



Engineering Department  
800 Seminole Road  
Atlantic Beach, FL 32233  
904-247-5874

## MEMORANDUM

**To:** Shane Corbin  
**From:** Steve Swann, PE *SS*  
**CC:** Amanda Askew  
**Date:** April 6, 2021  
**Re:** Review of 2104 FDEP Beach Parking Inventory

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Per your request, the Community Development Department and I reviewed the beach parking count conducted in 2014 to support FDEP cost-share eligibility, recounted existing eligible parking spaces and recalculated how any changes translates to FDEP cost-share funding for beach renourishment. This specific-purpose review was completed to assess the City's public beach parking only in the context of FDEP cost-share funding eligibility for beach renourishment authorized by the Duval County Shore Protection Project.

Overall, cost-share eligibility within the city limits appears to have improved since the last beach parking inventory accepted by FDEP was completed in 2014, see attached *Public Beach Access & Parking Along Duval County Shore Protection Project*, Olsen Associates, 2014. The City reduced the ineligible (not funded) shoreline length from 524 FT to 116 FT primarily due to the parking spaces recently added to Waters Park.

For this parking update and review of eligibility, we followed the methodology and requirements spelled out in the 2014 Olsen Associates study since they have not changed since this work was completed. Refer to this attached study for details and specific state requirements. In addition to updating the parking counts, several access widths were adjusted to correct easement and right of way widths at several beach accesses. These adjustments had minimal impact on cost-share eligibility.

Eligible parking spaces were counted at each beach access within  $\frac{1}{4}$  mile walking distance from where the beach access intersects the beach. In the case of Atlantic Beach, the  $\frac{1}{4}$  mile walking distance commences at the bulkhead that exists along our entire beachfront to just north of 20<sup>th</sup> St. Following FDEP guidelines, for a parking space to be eligible, it must be clear and discernable to the public at large that they are allowed to park there. In addition, due to the way the governing rule, 62B-36, F.A.C., is written, golf cart or low speed vehicle parking spaces are not considered eligible. Note that there are various places for the public to park along the right of way within  $\frac{1}{4}$  mile walking distance of our beach accesses that were not counted due to the lack of clear and discernable marking.

The following table summarizes the number of eligible car and bike parking spaces within the City of Atlantic Beach in comparison to the 2014 count. We did not include parking in Neptune Beach except immediately along the south side of Atlantic Boulevard within  $\frac{1}{4}$  mile of the beach.

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### FDEP Cost-Share Eligible Beach Parking Summary\*

| Beach Access           | 2014 (Accepted by FDEP) |       | 2021 Review |       |
|------------------------|-------------------------|-------|-------------|-------|
|                        | Cars                    | Bikes | Cars        | Bikes |
| 20th St                | 7                       | 0     | 4           | 7     |
| 19th St                | 16                      | 7     | 15          | 14    |
| 18th St                | 48                      | 9     | 42          | 30    |
| Deweese                | 12                      | 0     | 15          | 0     |
| 16th St                | 0                       | 2     | 5           | 2     |
| 15th St                | 6                       | 0     | 6           | 7     |
| 14th St                | 2                       | 0     | 2           | 5     |
| 13th St                | 1                       | 5     | 1           | 5     |
| 12th St                | 2                       | 5     | 2           | 7     |
| 11th St                | 6                       | 5     | 6           | 7     |
| 10th St                | 10                      | 18    | 9           | 13    |
| 8th, Club, Adele Grage | 17                      | 0     | 15          | 5     |
| 7th St                 | 0                       | 0     | 8           | 7     |
| 6th St                 | 8                       | 2     | 4           | 5     |
| 5th St                 | 4                       | 0     | 4           | 5     |
| 4th St                 | 2                       | 0     | 2           | 6     |
| 3rd St                 | 0                       | 5     | 2           | 5     |
| 2nd St                 | 3                       | 0     | 0           | 0     |
| 1st St                 | 25                      | 0     | 24          | 21    |
| Ahern St               | 59                      | 16    | 22          | 16    |
| Atlantic Blvd          | 126                     | 63    | 48          | 29    |

\* FDEP Eligibility: 1) 1/4 mile walking distance from bulkhead @ beach access

2) Spaces must be clearly discernable to the public

Some of the disparities between 2014 and 2021 can be attributed to interpretation regarding what is and what is not a readily discernable parking spot. Other disparities include:

- 20<sup>th</sup> St – Establishment of driveway on Beach Ave eliminated 2 parking spaces
- 18<sup>th</sup> St – The City eliminated 9 parking spaces in 2020
- Dewees & 16<sup>th</sup> St – Waters Park improvements provided additional parking spaces
- 10<sup>th</sup> St – Change in 2019 from angled parking eliminated 1 parking space
- 7<sup>th</sup> St – The City marked parking spaces on 7<sup>th</sup> St in 2019
- Ahern St – The 2014 counted incorrectly included 49 private parking spaces
- Atlantic Blvd – Parking south of Atlantic Blvd in NB not included in 2021 inventory

The following table utilizes the updated beach parking inventory to calculate cost-share eligibility along the beach within the city limits. For more information on the mechanics of calculating cost-share eligibility, please see the attached 2014 Olsen Associates report.

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### Current Beach Parking Summary & Potential Cost-Share Eligibility

| Beach Access               | Eligible Car Spaces | Eligible Bike Spaces* | Eligible Parking Units** | Width of Access (FT) | Eligible Shoreline Length*** (FT) | Notes on Applying Eligibility  |
|----------------------------|---------------------|-----------------------|--------------------------|----------------------|-----------------------------------|--|
| 20th St                    | 4                   | 7                     | 5.75                     | 5                    | 308.6                             | $N = 290' \Rightarrow 4 \text{ car}(211.2) + 7 \text{ bike}(92.4) = 303.6'$  |
| 19th St                    | 15                  | 14                    | 18.5                     | 40                   | 1016.8                            | $N = 949' \Rightarrow 15 \text{ car}(792) + 14 \text{ bike}(184.8) = 976.8'$   |
| 18th St                    | 42                  | 16                    | 46                       | 12                   | 2440.8                            | $N = 993' \Rightarrow 19 \text{ car}(1003.2) + 16 \text{ bike}(221.2) = 1214.4'$ , Remainder to S = 1,189' $\Rightarrow 23 \text{ car}(1214.4) + 0 \text{ Bikes}(0.0) = 1214.4'$ ( <b>4 extra cars</b> ) |
| Deweese                    | 15                  | 0                     | 15                       | 10                   | 802                               | $S = 416' \Rightarrow 8 \text{ car}(422.4) + 0 \text{ bike} = 422.4'$<br>Remainder to N = 7 Car(369.6) + 0 bike = 369.6'   |
| 16th St                    | 5                   | 2                     | 5.5                      | 10                   | 300.4                             | $S = 195' \Rightarrow 4 \text{ car}(211.2) + 0 \text{ bike} = 211.2'$<br>Remainder to N = 1 car(52.8) + 2 bike(26.4) = 79.2'   |
| 15th St                    | 6                   | 7                     | 7.75                     | 40                   | 449.2                             | $S = 301' \Rightarrow 5 \text{ car}(264) + 3 \text{ bike}(39.6) = 303.6'$<br>Remainder to N = 1 car(52.8) + 4 bike(52.8.4) = 105.6'  |
| 14th St                    | 2                   | 5                     | 3.25                     | 40                   | 211.6                             | $S = 171' \Rightarrow 2 \text{ car}(105.6) + 5 \text{ bike}(66) = 171.6'$<br><b>(Gap in eligibility between 13th ST &amp; 14th St = 116.2')</b>  |
| 13th St                    | 1                   | 5                     | 2.25                     | 40                   | 158.8                             | $S = 98' \Rightarrow 1 \text{ car}(53.8) + 4 \text{ bike}(52.8) = 105.6'$<br>Remainder to N = 1 bike(13.2) = 13.2'   |
| 12th St                    | 2                   | 7                     | 3.75                     | 40                   | 238                               | $N = 198' \Rightarrow 2 \text{ car}(105.6) + 7 \text{ bike}(92.4) = 198.0'$  |
| 11th St                    | 6                   | 7                     | 7.75                     | 40                   | 449.2                             | $N = 296' \Rightarrow 5 \text{ car}(264.0) + 3 \text{ bike}(39.6) = 303.6'$<br>Remainder to S = 1 car(52.8) + 4 bike(52.8) = 105.6   |
| 10th St                    | 9                   | 13                    | 12.25                    | 40                   | 686.8                             | $N = 190' \Rightarrow 3 \text{ car}(158.4) + 3 \text{ bike}(39.6) = 198.0'$<br>Remainder to S = 6 car(316.8) + 10 bike(132) = 448.8  |
| 8th St, Club & Adele Grage | 15                  | 5                     | 16.25                    | 10                   | 868                               | $N = 755' \Rightarrow 11 \text{ car}(580.8) + 2 \text{ bike}(26.4) = 607.2'$<br>Remainder to S = 4 car(211.2) + 3 bike(39.6) = 250.8'  |
| 7th St                     | 8                   | 7                     | 9.75                     | 40                   | 554.8                             | $S = 8 \text{ car}(422.4) + 7 \text{ bike}(92.4) = 514.8$  |
| 6th St                     | 4                   | 5                     | 5.25                     | 40                   | 317.2                             | $S = 4 \text{ car}(211.2) + 5 \text{ bike}(66.0) = 277.2$  |
| 5th St                     | 4                   | 5                     | 5.25                     | 40                   | 317.2                             | $N = 24' \Rightarrow 0 \text{ car} + 2 \text{ bike}(26.4) = 26.4'$<br>Remainder to S = 4 car(211.2) + 3 bike(39.6) = 250.8'  |
| 4th St                     | 2                   | 6                     | 3.5                      | 40                   | 224.8                             | $S = 2 \text{ car}(105.6) + 6 \text{ bike}(79.2) = 184.8$  |
| 3rd St                     | 2                   | 5                     | 3.25                     | 40                   | 211.6                             | $S = 2 \text{ car}(105.6) + 5 \text{ bike}(66.0) = 171.6$  |
| 2nd St                     | 0                   | 0                     | 0                        | 40                   | 40                                | 0  |
| 1st St                     | 24                  | 16                    | 28                       | 30                   | 1508.4                            | Meets 1320' (1/4 Mile) Max Distance  |
| Ahern St                   | 22                  | 16                    | 26                       | 50                   | 1422.8                            | Meets 1320' (1/4 Mile) Max Distance  |
| Atlantic Blvd              | 48                  | 16                    | 52                       | 100                  | 2845.6                            | $N = 268' \Rightarrow 5 \text{ car}(264.0) + 1 \text{ bike}(13.2) = 277.2'$<br>S > 25 car, meets 1320' (1/4 Mile) Max Distance   |

\* Up to 16 bike spaces can be counted, each bike space = 0.25 car parking space

\*\* # Car spaces + .25 X # bike spaces

\*\*\* Eligible Parking Units X 52.8 FT + Width of Access

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The eligible shoreline lengths calculated in the table above were used to update the eligibility maps contained in the 2014 Olsen Associates report, see attached. The City of Atlantic Beach only has one remaining small gap in eligibility (116 FT) between the 13<sup>th</sup> St and 14<sup>th</sup> St accesses. The new parking at Waters Park helps with eligibility here but does not completely eliminate the gaps in eligibility as depicted in the 2014 parking analysis. However, this gap can be eliminated by adding bike racks at both accesses for 5 bikes each.

The City has excess eligibility in other areas, most notably the southern end of the city. Note that the addition of eligible beach parking at Waters Park results in there being an excess of 4 car parking spaces at 18<sup>th</sup> St with respect to eligibility.

Note the beach access related polices in the 2030 Comprehensive Plan:

*Policy D.1.4.2* states, “The City shall maintain all beach parking existing as of the date of this Plan, and reduction in the number of public parking spaces available at beach accesses shall not be permitted unless such eliminated spaces are replaced in equal numbers and within similar proximity to the beach.”

*Policy E.1.1.8* states, “The City shall continue to allow parking along public right-of-way for the purpose of providing for beach access, provided such parking does not interfere with pedestrian or vehicular safety and does not excessively result in damage to public or private property.”

I recommend that this information be provided to Olsen Associates for review. Upon their concurrence, this information can be utilized by the City of Jacksonville to support cost-share eligibility for the next Duval County Shore Protection Project contract cycle.

SCS/s

Attachments: - Updated Cost-Share Eligibility Maps

- *Public Beach Access & Parking Along Duval County Shore Protection Project*,  
Olsen Associates, 2014

MATCH LINE



SCALE  
0 50 100 FEET

SOUTH END OF  
HANNA PARK

1/2 MILE ELIGIBILITY FROM  
SOUTH END OF HANNA PARK

(100+\*)

R039

R040

R041

MATCH LINE

NOTES:  
PHOTO DATE:  
USGS DECEMBER 2012

**LEGEND:**  
R038 =FDEP MONUMENT  
=PUBLIC RESTROOM FACILITIES  
=PUBLIC PARKING SPACES  
TOTAL SPACES(NUMBER OF WHICH ARE HANDICAP)  
17(1h) = 17 TOTAL SPACES, 1 IS HANDICAP  
5 bikes =PUBLIC BICYCLE SPACES

↑ =DIRECTION TO WHICH SPACE  
IS ALLOCATED  
7 =TOTAL PARKING SPACES  
AT PUBLIC ACCESS  
=PUBLIC BEACH ACCESS  
=ELIGIBLE FOR STATE COST-SHARE\*  
=INELIGIBLE FOR STATE COST-SHARE\*  
\*PER 62B-36.007 FAC

**Review of SPP Parking Inventory & Cost-Share Eligibility**  
**Updated by COAB Staff April 2021**  
**(Base Map from 2014 Olsen & Associates Analysis)**

SHEET  
6  
OF 18

MATCH LINE



SCALE  
0 50 100 FEET

OVERLAP IN  
ELIGIBILITY

OVERLAP IN  
ELIGIBILITY

4 Cars + 7 Bikes

15 Cars + 14 Bikes

R042

20th ST

7 bikes

R043

19th ST

15(1h)

14 bikes (18.5)

19 Cars + 16 Bikes

R044

18th ST

4(2h)

16 bikes

23 Cars + 0 Bikes

R045

MATCH LINE

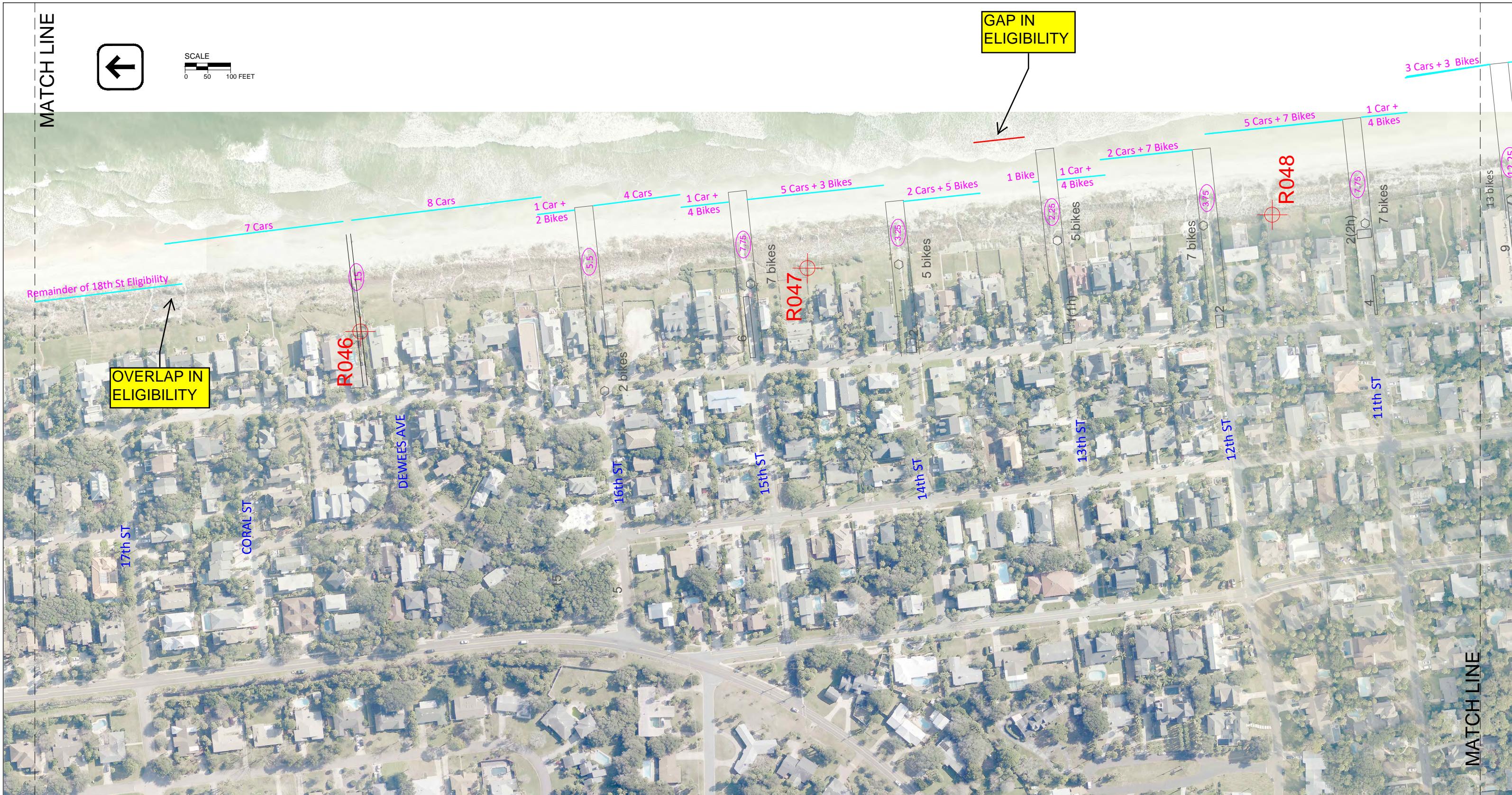
NOTES:  
PHOTO DATE:  
USGS DECEMBER 2012

**LEGEND:**  
R038 =FDEP MONUMENT  
=PUBLIC RESTROOM FACILITIES  
=PUBLIC PARKING SPACES  
TOTAL SPACES (NUMBER OF WHICH ARE HANDICAP)  
17(1h) = 17 TOTAL SPACES, 1 IS HANDICAP  
17(1h)  
5 bikes

↑ =DIRECTION TO WHICH SPACE  
IS ALLOCATED  
=TOTAL PARKING SPACES  
AT PUBLIC ACCESS  
=PUBLIC BEACH ACCESS  
=ELIGIBLE FOR STATE COST-SHARE\*  
=INELIGIBLE FOR STATE COST-SHARE\*  
\*PER 62B-36.007 FAC

**Review of SPP Parking Inventory & Cost-Share Eligibility**  
**Updated by COAB Staff April 2021**  
**(Base Map from 2014 Olsen & Associates Analysis)**

**SHEET  
7  
OF 18**



## NOTES:

PHOTO DATE:

USGS DECEMBER 2012

## LEGEND:

**R038** =FDEP MONUMENT

A blue square icon containing two stylized human figures, one male and one female, representing a public restroom facility.

**=PUBLIC RESTROOM FACILITIES**  
**=PUBLIC PARKING SPACES**  
TOTAL SPACES (NUMBER OF WHICH ARE HANDICAP)  
17(1h) = 17 TOTAL SPACES, 1 IS HANDICAP

 5 bikes =PUBLIC BICYCLE SPACES

=DIRECTION TO WHICH SPACE IS ALLOCATED

=TOTAL PARKING SPACES  
AT PUBLIC ACCESS

AT PUBLIC ACCESS

## =PUBLIC BEACH ACCESS

#### =ELIGIBLE FOR STATE COST-SHARE

=INELIGIBLE FOR STATE COST-SHA  
\*PER 62B-36.007 FAC

\*PER 62B-36.007 FAC

## **Review of SPP Parking Inventory & Cost-Share Eligibility**

### **Updated by COAB Staff April 2021**

**(Base Map from 2014 Olsen & Associates Analysis)**

## SHEET

8

OF 18

MATCH LINE



SCALE  
0 50 100 FEET



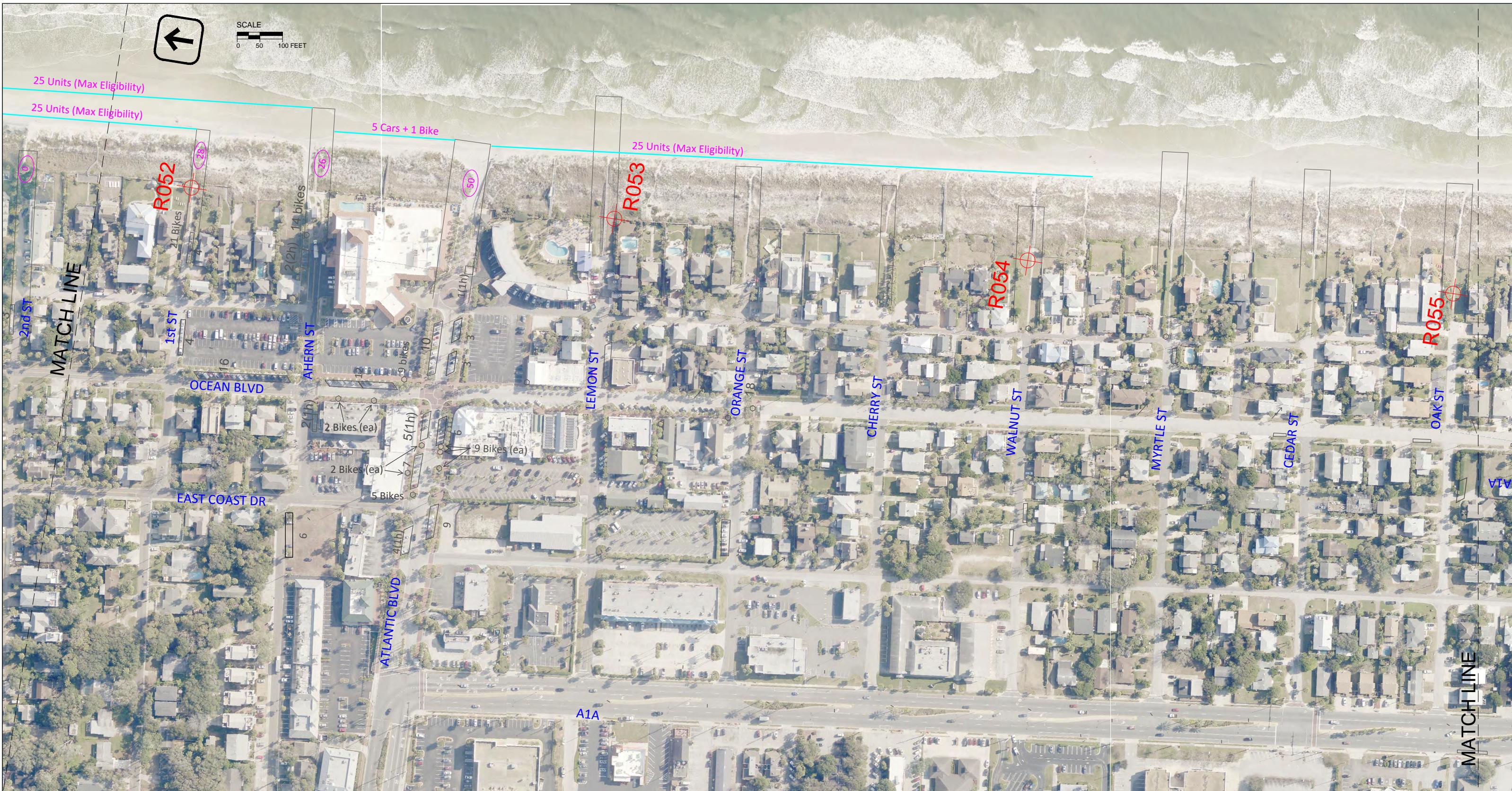
NOTES:  
PHOTO DATE:  
USGS DECEMBER 2012

**LEGEND:**  
R038 =FDEP MONUMENT  
=PUBLIC RESTROOM FACILITIES  
=PUBLIC PARKING SPACES  
TOTAL SPACES (NUMBER OF WHICH ARE HANDICAP)  
17(1h) = 17 TOTAL SPACES, 1 IS HANDICAP  
5 bikes =PUBLIC BICYCLE SPACES

=DIRECTION TO WHICH SPACE IS ALLOCATED  
=TOTAL PARKING SPACES AT PUBLIC ACCESS  
=PUBLIC BEACH ACCESS  
=ELIGIBLE FOR STATE COST-SHARE\*  
=INELIGIBLE FOR STATE COST-SHARE\*  
\*PER 62B-36.007 FAC

**Review of SPP Parking Inventory & Cost-Share Eligibility**  
**Updated by COAB Staff April 2021**  
**(Base Map from 2014 Olsen & Associates Analysis)**

SHEET  
**9**  
OF 18



NOTES:  
PHOTO DATE:  
USGS DECEMBER 2012

**LEGEND:**

-  = FDEP MONUMENT
-  = PUBLIC RESTROOM FACILITIES
-  = PUBLIC PARKING SPACES  
TOTAL SPACES (NUMBER OF WHICH ARE HANDICAP)  
17(1h) = 17 TOTAL SPACES, 1 IS HANDICAP
-  = PUBLIC BICYCLE SPACES

 = DIRECTION TO WHICH SPACE IS ALLOCATED  
 = TOTAL PARKING SPACES AT PUBLIC ACCESS  
 = PUBLIC BEACH ACCESS  
 = ELIGIBLE FOR STATE COST-SHARE\*  
 = INELIGIBLE FOR STATE COST-SHARE\*  
\*PER 62B-36.007 FAC

## Review of SPP Parking Inventory & Cost-Share Eligibility Updated by COAB Staff April 2021

(Base Map from 2014 Olsen & Associates Analysis)

# **PUBLIC BEACH ACCESS & PARKING ALONG DUVAL COUNTY SHORE PROTECTION PROJECT**

Prepared for:  
City of Jacksonville

Prepared by:  
Olsen Associates, Inc., Jacksonville, Florida

June 2014

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## **EXECUTIVE SUMMARY**

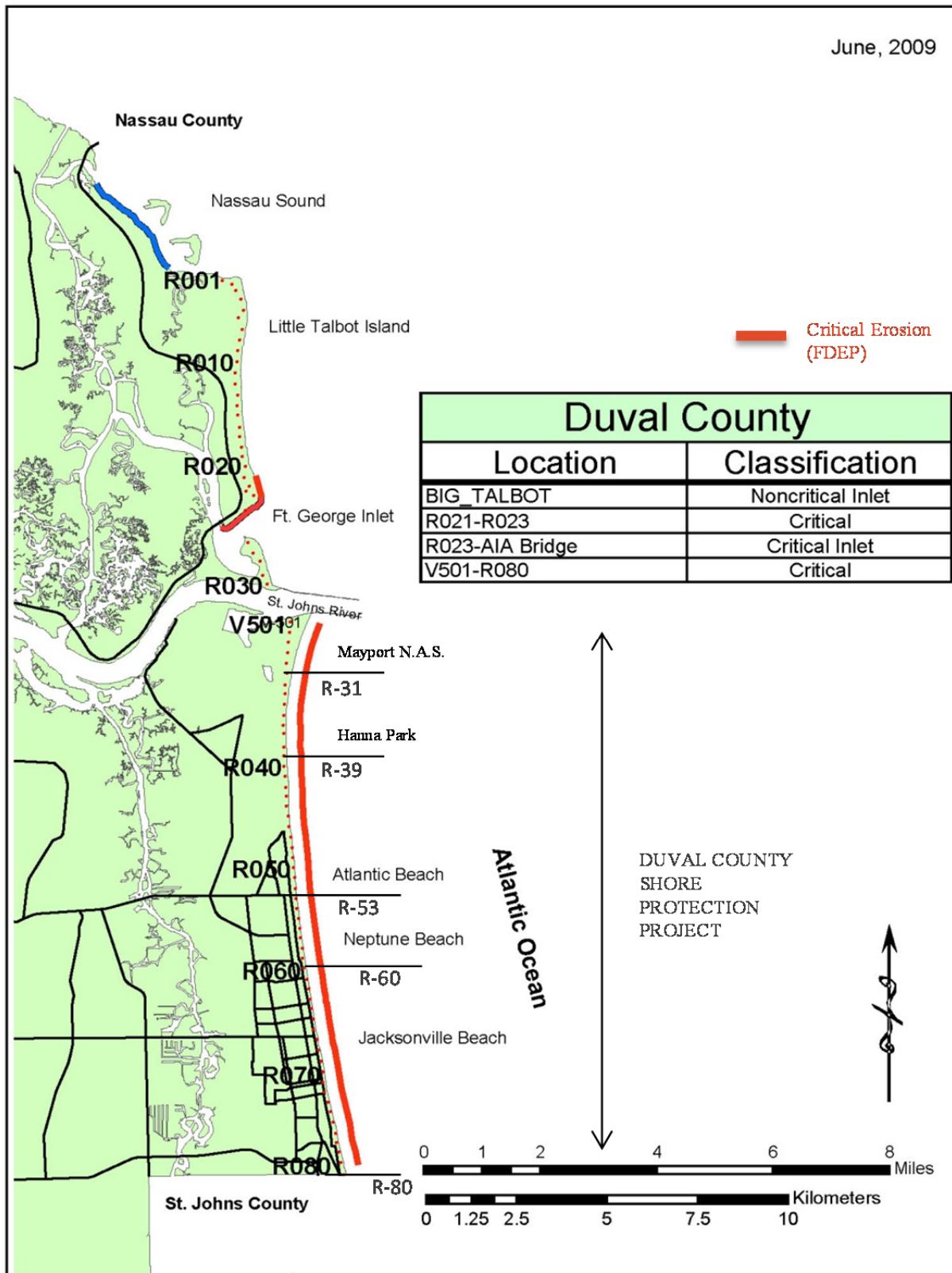
A June 2014 survey identified 2,932 public beach parking spaces and 500 public bike spaces within ¼-mile of the 97 public beach access entry zones located along the 7.5-mile long shorelines of Atlantic, Neptune, and Jacksonville Beach (R-39 to R-80). Additive to this is extensive public parking and access along the 1.5-mile long shoreline of Kathryn Abby Hanna Beach Park (R-31 to R-39).

Per F.A.C. 62B-36.002 and 62B-36.007 (as amended 8/5/2013), the project shoreline lengths eligible for state cost-sharing comprise 44,709-feet (93.78%) of the 47,675-feet long total project shoreline between Mayport Naval Air Station and the Duval-St. Johns County line, specifically including Hanna Park, Atlantic, Neptune, and Jacksonville Beach (R-31 to R-80). The corresponding eligibility for State cost-share of the nonfederal costs of beach management projects along this shoreline is therefore computed as  $50\% \times 93.78\% = 46.89\%$ . The portion of the project shoreline that is not eligible for full State cost-share includes the southern 2481-feet of the project shoreline (excluding 4 separate 10-feet accesses), south of Duval Drive in Jacksonville Beach (R-77 to R-80), and approximately 525-feet of shoreline between Dewee Ave. and 12<sup>th</sup> street in Atlantic Beach (R-46 to R-48). The 2014 computation of State cost-share eligibility is 0.32% less than the previously computed State cost-share eligibility, in 2005, of 47.21% -- principally owing to slight changes in the count and alongshore allocation of parking, per rule.

## **1.0 SCOPE OF STUDY**

This report identifies the location and number of public beach access and parking facilities along the Duval County, Florida, Shore Protection Project (as known as Duval County Beach Nourishment Project). The project comprises the 10.1-mile long Atlantic Ocean Shoreline between the St. Johns River Entrance and the Duval-St. Johns County Line – specifically including Mayport Naval Air Station (1.1-miles), Kathryn Abby Hanna Beach Park (1.5-miles), and the three Beaches Cities of Atlantic, Neptune, and Jacksonville Beach (7.5-miles). The project shoreline spans FDEP reference monuments R-31 to R-80, plus the federal shoreline of Mayport NAS north of R-31. See *Figure 1*.

**Figure 1: Map of Duval County Shore Protection Project** (adapted from FDEP)



Through recent aerial photographs and comprehensive ground-truthing in June 2014, the study described in this report identified and verified the public beach access lanes, public beach parking and public bike racks located within ¼-mile walking distance of the public access points. This report maps the location of these facilities and graphically apportions the beach parking and other access units along the shoreline at, and adjacent to, each public access zone. From this, the length of project shoreline eligible for State cost-share of beach management, per F.A.C. 62B-36.007, is computed.

This study did not include access through public lodging establishments (hotels and rentals). Inclusion of public lodging does not appear to affect the amount of eligible State cost-share because the existing lodging is located within areas of extensive public parking. Likewise, this study does not identify locations of public, year-round bus stops within ¼-mile walking distance of the beach access points. While there is dedicated public bus service along A1A, its inclusion does not appear to affect the computed State cost-share eligibility determined through parking and bicycle spaces, per F.A.C. 62B-36.007.

## 2.0 DEFINITIONS

Used herein, the definition and rules pertaining to public access and shoreline eligibility for State cost-share, reflect those established in F.A.C. 62B-36.002 and 62B-36.007 (amend. 5 Aug 2013):

### **62B-36.002. Definitions.**

(14) “Public Beach Access” is an entry zone and associated parking under public ownership or control which is specifically used for providing access to the adjacent sandy beach for the general public. The access must be signed, maintained and clearly visible from the adjacent roadway. The parking spaces counted for eligibility must be within one-quarter mile walking distance of a lateral entry zone and available to the general public. The types of public beach access sites are:

- (a) “Primary Beach Access” is a site with at least 100 units, as defined in subsection 62B-36.007(1), F.A.C., and public restrooms;
- (b) “Secondary Beach Access” is a site that may have parking and amenities, but does not qualify as a primary beach access.

(15) “Public Lodging Establishment” is any business currently licensed by the Department of Business and Professional Regulation in the classification of “hotel”, “motel” or “vacation rental condominium” with six or more units as designated by the Department of Business and Professional Regulation, or campgrounds. Public Lodging Establishments must be located on the beachfront or within one-quarter mile walking distance of a public access.

## **62B-36.007. Project Cost-Sharing.**

(1) Until the unsatisfied demand for restoring and repairing Florida's beaches is met, the Department intends to share in the costs of beach management projects with local sponsors. Cost sharing will only be applied to the portion of the project necessary to benefit shoreline designated by the Department as critically eroded<sup>1</sup>. The Department shall cost share up to 50 percent of the total costs for non-federal beach management projects. The Department shall cost share up to 50 percent of the non-federal share of U.S. Army Corps of Engineers Civil Works projects. The Department shall cost share up to 50 percent of the non-federal and state emergency fund share for projects approved to receive Federal Emergency Management Agency Public Assistance funding (Category G or equivalent subsequent program for designed, constructed and routinely maintained beaches). State cost share is subject to adjustment for the level of public accessibility calculated for beach management projects. Project shoreline lengths eligible for cost sharing are quantified at the rate of 100 units of eligibility per mile (5,280 feet) or 52.8 feet per unit. A unit is defined as one automobile parking space, one rental unit in a Public Lodging Establishment, one mass transit stop, or 4 bicycle parking spots. Eligible shoreline lengths are calculated using the following criteria:

(a) Primary beach access sites shall be granted eligibility for the shoreline length of the access site. Additional eligibility shall be granted at a rate of 52.8 linear feet per unit for one-half mile in each shore parallel direction for the following units;

1. Automobile parking spaces located within one quarter mile of a primary access site may be granted eligibility for that public access site at the rate of one unit, or 52.8 feet, per parking space.

2. Bicycle parking located within one quarter mile of a primary access site may be granted eligibility at the rate of one-quarter of a unit, or 13.2 feet, per designated bicycle parking spot. Bicycle parking spots used for eligibility may not exceed 211.2 feet per public access site.

3. Mass transit, such as buses or trolleys, may be granted eligibility at the rate of one unit, or 52.8 feet, per bus stop located within one quarter mile of the public access site. Bus stops used for eligibility may not exceed 211.2 feet per public access. In order to qualify, mass transit must be accessible to the general public and operational year round.

(b) Beachfront public lodging establishments shall be granted eligibility based upon 52.8 feet of shoreline eligibility per unit available to the public. Maximum eligibility may not exceed the beach front width of the property.

(c) Secondary beach access sites shall be granted eligibility for the shoreline length of the access site. Additional eligibility shall be granted at a rate of 52.8 linear feet per unit for up to one-quarter mile in either shore parallel direction, for the following units:

1. Public lodging establishments not located on the beach front but located within one quarter mile of a secondary public access point may contribute to the eligibility for that public access site at the rate of 52.8 feet of shoreline eligibility per rental unit available to the public. Maximum eligibility may not exceed the street-side frontal width of the property.

2. Bicycle parking located within one quarter mile of a secondary access site may be granted eligibility at the rate of 13.2 feet per designated bicycle parking spot. Bicycle parking spots used for eligibility may not exceed 211.2 feet per public access site.

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<sup>1</sup> Note: all of the Duval project shoreline is listed by the FDEP as critically eroded.

3. Mass transit, such as buses or trolleys, may be granted eligibility for that public access site at the rate of one unit, or 52.8 feet, per bus stop located within one quarter mile of the public access site. Bus stops used for eligibility may not exceed 211.2 feet per public access. In order to qualify, mass transit must be accessible to the general public and operational year round.

4. Automobile parking spaces located within one quarter mile of a secondary access site may be granted eligibility for that public access site at the rate of one unit, or 52.8 feet, per parking space.

(d) Eligible shoreline lengths cannot overlap.

(e) The sum of the eligible shoreline lengths, as defined above, is divided by the total project length to determine the percentage of the total project that is eligible for cost sharing.

(f) The Department shall pay up to 100 percent of the costs of approved beach management projects when construction and maintenance are on lands with public beach access of which the state is the upland riparian owner and such lands are managed by the state.

## 3.0 METHODOLOGY

A base map was constructed using USGS aerial maps from December 2012. This map, along with Google Earth (2014 aerials from TerraMetrics), and Google ground view from July 2013 were used to locate public beach parking spaces within  $\frac{1}{4}$ -mile walking distance from the beach-end of public beach access walkovers. Extensive ground-truthing was done to verify the preliminary aerial mapping results, identify spaces available to the general public versus those restricted for commercial or residential purposes, and examine areas that had undergone construction since the data for the maps was collected. Ground-truthing was also used to locate and identify public bicycle racks, marked-signs for public accesses, and public bathrooms. A conservative approach was adopted throughout in identifying access and parking. Actual eligible parking might be higher than listed here, in some instances.

The numbers of public beach parking and bicycle spaces were then converted to equivalent units and allocated alongshore from each access. Parking for primary access was allocated for  $\frac{1}{2}$ -mile in both directions in the shore- parallel direction from the respective ends of the access length, for total coverage of 1-mile (in addition to the length of the primary access).

Parking for secondary access was allocated in one direction only for up to  $\frac{1}{4}$ -mile in the shore-parallel direction from the ends of the access length or split in two directions, but not so as to double-count. For example, at Dewee Ave. in Atlantic Beach (R-46), a total of 13 public parking spots were within  $\frac{1}{4}$ -mile and were allocated to the access. Five parking spaces were allocated in the northern direction starting from the northern end of the 40-feet access (for 264-feet of coverage), and 8 spots were allocated in the southern direction starting from the southern end of the 40-feet access (for 422.4-feet of coverage). The total allocation was thus  $264 + 40 + 422.4 = 726.4$ -feet of shoreline potentially eligible for State cost-share at the Dewees Avenue access.

## 4.0 RESULTS & MAPS

The results of the survey are illustrated in plates 1-17, which indicate the locations of public beach parking and public bicycle racks within 1/4<sup>th</sup>-mile of beach accesses, and the locations of public beach accesses and their respective access lengths. The respective total of parking units is displayed at each public access, and the parallel shoreline coverage is illustrated.

**Table 1** lists the total public beach parking along the Duval County shoreline in June 2014, in comparison to that prepared by FDEP in 2005 (Agreement No. 00DU1, Amendment No. 2, September 2005). The first column illustrates the public parking spaces present in 2005, while the second column displays the total number of raw parking units (bikes and parking combined) allocated to each public beach access. The third column reduces the number of raw parking units, to the final number used for shoreline coverage calculation by 62B-36.007(1)c2, that “Bicycle parking spots used for eligibility may not exceed 211.2 feet per public access site”, which amounts to 16 bicycle spaces per access.

Public restrooms are located at:

- 4<sup>th</sup> & 5<sup>th</sup> Ave. N (Jacksonville Beach Public Pier) (R-65)
- 2<sup>nd</sup> Ave. N, Jacksonville Beach (between R-65 and R-66),
- 16<sup>th</sup> Ave. S (R-72)

These three public accesses which feature public restroom facilities each contain more than 100 parking units, and therefore qualify as primary access points.

Of the 47,675-feet of shoreline within the non-federal boundaries of the project (from R-31 to R-80) a total of **44,709-feet** are determined to be eligible for full State cost-share. The portion of the project shoreline that is not eligible for full State cost-share includes;

- the southern 2481-feet of the project shoreline (excluding 4 separate 10-feet accesses), south of Duval Drive in Jacksonville Beach (R-77 to R-80)
- approximately 525-feet of shoreline between Dewee Ave. and 12<sup>th</sup> street in Atlantic Beach (R-46 to R-48).

Dividing the publicly accessible shoreline by total shoreline length yields 93.78% public accessibility. The corresponding eligibility for State cost-share of the nonfederal costs of beach management projects along this shoreline is therefore computed as 50% x 93.78% = **46.89%**.

**Table 2** separately lists the access units as automobile parking spaces and bicycle spaces, and presents a grand total along the Duval County shoreline. Amongst the 97 public beach accesses, excluding Hanna Park (R-31 to R-39), there are 2,932 public beach parking spaces and 500 public bike spaces within 1/4<sup>th</sup>-mile of the access points. **Table 2** also displays the alongshore lengths of public accesses used in this study<sup>2</sup>. The alongshore length of some accesses were reduced to conform to the apparent width of the access, evident from aerial photographs;

<sup>2</sup> Source: Applied Technologies and Management, August 2003. Duval County Shore Protection Project – Maps.

- Hanna Park was reduced from 7920-feet to 7695-feet
- Magnolia St was reduced from 57-feet to 33.5-feet
- Florida Blvd. was reduced from 118.35-feet to 61-feet
- 18<sup>th</sup> Ave. N was reduced from 80-feet to 63-feet
- 15<sup>th</sup> Ave. N was reduced from 80-feet to 55-feet
- 14<sup>th</sup> Ave. N was reduced from 80-feet to 60-feet
- 10<sup>th</sup> Ave. N was reduced from 80-feet to 48-feet

To increase the eligibility for State cost-share – at least per FAC 26B-36.007 and relative to this study's findings – the following additional access facilities would be required:

1. Provision of about 10 parking spaces, or 40 bicycle spaces (or combination thereof) between Dewee Ave. and 12<sup>th</sup> Street, Atlantic Beach. This would create full eligibility everywhere (except for the south end of Jacksonville Beach) and it would increase State cost-share from 46.89% to 47.44%.
2. Alternately, provision of just three 5-bicycle racks – one each at 16<sup>th</sup>, 15<sup>th</sup>, and 14<sup>th</sup> Streets in Atlantic Beach – would add 198-feet of shoreline eligibility. Of itself, this would increase State cost-share from 46.89% to 47.1% (which is very close to the prior value of 47.21%, from 2005).
3. Realizing full eligibility along the southern 2481 feet of the project (South Jacksonville Beach) would require 47 parking spaces at and/or south of 37<sup>th</sup> Avenue South – or 31 parking spaces and 64 bicycle spaces.
4. Alternately, provision of just one-quarter of that requirement – say, 6 parking spaces and 20 bicycle spaces, at or south of 37<sup>th</sup> Avenue South – would increase the State cost-share by 0.6% (or from 46.89% to 47.5%).

From a fiscal perspective – and assuming that the typical total non-federal costs of beach nourishment and monitoring is about \$5,500,000 every six years – the a 0.5% change in State cost-share equates to \$27,500 in legal funds over six years, or about \$4580 per year.

**Table 1: Total Duval County Public Beach Parking in 2005 and 2014**

| Public Access  | 2005 # of Parking Spaces | 2014 # of Parking Spaces*** | 2014 # of Parking Spaces**** | Public Access  | 2005 # of Parking Spaces | 2014 # of Parking Spaces *** | 2014 # of Parking Spaces**** |
|--|--------------------------|-----------------------------|------------------------------|--|--------------------------|------------------------------|------------------------------|
| <b>(ATLANTIC BEACH)</b>  |                          |                             |                              |  |                          |                              |                              |
| Hanna Park   | 100+                     | 100+                        | 100+                         | N. Oceanfront Park/19th Ave. N                       | 22                       | 32                           | 32                           |
| 20th St.   | 0                        | 7                           | 7                            | 18th Ave. N  | 18                       | 28                           | 28                           |
| 19th St.   | 14                       | 17.75                       | 17.75                        | 17th Ave. N  | 0                        | 27                           | 27                           |
| 18th St.   | 51                       | 50.25                       | 50.25                        | 16th Ave. N  | 46                       | 46                           | 46                           |
| Deweese Ave./Coral St./Coquina Pl./Ocean Blvd  | 9                        | 13                          | 13                           | 15th Ave. N  | 0                        | 25                           | 25                           |
| 16th St.   | 0                        | 0.5                         | 0.5                          | 14th Ave. N  | 0                        | 21                           | 21                           |
| 15th St.   | 10                       | 6                           | 6                            | 13th Ave. N  | 27                       | 36                           | 36                           |
| 14th St.   | 2                        | 2                           | 2                            | 12th Ave. N  | 24                       | 39                           | 39                           |
| 13th St.   | 5                        | 2.25                        | 2.25                         | 11th Ave. N  | 0                        | 57                           | 57                           |
| 12th St.   | 2                        | 3.25                        | 3.25                         | 10th Ave. N  | 0                        | 14                           | 14                           |
| 11th St.   | 6                        | 7.75                        | 7.75                         | 9th Ave. N   | 29                       | 43                           | 43                           |
| 10th St.   | 10                       | 14.5                        | 14                           | 8th Ave. N   | 15                       | 27                           | 27                           |
| 8th St./9th St./Adele Grage Center   | 16                       | 17                          | 17                           | 7th Ave. N   | 22                       | 39                           | 39                           |
| 7th St.  | 31                       | 0                           | 0                            | 6th Ave. N   | 36                       | 49                           | 49                           |
| 6th St.  | 3                        | 8.5                         | 8.5                          | 4th & 5th Ave. N (Public Pier)                       | 100+                     | 263.5*                       | 253*                         |
| 5th St.  | 4                        | 4                           | 4                            | 3rd Ave. N/Public Parking Lot                        | 89                       | 135.75                       | 135.75                       |
| 4th St.  | 0                        | 2                           | 2                            | 2nd Ave. N   | 4                        | 127.5*                       | 102*                         |
| 3rd St.  | 0                        | 1.25                        | 1.25                         | 1st Ave. N   | 100+                     | 266                          | 266                          |
| 2nd St.  | 0                        | 3                           | 3                            | Beach Blvd.  | 22                       | 25.5                         | 25                           |
| 1st St.  | 20                       | 25                          | 25                           | 1st Ave. S   | 19                       | 96                           | 96                           |
| Palm St./Atlantic St. (Ahern St.)  | 3                        | 63                          | 63                           | 2nd Ave. S   | 32                       | 52                           | 52                           |
| Atlantic Blvd.   | 65                       | 141.75                      | 130                          | 3rd Ave. S   | 26                       | 69                           | 69                           |
|  |                          |                             |                              | 4th Ave. S   | ---                      | 81                           | 81                           |
| <b>(NEPTUNE BEACH)</b>   |                          |                             |                              |  |                          |                              |                              |
|  |                          |                             |                              | 5th & 6th Ave. S (Ocean Front Park)                  | 95                       | 123                          | 123                          |
| Lemon St.  | 43                       | 79.5                        | 63                           | 7th Ave. S   | 18                       | 39                           | 39                           |
| Orange St.   | 10                       | 48.5                        | 48                           | 8th Ave. S   | 8                        | 31                           | 31                           |
| Cherry St.   | 12                       | 31                          | 31                           | 9th Ave. S   | 28                       | 47                           | 47                           |
| Walnut St.   | 10                       | 20.5                        | 20.5                         | 10th Ave. S  | 23                       | 38                           | 38                           |
| Myrtle St.   | 13                       | 21.5                        | 21.5                         | 11th Ave. S  | ---                      | 19                           | 19                           |
| Cedar St.  | 7                        | 6                           | 6                            | 12th Ave. S  | 18                       | 29                           | 29                           |
| Oak St.  | 16                       | 12                          | 12                           | 13th Ave. S  | 31                       | 48                           | 48                           |
| Pine St.   | 15                       | 27                          | 27                           | 14th Ave. S  | 27                       | 39                           | 39                           |
| Bay St.  | 12                       | 12                          | 12                           | 15th Ave. S  | 36                       | 48                           | 48                           |
| Magnolia St.   | 14                       | 15                          | 15                           | 16th Ave. S  | 61                       | 115*                         | 115*                         |
| Rose Place   | 0                        | 0                           | 0                            | 18th Ave. S  | 0                        | 17                           | 17                           |
| North St.  | 9                        | 14.5                        | 14.5                         | 19th Ave. S  | 0                        | 16                           | 16                           |
| Florida Blvd.  | 11                       | 29                          | 29                           | Unnamed Access/20th Ave. S                           | 0                        | 0                            | 0                            |
| South St.  | 12                       | 8                           | 8                            | 21st Ave. S  | 25                       | 0                            | 0                            |
|  |                          |                             |                              | Unnamed Access btwn 22nd and                         |                          |                              |                              |
| Bowles St.   | 12                       | 11                          | 11                           | 23rd Ave. S  | 54                       | 0                            | 0                            |
| Davis St.  | 11                       | 14.25                       | 14.25                        | 25th Ave. S  | 0                        | 0                            | 0                            |
| Lora St.   | 13                       | 8                           | 8                            | 26th Ave. S  | 0                        | 0                            | 0                            |
| Oleander St.   | 10                       | 10.25                       | 10.25                        | 27th Ave. S  | 0                        | 5                            | 5                            |
| Myra St.   | 10                       | 4                           | 4                            | 28th Ave. S  | 0                        | 0                            | 0                            |
| Margaret St.   | 5                        | 6                           | 6                            | 29th Ave. S  | 0                        | 4                            | 4                            |
| Hopkins St.  | 8                        | 21                          | 21                           | 30th Ave. S  | 16                       | 4                            | 4                            |
| Seagate Ave./N. 20th Ave.  | 0                        | 19.5                        | 19.5                         | 31st Ave. S  | 0                        | 0                            | 0                            |
|  |                          |                             |                              | 32nd Ave. S  | 0                        | 5                            | 5                            |
|  |                          |                             |                              | 33rd Ave. S  | 0                        | 0                            | 0                            |
| * Primary Access Points  |                          |                             |                              | 34th Ave. S  | 11                       | 12.5                         | 12.5                         |
| Indicating Public Restrooms  |                          |                             |                              | 37th Ave. S  | 9                        | 11.5                         | 11.5                         |
|  |                          |                             |                              | Duval Drive #1                                       | 0                        | 0                            | 0                            |
|  |                          |                             |                              | Duval Drive #2                                       | 0                        | 0                            | 0                            |
| <b>Areas Determined to be Publicly Accessible</b>  | <b>Length</b>            |                             |                              | Duval Drive #3                                       | 0                        | 0                            | 0                            |
| 50' north of R31 to 360' south of R77, containing 525' of Ineligible Shoreline between R46 and R48 | 44,669'                  |                             |                              | Duval Drive #4                                       | 0                        | 0                            | 0                            |
| 4 separate 10' wide accesses between R78 and R80   | 40'                      |                             |                              |  |                          |                              |                              |
|  |                          |                             |                              | ***Includes all parking and bicycle spaces           |                          |                              |                              |
|  |                          |                             |                              | ****Includes all parking spaces and 16-bicycle limit |                          |                              |                              |
| <b>Total Eligible Shoreline Length:</b>  | <b>44,709'</b>           |                             |                              |  |                          |                              |                              |
| <b>Total Project Shoreline Length:</b>   | <b>47,675'</b>           |                             |                              |  |                          |                              |                              |
| <b>Percent Eligible for State Funding:</b>   | <b>93.78%</b>            |                             |                              |  |                          |                              |                              |

**Table 2: Duval County Public Beach Parking Spaces, Bicycle Spaces, and Access Length**

| Public Access                                 | 2014 # of Parking Spaces | 2014 # of Bicycle Spaces | 2014 Length of Public Access (feet)      | Public Access                  | 2014 # of Parking Spaces | 2014 # of Bicycle Spaces | 2014 Length of Public Access (feet) |
|---|--------------------------|--------------------------|--|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| <b>(ATLANTIC BEACH)</b>                       |                          |                          |  |                                |                          |                          |                                     |
| Hanna Park                                    | 100+                     | ---                      | 7695                                     | N. Oceanfront Park/19th Ave. N | 32                       | 0                        | 70                                  |
| 20th St.                                      | 7                        | 0                        | 40                                       | 18th Ave. N                    | 28                       | 0                        | 63                                  |
| 19th St.                                      | 16                       | 7                        | 40                                       | 17th Ave. N                    | 27                       | 0                        | 80                                  |
| 18th St.                                      | 48                       | 9                        | 12                                       | 16th Ave. N                    | 46                       | 0                        | 80                                  |
| Deweese Ave./Coral St./Coquina Pl./Ocean Blvd | 12                       | 0                        | 40                                       | 15th Ave. N                    | 25                       | 0                        | 55                                  |
| 16th St.                                      | 0                        | 2                        | 40                                       | 14th Ave. N                    | 21                       | 0                        | 60                                  |
| 15th St.                                      | 6                        | 0                        | 40                                       | 13th Ave. N                    | 36                       | 0                        | 80                                  |
| 14th St.                                      | 2                        | 0                        | 40                                       | 12th Ave. N                    | 39                       | 0                        | 80                                  |
| 13th St.                                      | 1                        | 5                        | 40                                       | 11th Ave. N                    | 57                       | 0                        | 80                                  |
| 12th St.                                      | 2                        | 5                        | 40                                       | 10th Ave. N                    | 14                       | 0                        | 48                                  |
| 11th St.                                      | 6                        | 5                        | 40                                       | 9th Ave. N                     | 43                       | 0                        | 80                                  |
| 10th St.                                      | 10                       | 18                       | 40                                       | 8th Ave. N                     | 27                       | 0                        | 80                                  |
| 8th St./9th St./Adele Grage Center            | 17                       | 0                        | 12                                       | 7th Ave. N                     | 39                       | 0                        | 80                                  |
| 7th St.                                       | 0                        | 0                        | 40                                       | 6th Ave. N                     | 49                       | 0                        | 80                                  |
| 6th St.                                       | 8                        | 2                        | 40                                       | 4th & 5th Ave. N (Public Pier) | 249                      | 58                       | 471                                 |
| 5th St.                                       | 4                        | 0                        | 40                                       | 3rd Ave. N/Public Parking Lot  | 134                      | 7                        | 80                                  |
| 4th St.                                       | 2                        | 0                        | 40                                       | 2nd Ave. N                     | 98                       | 118                      | 80                                  |
| 3rd St.                                       | 0                        | 5                        | 40                                       | 1st Ave. N                     | 262                      | 16                       | 160                                 |
| 2nd St.                                       | 3                        | 0                        | 40                                       | Beach Blvd.                    | 21                       | 18                       | 100                                 |
| 1st St.                                       | 25                       | 0                        | 30                                       | 1st Ave. S                     | 96                       | 0                        | 80                                  |
| Palm St./Atlantic St. (Ahern St.)             | 59                       | 16                       | 50                                       | 2nd Ave. S                     | 52                       | 0                        | 80                                  |
| Atlantic Blvd.                                | 126                      | 63                       | 100                                      | 3rd Ave. S                     | 69                       | 0                        | 80                                  |
|   |                          |                          | 4th Ave. S                               |                                | 81                       | 0                        | 80                                  |
| <b>(NEPTUNE BEACH)</b>                        |                          |                          |  |                                |                          |                          |                                     |
| Lemon St.                                     | 59                       | 82                       | 57                                       | 7th Ave. S                     | 39                       | 0                        | 80                                  |
| Orange St.                                    | 44                       | 18                       | 57                                       | 8th Ave. S                     | 31                       | 0                        | 80                                  |
| Cherry St.                                    | 31                       | 0                        | 57                                       | 9th Ave. S                     | 47                       | 0                        | 80                                  |
| Walnut St.                                    | 20                       | 2                        | 57                                       | 10th Ave. S                    | 38                       | 0                        | 80                                  |
| Myrtle St.                                    | 21                       | 2                        | 57                                       | 11th Ave. S                    | 19                       | 0                        | 10                                  |
| Cedar St.                                     | 6                        | 0                        | 57                                       | 12th Ave. S                    | 29                       | 0                        | 80                                  |
| Oak St.                                       | 12                       | 0                        | 57                                       | 13th Ave. S                    | 48                       | 0                        | 80                                  |
| Pine St.                                      | 27                       | 0                        | 57                                       | 14th Ave. S                    | 39                       | 0                        | 80                                  |
| Bay St.                                       | 12                       | 0                        | 57                                       | 15th Ave. S                    | 48                       | 0                        | 80                                  |
| Magnolia St.                                  | 15                       | 0                        | 33.5                                     | 16th Ave. S                    | 115                      | 0                        | 80                                  |
| Rose Place                                    | 0                        | 0                        | 16                                       | 18th Ave. S                    | 17                       | 0                        | 40                                  |
| North St.                                     | 14                       | 2                        | 50                                       | 19th Ave. S                    | 16                       | 0                        | 40                                  |
| Florida Blvd.                                 | 29                       | 0                        | 61                                       | Unnamed Access/20th Ave. S     | 0                        | 0                        | 60                                  |
| South St.                                     | 8                        | 0                        | 50                                       | 21st Ave. S                    | 0                        | 0                        | 40                                  |
|   |                          |                          | Unnamed Access btwn 22nd and 23rd Ave. S |                                | 0                        | 0                        | 40                                  |
| Bowles St.                                    | 11                       | 0                        | 50                                       | 25th Ave. S                    | 0                        | 0                        | 30                                  |
| Davis St.                                     | 13                       | 5                        | 50                                       | 26th Ave. S                    | 0                        | 0                        | 5                                   |
| Lora St.                                      | 8                        | 0                        | 50                                       | 27th Ave. S                    | 5                        | 0                        | 5                                   |
| Oleander St.                                  | 9                        | 5                        | 50                                       | 28th Ave. S                    | 0                        | 0                        | 5                                   |
| Myra St.                                      | 4                        | 0                        | 50                                       | 29th Ave. S                    | 4                        | 0                        | 5                                   |
| Margaret St.                                  | 6                        | 0                        | 50                                       | 30th Ave. S                    | 4                        | 0                        | 50                                  |
| Hopkins St.                                   | 21                       | 0                        | 50                                       | 31st Ave. S                    | 0                        | 0                        | 5                                   |
| Seagate Ave./N. 20th Ave.                     | 19                       | 2                        | 50                                       | 32nd Ave. S                    | 5                        | 0                        | 5                                   |
|   |                          |                          | 33rd Ave. S                              |                                | 0                        | 0                        | 5                                   |
|   |                          |                          | 34th Ave. S                              |                                | 9                        | 14                       | 50                                  |
|   |                          |                          | 37th Ave. S                              |                                | 8                        | 14                       | 50                                  |
|   |                          |                          | Duval Drive #1                           |                                | 0                        | 0                        | 10                                  |
| <b>Total Number of Accesses</b>               | <b>97</b>                | Not including Hanna Park |  | Duval Drive #2                 | 0                        | 0                        | 10                                  |
| <b>Total Number of Parking Spaces</b>         | <b>2932</b>              | Not including Hanna Park |  | Duval Drive #3                 | 0                        | 0                        | 10                                  |
| <b>Total Number of Bike Spaces</b>            | <b>500</b>               | Not including Hanna Park |  | Duval Drive #4                 | 0                        | 0                        | 10                                  |