsborough River north of the Kennedy Boulevard Bridge and south of the Cass Street Bridge is the University of Tampa campus (Figure 6). Behind the seawall at this location is ample green space typical on university campuses. Two existing timber floating docks are attached to the seawall near the northwestern extent of the property providing river access for the university rowing team and club.

3.4 JULIAN B. LANE RIVERFRONT PARK



Photograph 8: Julian B. Lane Riverfront Park Rowing Docks

On the west side of the Hillsborough River, north of Cass Street, at the Julian B. Lane Riverfront Park, are three existing composite floating docks used for rowing. Photograph 8 depicts the rowing docks and Figure 7 shows the general location of the docks relative to the Riverwalk. The docks are owned and operated by the Stewards Foundation, a nonprofit organization whose mission is to use the sport of rowing as a vehicle to teach teamwork and responsibility to the area youth. The docks are used for launching by various rowing crews including local high school students, the Tampa Rowing Club, and multiple

university crews. Dock access is restricted from public use by the Stewards Foundation and is controlled landside by a fence and locked gate. Any use of the floating docks must be coordinated through the Foundation.

3.5 TAMPA CRUIS-A-CADE BOAT CLUB & PROPOSED DRY STACK FACILITY

On the north side of the Hillsborough River just west of the Boulevard Bridge is the Tampa Cruis-A-Cade Boat Club. Figure 11 shows an aerial view of the Cruis-A-Cade facility. The waterfront structures associated with the Club include seven fixed timber dock structures and a boat ramp. The facility is a family boating club reserved for members and provides docking for approximately 12 vessels up to 55 feet in length.

In 1999, two concepts were presented to the City of Tampa concerning a dry stack storage facility at the Cruis-A-Cade property. Both concepts included a small ship store, bait and tackle store, snack bar facility, fueling facility, boat repair area, boat wash down rack area, small administration office, and meeting facilities. The proposed facility had capacity for 180 vessels and utilized the existing boat ramp to provide access to the river. The project did not progress past the concept stage and the Cruis-A-Cade Boat Club continues to occupy the property.

3.6 RICK'S ON THE RIVER MARINA

On the southwest side of the Hillsborough River between Boulevard Avenue and Columbus Drive Bridges is Rick's on the River Restaurant and Marina. Figure 11 shows an aerial view of Rick's on the River. The marina consists of a boat ramp and seven timber dock structures of varying lengths and configurations providing approximately 70 slips for vessels up to 50 feet in length. Transient slips are available for free to patrons of the restaurant and the marina offers overnight slips for \$1 per vessel linear foot per night and wet slips for \$10 per vessel linear foot per month. Electrical service is available for wet slips for a fee.



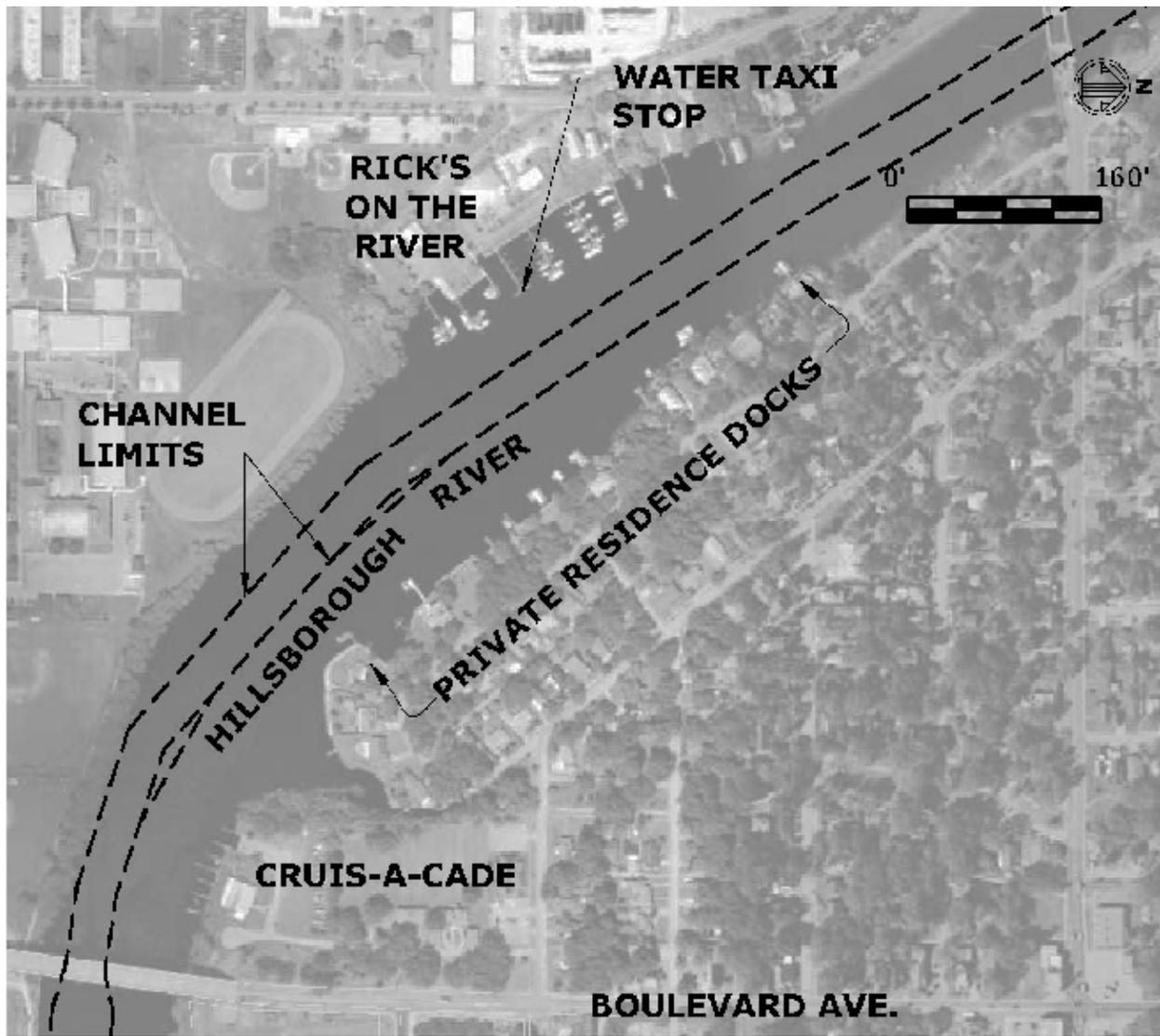


Figure 11: North of Boulevard Avenue

4.0 WATER TAXI STOPS

As pedestrian activity increases in downtown Tampa as a result of the Riverwalk, providing a water taxi service would facilitate public access to venues along the walkway. An ordinance was created by the City of Tampa establishing Water Taxi Regulations (Ord. No. 90-207, § 2[26-122 through 26-131]). The ordinance dictates that any loading or unloading zones are to be determined by the Administrator of Parks, Recreation and Cultural Services or the appropriate designee. Figure 1 depicts the water taxi locations discussed in this section. The proposed water taxi stops are generally located within one half mile of each other and near key gathering locales on each side of the River and along Garrison and Seddon Channels.

4.1 COTANCHOBEE PARK (STOP #1)

At Cotanchobee Park, the existing concrete floating dock was constructed to provide docking for a water taxi stop (Figure 2). Considering the multitude of attractions in close proximity to this location, this stop would be used frequently. Attractions within walking distance of the park include the St. Petersburg Times Forum, Tampa Bay History Center, Florida Aquarium, Channelside Shops and Cruise Terminal, and various hotels and residential buildings. Furthermore, the TECO streetcar system runs past the park connecting downtown Tampa to York City. A water taxi stop at Cotanchobee Park provides a vital link for pedestrian access to one of the major entertainment districts in the downtown Tampa area.

4.2 TAMPA CONVENTION CENTER (STOP #2)

The convention center would serve as a favorable water taxi destination during special events and conventions and is centrally located on the Riverwalk and proposed water taxi route. A permanent slip and taxi stop could be provided at the floating dock on the west side of Harbour Island Bridge at the Tampa Convention Center as shown in Figure 4. Alternatively, a permanent slip and loading zone could be established at the intersection of the floating dock on the eastern side of City Pier and the Riverwalk. This location is inconvenient for other vessels but would be adequate for the water taxi.

The Tampa Convention Center is recommended as the permanent slip for the water taxi considering the existing on-site security. Other proposed water taxi stops lack adequate security for a permanent slip, except for Marjorie Park Yacht Basin.

4.3 SHERATON RIVERWALK HOTEL (STOP #3)

At the Sheraton Riverwalk Hotel, a section of the Riverwalk (or floating dock) could be designated for water taxi service, preferably at the southern end near MacDill Park, as shown in Figure 5. This location could serve the downtown business district providing access to hotels, restaurants and shops along the Riverwalk, particularly for the area between Brorein Street and Kennedy Boulevard.

4.4 CURTIS HIXON PARK (STOP #4)

At Curtis Hixon Park, the existing concrete fixed docks serve as a convenient location for a water taxi stop (Figure 6). This downtown urban park is a gathering place for festivals and



cultural events for the city. Public amenities in immediate proximity of the park include the Tampa Museum of Art, Glazer’s Children’s Museum, John F. Germany Public Library, and several residential and commercial buildings. This section of the Riverwalk will be a central hub of activity and has great potential as a water taxi stop.

4.5 TAMPA BAY PERFORMING ARTS CENTER (STOP #5)

The TBPAC is a logical location for water taxi service. The water taxi could offer theater-goers access to the abundance of restaurants and shops along the Riverwalk before and after a performance. Concrete floating docks, added along the seawall, would provide a waterside link to Tampa’s downtown theatre venue. In the interim, the existing seawall could be utilized for water taxi operations. The water taxi slip, shown on Figure 7, should be located in front of the terrace entrance offering access similar to the valet service on the side of the TBPAC.

4.6 TAMPA HEIGHTS DEVELOPMENT (STOP #6)

A water taxi stop at Tampa Heights would connect the mixed-use development and marina to the Riverwalk. The stop could be a designated slip at the end of one of the proposed piers (Figure 8). This location would provide Tampa Heights residents an opportunity to access the Riverwalk venues. Likewise, the development’s restaurants and shops serve as a Riverwalk destination. Water taxi service at Tampa Heights attracts residents to the Riverwalk and benefits businesses in the development.

4.7 RICK’S ON THE RIVER (STOP #7)

At Rick’s on the River Marina there is potential for water taxi service at the existing timber docks (Figure 11). Based on the size of the marina and availability of slips, this location could serve boaters from surrounding communities by providing docking and access to the Riverwalk. This location would also attract residents from the surrounding neighborhoods to downtown Tampa. Additionally, Rick’s on the River could be an entertainment destination for visitors of the Riverwalk.

4.8 UNIVERSITY OF TAMPA (STOP #8)

Water taxi service is recommended at the University of Tampa just north of the Kennedy Boulevard Bridge on the west side of the river at the existing waterside terrace (Figure 6). The addition of a water taxi stop on this side of the river would connect students and visitors of the University, Falk Theatre and nearby restaurants to the Riverwalk.

4.9 BAYSHORE MARINA (STOP #9)

A water taxi stop is proposed at Bayshore Marina at the existing concrete docks (Figure 10). Service at this location could attract residents of Bayshore Boulevard and Hyde Park neighborhoods to the Riverwalk. Additionally, boaters from surrounding communities could use the marina to dock and visit downtown Tampa via the water taxi.

4.10 MARJORIE PARK YACHT BASIN (STOP #10)

Marjorie Park Yacht Basin on Davis Islands was on the original route of the Tampa Water Taxi. Inclusion of Marjorie Park on the water taxi route could encourage residents of Davis Islands to



the Riverwalk and in turn provide visitors access to restaurants and stores at the Davis Islands business district located a few blocks from the marina. Furthermore, this location allows boaters from surrounding communities the opportunity to dock at the marina's transient docks and visit downtown Tampa via the water taxi. One of the transient slips at the marina could be designated for the water taxi. In addition, Marjorie Park can provide refueling service as it is the closest fuel dock to the Riverwalk. If overnight docking at the Convention Center for the water taxi is not feasible, Marjorie Park could also offer secure overnight docking, although it is not as centrally located.

4.11 HARBOUR ISLAND (STOPS #11 & 12)

Two final water taxi stops are recommended on Harbour Island (Figure 9) – one at Knights Pointe and one at the Post Properties docks– providing direct access to the restaurants, shops and businesses on the Island. Similar to Davis Islands, Harbour Island residents and visitors alike would benefit from water taxi service to this large mixed-use development.



5.0 SUMMARY

Along the Tampa Riverwalk from Beneficial Bridge to Boulevard Bridge, twelve areas are identified with opportunity for marine vessel docking. Approximately 250 slips could be incorporated into the Riverwalk between existing and proposed facilities. Current Downtown Central Business District DRI rules limit the number of slips between Beneficial Bridge and I-275 to 120 full service and 75 in-out slips. Transient boaters (day and short-term overnight) currently can visit the Marriott Waterside Hotel, Tampa Convention Center, Sheraton Riverwalk Hotel, and Curtis Hixon Park, totaling 69 slips. Additional proposed docking could be provided at the Tampa Convention Center, Trump Tower, Sheraton Riverwalk Hotel, Curtis Hixon Park, Tampa Bay Performing Arts Center and Tampa Heights Marina.

Table 3 presents an overview of the individual docking areas discussed in this report. Where options were provided in the discussion, the maximum slip count is listed in the table. Rates reference slip rentals only, not tariffs for water taxis or other commercial vessels using the docks. Transient docks refer to docks where overnight docking of recreational vessels would be allowed (with or without passengers on board) while day-docks do not accommodate overnight docking. Permanent docks refer to docks leased monthly or annually.

Prior to project development, detailed bathymetric and utility surveys are necessary to confirm adequate water depth and utility clearances at each location. Due to the current permitting environment, locating docking in areas where dredging is not required is recommended. The addition of new slips may require water quality testing and a new biological impact assessment which may in turn require mitigation and signage to offset potential water quality, navigation, and manatee impacts.

Table 3: Docking Facility Summary

Segment	Status	Use	Dock Type	Proposed Slip Size and Quantity	Existing or Proposed Rates
Cotanchobee Park (5)	Existing	Water taxi stop Canoe/kayak dock	Concrete floating dock	60 LF side tie	No charge for dock
Marriott Waterside Hotel (6)	Existing	Transient docks Dinner cruise & water taxi slip	Concrete floating docks	32 transient slips (up to 75 feet LOA)	Transient: \$2.90/LF/day
Tampa Convention Center (7)	Existing (reconfigured)	Transient docks	Concrete floating docks	26 transient slips (26 to 90 feet LOA)	Transient: \$2.00/hr or \$1.00/LF/day
City Pier (7A)	Proposed	Transient docks Special event docking Water taxi stop	Concrete fixed dock & concrete floating docks	450 LF side tie (up to 250 feet LOA, maximum 14 slips)	Transient: \$2.00/hr or \$1.00/LF/day
Trump Tower (11)	Proposed	Permanent & Transient docks	Concrete floating dock	300 LF side tie (up to 30 feet LOA, maximum 9 slips)	Transient: Same fee as Convention Center



Table 3: Docking Facility Summary continued

Segment	Status	Use	Dock Type	Proposed Slip Size and Quantity	Existing or Proposed Rates
Sheraton Riverwalk Hotel (13)	Proposed	Transient docks Water taxi stop	Concrete floating docks	350 LF side tie (up to 75 feet LOA, maximum 11 slips)	Sheraton: \$2.50/LF/day or \$65/night Rest: Same fee as Curtis Hixon Park
Curtis Hixon Park (16)	Existing & Proposed	Water taxi stop Day-docks Canoe/kayak dock	Concrete fixed dock & concrete floating docks	445 LF side tie (up to 75 feet LOA, maximum 13 slips)	Same fee as museum parking
Tampa Bay Performing Arts Center (18)	Proposed	Water taxi stop Day-docks	Concrete floating docks	20 transient slips & 400 LF side tie (up to 60 feet LOA, maximum 30 slips)	Same fee as parking for TBPAC events
Waterworks Park (22)	Proposed	Canoe/kayak launch	Natural shoreline with beach	Not applicable	None
Tampa Heights Marina (23-24)	Proposed	Water taxi stop Permanent & transient docks	Timber fixed dock	101 slips (up to 35 feet LOA)	Yet to be determined
Downtown Tampa Central Business District DRI	Existing			120 full service and 75 in-out slips between Beneficial and I-275 bridges	

Recommended stops on the Riverwalk for a future water taxi service are located at Cotanchobee Park, Tampa Convention Center, Sheraton Riverwalk Hotel, Curtis Hixon Park, Tampa Bay Performing Arts Center, and Tampa Heights Marina. Additional proposed water taxi stops include Rick’s on the River, University of Tampa, Bayshore Marina, Marjorie Park Yacht Basin, and Harbour Island. Table 4 presents the proposed water taxi stops and the infrastructure needed to facilitate docking at each location. Water taxi docks and operations at these locations must meet all the requirements set forth in the relevant City ordinances.

Table 4: Water Taxi Service Docking Summary

Stop #	Water Taxi Service Location	Required Modifications/Additional Structures
1	Cotanchobee Park (5)	None
2	Tampa Convention Center (7)	None
3	Sheraton Riverwalk Hotel (13)	Riverwalk modifications for side tie docking or Addition of concrete floating dock
4	Curtis Hixon Park (16)	None
5	Tampa Bay Performing Arts Center (18)	Riverwalk modification for side tie docking or Addition of concrete floating dock
6	Tampa Heights Marina (23-24)	None – Utilize proposed structures for marina development
7	Rick’s On The River Marina	None



Table 4: Water Taxi Service Docking Summary continued

Stop #	Water Taxi Service Location	Required Modifications/Additional Structures
8	University of Tampa	Seawall modification for side tie docking
9	Bayshore Marina	Modification to seawall for side tie docking
10	Marjorie Park Yacht Basin	None
11	Harbour Island Knights Pointe	None
12	Harbour Island Post Properties	None

Revenue could be generated from dock usage rates and tariffs for the water taxi service (similar to the nearby trolley system). At the time of this report, the approximate construction cost for fixed and floating concrete docks with mooring hardware is \$150 per square foot and for fixed timber docks \$100 per square foot. These costs do not include mobilization, utilities or architectural treatments.

