BOARD OF COMMISSIONERS REGULAR WORKSHOP MEETING AGENDA

Wednesday, January 28, 2026 at 2:00 PM
Commission Chambers, 300 Municipal Drive,
Madeira Beach, FL 33708

This Meeting will be televised on Spectrum Channel 640 and YouTube Streamed on the City's Website.

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1. CALL TO ORDER

2. ROLL CALL

3. PUBLIC COMMENT

Public participation is encouraged. If you are addressing the Commission, step to the podium and state your name and address for the record, and the organization or group you represent. Please limit your comments to five (5) minutes and do not include any topic on the agenda. Public comment on agenda items will be allowed when they come up.

If you would like someone at the City to follow up on a comment or question made at the meeting, you may fill out a comment card with the contact information and give it to the City Manager. Comment cards are available at the back table in the Commission Chambers. Completing a comment card is not mandatory.

4. BOARD OF COMMISSIONERS

A. Discuss how to recognize Residents who go above and beyond for the City

B. Vacant Property at 217 150th Avenue, located behind Kava Coffee Shack

C. Board of Commissioners Expenditure Report - (moved to future budget workshop)

5. CITY ATTORNEY

A. Special Magistrate Lien at 703 Sunset Cove, Madeira Beach - Case No. 24-233 (Baker-Cianciulli)

6. CITY MANAGER (ACTING)

A. City Manager Search Update

B. City Photographer Contract Quotes

7. COMMUNITY DEVELOPMENT

A. Ordinance 2026-02, Nonconforming Time Limitations

B. John's Pass Village Parking Garage Discussion

8. FIRE

A. Discussion and Approval of Contractual agreement with Tampa Bay Psychology Associates, LLC

9. PUBLIC WORKS

A. Public Works Building Conceptual Rendering Discussion

B. John's Pass Jetty Sidewalk Design Discussion

C. Archibald Snack Shack Update

D. Tom & Kitty Stuart Park Bathroom and Post Storm Update

E. Purchase of 2026 Ford F550 4x4 Dump Truck

10. RECREATION

A. Madeira Beach Youth Baseball and Softball Contract Renewal

B. Madeira Beach Market Relocation Request

C. Award of RFP 25-17 City of Madeira Beach Fireworks

11. RESPOND TO PUBLIC COMMENTS/QUESTIONS

12. ADJOURNMENT

One or more Elected or Appointed Officials may be in attendance.

Any person who decides to appeal any decision of the Board of Commissioners with respect to any matter considered at this meeting will need a record of the proceedings and for such purposes may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. The law does not require the minutes to be transcribed verbatim; therefore, the applicant must make the necessary arrangements with a private reporter or private reporting firm and bear the resulting expense. In accordance with the Americans with Disability Act and F.S. 286.26; any person with a disability requiring reasonable accommodation to participate in this meeting should call the City Clerk at 727-391-9951, ext. 231 or 232 or email a written request to

cvanblargan@madeirabeachfl.gov.

RESOLUTION 2025-04

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, ADOPTING A CEREMONIAL ITEMS POLICY; AND PROVIDING FOR AN EFFECTIVE DATE HEREOF.

WHEREAS, the Board of Commissioners of the City of Madeira Beach, Florida, wishes to award ceremonial items to celebrate the achievements of residents, businesses, and organizations, fostering community connection and engagement; and

WHEREAS, a ceremonial items policy is needed to outline the procedures for submitting requests, processing, and issuing ceremonial items; and

WHEREAS, the Board of Commissioners, based on the direction provided at its April 16, 2025 Commission Workshop, wishes to adopt a Policy outlining the procedures for submitting requests, processing, and issuing ceremonial items.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, IN SESSION DULY AND REGULARLY ASSEMBLED:

Section 1. That the City of Madeira Beach hereby approves the Ceremonial Items Policy attached hereto as Exhibit A .

Section 2. That this Resolution shall become effective immediately upon its passage and adoption.

INTRODUCED AND ADOPTED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, THIS 9th **DAY OF** July**, 2025.**

Anne-Marie Brooks, Mayor

ATTEST:

Clara VanBlargan, MMC, MSM, City Clerk

Exhibit A

CEREMONIAL ITEMS POLICY

STATEMENT OF POLICY

The Board of Commissioners awards ceremonial items to celebrate the achievements of residents, businesses, and organizations, fostering community connection and engagement. This policy outlines the procedures for submitting requests, processing, and issuing ceremonial items.

DEFINITIONS

Proclamation: A Proclamation is an official public declaration by the Mayor to recognize or raise awareness of an organization, business, issue, event, or individual that has impacted the City of Madeira Beach during a specific time frame.

Business Award: The Business Award recognizes a business, nonprofit organization, or religious institution.

Key to the City: The City's most prestigious award. It may be given selectively to honor a person, who may or may not be a resident of the City of Madeira Beach, with extraordinary or significant accomplishments and contributions to any of the following: the historic, economic, social and/or cultural fabric of the City. The Key may be given to honor significant contributions to the military service, to persons who have performed acts of heroism in the City, to distinguished individuals for exceptional civic contributions, and/or dignitaries and celebrities who have an effect on the City and are visiting.

Certificates of Recognition and Appreciation: Certificates of Recognition and Appreciation are awarded to those individuals or organizations who have performed some act or completed some task or effort on behalf of the City or residents of the City.

City Coin: The City Coin is a coin created for members of the Board of Commissioners or the Mayor to present at their discretion.

Congratulatory Letters: Congratulatory Letters are issued to individuals or organizations for accomplishments such as those congratulating Eagle Scouts, Girl Scouts, and newly elected municipal officials in Pinellas County.

POLICY AND PROCEDURE FOR CEREMONIAL ITEMS

Proclamation

Individuals and organizations seeking a proclamation must submit an application along with sample language that can be modified. Recipients must be able to attend the Board of Commissioners meeting to receive the proclamation, as proclamations will not be mailed. The Mayor and/or members of the Board of Commissioners may also propose a

proclamation, subject to approval by the Board of Commissioners. Proclamations will be listed on the agenda under the Consent Agenda for approval at the Board of Commissioners meeting prior to their presentation. Approved proclamations will be presented by the Mayor and/or members of the Board of Commissioners on a rotating basis. Proclamations proposed by City staff will continue to be added to Board of Commissioners meeting agendas as needed.

Business Award

The City Clerk will contact the Mayor and/or members of the Board of Commissioners on a rotating basis to submit their nominations for a business, nonprofit, or religious institution, with assistance provided by the Tampa Bay Beaches Chamber of Commerce. Upon receiving the information regarding the nominee, the City Clerk will prepare the award and follow up with an invitation to the nominee to the Board of Commissioners meeting at which the award will be presented by the nominator.

Key to the City

The Mayor and/or members of the Board of Commissioners may nominate a distinguished individual to receive the Key to the City by submitting their nomination to the City Clerk. The nomination will be included on the Board of Commissioners' meeting agenda for consideration prior to the presentation. The Key to the City will be presented to the recipient by the Board of Commissioners at a following meeting of the Board of Commissioners.

Certificates of Recognition and Appreciation

Certificates of Recognition and Appreciation signed by the entire Board of Commissioners are awarded to those individuals or organizations who have performed some act or completed some task or effort on behalf of the City or residents of the City.

City Coin

The City Coin may be presented by the Mayor and/or members of the Board of Commissioners. Each member of the Board of Commissioners and the Mayor will be provided with three coins to present.

Congratulatory Letters

Congratulatory letters, signed by the entire Board of Commissioners, will be mailed to those individuals or organizations for their accomplishments such as Eagle Scouts, Girl Scouts, and newly elected municipal officials in Pinellas County.

The City Attorney said that they are talking about three reasons for a study. One, are they charging twice for the mobility fee? Do they need to update it because things have changed in the City, making it necessary to provide the same service at the facilities as initially adopted? Third, it includes the garage space, as it will now be habitable. They can all be done at the same time.

Mayor Brooks asked if that could be paid for out of the impact fees they have collected. Director Silver said she would need to research it more. There are also administrative costs. She did not see any specifics on the costs or amount. The Mayor said it would be easier to spend the impact fee money they collected on the study rather than using funds from another source. It would be easier for her to vote yes if that were the case.

Commissioner Ghovaee asked if they could use the Pinellas County impact fee table for the calculations. They have done the studies and the work. The City Attorney said that it is for transportation and the other categories.

Director Silver said they will bring that back. They will determine if they can utilize those funds and discuss with Kimley-Horn the possibility of them conducting the study. She will set up meetings with the City Attorney.

5. BOARD OF COMMISSIONERS

A. 2026 Board of Commissioners Meeting Schedule – Draft

Mayor Brooks requested changes to the February BOC meetings, scheduling them for February 4th and 11th, and to change the second meeting in April to be held on April 29. If it does not work for everyone, they can leave it unchanged. Commissioner Tagliarini said it was too early to know if he had any schedule changes. The Board had no conflicts with the meeting date changes.

Mayor Brooks opened to public comment. There were no public comments.

B. Ceremonial Items – participation, selection

The City Manager said the item is based on the last meeting. The Board discussed how they would like to bring ceremonial items forward for consideration.

Vice Mayor Kerr asked if the Board would bring up a nomination, and if it would be submitted at a workshop or prior.

Commissioner Ghovaee said he was thinking of creating opportunities for residents to get involved to make something good happen.

Mayor Brooks asked that they address each category in Exhibit A in the policy.

- PROCLAMATIONS

Mayor Brooks said they already do proclamations.

- BUSINESS AWARD

Mayor Brooks said they have not done a business award she is aware of since being there. She read the policy for presenting business awards:

> "The City Clerk will contact the Mayor and/or members of the Board of Commissioners on a rotating basis to submit their nominations for a business, nonprofit, or religious institution, with assistance provided by the Tampa Bay Beaches Chamber of Commerce. Upon receiving the information regarding the nominee, the City Clerk will prepare the award and follow up with an invitation to the nominee to the Board of Commissioners meeting at which the award will be presented by the nominator."

Mayor Brooks said if they followed that, how often would they want to recognize a business? Would they want to do it on a regular rotation, and how often? If they just allow things to be whenever they want, they get lost. They need to decide if they want it once a year, once a quarter, or once every six months. Every month would be a little challenging and a little much.

Commissioner Ghovaee suggested quarterly. Mayor Brooks said that because they have so few businesses, presenting it twice a year would be impactful, and then they could celebrate that business for six months. They would follow the process in the policy.

Commissioner Ghovaee asked what they would have to do to be nominated. The City Clerk suggested having an application process, advertising it on the website, and having the Commission vote. The Mayor suggested that the community nominate and the Board vote on who they want to be the nominee and present the award.

The City Attorney said in the City of Oldsmar, each Commissioner gets a slot. They make a recommendation for a particular business to receive the Business of the Year award, and then it comes to the Commission to acknowledge it. Then the next time up, it would be another Commissioner to make the nomination. Each Commissioner can nominate a business, thereby preventing businesses from competing for the award. They can do that for the Business Award, the Certificate of Recognition, or any other award.

Commissioner Tagliarini asked if it would be incumbent for each Commissioner to explore the businesses or identify a business they feel would qualify. The City Attorney agreed and noted that in some situations in Oldsmar, when a council member was unfamiliar with a business, they would ask the Tampa Bay Chamber of Commerce to recommend who they thought should be recognized, based on the Business's contributions to the City, community, or other relevant factors. The Chamber of Commerce would give some recommendations, and they would choose from those. There are other options. If the Commission member has someone, they run with it; if they do not, they could ask for some assistance. They do not have to recognize a business for something in particular; they would be recognizing a business. The Mayor said it would be the Commissioner on rotation who decides who receives the award; the Board would not be voting on it. The City

Attorney said in Oldsmar, the council member would go to the podium, read a little about the business that stood out, present the award, take a photograph, and then the businessperson would say a few words.

Commissioner McGeehen and Commissioner Tagliarini thought the City Attorney's suggestion was a good idea. Mayor Brooks said she was not opposed to that. They would want to consider rotation to ensure that every Commissioner has the opportunity to award during their term. Commissioner Tagliarini suggested doing it sooner because if it is every six months, someone would rotate out and not have the opportunity to present an award. The Mayor said they could do one this year, the first of the year, and at mid-year. That would keep it on a six-month rotation, and it would work. Because Commissioner Tagliarini and Commissioner Kerr would be up for reelection, they could go first.

Commissioner Ghovaee said that if they were to market the idea of recognizing businesses that are most active and giving, etc., then many businesses would want to participate, rather than a Commissioner just knocking on somebody's door and letting them know they want to nominate them.

Mayor Brooks opened to public comment.

Chuck Dillion, 129 Lillian Avenue, suggested that they let the public decide, and the Board decide who they feel would be the best to receive the award. Oldsmar is huge, and it has lots of businesses.

Mayor Brooks said she agreed. The City Clerk said they could do that after the application process. Commissioner Ghovaee said they could nominate and let the public make the final decision. Mayor Brooks said the public would nominate and the Board would vote on who would get it.

Vice Mayor Kerr said they could advertise that they are seeking nominations and do so on an annual basis, choosing the time for that. They could announce it at their Thanksgiving meeting, letting everyone know they would like to celebrate their businesses and that they are seeking nominations from the public and residents. The nominations can be listed in the agenda. They would all be recognized for being nominated. The City Clerk said they could fill out a form explaining why they would like to be nominated, and then the Board would choose from that.

Mayor Brooks said that when they did the mural at Archibald, it was posted on Facebook. The City Manager said a couple of thousand voted on it. The Mayor said that if they do a big thing, the City is looking to recognize a Business of the Year, or whatever, and the community nominates the person. That makes it easy. They would follow the procedure in the policy. The Board thought it was a good idea.

- KEY TO THE CITY

Mayor Brooks said if any Commission member wishes to nominate someone for a Key to the City, they should provide the information to the City Clerk, who will then bring it to the Board for a vote, either yes or no. She feels strongly that if they are going to nominate someone to get a Key

to the City, that person should have done something very substantial for their City and gone above and beyond.

Vice Mayor Kerr said it would be embarrassing to vote for someone nominated to not get the award. Commissioner Tagliarini said they could not discuss it on their own before the meeting. The Mayor said everything must be in the Sunshine or it would be a Sunshine violation. The City Attorney said that in the last 35 years, he has only seen the Key to the City given away a couple of times in all the cities he represents. It is not something that happens very often, and there is usually no process for it. Once a nomination was made by one of the Commissioners, there was no vote.

Commissioner Ghovaee said that years ago, someone had turned 100, and he asked that the City give them a Key to the City, which they did. Vice Mayor Kerr asked how it was presented, and Commissioner Kerr said he thinks it was from the podium. Mayor Brooks said that would not be a controversial issue.

The City Attorney said they have already adopted the policy. Mayor Brooks said the policy is the process they voted on.

Commissioner Ghovaee asked if they could give a Key to the City to a state legislator. Mayor Brooks said her opinion on that would be that they have done a lot for the City, specifically because not all their state legislators have done anything for them. Some have pushed bills that worked against the City. She would not be inclined to give anyone in that position a key because they have not gone above and beyond. Their job is to legislate for the City, and if they are not doing that, then why would they want to reward them? Awarding a Key to the City is a special honor. Commissioner Tagliarini agreed. That would be more controversial than a 100-year-old resident.

- CERTIFICATES OF RECOGNITION AND APPRECIATION

Mayor Brooks said that anyone can receive a certificate of recognition and appreciation. They do that now.

- CITY COIN

Mayor Brooks said it is self-explanatory that each of them gets three coins to present.

- CONGRATULATORY LETTERS

Mayor Brooks said they have already issued congratulatory letters.

Mayor Brooks said the policy reminds them that they have the authority and the ability to say what they want to do and to do them. They go right through the City Clerk to make it happen.

The City Clerk said she has written many proclamations for 100th birthday celebrations, graduations, and other events. The City Clerk's Office would contact the family to obtain more

information when they were given the name of the individual they would like to receive a proclamation. She would write the proclamation.

6. CITY ATTORNEY

A. Scott Holcomb Request for Special Magistrate Lien Reduction – 572 Johns Pass Avenue

City Attorney Tom Trask gave the background of the item. There was a total of $92,044.07 of associated fines. The property came into compliance on November 13, 2024. The property owner asked the City to waive the entire fine. It was not something City staff could support, but they would support a reduction to $46,022.04. Because the lien on the property was recorded, the Special Magistrate cannot reduce the fine. It has to be considered by the Board of Commissioners.

Mayor Brooks opened to public comment.

John Scott Holcomb, 572 Johns Pass Ave., explained that the City informed his contractor that they would not require a permit for the outdoor kitchen because it is not a permanent structure, and there was already electricity and plumbing in place. He gave a copy of an Affidavit signed by his contractor to the City Clerk. The contractor asked the City for a copy of the video showing he had the conversation, but was told it was not available. He thought there were ongoing conversations between the contractor and the City to resolve it, so he would not have to tear down a $60,000 kitchen. He understood that the fine of $250 per day was due to not having fencing around the pool, not the kitchen. The fencing was put in, so he did not think there was any fine.

He was working with the City to figure out what they needed to do. He asked if the penalties could be delayed while he worked things out, but it was denied. He resides full-time in Tampa, and when he came back to the City, he found a notice of a hearing that had already taken place. He watched the video recording of the meeting and saw Attorney Trask add a certified letter signed by him to the record. Neither he nor his wife signed for a certified letter. Other things have happened throughout that process. It had always been his intent to come into compliance. He has emails from him and the City, as well as from him and the contractor, saying he needed to get it in compliance. He had asked what he needed to do.

In a letter about a year ago to Mr. Trask, he asked if the fine could be waived. Part of that was due to his conversation with Mr. Gomez about the issue that day, where he mentioned to Mr. Gomez that he did not sign the letter.

Deputy Siem from the Pinellas County Sheriff's Office said he tagged the home for a warning yesterday for not maintaining the yard. The home appeared to be abandoned. Deputy Snyder said they had pictures taken yesterday to show the condition of the yard.

Vice Mayor Kerr said they have a neighborhood four doors down from Mr. Holcomb that had an outdoor kitchen. They were told it was in violation. They took it down before it had gone to the Special Magistrate. He does not understand why it is coming to the Commission after two years.

Memorandum

Meeting Details: January 28, 2026 - Board of Commissioners Workshop Meeting

Prepared For: Honorable Mayor Brooks and the Board of Commissioners

From: City Manager & Community Development Dept., Clint Belk, Andrew Morris & Marci Forbes

Subject: 217 150th Ave Zoning and Future Land Use Information

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Discussion:

The subject property consists of four parcels with a total of approximately 12,720 Sq Ft or 1.65 acres. The designations of the property:

- Future Land Use – Planned Redevelopment Mixed Use (PRMU)
- Commercial Core District of the Town Center Special Area Plan
- Current Zoning – C-3, Retail/ Commercial

The current zoning for the property has numerous permitted, accessory and special exception uses: These uses can be found at this link or attached: DIVISION 7. - C-3, RETAIL COMMERCIAL | Code of Ordinances | Madeira Beach, FL | Municode Library Any development within the Town Center requires mixed use development.

There has been discussion of a potential public works yard at this location. If that were a desired use, the property would need to go through a significant planning process to rezone the property to P-SP, Public Semi Public. The first step would be to amend the Town Center Special Area Plan which involves a citywide visioning process and review of the overall Town Center plan, along with balancing the uses within the Special Area Plan. The next step would be to amend the Comprehensive Plan to allow the use. The third step would be a map amendment and incorporation of requirements for the P-SP zoning in the PRMU. Each of these requires multiple public hearings at the city level, in addition the Special Area Plan and the Comprehensive Plan require review by both Forward Pinellas and the State Department of Commerce. State and regional agencies also review the Comprehensive Plan. Staff's estimate is that this process would take at least a year due to the visioning, public hearings and multiple reviews required.

According to the owner there are multiple types of easements that affect the property.

Compatibility of uses on this parcel which is adjacent to residentially zoned properties would need to be considered for any proposed use and change to the code.

Recommendation(s):

Discuss and provide direction to city staff.

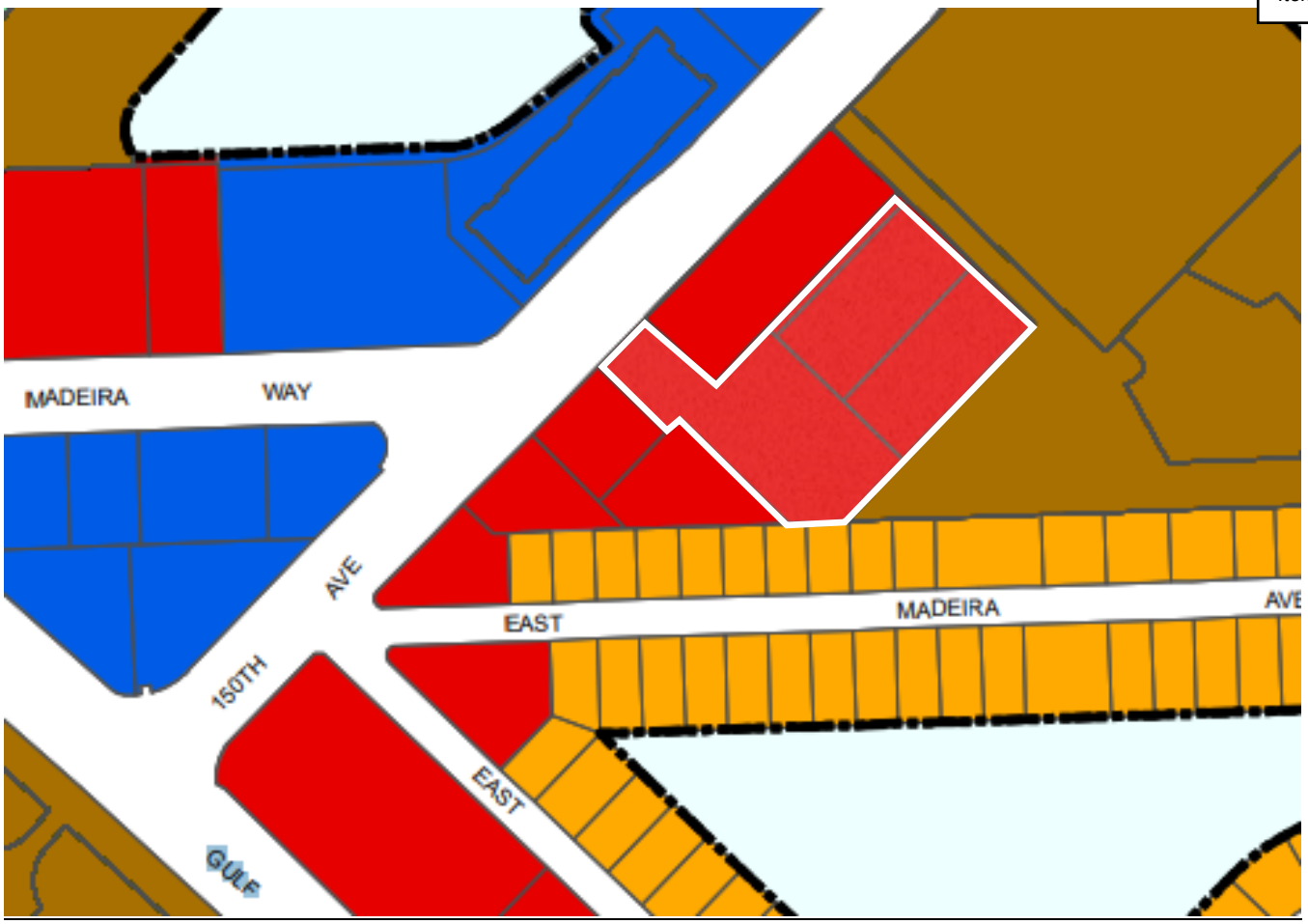
Fiscal Impact or Other:

TBD

Attachments:

C-3 Zoning District Regulations

Subject Parcel outlined in Red



Zoning Map with Subject Parcels outlined in White

Madeira Beach Zoning Districts

- John's Pass Village Activity Center (C-1)
- Retail Commercial (C-3)
- Marine Commercial (C-4)
- Public-Semi Public (P-SP)
- Planned Development (PD)
- Single-Family Residential (R-1)
- Low Density Multifamily Residential (R-2)
- Medium Density Multifamily Residential (R-3)

Meeting: **217 150th Ave. Property**
Date: **January 20, 2026**
Location: **Commission Chamber**
In attendance: **Vice Mayor Kerr, Acting City Manager Clint Belk, Megan Powers, Marci Forbes, Andrew Morris, Kathleen Younkin, Rob Andrevich, Cayman Ellis**

- Easement is the biggest concern, Madeira Cove has said they will not allow traffic on the easement
    - Madeira Cove thinks the easement is their property, looking for survey
- Marci, Kathy, and Andrew joined meeting
- Megan W, detailed assessment what the building will be used for and how it will be used- Public Works building- plans, intent, etc.
- Rob (property owner) we should own this even if not for the PW building, it is a great thing for the City to own
- Hot topic at last BOC meeting- Madeira Cove does not want PW building there
    - If we were going to use as PW Building, only access is off 150th, U-turn will be needed to turn left. Garbage trucks would have a difficult time
    - Rob- add a light on 150th, would reduce speed limit, allow folks to access west bound without damaging traffic patterns
    - DOT would have to do a traffic study, anything we discuss to change traffic patterns is really a wish list, they cannot guarantee any changes will be made.
        - When we have approached DOT in the past they are not willing to play ball with changing that corridor.
        - Is there an option for a turn lane instead of median? Still DOT call
    - This is in the Mad beach town center, it will have guidelines on when the property will be redeveloped.
        - Could rezone to public/semi public. Right now is it commercial. Right now a PW building would not be compatible as current zoned.
        - Intent is to have the properties to be redeveloped into a walkable mixed used town center
- Rob Ideas
    - container park by Orlando Airport
    - Sparkman Warf
    - Something to do when it rains
- Need to look into Madeira Cove easement, who owns it, when did it change hands?

- Alley is owned by property owner but looks like there is an easement for the alley, looking into it.
- Verizon currently has easement use. They have a perpetual use agreement. All they care about is their communication lines. Not operating equipment, they are ok to move but on property owners dime.
    - Will get it mapped out where the lines are in case they need to be moved. They need access to parking and the building.
- Duke easement has underground cables, cannot build on that easement
- No records of who granted the easements all they have is the condo declaration. Cannot see who owner prior to 1987.
    - Center line of 150th 20 ft wide to end of the property line.
- Rob stating 704.01 Common Law and statutory easements defined and determined.
    - Will need to have a land use attorney look into this.
    - If Madeira Cove says they will not accept, what do we do? Have to look at the statute listed and to see who owns the easement.
- VM Kerr- This property would allow for more space
    - City would have to rezone area, doable but would take a bit to do paperwork and votes.
    - Staff- Would need a comp plan change and zone change, looking at a year.
- If City didn't purchase, can they develop as condos with retail underneath? What is the density? No more than 24 but you would have to take away some units for the mixed use space that is required.
    - Can do hotel with retails. About 80ish units.
- One Piece missing, who owned property in 1940 for the easement
    - General telephone
    - Owner to talk to a title company to do more paper trail
- What does the city need to answer for us to viably purchase the property
    - Easement, what is Mad Cove looking for
    - Asking price-
        - Recommended- $4.5 mil
        - Actual- $3.88 mil
        - Comps in area- $3.1 mil per acre
    - Approval to go into the easements and what we can use the property for and get appraisals
- If Kava building included- $1.35 plus cost of renovation. Would give us 23% of the property. Retail space ownership is like condos, percentage in ownership. Need vote for common space renovations.

    - If we purchased the whole “condo” lot it would be $2.13 mil, if all willing to sell
- How can we help
    - Misconceptions on use of property. IE no trucks stored on site
    - If BOC is ok, work with DOT to add light
    - Noise- more noise if it is PW building?
    - Madeira Cove is not the only one who makes the decision
        - Snug Harbor and Vista would be equally affected
    - Duke energy property, nothing above ground except box. Can the city access through residential?
        - Easement with Duke to access property and not have to worry about madeira cove easement.
        - Andrew to look at zoning, land use looks to be ok if we were to ask for an easement from Duke energy
        - Rumor is that duke is willing to sell but no contact has been made.
    - FDOT last time we talked about moving light, they need a certain amount of trips to add a light. Currently there was not enough trips.
    - Vote to allow the city to keep exploring the opportunity of the property, how it can be used, and how we can make the easements work.
    - Property owner looking to sell as soon as possible, has another person interested but might have to be a partner. Owner would rather just sell out right.

DIVISION 7. C-3, RETAIL COMMERCIAL

Sec. 110-316. Definition; purpose and intent.

The C-3, retail commercial district provides service to both permanent and transient residents where a full range of urban services and a high degree of accessibility is required. The C-3, retail commercial district correlates with the commercial general (CG), residential/office/retail (R/O/R), and planned redevelopment-mixed use (PR-MU) future land use categories of the City of Madeira Beach Comprehensive Plan and the retail and services (R&S) and activity center (AC) plan categories in the countywide plan.

(Code 1983, § 20-404; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2022-10, § 1, 5-11-22; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Cross reference(s)—Definitions generally, § 1-2.

Sec. 110-317. Permitted uses.

The permitted uses in the C-3, retail commercial district are as follows:

(1) Retail commercial, and personal service/office support.

(2) Office and business service.

(3) Multifamily residential and vacation rental.

(4) Temporary lodging.

(5) Restaurants.

(6) Adult entertainment establishments (article VI, division 13 of this chapter).

(7) Townhouses (see chapter 110, Zoning, article VI, Supplementary District Regulations, division 10, Specific Development Standards, subdivision III, Townhouses, for additional standards).

(Code 1983, § 20-404; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-318. Accessory uses.

The accessory uses in the C-3, retail commercial district are as follows:

(1) Off-street parking and loading/unloading.

(2) Nonresidential signs.

(3) Essential services.

(4) Other accessory uses customarily permitted.

(5) Boat slips associated with a permitted business use, not for rental or commercial marine activities.

(Code 1983, § 20-404)

Sec. 110-319. Special exception uses.

Upon application for a special exception to the special magistrate and favorable action thereon, the following uses may be permitted in the C-3, retail commercial district:

(1) Service stations.

(2) Commercial recreation provided that such facilities shall not be permissible when the underlying future land use category is R/O/R.

(3) Institutional as religious use such as churches, synagogues or other houses of worship.

(4) Public service facilities.

(5) Drive-in or drive-through retail commercial, and personal service

(6) Private fraternal, social and recreational clubs.

(7) Outdoor storage areas, provided that the outdoor storage use is an accessory, is limited to areas in the CG land use category, and does not exceed 20 percent of the area of the building which is the principal use on the site.

(8) Single-family or duplex.

(9) Private schools.

(10) Exhibition of reptiles by permit.

(11) Open rooftop, balcony and elevated terrace use, if commercial use or accessible to more than one temporary lodging, vacation rental, or residential unit.

(Code 1983, § 20-404; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2015-03, § 1, 2-24-15; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-320. Building site area requirements.

The minimum building site area requirements in the C-3, retail commercial district are as follows:

(1) Lot size:

a. For all uses except multifamily, vacation rental and temporary lodging units: 4,000 square feet.

b. Duplex and triplex units: 3,000 square feet per dwelling unit.

c. Multifamily and vacation rental units and above: 2,420 square feet per dwelling unit.

d. Public service facilities: Shall not exceed a maximum area of five acres. Like uses or contiguous like uses in excess of this threshold shall require the parcel to be amended to the P-SP zoning district and the appropriate land use category.

(2) Lot width:

a. All permitted uses except multifamily, vacation rental and temporary lodging units: 40 feet.

b. Multifamily, vacation rental and temporary lodging units: 60 feet.

(3) Lot depth: All permitted uses: 80 feet.

(4) For properties located in the commercial general (CG) future land use category in the comprehensive plan, the density is a maximum of 15 residential dwelling units 15 vacation rental units, or 40

temporary lodging units per acre. Alternative temporary lodging use standards are allowed as detailed in subsection 110-326(f).

(5) For properties located in the residential/office/retail (R/O/R) future land use category in the comprehensive plan, the maximum density is 18 residential dwelling units, 18 vacation rental units, or 40 temporary lodging units per acre. Alternative temporary lodging use standards are allowed as detailed in subsection 110-326(g).

(6) For properties located in the commercial core district of the planned redevelopment-mixed use (PR-MU) future land use category of the comprehensive plan, the maximum density is 15 residential dwelling units, 15 vacation rental units, and 60 temporary lodging units per acre.

(7) For properties located in the transition district of the planned redevelopment-mixed use (PR-MU) future land use category of the comprehensive plan, the maximum density is 15 residential dwelling units, 15 vacation rental units, and 60 temporary lodging units per acre.

(Code 1983, § 20-404; Ord. No. 1043, § 2, 6-14-05; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2022-10, § 2, 5-11-22; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-321. Setback requirements.

The following minimum setbacks shall apply in the C-3, retail commercial district:

(1) Front yard: 25 feet, measured from right-of-way to structure.

(2) Rear yard: ten feet, except waterfront lots which will have a rear setback of 18 feet.

(3) Side yard:

a. All permitted uses except multifamily/tourist dwelling units will have a side setback of ten feet.

b. Multifamily/tourist dwelling units:

1. For proposed uses located on properties between 60 and 80 feet in width, the minimum side yard setback shall be ten feet.

2. For lots greater than 80 feet in width, the minimum side yard setback is as follows:

3. A total of 33 percent of the lot width shall be reserved for side yard setbacks. In no event shall one side be less than the following:

i. Lots less than 120 feet: ten feet.

ii. Lots less than 240 feet: 15 feet.

iii. Lots 240 feet or greater: 20 feet.

(Code 1983, § 20-404)

Sec. 110-322. Maximum building height.

(1) Properties in the commercial general (CG) or residential/office/retail (R/O/R) future land use category of the comprehensive plan other than multifamily or temporary lodging uses shall have a maximum building height of 34 feet from design flood elevation (DFE).

(2) Properties in the commercial general (CG) or residential/office/retail (R/O/R) future land use category of the comprehensive plan with a multifamily or temporary lodging use shall have a maximum building height of 44 feet from design flood elevation (DFE).

(3) Properties located in the planned redevelopment-mixed use (PR-MU) future land use category of the comprehensive plan shall have a maximum building height of:

a. Commercial Core: three stories from base flood elevation (BFE).

b. Transition District: two stories from base flood elevation (BFE).

(Code 1983, § 20-404; Ord. No. 2021-23, § 1, 11-10-21; Ord. No. 2022-10, § 3, 5-11-22; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-323. Maximum lot coverage.

The maximum lot coverage in the C-3, retail commercial district is based on the use and future land use categories in the comprehensive plan as follows:

(1) Commercial general (CG) commercial use: the floor area ratio (FAR) is 0.55.

(2) Residential/office/retail (R/O/R) commercial use: the floor area ratio (FAR) is 0.55.

(3) Planned redevelopment-mixed use (PR-MU) commercial core district: the floor area ratio (FAR) is 1.2.

(4) Planned redevelopment-mixed use (PR-MU) transition district: the floor area ratio (FAR) is 1.2.

(Code 1983, § 20-404; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2022-10, § 4, 5-11-22; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-324. Impervious surface ratio (ISR).

(a) For properties located in the commercial general (CG) or residential/office/retail (R/O/R) future land use categories of the comprehensive plan the impervious surface ratios (ISR) are:

(1) The impervious surface ratio (ISR) for all uses, other than temporary lodging units, is 0.70.

(2) The impervious surface ratio (ISR) for temporary lodging units is 0.85.

(b) For properties located in the planned redevelopment-mixed use (PR-MU) future land use category the impervious surface ratios (ISR) are:

(1) Commercial core district: the impervious surface ratio (ISR) is 0.85.

(2) Transition district: the impervious surface ratio (ISR) is 0.70.

(Code 1983, § 20-404; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2024-13, § 1, 9-11-24)

Sec. 110-325. Buffering requirements.

(a) Parking lots/garages for temporary lodging and nonresidential uses in the C-3, retail commercial district shall be designed to minimize their impacts to any adjacent residential uses as established in the land development regulations.

(b) During the development process, existing curb cuts in the C-3, retail commercial district shall be reoriented, if necessary, to minimize the negative impact on adjacent properties.

(c) All development within the C-3, retail commercial district in this category will meet or exceed the buffering/landscape requirements as outlined in chapter 106, article II.

(Code 1983, § 20-404; Ord. No. 2023-29, § 1, 12-13-23)

Sec. 110-326. Special requirements.

(a) In the C-3, retail commercial district residential dwelling units, vacation rental units, and temporary lodging units are permitted above first-floor commercial or office units.

(b) No structure in the C-3, retail commercial district may be wider than 150 feet parallel to the front yard right-of-way. If two structures are proposed on the same lot or parcel, the buildings shall be separated by a minimum of ten feet.

(c) When a proposed nonresidential use in the C-3, retail commercial district abuts a residential use an additional five-foot setback is required along the length of the entire shared lot line. This additional setback will be utilized to provide additional landscaped screening.

(d) Mixed uses in a single development shall not exceed, in combination, the respective number of units per acre and floor area ratio permitted, when allocated in their respective proportion to the gross land area of the property.

(e) Institutional, other than public educational facilities shall not exceed a maximum area of five acres. Transportation and/or utility uses shall not exceed a maximum area of three acres.

(f) In the commercial general (CG) future land use category of the comprehensive plan, alternative temporary lodging use standards allows 60 temporary lodging units per acre and a FAR of 1.2. A development agreement is required by the city's land development regulations and Forward Pinellas' Countywide Rules to use the alternative temporary lodging use standard. The development agreement must follow all required standards in Forward Pinellas Countywide Rules to use the alternative temporary lodging use standards.

(g) In the residential/office/retail (R/O/R) future land use category of the comprehensive plan, alternative temporary lodging use standards allows 60 temporary lodging units per acre and a FAR of 1.2. A development agreement is required by the city's land development regulations and Forward Pinellas' Countywide Rules to use the alternative temporary lodging use standard. The development agreement must follow all required standards in Forward Pinellas Countywide Rules to use the alternative temporary lodging use standards.

(Code 1983, § 20-404; Ord. No. 1138, § 7, 12-9-08; Ord. No. 2022-10, § 5, 5-11-22; Ord. No. 2023-29, § 1, 12-13-23; Ord. No. 2024-13, § 1, 9-11-24)

Secs. 110-327—110-345. Reserved.

TRASK DAIGNEAULT LLP
ATTORNEYS

THOMAS J. TRASK, B.C.S.*
JAY DAIGNEAULT, B.C.S.*
ERICA F. AUGELLO, B.C.S.*
RANDY D. MORA, B.C.S.*
ROBERT M. ESCHENFELDER, B.C.S.*
NANCY S. MEYER, B.C.S.*
ZOE S. RAWLS
TAMMI E. BACH, B.C.S.*

* *Board Certified by the Florida Bar in City, County and Local Government Law*

MEMORANDUM

DATE: December 9, 2025

TO: Mayor Anne-Marie Brooks
Vice Mayor Ray Kerr
Commissioner David Tagliarini
Commissioner Eddie McGeehen
Commissioner Housh Ghovaee

CC: Clint Belk, Acting City Manager

FROM: Thomas J. Trask, City Attorney

RE: Special Magistrate Lien at 703 Sunset Cove, Madeira Beach
Case No. 24-233 (Baker-Cianciulli)

The purpose of this memorandum is to provide you with some background and a recommendation regarding a request the City received from Attorney Clay Gilmon on behalf of his client, Kent Baker.

BACKGROUND

On April 16, 2025, the Special Magistrate found the subject property in violation of Section 86-52 of Division 2 (Building Permits) of the city code for the installation of an HVAC system without a building permit. An Order Imposing Fine was executed by the Special Magistrate which imposed a fine in the amount of $100.00 per day (plus interest) for this lien against the owners. The property was not brought into compliance for 88 days. The violation resulted in fines of $8,800.00 plus interest and recording costs for a total amount due the City, as of October 28, 2025, in the amount of $8,854.22.

Recently Attorney Clay Gilman contacted Holden Pinkard to advise of Mr. Baker's interest in resolving this outstanding lien. After an exchange of communication with the City, Mr. Gilman sent the City the attached letter requesting that the entire fine be waived.

1001 South Fort Harrison Avenue, Suite 201 • Clearwater, Florida 33756 E-Mail tom@cityattorneys.legal Telephone 727-733-0494 Fax 727-733-2991
A Limited Liability Partnership

RECOMMENDATION

Although City staff is supportive of a partial fine reduction, staff believes that the City should be reimbursed for staff time incurred in the prosecution of this case. The Acting City Manager and City staff are recommending that the fine be reduced to $2,000.00 if the fine is paid within thirty (30) days. If not paid within thirty (30) days, the fine should revert back to the original amount due.

Respectfully submitted.

TJT/kt

Attachments: Special Magistrate Lien
Payoff
Settlement Offer

cc: Clara VanBlargan, City Clerk
Holden Pinkard, Building Compliance Supervisor
Clint Belk, Acting City Manager

CODE ENFORCEMENT SPECIAL MAGISTRATE
CITY OF MADEIRA BEACH

CITY OF MADEIRA BEACH,

Petitioner,

vs.

BAKER, KENT RICHARD
CIANCIULLI, DEBORAH ANN,
703 Sunset Cove
Madeira Beach, FL 33708,

Respondents.
_____/

CASE NUMBER: CE-24-233

FINDINGS OF FACT, CONCLUSIONS OF LAW
AND ORDER IMPOSING FINE AND CERTIFYING LIEN

THIS CAUSE came on to be heard at the public hearing before the undersigned Special Magistrate on March 31, 2025, after due notice to the Respondents, and the Special Magistrate having heard testimony under oath, received evidence, and otherwise being fully advised in the premises, hereby finds as follows:

Findings of Fact:

1. The City was represented by the City Attorney, and Grace Mills provided testimony on behalf of the City.

2. Kent Baker appeared on behalf of the Respondents and admitted to the violation.

3. No one provided public comment.

4. The property in question is located at 703 Sunset Cove, Madeira Beach, Florida 33708 ("Property"). The legal description for the Property is as follows:

BAY POINT ESTATES BLK 2, LOT 3

5. Proper notice was served upon the Respondents via certified mail, regular mail, posting or hand delivery in accordance with Chapters 162 and 166, *Florida Statutes*.

6. The Respondents were notified that Respondents were in violation of the following sections of the Code of Ordinances of the City of Madeira Beach to wit:

Sec. 86-52.- When required.
A person, firm or corporation shall not construct, enlarge, alter, repair, move, demolish,

or change the occupancy of a building or structure, or erect, or construct a sign, or install or alter fire extinguishing apparatus, elevators, engines, steam boiler, furnace, incinerator, or other heat producing apparatus, plumbing, mechanical or electrical equipment or any appurtenances, the installation of which is regulated by the land development regulations or other sections of the Code until a permit has been issued by the building official. When the cost of repair or modification does not exceed $500.00, does not result in a structural change, and does not require an inspection, a permit need not be issued by the building official. No permit is required for uncovered flat slabs of no greater than 50 square feet, for work of a strictly cosmetic nature (painting, wallpapering, carpeting, kitchen cabinets, etc.) or roof work less than $100.00 in value.

7. The violation set forth above existed as of the date of the Notice of Violation herein and at all times subsequent thereto up to the date of the Hearing.

8. A reasonable period of time for correcting the above violation and bringing the Property into compliance is on or before April 30, 2025.

BASED UPON THE FOREGOING FINDINGS OF FACT, IT IS HEREBY ORDERED AND ADJUDGED AS FOLLOWS:

9. The Respondents, and the Property at the above mentioned location, are found to be in violation of Section 86-52 of the Code of Ordinances of the City of Madeira Beach.

10. The Respondents shall correct the above stated violation on or before April 30, 2025, by taking the remedial action as set forth in the Notice of Violation, and as stated on the record at the Hearing which is to apply for and obtain an "after-the-fact" building permit for the HVAC unit(s) that were replaced.

11. Upon complying, the Respondents shall notify the Code Compliance Officer at the City of Madeira Beach, who shall then inspect the Property to confirm compliance has been accomplished.

12. If the Respondents fails to timely comply with the remedial actions as set forth above, a fine shall be imposed, in the amount of $100.00 per day for the violation set forth in Paragraph 6 above for each day the Respondents have failed to correct the violation after April 30, 2025, and the fine shall continue to accrue until such time as the Property is brought into compliance.

13. The Special Magistrate does hereby retain jurisdiction over this matter to enter such other and further orders as may be just and proper.

DONE AND ORDERED this 16th day of April, 2025.

Bart R. Valdes
Special Magistrate

A true and correct copy of this Findings of Fact was delivered by certified mail and regular mail to: **Kent Baker and Deborah Cianciulli, 703 Sunset Cove, Madeira Beach, Florida 33708;** by electronic mail to **Thomas Trask, Esq. (tom@cityattorneys.legal)**; and by U.S. Mail and e-mail transmission to the **City of Madeira Beach, Clara VanBlargan, 300 Municipal Dr., Madeira Beach, Florida 33708,** on this 16th day of April, 2025.

Bart R. Valdes

APPEALS

An aggrieved party, including the local governing body, may appeal a final administrative order of a Special Magistrate to the circuit court. Such an appeal shall not be a hearing de nova but shall be limited to appellate review of the record created before the Special Magistrate. An appeal shall be filed within 30 days of the execution of the order to be appealed. §162.11, *Florida Statutes* (2024).

#####

MADEIRA BEACH
Kent Richard Baker and Deborah Ann Cianciulli
703 Sunset Cove
Case No. 24-233 **as of: October 28, 2025**

IN COMPLIANCE

Fine Start		7/7/2025	
Fine Stop		10/2/2025	88 days
Rate		$100.00 /day	
Principal		**$8,800.00**	
Recording		**$0.00**	
	SUB TOTAL	**$8,800.00**	

Interest Rate	0.000236986 (8.65% per annum)		
Interest on Principal		**$2.09** /day	
Interest Start		10/3/2025	
Today's Date		10/28/2025	26 days
	Interest	**$54.22**	
	TOTAL	**$8,854.22**	

MFM
ESTD 1884
Macfarlane Ferguson & McMullen

One Tampa City Center, Suite 2000
201 N. Franklin Street
P.O. Box 1531 (33601)
Tampa, FL 33602
813.273.4200

WWW.MFMLEGAL.COM
EMAIL: INFO@MFMLEGAL.COM

625 Court Street, Suite 200
P.O. Box 1669 (33757)
Clearwater, FL 33756
727.441.8966

November 12, 2025

Mayor Anne-Marie Brooks
& Madeira Beach Board of Commissioners
300 Municipal Drive
Madeira Beach, FL 33708

Re: Kent Baker – 703 Sunset Cove, Madeira Beach, FL 33708
Release of Code Enforcement Lien in the Amount Of $8,854.22

Dear Mayor Brooks and Madeira Beach Board of Commissioners,

Our firm has the pleasure of representing a long-time Madeira Beach resident, Kent Baker, the owner of several properties in Madeira Beach including the subject property located at 703 Sunset Cove, Madeira Beach, Florida 33708 (the "*Property*"). Unfortunately, like so many other properties in Madeira Beach and throughout the beach communities, the Property sustained damage during the 2024 hurricane season including the failure of the Property's air conditioning unit. In the aftermath of this devastation, Mr. Baker was desperate to restore the Property and make it a livable space free from mold. Mr. Baker purchased an HVAC unit and installed it without a building permit in order to keep the Property from beginning to gather mold due to the moisture and humidity.

Unbeknownst to Mr. Baker, the installation of the HVAC unit done without a permit was a violation of Section 86-52 of the City of Madeira Beach Code of Ordinances. The City cited Mr. Baker due to the Property's noncompliance with the Code and a Special Magistrate Order was issued enforcing a $100.00 fine for every day that the violation was not remedied. Upon learning of the violation, Mr. Baker retained our services and we attempted to resolve the issue without removal of the HVAC unit. However, we advised Mr. Baker that the most expedient remedy to come into compliance was to remove the

HVAC unit which he did as soon as possible upon receiving our advice. The fines began accruing on July 7, 2025, and ended on October 2, 2025, when an inspection deemed the Property to be in compliance after the removal of the HVAC unit. The total fines which accumulated on the Property amount to $8,854.22, which sum includes interest owed.

It is Mr. Baker's request that you waive and release the $8,854.22 lien owed to the City of Madeira Beach due to the extenuating circumstances related to the hurricanes. Mr. Baker was unaware when he purchased the HVAC unit, in a time of crisis, that it would result in a Code violation and subsequent lien on the Property for thousands of dollars. Mr. Baker is still attempting to restore the Property after the devastation inflicted by the hurricanes to the community. Your approval of this waiver and release of the lien will circumvent further financial loss for Mr. Baker, who has already endured significant hardship.

Yours Truly,

Brian J. Aungst, Jr., Esq.

From: Powers, Megan
To: Board of Commissioners
Cc: Belk, Clint
Subject: CM Recruitment Search & Availability Feb/March
Date: Friday, January 9, 2026 12:51:39 PM
Attachments: Outlook-ho10dbb5.png

Good Afternoon,

Please do not reply all to this email

Chief and I had a conversation with Renee regarding how things are going and the timeline moving forward. We will be adding this to the Jan workshop to discuss and see if you'd like to move any of the dates sooner or later due to the upcoming election.

To move things fast I am requesting your availability for February and March so we can schedule interviews and specials meetings if needed. Applications are due Jan 26th so after that it should move faster.

I look forward to hearing from you and moving forward with our search.

Regards,

Megan Powers
Assistant to the City Manager
City of Madeira Beach
727-503-0067
mpowers@madeirabeachfl.gov
www.madeirabeachfl.gov

CITY OF MADEIRA BEACH, FL
CITY MANAGER
TENTATIVE TIMELINE

ACTIVITY	CONDUCTED BY	DATE
City Approves Profile/Ad	City	December 16, 2025
Ad Placement	SRNA	January 2026
Outreach/Recruitment Closes	SRNA	January 26, 2026
Preliminary Review of Resumes	SRNA	January 27, 2026
Candidates Interview with SRNA Nexis	SRNA	Week of February 2, 2026
Newspaper/Google Checks	SRNA	February 4, 2026
Recommend Final Candidates to City Commission (Review of candidates SRNA interviewed; City selects finalists)	SRNA	February 18, 2026
City Interviews Finalists	City/SRNA	March 4, 2026
City Chooses Top Candidate(s)	City	March 2026
Background Check(s) (i.e. Criminal, Civil, Education, Credit Checks)	SRNA	March 2026
Negotiations with Selected Candidate	City/SRNA	March 2026

(*) S. Renée Narloch & Associates

MEMORANDUM

Date: January 20, 2026
To: Mayor, Vice-Mayor and Commissioners
From: Megan Powers, Assistant to the City Manager
Subject: City Photographer Contract

Background

City staff has been utilizing photography services to capture events and highlights occurring throughout the city. These services have included professionally edited photographs, videos, and specialized social media content designed to enhance the City's online presence and overall communications strategy.

The use of professional photography has proven valuable in improving the quality and consistency of content shared with the community, supporting transparency, engagement, and public awareness of City activities.

Staff recommends entering into a contract with a professional photographer to provide services for predetermined City events, as well as establishing an hourly rate for unplanned or short-notice items that arise throughout the year. This approach would ensure timely access to high-quality visual content while providing flexibility to meet emerging needs.

A contractual arrangement would allow the City to maintain a consistent visual standard, streamline scheduling, and better manage costs associated with photography and media services.

Research

Reached out to five photographers, got 2 proposals back:

- Jeremiah Khokhar Photography, LLC:
  - We have been working with Jeremiah over the last year to document pictures and video post storm and how we are recovering.
  - Wrote posts and shot shorts for social media
  - Has national exposure as a photographer
  - Website: https://www.jeremiahkphotography.com/
    - He also did all the burger week and seafood fest promos
  - Cost:
    - $36,500/Year for events listed in contract
    - $200/hr for any additional items. Includes production, editing, and posting.
- St. Jean Creative Photography
  - Works with Pinellas Beaches Chamber as official photographer
  - Has done BOC headshots
  - Has experience with Photography and Video
  - Certified by the Professional Photographers of America
  - Website: https://stjeancreative.com/about-st-jean-creative

- Cost:
  - Estimated $56,000/year (about 700 hours total for events listed)
  - $80/hour

Recommendation:

The cost of the photography services would be covered by the Recreation and City Manager Departments. The contract will also include a termination clause allowing the City to reduce or end the agreement once a Public Information Officer or related position is filled.

Staff recommends continuing photography services with Jeremiah Khokhar Photography, LLC. Jeremiah brings a strong storytelling approach to his work and has already demonstrated success in capturing and engaging audiences through social media posts that highlight the City's events, progress, and character.

The addition of a dedicated photographer will support consistent documentation of the City during its rebuilding efforts while also serving as a valuable tool to promote that the City is open, active, and thriving. These services will enhance the City's communication efforts, strengthen community engagement, and provide high-quality visual assets for current and future use.

PHOTOGRAPHY & VIDEO SERVICES AGREEMENT

This Photography & Video Services Agreement ("Agreement") is made and entered into by and between:

City of Madeira Beach,
and Jeremiah Khokhar Photography, LLC., a Florida business entity

This Agreement shall be effective as of Board of Commissioners approval vote Date TBD.

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1. PURPOSE

The purpose of this Agreement is to secure professional photography and videography services to document, promote, and support City-sponsored events, initiatives, public safety messaging, and municipal communications during the 2026 calendar year.

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2. TERM

The term of this Agreement shall commence on January 1, 2026, and shall terminate on December 31, 2026, unless earlier terminated in accordance with this Agreement.

---

3. SCOPE OF SERVICES

Contractor shall provide professional photography, videography, editing, and digital content delivery services as requested by the City, including but not limited to the following annual event coverage and content production:

A. Event-Based Services

* 3rd of July Event
* Boat Parade
* Burger Week
* Captain's Party / Founder's Day
* Conversations with the Mayor (12 episodes annually)
* Holiday Events (Pub Crawl, Tree Lighting, Merry Market)
* Hurricane Expo
* Kite Day
* Ribbon Cuttings (up to 3 per year)
* Seafood Festival
* Social Club Events (up to 4 per year)
* Village Fridays
* Spring Break Stock Footage
* Madeira Beach Fire Department Safety Videos (up to 4 annually)

B. Additional Content Services (As Requested on an as needed basis)

* Stock photography and video
* Local Business feature videos
* Social media–specific content
* Board of Commissioners headshots
* Post copy/verbiage writing
* Authorized social media posting

---

4. COMPENSATION

The City agrees to compensate Contractor as follows:

A. Fixed rate per job contracted for pursuant to the following outline below:

EVENT NAME	DELIVERABLES	COMPENSATION	NUMBER PER YEAR
Third of July	50-75 images	$3000	1
Boat Parade	50 images + Video Content	$4000	1
Burger Week	1 image per participant	$1750	1
Captain's Party-Founders Day	50-75 images	$3000	1
Conversation w/Mayor	12 content pieces photo/video/recaps/invites/or resident testimony	$6000	12
Holiday Events	30-40 images	$1500/Event	TBD
Hurricane Expo	20-50 images	$750	1
Ribbon Cutting(s)	15-20 images	$2250	3
Kite Day	20-50 images	$750	1
Seafood Festival	75-100 images + TV Ready Commercial promo + Social media support Prior, post & during Event.	$5000	1 (Multi Day Event)
Social Club	25-30 images + 4 30 second video recaps.	$3000	3
Spring Break Stock Images	30-50 images	$3000	1

EVENT NAME	DELIVERABLES	COMPENSATION	NUMBER PER YEAR
Fire Dept Safety Videos	4 60 second or less Safety Videos.	$3000	4
BOC Headshots	TBD	$200/headshot Edited	TBD
Photo Content-As needed	TBD	$200/Hr of Shooting	TBD
Video Content- As needed	TBD	$200/Hr of Shooting + 30 mins Editing for every hour shooting.	TBD
Social Media Management-As needed	TBD	$200/Hour designing, graphics, captions, writing copy, posting etc.	TBD

B. Hourly Services

Additional services not listed above shall be billed at **$200 per hour**, subject to prior City approval. Video projects require 1 hour of editing for every 2 hours on location.

---

5. INVOICING & PAYMENT

Contractor shall invoice the City per event, as directed by the City. Payment shall be made within thirty (30) days of receipt of invoice.

---

6. OWNERSHIP & USAGE RIGHTS

The City shall receive a perpetual, royalty-free, non-exclusive license to use all delivered content for municipal, promotional, marketing, and archival purposes. Contractor retains copyright ownership and may use the content for portfolio and self-promotional purposes unless otherwise restricted in writing.

SIGNATURES

CITY OF MADEIRA BEACH

By: _____
Name: _____
Title: _____

Date: _____

CONTRACTOR

By: _____
Name: _____
Title: _____
Date: _____

Outlook

Re: City Photographer

From jr jrstjean.com <jr@jrstjean.com>
Date Wed 1/7/2026 11:31 AM
To Powers, Megan <MPowers@madeirabeachfl.gov>

Hi

Great speaking on the phone this morning.

Going through all the events/video/photo/edit and expenses.
Working out to about 700 hours per year.

Thank you for the opportunity to be considered for City Photographer and content support for the City of Madeira Beach. I'm prepared to provide professional photography, videography, and related content services for City events, programs, and promotional needs as requested.

Rate

$80 per hour

This hourly rate is designed to be all-inclusive and covers the full cost of providing professional services, including time on-site, production work, editing, delivery, equipment, business expenses, taxes, and insurance. It also allows for bringing in an assistant when needed for larger events or projects.

Deliverables

Digital photos and/or video content will be delivered electronically (online gallery or download link), based on the needs of each project.

Prints and Physical Products

Any **prints or physical items** (albums, framed prints, banners, etc.) are **not included** in the hourly rate and would be billed separately based on the City's requested items and quantities.

Pricing Alignment

This rate is also **consistent with other photography and media service pricing currently used by the City**, while ensuring reliable coverage, professional quality, and timely delivery.

Thank you again for your consideration. I'd be happy to meet briefly to confirm expected coverage levels, timelines, and priority deliverables for the City calendar.

If you have any question or ideas please feel free to reach out.

Thank you

J R

St. Jean Creative Photography
All Star Youth Photography
4755 Central Avenue
St. Petersburg Florida 33713
727-317-6765
www.stjeancreative.com
www.allstaryouthphotographyflorida.com

From: Powers, Megan <MPowers@madeirabeachfl.gov>
Sent: Wednesday, January 7, 2026 8:37 AM
To: jr jrstjean.com <jr@jrstjean.com>
Subject: City Photographer

Hi JR,

I hope all is well! I wanted to reach to see if you would be interested in giving us a quote to be the city photographer. We are looking for the following throughout the year. I would also like a quote on an hourly rate in case there are items that pop up throughout the year. We are looking for photos, video, social media posts, some marketing for events like burger week and seafood fest.

Here is a list of items we were thinking, let me know if you need more information. I'm happy to jump on a call or schedule an in person meeting to go over what our thoughts are.

3rd of July	Photos, video, social media post Looking to have a larger event for the 250th celebration. More to come from Recreation team
Boat Parade	Photos, video
Burger Week	Photos, marketing photos, marketing posts
Captains Party- Founders Day	Photos, video
Conversations with the Mayor (12 a year)	Photos of event
Holiday Events? (pub crawl, tree lighting, merry mkt)	Photos, video
Hurricane Expo?	photos
Kite Day?	photos
Ribbon Cuttings (budget 3 per year)	Photos, this is budgeted in case we have any ribbon cuttings, nothing scheduled
Seafood Fest	Photos, marketing photos, marketing posts

Social Club- 4 per year?	Photos, video, maybe some travel on club trips around county
Village Fridays?	Photos, video
Spring Break Stock Footage	photos
MBFD Safety Videos (4 per year?)	Video, social media post
Social Content/other- photos, headshots, etc.	Provide an hourly rate for photos only
Social Content/other- stock video, business/resident story videos, etc.	Provide an hourly rate for videography

Regards,

Megan Powers
Assistant to the City Manager
City of Madeira Beach
727-503-0067
mpowers@madeirabeachfl.gov
www.madeirabeachfl.gov

Memorandum

Meeting Details:	January 28, 2026 – BOC Workshop Meeting
Prepared For:	Honorable Mayor Brooks, the Board of Commissioners
Staff Contact:	Community Development Department – Joseph Petraglia, Planner II
Subject:	Nonconforming Time Restrictions

Background/ Discussion:

Under section 110-93(3) c. of the city's land development regulations, any structure damaged by Hurricane Helene and Hurricane Milton would need to be repaired by March 26, 2026, or made fully compliant with current codes. So far, roughly half of all pre-FIRM houses in Madeira Beach have not yet taken any action to repair, rebuild, or demolish their properties. Many of these properties that have not applied for permits have done unpermitted work or are sitting abandoned. City staff are planning to extend this deadline an additional 6 months for hurricanes Helene and Milton and raise awareness of this time restriction through additional mailings and website updates to encourage the remaining properties who have not yet submitted interior remodel or full structure demolition permits to do so before the newly proposed deadline provided the proper permit has been obtained by such date. City staff is recommending that a text change amendment to allow property owners additional time to complete the repairs once the permit has been obtained.

Additionally, there is a conflict between two different sections of the code when it pertains to legally nonconforming uses. City staff plan to add language to clarify that sec. 110-93(2) which has a one year time limitation only applies to voluntary termination of nonconforming uses, and nonconforming uses can be retained indefinitely under the provisions of sec. 110-95, or sec. 110-96.

Some other nearby municipalities also have timeframe limitations when it comes to nonconformities. See Treasure Island sec. 68-512, Gulfport sec. 22-9-06, and Indian Rocks Beach sec. 110-104. City staff plan to propose a more comprehensive amendment and evaluation of the entire nonconforming article in the coming months but would like to expedite these two time sensitive text change amendments before discussion on the rest of the article commences.

Fiscal Impact:

Minor direct cost (mailings, documentation) and moderate staff time. Could require more field presence from code enforcement to document conditions and progress.

Recommendation(s):

City Staff recommends the Board of Commissioners to discuss enforcement and ways to raise public awa and allow the ordinance to move forward at first reading at the next regularly scheduled meeting.

Attachments/Corresponding Documents:

- Chapter 110, Article III - Madeira Beach, FL Code of Ordinances

ORDINANCE 2026-02

AN ORDINANCE OF THE CITY OF MADEIRA BEACH, FLORIDA, AMENDING ARTICLE III (NONCONFORMANCES) OF CHAPTER 110 (ZONING) OF THE CODE OF ORDINANCES TO CLARIFY WHEN SUCH SECTIONS APPLY; TO CLARIFY THE DEADLINE FOR NONCONFORMING STRUCTURES TO BE REPAIRED; TO EXTEND SUCH DEADLINE FOR HURRICANES HELENE AND MILTON RELATED DAMAGE; TO CLARIFY THAT SECTION 110-95 AND SECTION 110-96 DO NOT HAVE TIME LIMITATIONS; PROVIDING FOR CONFLICT; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, City staff has reviewed the time limitations of Article III of Chapter 110 of the Code of Ordinances of the City of Madeira Beach and has recommended the addition of language thereof to clarify that there is no time limitation for the involuntary loss of nonconforming uses; and

WHEREAS, the time limitation to repair structures damaged from hurricanes Helene and Milton are less than three months away and city staff has recommended the addition of language thereof to extend such deadline; and

WHEREAS, the time limitation for involuntary loss of use in Section 110-95 and catastrophic loss of buildings in Section 110-96 does not call for a period of time and the city wanted to provide certainty to applicants by clarifying that there is no time limit applicable in these two situations: and

WHEREAS, the recommended amendment to the Land Development Code was presented to and reviewed by the Planning Commission at a public hearing; and

WHEREAS, the Planning Commission has recommended approval of the proposed amendment; and

WHEREAS, the recommendations of the Planning Commission and the City Attorney have been found meritorious by the Board of Commissioners; and

WHEREAS, the Board of Commissioners has received input from the public at two public hearings.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, AS FOLLOWS:

Section 1. That Article III (Nonconformances) of Chapter 110 (Zoning) of the Code of Ordinances of the City of Madeira Beach shall be amended to read as follows:

ARTICLE III. NONCONFORMANCES

Sec. 110-91. Purpose and intent.

(a) It is the intent of this article to provide for the continuance of lawful nonconformities, without unduly restricting the owners ability to maintain or improve their property, but to restrict further investment which would make the nonconformity more permanent. This article is intended to permit lawful nonconforming uses and structures created by the adoption of this Code to continue, until removed by economic or other forces. This article is intended to discourage the continuation of nonconformities as they are incompatible with the provisions of the city comprehensive plan and this Code.

(b) All rights and obligations associated with a nonconforming status run with the property, are not personal to the present ownership or tenant, and are not effected by a change of ownership or tenancy, unless abandoned.

Sec. 110-92. Classification.

(a) Nonconformities are classified as follows:

(1) Lots.

(2) Uses of land and structures.

(3) Structures.

(4) Characteristics of use.

(b) A nonconformity may also be created where lawful public taking or actions pursuant to a court order create violations of the land development regulations.

Sec. 110-93. Intent concerning nonconforming property, structures and uses.

It is the intent of the land development regulations that these nonconformities shall be considered to be incompatible with the permitted uses within the city districts. Such nonconformities shall not be enlarged or extended in any respect.

(1) *Nonconforming lots.*

a. *Use of single, nonconforming lots for residential districts.* Notwithstanding the maximum density requirements of the comprehensive plan, in residential districts, the single-family and customary accessory structures may be erected, reconstructed, occupied and used on separate nonconforming lots of record which are not in continuous frontage with other lots in the same ownership in accord with other requirements applying in the separate districts.

b. *Use of single, nonconforming lots for nonresidential uses.* In other than residential districts, a nonconforming lot of record which is not in continuous frontage with other lots in the same ownership, may accommodate uses permitted within that district in accordance with other requirements applying in that district.

c. *Rules concerning combination of contiguous nonconforming lots in same ownership and with continuous frontage.*

1. *Where nonconforming status was created at enactment or amendment of this Code or of the comprehensive plan.* Where more than one nonconforming lot of record in single ownership and with continuous frontage exists, they shall be combined and considered a single zoning lot. The zoning administrator shall authorize their use only when the lot area and lot width requirements for the district in which the lots are located are satisfied. Full setback requirements shall apply to all of the newly created lots.

2. *Combination not required where nonconformity created by public taking or court order.* Where the nonconforming lots were created by public taking action or as a result of a court order, a combining of the individual lots shall not be required.

(2) *Nonconforming uses.* Nonconforming uses of land shall be brought into conformance as soon as reasonably possible, but may continue provided

they meet the criteria listed below or if the loss is involuntary as provided for in Sec. 110-95.

a. There shall be no replacement, enlargement, increase in activity or alterations to any nonconforming use, permanent structure or both.

b. No such nonconforming use shall be relocated or moved to any portion of the lot other than that occupied at the time that the nonconforming status was created.

c. When a nonconforming use is changed, modified or diversified to meet requirements of a conforming use, the building or structure in which the use is located shall conform to the development standards and regulations as set forth in this Code.

d. If any nonconforming use, or any portion thereof, ceases for any reason for more than one year (365 days), the ~~grandfather~~ status of the nonconforming use shall terminate and all subsequent uses shall conform to the regulations of the district in which such use is located. In cases of involuntary loss as described in Sec. 110-95 there is no time limitation.

(3) *Nonconforming structures.* Where a lawful structure exists at the time of the passage or amendment of the land development regulations which could no longer be built under the terms of the land development regulations by reason of restrictions on area, lot coverage, height, or other characteristics of the structure or location on lot, such structure may be continued so long as it remains otherwise lawful, subject to the following provisions:

a. That any addition, alteration or renovation to the structure shall not increase the degree of nonconformity or result in the conversion of a nonconforming carport, garage, screen enclosure, patio roof, storage area or other non-habitable area into a habitable area unless specifically approved by the special magistrate. Structural changes which decrease the degree of nonconformity shall be permitted. Structures that are nonconforming due solely to their flood elevation may be altered in accordance with the provisions of chapter 94.

b. A nonconforming structure or portion thereof, if damaged by fire, natural elements or force to an amount equal to or greater than 50 percent of its current fair market value as of the day immediately preceding such damage, may only be reconstructed in accordance with the provisions of article V of this chapter regarding district regulations for the district in which it is located and the floodplain management regulations established in chapter 94 of this Code or as otherwise provided in ~~section 110-95~~ this article.

c. Should the damage be less than 50 percent of its current fair market value, the structure may remain and ~~then~~ repairs may be made under

the ~~"grandfathered"~~ zoning district regulations in effect at the time of original construction, provided that ~~they shall be made~~ a permit is issued and notice of commencement recorded in the Official Records of Pinellas County, Florida within 18 months after such damage. All repairs must be made to comply with current building codes and not be in violation of the provisions of the floodplain management regulations and other applicable codes of the city. In the event that the ~~repairs have not been completed~~ permit has not been issued within 18 months, and work not completed and the permit closed within 36 months from the date the damage occurred, the structure shall not be further repaired or rebuilt, except in conformity with the entire requirements of this Code. For structures damaged due to the 2024 hurricanes, this 18-month deadline shall be extended until September 25, 2026.

d. Routine repairs and maintenance of nonconforming structures, fixtures, wiring and plumbing, or the repair or replacement of non-load bearing walls shall be permitted.

e. Owners of nonconforming residential structures in an R-1, R-2 or R-3 zoning district that wish to elevate their existing structure with the lowest habitable floor at or above base flood elevation shall be exempt from the setback provisions of article V of this chapter regarding district regulations, so long as the structure remains within the existing footprint.

f. In recognition of the narrow lot dimensions and the preexisting development patterns in some older neighborhoods, the following exceptions can be considered by the planning commission for approval for lots of 50 feet in width or less:

    1. Legal nonconforming residential structures in an R-2 or R-3 zoning district with side yard encroachments may extend along the line of the existing encroachment without increasing the depth of the encroachment into the setback as long as a minimum of three feet of setback from the structural wall is retained on one side of the house and a minimum of five feet of clearance remains on the other side of the house (no permanent improvement of any kind, including mechanical equipment or storage units may exist or be placed or installed in the five feet clearance along the entire side of the structure nor can the area be obstructed by landscaping that prevents access across/through the clear area, although the area may be fenced as long as it is accessible by way of a gate). Additionally, the property that is the subject of reduced setbacks must be improved with drainage systems including but not limited to roof gutter systems adequate to carry all runoff and direct it away from the neighboring property in a manner that ensures no impact

upon the neighboring property. The required clearance area is not a reduction of setback but a minimum clear path of access between the front and rear yard. Furthermore, extensions along an existing encroachment line can be approved only if the neighbor on the extending encroached side indicates support for the extension by notarized statement. Nothing in this provision can be used to approve the creation of a new nonconformity.

2. Legal nonconforming uses and structures in an R-1, R-2 or R-3 zoning districts with a front or rear yard setback encroachment may extend the encroachment to an average of that encroachment on lots adjoining and facing it.

3. Additions of a second floor to legal nonconforming structures in the R-1, R-2 and R-3 districts is permitted as long as the extension/addition does not create any new encroachment, does not violate the height restrictions, provides a minimum of 18″ clearance between any building element and the property line, and does not increase the depth into any existing encroachment. Approval of such additions require the neighbor on the side or facing property where the encroachment is proposed to be heightened to indicate by notarized statement their support for the addition.

4. Approval of such additions require pre-hearing notice to adjoining property owners who may indicate their support for the addition by notarized statement or submittal of written or oral objections prior to or during the planning commission hearing.

5. Appeals of planning commission approvals may be brought to the city commission by filing a notice of appeal within 30 days of the signed planning commission decision.

(4) *Nonconforming characteristics of use.* Nonconforming characteristics of use which may include, but not limited to inadequate parking and loading facilities, inappropriate landscaping, lighting, emissions, etc., may continue to operate but shall not be expanded, altered, changed or relocated in such a manner as to increase the degree of nonconformity.

Sec. 110-94. Nonconforming structures unsafe for reasons other than lack of maintenance.

Nonconforming structures or portions thereof which are declared unsafe by the building and zoning official or other competent authority, but not because of lack of maintenance, may be repaired and restored except as provided in subsection 110-94(3).

Sec. 110-95. Reestablishment of uses after an involuntary loss.

(a) In the event that any residential or hotel/motel structure is damaged greater than 50 percent or destroyed by a hurricane, tornado, fire, flood, wind, storm, natural disaster, or other unintended, involuntary action; it can be repaired or reconstructed in a manner which guarantees that each dwelling unit, tourist unit and all permitted accessory uses can be restored to the same square footage which existed the day immediately preceding such damage.

(b) Nothing contained herein shall be construed to permit more dwelling units or an increase in square footage of the structure than existed prior to the day immediately preceding such damage. The burden of proof as to what existed prior to the disaster shall rest with the property owner. Each property owner shall provide the city with a site plan, as-built surveys, or architecturally-sealed floor plans. The plans or surveys shall provide enough information to determine the existing legally permitted development on the site prior to the day immediately preceding such damage.

(c) Local business tax receipt required. Failure to have a current required local business tax receipt, where applicable, in force at the time of declared disaster will prevent this section from applying to that property.

(d) There is no time limitation to apply for a permit for reestablishment of uses after an involuntary loss as long as the above criteria of this section are met.

Sec. 110-96. Rebuilding after a catastrophic loss.

(a) *Declaration of disaster area.* A disaster area is any area of major multiple property loss in which the board of commissioners, county board of county commissioners, the governor of the state or the federal government declares the loss a disaster area.

(b) *Rebuilding regulations.* Rebuilding regulations shall be as follows:

(1) *Single-family.* May be rebuilt within the same footprint if it complies with all other existing regulatory codes and provisions of the land development regulations.

(2) *Duplexes and triplexes on a nonconforming lot.* Duplexes [and triplexes] on a nonconforming lot may be rebuilt to existing nonconformity if the new structure complies with required front setback, height, parking requirements and floodplain regulations effective at the time of building permit application.

(3) *Multifamily in R-1 and R-2 on a nonconforming lot.* Multifamily in R-1 and R-2 on a nonconforming lot shall be the same as duplexes and triplexes, except they must comply with the parking regulations as contained in their pre-damage certificate of occupancy.

(4) *Multifamily, hotel, motel, motor lodges.* Multifamily, hotel, motel and motor lodges may be rebuilt to same density, height and side setbacks, but must comply with the front setback, the county coastal construction control line, floodplain regulations, fire codes, and parking regulations as contained in their certificate of occupancy and any other requirements effective at the time of building permit application.

(5) *Commercial.* Commercial may be rebuilt within the same footprint and having the same parking spaces available at the time of disaster, but would have to meet minimum FEMA regulations for elevated structures and/or floodproofing to the required height per the National Flood Rate Insurance Map for its commercial location.

(6) *Occupational license required.* Failure to have a current required occupational license in force at the time of declared disaster will prevent this section from applying to that property.

(7) There is no time limitation to apply for a permit for rebuilding after a catastrophic loss as defined in the section.

Sec. 110-97. Redevelopment planning process.

(a) *Purpose and intent.* It is the intent of this section to provide for the reconstruction of nonconforming residential and transient properties, except for those in an R-1 zoning district, for the purposes of redevelopment provided that the following steps shall be taken prior to the demolition of any units or buildings:

(1) *Existing dwelling unit verification.* The verification of the number of existing legal dwelling units and their type shall be through the city manager or designee.

(2) *Preliminary site plan review of redevelopment plan.* Preparation by the applicant of a redevelopment site plan for preliminary redevelopment site plan review by the city manager or designee. It must be demonstrated that the site can adequately accommodate the requested number of units by meeting the rebuilding regulations outlined in the process of this section of the Code. The applicant will meet the existing code to the maximum extent possible. This redevelopment site plan shall comply with the site plan requirements of chapter 110, article II, Site plans, of this Code. In addition to the standard site plan review requirements, all redevelopment site plans shall include the dimensions and floor area in square feet of all rooms and units.

(3) *Fee.* The application fee shall be the same as the regular site plan review fee found in article III, Community development, section D, Site plan, numbers 2 and 3, as adopted in the most recent edition of the city's fees and collection procedure manual.

(4) *Plan review.* The review of the redevelopment Plan shall be through the quasi-judicial public hearing process outlined in chapter 2, Administration, article I, In general, division 2, Quasi-judicial proceedings before the board of commissioners. The notification procedure shall follow subsection 2-503(c), Notification, found in chapter 2, article VIII, Special magistrate, of this Code.

(5) *Changes in the redevelopment plan.* The redevelopment plan may be amended by mutual consent of the city and applicant, provided the notification and public hearing process of this article are followed.

(b) *Rebuilding regulations for the redevelopment of existing dwelling units.* The rebuilding regulations for the redevelopment of existing dwelling units except for those in an R-1 zoning district, through the redevelopment planning process shall be as follows:

(1) *Single-family.* May be rebuilt within the same footprint if it complies with all other existing regulatory codes and provisions of the land development regulations.

(2) *Duplexes and triplexes on a nonconforming lot.* Duplexes (and triplexes) on a nonconforming lot may be rebuilt to existing nonconformity if the new structure complies with required front setback, height, parking requirements and floodplain regulations effective at the time of building permit application.

(3) *Multifamily on a nonconforming lot.* Multifamily, except for those in an R-1 zoning district, on a nonconforming lot shall be the same as duplexes and triplexes, except they must comply with the parking regulations as contained in their pre-demolition certificate of occupancy.

(4) *Multifamily, hotel, motel, motor lodges.* Multifamily, hotel, motel and motor lodges may be rebuilt to same density, height and side setbacks, but must comply with the front setback, the county coastal construction control line, floodplain regulations, fire codes, and parking regulations as contained in their certificate of occupancy and any other requirements effective at the time of building permit application.

(5) *Commercial.* Commercial may be rebuilt within the same footprint and having the same parking spaces available at the time a redevelopment plan is sought, but would have to meet minimum FEMA regulations for elevated structures and/or flood proofing to the required height per the National Flood Rate Insurance Map for its commercial location.

(6) *Business tax receipt required.* Failure to be current with respect to full payment of the required annual business tax at the time a redevelopment plan is sought will prevent this section from applying to that property.

(c) *Planning commission and board of commissioners review.* The planning commission shall conduct one public hearing to consider any application to review or change a redevelopment plan. The board of commissioners shall

conduct a second public hearing to consider any application to review or change a redevelopment plan. Upon conclusion of the second public hearing, the board of commissioners shall review the proposed redevelopment plan, the recommendations of the city manager or his/her designee, the recommendations of the planning commission and the testimony at the public hearings. The board of commissioners shall thereafter approve, approve with conditions, or deny the application approve or change a redevelopment plan.

Secs. 110-98—110-120. Reserved.

Section 2. That this Ordinance shall become effective immediately upon its passage and adoption.

Section 3. For purposes of codification of any existing section of the Madeira Beach Code herein amended, words **underlined** represent additions to original text, words ~~**stricken**~~ are deletions from the original text, and words neither underlined nor stricken remain unchanged.

Section 4. Ordinances or parts of ordinances in conflict herewith to the extent that such conflict exists are hereby repealed.

Section 5. In the event a court of competent jurisdiction finds any part or provision of the Ordinance unconstitutional or unenforceable as a matter of law, the same shall be stricken and the remainder of the Ordinance shall continue in full force and effect.

Section 6. The Codifier shall codify the substantive amendments to the Code of Ordinances of the City of Madeira Beach contained in Section 1 of this Ordinance as provided for therein and shall not codify the exordial clauses nor any other sections not designated for codification.

Section 7. Pursuant to Florida Statutes §166.041(4), this Ordinance shall take effect immediately upon adoption.

PASSED AND ADOPTED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, THIS _____ day of _____, 2026.

_____
Anne-Marie Brooks, Mayor

ATTEST:

_____
Clara VanBlargan, MMC, MSM, City Clerk

APPROVED AS TO FORM:

_____
Thomas J. Trask, City Attorney

PASSED ON FIRST READING: _____

PUBLISHED: _____

PASSED ON SECOND READING: _____

Business Impact Estimate

Proposed ordinance's title/reference:

ORDINANCE 2026-02

AN ORDINANCE OF THE CITY OF MADEIRA BEACH, FLORIDA, AMENDING ARTICLE III (NONCONFORMANCES) OF CHAPTER 110 (ZONING) OF THE CODE OF ORDINANCES TO CLARIFY WHEN SUCH SECTIONS APPLY; TO CLARIFY THE DEADLINE FOR NONCONFORMING STRUCTURES TO BE REPAIRED; TO EXTEND SUCH DEADLINE FOR HURRICANES HELENE AND MILTON RELATED DAMAGE; TO CLARIFY THAT SECTION 110-95 AND SECTION 110-96 DO NOT HAVE TIME LIMITATIONS; PROVIDING FOR CONFLICT; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; AND PROVIDING FOR AN EFFECTIVE DATE.

This Business Impact Estimate is provided in accordance with section 166.041(4), Florida Statutes. If one or more boxes are checked below, this means the City of Madeira Beach is of the view that a business impact estimate is not required by state law[1] for the proposed ordinance, but the City of Madeira Beach is, nevertheless, providing this Business Impact Estimate as a courtesy and to avoid any procedural issues that could impact the enactment of the proposed ordinance. This Business Impact Estimate may be revised following its initial posting.

- ☐ The proposed ordinance is required for compliance with Federal or State law or regulation;
- ☐ The proposed ordinance relates to the issuance or refinancing of debt;
- ☐ The proposed ordinance relates to the adoption of budgets or budget amendments, including revenue sources necessary to fund the budget;
- ☐ The proposed ordinance is required to implement a contract or an agreement, including, but not limited to, any Federal, State, local, or private grant or other financial assistance accepted by the municipal government;
- ☐ The proposed ordinance is an emergency ordinance;
- ☐ The ordinance relates to procurement; or
- ☒ The proposed ordinance is enacted to implement the following:
  a. Development orders and development permits as those terms are defined in Section 163.3164, Florida Statutes, and development agreements as authorized by the Florida Local Government Development Agreement Act under Sections 163.3220-163.3243, Florida Statutes;
  b. Comprehensive plan amendments and land development regulation amendments initiated by an application by a private party;

[1] See Section 166.041(4)(c), Florida Statutes.

c. Sections 190.005 and 190.046, Florida Statutes, regarding community development districts;
d. Section 553.73, Florida Statutes, relating to the Florida Building Code; or
e. Section 633.202, Florida Statutes, relating to the Florida Fire Prevention Code.

In accordance with the provisions of controlling law, even notwithstanding the fact that an exemption noted above may apply, the City of Madeira Beach hereby publishes the following information:

1. Summary of the proposed ordinance (must include a statement of the public purpose, such as serving the public health, safety, morals and welfare):

The purpose of the ordinance is to clarify the application of the nonconforming sections of the existing code and to extend the time limit for rebuilding in the wake of the 2024 hurricanes.

2. An estimate of the direct economic impact of the proposed ordinance on private, for-profit businesses in the City of Madeira Beach, if any:
(a) An estimate of direct compliance costs that businesses may reasonably incur;
(b) Any new charge or fee imposed by the proposed ordinance or for which businesses will be financially responsible; and
(c) An estimate of the City of Madeira Beach's regulatory costs, including estimated revenues from any new charges or fees to cover such costs.

It is estimated that there will be no additional costs for businesses. The regulatory costs to the city will not change.

3. Good faith estimate of the number of businesses likely to be impacted by the proposed ordinance:

Potentially any business in the city could be affected as the ordinance allows additional time for renovations and allows nonconforming uses and structures to be retained.

4. Additional information the governing body deems useful (if any):

N/A

FORWARD PINELLAS
P: (727) 464.8250
F: (727) 464.8212
forwardpinellas.org
310 Court Street
Clearwater, FL 33756

January 15, 2026

Kathryn A. Younkin, AICP, LEED AP BD+C
Senior Planner
City of Madeira Beach
300 Municipal Drive
Madeira Beach, FL 33708

RE: Review of ordinances from the City of Madeira Beach (ORDINANCE 2026-02)

Dear Kathryn,

Thank you for submitting the proposed amendments to the Madeira Beach Code of Ordinances regarding nonconformances, rebuilding, and redevelopment procedures. The amendments are consistent with the Countywide Rules, with comments as follows:

- The amendments clarify nonconforming use, rebuilding, and redevelopment rules without changing allowed density, intensity, or uses, consistent with the Countywide Rules.

We recognize that the consistency process is an ongoing one, and if either the County or Forward Pinellas staff has failed to note a matter governed by the consistency process in the course of this review, we will be happy to work with you to resolve any such matter as may be necessary.

If you have any questions, please feel free to call me at 727-464-5679 or email me at ewennick@forwardpinellas.org.

Sincerely,

Emma Wennick

Emma Wennick
Program Planner

Memorandum
Meeting Details: Board of Commissioners Workshop Meeting, January 28, 2026
Prepared For: Honorable Mayor Brooks and the Board of Commissioners
From: Community Development Department
Subject: John's Pass Village Parking Garage Discussion

Discussion:

In 2022, the Board of Commissioners adopted Resolution 2022-02, which dedicated $0.50 of the parking meter rate to be spent on designing and building a parking garage within ½ half mile of John's Pass Village. I also included in the agenda packet a previous parking garage memo from 2021 and a 130th Avenue Draft Concept document.

There are two city owned properties within ½ mile of John's Pass Village that potentially could be used to build a parking garage. One proposed location is John's Pass Park. This property would need a Future Land Use amendment and a Zoning amendment to allow a parking garage as a permitted use. The second proposed location is the 130th Avenue Beach Parking and Access. The John's Pass Resort Character District would need to be amended via a land development regulation text change amendment to allow a parking garage as a permitted use. Located below is additional zoning and future land use information for both proposed locations. A parking garage feasibility study would be needed for both properties since it is unknown if a parking garage would be feasible at either location.

Proposed Location 1 (John's Pass Park):

Zoning: R-3, Medium Density Multifamily Residential

Future Land Use: Recreation/Open Space

Impervious Surface Ratio (ISR): 0.60

Floor Area Ratio (FAR) 0.25

Proposed Location 2 (130th Avenue Beach Parking and Access:

Zoning: C-1, John's Pass Village Activity Center (John's Pass Resort Character District)

Future Land Use: John's Pass Village Activity Center

Impervious Surface Ratio (ISR): 0.85

Floor Area Ratio (FAR): 2.0

Recommendation(s):

City Staff has reached out to Kimley-Horn about initiating a John's Pass Village Parking Garage Feasibility Study. At the next BOC Workshop meeting, City staff will be bringing a quote for a John's Pass Village Parking Garage Feasibility Study from Kimley-Horn.

Fiscal Impact or Other:

N/A

Attachments:

Parking Garage Memo January 15, 2021

Parking Garage 130th Avenue Draft Concept

Resolution 2022-02

RESOLUTION 2022-02

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, COMMITTING ADDITIONAL PARKING REVENUES GENERATED FROM THE ADOPTION OF ORDINANCE 2021-28, OTHER THAN THOSE FROM ARCHIBALD PARK PARKING METERS, TO BE USED EXCLUSIVELY AS A FUNDING MECHANISM FOR THE DESIGN AND CONSTRUCTION OF A PARKING GARAGE FACILITY WITHIN ONE- HALF MILE OF JOHN'S PASS VILLAGE; REPEALING RESOLUTION 2022-01; AND PROVIDING FOR AN EFFECTIVE DATE

WHEREAS, the Board of Commissioners of the City of Madeira Beach adopted Ordinance 2021-28 amending the Fees & Collection Procedure Manual to increase the parking meter rate City-wide from $2.50 to $3.00 per hour; and

WHEREAS, the Board of Commissioners of the City of Madeira Beach desires to designate a reliable and consistent funding source to the construction of a new parking garage facility within one-half mile of John's Pass Village; and

WHEREAS, the $0.50 increase in the City-wide hourly parking meter rate is anticipated to generate approximately $533,000 of additional revenue annually based on fiscal year 2021 parking revenue data;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, AS FOLLOWS:

SECTION 1. The Board of Commissioners authorizes the commitment of the additional parking revenue generated due to increasing the parking meter rate City-wide from $2.50 to $3.00 per hour to be spent on the design, engineering, and construction of a parking garage facility within one-half mile of John's Pass Village.

SECTION 2. The commitment of additional parking revenue shall exclude revenue generated from all parking meters within Archibald Park, as these revenues are restricted as to use in accordance with the requirements of the United States Department of Interior National Parks Service and Resolution 2003-13, which state that proceeds of revenues generated from Archibald Park operations are to be exclusively used to fund the maintenance of Archibald Memorial Park and other parks and recreational activities within the City.

SECTION 3. The Finance Department will be responsible for calculating the committed portion of revenue, tracking the applicable inflows (additional parking revenue) and outflows (eligible expenditures) within the general ledger system, and commencing these accounting procedures on the date that the parking meter rate increased from $2.50 to $3.00 per hour.

SECTION 4. Resolution 2022-01 is hereby repealed.

SECTION 5. This Resolution shall become effective immediately upon final passage and adoption by the Board of Commissioners.

PASSED AND ADOPTED BY THE BOARD OF COMMISSIONERS OF THE CITY OF MADEIRA BEACH, FLORIDA, THIS 9th DAY OF FEBRUARY, 2022

John B. Hendricks, Mayor

ATTEST:

Clara VanBlargan, MMC, MSM, City Clerk

MEMORANDUM

TO: Hon. Mayor and Board of Commissioners

THROUGH: Robert Daniels, City Manager

FROM: Jamie Ahrens, Public Works Director

DATE: January 15, 2021

RE: Parking Garage

Background

City Staff had a meeting with a Consultant that specializes in parking garages. The basis of the meeting was to get a better understanding of the construction cost, operating cost, space limitations, programming, etc. Based on the conversation, staff has been able to determine some rough numbers and general rules of thumb within the industry.

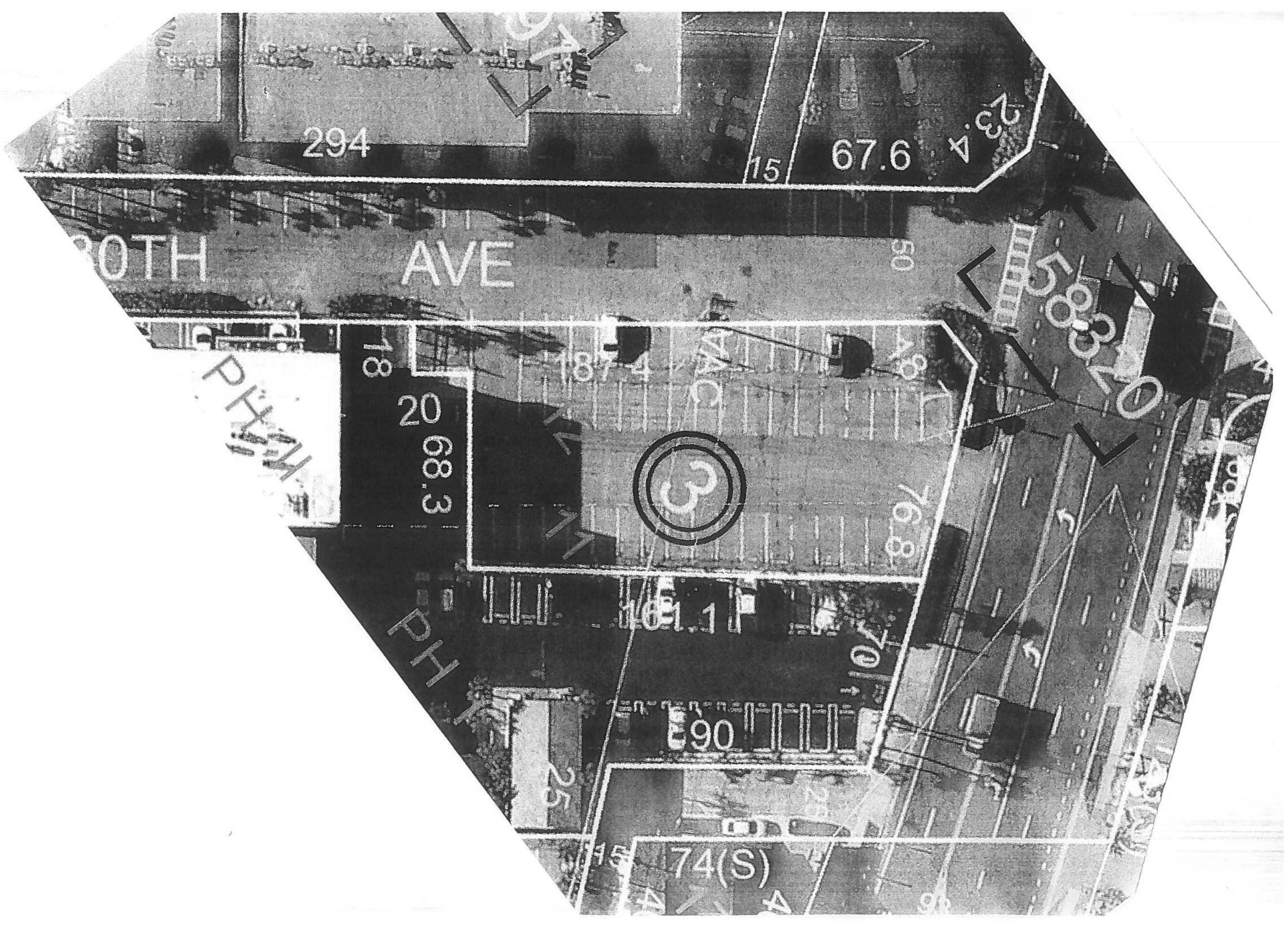
It is possible to build a parking garage that would fit in any current City owned lot. However, to maximize efficiency, the suggested minimum footprint of the structure to be 120ft x 250ft. and 300-400 available parking spaces. If the area is reduced, the cost efficiency goes down, and the cost per space increases (construction and operating).

For estimating purposes, Staff assumes the structure is 120ft x 250ft and has 300 spaces. The estimates are for discussion purposes and to get a better understanding of a potential project scale and potential impacts. Prices can fluctuate depending on site location, surrounding development, construction, or material cost. The numbers provided do not necessarily consider the structure being in a coastal environment.

- Construction Cost -$4,500,000 to $5,400,000 ($15,000 - $18,000/space)
- Design Cost - $900,000 to $1,080,000 (20% of Construction Cost)
- Annual Operating Cost - $90,000 to $120,000 ($300 - $400/space)
- Sales Tax is 7% of total parking revenue
- Consider credit card fees for each transaction
- City employees park for free

Other considerations and suggestions.

- Determine current utilization of parking lots and other parking structures.
- Explore options for a shared use facility or potential partnership to relieve some of the burden of the construction cost.
- Consider the future demand and the impacts of ride sharing services, electric bikes/scooters, potential of autonomous vehicles. All could reduce the demand for additional parking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LEVEL 1 (GROUND)

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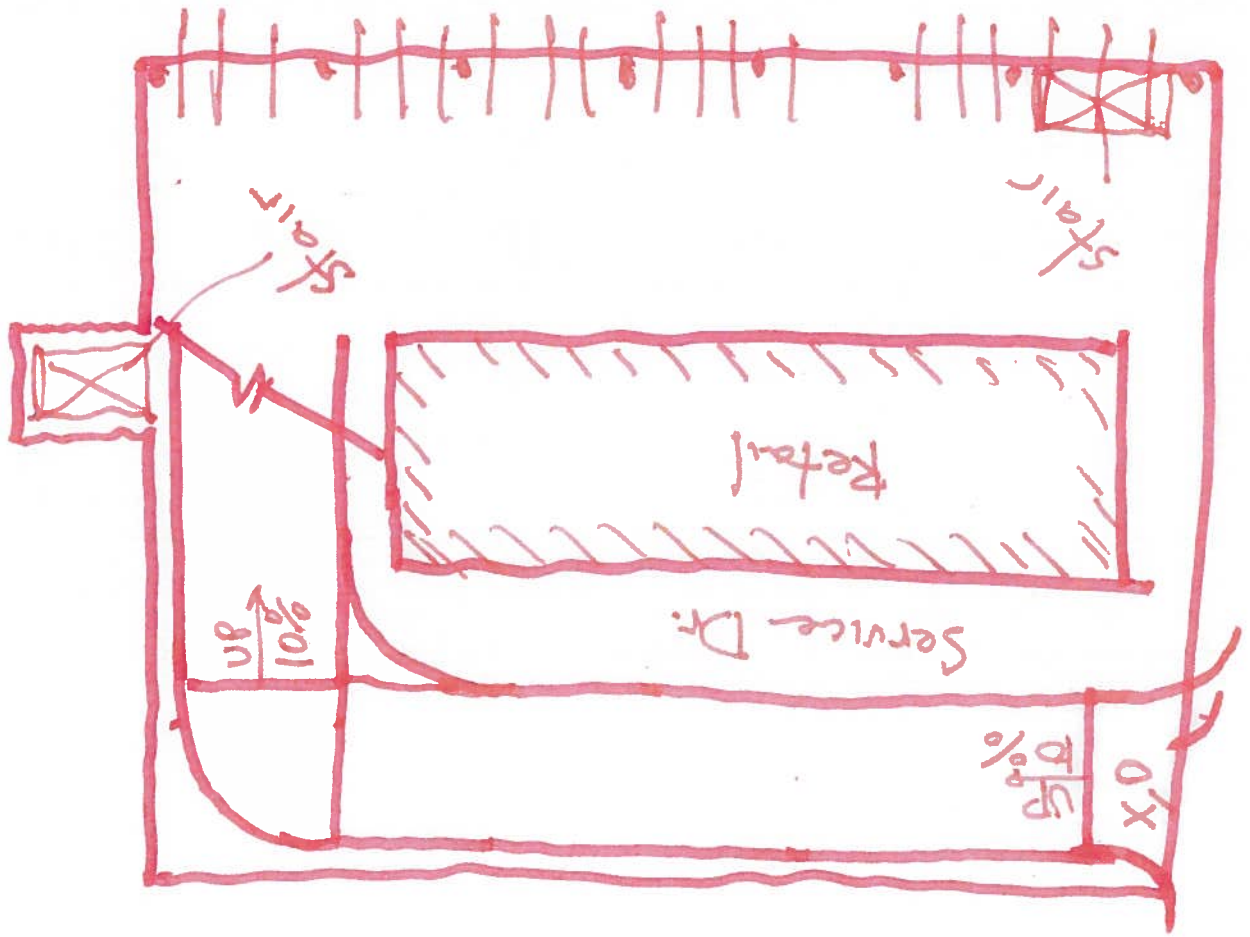
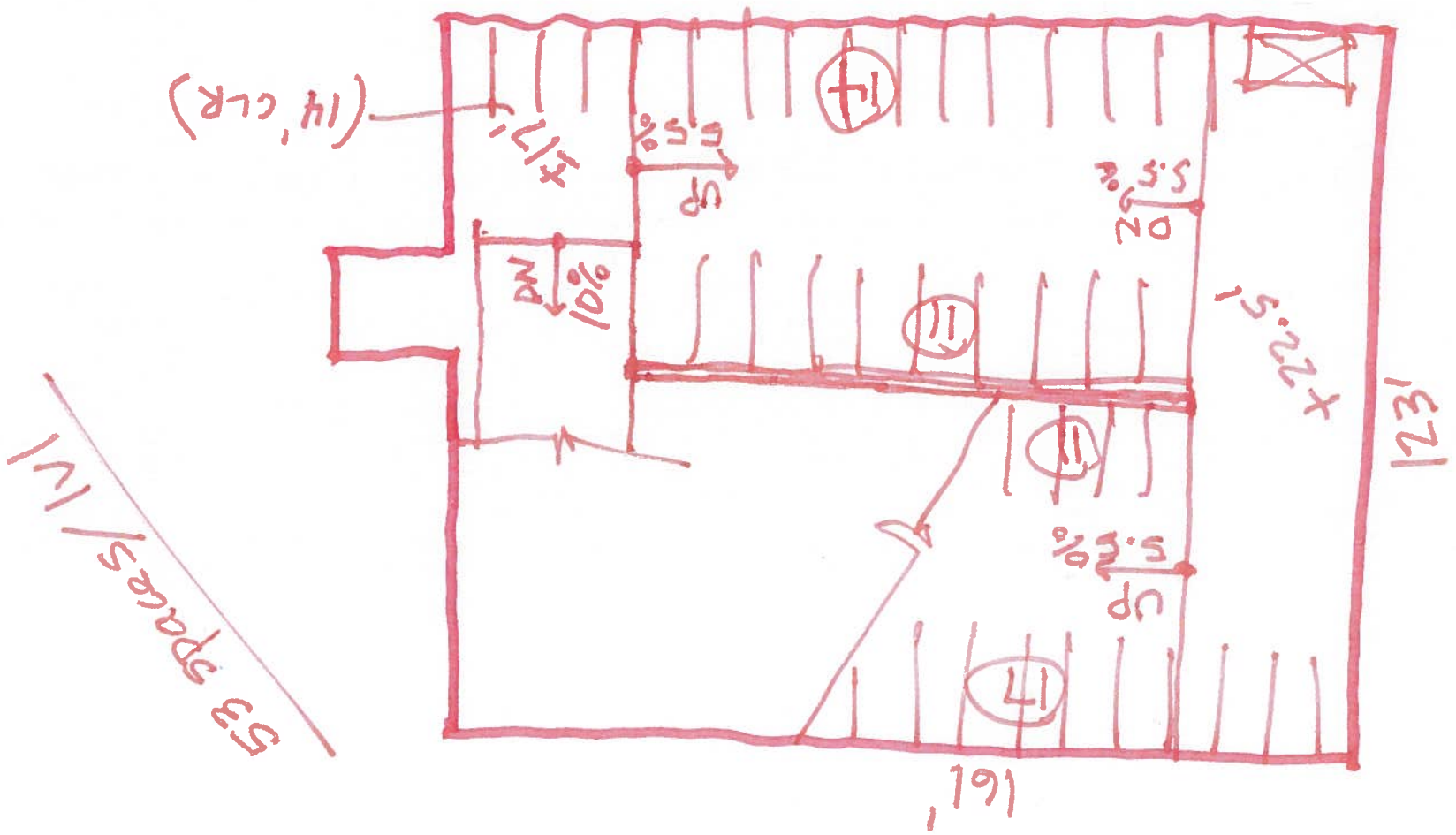
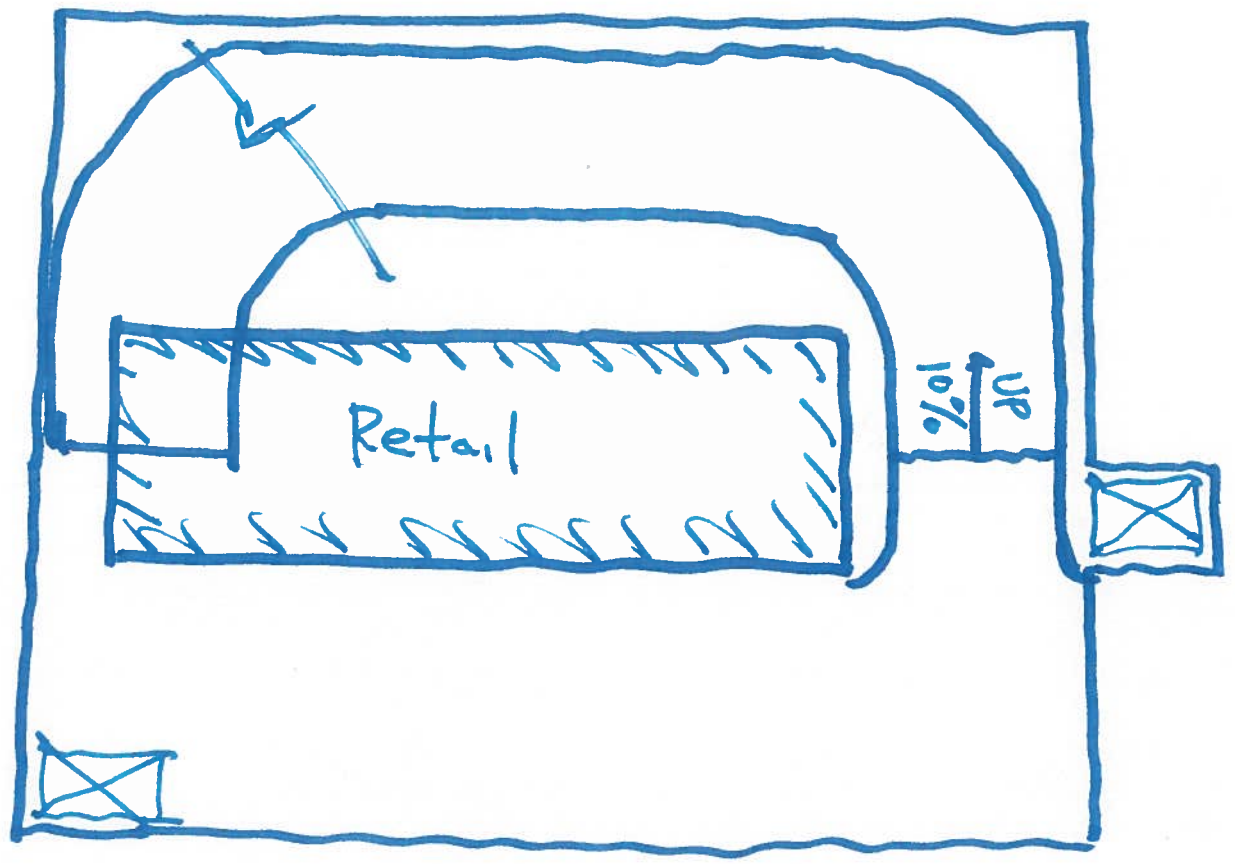


LEVEL 2
OPTION 1





LEVEL 1 (GROUND)

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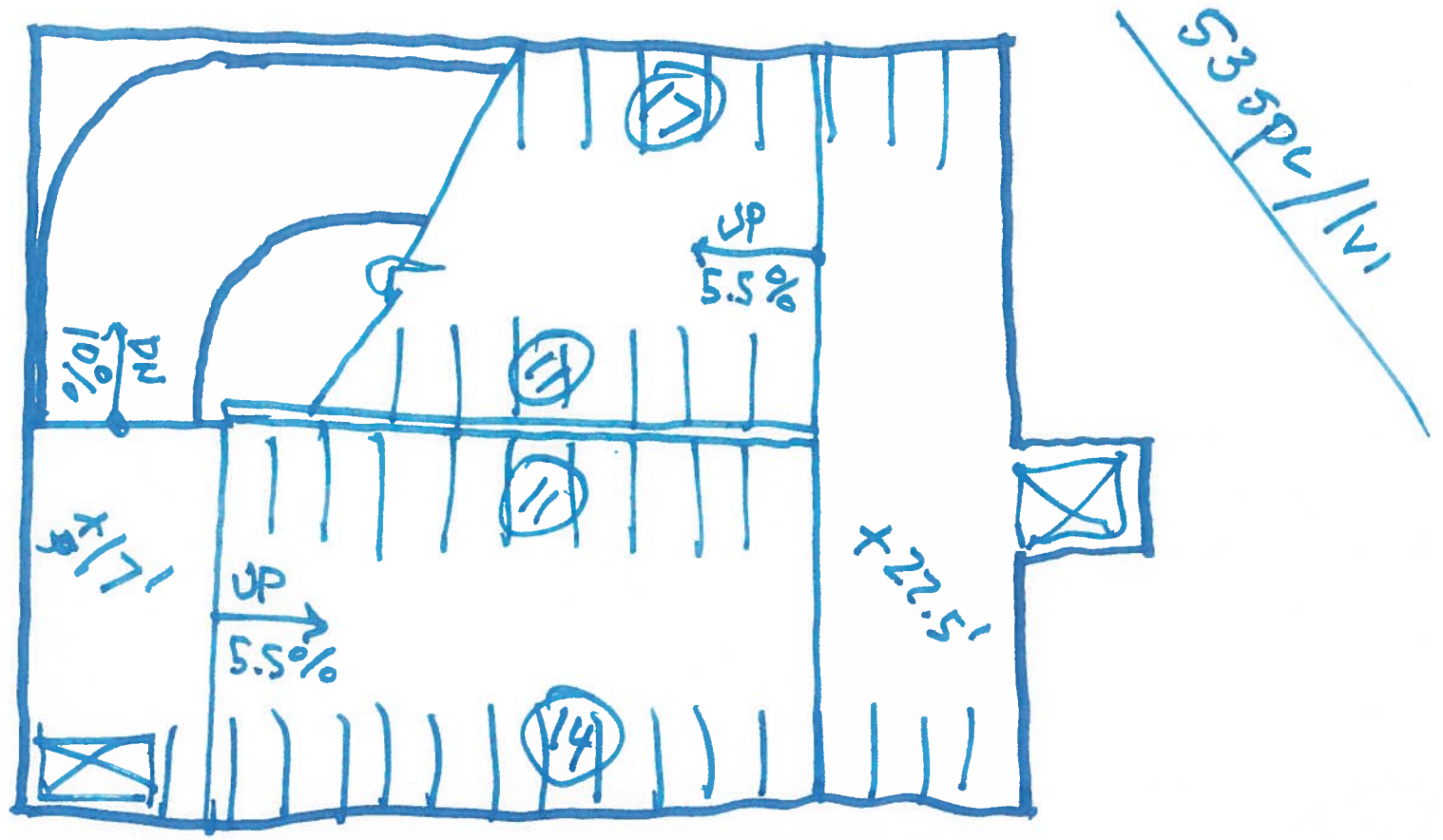

LEVEL 2

OPTION 2

MEMORANDUM

TO: Hon. Mayor and Board of Commissioners

THROUGH: Clint Belk, Acting City Manager

FROM: John Mortellite, Acting Fire Chief

DATE: January 28, 2026

RE: Discussion and approval of contractual agreement with Tampa Bay Psychology Associates, LLC

Background

The Madeira Beach Fire Department entered into an agreement with Tampa Bay Psychology Associates in 2025 to support fire personnel who experience high levels of occupational stress due to the nature of their profession. The services provided include mental health training, counseling, and related support services.

During 2025, six (6) department members utilized these services. A total of forty-eight (48) counseling hours were provided, including three (3) hours of crisis calls accessed through Tampa Bay Psychology Associates' 24-hour First Responder Crisis Line. Services are available in person at three office locations or remotely via Zoom, allowing for timely and convenient access.

Mental health challenges among first responders continue to represent a significant and ongoing concern. Utilization of these services in 2025 demonstrates an identified need within the department and supports the continued provision of this benefit in the best interest of Fire Department personnel.

The proposed agreement term is from January 1, 2026, through September 30, 2027.

Fiscal Impact

The contractual agreement establishes the following rates: Individual counseling sessions: $165 per hour (most commonly utilized service), Crisis and emergency response services, including on-site response during critical incidents or debriefings: $250 per hour and Training, peer support, or general education services: $300 per hour.

Recommendation

Staff recommends approval of the contractual agreement with Tampa Bay Psychology Associates to continue providing counseling and mental health support services for Madeira Beach Fire Department personnel.

Attachment(s): Agreement with Tampa Bay Psychology Associates, LLC

AGREEMENT

THIS AGREEMENT, ("Agreement") is made and entered into by and between Tampa Bay Psychology Associates, LLC a Florida limited liability company, with its principal place of business located at 111 North Belcher Road, Suite 101, Clearwater, FL 33765 (Professional) and the City of Madeira Beach ("City"), a Florida corporation, 300 Municipal Drive, Madeira Beach, FL 33708 and is effective upon the signing of this agreement.

WITNESSETH:

WHEREAS, the City recognizes first responders may be subjected to high levels of stress during the performance of their duties. The nature of some calls may require personnel to perform duties in harsh environments and in the face of great human tragedy, suffering and even loss of life. These stressors may have a direct impact or cumulative impact on the employee. As such, the City desires to address mental health challenges faced by first responders by providing mental health training, counseling, and other services; and

WHEREAS, Professional agrees to provide department training, consultation, and participation in department activities, response to and debriefing of critical incidents involving department employees (operations and civilian), individual counseling, psychological assessment and referral services, and other ancillary and supplementary psychological services in support of the Madeira Beach Fire Department (hereinafter, "MBFD").

NOW THEREFORE, in consideration of the promises states herein, MBFD, and Professional mutually agree as follows:

1. SCOPE OF PROJECT

Professional agrees to provide all psychological services required by MBFD. Services include:

A. Training, Education, & Participation in MBFD Activities:

Professional may be requested to participate in MBFD meetings or provide training/education to MBFD personnel to enhance professional understanding of specific psychological related topics. At the request of MBFD, Professional may be requested to conduct or assist MBFD personnel with scheduled training sessions, to include, but not limited to:

(i) General and Educational Training (open to all MBFD employees)

General trainings focused on various aspects of mental health, behavioral health and general wellness (alcoholic beverages awareness, etc.). Trainings may be variable in length at the mutual discretion of MBFD and Professional. Trainings will be delivered by Professional via in-person seminar or remote access. Topics will be mutually agreed upon by MBFD and Professional.

(ii) Peer Support Team Training

Professional may be asked to work collaboratively with the MBFD peer support team to develop continuing education trainings that are relevant to the continued skill building of the current peer support members, professional consultation, and the overall organizational health of the agency and its incumbents.

(iii) *Officer Training*

Professional may be requested to present a guided discussion on critical mental health issues, wellness, resilience, or leadership in the fire service during regularly scheduled officer meetings. These guided discussions will focus on providing officers and/or executive leadership the skills to more effectively recognize and respond to the mental health needs of direct reports and collaborate with Professional as a psychological asset to MBFD.

B. Consultation:

Professional will provide, as requested by MBFD, consultation services to MBFD administration regarding organizational issues (e.g., field training specific to mental health issues, the management of prolonged crisis events, such as mass casualty incidents, MBFD employee performance/behavior problems, and general mental health/stress management). Professional will serve as a professional resource for the Departments' administration and employees regarding treatment services, community referrals, and other topics relevant to the Professional's field of practice as it serves for the enhancement of the Department.

Professional will proactively engage with employees and MBFD administration to establish a collaborative and supportive community partner relationship.

In Professional's performance of the services described in this sub-paragraph, Professional will not be required to divulge any information to MBFD members or administration that is deemed by the Professional to be confidential.

C**. Critical Incidents:**

A line of duty death, potentially fatal injury to an employee, or exposure to an exceptionally traumatic call are perhaps the most extreme stressors employees of a Fire/EMS agency can experience. If such an incident should occur affecting an MBFD employee, the Professional may be requested to respond to the hospital, a fire station, police headquarters to assist those impacted by the incident, or directly to the scene to intervene with responding personnel. In such instances, Professional shall respond to the desired location within two (2) hours of being notified.

Professional may be contacted for consultation by phone regarding critical incidents, including but not limited to fatal fires/accidents, collapsed structures, and other high risk, complex incidents where Professional may be able to assist in resolving the incident through psychological consultation or other psychological interventions.

Individual counseling and/or debriefings MBFD employees involved in critical incidents shall occur based on collaborative scheduling between Professional and MBFD designee. Engagement of Professional for critical events must be initiated by a MBFD designee. Intervention with affected MBFD employees shall occur within 72 hours of the incident unless otherwise approved by the MBFD designee. Intervention can be rendered at the station, at the Professional's location of practice, or via remote format (i.e., Zoom or telephone).

D. Individual Counseling:

MBFD employees may independently request individual counseling after critical incidents or for support during personal crises on their own initiative. Appointments requested by MBFD employees, directly in response to a critical incident, shall be provided within 24 hours following the reporting of an incident. Appointments requested in response to personal crises, including issues, concerns or needs related to marriage, parenting, substance abuse, stress or grief shall be provided at a time mutually convenient for Professional and the requesting MBFD employee.

MBFD employee-initiated services will be confidential, with employee names omitted from any documentation which may be provided to MBFD. Professional shall be responsible for supplying her own office space to perform individual counseling services under this Agreement but may perform services on MBFD premises at MBFD's request.

MBFD shall notify Professional when an MBFD employee is mandated to meet with Professional. For those MBFD employees who are mandated to meet with Professional, Professional shall notify MBFD when the appointment is completed. This notification will include only verification of attendance. Notification may be facilitated by email or letter provided directly to MBFD. If Professional has concerns about an employee's ability to return to duty, Professional may speak directly to an MBFD Command Staff member about such concerns.

Upon termination of this Agreement, Professional should refer all active MBFD clients to another service provider, who has been approved by MBFD, as required by professional and ethical standards. Alternatively, employee(s) may continue to seek services through Professional at the employee's expense.

E. Evaluations

Professional will be retained by the MBFD to complete psychological suitability or Fitness for Duty evaluations for new hire applicants or existing incumbents. Evaluations will ascribe to CFA accreditation standards and utilize testing instruments relevant to the purposes of assessing psychological candidacy of public safety applicants. Evaluations will be conducted exclusively by doctoral level professionals with knowledge and expertise in public safety psychology as assigned by Professional. Findings of evaluations will be reported directly to MBFD.

F. Availability and Contact Information:

Professional shall provide MBFD with at least one (1) contact telephone number by which Professional may be contacted during normal business hours (Monday through Friday, 08:00 a.m. to 5:00 p.m. EST). If Professional is unavailable during normal business hours, Professional shall utilize a messaging service or other mechanism to process incoming calls. Professional must return messages within one hour unless Professional is treating a patient or in session with a patient at such a time, and in such case, Professional shall return messages as soon as reasonably practicable.

Should an MBFD member or MBFD-designated representative contact the Professional via the after-hours emergency telephone number and request immediate intervention, MBFD acknowledges and agrees that it is within the sole ethical and clinical discretion of the Professional to determine the immediate needs of the individual and to render care in a manner that prioritizes the safety and well-being of all parties involved. Any such services

provided outside of normal business hours shall be classified as crisis intervention and will be billed accordingly.

Professional will ensure that, in the event Professional will be unavailable to perform services pursuant to this Agreement for a period of more than 24 hours, an equally qualified and duly licensed in the State of Florida subcontractor shall be available to perform the services set forth herein at Professional's sole cost and expense. Professional shall ensure that the subcontractor is qualified and acceptable to MBFD no later than 48 hours before Professional's anticipated unavailability.

G**. Activity Summary:**

On a date no later than the fifteenth (15th) day of each month during the term of this agreement including any extensions or renewals, Professional shall provide individually to MBFD with an activity summary to include, at a minimum, the following statistics for the previous month:

(i) Total number of unique employees and hours of service provided to each employee;
(ii) Number of the above visits that are repeat visits by employee;
(iii) List of training/education classes offered, including topic, number of employees in attendance and hours of training provided;
(iv) Total number of worksite visits and number of hours at each visit;
(v) Number of call-outs and hours of service provided for each call-out; and
(vi) Number of consultations provided and total time spent in this activity.

2. TIME OF PERFORMANCE

The term of this Agreement shall be from 01/01/2026-09/30/2027. This Agreement may renew for up to three (3) additional one (1) year terms by mutual written agreement of the parties with an increase of up to 5% in cost to each item listed in the fee schedule of section 4. An increase of up to 5% will occur every year of the renewal term. The Professional shall submit its desire to renew this Agreement in writing to MBFD at least sixty (60) days prior to the end of the current term. This Agreement may be terminated by either party upon thirty (30) days written notice to the other party, with or without cause.

3. **COMPENSATION**

MBFD will pay Professional according to the fee schedule below. MBFD may, from time to time, require changes in the scope of the services to be performed by Professional hereunder. Such changes, including any increase or decrease in the amount of Professional's compensation and changes in the terms of this Agreement which are mutually agreed upon by and between MBFD and Professional shall be effective when incorporated in written amendment to this Agreement.

The following Fee Schedule will apply to services provided to MBFD under this Agreement:

Service	FY26 Fee
Crisis & Emergency Response: On-site intervention/CISM/Debriefing/Critical Response/Crisis Sessions	$250.00 per one (1) hour session
Counseling sessions	*$165.00 per one (1) hour session*

Training: Peer support, General educational, officer development, specialty requested topics	$300.00 per one (1) hour block

4. METHOD OF PAYMENT

Professional's invoices shall be submitted to MBFD on a monthly basis in conjunction with the monthly Activity Summary. MBFD agrees to pay after approval under the terms of the Florida Prompt Payment Act, Florida Statutes 218.70 et seq.

In the event the MBFD, in their sole discretion, determine that sufficient budgeted funds are not available to appropriate for payments due to the Professional under this Agreement, MBFD shall notify Professional of such occurrence and this Agreement shall terminate on the last day of the current fiscal period without any penalty or expense to MBFD. The Special District's performance and obligation to pay under this Agreement is contingent upon an annual appropriation of the Special District's budget.

5. NOTICES AND CHANGES OF ADDRESS

Any notice required or permitted to be given by the provisions of this Agreement shall be conclusively deemed to have been received by a party hereto on the date it is hand delivered to such party at the address indicated below (or at such other address as such party shall specify to the other party in writing), or if sent by registered or certified mail (postage prepaid) on the fifth (5^{th}) business day after the day on which such notice is mailed and properly addressed.

6. TERMINATION OF AGREEMENT

MBFD may terminate the Agreement by giving Professional a thirty (30) day written notice of its election to do so and by specifying the effective date of such termination. Professional shall be paid for its services through the effective date of such termination. Further, if Professional shall fail to fulfill any of its obligations hereunder, this Agreement shall be in default, MBFD may terminate the Agreement, and Professional shall be paid only for work completed.

7. INDEMNIFICATION AND INSURANCE

Professional shall defend, indemnify and hold harmless MBFD, from and against any and all liabilities, claim demands, damages, expenses, fees, fines, penalties, suits, proceedings, actions and causes of action of any and every kind and nature caused by or are alleged to be caused by Professional or any of its affiliates, contractors, members, employees, agents and representatives, excepting any liability or claim arising or growing out of the gross negligence or willful misconduct of MBFD, its employees, or officials. Nothing herein shall be construed to waive or modify the provisions of Section 768.28, Florida Statutes or the doctrine of sovereign immunity.

Professional covenants that all times while this agreement is in effect it will maintain the following insurances:

A. **Commercial General Liability Insurance** coverage, including but not limited to, premises operations, products/completed operations, products liability, contractual liability, advertising injury, personal injury, death, and property damage in the minimum amount of $1,000,000 (one million dollars) per occurrence and $2,000,000 (two million dollars) general aggregate.

B. **Commercial Automobile Liability Insurance** coverage for any owned, non-owned, hired or borrowed automobile is required in the minimum amount of $1,000,000 (one million dollars) combined single limit.

C. Unless waived by the State of Florida, statutory **Workers' Compensation Insurance** coverage in accordance with the laws of the State of Florida, and Employer's Liability Insurance in the minimum amount of $100,000 (one hundred thousand dollars) each employee each accident, $100,000 (one hundred thousand dollars) each employee by disease and $500,000 (five hundred thousand dollars) aggregate by disease with benefits afforded under the laws of the State of Florida. Coverage should include Voluntary Compensation, Jones Act, and U.S. Longshoremen's and Harbor Worker's Act coverage where applicable. Coverage must be applicable to employees, contractors, subcontractors, and volunteers, if any.

D. **Professional Liability insurance/Medical Errors and Omission/Malpractice** coverage appropriate for the type of business/medical certification engaged in by the Contractor with minimum limits of $1,000,000 (one million dollars) per occurrence. If a claim made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless prior policy was extended indefinitely to cover prior acts. Coverage shall be extended beyond the policy year either by a supplemental extended reporting period (ERP) of as great a duration as available, and with no less coverage and with reinstated aggregate limits, or by requiring that any new policy provide a retroactive date no later than the inception date of claims made coverage.

8. PROPRIETARY MATERIALS

Upon termination of this Agreement, Professional shall transfer, assign and make available to MBFD or its representatives all property and materials in Professional's possession belonging to or paid for by MBFD that is not deemed private/protected medical information.

9. INTERESTS OF PARTIES

Professional covenants that its officers, employees and shareholders have no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance and/or provision of services required under the terms and conditions of this agreement.

10. CONFORMANCE WITH LAWS

Professional agrees to comply with all applicable federal, state and local laws during the life of this Agreement.

11. ATTORNEY FEES

In the event either party seeks to enforce this Agreement through attorneys at law, then the parties agree that each party shall bear its own attorney fees and costs.

12. GOVERNING LAW AND VENUE

The laws of the State of Florida shall govern this Agreement, and any action brought by either party shall lie solely in the Middle District of Florida or Pinellas County, Florida.

13. CONFIDENTIALITY

Non-disclosure. The Parties recognize that the Special District is a governmental entity which is subject to the public records and open meetings laws of the State of Florida, and nothing contained herein shall be construed as authorizing or agreeing to any action which would violate such laws. All information claimed to be confidential shall be clearly, distinctly, and separately marked and identified in writing as such. Regardless of whether such information claimed to be confidential shall include any information that: (I) was already in the public domain or is otherwise already disclosed; (ii) was already known to the recipient, without restriction, at the time of disclosure, (iii) was independently developed by the recipient without any use of such information; (iv) was properly obtained by the recipient from a third party lawfully in possession of such information and without breach of such

third party's obligations of confidentiality; or (v) must be disclosed pursuant to court order or under operations of law, including but not limited to the public records or public meetings laws of the State of Florida because such information: (a) does not meet the definition of trade secret as prescribed by section 815.045, Florida Statutes, as may be amended from time to time, or (b) is not otherwise exempt from the public records and open meetings laws of the state of Florida pursuant to a specific statutory exemption. The determination of the applicability of statutory exemption. The determination of the applicability of statutory exemptions to a particular record will be made by the Special District, in its sole and absolute discretion.

Each party ("Receiving Party") shall not disclose, publish, or disseminate the Confidential Information (as defined below) of the other party ("Disclosing Party") to anyone other than those of such Receiving Party's employees and subcontractors with a need to know, or as may be required by legal process or applicable Laws (including but not limited to Chapter 119, Florida Statutes, and the court decisions construing the same). Each party agrees to accept the other party's Confidential Information for the sole purpose of carrying out such Receiving Party's authorized activities under this Agreement. Each party agrees not to make copies of the other party's Confidential Information except to the extent permitted pursuant to this Agreement. Each party agrees not to use the Confidential Information of the other party for its own or any third party's benefit without the prior written approval of an authorized representative of the Disclosing Party in each instance. In the event a Receiving Party is required to disclose the Disclosing Party's Confidential Information in accordance with applicable Laws or by an order of a court or governmental agency, the Receiving Party shall give written notice to the Disclosing Party to enable the Disclosing Party to make a reasonable effort to obtain a protective order or other confidential treatment for the Confidential Information. Such notice shall be provided prior to disclosure unless otherwise required by court order or applicable Laws. Professional acknowledges that, in the event of a public records request, MBFD may be limited in the amount of notice that it may be able to provide Professional prior to disclosure of records and agrees that the Special District Attorney shall have the sole and absolute discretion to determine when public records must be released in order to comply with Chapter 119, Florida Statutes, and the court decisions construing same. By designating information as Confidential Information, Contractor agrees to indemnify and hold harmless the Indemnified Parties for any award to a plaintiff for damages, costs and reasonable attorney's fees incurred by MBFD and/or Special District by reason of any legal actions challenging Contractor's claim. Professional shall require as a condition of any subcontract that the subcontractor expressly acknowledges and agrees to be bound by the same confidentiality requirements to which Contractor is bound by this Agreement.

"Confidential Information" means confidential and proprietary information of either party that is disclosed to the other party which, in the case of written information, is marked "confidential" or "proprietary" and which, in the case of information disclosed orally or stored electronically, is identified at the time of disclosure as confidential and proprietary and summarized and confirmed in writing as such by the Disclosing Party within thirty (30) days of the disclosure. Confidential Information shall not include information that (i) as of the Effective Date or after the Effective Date is or becomes generally available to the public through no fault or breach of the Receiving Party; (ii) the Receiving Party can demonstrate to have had rightfully in its possession prior to disclosure by the Disclosing Party; (iii) is independently developed by the Receiving Party without the use of any Confidential Information; or (iv) the Receiving Party rightfully obtains from a third party who has the right to transfer or disclose it. No representations, expressed or implied, are being made through the disclosure of Confidential Information.

Public Records. Pursuant to section 119.0701, Florida Statutes, for any tasks performed by Professional on behalf of the Special District, Professional shall: (a) keep and maintain all public

records, as that term is defined in chapter 119, Florida Statutes ("Public Records"), required by the Professional to perform the work contemplated by this Agreement; (b) upon request from the Special District's custodian of public records, provide the Special District with a copy of the requested Public Records or allow the Public Records to be inspected or copied within a reasonable time at a cost that does not exceed the costs provided in chapter 119, Florida Statutes, or as otherwise provided by law; (c) ensure that Public Records that are exempt or confidential and exempt from Public Records disclosure requirements are not disclosed except as authorized by law for the duration of the term of this Agreement and following completion or termination of this Agreement, if Professional does not transfer the records to the Special District in accordance with (d) below and (d) upon completion or termination of this Agreement, (I) if the Special District, in its sole and absolute discretion, requests that all Public Records in possession of Professional be transferred to the Special District. All shall transfer, at no cost, to the Special District, all Public Records in possession of Professional with thirty (30) days of such request or (ii) if no such request is made by the Special District, Professional shall keep and maintain the Public Records required by the Special District to perform the work contemplated by this Agreement. If Professional transfers all Public Records to the Special District pursuant to (d) (i) above, Professional shall destroy any duplicate Public Records that are exempt or confidential and exempt from Public Records disclosure requirements within thirty (30) days of transferring the Public Records to the Special District and provide the Special District with written confirmation that such records have been destroyed within thirty (30) days of transferring the Public Records. All Public Records stored electronically must be provided to the Special District, upon request from the Special District's custodian of public records, in a format that is compatible with the information technology of the Special District. If Professional does not comply with a Public Records request or does not comply with a Public Records request within a reasonable amount of time, the Special District may pursue any and all remedies available in law or equity including, but not limited to, specific performance. The provisions of this section only apply to those tasks in which Professional is acting on behalf of MBFD.

15. CITY PROPERTY.

To the extent permitted by applicable Laws, all studies, generic reports and data compilations prepared by Professional pursuant to this Agreement, shall be the exclusive property of MBFD. Professional shall deliver such MBFD property to MBFD prior to final payment. Notwithstanding anything to the contrary herein, Professional shall be the Records Owner, as defined in Section 456.057, Fla. Stat., of all patient records.

IN WITNESS WHEREOF, each Party represents that it has read this Contract and agrees to perform in accordance with the terms and conditions contained herein. Each Signatory to this Agreement warrants by affixing his or her signature below that he or she is duly authorized to bind the Party whom such Signatory represents.

Tampa Bay Psychology Associates:

_____ _____

Brandy Benson, Psy.D. Date
Tampa Bay Psychology Associates, CEO
Licensed Psychologist PY 9648

Countersigned: CITY OF MADEIRA BEACH, FLORIDA

_____

By: Robin Gomez
City Manager

Attest:

_____

Clara VanBlargan
City Clerk

Memorandum

Meeting Details: January 28, 2026

Prepared For: Mayor & Board of Commissioners

From: Megan Wepfer, Public Works Director

Subject: Public Works Building Conceptual Rendering Discussion

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Background

The purpose of this memorandum is to present three conceptual renderings for the proposed Public Works buildings and to request directions from the Board of Commissioners regarding preferred design elements and overall approach.

As part of ongoing efforts to evaluate future needs for the City's Public Works facilities, staff has worked with consultants to develop preliminary building renderings. These renderings are intended to provide a visual framework for discussion and are conceptual in nature. They do not represent final construction documents, costs, or site plans.

The renderings focus on massing, layout, and architectural character and are intended to assist the Board in identifying preferences and priorities before any further design development occurs.

Fiscal Impact

There is no estimated construction cost until we are further into the design process.

Recommendation(s)

Staff if looking for a consensus from the Board of Commissioners on the best rendering to proceed with building for the Public Works Department.

Attachments

- Public Works Building Conceptual Renderings
- Public Works Building Floor plan layout

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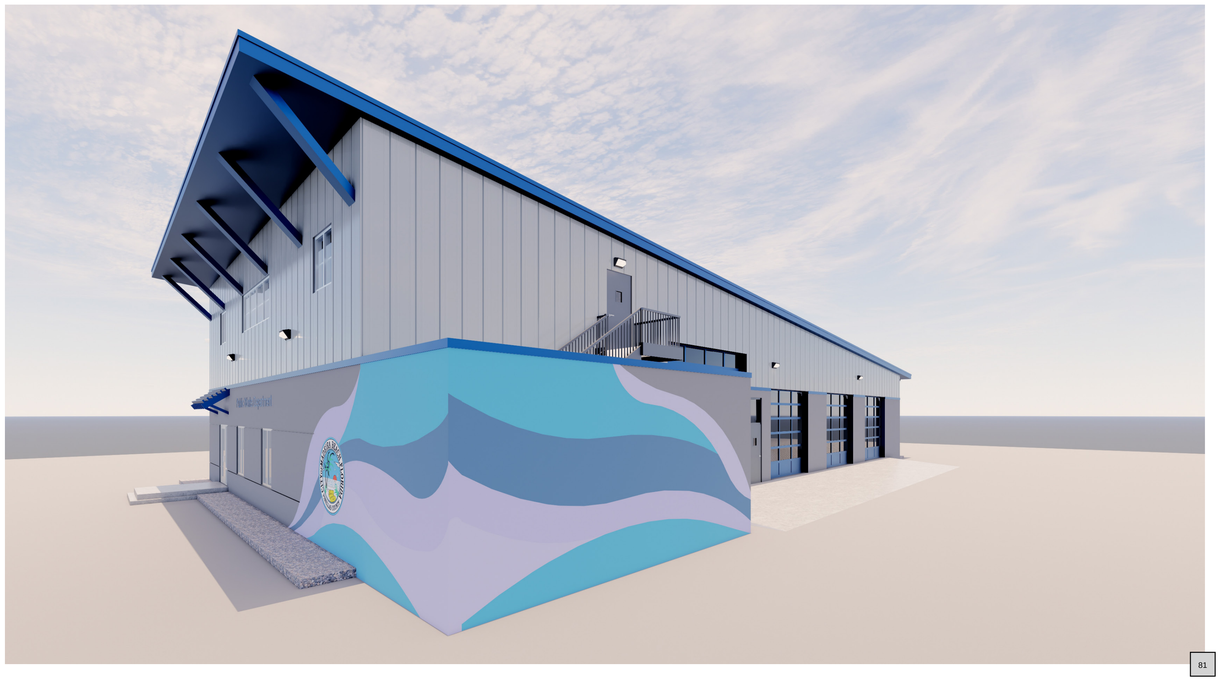

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OPTION NO. 2

SAA

OPTION NO. 3

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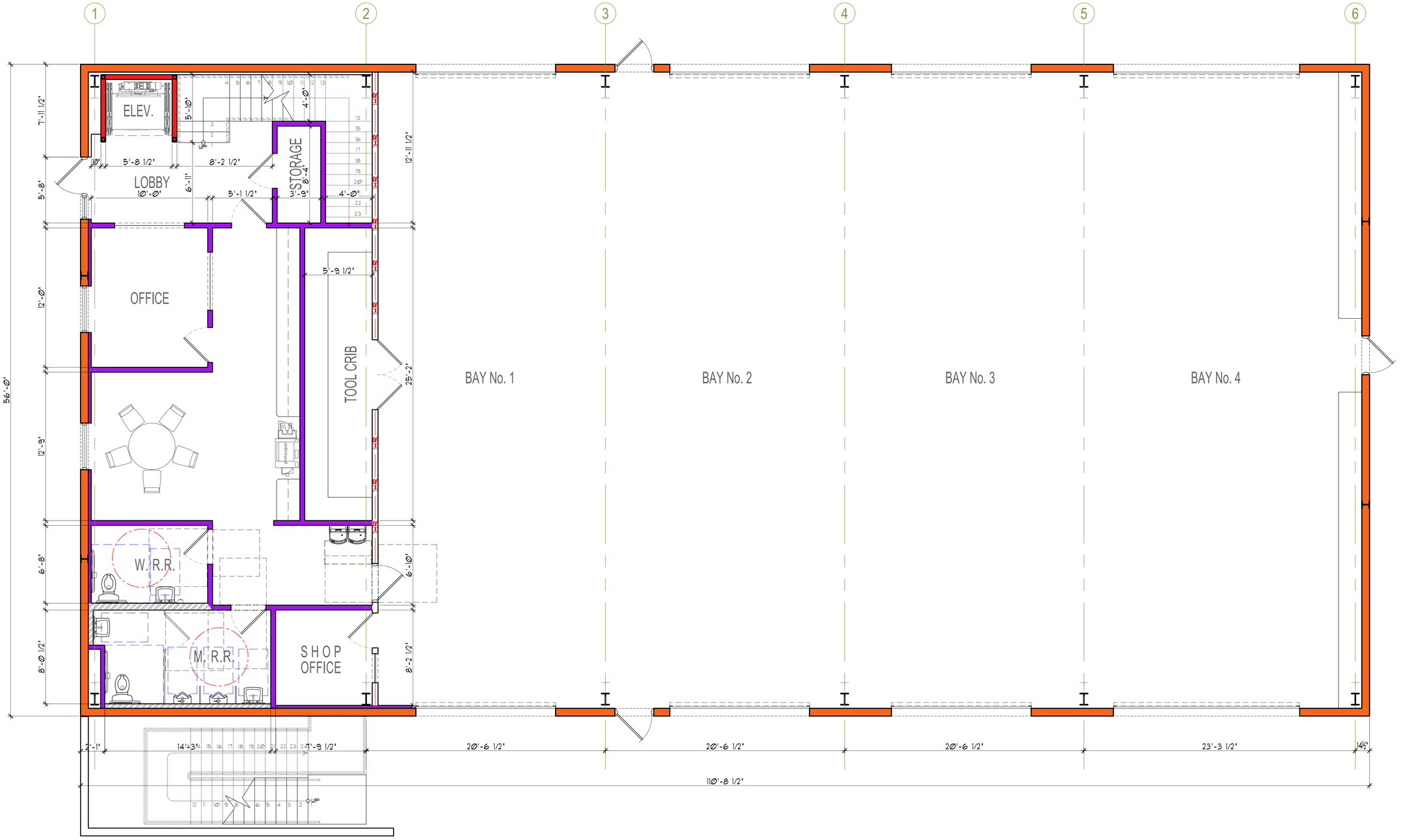

PROPOSED FLOOR PLAN - GRADE LEVEL

1 / A-1

SCALE : 1/4" = 1'-0"

ISSUED FOR:
PROPOSED

MICHAEL F. SOFARELLI, JR.
FLORIDA STATE BOARD
OF ARCHITECTURE
REGISTRATION No. :
AR 0014577

MADEIRA BCH. PUBLIC WORKS
NEW CONSTRUCTION
503 150th Av. Madeira Bch, FL 33708

SOFARELLI & ASSOCIATES ARCHITECTURE INC.
MICHAEL F. SOFARELLI JR., A.I.A.
1000 S. BELCHER RD., Su. No. A-1
LARGO, FLORIDA 33771
EMAIL sofarelli@verizon.net (727) 530-3535

Revisions:

Content:
PROPOSED
FLOOR PLAN
GRADE
LEVEL

Filename:
MAD. BCH.
CENTER

Date:
12-16-2025

Proj. no.
25xyz

Sheet:
A-1

PROPOSED NOT FOR CONSTRUCTION

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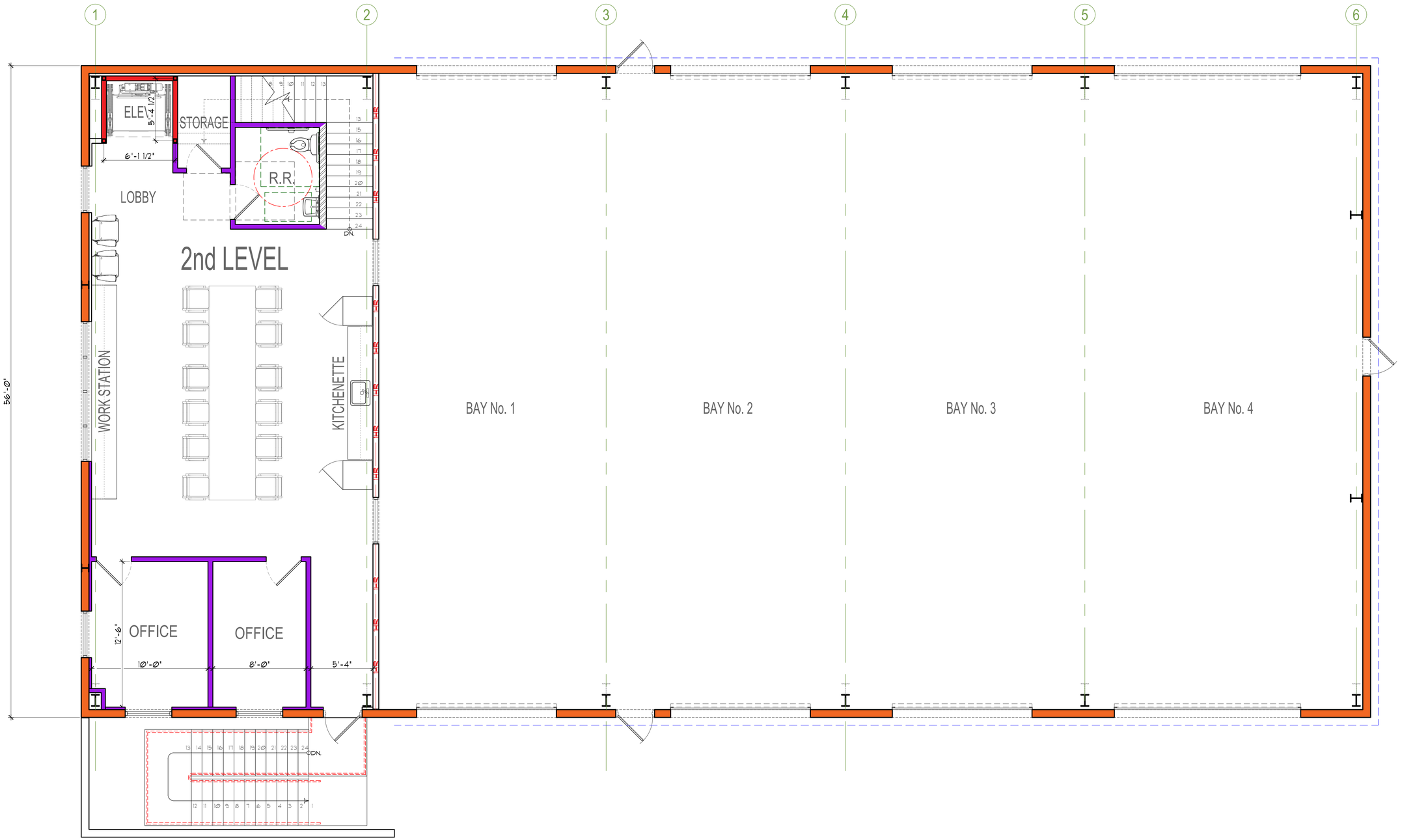


PROPOSED FLOOR PLAN - SECOND LEVEL

1 / A-2

SCALE : 1/4" = 1'-0"

ISSUED FOR:
PROPOSED

MICHAEL F. SOFARELLI JR.
FLORIDA STATE BOARD OF ARCHITECTURE
REGISTRATION No. :
AR 0014577

MADEIRA BCH. PUBLIC WORKS
NEW CONSTRUCTION
503 150th Av. Madeira Bch, FL 33708

SOFARELLI & ASSOCIATES ARCHITECTURE INC.
MICHAEL F. SOFARELLI JR., A.I.A.
1000 S. BELCHER RD., Su. No. A-1
LARGO, FLORIDA 33771
EMAIL sofarelli@verizon.net (727) 530-3535

Revisions:

Content:
PROPOSED
FLOOR PLAN
SECOND
LEVEL

Filename:
MAD. BCH.
CENTER

Date:
12-16-2025

Proj. no.
25xyz

Sheet:
A-2

PROPOSED NOT FOR CONSTRUCTION

Memorandum

Meeting Details: January 28, 2026

Prepared For: Mayor & Board of Commissioners

From: Megan Wepfer, Public Works Director

Subject: Johns Pass Jetty Sidewalk design discussion

Background

The purpose of this memorandum is to provide the Board of Commissioners with a project status update on the Johns Pass Jetty Sidewalk Replacement and to request direction necessary for staff to proceed with design and permitting.

Step	Action	Responsibility	Notes
1	Receive Board direction on design approach	Board	Determines scope for Design/Permitting proposal
2	Obtain proposal for design and permitting services	Staff	Based on Board direction
3	Present proposal to Board for approval	Staff	Board approves to proceed
4	Issue Purchase Order and start design	Staff	Design consultant begins work
5	Complete design	Staff & Engineer	Plans ready for permitting
6	Begin permitting process	Staff & Engineer	Submit to FDEP, Pinellas County, USACE Regulatory & Section 408
7	Construction phase	TBD	BOC to Approve Contractor prior to start of construction

Fiscal Impact

Unknown currently.

Recommendation(s)

Staff recommends the Board provide direction regarding the preferred design approach so the project may advance into the design and permitting phase. No financial commitment is requested at this time beyond authorization to pursue a design proposal.

Attachments

Deschamps Mats Systems, Inc.
218 Little Falls Rd, #12
Cedar Grove, NJ 07009

Quote

Date	Quote #
1/13/2025	E11368

Customer	Ship To
Madeira Beach 300 Municipal Dr. Madiera Beach, FL 33708	Madeira Beach 503 150th Ave. Madeira Beach, FL 33708 Megan Wepfer (727) 543-8154

Terms	Rep	FOB	Quotation valid until
Net 30	JGSPR	New-Jersey	3/30/2024

Item	Description	Qty	Cost	Total
300267-3040	Mobi-mat (RecPath) AFX blue jay 6.5' x 100' 2h 20'' staples + spikes	1	5,199.00	5,199.00
300265-1520	Mobi-mat (RecPath) AFX blue jay 6.5' x 20' 2h 20'' staples + spikes	1	1,399.00	1,399.00
DISCOUNT	Discount		-727.00	-727.00

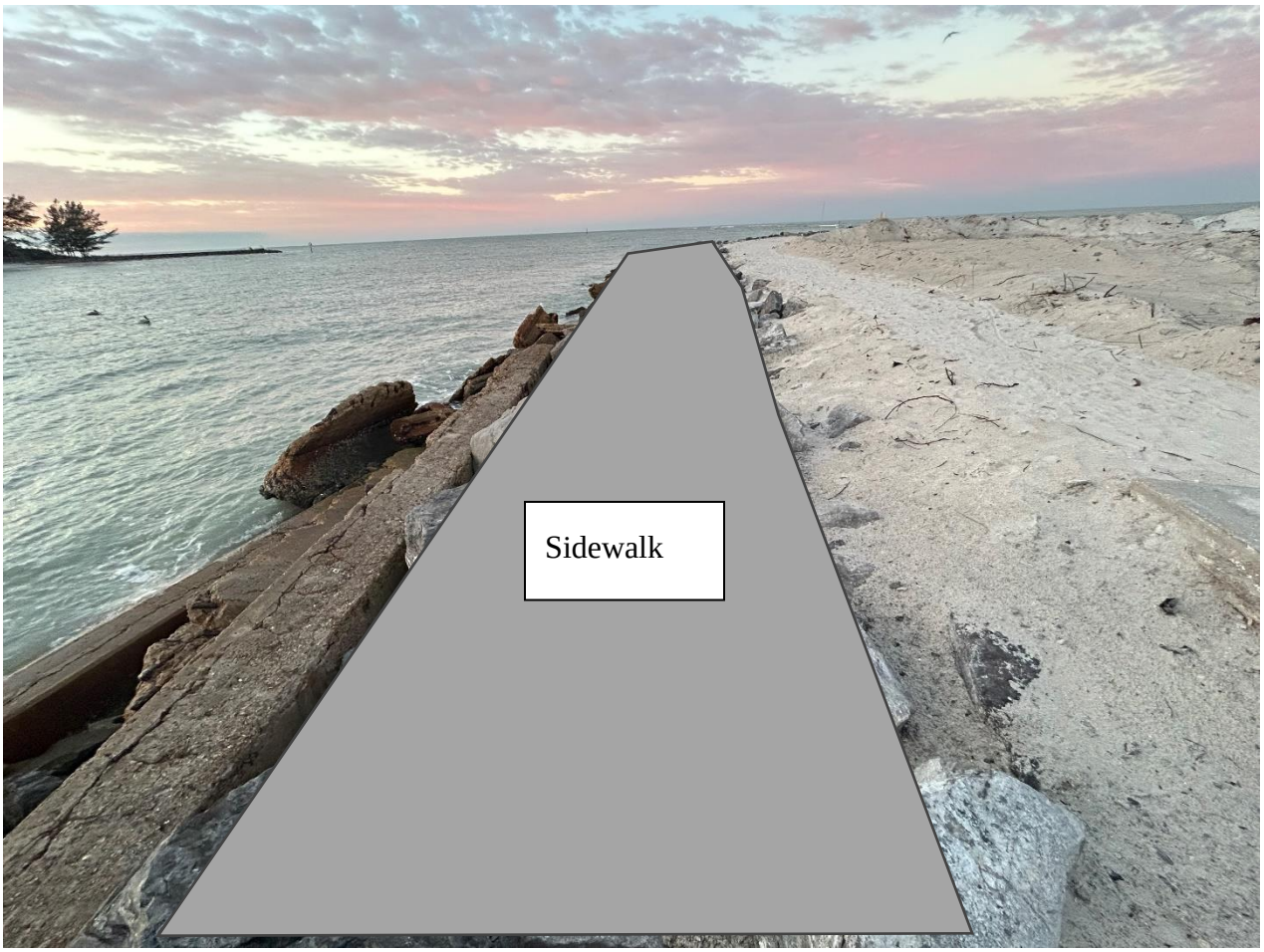
DELIVERY FL	Boxing/crating, Shipping, Handling, Delivery		334.00	

Freight Quote is an estimate only and may be subject to change at time of shipment	**Subtotal**	$6,205.00
If authorized by your terms of sales or approved by your representative your signature below will act as consent to proceed with this order as quoted and will become a binding agreement to purchase. Credit Card Payments will be assessed a 3.5% fee.	**Sales Tax (0.0%)**	$0.00
	Total	$6,205.00

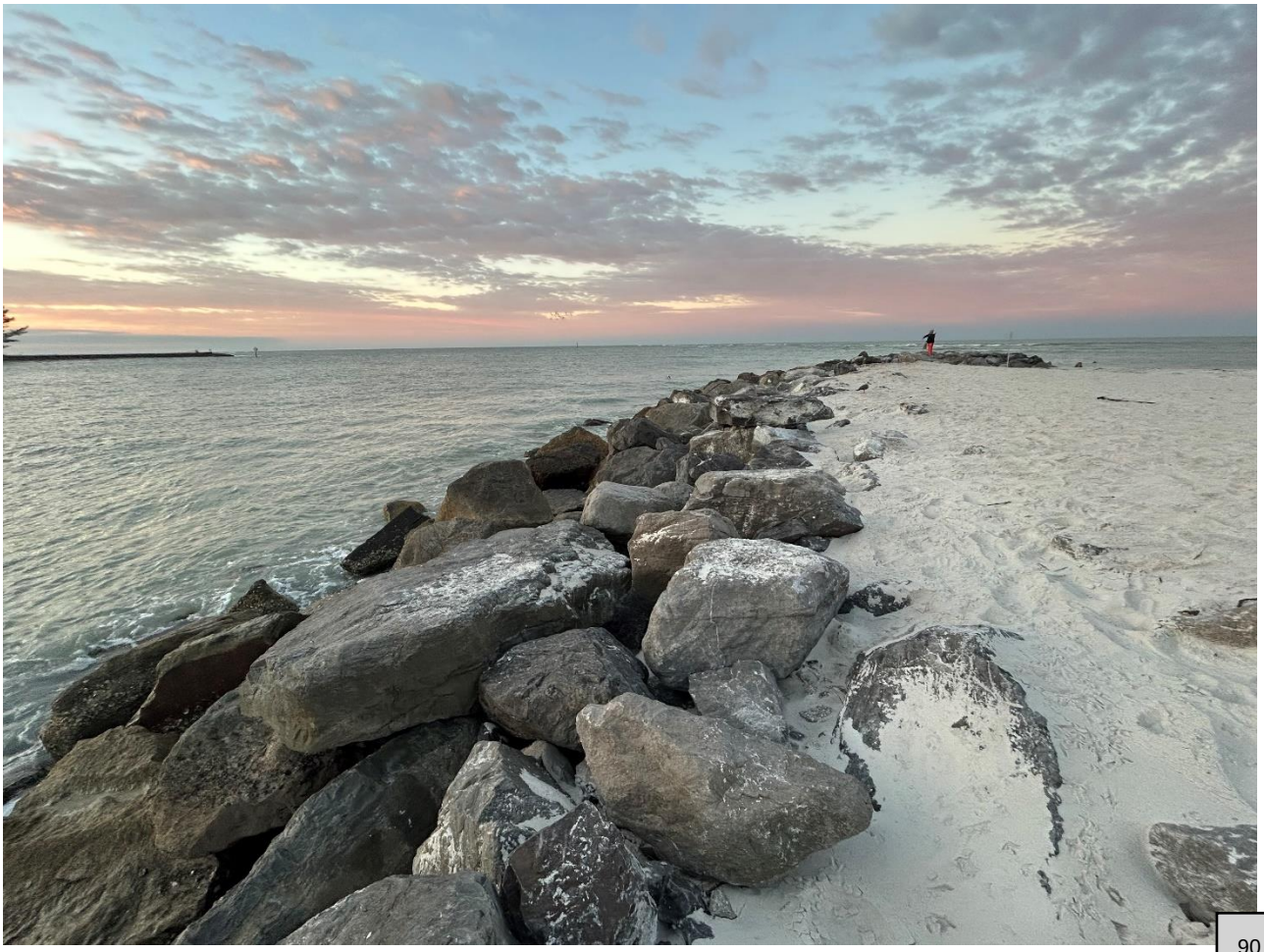
Currency Shown in U.S. Dollar - Foreign customers please remit payment in USD to avoid re-invoicing of any exchange rate loss or fees.

Signature

_____


Sidewalk


120FT X 6.5FT Mobi Mat
120FT X 6FT ACCESS REC



ACCESSREC

67 Sand Park Road - Suite A

Cedar Grove, NJ 07009 +19739550514 sales@AccessRec.com www.accessrec.com

Estimate

ADDRESS
Magan Wepfer
City of Madeira Beach
Municipal Dr,
Madeira Beach, FL 33708
C: 727-543-8154
United States

SHIP TO
Magan Wepfer
City of Madeira Beach
150th Ave
Madeira Beach, FL 33708
C: 727-543-8154
United States

ESTIMATE # 2546 **DATE**
01/27/2025 **EXPIRATION DATE**
02/27/2025

PAYMENT TERMS
Day Net

SALES REP.
SJ

SKU	ITEM	QTY	UNIT COST	AMOUNT
AM6-100-BL	**ACCESSMAT® BLUE 6x100 KIT** NON WOVEN recycled polyester roll out mat 6' x 100' - Blue color Incl. stake & strap & cap & plug & alu. connector Ltd. Warranty 5 Yrs. Avoid installing ACCESSMAT® on slopes greater than 5%.	1	4,569.00	4,569.00
AM6-CUST-BL	**ACCESSMAT® BLUE 6xCUST KIT** NON WOVEN recycled polyester roll out mat 6' x 20' Cust. Length - Blue color Incl. stake & strap & cap & plug & alu. connector Ltd. Warranty 5 Yrs. Avoid installing ACCESSMAT® on slopes greater than 5%. Forklift on site	1	1,284.00	1,284.00

*FOB Madeira Beach, FL 33708
* Preferred payment by check.
* 3.5% convenience fee with Credit Card or PayPal payment.
* Wire transfer fee should be covered with the transfer.

SUBTOTAL	5,853.00
DISCOUNT 22%	-1,287.66
SHIPPING	398.00
TOTAL	**$4,963.34**

NO REFUNDS, EXCHANGES, OR RETURNS. ALL SALES ARE FINAL.

Accepted By

Accepted Date

THANK YOU FOR SPREADING HAPPINESS!

John's Pass Inlet Management Plan

Division of Water Resource Management

Florida Department of Environmental Protection

January 2018

Final Order Adopting
John's Pass - Inlet Management Plan

WHEREAS in 2008, the Florida Legislature amended Section 161.142, Florida Statutes, finding, "The Legislature recognizes the need for maintaining navigation inlets to promote commercial and recreational uses of our coastal waters and their resources. The Legislature further recognizes that inlets interrupt or alter the natural drift of beach-quality sand resources, which often results in these sand resources being deposited in nearshore areas or in the inlet channel, or in the inland waterway adjacent to the inlet, instead of providing natural nourishment to the adjacent eroding beaches. Accordingly, the Legislature finds it is in the public interest to replicate the natural drift of sand which is interrupted or altered by inlets to be replaced and for each level of government to undertake all reasonable efforts to maximize inlet sand bypassing to ensure that beach-quality sand is placed on adjacent eroding beaches. Such activities cannot make up for the historical sand deficits caused by inlets but shall be designed to balance the sediment budget of the inlet and adjacent beaches and extend the life of proximate beach-restoration projects so that periodic nourishment is needed less frequently."; and

WHEREAS in 2015, the Department of Environmental Protection (Department or DEP) and Pinellas County sponsored an inlet management study of John's Pass performed by the University of South Florida Coastal Research Laboratory (USF-CRL) to compile new and historical data and information regarding its coastal processes and inlet and shoreline dynamics, and update its sediment budget; and

WHEREAS in 2016, the USF-CRL completed the inlet management study for John's Pass, which included recommendations for inlet management alternatives; and

WHEREAS, on December 5, 2017, the Department developed an inlet management plan that contains corrective measures to mitigate the identified inlet erosion impacts to adjacent beaches; and

WHEREAS, Pinellas County and the U.S. Army Corps of Engineers are the entities responsible for the maintenance dredging of the navigation channel at John's Pass, and therefore, responsible for implementation of the inlet management plan; and

WHEREAS, this inlet management plan is consistent with the Department's program objectives under Chapter 161, Florida Statutes,

THEREFORE:

The Department does hereby adopt the following implementation strategies, as set forth in the attached **John's Pass - Inlet Management Plan**. Future inlet management activities shall be consistent with the following four strategies:

1) **A comprehensive beach and inlet hydrographic monitoring program** shall be conducted to evaluate the performance and impact of existing sand bypassing and nourishment projects and to periodically update the inlet sediment budget.

2) **Sand bypassing shall be performed by transferring beach compatible material from the John's Pass navigation channel, channel side borrow area, and ebb shoal borrow areas to the adjacent designated critically eroded gulf-fronting beaches to the south of the inlet, giving first priority to the eroding segment between DEP Range Survey Monuments R126 and R130, and second priority to the southern Treasure Island beaches between R135 and R143.** The quantity of fill to be placed shall be based on observed beach erosion patterns and quantities within the areas of inlet influence documented through the monitoring protocol of Strategy #1 above.

3) **The initial target inlet sand bypassing quantity shall be 21,000 cubic yards per year to Sunshine Beach south of the inlet (R126-R130).** This target quantity may be modified based on a minimum of four years of monitoring indicating a change in the sediment budget. In the interim, should the volume of sand accumulating in the John's Pass navigation channel, channel side borrow area, or ebb shoal borrow area exceed these quantities, the additional sand may be dredged and placed on the southern Treasure Island beaches to extend the life of the Treasure Island beach restoration project.

4) **The source of sediment for meeting the target sand bypassing quantity in Strategy #3 above shall be the John's Pass navigation channel and the channel side borrow area.** Acceptable beach quality sand may also be obtained from the 2010 ebb shoal borrow area or the alternate ebb shoal borrow area immediately landward of the 2010 ebb shoal borrow area as described in the inlet management study alternative 3.

Inlet management actions that implement the strategies contained in this plan are subject to further evaluation, and subsequent authorization or denial, as part of the Department's permitting process.

Activities that implement these adopted strategies shall be eligible for state financial participation pursuant to Section 161.143, Florida Statutes, subject to Department approval and an appropriation from the Florida Legislature. The level of State funding shall be determined based on the activity being conducted and the Department's rules. The Department may choose not to participate financially if the proposed method of implementation is not cost effective or fails to meet the intent of Section 161.142, Florida Statutes, and this final order. Nothing in this plan precludes the evaluation and potential adoption of other strategies for the effective management of John's Pass and the adjacent beaches.

Execution of this Final Order constitutes agency action. Any Florida corporation not for profit which meets the requirements of Subsection 403.412(6), Florida Statutes, and any person whose substantial interests will be determined or affected by the Final Order may petition the Department for a formal or informal administrative hearing pursuant to Section 120.569 or 120.57, Florida Statutes, as set forth in the attached Notice of Rights, to challenge the provisions of this Final Order.

If the Department proposes to issue a permit that implements the strategies in this Final Order, any Florida corporation not for profit which meets the requirements of subsection 403.412(6), Florida Statutes, and any person whose substantial interests will be determined or affected by the proposed permit may petition the Department for a formal or informal administrative hearing pursuant to Section 120.569 or 120.57, Florida Statutes, as set forth in the Notice of Rights attached to the permit. The scope of a challenge to a permit approval or denial is limited to whether the agency action complies with the permitting criteria. Agency action previously subject to challenge or administrative review will not be subject to challenge at the time of permit approval or denial.

Approval of Adoption

Alex Reed

Alex Reed
Deputy Director of Division of Water Resource Management
Florida Department of Environmental Protection

Filing and Acknowledgement

FILED, on this date with the designated Department Clerk, pursuant to

Section 120.52, F.S., receipt of which is hereby acknowledged.

Kira Carmichael

Deputy Clerk

1/31/2018

Date

Notice of Rights

This Order is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the paragraphs below or unless a request for extension of time in which to file a petition is filed within the required timeframe and conforms to Rule 62-110.106(4), F.A.C. Upon timely filing of a petition or a request for an extension, this Order will not be effective until further Order of the Department.

A person whose substantial interests are affected by this Order may petition for an administrative proceeding (hearing) in accordance with sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) with the Agency Clerk for the Department of Environmental Protection, at Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, or by electronic mail at: Agency_Clerk@dep.state.fl.us, within 21 days of receipt of this Notice. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, F.A.C.

A petition must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of how and when the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts which petitioner contends warrant reversal or modification of the Department's action;

(f) A statement of the specific rules or statutes the petitioner contends requires reversal or modification of the Department's action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by petitioner, stating precisely the action that the petitioner wants the Department to take.

A petition that does not dispute the materials facts on which the Department's action is based shall state that no such facts are in dispute and otherwise contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any such final decision of the Department on the petition have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to section 120.68 of the Florida Statutes, by filing a Notice of Appeal pursuant to Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

John's Pass in Pinellas County, Florida.
Photo courtesy of Paul Miselis, P.E., Public Works of Pinellas County, August 6th, 2017.

Table of Contents

Introduction

Pursuant to Subsection 161.101(2), Florida Statutes, the Florida Department of Environmental Protection (Department or DEP) is the beach and shore preservation authority for the State of Florida. As part of the Department's statewide beach management plan, adopted pursuant to Section 161.161, Florida Statutes, the Department is adopting this inlet management plan for John's Pass in Pinellas County, Florida.

John's Pass - Inlet Management Plan updates the strategies for John's Pass previously adopted in the Strategic Beach Management Plan (DEP, 2015), to be consistent with current statutes and observed erosion[1] conditions. As a first step towards adoption of this inlet management plan, in 2014-16, the Department and Pinellas County sponsored a study of John's Pass, performed by the University of South Florida Coastal Research Laboratory (USF-CRL), to compile new and historical data and information regarding beach and inlet changes and the dynamic coastal littoral processes in this area, and to develop an updated sediment budget.

Program Objectives and Statutory Responsibilities for Inlet Management

In 2008, the Florida Legislature amended Section 161.142, Florida Statutes, finding:

> "It is in the public interest to replicate the natural drift of sand which is interrupted or altered by inlets to be replaced and for each level of government to undertake all reasonable efforts to maximize inlet sand bypassing to ensure that beach-quality sand is placed on adjacent eroding[1] beaches. Such activities cannot make up for the historical sand deficits caused by inlets but shall be designed to balance the sediment budget of the inlet and adjacent beaches and extend the life of proximate beach-restoration projects so that periodic nourishment is needed less frequently."

[1] As used in this document, the term "erosion" means wearing away of land or the removal of consolidated or unconsolidated material from the coastal system by wind or wave action, storm surge, tidal or littoral currents or surface water runoff. As used in this document, the term "accretion" means the buildup of land or accumulation of unconsolidated material within the coastal system caused by wind and wave action, storm surge, or tidal or littoral currents. The descriptions of coastal processes in this document are not intended to affect title to real property or real property boundaries.

Pursuant to Section 161.143, Florida Statutes,

> "Studies, projects and activities for the purpose of mitigating the erosive effects of inlets and balancing the sediment budget on the inlet and adjacent beaches must be supported by separately approved inlet management plans or inlet components of the statewide comprehensive beach management plan."

The U.S. Army Corps of Engineers (USACE) and Pinellas County have been the entities responsible for maintenance dredging the John's Pass navigation channel and ebb shoal borrow area, and consequently, mitigating the extent of beach erosion caused by the inlet, as specified in Subsection 161.142 (6), Florida Statutes.

History of John's Pass (Mehta et al, 1976; USCOE, 1966; Wang et al, 2016)

John's Pass is located in Pinellas County on the southwest Gulf of Mexico coast of Florida, separating the barrier islands of Sand Key to the north and Treasure Island to the south (*Figure 1*).

The inlet connects the Gulf of Mexico to Boca Ciega Bay. The history of John's Pass, its geomorphological evolution and prior inlet management activities, and beach erosion control activities along the adjacent beaches add perspective on the inlet's dynamics and the need to change inlet management strategies over time. Growing demands for small craft navigation between interior tidal waters and the gulf require ongoing maintenance of deeper navigable depths through the inlet; hence, sediment management has become essential to offset the erosion of the adjacent beaches caused by navigation improvements.

A severe hurricane in September 1848 opened John's Pass, which was named for a local fisherman and citrus grower, John Levique. For the two-inlet system (John's Pass and Blind Pass) connecting Boca Ciega Bay to the Gulf of Mexico, John's Pass has been the hydraulically dominant inlet transporting between 70 and 80 percent of the tidal prism that flows into and out of Boca Ciega Bay. This tidal dominance has likely resulted in the hydraulic stability as well as the geomorphological stability of the inlet, as John's Pass has not experienced any significant migration in its location since its opening.

Figure 1. John's Pass in Pinellas County, FL.
Photo courtesy of the Southwest Florida Water Management District (SWFWMD).

Natural fluctuations in shoreline position along southern Sand Key and northern Treasure Island have been observed in the historical record of aerial photography, beach profiles, and shoreline surveys (*Figure 2*). Beach erosion control activities on Treasure Island and Sand Key have been conducted since 1934, and include shore-protection structures, beach restoration and nourishment, and inlet sand bypassing.

***Figure* 2.** Historical aerial photos of John's Pass from 1926 to 2010. Various sources: U.S. Department of Commerce; Florida Department of Transportation; USF-CRL.

The first structural influence on John's Pass was the construction of a bridge across the inlet in 1926. In 1934, two 150-foot groins were constructed on Madeira Beach to the north. In 1957, the City of Madeira Beach constructed a groin field of 37 groins along the entire city, which still exists today.

In 1960, 94,000 cubic yards of sand were dredged from John's Pass, and placed 2,000 feet offshore on the inlet's ebb shoal to the south of the inlet channel. In 1960, the University of Florida, Coastal and Oceanographic Engineering Laboratory studied erosion at Madeira Beach to the north of John's Pass, and recommended that a jetty be constructed north of the inlet. In 1961, a 460-foot curved jetty was constructed on the north side of John's Pass, and 30,000 cubic yards of sand dredged from John's Pass were placed on Madeira Beach to the north of the inlet. Placement of material over the John's Pass ebb shoal was conducted in 1960, and led to the formation of O'Brian's lagoon when the berm emerged and migrated shoreward attaching to Treasure Island. This resulted in the widening of Sunshine Beach. Note the emerged shoal developed from ebb shoal dredge disposal shown in the 1970 photo from *Figure 2*.

Section 107 of the 1964 River and Harbor Act authorized a federal navigation channel at John's Pass with the following dimensions: 10-feet-deep by 50-feet-wide across the outer bar, 8-feet-deep by 100-feet-wide through the inlet, and 6-feet-deep by 100-feet-wide between the inlet and the Intracoastal Waterway. The excavation of the federal navigation channel was completed in 1966, with the excavation of 95,000 cubic yards of sand that was placed in an offshore spoil area south of the dredged channel. Also in 1966, a 920-foot long revetment was constructed along the south shoreline of the inlet.

In 1968, the Board of Trustees for the Internal Improvement Trust Fund of the State of Florida granted the USACE an easement to conduct a beach restoration project on Treasure Island. The beach restoration project was constructed by the USACE in 1969, and included the placement of 790,000 cubic yards of beach fill along the gulf shoreline between range monuments R132 and R141, or from 104th Avenue to 77th Avenue. Approximately 108,000 cubic yards of sand was dredged from Blind Pass and spread along southern Treasure Island. The remainder was obtained from borrow pits located immediately offshore.

From 1969 to date, excavation of sand from the John's Pass navigation channel and ebb shoal, with placement of the sand along the adjacent beaches has been the principle management activity. From 1981 to date, John's Pass has been dredged on seven occasions, and the sand has been placed on Sand Key (Redington Shores and North Redington Beach) once, on Sunshine Beach (R126-R130) four times, and on Sunset Beach (R136-141) twice. The currently authorized navigation channel, the ebb shoal, and channel side borrow areas (*Figure 3*), were the areas dredged in 2010, and analyzed in the inlet management study by USF-CRL.

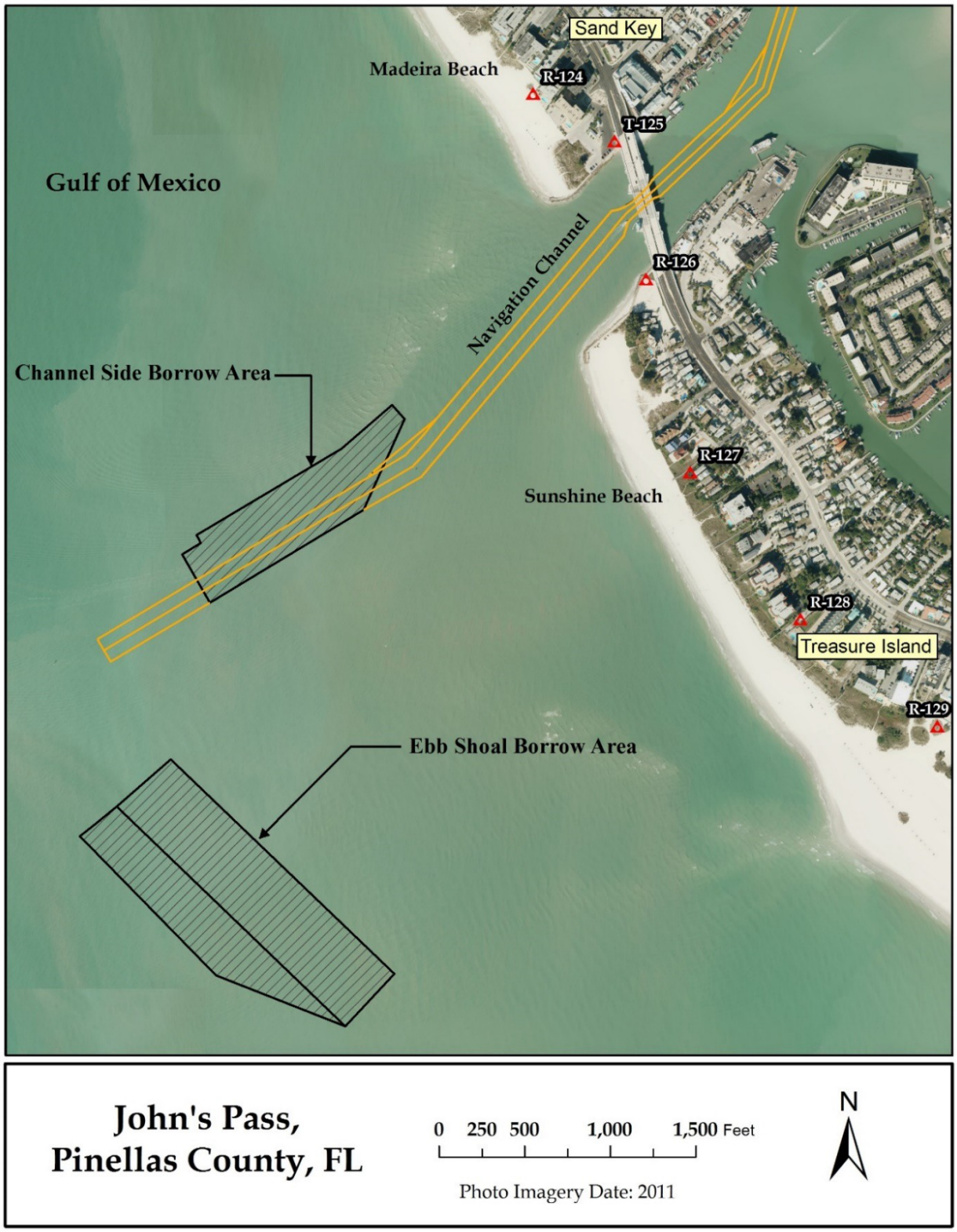


Figure 3. The authorized navigation channel, ebb shoal and channel side borrow areas for John's Pass. 2011 aerial photo courtesy of the SWFWMD.

Table 1 provides a list of the recent dredging projects at John's Pass, as well as other dredging projects with borrow areas located at the ebb shoals of John's Pass, Pass-a-Grille, and Egmont Channel, that had fill placements on Sunshine Beach.

Table 1. Sand Placement on Sand Key and Treasure Island
(Wang et al., 2016; data from USACE)

Year	Volume (cubic yards)	Sand Source	Placement Location (by R-monument and Beach)
1969	790,000	Blind Pass and Offshore	R132-R141 Sunset Beach, Treasure Island
1971	75,000	Offshore	R131-R132 Mid Beach, Treasure Island
1976	380,000	Offshore	R135-R142 Sunset Beach
1981	53,500	John's Pass	R127-R130 Sunshine Beach
1986	550,000*	Pass-A-Grille's ebb shoal	R129-R141 Treasure Island
1988	300,000	John's Pass Channel and Ebb Shoal	R99-R107 North Redington Beach, Sand Key
1991	56,000	John's Pass	R127-R129 Sunshine Beach
1996	51,300	West Egmont Shoal	R138-R144 Sunset Beach
2000	348,722	Blind Pass and John's Pass	R136-R144 Sunset Beach
2000	40,000	Blind Pass and John's Pass	R126-R129 Sunshine Beach
2006	77,970	West Egmont Shoals	R126-R128 Sunshine Beach
2006	106,302	West Egmont Shoals	R136-R141 Sunset Beach
2010	127,260	John's Pass Channel and Ebb Shoal	R126-R128 Sunshine Beach

Year	Volume (cubic yards)	Sand Source	Placement Location (by R-monument and Beach)
2010	125,423	John's Pass Channel and Ebb Shoal	R136-R141 Sunset Beach
2014	66,892	East Egmont Shoals	R126-R128 Sunshine Beach
2014	232,407	East Egmont Shoals	R136-R141 Sunset Beach

*Emergency beach nourishment event in 1986 due to Hurricane Elena (1985). Source: U.S. Army Corps of Engineers

In 1985, Labor Day's Hurricane Elena and Halloween's Tropical Storm Juan each lingered in the Gulf for multiple days causing storm erosion of area beaches. In 1986, the U.S. Congress responded with post-storm emergency funding resulting in the USACE excavating sand from the Pass-a-Grille ebb shoal and placing the material along Treasure Island between reference monuments R129 and R141. The north jetty at John's Pass was reconstructed in 1987. A south jetty was constructed for John's Pass at the north end of Treasure Island in 2000 to mitigate the chronic erosion occurring at Sunshine Beach.

Inlet Management Study

In 2014, the Department contracted with the University of South Florida, Coastal Research Laboratory (USF-CRL), to conduct an inlet management study of John's Pass and Blind Pass. Both inlets were jointly investigated because the tidal prism of each inlet overlaps within Boca Ciega Bay to create a multi-inlet hydrodynamic system between the gulf and the bay. The goals of this study were to provide an updated sediment budget for John's Pass and Blind Pass, and to identify and quantify the sediment pathways to update the respective inlet management plans pursuant to Section 161.142, Florida Statutes. The study, which was completed in 2016, also provided an evaluation of alternative inlet management implementation strategies. A Technical Advisory Committee (TAC) was created to provide technical guidance to USF-CRL during the course of the study. The TAC was composed of representatives of the Department, the USACE, Pinellas County and the County's consultant.

In this study, the USF-CRL built, calibrated and verified a Coastal Modeling System (CMS) model of John's Pass and Blind Pass and the surrounding aquatic systems. The CMS model, developed by the USACE, is a widely used numerical model for evaluating inlets. As recommended by the TAC for the

study, seven alternative inlet management strategies were evaluated using the CMS model, as reported by Wang et al. (2016).

All seven alternatives evaluated in this study apply to John's Pass and are discussed below. The following factors were considered in the evaluation of the seven inlet management alternatives for John's Pass: (1) potential influence on the wave field in the vicinity of the inlet; (2) potential influence on tidal flow patterns; (3) potential influence on erosion or accretion trends along the adjacent beaches; (4) potential influences on erosion and deposition patterns in the channel; (5) potential influences on erosion and deposition patterns over the ebb shoal, and therefore, sand bypassing; and (6) for alternatives, including dredging, the in-filling rate, and resulting dredging interval.

Alternative 1: Maintain present bathymetry.

Alternative 1 provides baseline conditions for comparison with the various management alternatives, as shown in ***Figure 4***. Alternative 1 is the baseline simulation based on the detailed bathymetry surveyed in 2014, which includes the partially filled dredge pits at both John's Pass excavated in 2010, as well as the newly constructed beach fill (in 2014) at Sunshine Beach and Sunset Beach at the two ends of Treasure Island. Based on time-series bathymetry surveys, the channel excavation pit from the 2010 dredging project at John's Pass received roughly 28,800 cubic yards per year of sand. The offshore dredge pit received about 3,500 cubic yards per year of sand over the budget period from October 2010 to June 2014. However, the infilling rate in the John's Pass channel pit was 50,200 cubic yards per year during the first year and was about 21,600 cubic yards per year during the following years. Considering the time-varying infilling rate, the 152,000-cubic-yard dredge pit would take 5.7 years to fill. This suggests a dredging cycle of six years.

Figure 4. Initial bathymetry illustrating the present conditions at John's Pass (Wang et al., 2016).

<u>Alternative 2</u>: Dredging the northern portion of John's Pass ebb shoal and filling the old dredge pit offshore of Sunset Beach.

The nearshore area of the northern half of the John's Pass ebb shoal has a large quantity of beach quality sand. Alternative 2 analyzed the potential for filling the old dredge pit offshore (B-B') of Sunset Beach to mitigate the local erosion problem in that vicinity. Overall, the CMS model predicted that the Alternative 2 proposed excavation (A-A' in *Figure 5*) would have a significant negative influence on the beach processes directly north of the inlet. The influence along Sunshine Beach to the south was not considered significant. The excavation would also have a significant influence on tidal flow patterns through the main channel between the barrier islands, as well as the northern portion of the ebb shoal. Filling the old dredge pit offshore of Sunset Beach did not significantly affect beach processes at either Sunset Beach or Upham Beach, north and south of Blind Pass, and therefore the hypothesized beneficial effects were not observed in the model. Because Alternative 2 was shown to cause negative effects to the beach and coastal processes north of John's Pass, and was not shown to benefit the beach conditions at Sunset Beach, Alternative 2 is not recommended as a management strategy.

Figure 5. Bathymetry for the Alternative 2 model run. A dredge pit (A-A') is excavated at the channel margin linear bar just north of the John's Pass navigation channel. The sand is placed in an old dredge pit (B-B') seaward of Sunset Beach (Wang et al., 2016).

<u>Alternative 3</u>: Dredging John's Pass south bypass bars with berm nourishment offshore of Sunshine Beach.

The seaward fringe of the John's Pass ebb shoal has relatively finer sediment. A potential application of the sediment for nearshore nourishment is investigated in Alternative 3, and involves dredging a borrow pit along the south lobe of the ebb shoal immediately landward of the 2010 borrow area (A-A') and placing a submerged nearshore berm (B-B') along Sunshine Beach (*Figure 6)*. The CMS model predicted slow filling of the dredge area and landward migration of the nearshore berm that would eventually attach to and widen the beach. Alternative 3 had considerable localized effects on wave

conditions. Westerly approaching waves were shown to be reduced over the dredge pit and over the distal portion of the main channel, while the nearshore berm functioned as a submerged breakwater and significantly reduced the wave heights landward of the nearshore berm. The Alternative 3 ebb shoal dredge area showed potential for direct beach placement or nearshore placement, as an additional sediment source beyond dredging the channel. However, the ebb shoal dredge pit was shown to take 10 to 20 years to re-fill, and therefore, its use would be limited.

Figure 6. Alternative 3 showing the dredge pit (A-A') and the berm nourishment (B-B') (Wang et al., 2016).

<u>Alternative 4</u>: Re-dredge 198,000 cubic yards of sand from the John's Pass 2010 navigation channel and the channel side borrow area dredge footprint down to -16.7 ft., NAVD 88, and re-dredge 179,000 cubic yards of sand from the Blind Pass 2010 entrance channel borrow area to -16.7 ft. NAVD 88.

Alternative 4 involves the continuation of periodic dredging of 198,000 cubic yards of sand every five to ten years from the 2010 John's Pass dredging template, in conjunction with a continuation of periodic dredging of 179,000 cubic yards of sand every four to five years from the 2010 Blind Pass dredging template. The model evaluates re-dredging the John's Pass channel side borrow area that was dredged in 2010, as shown in *Figure 7*. The dredging would effectively widen and deepen the navigational channel at the channel side borrow area. The CMS

model predicted modest influence on the tidal flow patterns through the navigational channel. The study results determined that the dredge area would re-fill in 5.7 years and therefore would have a six-year maintenance dredging requirement. The dredging also had a minor influence on the nearshore wave field along the adjacent beaches. Therefore, Alternative 4 does not have a significant influence on the processes along the adjacent beaches. Alternative 4 would effectively widen and deepen the John's Pass navigational channel at the channel side borrow area. The Department's Joint Coastal Permit #0270453-001-JC states that the John's Pass channel is authorized to be dredged to a maximum depth of -14.9 ft. NAVD 88. Given the lack of negative effects on adjacent beaches and the continuous re-filling of the dredge area on an interval of six years, Alternative 4 is recommended as the dredging management option for John's Pass.

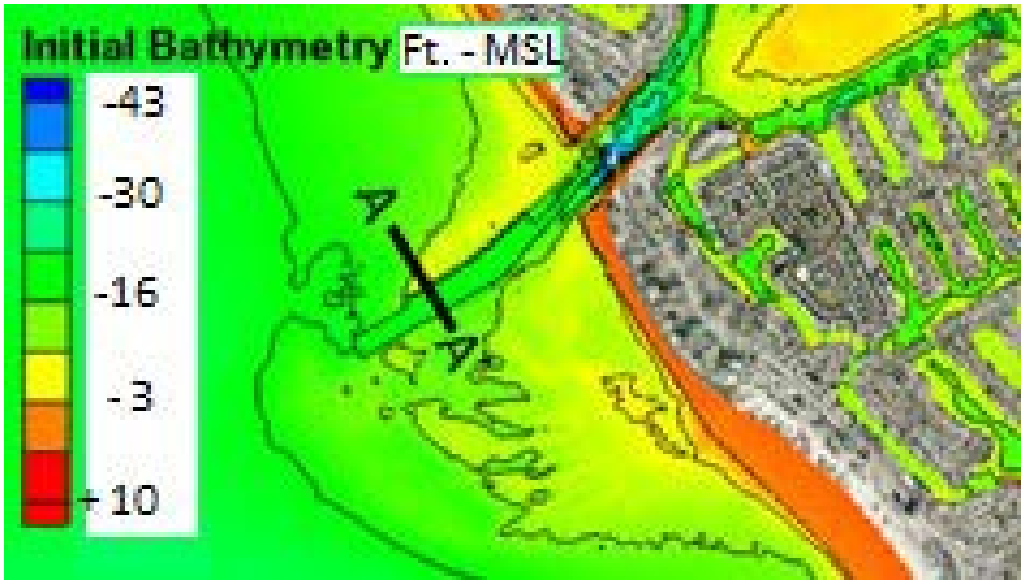


Figure 7. Alternative 4 showing the navigation entrance channel and channel side borrow area for John's Pass.

Alternative 5: Extend the south jetty at John's Pass.

Alternative 5 investigates the potential of extending the south jetty 230 feet, and does not involve any dredging or fill placement (*Figure 8*). Alternative 5 was determined to have minimal influence on the hydrodynamics and morphodynamics of the inlet and adjacent beaches. Because Alternative 5 was determined to have minimal influence in stabilizing Sunshine Beach, the south jetty extension is not recommended as an inlet management option. Its cost cannot be justified by its minimal benefits.

Figure 8. Alternative 5 illustrating an extension of the south jetty (Wang et al., 2016). The 2011 aerial photo is courtesy of the SWFWMD.

Alternative 6: Extend both jetties at John's Pass.

Alternative 6 investigates a structural option to include lengthening both the north and south jetties by 230 feet, and like Alternative 5, does not involve any dredging or fill placement (*Figure 9*). The model predicted modest accretion of the beaches immediately adjacent to John's Pass, due to the impoundment of sand by the extended jetties. The extended jetties had little influence on the wave field of John's Pass, but they had a significant influence on the flow field seaward of the jetties. The jetty extensions create a longer channel for ebb flow, which results in an ebb jet that extends farther seaward. The enhanced ebb flow jet may have a temporary influence on sand bypassing around the ebb shoal.

With the impoundment of sand at Sunshine Beach, there are potential negative impacts on beaches farther to the south of the inlet. Alternative 6 is not recommended because the benefits do not appear to justify the high cost of jetty construction, and because of the uncertainties associated with the beaches down-drift of the impoundment fillet.

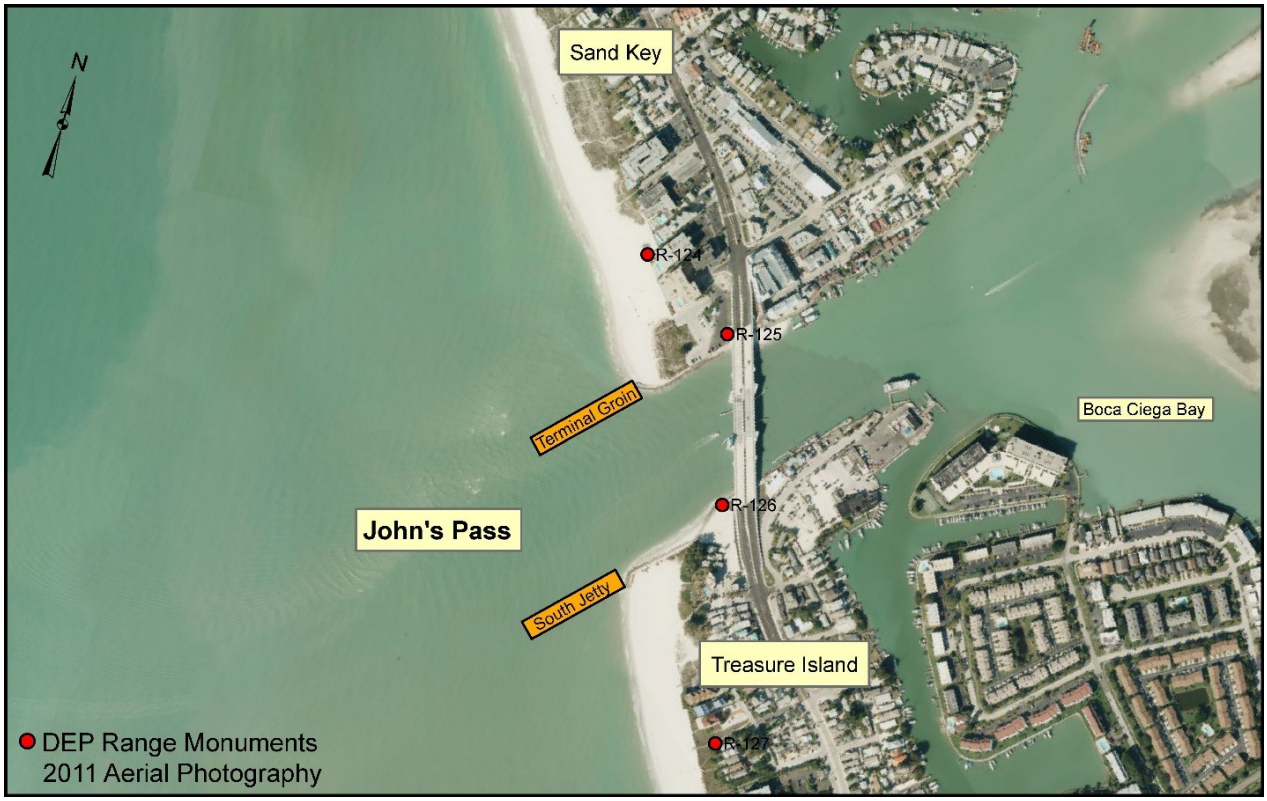


Figure 9. Extension of both jetties in Alternative 6 (Wang et al., 2016). The 2011 aerial photo is courtesy of the SWFWMD.

<u>Alternative 7</u>: Dredging John's Pass main channel and placing the sand as berm nourishment offshore of Sunshine Beach.

Alternative 7 investigates the option of dredging the John's Pass main channel and placing the sand as a nearshore berm at Sunshine Beach instead of typical on-shore beach placement (*Figure 10*). Alternative 7 had the same dredge area and response as modelled in Alternative 4. The model predicted the onshore migration of the nearshore berm at Sunshine Beach. The shape of the nearshore berm evolved from a straight shape to a curved shape with the ends migrating further shoreward, similar to the evolution of O'Brien's Lagoon in the 1970s. Significant wave-height reduction was predicted at and landward of the nearshore berm, and Sunshine Beach was protected from excessive erosion.

Alternative 7 resulted in the benefits shown in Alternatives 3 and 4, and is recommended as an option when the John's Pass channel is in need of a maintenance dredging, but beach nourishments are not needed at the adjacent beaches.

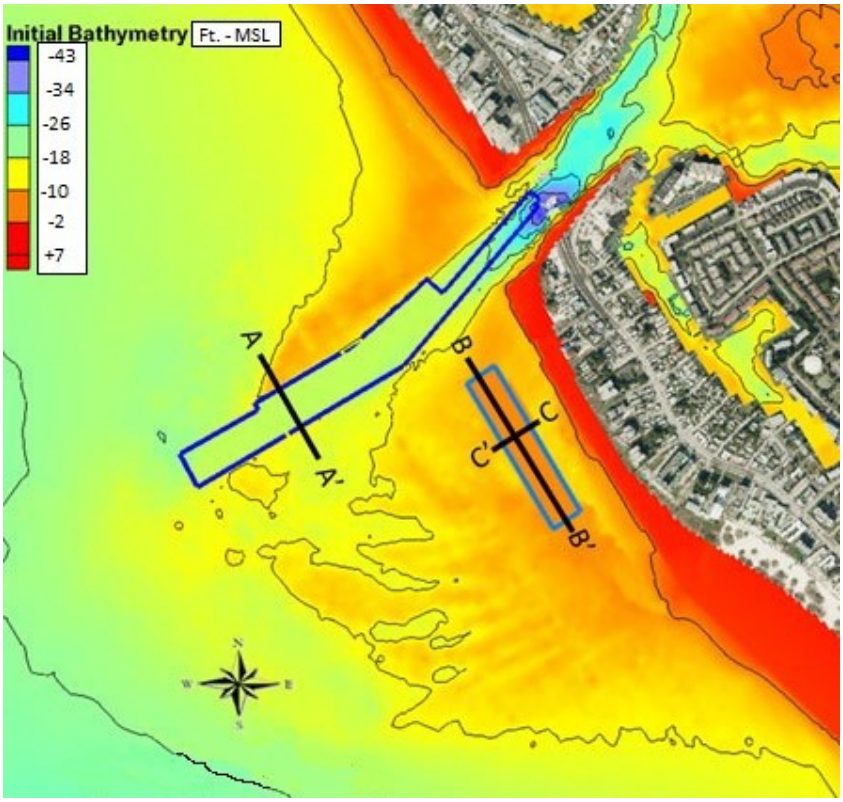


Figure 10. Input bathymetry for the Alternative 7 case with channel dredging at John's Pass and berm placement at Sunshine Beach (Wang et al., 2016).

Updated Sediment Budget through 2015 (Wang et al, 2016)

Pursuant to Section 161.142, Florida Statutes, dredging within an inlet system, including its shoals, should result in the placement of all beach quality sand on adjacent eroding beaches to balance the sediment budget between the inlet and adjacent beaches. A sediment budget is a balance of the volumes (or volume rate of change) for sediments entering and leaving a tidal inlet system and its adjacent beaches. A sediment budget quantifies the natural longshore sediment transport by waves and tides to and from the inlet, the entrapment of longshore sediment by the inlet channel and the ebb and flood shoals, and the mechanical "bypassing" of sediment, typically by a hydraulic dredge, from the inlet to the adjacent beaches or nearshore. Sediment transport volumes and pathways are unique to each inlet as influenced by regional geology, morphological characteristics, wave and tide conditions, and sediment characteristics and supply. A sediment budget is determined by comparing two or more surveys of an inlet system, including its channel, ebb and flood shoals, and the adjacent beaches. The inlet

management study for John's Pass conducted an updated hydrographic survey in 2014 of the inlet system (*Figure 11*) to compare with a prior survey from 2010, and developed a sediment budget using the methodology described by Rosati (2005).

Inlet sediment management requires implementation of sediment bypassing protocols that are based on the latest available data and analysis in developing a balanced sediment budget. An updated sediment budget for John's Pass was developed for the period between 2010 and 2014, after the last dredging at both John's Pass and Blind Pass in 2010 and associated beach nourishment on Treasure Island and Long Key, and before the beach nourishments on Treasure Island and Long Key in 2014 (Wang et al., 2016). In addition, Sand Key beach to the north of John's Pass and Blind Pass were nourished in 2012 using sand from an offshore borrow area.

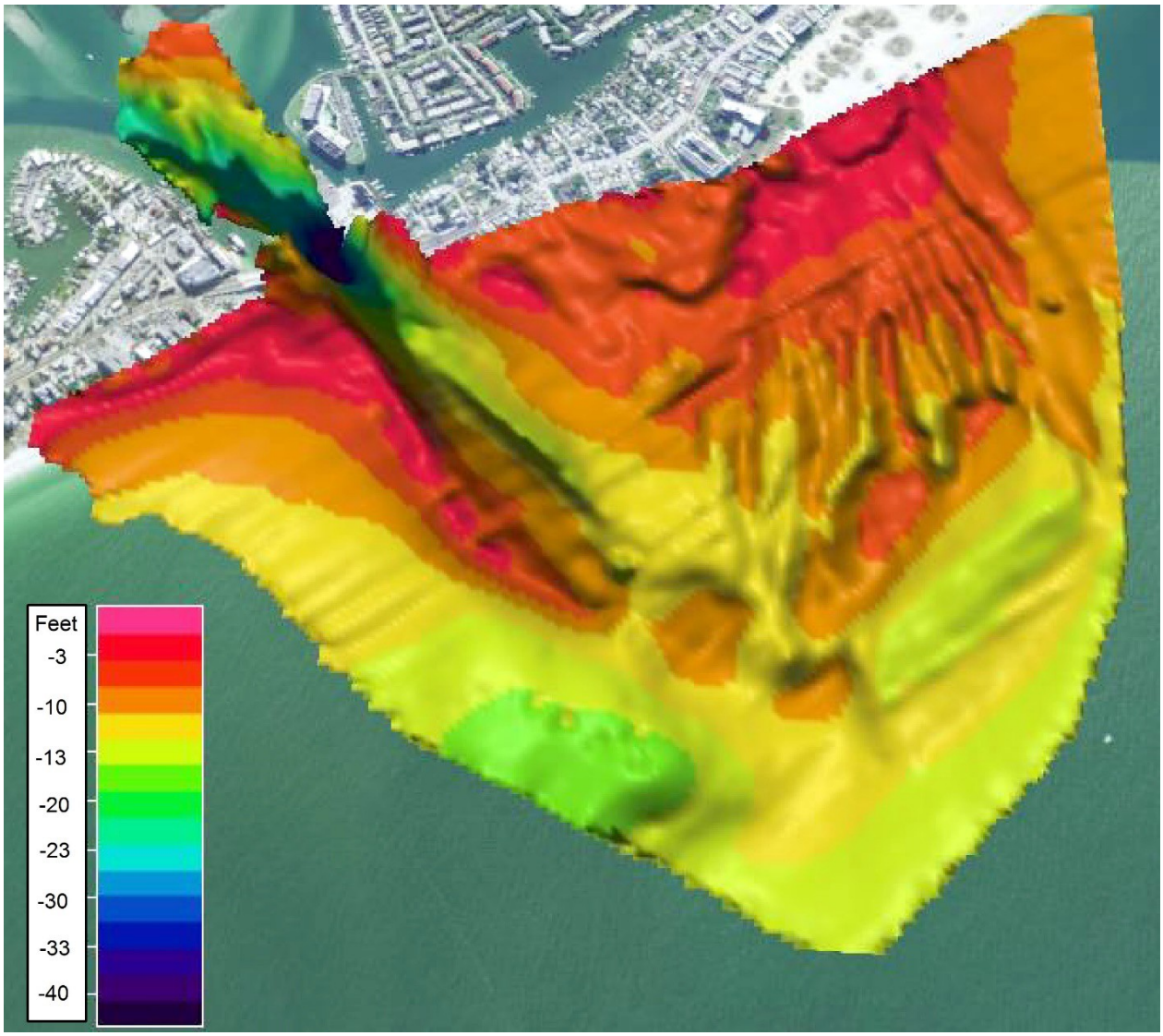


Figure 11. John's Pass channel and ebb shoal surveyed in 2014 using a multi-beam hydrographic surveying system (Wang et al., 2016).

Therefore, this updated sediment budget is influenced by the artificial sand supply from the 2010 Treasure Island and Long Key beach nourishments and the 2012 Sand Key nourishment. Since the beaches in the study area are nourished regularly and the budget period incorporates a large portion of a beach nourishment cycle, this updated sediment budget should represent a typical situation inclusive of artificial sand supplies from beach nourishments. For this sediment budget, the coast directly affected by John's Pass has been divided into the beach and inlet cells as shown in *Figure 12*.

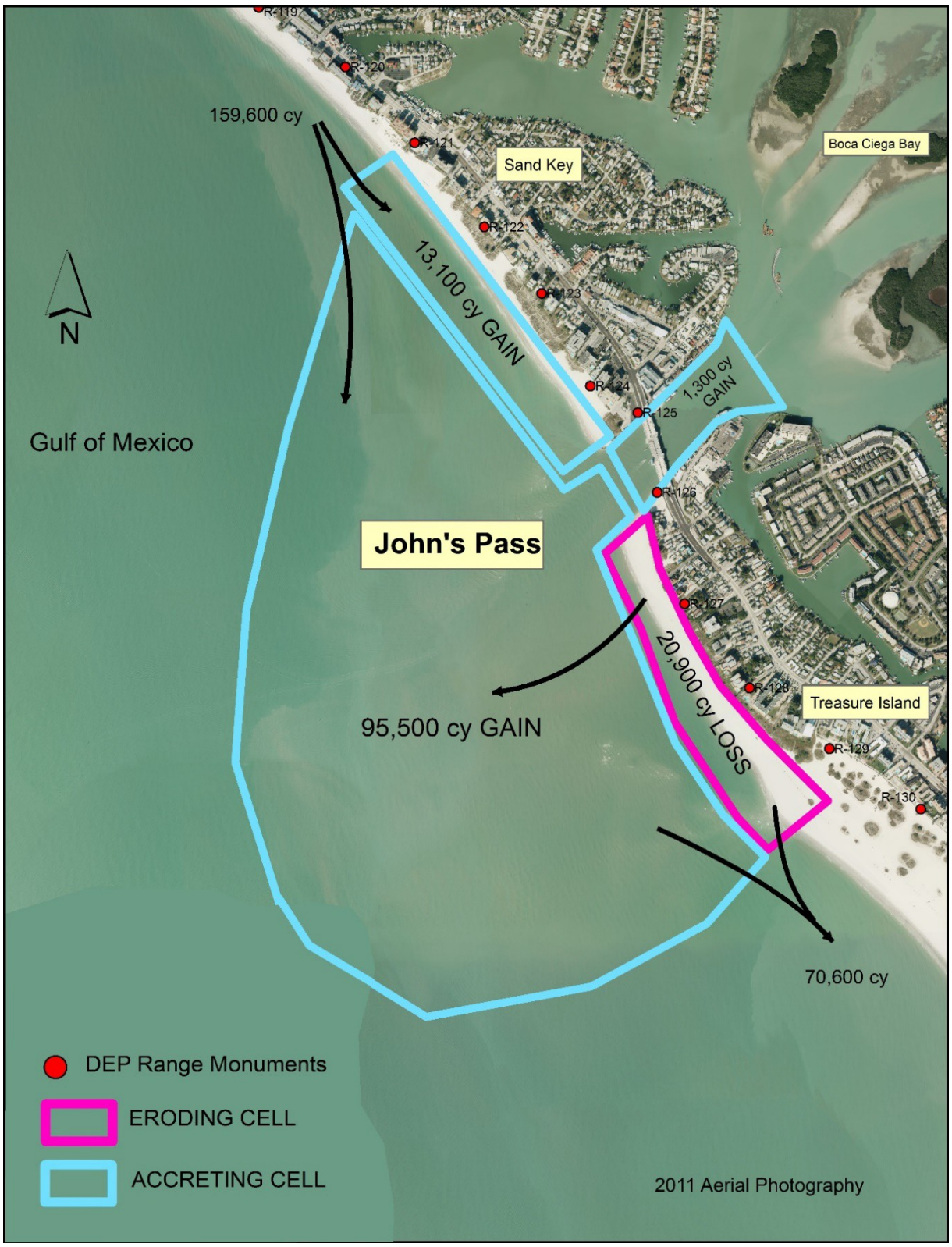


Figure 12. Annualized sediment budget at John's Pass determined based on field data collected from October 2010 to June 2014 (Wang et al., 2016). The 2011 aerial photo is courtesy of the SWFWMD.

Beach erosion and accretion have been measured by comparing the surveys of October 2010 and June 2014, which has yielded the volume losses and gains for each of the beach and inlet cells. North of these cells, the input longshore transport quantity was based on the sum of the erosion along Sand Key south of R60. R60 has been determined to be a point of divergence in longshore transport, causing a drift divide where to the north of R60, sediment moves northward toward Clearwater Pass, and to the south of R60, sediment moves southward toward John's Pass. Over the period of measurement, Sand Key experienced a loss of 159,600 cubic yards per year, which would be the longshore transport to the north cell for the John's Pass sediment budget.

To the north of John's Pass, Madeira Beach between R121 and R125 gained an annualized 13,100 cubic yards per year of sediment between October 2010 and June 2014. During the same period, to the south of John's Pass, Sunshine Beach between R126 and R129 lost an annualized -20,900 cubic yards per year of sediment. These losses were offset by gains within the John's Pass system, including the channel and the ebb shoal. Specifically, the John's Pass channel from the entrance at the inlet jetties, extending into the inlet interior, saw an annualized gain during the same period of 1,300 cubic yards per year of sediment. Outside the entrance to John's Pass, i.e., the ebb shoal, there was an annualized gain for the same period of 95,500 cubic yards per year.

Combining the John's Pass channel and ebb shoal gains equals 96,800 cubic yards per year, which is over four times the 20,900 cubic yards per year needed to offset the losses to Sunshine Beach south of John's Pass. The southern half of Treasure Island between R135 and R143 is eroding. Between October 2010 and June 2014, this southern segment of Treasure Island lost an annualized -64,100 cubic yards. The John's Pass channel and ebb shoal annualized gain of 96,800 cubic yards per year exceeds the losses at both the north and south ends of Treasure Island, which is approximately -85,000 cubic yards per year. This suggests there is sufficient sand accumulating within the John's Pass system to balance the erosion losses at not only Sunshine Beach immediately south of John's Pass, but also along the southern half of Treasure Island between R135 and R143 and north of Blind Pass.

Recommended Inlet Management Plan Strategies

The Department staff recommends the following inlet management strategies be adopted to meet the requirements of Chapter 161, Florida Statutes. Future inlet management activities shall be consistent with the following four strategies.

1) **A comprehensive beach and inlet hydrographic monitoring program shall be conducted** to evaluate the performance and impact of existing sand bypassing and nourishment projects and to periodically update the inlet sediment budget.

Discussion – A comprehensive beach and inlet hydrographic monitoring program is the most important element to manage the sediment at John's Pass. Topographic and bathymetric surveys provide the most reliable data to estimate the volumetric impact of the inlet on adjacent beaches and to establish a sand placement protocol that complies with Section 161.142, Florida Statutes. The current approved inlet monitoring program conducted by Pinellas County provides sufficient monitoring data.

2) **Sand bypassing shall be performed from the John's Pass navigation channel, channel side borrow area, and ebb shoal borrow areas to the adjacent designated critically eroded gulf-fronting beaches to the south of the inlet, giving first priority to the eroding segment between DEP Range Survey Monuments R126 and R130, and second priority to the southern Treasure Island beaches between R135 and R143.** The quantity of fill to be placed shall be based on observed beach erosion patterns and quantities within the areas of inlet influence documented through the monitoring protocol of Strategy #1 above.

Discussion – Alternative 2 from the inlet study recommends the dredging of the ebb shoal, while Alternative 4 recommends the dredging of the navigational channel and the channel side borrow area in John's Pass. The Sunshine Beach segment (R126-R130) of the Treasure Island beach restoration project immediately south of John's Pass is the beach erosion area directly impacted by John's Pass. The southern Treasure Island beaches between R135 and R143 are also eroding, and are also part of the Treasure Island beach restoration project.

3) **The initial target inlet sand bypassing quantity shall be 21,000 cubic yards per year to Sunshine Beach south of the inlet (R126-R130).** This target quantity may be modified based on a minimum of four years of monitoring indicating a change in the sediment budget. In the interim, should the volume of sand accumulating in the John's Pass navigation channel, channel

side borrow area, or ebb shoal borrow area exceed these quantities, the additional sand may be dredged and placed on the southern Treasure Island beaches in order to extend the life of the Treasure Island beach restoration project.

Discussion – Treasure Island (R126-R143) to the south of John's Pass is currently designated critically eroded (DEP, 2016), and is a federally authorized beach restoration project.

4) **The source of sediment for meeting the target sand bypassing quantities in Strategy #3 above shall be the John's Pass navigation channel and the channel side borrow area.** Acceptable beach quality sand may also be obtained from the 2010 ebb shoal borrow area or the alternate ebb shoal borrow area immediately landward of the 2010 ebb shoal borrow area, as described in the inlet management study Alternative 3.

Discussion – The area typically dredged for sand bypassing is the John's Pass navigation channel and the channel side borrow area. In 2010, a borrow area was dredged in the ebb shoal, which has not yet recovered. The inlet management study investigated an alternate ebb shoal borrow area immediately landward of the 2010 ebb shoal borrow area, which showed promise as an additional source of sediment. A slow in-filling rate will limit its use.

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Causes and Mitigation of Sedimentation along the Northern Side of Johns Pass Channel

Final Report

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Table of Contents

Table of Figures

EXECUTIVE SUMMARY

Purpose of Study: Stakeholders along the northern side of Johns Pass channel, including the City of Madeira Beach and property owners, have expressed concerns about sedimentation just northeast (and landward) of the cross-channel bridge. The stakeholders partnered to fund a study by University of South Florida (USF) Coastal Research Lab to address this issue. Building upon the recently completed inlet management study at Johns Pass and Blind Pass, this study aims to:

1) understand the causes of the sedimentation along the northern side of the channel;

2) examine the rate of sedimentation on the interior of the inlet;

3) collaborate with stakeholders and decision makers to develop and evaluate various mitigation strategies; and

4) recommend an optimal mitigation measure.

Methodology: The above goals are achieved by using a verified numerical model simulating the current and wave fields and an extensive literature review on the natural and engineering history of Johns Pass. Historical variations of the interior sedimentation along the north bank of Johns Pass and shoreline changes along the adjacent beaches were depicted in time-series aerial photos from 1926 to 2020. Human impacts to the project area were summarized based on the engineering records and previous studies. A numerical model was constructed and verified with field measurements. The model was used to simulate the current and wave fields at the project site and to evaluate various mitigation measures.

Findings: The interior sedimentation at Johns Pass is driven by a natural process that occurs at many tidal inlets. Specific to the project site, the sand moving southward along Madeira Beach can be brought into the inlet by the flood current. Sand accumulation occurs at locations within the channel where the ebb tidal current is not adequate to flush all the sand out of the inlet. This natural process can be modified by various engineering activities. At Johns Pass, engineering activities have been quite intensive over the past 90 years. The north jetty, constructed in 1961, blocks some of the sand from entering the inlet. However, the jetty filled to the tip almost immediately after construction suggesting that the jetty has not been blocking all the sand. A question was posed whether beach nourishment, particularly along the updrift beach to the north,

may constitute a major sand source for the interior sedimentation in the recent years. However, abundant sand supplies existed along Madeira Beach and over Johns Pass ebb shoal before beach nourishment projects occurred. The nourishment projects along Sand Key since 1988, which are more than 3 miles from the inlet, have not fundamentally changed the sand supplies to Johns Pass interior sedimentation. The construction of the existing bridge coincides with a large amount of visible sand at the project area as seen on the 2010 aerial photo. However, numerical modeling results suggest that the present bridge-piling configuration increases ebb flow along the north jetty, which would prevent sand from entering the inlet. The bridge pilings also block waves from the open Gulf from reaching the marina area. The marina facilities do not seem to have significant influence on flow patterns and therefore sedimentation processes. Lastly, the intensive dredging in the 1960s associated with the Federal channel authorization, along with the construction of the north jetty and seawalls, is likely responsible for the removal of the substantial interior sedimentation observed in the 1950s. The north side of the channel appears to be clear of emergent sand till the late 1990s, at least not visible on the aerial photos. The above understanding of the causes of sedimentation along the Johns Pass interior serves as the basis for the development of mitigation alternatives.

Mitigation Alternatives and Recommendations: It is proposed by this study that local removal of the sand accumulation should be the main mitigation approach. A crucial consideration in evaluating the alternatives is that local sand removal should be least likely to induce negative impacts at other parts of Johns Pass and along adjacent beaches. Three categories of mitigation measures are examined. Category 1 (C1) involves removal of excess sand from the seaward tip of the north jetty to the marina, i.e., along the entire north side of the channel; five sand removal alternatives (C1-A1 to C1-A5) are examined. Category 2 (C2) involves removal of excess sand from the seaward tip of the north jetty to the marina, while excluding the area within 100 ft from the Johns Pass bridge; five sand removal alternatives (C2-A1 to C2-A5) are examined. Category 3 (C3) examines the option of blocking the sand from reaching the marinas by constructing a barrier between the north seawall and the north most bridge piling; no sand removal would be conducted.

Based on the modeling results, the ten alternatives of C1 and C2 have negligible influence on the overall flow and wave fields within the Johns Pass channel, while alternative C3 would not

directly solve the existing sedimentation problem. All 11 alternatives have minimal influence on the processes along the adjacent beaches. The evaluation of the 11 mitigation alternatives and recommendations are summarized in the following table with the recommended alternatives in gray.

ALTERNATIVE	CY REMOVED	RECOMMENDATION
C1-A1	3,200	NOT recommended, volume too small
C1-A2	11,100	NOT recommended, volume too small
C1-A3	**14,000**	**Recommended as lower limit for sand removal**
C1-A4	**18,700**	**Recommended**
C1-A5	**23,700**	**Recommended as upper limit for sand removal**
C2-A1	2,900	NOT recommended, volume too small
C2-A2	7,000	NOT recommended, volume too small
C2-A3	9,700	NOT recommended, volume too small
C2-A4	**13,100**	**Recommended ONLY if no activity can be conducted near the bridge**
C2-A5	**16,600**	**Recommended ONLY if no activity can be conducted near the bridge**
C3	0	NOT recommended, not solving the existing sedimentation problem.

Conclusions: The sedimentation within the Johns Pass channel is mainly caused by natural processes. The various engineering activities over the past 90 years, including jetty construction, channel dredging, bridge construction, marina facilities and operations, and beach nourishments modified the natural processes. However, none of these engineering activities have fundamentally changed the sand supply to the channel interior and the natural process that brings the sand into the channel. Based on the above understanding and results of numerical modeling, local sand removal, which imposes negligible impacts on the overall flow and wave fields through the inlet and along the adjacent beaches, is recommended to mitigate the present sedimentation problem. The local sand removal approach is also supported by the past conditions as observed from time-series aerial photos since 1926. Based on the sedimentation rate estimated from existing bathymetry data, the three recommended alternatives, C1-A3, C1-A4, and C1-A5 should have a life span of 8, 11, and 14 years, respectively.

Limitations: Estimating future rate of sedimentation constitutes a major limitation of this study. It is assumed that the sedimentation rate obtained during a short period of time, 2018 through 2020 for this case, can be applied to approximate future sedimentation at the project site. This assumption can be significantly influenced by the unpredictable nature of storms and engineering activities.

1.0 Introduction

1.1 Purpose of the Study

Stakeholders along the northern side of Johns Pass channel, including the City of Madeira Beach and property owners, have expressed concerns about sedimentation just northeast (and landward) of the cross-channel bridge. The stakeholders partnered to fund a study by USF Coastal Research Lab to address this issue. Building upon the recently completed inlet management study at Johns Pass and Blind Pass, this study aims to

1) understand the causes of the sedimentation along the northern side of the channel;

2) examine the rate of sedimentation on the interior of the inlet;

3) collaborate with stakeholders and decision makers to develop and evaluate various mitigation strategies; and

4) recommend an optimal mitigation measure.

The above goals are achieved by using an extensive literature review on the natural and engineering history of Johns Pass in addition to a verified numerical model simulating the current and wave fields.

1.2 General Background Knowledge

Sand deposition along the banks of an inlet channel is a common phenomenon and is observed at many inlets. This section introduces the general knowledge on sediment sources and processes that drive the sedimentation within an inlet channel using the north bank of Johns Pass as an example. The north side of the Johns Pass channel is heavily engineered including, from landward to seaward, numerous boat docks and basins bounded landward by a seawall and an elevated boardwalk (referred to as marina facilities in this report), a seawall and riprap, a cross-channel bridge with a large piling about 20 m (60 ft) from the seawall, continued seawall and riprap, and the Johns Pass north jetty (Figure 1).

Sedimentation within an inlet channel is controlled by two main factors. The first factor is sediment supply. Generally, the sand that is deposited within the channel can come from the updrift beach driven by longshore transport which is sand that moves along the shoreline. For the case of Johns Pass (Figure 2), this longshore moving sand would go around the seaward tip of the north jetty (black arrows) and enter the inlet channel. The sand can also come from the ebb shoal, mainly the shallow channel margin linear bar (red arrow). The channel margin linear bar refers to the shallow linear feature over which the red arrows were drawn. In both cases, the intense turbulence associated with breaking waves play a major role in suspending sediment into the water column, which can be subsequently transported into the inlet by flood tidal current and landward propagating breaking waves.

The beaches along the 14-mile-long Sand Key to the north of Johns Pass have been nourished several times since 1988. The artificial infusion of sand along the updrift beach may contribute to the sand source from longshore transport, i.e., the black arrows in Figure 2. However, the south end of the nourishment project terminates about 3 miles north of the inlet. Therefore, local beach conditions particularly in the vicinity of the north jetty would play a more direct role in the channel sedimentation with the nourishment possibly serving as a background sand input. To counterbalance the potential sand input from beach nourishment projects, the Johns Pass channel and ebb shoal have served as the sand borrow areas for the federal nourishment projects seven times since 1980.Those sand borrow areas function as efficient traps for longshore moving sand.

In addition to being transported along the beach and entering the inlet channel around the north jetty, some of the nourishment sand could also be transported onto the Johns Pass ebb shoal, and therefore contribute to the sand source as indicated by the red arrow in Figure 2. Overall, both the distal sand supply through beach nourishments and the proximal beach conditions at the north

jetty and the channel margin linear bar should be considered in analyzing the sand sources for the channel sedimentation.

The second factor controlling channel sedimentation is related to the specific hydrodynamic conditions at the project site that favor sedimentation. Typically, sand is brought into the inlet channel by the flood tidal current and flushed out of the channel by the ebb current. The flood tidal current refers to the landward-directed flow into the bay driven by rising tide. The ebb tidal current refers to the seaward-directed flow exiting the back bay driven by falling tide. Therefore, the spatial distribution of tidal currents within the channel plays a significant role in determining where scour and sedimentation occur within the channel. For example, if the ebb (outgoing) flow along the northern side of the channel is weaker than the flood (incoming) flow, then flood currents would dominate and there would be a net landward transport resulting in sand deposition at locations where the flood velocity decreases. When the water depth becomes shallow enough to induce wave breaking, the offshore approaching waves would begin shoaling and breaking and induce sand transport pushing the shallow "sand shoal" landward.

1.3 Applicable Tools and Data from Recently Completed Studies

This Johns Pass channel sedimentation study is built upon the Johns Pass and Blind Pass Inlet Management Study, funded by the Florida Department of Environmental Protection (FDEP) and completed in 2016 (Wang et al., 2016). The results of the inlet management study were used by FDEP to update the inlet management plans for Johns Pass and Blind Pass. The products from the inlet management study that are directly relevant to this study include 1) a sediment budget for the Johns Pass and Blind Pass inlet system, and 2) a calibrated and verified numerical model. The sediment budget was developed based on a series of beach profiles and ebb shoal bathymetry data collected from 2010 to 2014, concurrent with one beach-nourishment cycle on Sand Key and Treasure Island. The sediment budget can be directly used to analyze the sand source for the sedimentation along the north side of the channel.

A numerical model for the Johns Pass and Blind Pass system was developed by USF as a major product of the Inlet Management Study (Wang et al., 2016). The Coastal Modeling System (CMS) developed by the US Army Corps of Engineers (Buttolph et al., 2006; Wang et al., 2011; Lin et al., 2011; Sanchez and Wu, 2011; Sanchez et al., 2014) specifically for inlet studies was

used to simulate the flow field, wave field, sediment transport, and morphology change at the dual inlet system. Since Johns Pass and Blind Pass are connected to the same bay, the circulation model incorporated both inlets. Extensive field measurements of tidal water-level fluctuations, flow field, and nearshore waves were conducted during the inlet management study. The field data were used to calibrate and verify the numerical model. The Johns Pass-Blind Pass model can be used for this study with minor modifications described in Section 3.4.

During this study, field data collection was conducted to ensure bathymetry was as accurate as possible at the project site. The USF Coastal Research Lab has an on-going project, funded by Pinellas County, to monitor the beach changes along Sand Key (including Madeira Beach), Treasure Island, and Long Key. Beach profiles at 1000 ft intervals are being surveyed quarterly. The ebb-shoal bathymetries of Johns Pass, Blind Pass, Pass-a-Grille, and Bunces Pass have also been surveyed annually since 2018. The ebb shoal surveys also include the inlet entrances and channels. The 2020 bathymetry survey was completed in June 2020. Special attention was paid to the project area to ensure that accurate bathymetry with adequate spatial resolution was obtained. This new bathymetry data was used directly to update the improved modeling grids.

1.4 Study Scope of Work and Specific Tasks

This study aims at developing an optimal strategy to mitigate the sedimentation along the northern side of Johns Pass east of the bridge. The strategy is based on sound understanding of the sand sources and transport mechanism causing the sedimentation as derived from field measurements and numerical modeling. This study was built upon a recently completed Johns Pass and Blind Pass inlet management study and an on-going beach and ebb-shoal monitoring study conducted by the USF Coastal research lab. The following specific tasks were completed:

Task 1: Time-series aerial photos and existing bathymetry data were analyzed to document the history of shoaling within the Johns Pass channel, and if there is an increased rate of sedimentation in the last three decades. Recent operational difficulties at the marina seem to indicate an increased sedimentation rate. Engineering activities at Johns Pass over the past 90 years, including jetty constructions and extensions, ebb shoal and channel dredging, bridge constructions, marina construction and modifications, and beach nourishments, etc. were summarized. Potential influences of these activities on channel sedimentation were analyzed.

Task 2: A large amount of field data were collected during the recently completed Johns Pass-Blind Pass inlet management study (Wang et al., 2016). Data that are directly relevant to the northern side of the channel were compiled and analyzed with the specific goal of examining the sedimentation at the project area. Earlier analyses for the inlet management study were focused on the entire system of Johns Pass and Blind Pass.

Task 3: The numerical model that was constructed during the inlet management study were modified and verified to ensure that the tidal flow pattern at the project site were accurately simulated. It was hypothesized here that the flood tidal flow along the northern side is stronger than the ebb flow which was examined as part of this investigation.

Task 4: Modest field measurements were conducted. The field measurements were focused on the project area to ensure that the modified numerical model accurately represents the land-ocean boundary, project area bathymetry, significant marina structures, and any other features that may influence local flow patterns. An additional survey was conducted to quantify the sedimentation pattern at the project site. In addition, short-term current measurements were conducted at specific locations of concern.

Task 5: A numerical wave model was established. The wave model constructed during the inlet management study was modified with updated bathymetry and improved resolution at the project site. The wave modeling was designed to examine how the wave pattern contributes to the suspension of sand on the ebb delta.

Task 6: A series of tidal flow models were conducted based on existing and various other bathymetry conditions at the project site. The modeling scenarios were designed to examine what flow conditions may be favorable for sedimentation at the project site and what flow conditions tend to prevent sedimentation.

Task 7: A series of tidal flow models were conducted to investigate the interaction of the bridge pilings, particularly the northmost one, as well as the marina pilings and structures with the tidal flow pattern under existing conditions and under proposed modifications. Scenarios consisted of cases with and without the bridge pilings. The results were analyzed to examine the potential influence of the bridge-current interaction on sedimentation or scour at the project site. The flow fields under various degrees of sedimentation were also simulated.

Task 8: A series of wave modeling was conducted based on statistical wave conditions for the greater study area. The modeling scenarios were designed to investigate what wave conditions are more favorable for bringing sediment into the inlet and what wave conditions do not tend to mobilize a large amount of sediment. Wave propagation patterns at various water levels, e.g., low tide, mean sea level, high tide, and with storm surge, etc., were also simulated and analyzed.

Task 9: The findings from Tasks 1 through 8 provided a solid understanding of sediment and hydrodynamic conditions that are responsible for transporting sand into the northern side of the inlet channel. These findings were presented to the stakeholders and decision makers (i.e., the TAC: Technical Advisory Committee), along with initial thoughts on various mitigation methods. The input from the stakeholders and decision makers was incorporated to the refinement of the mitigation measures.

Task 10: Various mitigation alternatives were developed in collaboration with the stakeholders and decision makers (i.e., TAC). Numerical modeling of the various mitigation alternatives was conducted. The mitigation alternatives were evaluated based on numerical modeling. Optimal mitigation alternatives are recommended.

Task 11: This final report including results from all the above tasks was compiled to be presented to the stakeholders and decision makers.

2.0 Local Conditions

2.1 Study Area

The greater study area of Johns Pass and Blind Pass is described systematically in the inlet management study and other studies (Wang et al., 2016; Beck and Wang, 2019; Beck et al., 2020). Here, a summary of the Wang et al. (2016) report is provided with an emphasis on Johns Pass, particularly the channel between the two barrier islands. Regionally, the Johns Pass-Blind Pass system is part of the west-central Florida barrier-island chain that extends north from the mouth of Tampa Bay (Beck and Wang, 2019). The entire area, from the beaches to the inlets to the back-bay, is densely populated and heavily developed since the 1930s. Several causeways and bridges and numerous dredge and fill finger channels dissect the back-barrier bay (Figure 3).

Figure 3. Johns Pass and Blind Pass inlet system.

2.2 General Wave and Tide Conditions

The study area is located along a generally low-energy coast facing the Gulf of Mexico (Davis, 1994; Davis, 1997; Wang and Beck 2012). Figure 4 illustrates the statistical wave climate obtained from computed wave conditions by the numerical wave model WAVEWATCHIII (http://polar.ncep.noaa.gov/waves/index2.shtml) from 2000 to 2014. The numerical wave station is located approximately 7 km from the shoreline. Based on the comparison with measured wave height by Wang et al., (2016), WAVEWATCHIII under-predicted the measured wave height by approximately 9%. Therefore, in Figure 4 the WAVEWATCHIII wave heights were multiplied by 1.09 to correct for the discrepancy. As illustrated in Figure 4, a large portion of the nearshore wave approached from the west. Most of the waves were lower than 0.5 m. Higher waves tend to approach from the west-northwest generated by the passages of winter cold fronts and the associated wind patterns. These statistical wave conditions were used to design the input wave

conditions for the numerical wave modeling. The coast along the Johns Pass area faces the southwest. which would generate southerly sediment transport when waves interact with the coast as shown in Figure 4. These wave conditions are consistent with the morphological characteristics of the inlet system.

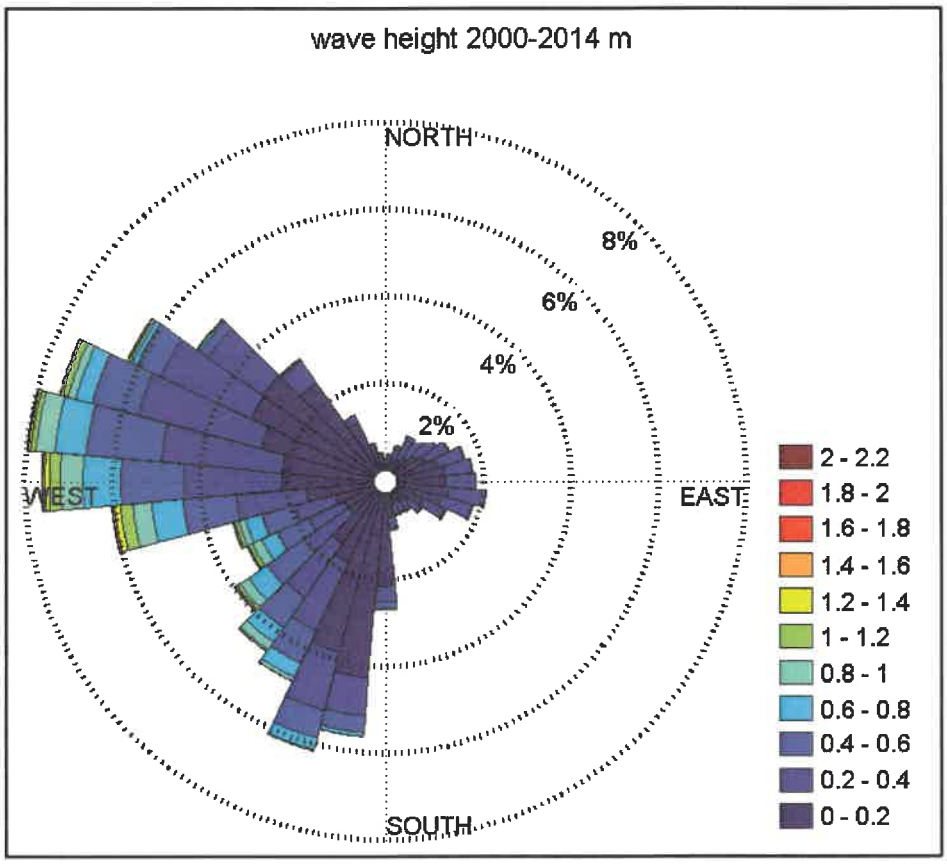

Figure 4. Wave rose composed from computed wave conditions.

The study area is characteristic of a mixed tidal regime. The spring tide is typically diurnal with a range of roughly 0.8 to 1.2 m, whereas the neap tide is semi-diurnal with a range of 0.4 to 0.5 m (Figure 5). Although the spring tide tends to be diurnal, a short pause or slight water-level fall typically occurs during the prolonged rising phase, whereas the shorter ebbing phase is typically not interrupted. The magnitude of the slight water-level fall during the spring flooding phase increases as the tidal cycle changes to a neap cycle, and eventually becomes a semi-diurnal tide during the neap phase (Figure 5). Detailed tide conditions were measured at seven locations including offshore, in the inlet, and in the back-barrier bay during the inlet management study

(Wang et al., 2016) Tide-driven flow was also measured at various locations within the Johns Pass and Blind Pass system for the calibration and verification of the numerical model.

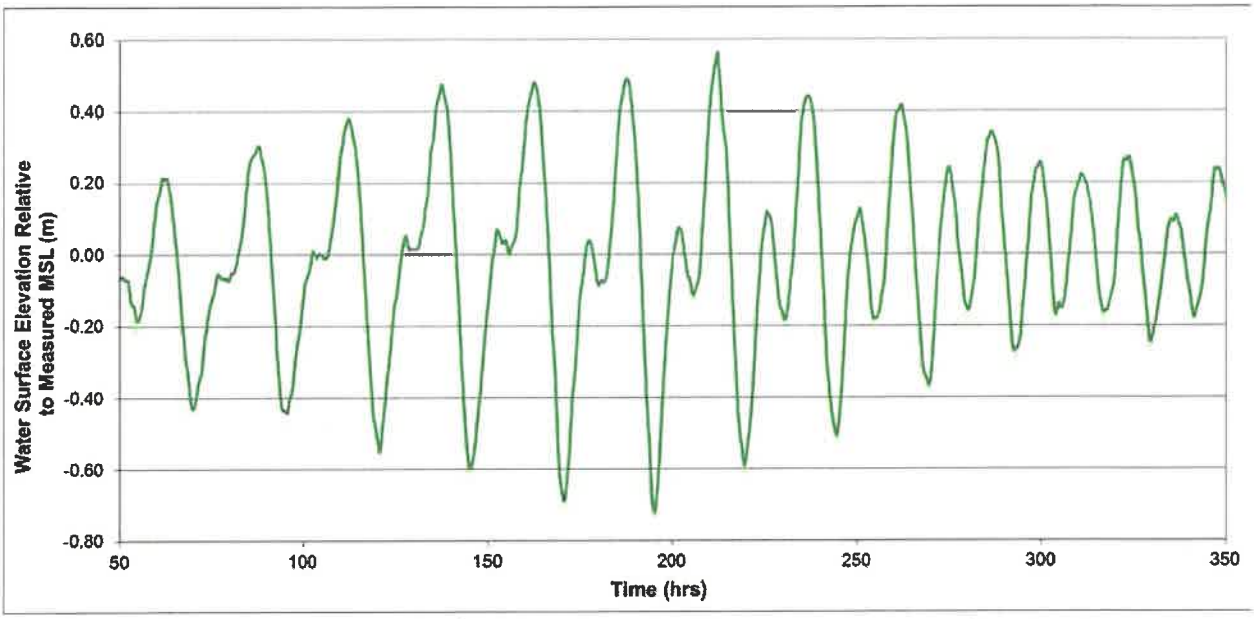

Figure 5. Measured tides from July 23, 2008 to August 5, 2008 approximately 3 km offshore of Johns Pass.

2.3 Past Engineering and Shore-Protection Measures at Johns Pass

In 1926, bridges across Johns Pass and Blind Pass (landward of the bend) and a road on Treasure Island were constructed, marking the first major anthropogenic activity which paved the way for decades of intense engineering modifications to Johns Pass and Blind Pass inlets, adjacent Gulf facing beaches, and northern Boca Ciega Bay. Since then, the hydrodynamics, sediment processes, and morphodynamics of the two inlets and their adjacent beaches have been significantly influenced by anthropogenic activities.

Once public road access between Sand Key, Treasure Island, and Long Key was established, extensive development of the barrier islands, as well as the back-bay began, as evident from the time-series photos (Figure 6). Some of the developments were accomplished without adequate consideration of their long-term effects on beach and inlet morphodynamics, often reflecting historically lower environmental standards and more lenient regulations. Limited knowledge of the cause-and-effect relationships between the back-bay, inlets, and adjacent beaches at the time was also a factor. Following the bridge and road construction, one of the earliest

engineering efforts included the 1934 construction of two 150-ft groins at the Veterans Administration Beach (Mehta et al, 1976) designed to mitigate the aggressive erosion and shoreline retreat occurring along the southern end of Sand Key (i.e., Madeira Beach) at that time. Appendix I compiles a tabulation of engineering activities that have taken place at Johns Pass and the adjacent beaches including southern Sand Key and northern Treasure Island over the past 90 years. This shortened list is selected from the engineering activities compiled by Wang et al. (2016) for the entire Johns Pass and Blind Pass system.

Figure 6. Time-series aerial photos of Johns Pass from 1926 to 2010.

Engineering modifications to Johns Pass inlet, adjacent beaches, and nearby Boca Ciega Bay have been extensive. In addition to the 2016 inlet management study conducted by Wang et al. (2016), two earlier inlet management studies (CPE, 1992; CTC, 1993) provided a detailed summary of the engineering activities at Johns Pass and Blind Pass. In general, the engineering history illustrates a pattern of action/reaction events which are generally related to maintaining safe navigation through the inlets or to mitigating erosion along adjacent beaches. Since the 1980s both issues seem to have been satisfied, at least for a certain duration of time (with a relatively regular dredging cycle), in that materials dredged from the inlets to improve navigation safety were commonly placed on adjacent stretches of eroding beach.

In general, the engineering activities at Johns Pass can be grouped based on the time periods reflecting our preferred methods and goals of inlet management and shore protection at that time. The following four phases of engineering activities and corresponding morphology response are detailed below. The starting and ending times of each phase may overlap.

1) Before 1926: natural state, with continued inlet development after its opening by a hurricane in 1848,
2) 1926 – late 1960s: substantial engineering activities, mostly construction of hard engineering structures, including:
    a. Constructions of causeways and bridges, resulting in increased dissection of the back-barrier bay,
    b. Finger channel dredge and fill resulting in a reduction of tidal prism,
    c. Construction and extension of inlet jetties and groin field on the adjacent beaches.
3) Early 1960s - 1970s:
    a. Shortly before and after the authorization of Johns Pass as a Federal channel, frequent channel dredging to improve navigability,
    b. Nearshore sand placement and formation and evolution of the O'Brian's Lagoon.
4) Late 1960s to present: mostly soft engineering (beach nourishment and dredging), with minor hard engineering structure (jetties) extensions, including:
    a. Frequent channel and ebb shoal dredging,
    b. Frequent beach nourishment on Treasure Island and north Long Key, with some of the beach nourishment projects using the sand dredged from Johns Pass channel and ebb shoal.

Somewhat unique to the Johns Pass and Blind Pass inlet system, in addition to the stabilization of the inlets using seawall and jetties, the finger-channel dredge and fill construction in the back-barrier bay is much more significant than that along most of the Florida Gulf coast. Tidal prism is the product of back-bay area and tidal range and represents the amount of water flowing through the inlet during a rising or falling tide. Over a temporal scale of decades, tidal range should remain constant. However, the area of Boca Ciega Bay has declined as a direct consequence of anthropogenic modifications including dredge and fill projects and construction

of causeways (Figure 7). The practice of infilling the back-bay to create land became popular in the 1940's through the 1950's and was not confined to Boca Ciega Bay (Davis and Barnard, 2000).

Based on Wang et al. (2016), for the portion of the bay that serves Johns Pass and Blind Pass, the bay area reduction due to dredge and fill projects is 20% (Figure 1). Since both Johns Pass and Blind Pass are confined by jetties on both sides, the reduced tidal prism may cause additional sedimentation within the channel. This is particularly apparent at Blind Pass as illustrated by the sedimentation in the northern portion of the entrance channel.

Since the first recorded dredging in 1960, a total of 1,445,000 cubic yards of sand were dredged from Johns Pass channel and its ebb shoal. It is worth noting that in Appendix I the 390,000 cubic yards of sand dredged in 2000 were from both Johns Pass and Blind Pass. It is not clear how much was from each inlet, although most of the sand should be from Johns Pass. Therefore, the overall volume from Johns Pass should be slightly smaller than the 1,445,000 cubic yards. Most of the dredged sand was placed along Treasure Island which is downdrift of Johns Pass but some of the Johns Pass sand was placed on the updrift beach. This included the placement of 30,000 cubic yards of sand from the very first dredging project in 1960 directly north and updrift of the constructed north jetty, to mitigate the severe erosion at Madeira Beach. In 1988, during the first Sand Key nourishment project, about 300,000 cubic yards of sand from Johns Pass were placed on the updrift North Redington Beach. This updrift placement has not been conducted since 1988 due to modern inlet management practices.

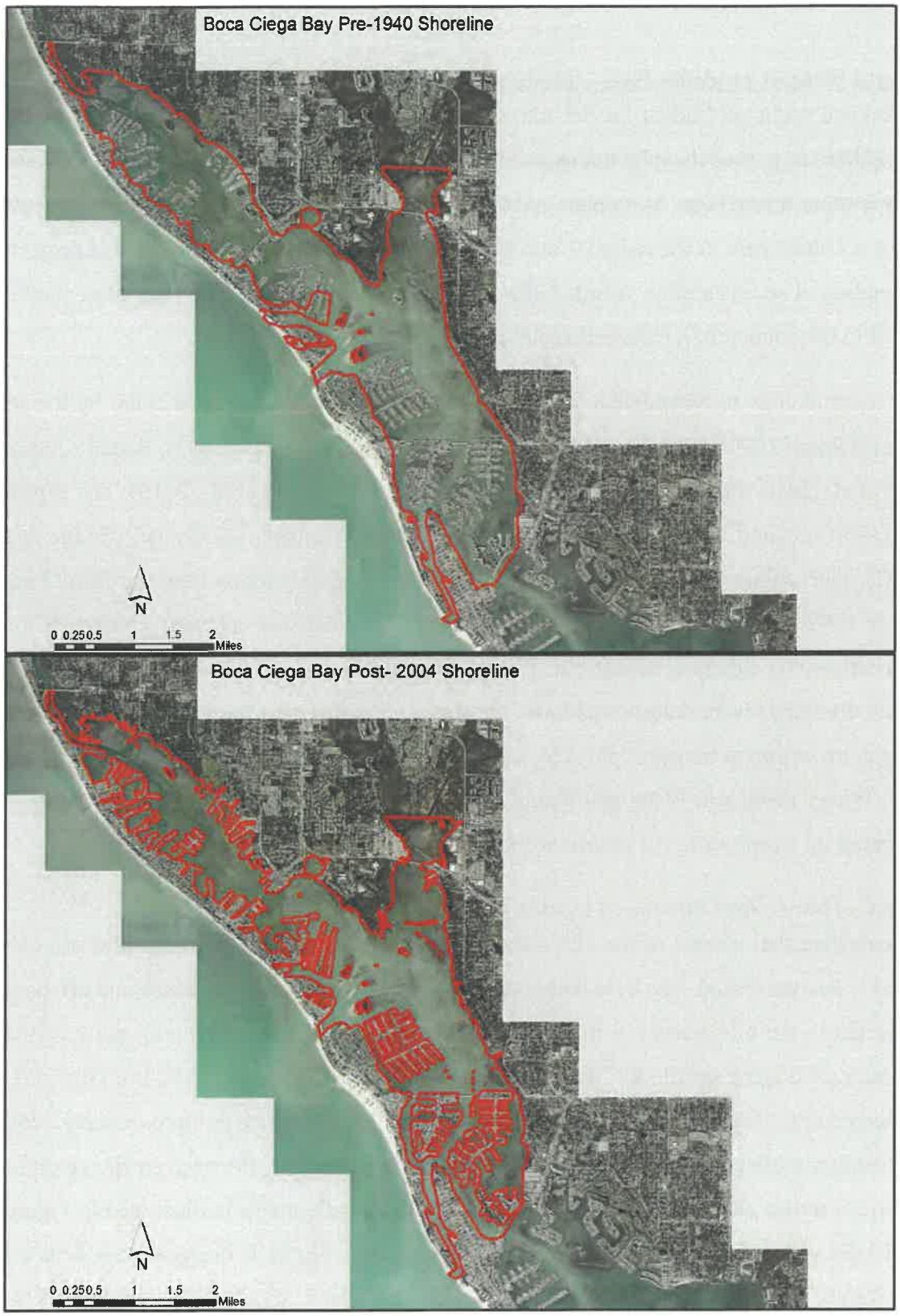

Figure 7. Surface area reduction of the back-barrier bay serving John's Pass and Blind Pass.

2.4 Sediment Budget at Johns Pass Developed by Wang et al. (2016)

A detailed sediment budget for the Johns Pass and Blind Pass system was developed by Wang et al. (2016) as part of the inlet management study. The Johns Pass budget directly relevant to this study is summarized here. As emphasized by Bodge and Rosati (2002), an accurate sediment budget plays a crucial role in the regional sediment management at tidal inlets. For this project, the understanding of sedimentation within Johns Pass, as well as the mitigation measures, should be developed in the context of a balanced sediment budget of the entire system.

The methodology to formulate a tidal inlet sediment budget, discussed in detail by Rosati and Kraus (1999 and 1999b), Kraus and Rosati (1998), Rosati and Kraus (2003), Rosati (2005), and Walton et al., 2012 was used in the inlet management study (Wang et al., 2016). The Rosati and Kraus (1999) method is also recommended in the Coastal Engineering Manual (Bodge and Rosati, 2002). The sediment budget (Wang et al., 2016) developed for Johns Pass and Blind Pass was based on the Rosati (2005) method. The volume of ebb shoal was calculated based on the multi-beam bathymetry survey conducted in 2014. Volumetric changes of the ebb shoal since 2010 (after the last dredging) were determined based on time series surveys conducted by USF-CRL. Rate of longshore sediment transport plays a central role in sediment budget (CERC, 1984; Wang et al., 1998; Wang, 1998; and Wang and Kraus, 1999). The rate of longshore sand transport was calculated based on a time-series of beach profile surveys.

2.5.1 Volume of Johns Pass Ebb Shoal from Wang et al. (2016)

To calculate the volume of the ebb shoals, a base bathymetry without the inlet and ebb shoal needed to be established. The base bathymetry was constructed using the beach and offshore profiles adjacent to the inlet surveyed in June 2014. At Johns Pass, the bathymetry north of the inlet was constructed using profile R120 which is approximately 1500 m (5000 ft) from the inlet. The bathymetry south of the inlet was constructed using profile R134 which is approximately 2700 m (9000 ft) from the inlet. Due to the southward skew of the ebb shoal, the base profile south of the inlet is much farther than the profile to the north. The base bathymetry is illustrated in Figure 8. The tidal inlet was also removed from this base bathymetry. Figure 9 illustrates the detailed 2014 multi-beam surveyed bathymetry of the John's Pass ebb shoal overlaying the base bathymetry. The ebb shoal feature is apparent. The area of the ebb shoal is 2,043,000 m^2

(21,991,000 ft^2). The volume of the ebb shoal as calculated from the base bathymetry is 3,286,000 m^3 (4,298,000 yd^3). It is worth noting that the landward limit of both ebb-shoal area and volume calculation is at the shoreline, defined by NAVD88 zero. The 1,445,000 cubic yards of sand that was dredged from the Johns Pass channel and ebb shoal since the 1960s, as summarized in Appendix I, constitute a substantial portion (34%) of the entire ebb shoal.

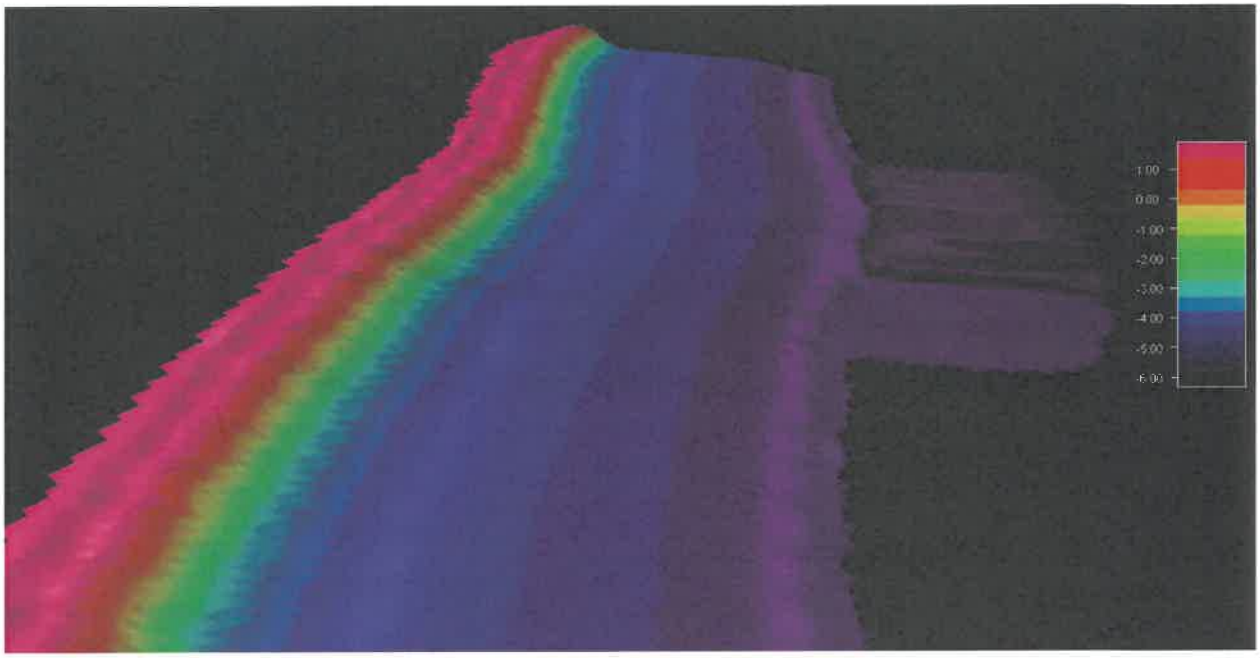

Figure 8. Base bathymetry in the area of Johns Pass constructed using beach and offshore profiles from the adjacent beaches, with 20X vertical exaggeration.

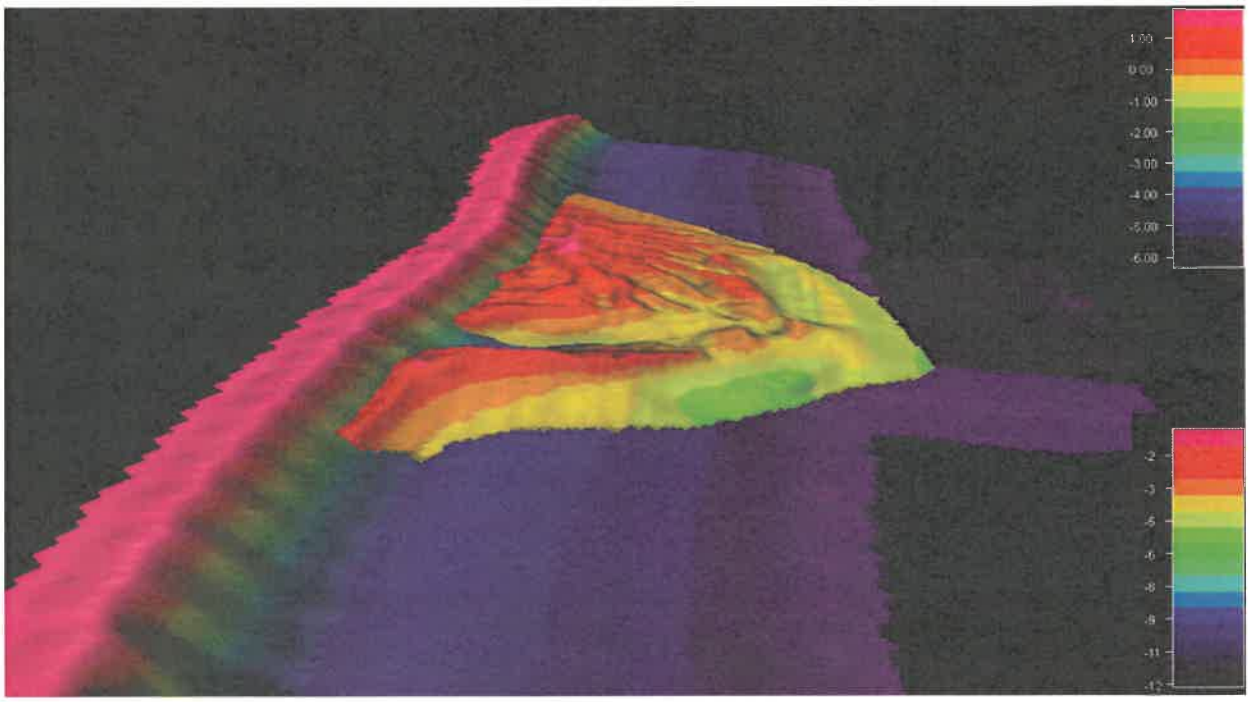

Figure 9. Johns Pass ebb shoal

2.4.2 Regional Sediment Budget at Johns Pass

The Wang et al. (2016) sediment budget for Johns Pass and Blind Pass are constructed based on data collected from October 2010 to June 2014. The surveys were performed after the dredging of Johns Pass and Blind Pass in 2010 (and associated beach nourishment on Treasure Island and Long Key) and before the following beach nourishments on Treasure Island and Long Key in 2014. In addition, Sand Key beach to the north, and updrift, of the Johns Pass and Blind Pass system was nourished in 2012. Therefore, the sediment budget is influenced by the artificial sand supply from the 2010 Treasure Island and Long Key beach nourishments and 2012 Sand Key nourishment. Since the beaches in the study area are nourished regularly and the budget period incorporates a large portion of a beach nourishment cycle, the Wang et al. (2016) sediment budget should represent a period when artificial sand supplies from beach nourishments are incorporated. The total budget period was 44 months, or 3.7 years, started immediately after the channel dredging and beach nourishment in 2010 and ended right before the 2014 nourishment. The budget duration was determined mainly based on the availability of field data (Wang et al., 2016).

The Johns Pass regional sediment budget formulation was bounded to the north at Profile R60 on Sand Key. Based on Sand Key beach-profile monitoring since 2006 (Roberts and Wang,

2012), profile R60 had the peak profile-volume loss along North Sand Key. This volume change pattern was interpreted as being caused by the diverging zone, north of which the net longshore transport was to the north toward Clearwater Pass while south of which the net longshore transport was to the south toward Johns Pass. Therefore, profile R60 was determined to be the north boundary for the formulation of John's Pass and Blind Pass regional sediment budget.

The Wang et al. (2016) regional balanced sediment budget for the entire Johns Pass and Blind Pass system is illustrated in Figure 10 and Figure 11. Figure 10 illustrates the entire sand budget over the 44-month (or 3.7-year) period. Figure 11 illustrates the annualized budget. Over the 44-month period, a total of 453,000 m^3 (593,000 yd^3) (or 122,000 m^3/yr (160,000 yd^3/yr)) of sand from Sand Key entered Johns Pass inlet system, including the ebb shoal, channel and immediate adjacent beaches. The 2012 Sand Key beach nourishment contributed significantly to the sand input. The Johns Pass inlet system gained 251,000 m^3 (328,000 yd^3) of sand over the 44-month period, or at 68,000 m^3/yr (89,000 yd^3/yr). A total of 202,000 m^3 (264,000 yd^3) of sand bypassed Johns Pass onto Treasure Island beach over the 44-month period, at 54,000 m^3/yr (71,000 yd^3/yr) annual rate. The entire Treasure Island beach lost 50,000 m^3 (65,000 yd^3) of sand over the 44 months, or at 14,000 m^3/yr(18,000 yd^3/yr). Most of the sand loss can be attributed to Sunset Beach.

Figure 10. Regional sediment budget of Johns Pass and Blind Pass system, in m^3.

Figure 11. Regional annualized sediment budget of Johns Pass and Blind Pass, in m^3/yr.

Figure 12 and Figure 13 illustrate detailed sediment budget within the Johns Pass inlet system. Here the Johns Pass inlet system is composed of the main channel and all the branches, the ebb shoal, the flood shoal, and the immediate adjacent beaches which include the south end of Sand Key (R121-R124) (i.e., Madeira Beach) and Sunshine Beach (R127-R129) at the north end of Treasure Island. The adjacent beaches were determined based on the extent of the ebb shoal. The south end of Sand Key gained a total of 37,000 m^3 (48,000 yd^3) of sand over the 44-month period (Figure 12), at an annualized rate of 10,000 m^3/yr (13,000 yd^3/yr) (Figure 13). This sand gain can be attributed to the 2012 beach nourishment on Sand Key and the net annual southward longshore transport.

The Johns Pass system receives 453,000 m^3 (593,000 yd^3) of sand from the Sand Key beach, or at an annualized rate of 122,000 m^3/yr (160,000 yd^3/yr). Within this amount, 37,000 m^3 (48,000 yd^3) was deposited at the south end of Sand Key; 270,000 m^3 (353,000 yd^3) was deposited on the Johns Pass ebb shoal; and 4,000 m^3 (5,000 yd^3) (or at roughly 1,300 yd^3/yr) was deposited within the main channel between the barrier islands. Combined with the sand volume loss of 60,000 m^3 (78,000 yd^3) from Sunshine Beach, a total of 202,000 m^3 (264,000 yd^3) of sand bypassed the Johns Pass system and contributed to the sediment budget on Treasure Island and further south (Figure 12). The annualized volume change rate is illustrated in Figure 13.

It is worth emphasizing here that the sand volume of roughly 1,000 m^3/yr (1,300 yd^3/yr) obtained by Wang et al. (2016) for the Johns Pass entrance channel might carry large uncertainties. The Wang et al. (2016) budget encompassed the entire Johns Pass and Blind Pass system with the goal of developing a budget for the overall system. The spatial resolution of the inlet management study at the Johns Pass interior channel was not adequate. However, the relatively small volume gain did not indicate massive sand input into the Johns Pass channel.

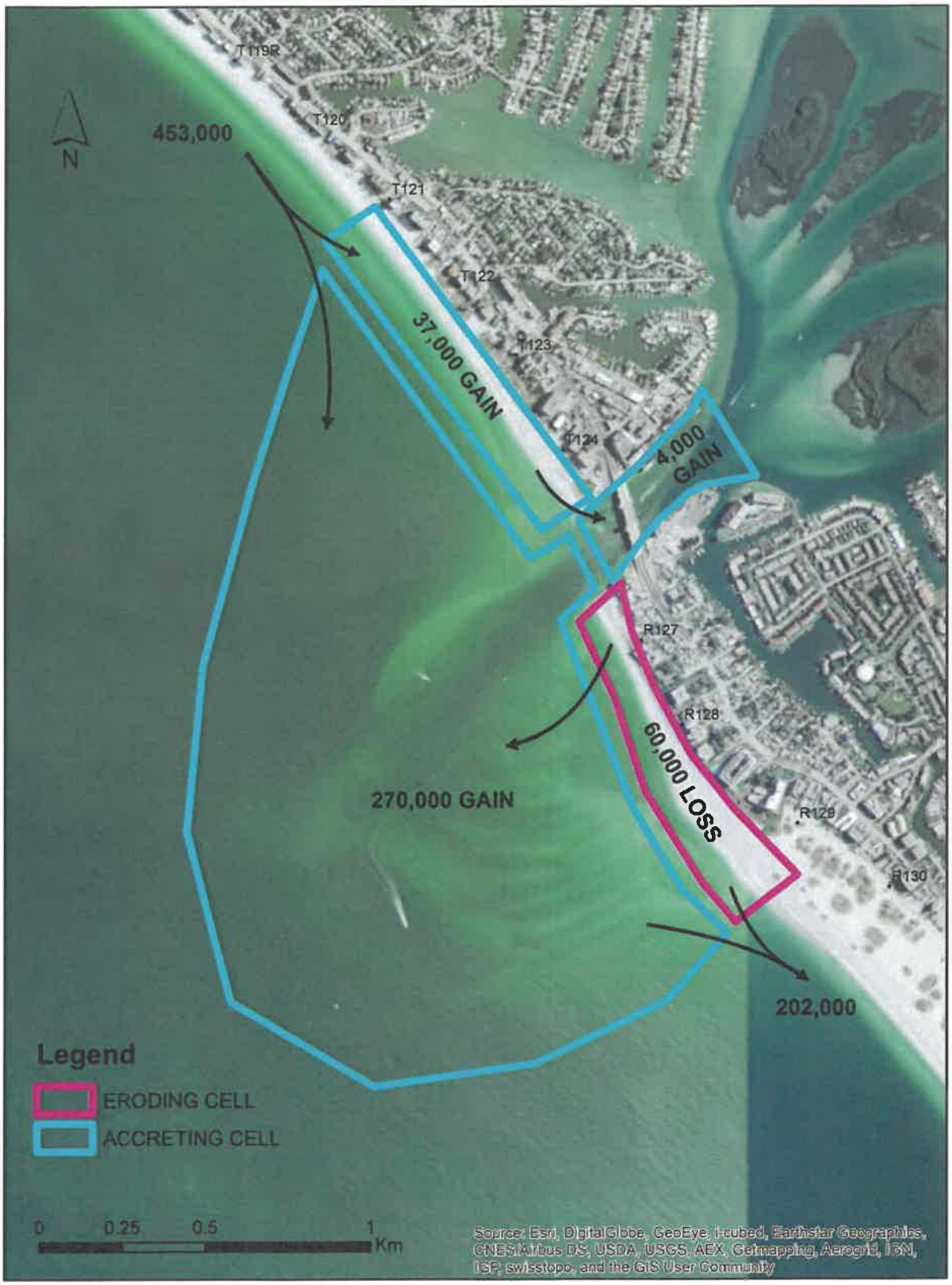

Figure 12. Sediment budget at Johns Pass, in m^3.

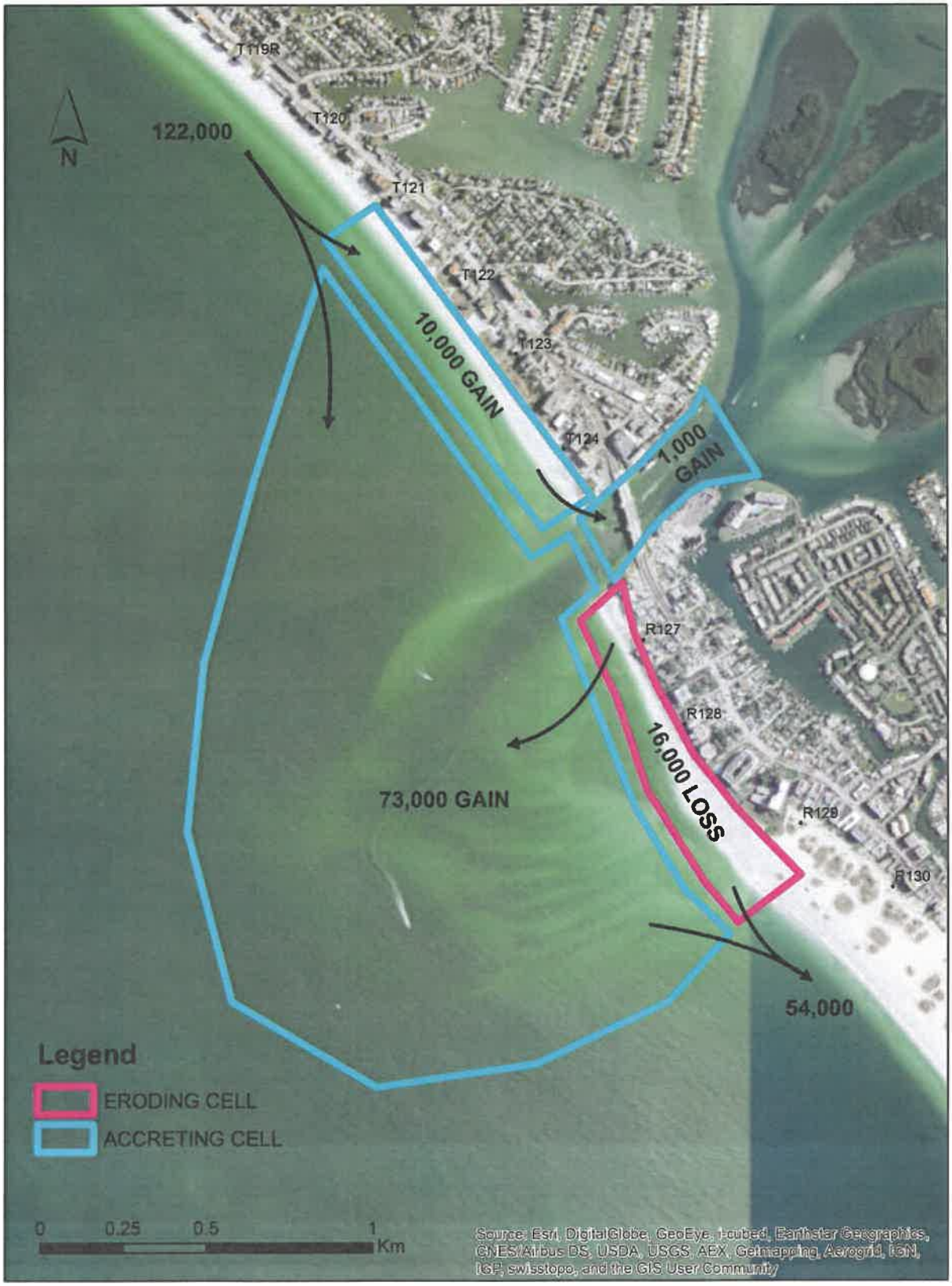

Figure 13. Annualized sediment budget at Johns Pass, in m3/yr.

3.0 Methodology

3.1 Analysis of Time Series Aerial Photos

This study compiled multiple aerial photos at Johns Pass dating back to 1926. These aerial photos provide valuable information on the changes at the inlet caused by natural processes as well as engineering activities.

3.2 Time Series Bathymetry

Bathymetry surveys of Johns Pass ebb shoal and entrance channel have been conducted by USF CRL since 2010. This large data set was used by Wang et al. (2016) to develop the sediment budget (Figure 10 through Figure 13) during the inlet management study. In this study, a focused analysis in the project area was conducted with the goal of obtaining a more accurate sedimentation rate than the estimate provided by Wang et al. (2016), which included the entire Johns Pass and Blind Pass system.

Figure 14 illustrates the survey coverage in June 2020. In anticipation of this study, an attempt was made to have dense coverage within the channel. However, due to the numerous boat docks and typically busy boat traffic, most of the project area could not be surveyed by the vessel. In addition, the RTK GPS could not obtain accurate position under the bridge, the positions of survey point shown in Figure 14 were interpolated, and therefore may carry considerable uncertainty. An Additional survey, shown in Figure 14 as scatter points in the project area, was conducted using a level-and-transit method. The survey coverage shown in Figure 14 was used to construct the numerical model.

The survey with the most areal coverage was conducted in 2014 using a multi-beam echo sounder during the inlet management study (Figure 15). Like the 2020 and other surveys (Figure 16), the 2014 survey coverage was limited by the boat docks and the bridge. In addition, the survey vessel could not get close to the north jetty. The poor coverage in the 2018 survey (Figure 16) was caused by the dredging operation during that time.

Due to the rather sparse survey coverage in the project area, in addition to the rather rapid and complicated depth changes, interpreted bathymetry between the shoreline (obtained from aerial photos and surveyed during this study) may carry large uncertainty. Therefore, reliable bathymetry changes in the project area, which would yield the sedimentation rate could not be

obtained based on the Johns Pass ebb shoal and channel surveys conducted by USF CRL, which was focused on the ebb shoal. Several land-based surveys were conducted during the study to monitor the accumulation and movement of the sand body. However, the surveys conducted during this study were limited by the short study duration and cannot provide longer term sedimentation rates.

Figure 14. Coverage of the bathymetry survey conducted in June 2020.

Figure 15. Coverage of the multi-beam bathymetry survey conducted in 2014.

Figure 16. Coverage of the multi-beam bathymetry surveys conducted in 2018 and 2019.

3.3 Field Data Collection

The field measurements collected during the study were designed to aid in understanding the sedimentation processes and to ensure that the numerical model have adequate spatial resolution and precise representation of the project site. The Johns Pass and Blind Pass numerical model constructed by Wang et al. (2016) during the inlet management study was for the entire dual inlet system. Due to surveying difficulties, some crucial details were not adequately resolved. In addition, the time-series bathymetry data collected by USF CRL during the inlet management study do not have adequate spatial resolution at the project site limited by the survey vessel accessibility. Four land-based surveys were conducted during the study at the project site to quantify short-term morphology changes at the project site.

Given the small study area relative to the entire Johns Pass and Blind Pass system, it was essential that the Wang et al. (2016) model be refined to accurately represent the important features at the project site. A precise land boundary was surveyed using a RTK GPS(Real-Time Kinematic

Global Positioning System), including the land boundary beneath the boardwalk (Figure 17 left panels) and the boundary defined by the jetty (Figure 17 top right panel). The section of seawall under the bridge and the inlet jetty were lined by a rock riprap, the slope and seaward edge of the riprap were also surveyed. Accurately capturing the configuration of the riprap was also important for designing the mitigation measures. The nearshore water depths directly seaward of the seawall or riprap were also surveyed. This provides at least one nearshore survey point to interpolate with the vessel-based channel survey (Figure 14). This allows for accurate representation of the nearshore bathymetry.

Figure 17. Survey of land boundary and the bridge piling positions using RTK GPS.

As apparent from the top right panel of Figure 17, the bridge pilings represent significant features within the inlet channel and may have significant influence on the flow field pattern in the project site. The footprints of the bridge pilings were surveyed during this study (Figure 17 lower right panel) to ensure that the dimensions of the pilings were accurately captured by the numerical

model. The Wang et al. (2016) model was calibrated and verified with current measurements in the main channels of Johns Pass and Blind Pass.

To ensure that the model yields accurate current velocities at the project site, short-term current measurements were conducted between the shoreline and the north most bridge piling. A considerable amount of rocks is distributed between the shoreline and the bridge piling, which may change the bottom friction. The measured tidal current velocities were also used to define the friction coefficient in this area (Figure 18) to ensure the numerical model captured this local condition.

Figure 18. Short-term tidal current measurement at the project site.

Four surveys were completed during this study, on December 22, 2020, February 24, 2021, March 29, 2021 and May 12, 2021, to quantify the morphology changes at the project site. The December 2020 survey did not extend seaward of the bridge, while the other three surveys

extended further seaward. The measured spatial patterns of sand accumulation and erosion are shown in Figure 36 through Figure 38.

3.4 Numerical Model for Johns Pass

The numerical model used in this study was modified based on the model constructed by Wang et al. (2016) during the inlet management study. The initial model construction was discussed in the detail by Wang et al. (2016). Figure 19 illustrates the overall grid. To maximize the computation efficiency, the domain is composed of grids of different sizes. In the offshore area, the grid size is 320 x 320 m (1050 x 1050 ft). This very large grid size was reduced to 20 x 20 m (66 x 66 ft) in the nearshore and ebb shoal area, as well as in most of the back-bay area. The grid size was further reduced to 10 X 10 m (33 ft) at the inlet channel and the Intracoastal Waterway. To better resolve the shoreline and the sand body at the project site, the grid size was reduced to 2.5 X 2.5 m (8.2 ft) (Figure 20). This very small grid is capable of accurately resolving the shoreline position, the north most bridge piling, the riprap along the jetty and seawall, and the emerged and intertidal portion of the sand body. However, the 2.5 m grid is still too large to resolve smaller features such as dock support pilings and pilings for boat tie downs.

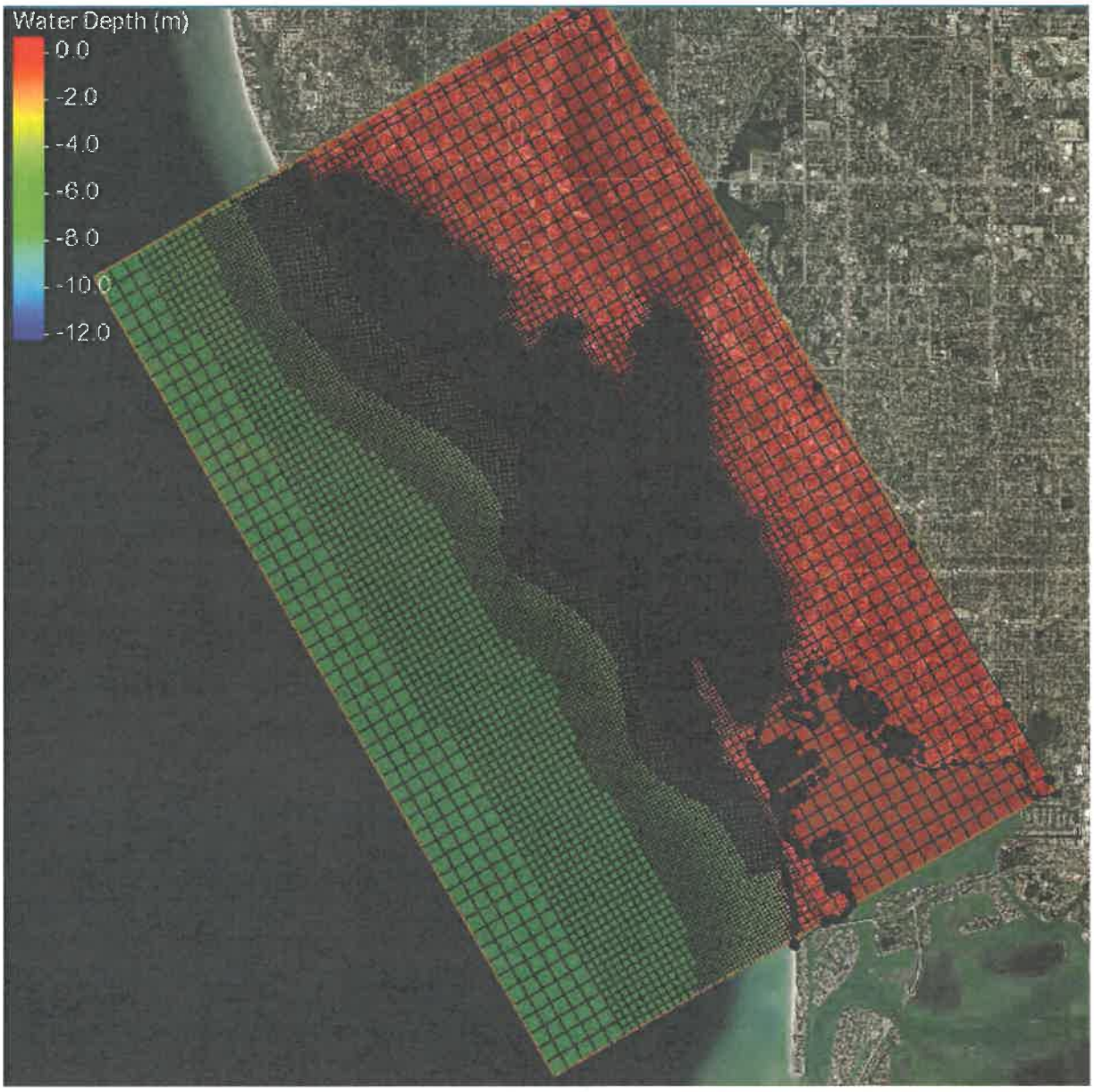

Figure 19. Overall coverage of the Johns Pass and Blind Pass model.

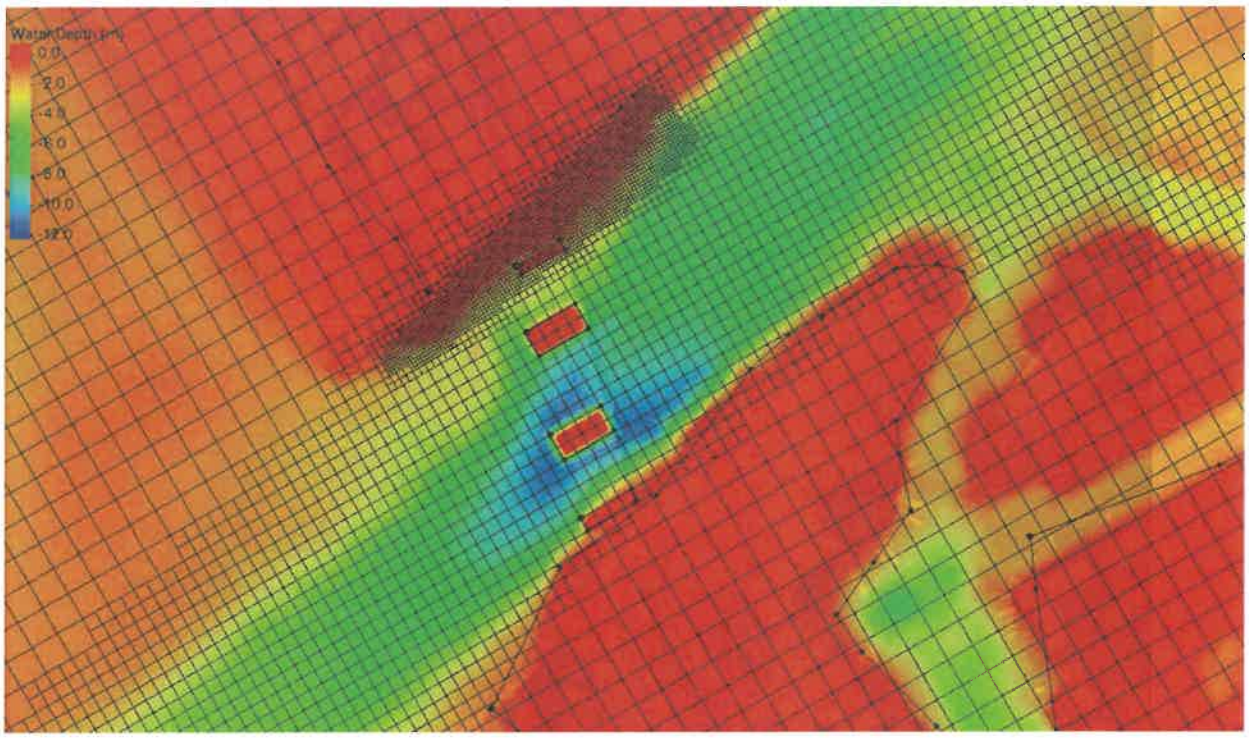

Figure 20. Small modeling grid of 2.5 X 2.5 m (8.2 ft) at the project site.

The telescoping grid described above accurately represented bathymetry of the entire study area (Figure 21), as well as at the project site. The Intracoastal Waterway, which has significant influence on the tidal circulation pattern within the bay (Wang et al., 2016), is well captured. The shallow channel margin linear bar, which has substantial influence on wave propagation, is also well represented. This modeling grid is used in all the circulation simulations. The 1-month tide record measured during the inlet management study (Wang et al., 2016) was used in this study to compute the tidal current velocities at the project site. The measured tidal fluctuations were used in the modeling, instead of computed tides, to provide more realistic simulations.

Figure 21. Detailed bathymetry resolved by the modeling grid.

The numerical model constructed by Wang et al. (2016) during the inlet management study was well calibrated and verified using the Willmott (1981) model skill. The local modifications conducted by this study had minimal influence on the computed flow velocity over the entire system, as expected. The same calibrated friction coefficient of 0.025 (Manning's n) was used over most of the domain, except over the very small area between the north most bridge piling and the shoreline (discussed in the following). The computed flow velocity in the Johns Pass main channel matched the measured velocity very well (Figure 22), similar to the results from the inlet management study (Wang et al., 2016). In addition to resolving the detailed features at the project area, the numerical model used in this study also included updated bathymetry of Johns Pass and

Blind Pass channels and ebb shoals as surveyed in 2020. It is worth noting that the current velocities shown in Figure 22 were computed using the 2014 bathymetry to be consistent with the measured data for model verification. The minor modification of the channel and ebb shoal bathymetry should not have any significant influence on the flow computation.

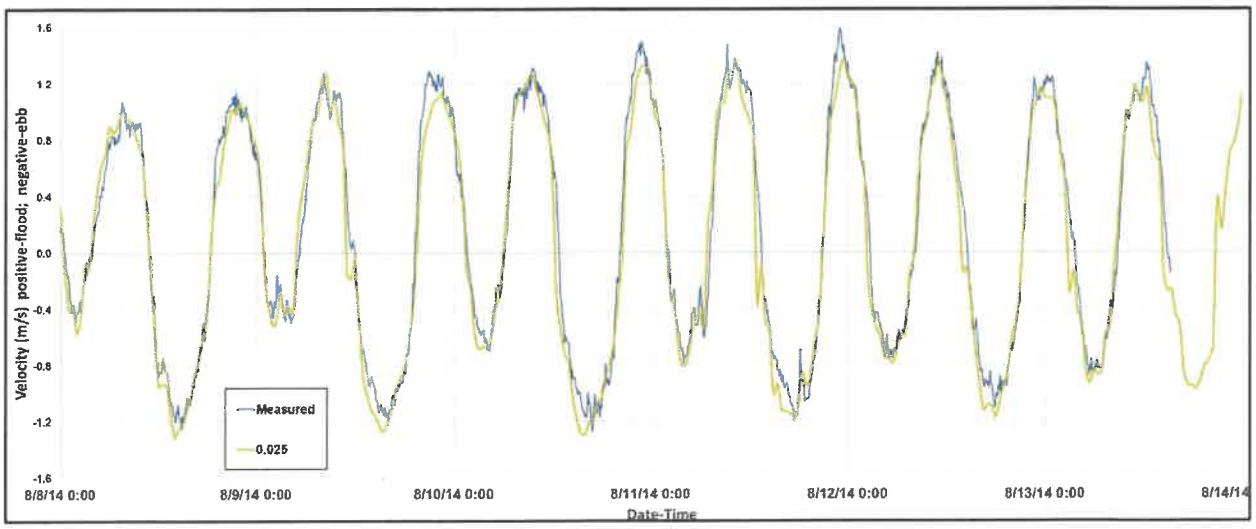

Figure 22. Measured and computed flow velocity at Johns Pass main channel.

Additional verification runs were conducted at the project site to ensure that the John Pass Blind Pass model yields accurate velocities. These additional verification runs were based on current measurements collected during the study (Figure 23 red dots). Because the area between the bridge piling and the shoreline, yellow highlights in Figure 23, is covered with scattered rock debris, the drag force over the tidal flow may be greater than the typical sandy bottom. Therefore, greater friction coefficients, as compared to the 0.025 Manning's n used in the rest of the domain, were applied for this local area. Overall, the computed velocities matched with the measured velocities well at both locations. As expected, greater friction coefficient resulted in slower computed velocity. The friction coefficient of 0.055 yielded the closest match with the measured velocities at both locations based on the Willmott (1981) model skill (Figure 24 and Figure 25). This value was used in the yellow highlighted area in Figure 23 in the existing-condition model runs in this study.

Figure 23. Additional verification of the modified model focusing on the project site.

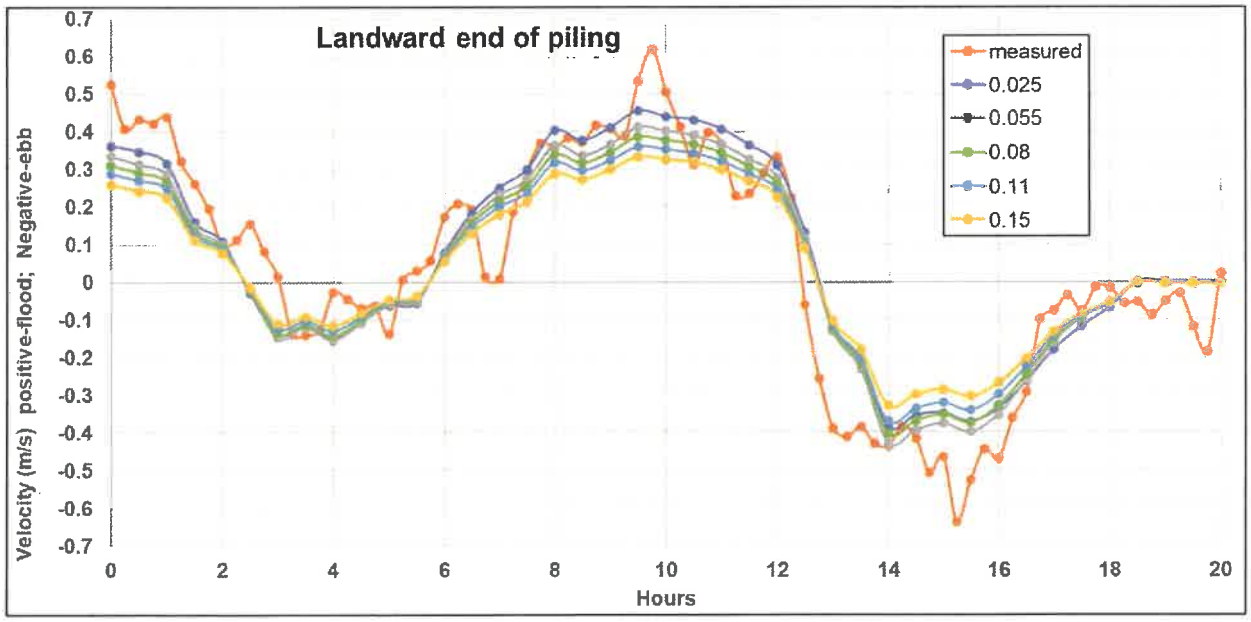

Figure 24. Measured versus computed velocity with different friction coefficients near the bridge piling.

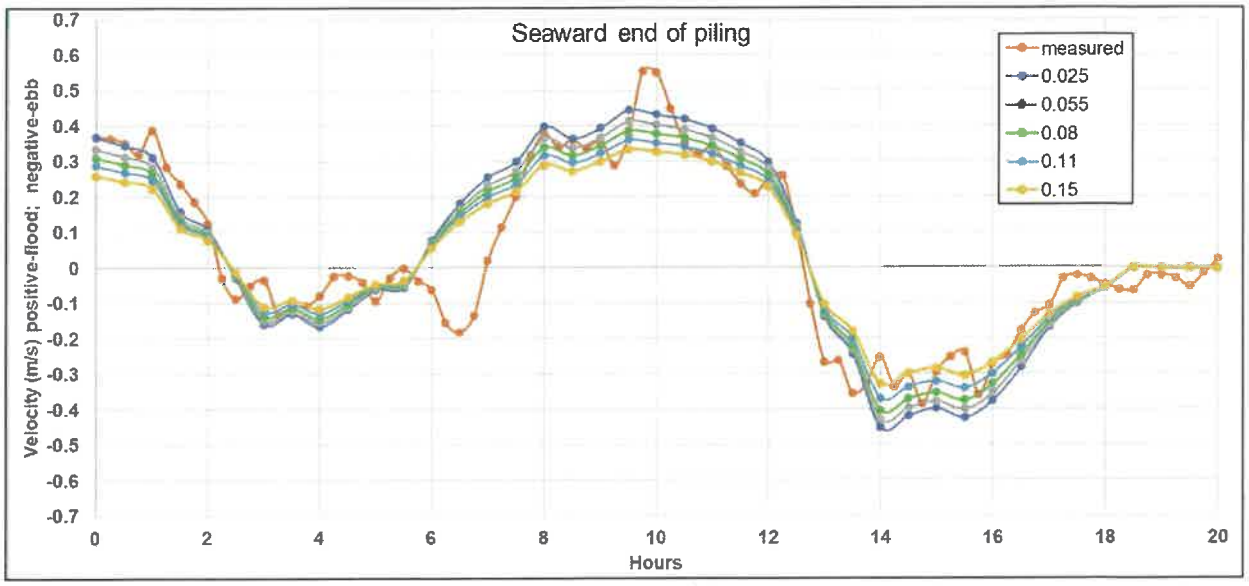

Figure 25. Comparing measured and computed velocity with different friction coefficients near the bridge piling.

4.0 Findings

4.1 Analysis of Time Series Aerial Photos

In this section, the time-series photos are described with the goals of depicting the sedimentation within the entrance channel and potential cause of the sand infilling. Time-series bathymetry surveys of Johns Pass ebb shoal were conducted by USF CRL since 2010. The bathymetry data was compared to identify changes at the Johns Pass channel.

4.1.1 Pre-Engineering Condition

The earliest aerial photo of the greater study area was taken in 1926 (Figure 26). The entire area is mostly pristine with practically no engineering alterations. In this, and all the later aerial photos, a red eclipse is used to mark the general project area, located along the north bank of the inlet. Under natural conditions, it appears that a sandy beach distributed along the interior shoreline. Sedimentation along the updrift bank of an inlet channel is common for natural inlets, as was the case at Johns Pass.

Although not visible on the 1926 aerial photo, the first Johns Pass Bridge and the road on Sand Key and Treasure Island were completed shortly after. By 1942 (Figure 27), portions of the two islands adjacent to Johns Pass have become quite densely developed. The marina had not been constructed at that time. A sand body at the end of Madeira Beach protruded into the Johns Pass entrance. This morphology reflects the active interaction between southward sand transport and the tidal flow through the inlet channel and illustrates a common morphodynamic balance at tidal inlets, i.e. inlet stability (Bruun et al., 1978).

In general, longshore transport tends to bring sand into the inlet, while tidal flow through the inlet tends to flush the sand in and out of the main channel between the two barrier islands forming flood shoals and ebb shoals. If longshore sand transport overwhelms tidal flushing, the inlet channel would become filled in or be pushed to migrate in the downdrift direction, as is the case of Blind Pass. If tidal flushing is strong enough to flush the sand out of the inlet, a large ebb shoal would form, and the inlet would remain stable. However, localized sedimentation may still occur depending on the specific channel configuration which is the case at Johns Pass.

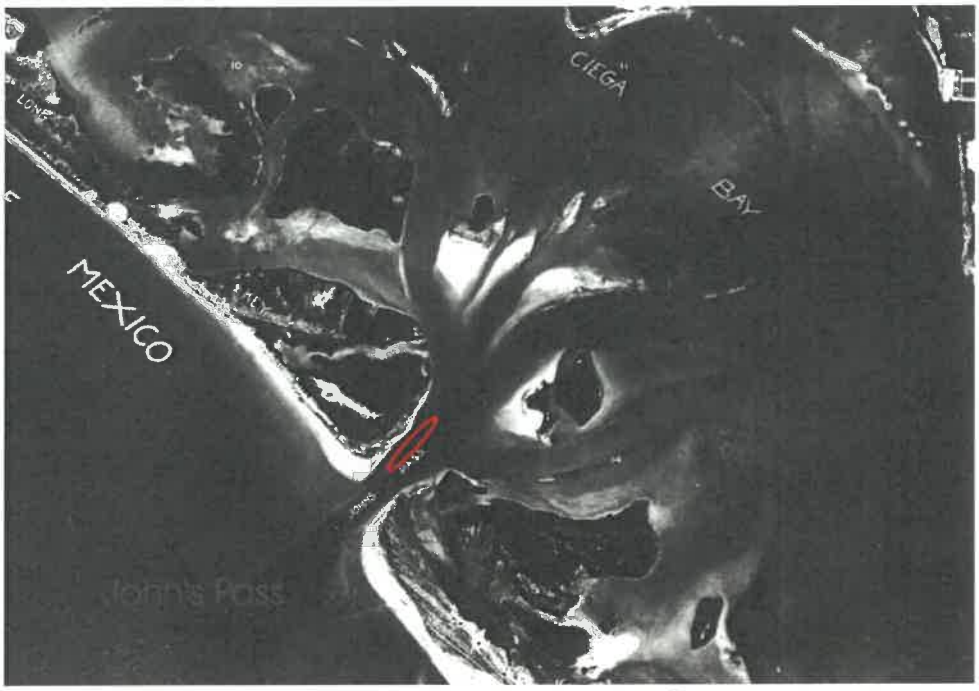

Figure 26. 2016 aerial photo of Johns Pass.

Figure 27. 1942 aerial photo of Johns Pass.

4.1.2 Engineering Activities

Engineering activities can influence inlet stability in various ways by modifying the natural processes as briefly introduced above (Mehta, 1993; Bruun et al., 1978). Here, a brief summary is presented to provide some context for the following discussion on Johns Pass channel sedimentation. Engineering activities at tidal inlets can be categorized into two general groups: hard structures and soft structures. Hard engineering structures used at tidal inlets typically include jetties, seawalls, groin fields along adjacent beaches, and breakwaters. Except breakwaters, all the above structures had been installed at Johns Pass. Hard engineering structures were commonly used in the 1940s through the early1980s. Due to their permanent nature, recent applications of hard structures have been very carefully evaluated to ensure that no prolonged negative impact would occur to adjacent or downdrift beaches. A large amount of hard engineering structures has been constructed at Johns Pass (Appendix I), as evident from aerial photos.

Soft engineering activities typically involve dredging and beach fill. Generally, dredging occurs to accomplish two goals: to improve the navigability of a channel or to extract sand for beach nourishment. As is the case for Johns Pass (Appendix I), earlier dredging projects tend to be designed to improve navigation safety, while more recent dredging projects were designed to provide sand for beach nourishment and to balance the sediment budget. Over the past four decades, beach fill has become the dominant method for beach erosion mitigation.

As apparent from the 1945 aerial photo (Figure 28), Madeira Beach was experiencing aggressive beach erosion. Two groins, marking the first shore protection structure, were installed to mitigate the erosion (Appendix I). The groins are not visible on the 1945 photo. The large sand body at the mouth of Johns Pass and along the interior of the channel as seen on the 1941 photo remained, illustrating the morphologic consequence of the natural process, i.e., longshore sand transport and flood currents, that brings sand into the interior of the channel.

Rapid human development in the vicinity of Johns Pass can be seen on the 1951 aerial photo (Figure 29). It appears that marina installation had occurred by that time. Different from the 1945 view of Madeira Beach, the depleted shoreline was replaced by a healthy-looking sandy beach. A rather extensive emerged sand body was present in the interior of the Johns Pass channel directly seaward of the developing marinas. The finger island dredge and fill operations had also started in the back bay.

Figure 28. 1945 aerial photo of Johns Pass.

Figure 29. 1951 aerial photo of Johns Pass.

The 1957 aerial photo (Figure 30) shows considerable changes at Johns Pass, as compared to the conditions in 1951. Aggressive erosion at Madeira Beach seems to have resumed, leading to the installation of the 37 low-profile groins, which still exists today. The sand accumulation directly seaward of the marina remained. A dredge-pit looking feature occurs directly channel-ward of the sand pile. However, no dredging record can be found in the literature (Appendix I). Given the active dredge and fill development during that period, sand removal from the shallow inlet entrance would not be unreasonable. As a matter of fact, the most striking change illustrated by the 1957 aerial photo is the aggressive dredge-and-fill development in the back-bay, converting a large portion of the mangrove environment into finger-channel islands. As discussed in the inlet management study (Wang et al., 2016), this finger-channel development resulted in a roughly 20% reduction of the back-bay area, and subsequently a 20% reduction in tidal prism.

It can be argued that 1960 and the following few years marks a new era of Johns Pass in that a series of significant engineering work was conducted with the main goal of improving the navigability of inlet. The 1964 authorization of Johns Pass as a federal channel was likely a main driver. The north jetty is visible on the 1960 photo (Figure 31), although the engineering record show that it was completed in 1961 (Appendix I). The first significant dredging project also occurred in 1960, with 94,000 cubic yards of sand removed from Johns Pass channel. The dredged sand was placed on the southern flank of the ebb shoal. This implies that the navigation channel had much higher priority at that time than adjacent beach. Otherwise, the sand would have been placed on eroding beaches, as is typical practice today. The exact dredging footprint is not clear. However, based on the navigation goal and the 1960 aerial photo, the Johns Pass channel between the two barrier islands and through the ebb shoal should be the focus. Comparing the 1960 aerial photo with all the previous ones, it is apparent that the channel between the two barrier islands was "cleared", which makes sense for navigation improvement. The emerged sand directly seaward of the marinas, as can be seen from all the previous photos, was removed. Although no direct record of dredging in that area can be found, it is more likely that the sand was removed through dredging than through flushing associated with the newly constructed north jetty. The dredge-pit looking feature directly channel-ward of the jetty support the dredging interpretation. Another 30,000 cubic yards of sand was dredged, likely from the Johns Pass channel, and was placed along the severely eroding Madeira Beach at that time Appendix I). Despite the erosion at Madeira Beach, the sand filled to the tip of the new jetty (Figure 32).

Figure 30. 1957 aerial photo of Johns Pass.

Figure 31. 1960 aerial photo of Johns Pass.

The 1962 aerial photo shows a "clean" Johns Pass channel with no emerged sand in the vicinity of the marinas (Figure 32). Perhaps the most significant feature relating to this channel sedimentation project that can be seen from the 1962 aerial photo is that the north jetty was filled to the tip just one year after its completion. This occurred despite the fact that Madeira Beach was experiencing severe erosion during that period of time. The completely filled north jetty would not have been effective in blocking sand from moving around the tip and entering the Johns Pass channel. The filled north jetty is observed on all the following aerial photos. Different from all the previous photos, the section of Madeira Beach directly north of the jetty appears to have been stabilized since 1962.

The next three decades since the mid-1960s is characteristic of a stable Madeira Beach and "clean" Johns Pass channel in the vicinity of the marina, accompanied by a rapid and substantial changes along the south side of the inlet. Severe erosion along the south bank of the inlet and the adjacent Sunshine Beach occurred, as apparent from the 1969 aerial photo (Figure 33). A series of seawall and revetments was constructed between the mid- and late-1960s, in addition to numerous beach and berm nourishment projects (Appendix I). A new bridge was constructed at a more seaward position than the old bridge. The 1969 photo (Figure 33) still shows the old bridge. The new bridge is shown in the 1971 aerial photo. As discussed in the inlet management study (Wang et al., 2016), the substantial morphology changes in the downdrift part of the channel and ebb shoal were likely the response to the Johns Pass channel work, e.g., realignment and straightening, in the 1960s which may have significantly altered the sediment bypassing mechanism and pathway.

From 1971 to 1993, the project area as depicted from the aerial photos appears rather similar over the 23-year period, with no visible sand emergence in the vicinity of the marinas. These photos are listed in the Appendix II (Figures A1 through A8). The north jetty remained filled to the tip during this time and Madeira Beach appeared to be quite stable. The large changes at the downdrift side of the inlet are not directly related to this project and were discussed in the inlet management study (Wang et al., 2016). All the aerial photos during this period are still provided here to illustrate the rather extended stable condition.

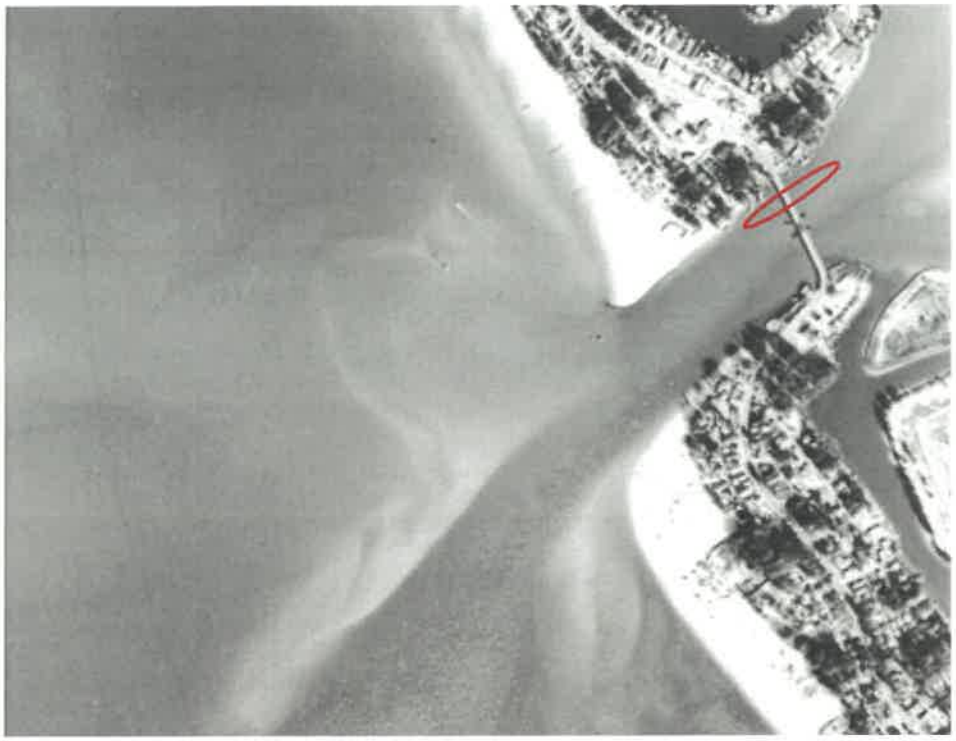

Figure 32. 1962 aerial photo of Johns Pass.

Figure 33. 1969 aerial photo of Johns Pass.

An emergent sand body was first seen on the 1998 aerial photo from Google Earth (Figure 34). Although the extent of the sand body visible from aerial photos can be influenced by the tide stage when the aerial photo was taken, a trend of accretion can be observed since then (Appendix I Figures A9 through A14). To mitigate aggressive erosion at Sunshine Beach and to increase the intervals of beach renourishment, the south jetty at John Pass was extended in 2000 following the substantial repair of the north jetty in 1987 (Appendix I). The rather intensive construction of hard engineering structures had largely stopped by the end of the 1960s after the installation of the seawall and revetments along the southern side of the channel (Appendix I). The extended south jetty in 2000 served as a terminal structure for the rather frequent Sunshine Beach nourishment, instead of a traditional inlet jetty with the purpose of stabilizing an inlet. It achieved its goals of improving the nourishment performance and extending the renourishment interval at Sunshine Beach, while not inducing negative responses from the inlet channel and the adjacent beach to the south, particularly in the vicinity of the attachment point (Wang et al., 2016).

Over the past 20 years, the most significant event occurring at Johns Pass inlet was the construction of the 3rd and present bridge. Likely influenced by the severe scour at the bridge pilings for the previous two bridges, the new bridge has much larger pilings. Near the completion of the new bridge in 2010 (Figure 35), an extensive emerged sand body both landward and seaward of the bridge is visible on the aerial photo. Subsequent photos show a reduction of the sand body, as compared to the 2010 situation. The influence of the bridge pilings on the inlet processes and sedimentation along the north bank is examined using numerical modeling and discussed in sub-section 4.2 Sedimentation Along Johns Pass.

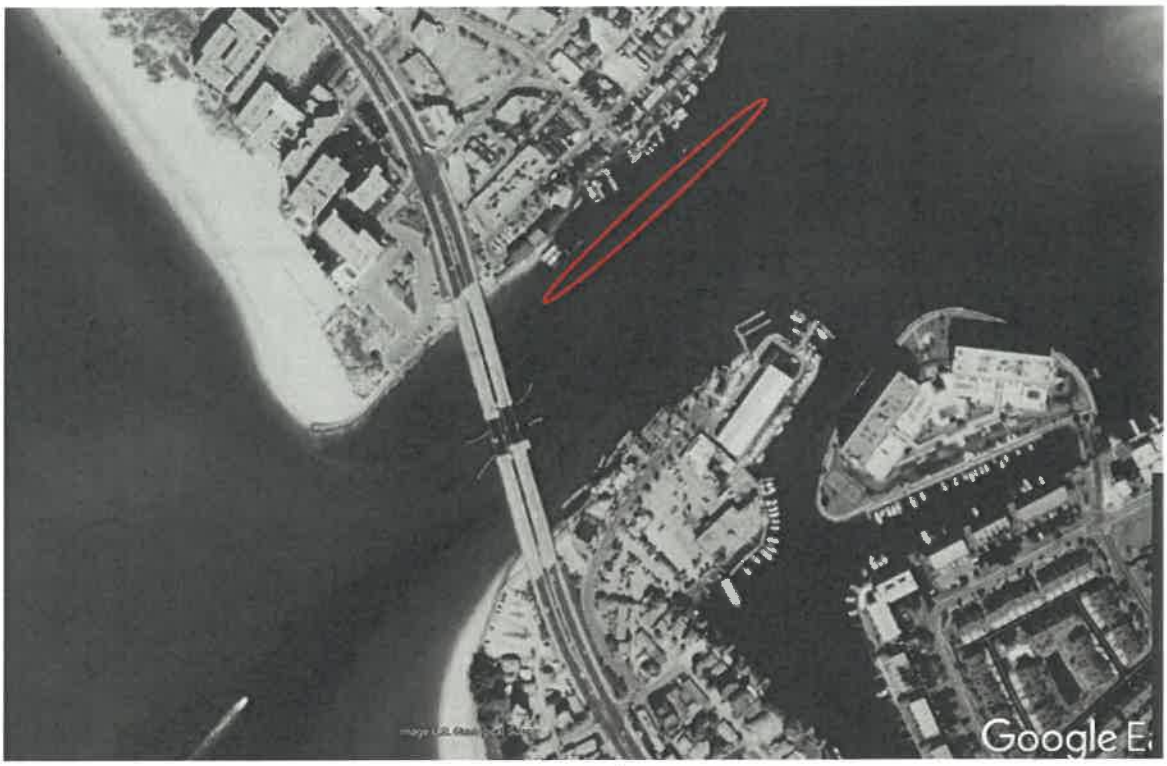

Figure 34. 1998 aerial photo of Johns Pass.

Figure 35. 2010 aerial photo of Johns Pass.

Another significant engineering activity over the past 30 years is the large-scale beach nourishment along the updrift Sand Key (Appendix I). As illustrated in the sediment budget developed by Wang et al. (2016), a considerable volume of the placed sand was transported southward and deposited on the Johns Pass ebb shoal. As discussed earlier, most of the sand was bypassed to the downdrift Treasure Island via natural processes or artificially through periodic channel and ebb shoal dredging and beach fill (Appendix I). The contribution of the additional sand supply from Sand Key beach fill to the sedimentation within the channel is not apparent from the analysis of the time-series aerial photos. As illustrated in Figure 2, channel interior sedimentation is caused by sand that is moved around the tip of the inlet jetty or landward from the shallow channel margin linear bar. As evident from the time-series aerial photos (Figure 26 through Figure 35, and Appendix II Figures A1 through A14), the shallow channel margin linear bar existed before the large-scale Sand Key beach nourishment. No apparent trend of a growing and shallower channel margin linear bar can be identified from the aerial photos since the 1990s suggesting that the nourishment did not cause significant change to the direct sand source for the channel interior sedimentation.

Approximately one year after the completion of the north jetty, the beach extended to the tip of structure, which would allow the sand to be transported around the jetty and enter the inlet. The north jetty remained to be filled to the full capacity since 1962 and is about the most consistent feature easily identifiable from all the subsequent aerial photos (Figures 23 through 26, and Appendix II Figures A1 through A14). Therefore, the influence of the beach fill to this sand pathway around the north jetty cannot be evaluated based on the time-series aerial photos. In other words, the north jetty was filled to the seaward tip before the large-scale beach nourishment began and the recent Sand Key nourishment did not result in any significant change of the beach condition at the jetty. Although it is reasonable to assume that the Sand Key beach nourishment projects could contribute more sand to the Johns Pass interior sedimentation, no apparent evidence can be identified from the time-series aerial photos.

4.2 Sedimentation Along Johns Pass

Comparing the bathymetry surveys conducted by USF CRL in 2019 and 2020 (Figure 16 and Figure 14), a sedimentation of roughly 1,200 cubic yards occurred seaward of the bridge. This rate is comparable with the rate (1300 cubic yards per year) obtained by Wang et al (2016) for the

regional sediment budget. Combined with the negligible net change landward of the bridge, the 1,200 cubic yards per year is used here as the infilling rate along the northside of the Johns Pass channel. The measured spatial patterns of sand accumulation and erosion are shown in Figure 36 through Figure 38.Overall, no persistent trend of sand accumulation was measured during the five-month period. Instead, patterns of erosion and deposition were measured. From December 2020 to February 2021, a distinctive pattern of deposition and erosion was measured (Figure 36). Considerable sedimentation was measured near the landward end of the Johns Pass bridge north piling, encroaching toward the boat basins. This landward movement of sand was caused by landward directed waves associated with wave breaking over the shallow shoal. Sand accumulation under the bridge was also measured.

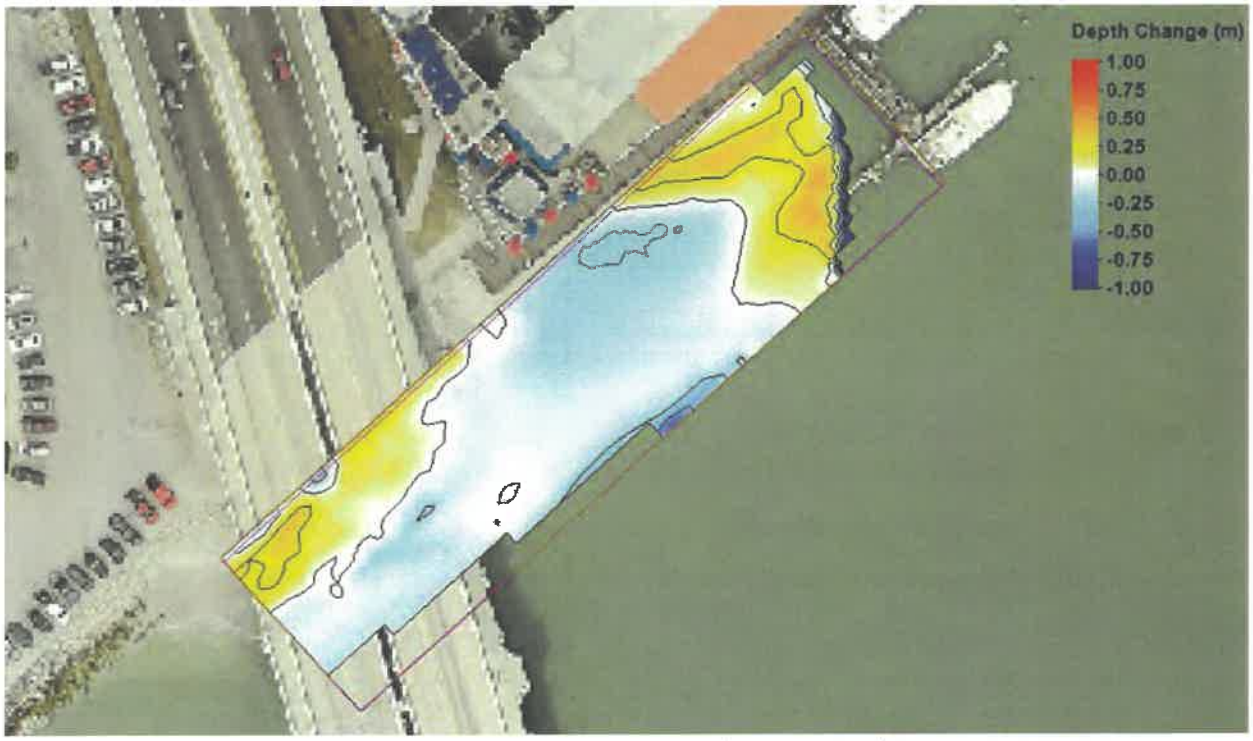

Figure 36. Sedimentation and erosion pattern measured between 12/22/2020 and 02/24/2021.

The sedimentation and erosion pattern measured between 02/2021 and 03/2021 (Figure 37) is more complicated than that during the previous period (Figure 36). However, the landward encroaching of sedimentation continued. Field observation during the survey showed that the sand had extended landward of the first boat dock and into the boat basin and was apparently influencing the boating operation. Also like the previous period, the encroaching sand came from the erosion of the shallow shoal from the seaward end.

Figure 37. Sedimentation and erosion pattern measured between 02/24/2021 and 03/29/2021.

The sedimentation and erosion pattern measured between 03/2021and 05/2021 (Figure 38) is quite different from those measured during the previous two periods (Figure 36 and Figure 37). The erosion in the immediate vicinity of the boat basin and the adjacent sedimentation might be caused by the boat operations.

The net sand-volume changes during the three periods are all negative indicating an overall loss of sediment, ranging from 100 cubic yards to 180 cubic yards. The net volume losses are quite small and likely within the range of survey uncertainties. Figure 38 shows the survey coverage. Although dense points were surveyed, the small net volume changes are likely within the range of interpolation uncertainties. Over the nearly 6-month monitoring period, no trend of sedimentation was measured landward of the bridge although considerable sediment redistribution occurred. This suggests that if sand removal is proposed as a mitigation measure, the entire shoal should be removed to prevent the rather rapid sand redistribution.

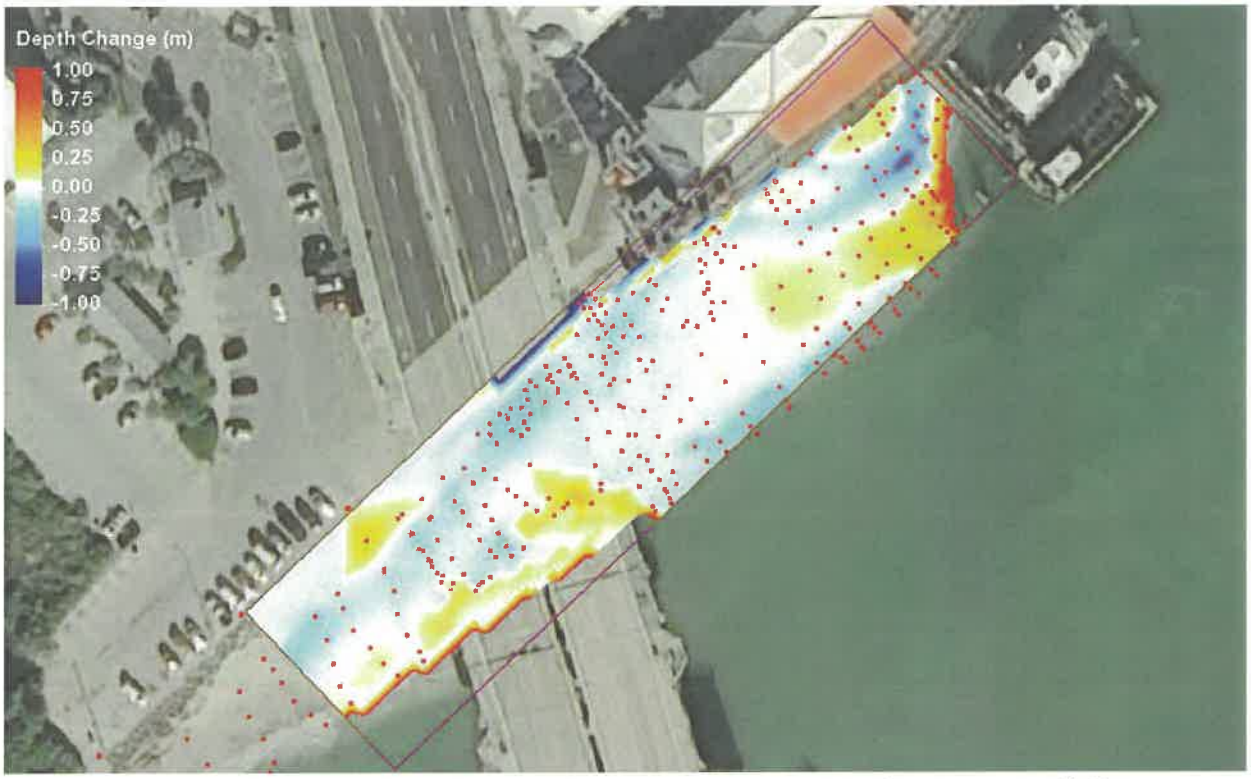

Figure 38. Sedimentation and erosion pattern measured between 03/29/2021 and 05/12/2021.

4.3 Modeled Flow Patterns

4.3.1 Modeled Flow Patterns under Existing Conditions

Tidal flow, especially flood tidal flow, plays a major role in transporting and depositing sand in the project site. Figure 39 and Figure 40 illustrate the modeled flow field under a peak ebb flow condition and a peak flood flow condition, respectively. The upper panels show the entire Johns Pass channel and the lower panel show a zoomed-in view of the project site. Overall, the ebbing flow follows a rather different pattern than the flooding flow (Figure 39 and Figure 40 upper panels). The ebb current, which is also often referred to as the "ebb jet," extends much farther into the sea as compared to the spatial pattern of the flood current. The flood flow tends to converge into the inlet with a faster velocity along the beach. This alongshore flowing flood current, in addition to wave generated longshore sand transport, provides the main mechanism to bring sand into the inlet channel. The sand that is brought into the channel is subsequently flushed out by the ebb current and may deposit on the large ebb shoal. The sand can also be brought further into the bay and deposit on the flood shoal. The spatial flow pattern within the inlet channel controls where the sand may be transported to and deposited at. The lower panels of Figure 39 and

Figure 40 illustrate zoomed-in view of the peak ebb and flood flows in the main channel. The tidal flow, both ebb and flood, in the vicinity of the project site, i.e., along the northern side of the channel, is considerably weaker than flow in other areas of the channel. This generally weak tidal flow explains the sedimentation in that area. The weak flow might also be the reason that the marinas were installed in that area in the first place. The tidal flow at the entrance and in the vicinity of the marina is further analyzed in the following.

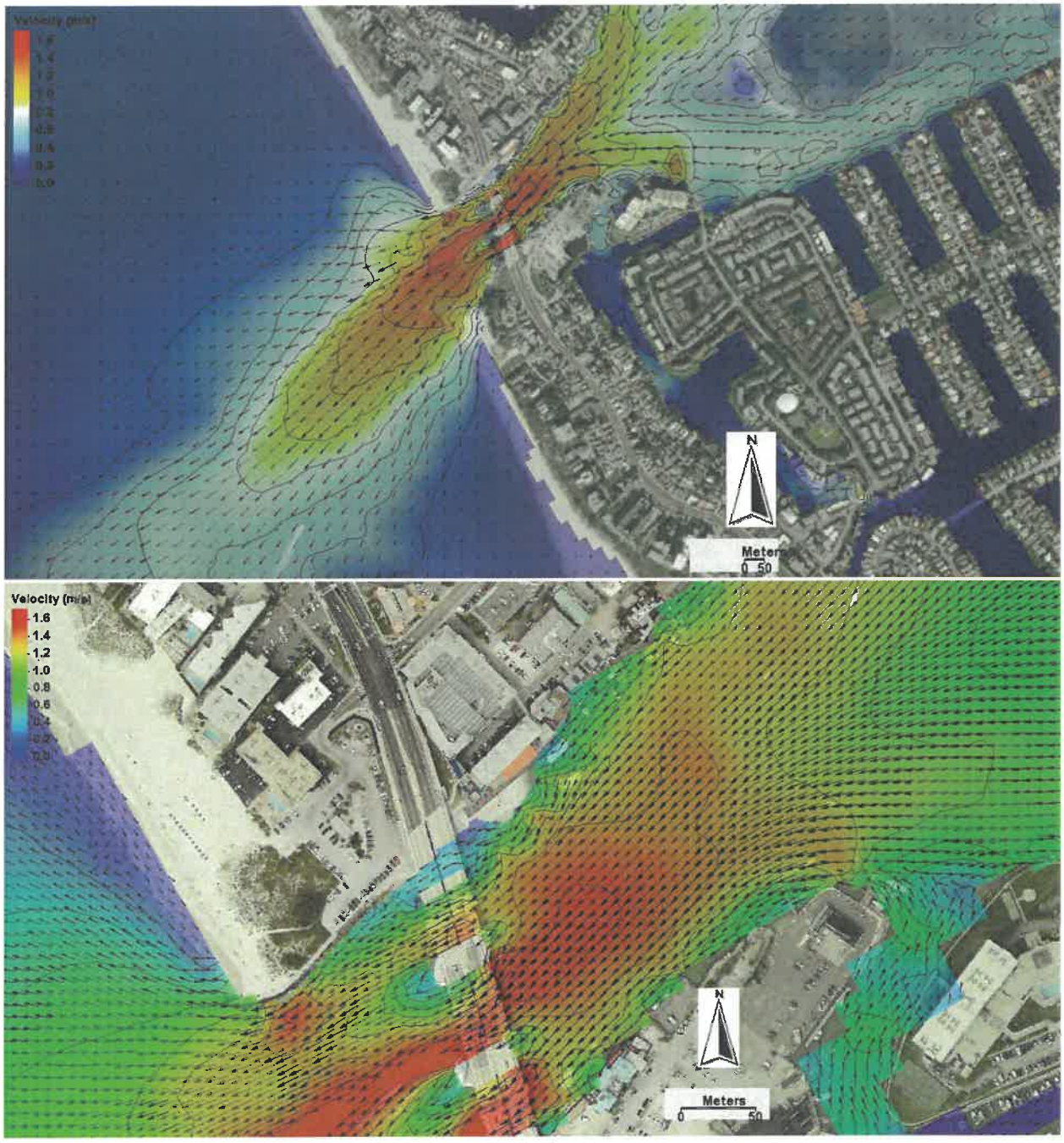

Figure 39. Computed flow field under a peak ebbing tide.

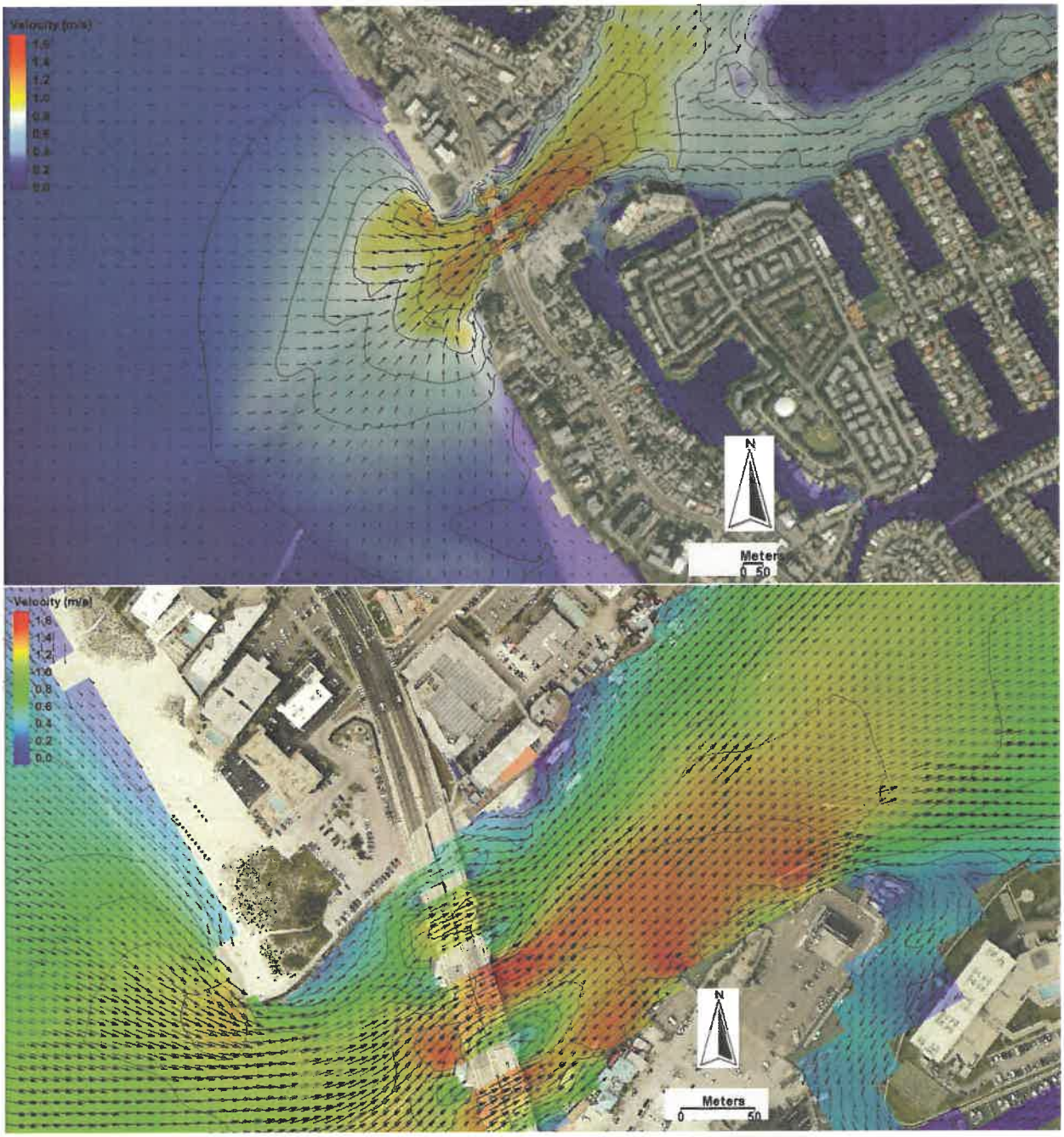

Figure 40. Computed flow field under a peak flooding tide.

Figure 39 and Figure 40 illustrate a snapshot of the flow field under peak ebb and flood conditions respectively. Here, temporal variations of tidal flow at six strategically selected locations are discussed. The six locations, referred to as "current stations", along the northern side of the entrance and in the area of sedimentation are shown in Figure 41. Station 1 is located at the entrance to Johns Pass. Stations 2 and 3 are further insider the channel. Stations 4 and 5 are in the area of active sedimentation. Station 6 is located immediately landward of the sedimentation area. The flow conditions at these six locations should provide insights on the trend of landward or seaward sand transport by tidal currents.

Figure 41. Six locations where time-series of tidal flow are extracted from numerical model

The computed tidal flow fluctuations over a ten-day period at the six stations are shown in Figure 42 through Figure 47, where positive velocity represents flood current and negative represents ebb current. Strong tidal flow was computed at Station 1, reaching over 1 m/s during

both flooding and ebbing tides (Figure 42). At this location, the average flooding current over the 10-day period is 0.66 m/s, which is faster than the average ebbing current of 0.57 m/s. This is consistent with the flooding and ebbing flow pattern as shown in Figure 39 and Figure 40. The converging flood current (Figure 40 upper panel) at the entrance results in an overall faster velocity than the jetting ebb current (Figure 39 upper panel). This stronger flood flow tends to transport sand into the inlet channel and therefore constitutes a major mechanism for interior sedimentation.

At station 2 (Figure 41 and Figure 43), the ebb current reaches over 1 m/s, which is much stronger than the flood current that is generally slower than 0.5 m/s. The average ebb flow over the 10-day period is 0.56 m/s, more than 2.3 time the average flood flow of 0.24 m/s. The much stronger ebb flow should lead to effective flushing of sand entering the inlet. In other words, imbalanced ebb and flood currents at this entrance location may serve to effectively prevent sand from being transported further into the inlet. The much stronger ebb flow is related to the bridge pilings.

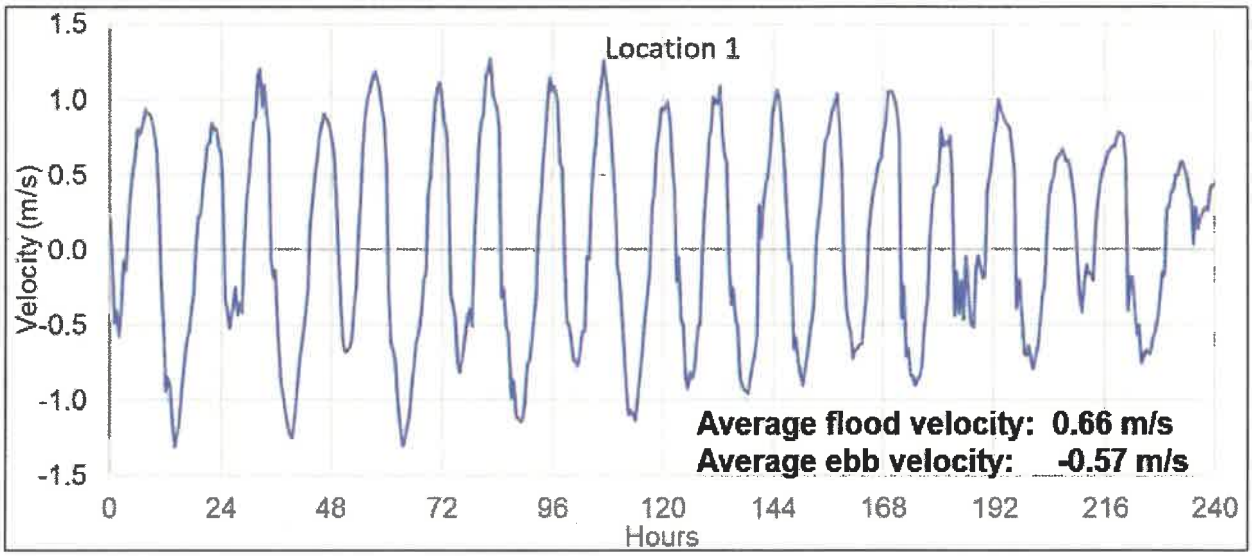

Figure 42. Computed tidal flow velocity at Station 1 (see Figure 41 for the location).

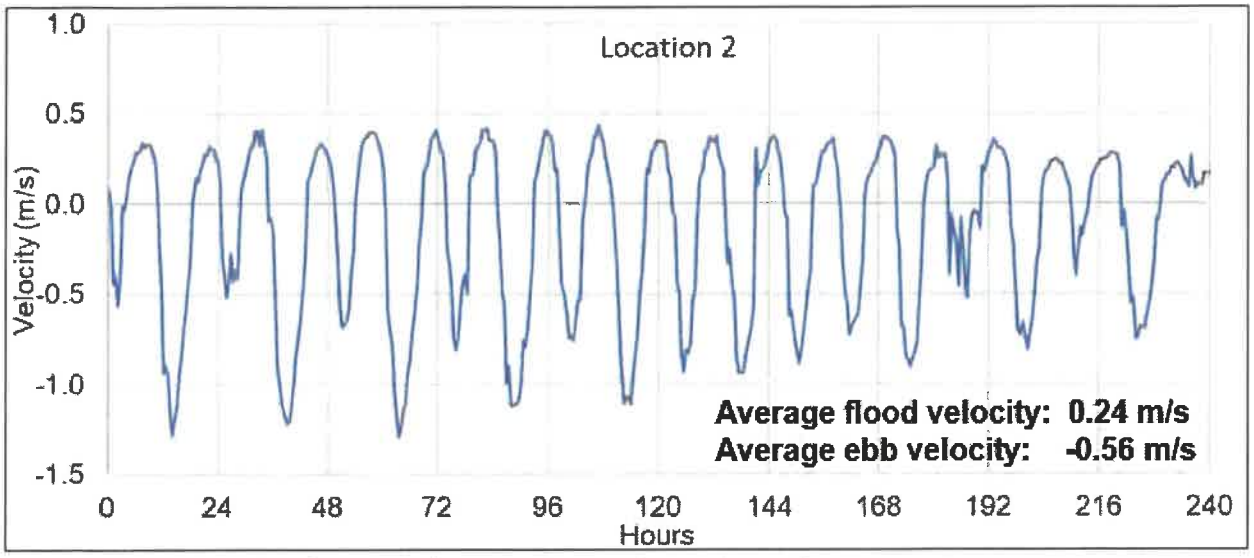

Figure 43. Computed tidal flow velocity at Station 2 (see Figure 41 for the location).

As compared to the two seaward stations discussed above, the tidal flow at Station 3 is considerably weaker (Figure 41 and Figure 44), with flood and ebb velocity mostly slower than 0.4 m/s and 0.6 m/s, respectively. The average ebb current is 0.28 m/s, or about 27% faster than the average flood current of 0.22 m/s. Therefore, similar to Station 2, there is still a tendency of ebb flushing at this location.

Station 4 is located directly seaward of the bridge (Figure 41). The computed tidal current at this location is significantly different from that at Station 3. The flood current reaches nearly 0.7 m/s, which is much stronger than the ebb current which is mostly slower than 0.4 m/s (Figure 45). The average flood flow is 0.31 m/s, which is more than twice the average ebb flow over the 10-day period. These measurements show the ebb flushing tendency at the two further seaward locations is replaced by a strong tendency of landward transport, which would directly contribute to the sedimentation at the project site. The flood-current skew also occurs at Station 5, directly landward of the bridge (Figure 46). The tendency for landward sand transport by a dominant flood current therefore continues across the bridge, and likely to the seaward edge of the marina. Stations 4 and 5 are located in the present sedimentation area with rather shallow water. Both stations, particularly Station 5, would become emerged near low tide, which results in no velocity (referred to as "drying" in the numerical modeling). This is the reason for the gaps in the velocity curves.

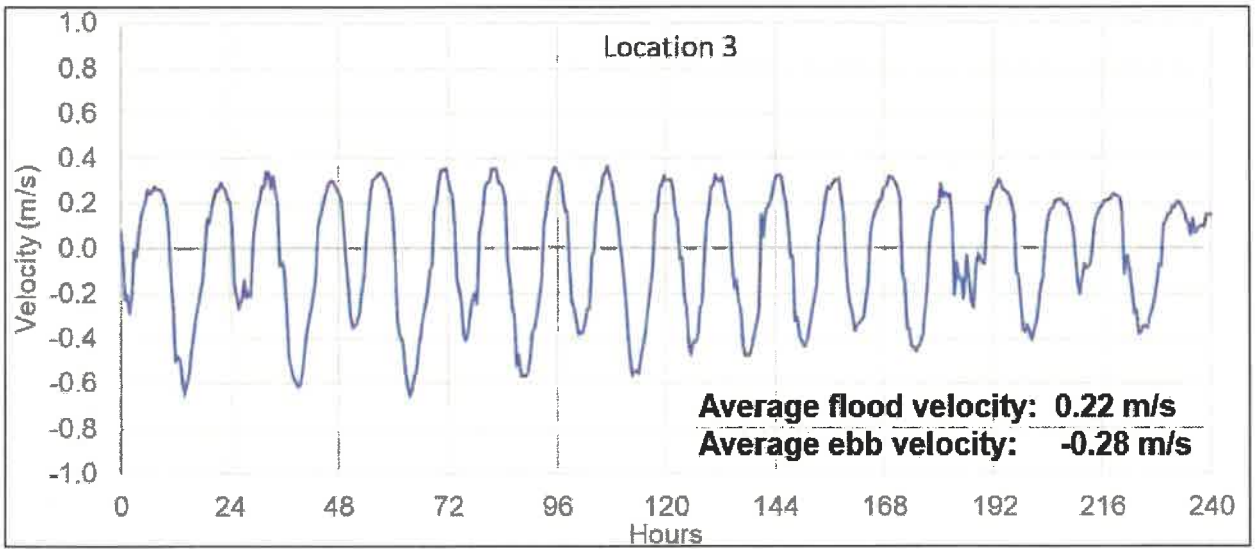

Figure 44. Computed tidal flow velocity at Station 3 (see Figure 41 for the location).

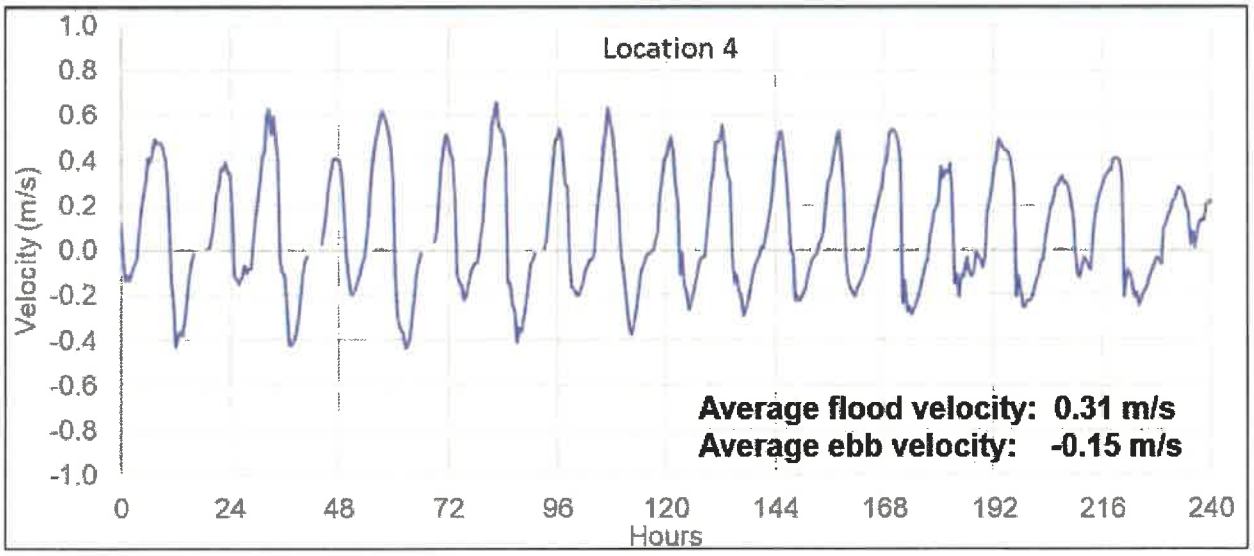

Figure 45. Computed tidal flow velocity at Station 4 (see Figure 41 for the location).

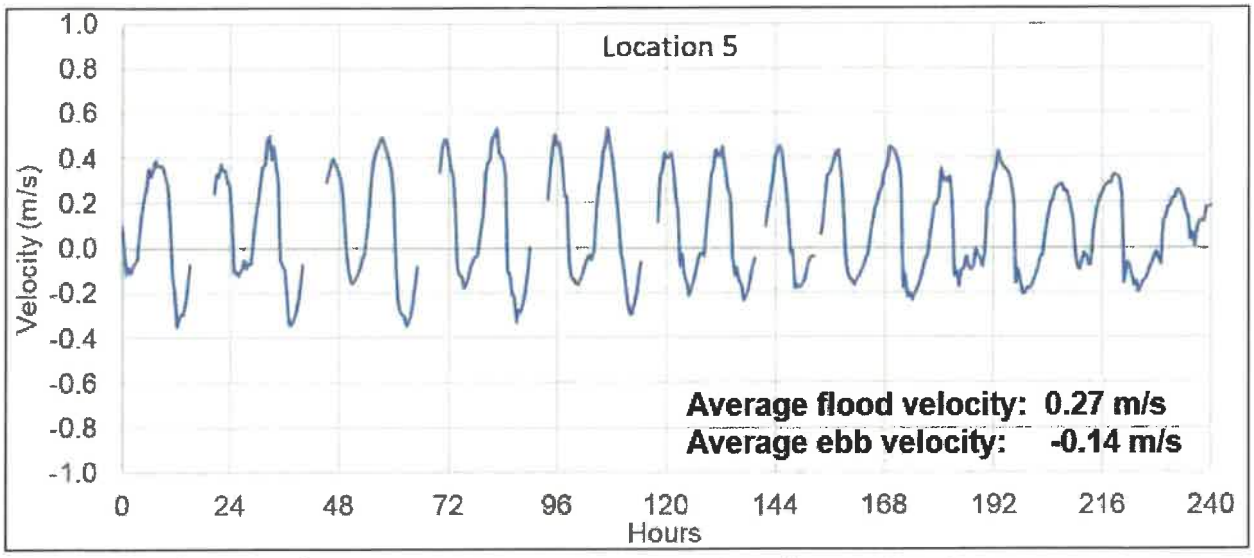

Figure 46. Computed tidal flow velocity at Station 5 (see Figure 41 for the location).

The landward transport preference ends at Station 6 (Figure 41 and Figure 47), where the ebb flow becomes much faster than the flood flow. The ebb flow reaches near 1 m/s versus the flood flow which was predominately 0.3 m/s. The average ebb current at Station 6 is 0.41 m/s, nearly 3 times faster than the average flood flow of 0.14 m/s. This ebb dominance may serve to prevent sand from being carried into the inlet farther.

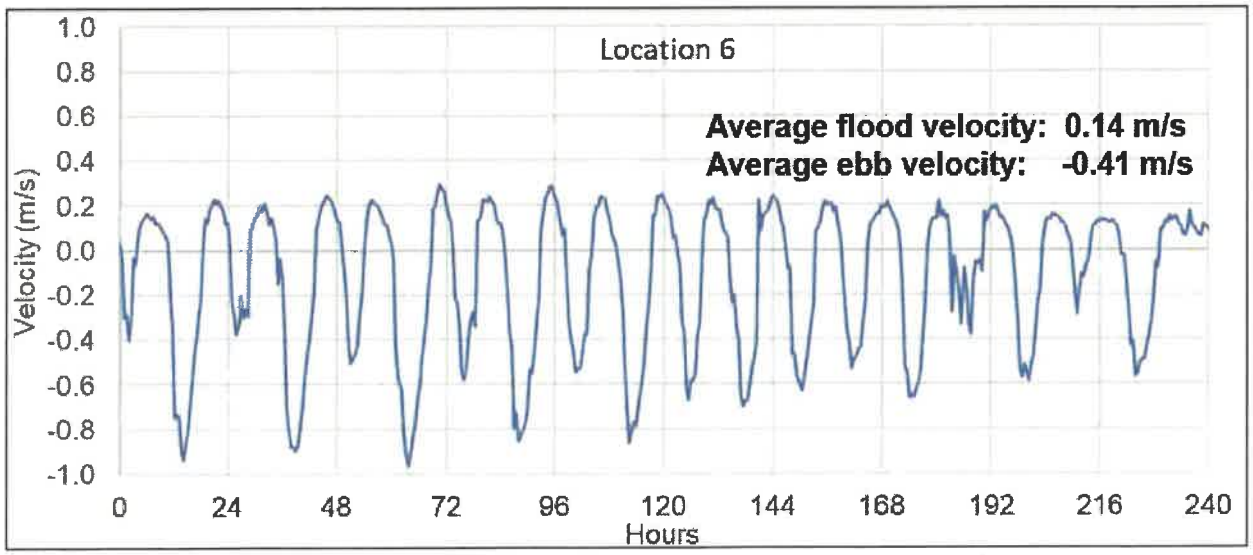

Figure 47. Computed tidal flow velocity at Station 6 (see Figure 41 for the location).

The imbalance of flood and ebb currents at the six locations along the north jetty as discussed above is summarized in a conceptual model shown in Figure 48. At the tip of the north

jetty (Location 1), the different spatial patterns of tidal current entering and exiting the inlet results in a stronger flood current at the entrance. This flood dominance, combined with wave-generated longshore currents and sand transport, tends to move sand into the inlet. This tendency of landward transport is met with an ebb dominance at locations 2 and 3. This strong ebb flushing may prevent, or delay, the sand from entering the inlet further. At locations 4 and 5 further inside the inlet and near the present sand pile, flood dominance resumes. This suggests that the sand presently there would not be flushed out of the inlet naturally by tidal flows. On the contrary, there may be a tendency to transport the existing sand further landward, as observed during the study period (Figure 36 and Figure 37). The strong ebb dominance at Station 6 serves to prevent the existing sand to be transported further into the boat basins landward to the east.

This conceptual model is used in this study to develop and evaluate various mitigation measures. It is worth emphasizing here that the conceptual model illustrated in Figure 48 does not consider wave forcing. Contributions of wave-induced currents are discussed in section 4.4.2.

Figure 48. A concept model for the tidal flow pattern directly related to the sedimentation at the project site.

4.3.2 Influence of the Bridge on Tidal Flow Patterns

Although the bridge does not have significant influence on Johns Pass hydraulics in terms of the tidal prism and overall flow pattern (Figure 39 and Figure 40, upper panels) based on the inlet management study (Wang et al., 2016), the pilings do have substantial influence on flow patterns directly adjacent to them. The pilings may also have considerable influence on wave propagation. Since the north most piling is at the location with interior sedimentation, its influence on the flow pattern and subsequently sediment transport and deposition potential were examined with the numerical model.

The influences of the bridge pilings on local flow pattern were examined by removing the pilings from the numerical model. The simulated flow patterns were then compared with the patterns including the bridge pilings. The difference can then be attributed to the bridge pilings. It is worth noting that the overall channel bathymetry for the model runs with and without bridge used the same bathymetry. It can be argued that the local channel bathymetry might change if the pilings were removed. However, it is beyond the scope of this study to estimate potential channel bathymetry adjustment associated with bridge piling removal. Most of the influence should be related to the obstruction of the bridge pilings to the tidal flow. Influence due to bathymetry adjustment should not be significant, particularly in terms of depth-averaged flow.

The modeled flow field under a peak ebbing condition without the bridge is shown in Figure 49 upper panel, with the lower panel illustrating the difference in velocity magnitude. Negative values indicate increased velocity with the bridge, positive values indicate decreased velocity. Compared to the existing condition (Figure 39 lower panel), the flow is more uniform across the entire channel without the bridge piling (Figure 49 upper panel), as expected. The flow between the pilings is significantly weakened due to the removal of the bridge since the inlet has no obstructions that can concentrate and block water flow. (Figure 49 lower panel).

Directly relevant to this sedimentation study is the substantially increased ebb flow velocity seaward of the bridge under the existing conditions with the pilings, where the stations 1, 2 and 3 are located (Figure 41). This faster ebb velocity would increase the flushing power in this crucial area that supplies the sand for the interior sedimentation. The presence of the bridge increased tidal flushing near the inlet entrance along the north jetty, as compared with the no bridge scenario. This ebb flow increase is caused by the specific orientation of the bridge relative to the channel. The

bridge extends at an oblique angle compared to the orientation of the inlet main channel. Therefore, the bridge pilings which are nearly 40 m long extend at an angle to the inlet bank, as apparent in Figure 49 lower panel. This angle funnels the ebb flow toward the north, resulting in increased velocity along the north jetty. In this aspect, the bridge improves the tidal flushing at a crucial location and should serve to slow the input of the sediment into the channel. This piling orientation results in a slightly decreased ebb velocity landward of the bridge.

The bridge also leads to an increase in flood current velocity at the northern portion of the entrance (Figure 50 lower panel). However, the flood velocity increase near the north jetty under flooding tide is considerably less than the increase under ebb phase. This results in a net increase of ebb flushing along the north jetty, as shown in Figure 43 and Figure 44.

In summary, the presence of the bridge does not directly contribute to increased tendency of sedimentation in the project area. On the contrary, the bridge increased the ebb tidal flushing along the north jetty, which should delay the sediment input to the project area. However, slightly reduced ebb flushing landward of the bridge would not contribute to the flushing of the existing sand pile there. It is worth noting here that a relatively large body of sediment already existed at the time the bridge construction was completed.

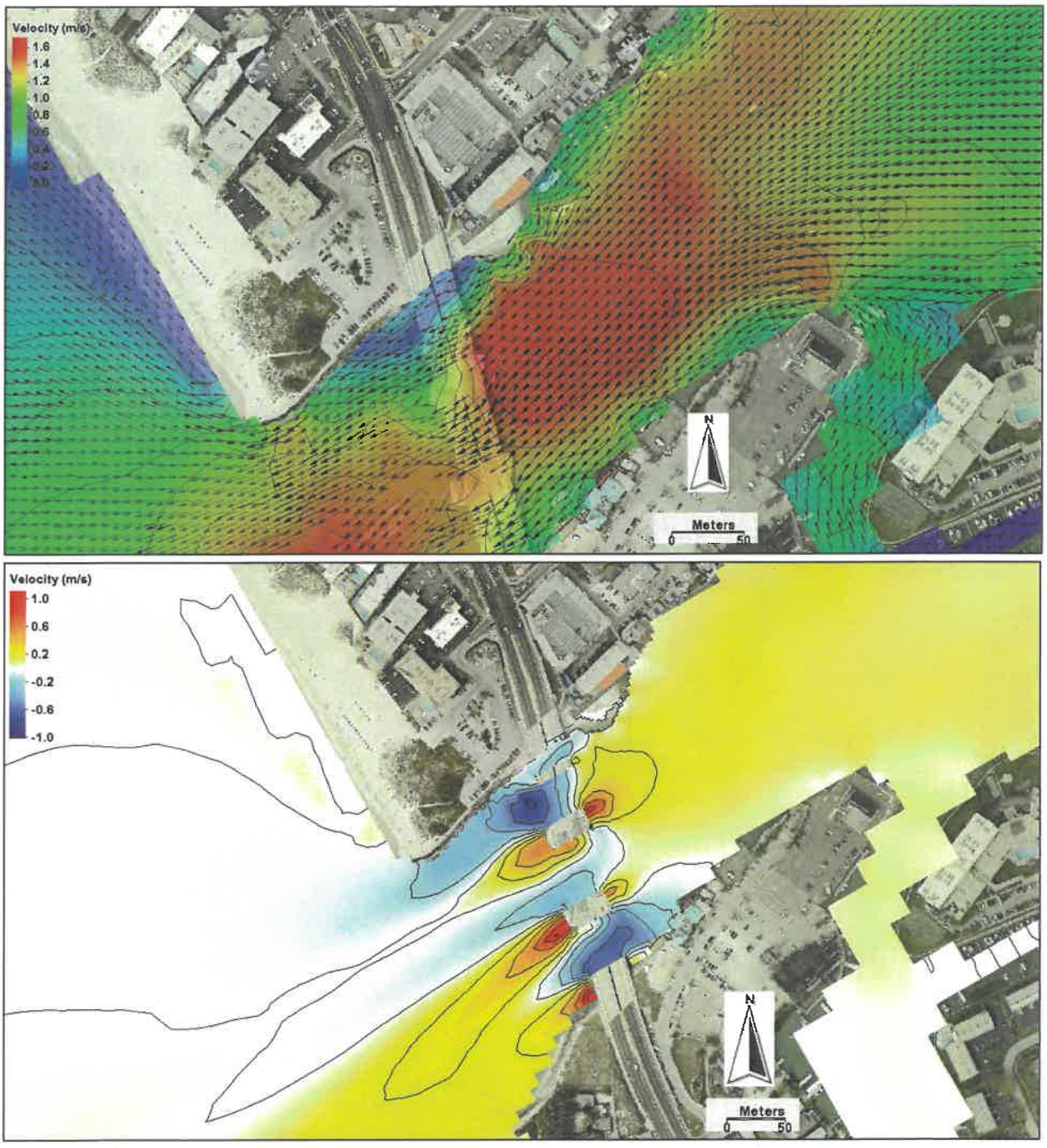

Figure 49. Upper panel: peak ebb flow without the bridge. Lower panel: difference between the flow field with and without the bridge.

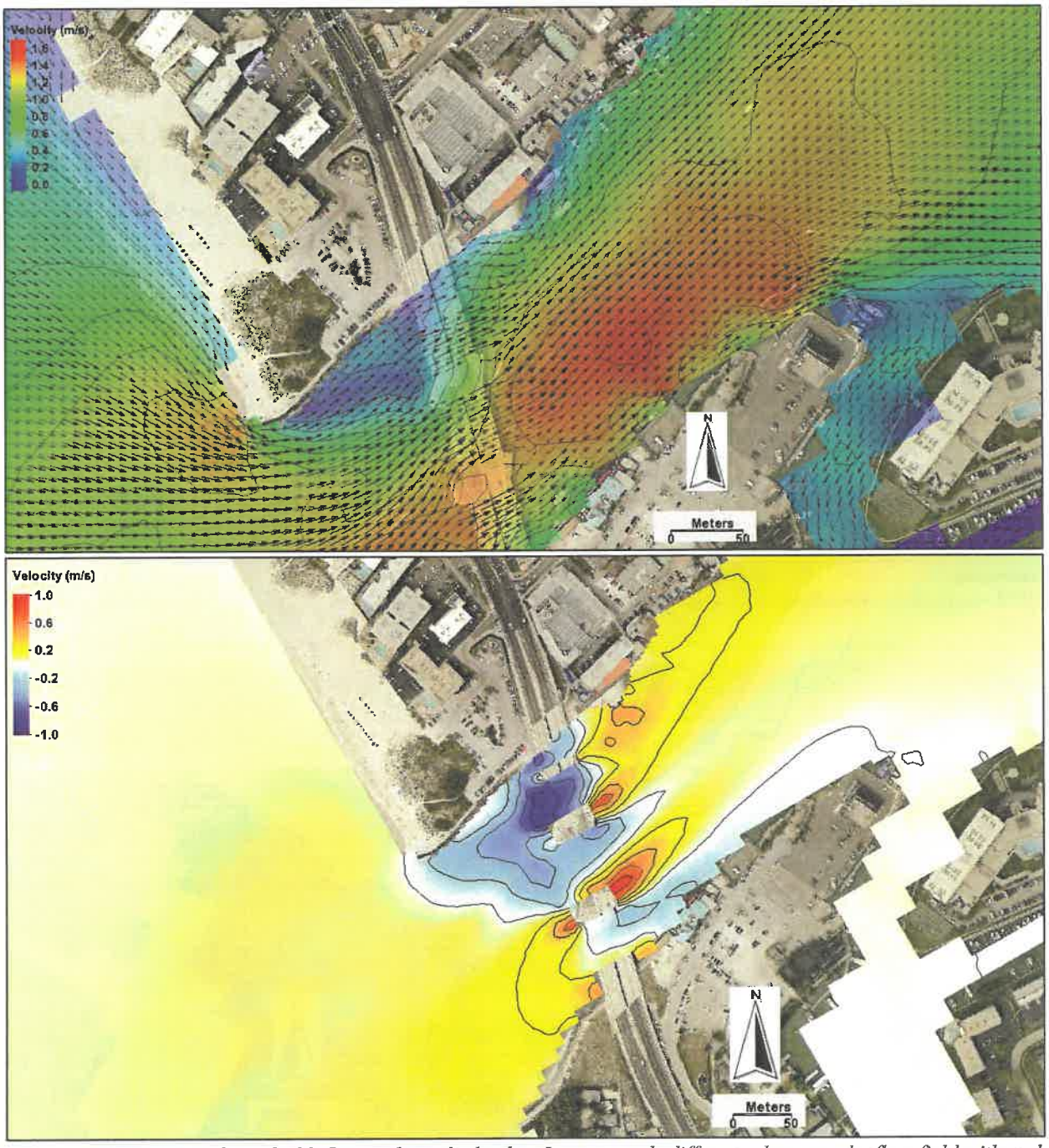

Figure 50. Upper panel: peak ebb flow without the bridge. Lower panel: difference between the flow field with and without the bridge.

4.4 Modeled Wave Field and Wave-current Interaction

4.4.1 Modeled Wave Field near the Inlet Entrance and within the Channel

Incident waves, particularly breaking waves, play a major role in initiating sediment motion. The sediment that is entrained by breaking waves is then transported by flood current into the inlet. In addition, wave-induced longshore current also contributes significantly to the sediment transport and deposition in the vicinity of tidal inlets. The numerical model constructed by this study also simulates wave propagation and longshore current.

The wave conditions in the greater study area were introduced earlier (Figure 4). The 15-year WAVEWATCHIII data from 2005 to 2020 were reanalyzed by this study to obtain input wave conditions for the numerical modeling. The waves were partitioned into sixteen 22.5-degree brackets based on incident wave angle. Eight of the brackets represent onshore-directed waves and are modeled here. The rest of the offshore-directed waves are not relevant for this sedimentation study. Here, the storm wave conditions, as represented by the average of the highest 5% waves in each angle bracket and corresponding wave period, referred to as the "95% percentile wave height", were used in the wave modeling. The 95% wave is often used to represent storm conditions (Lemke and Miller, 2020; Cheng et al., 2021). The input storm wave conditions for the numerical modeling are summarized in Table 1. Wave propagation in the vicinity of a tidal inlet is strongly influenced by tidal water level. High tide and therefore deeper water would allow more wave energy to propagate over the shallow terminal lobe and channel margin linear bar. Therefore, wave propagation at various tide levels were simulated. In the following, representative examples of wave propagation at low tide, mean tide, and high tide are discussed.

Table 1. Input storm wave conditions for numerical modeling.

Wave angle	151.25	173.75	196.25	218.75	241.25	263.75	286.25	308.75
95% height (m) H_{sig}	0.91	0.85	1.51	2.22	2.28	2.39	2.14	2.01
95% period (s) T_p	3.80	5.04	6.69	10.68	10.13	9.37	7.29	6.23
% occurrence	2.3%	15.2%	11.0%	6.9%	4.3%	9.7%	12.3%	10.0%

The Johns Pass channel has an orientation of roughly 225 degrees. The left three columns in Table 1 represent southerly approaching waves. The 218.75-degree wave approaches roughly perpendicular to the shoreline. The right four columns in Table 1 list northerly approaching waves which would drive southward longshore sand transport providing favorable conditions for interior

sedimentation. It is worth noting that significant refraction occurs as the wave propagates onshore. The offshore incident wave angle as listed in Table 1does not represent nearshore wave angles. Although all the waves listed in Table 1 were simulated, only three cases as highlighted in Table 1 are discussed here: the southerly incident 173.75-degree wave, the roughly perpendicular 218.75-degree wave, and the northerly 286.25-degree wave. The rest of the cases can be implied from the patterns of the three examples. In addition, wave propagation patterns at three water levels, 0.45 m below mean sea level representing low tide, mean sea level, and 0.45 m above mean sea level representing high tide are discussed.

The southerly incident waves tend to be lower than the northerly waves (Table 1). The 173.75-degree wave represent the most frequent incident wave occurring at 15.2% of the time. The modeled wave field is illustrated in Figure 51. Overall, this wave has little influence on the project area with wave height mostly lower than 0.2 m under all three tidal water levels. It is worth noting that the simulated wave represents the average of the highest 5% waves. The waves should be much lower than that illustrated in Figure 51 most of the time. Given that this wave tends to generate northward longshore sand transport and does not contribute directly to the sedimentation at the project site, this relative low southerly approaching wave, although occurring frequently, should not play a major role.

The shore-perpendicular 218.75-degree wave is much higher than the previous 173.75 wave, with a storm wave height of 2.22 m versus 0.85 m; although they occur less frequently, 6.9% versus 15.2% of time. The incident wave energy is significantly dissipated by the broad ebb shoal, which is controlled by water depth. The wave-energy dissipation is much greater under low tide (Figure 52 upper panel) than under high tide (Figure 52 lower panel), resulting in considerably higher waves at the mouth of the inlet and inside the channel at high tide. The higher waves along the north jetty at mean tide (Figure 52 middle and lower panel) can contribute significantly toward moving sand near the inlet mouth into the interior. This wave should be carefully considered in the design of the mitigation measures.

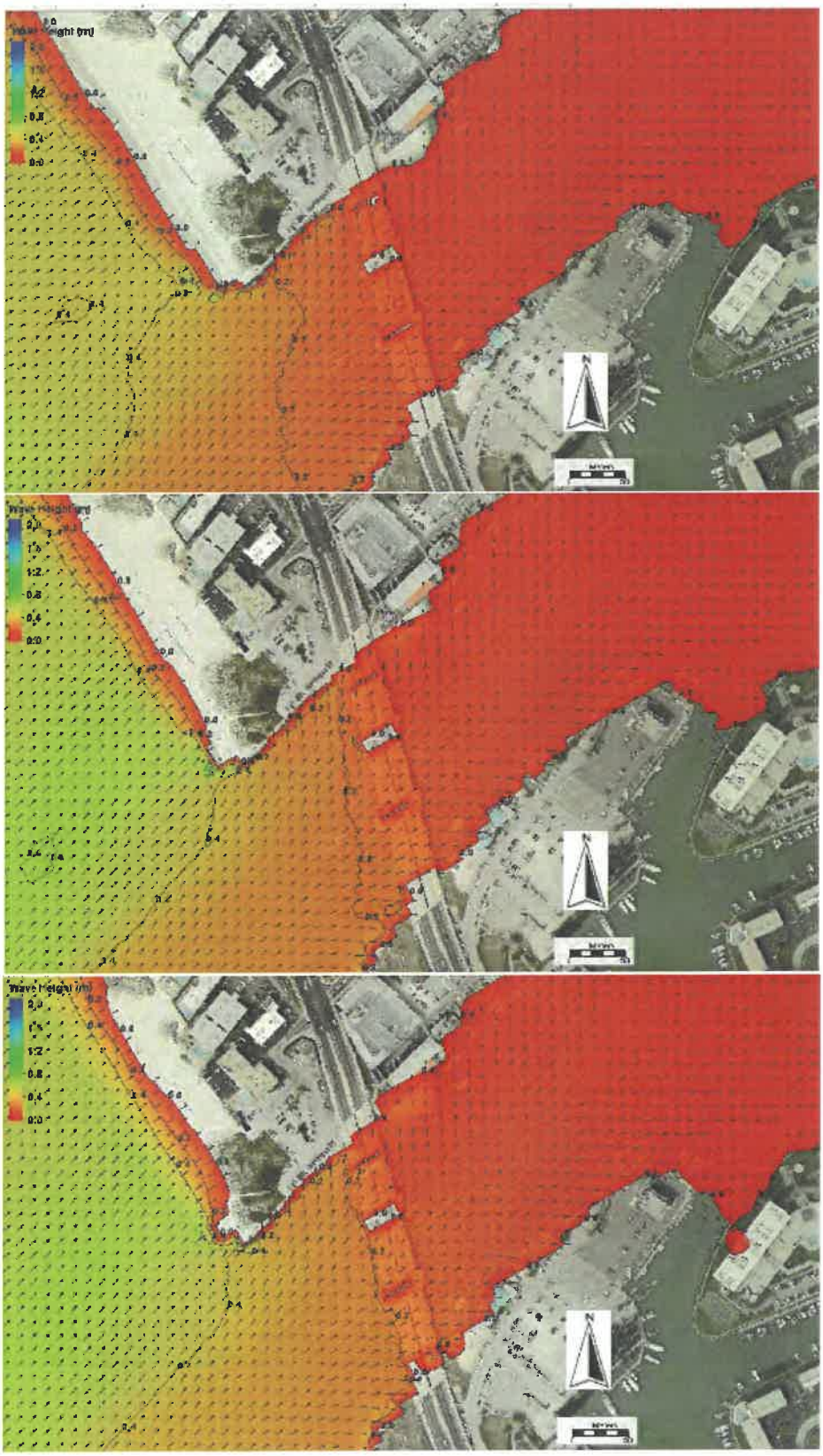

Figure 51. Modeled wave field for the 173.75-degree incident wave, Hsig = 0.71 m, Tp = 5.04 s. Upper panel: low tide; middle panel: mean tide; lower panel: high tide.

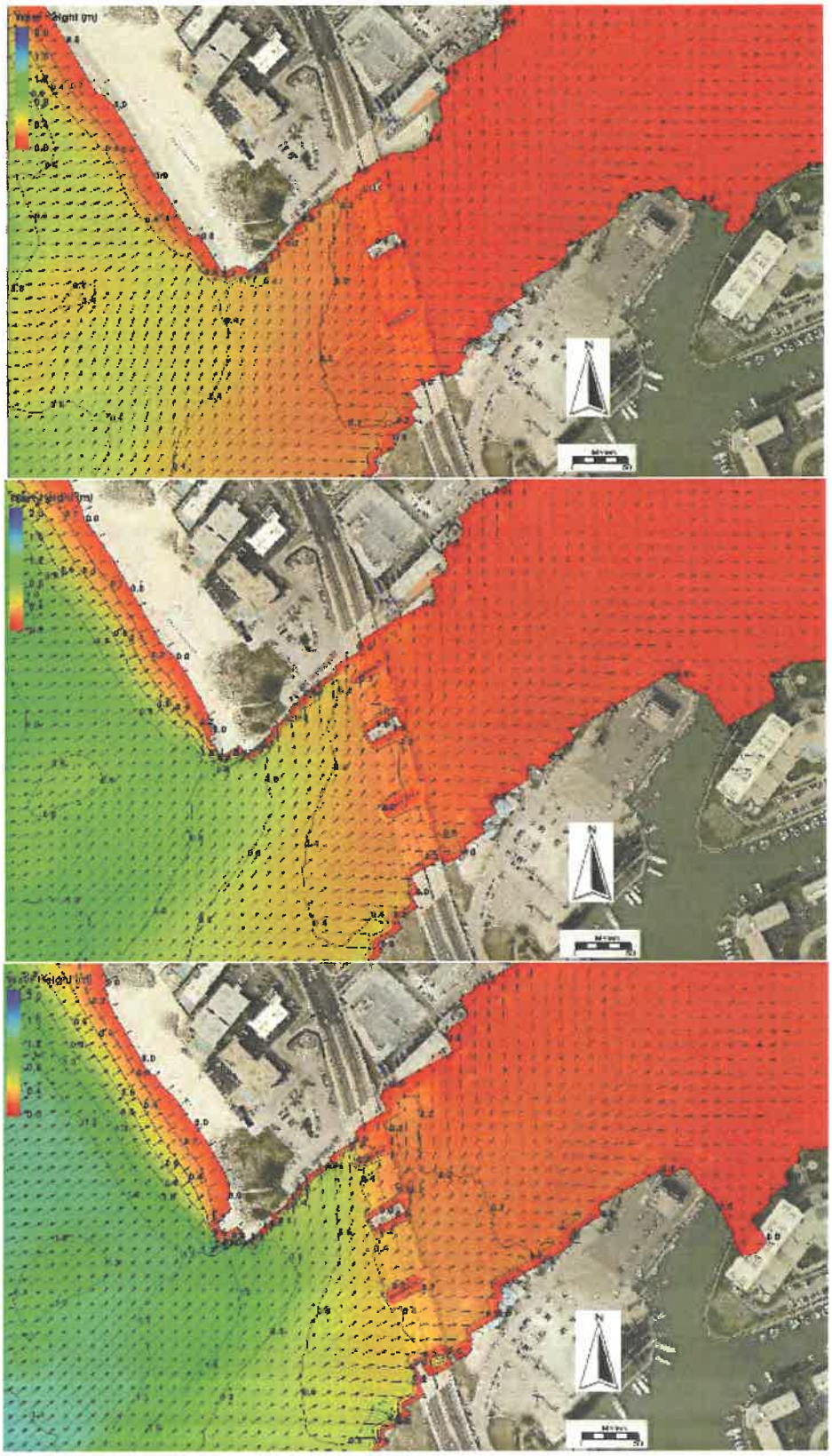

Figure 52. Modeled wave field for the 218.75-degree incident wave, Hsig = 2.22 m, Tp = 10.68 s. Upper panel: low tide; middle panel: mean tide; lower panel: high tide.

The northerly 286.25-degree wave can be quite high and with a frequent occurrence of 12.3%. The modeled wave height near the entrance of the inlet and in the interior can reach 1 m during this storm condition under high tide (Figure 53). In addition, this northerly approach wave would induce southward longshore sand transport, which can bring sand around the tip of the north jetty into the inlet. The high wave along the north jetty may induce active sediment suspension for the flood current to carry the sand further into the inlet. The wave patterns for the other three northerly approaching waves are similar to this case.

It is worth emphasizing that the active sediment suspension by larger waves does not necessarily relate to landward (toward the back bay) sand transport. Landward (eastward) sand transport is carried by flooding current during rising tides. By the same token, the active sediment suspension by high waves can also provide sand for ebb flushing. The situation can become more complicated when active wave breaking occurs. This is the case for the shallow shoal presently existing between the boat dock and the bridge. This area is mostly shallow subtidal to intertidal, to low supratidal. Active wave breaking occurs under almost all tidal stages. Field observation also indicate considerable contributions from boat wakes due to the heavy vessel traffic.

The landward (eastward) propagating waves associated with wave breaking over the mostly intertidal sand body between the marinas and the seaward edge of the bridge would actively transport sand landward toward the marinas. This is likely responsible for the landward redistribution of sand measured by this study and discussed above (Figure 36 and Figure 37). This wave breaking-induced sand transport is also a major mechanism for sand encroachment into the boat basin. Wave breaking can be eliminated by increasing the water depth. It is therefore important that the mitigation measure be designed such that the landward (eastward) wave-induced sediment transport be eliminated.

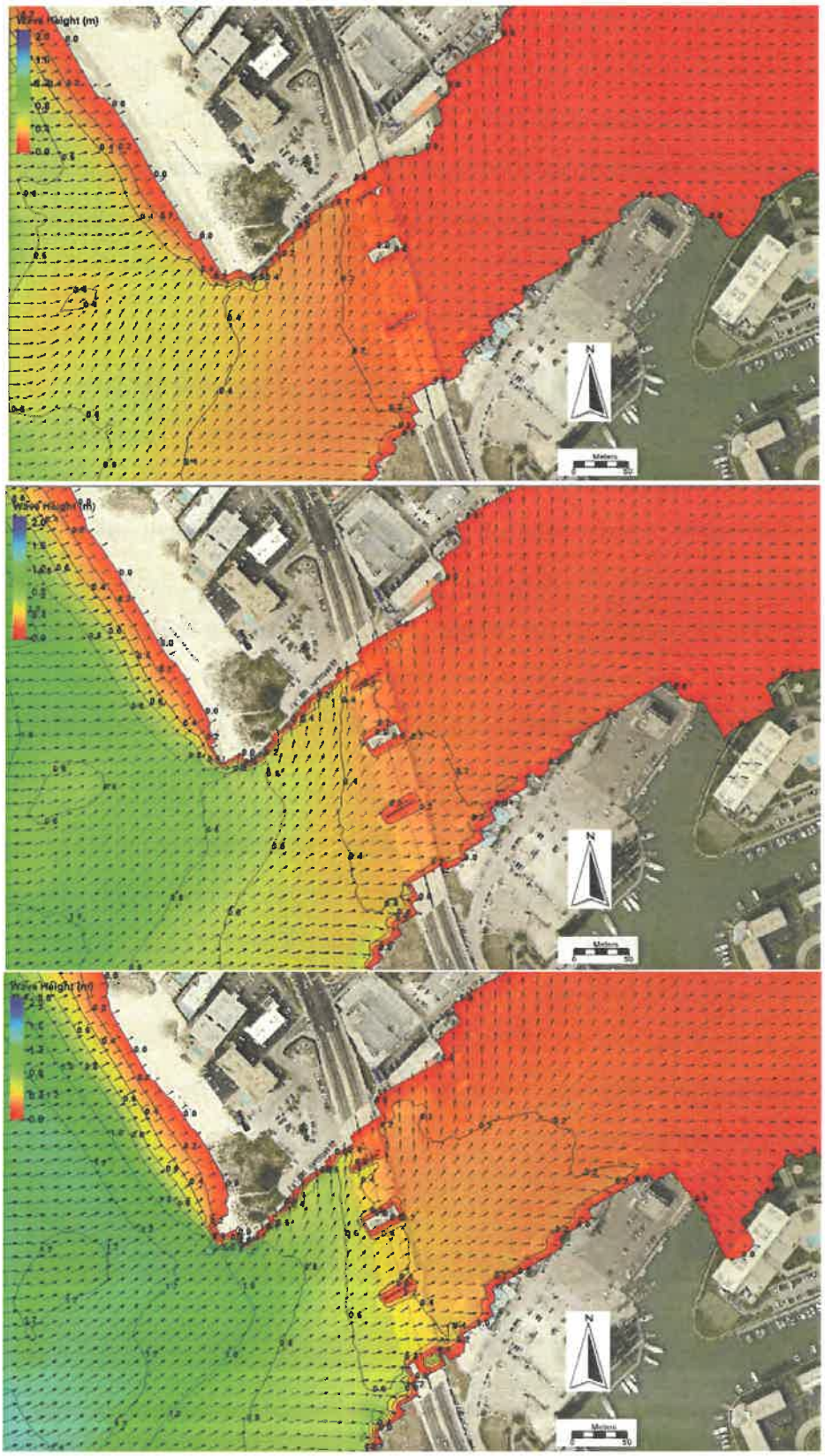

Figure 53. Modeled wave field for the 286.25-degree incident wave, Hsig = 2.14 m, Tp = 7.29 s. Upper panel: low tide; middle panel: mean tide; lower panel: high tide.

The pilings of the bridge effectively block incident waves from reaching landward of the Johns Pass bridge. Figure 54 shows the wave-height difference between existing conditions and the case with the bridge removed. Positive values (warm color) indicate the waves are higher without the bridge. As expected, for the three cases illustrated here the waves are about 0.1 to 0.2 m higher landward without the presence of the bridge. The wave shadow zones are larger for northerly approaching waves (Figure 54 lower panels) than for the southerly approaching waves (Figure 54 upper panels).

4.4.2 Modeled Wave-current Interaction near the Inlet Entrance and within the Channel

The breaking of oblique incident waves can generate a strong longshore current (Komar, 1996; Wang et al., 1998). This longshore current can interact with tidal flow and have significant influence on the morphodynamics of tidal inlets and their ebb shoals (Wang and Beck, 2012). When examining the combined forces of waves and tides instead of looking at them individually, a coupled wave-current model is necessary. Since breaking waves also play a major role in entraining sediment into the water column, the combined wave-tidal currents constitute an important factor in understanding the interior sedimentation. The contributions of three representative storm waves on tidal flow are examined here (Table 1 yellow highlights). These examples represent top 5% energetic conditions at each incident angle. The results from the other wave conditions (Table 1) can be inferred from these examples.

Active sediment suspension induced by the breaking of the above three energetic waves is expected. However, net sediment transport, which directly relates to erosion and deposition, is caused by temporal and spatial patterns of current, including both tide and wave-driven currents. Since the flow conditions at the six locations (Figure 41) are directly related to the trend of interior sedimentation, the following discussion focuses on the modification by wave forcing on the current fluctuations at the six locations. The results of coupled wave-current model runs are compared with the current-only model runs to examine the contribution of wave forcing. It is worth noting that the waves applied here represent energetic conditions that occur substantially less than 5% of the time.

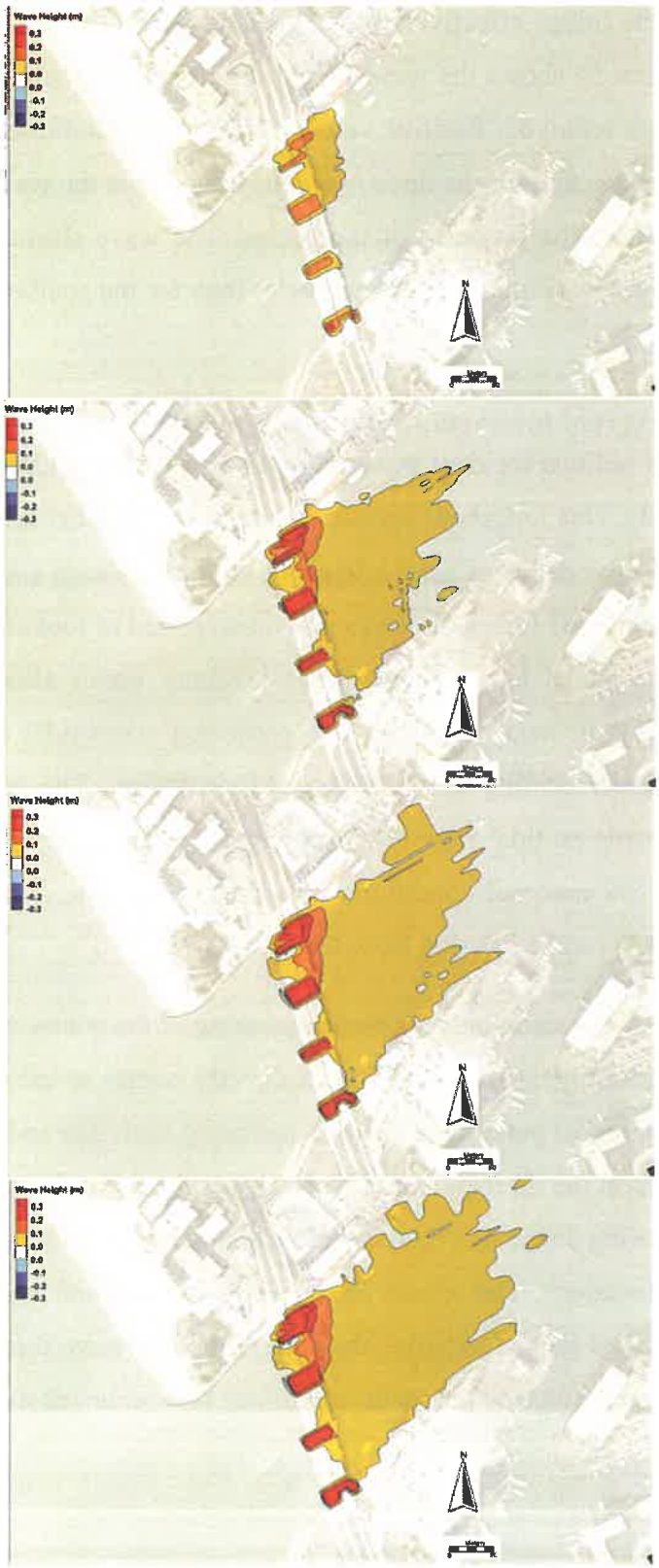

Figure 54. Wave-height difference at high tide between cases with and without the bridge. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees (see Table 1 for detailed wave information).

The wave forcing has significant influence on the computed current velocities at the six locations. Table 2 summarizes the percent changes of time-averaged velocities at the six locations under three incident wave conditions. The percent change was obtained by comparing with the tide-only case. Detailed comparison is shown in Figures A14 through A20 listed in Appendix III. Overall, wave forcing resulted in decreased ebb flow velocity when compared with the tide-only case. On the contrary, an increase in flood current velocity occurred for the southerly incident and channel-parallel wave, while the northerly approaching wave resulted in a decrease in flood velocity except at Station 1 (Table 2).

Table 2. Percent changes of current velocities at the six stations (see Figure 41for locations) under three incident wave conditions. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
1.5 - 196.3	Flood	13%	65%	30%	4%	2%	45%
	ebb	-24%	-20%	-13%	-21%	-12%	-12%
2.2 - 218	Flood	33%	68%	23%	8%	4%	65%
	ebb	-45%	-34%	-19%	-37%	-19%	-20%
2.1 - 286	Flood	8%	-28%	-19%	-4%	-4%	-3%
	ebb	-35%	-22%	-22%	-33%	-41%	-12%

The three storm wave conditions (Table 1 yellow highlights) superimposed on the tidal fluctuations included the southerly incident wave at 196.25 degrees with a significant wave height of 1.51 m and a peak wave period of 6.69 s (labelled as 1.5-196.3 in Appendix III Figures A15 through A20), the channel-parallel wave at 218.75 degrees with a significant wave height of 2.22 m and a peak wave period of 10.68 s (labelled as 2.2-218.7 in Appendix III Figures A15 through A20), and the northerly approaching wave at 286.25 degrees with a significant wave height of 2.14 m and a peak wave period of 7.29 s (labelled as 2.1-286 in Appendix III Figures A15 through A20). In the illustrations Appendix III (Figures A15 through A20), the computed velocities under tidal-only case are also plotted to serve as comparisons to identify contributions from wave-induced current.

At Station 1 (Figure 41 and Appendix III Figure A15), the ebb velocity decreased up to 45% for the channel-parallel incident wave. For the northerly approaching wave which plays a major role in bringing sediment into the inlet channel, the ebb velocity decreased 35% suggesting a significant reduction of ebb flushing due to the wave forcing. A modest 8% increase in flood velocity would enhance inlet-ward sand transport. It is worth noting that the values listed in Table 2 represent storm wave conditions at spring high tide. Therefore, they should represent approximately maximum values.

At Station 2 (Figure 41 and Appendix III Figure A16), for the southerly and channel-parallel incident waves, the 20-34% decrease in ebb velocity was accompanied by a more than 60% increase in flood current. This would significantly reduce the ebb flushing potential at this crucial location. However, for the more important northerly approaching waves, both flood and ebb velocities were reduced by the wave forcing. A similar trend of change occurred at Stations 3 and 4 Figure 41 ,Appendix III Figure A17 and Figure A18), although with different percentages.

At Station 5 (Figure 41 and Appendix III Figure A19), wave forcing has minimal influence of less than 5% on flood velocity. A rather large decrease of ebb velocity of 41% occurred for the northerly incident wave, which would enhance the landward sediment transport. At the landward most Station 6 (Figure 41 and Appendix III Figure A20), significant increase of flood velocity occurred for the southerly and channel-parallel incident waves, accompanied by a 12-20% decrease in ebb velocity. This, again, would result in reduced ebb flushing.

In summary, although with some minor variations, wave forcing tends to enhance landward sand transport due to increased flood velocity as compared to the tide-only case. This enhanced landward sand transport is accompanied by reduced ebb flushing due to decreased ebb velocity. Therefore, wave forcing plays a significant role in bringing sediment into the channel interior and should be carefully considered in developing the mitigation alternatives.

5.0 Mitigation Alternatives for the Channel Interior Sedimentation

5.1 Summary on the Cause of the Interior Sedimentation

Interior sedimentation along the updrift bank of a tidal inlet is common, with or without human influences. This is demonstrated by interior sedimentation observed at other inlets, e.g., the neighboring Blind Pass (Figure 55). Sediment accumulation occurred near the inlet entrance at the beginning of the winter season, and subsequently migrated landward (eastward). At Johns Pass, interior sedimentation at the project site is visible on aerial photos taken both before and after the intense human engineering activities. Interior sedimentation is the morphologic result of longshore moving sand being carried into the tidal inlet by the flooding current and settles in the part of the channel where current velocity decreases. This natural process constitutes the fundamental cause of the interior inlet sedimentation independent of the engineering changes.

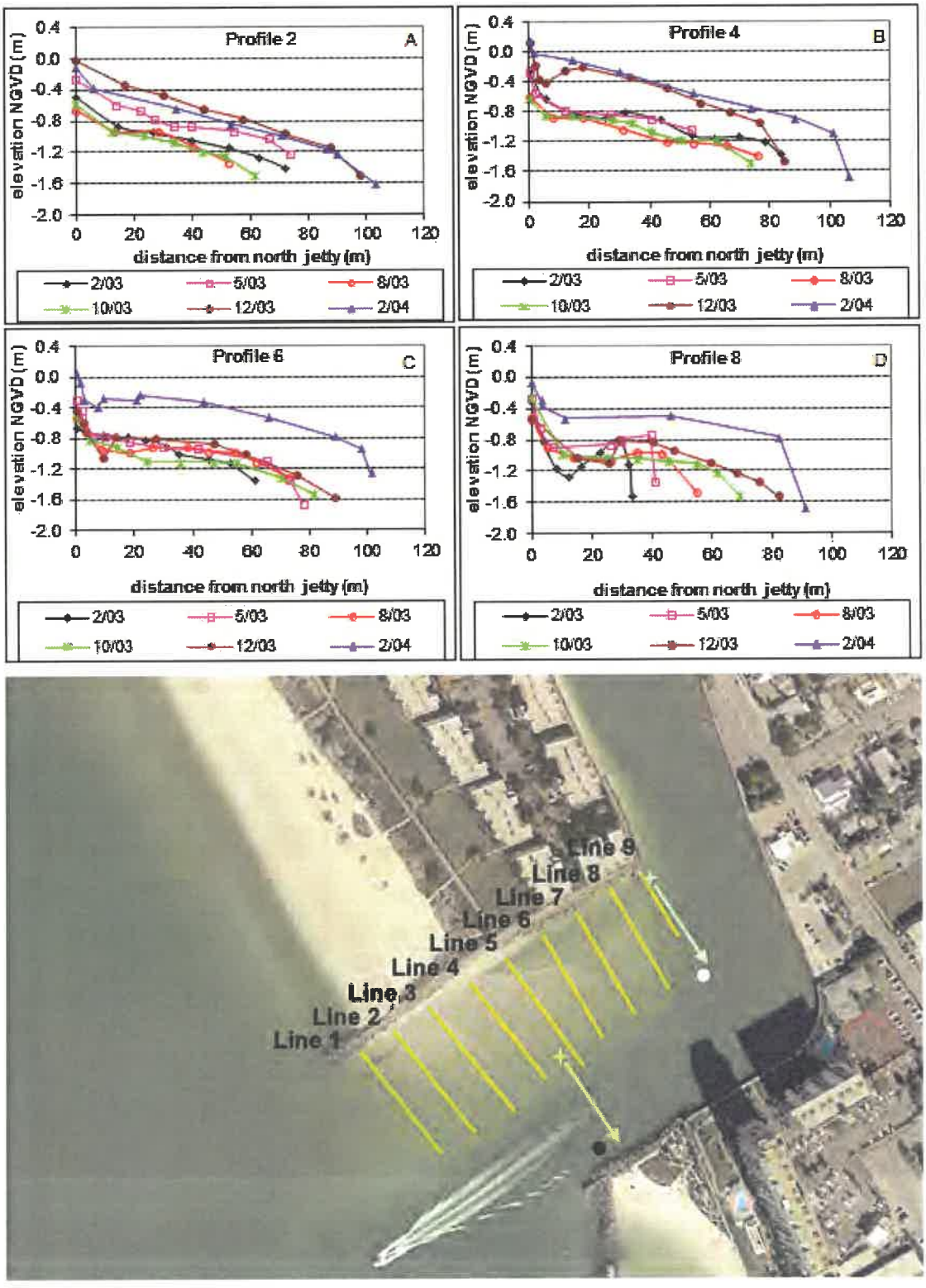

Figure 55. Profiles from the monthly survey at the entrance channel of Blind Pass (Top). Locations of the profiles are shown in the bottom panel.

The natural processes can be altered significantly by various engineering activities. At Johns Pass, the following anthropogenic activities and their influence on the interior sedimentation are discussed:

1) channel dredging and re-alignment;
2) nearby beach fill;
3) cross-channel structures, the bridge in this case;
4) the numerous boat docks and pilings; and
5) inlet jetties.

Shortly before and after the authorization of Johns Pass as a Federal channel, the inlet was dredged frequently in the 1960s (Appendix I), likely with the main goal of improving the channel navigability. The exact dredging footprints of these earlier projects are not accurately documented. It is reasonable to believe that a large amount of the channel interior sedimentation was removed by the dredging events in the 1960s and the construction of the north jetty and the seawalls. A dredge-pit looking feature can be observed on the 1960 aerial photo (Figure 31). Although not directly related to this project on interior sedimentation, it is worth noting that the dredged channel through the terminal lobe (also referred to as outer bar) along the seaward edge of the ebb shoal was quite visible on the 1969 and 1971 aerial photos effectively straightened and re-oriented the Johns Pass exit channel (Figure 33 and Appendix II Figure A1). This channel straightening and re-alignment contributed to the substantial shoreline change along the downdrift Sunshine Beach in the 1970s and 1980s, as discussed in Wang et al. (2016).

Numerous beach nourishment projects were conducted along the Sand Key beaches north of Johns Pass (Appendix I). The nourishment projects to the north and updrift of Johns Pass were considered for impact to interior sedimentation at the project site. Large scale beach nourishment on Sand Key started in the late 1980s, with a total of 9.3 million cubic yards of sand placed. The south end of the nourishment area is about 3 miles north of Johns Pass. The Sand Key beach nourishment did not result in an observably shallower and larger channel margin linear bar (Appendix II Figures A7 through A14), as compared to the case before the nourishment (Figures 26 through 33 and Appendix II Figures A1 through A6). It is acknowledged here that the channel

margin linear bar is not visible in all the aerial photos and its spatial extent is influenced by the tide stage at which the aerial photos were taken. However, if an obvious trend exists, it still should be identified from the 24 aerial photos. As for the state of Madeira Beach directly north of the inlet, it filled to the tip of the Johns Pass north jetty roughly one year after the jetty was completed in 1961 and remained filled ever since. Therefore, no direct evidence can be found indicating that the Sand Key beach nourishment projects have significantly changed the morphology of the direct sand sources to the interior sedimentation. In other words, the Johns Pass interior sedimentation is not a direct consequence of Sand Key beach nourishment since the late 1980s because it occurred before the nourishment projects.

Over the past 90 years, three bridges have been built across Johns Pass at different times. The first bridge was located further landward of the past and present areas of sedimentation (e.g., Figure 29 and Figure 30). This first bridge was removed and replaced by the second bridge in 1970. The second bridge was located at roughly the same location as the present bridge. During its life span from 1970 (Appendix II Figure A1) to roughly 2007 (Appendix II Figure A11), sedimentation at the project area became visible in the very late 1990s. Sand accumulation in the vicinity of the bridge became most distinctive near the completion of the third bridge in 2010 (Figure 34). Given the fact that the present bridge is located in the middle of the sand pile, its interaction with the sedimentation should not be ignored. The numerical modeling results, as discussed above, illustrate that the present bridge-piling configuration actually enhances ebb flushing along the north jetty (Figure 49), which would delay the landward sand transport. Furthermore, the wave modeling results show that the pilings, also serve to reduce wave energy arriving at the project site (Figure 54). Overall, the modeling results indicate that the present configuration of the bridge does not enhance landward (eastward toward the marinas) sand transport nor promote further sedimentation. Based on the 2010 aerial photo, the bridge construction may have led to sand accumulation in its immediate vicinity. However, based on the modeling results, the interaction between the present bridge and the current-wave fields should not promote interior sedimentation.

The influence of the elevated boat docks and their associated pilings are too small scale to be incorporated in the numerical modeling. The smallest grid size of 2.5 m (8.2 ft) is too large for these features. Based on qualitative field observations and given the fact that these features are

located mostly landward of the sand pile, their influence on the interior sedimentation should not be significant.

Jetties were constructed on both sides of Johns Pass. In general, jetties are designed to prevent sand from entering the entrance channel and therefore stabilize the inlet. The Johns Pass north jetty was installed quite early, in 1961, likely with the goal of improving navigation. Sand deposition at the mouth of the inlet was apparent from the aerial photos in the 1950s and before. Based on the time-series aerial photos, the north jetty appears to have achieved the goal of stabilizing the north bank. The likely dredging associated with the north jetty and seawall constructions seem to have kept the channel free of emergent sand body for over 30 years till the early 1990s. However, the north jetty was filled to the tip one year after its completed and remained full for the past 60 years. Therefore, the north jetty has not been blocking all the sand from entering the inlet. The south jetty was extended in 2000 with the main goal of mitigating the aggressive erosion at Sunshine Beach and extending the life of the nourishment projects there. The influence of south jetty on the sedimentation along the north side should not be significant.

5.2 Alternatives for Mitigating the Interior Sedimentation

Based on the above understanding of the cause of interior sedimentation and the historical evolution of the sand body as observed from time-series aerial photos, it is proposed here that local removal of the sand accumulation should be the main approach. Local sand removal also should be the least likely to induce negative impacts at other parts of the Johns Pass system, which is a crucial consideration in evaluating the alternatives. Seventeen cross sections were extracted from the most recent bathymetry data (Figure 56). In the following, these 17 cross-channel profiles were used to design and illustrate the sand removal alternatives. The plan view of the proposed sand removal area is shown in Figure 57. In general, the proposed sand removal will be conducted in three areas: landward (east) of the bridge as marked by a black box in Figure 57, in the direct vicinity of the bridge as marked by red hatch lines, and seaward of the bridge. Detailed design is discussed in the following.

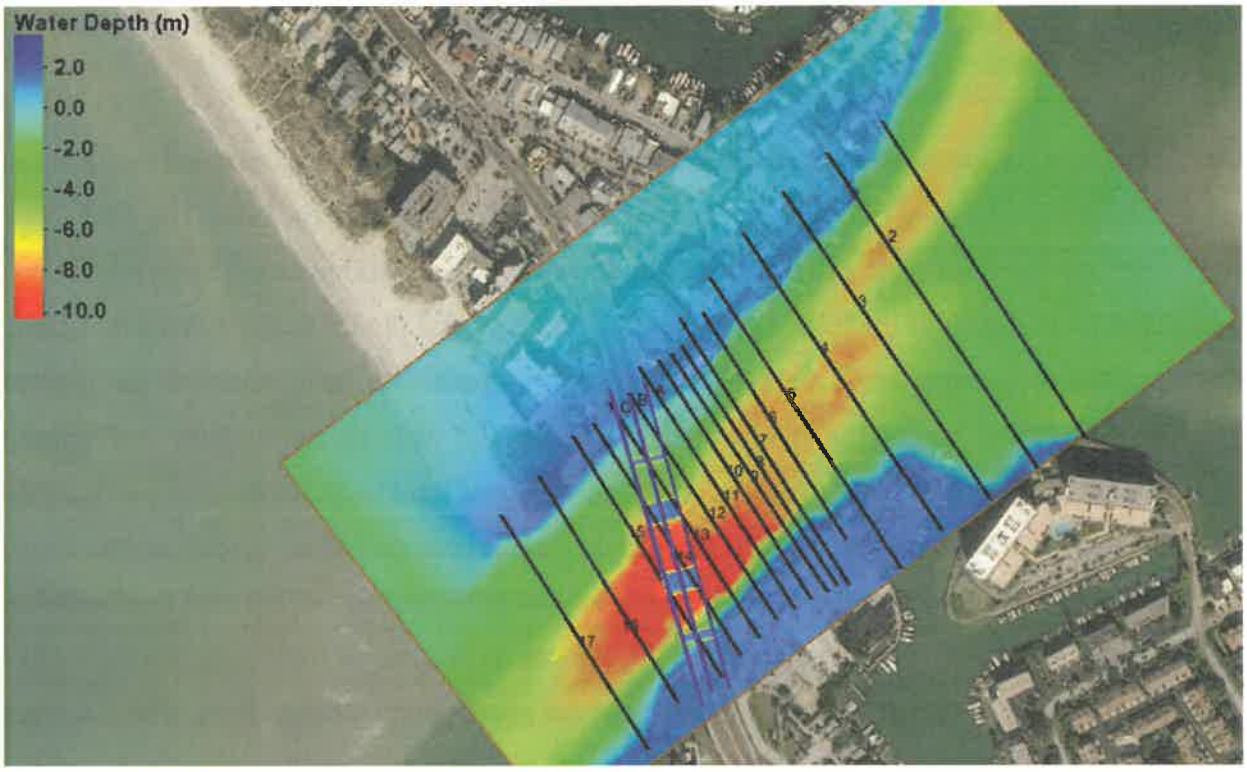

Figure 56. Bathymetry of Johns Pass surveyed in 2020 and the 17 cross sections used in the design of mitigation alternatives. The 17 cross sections are shown in Appendix IV.

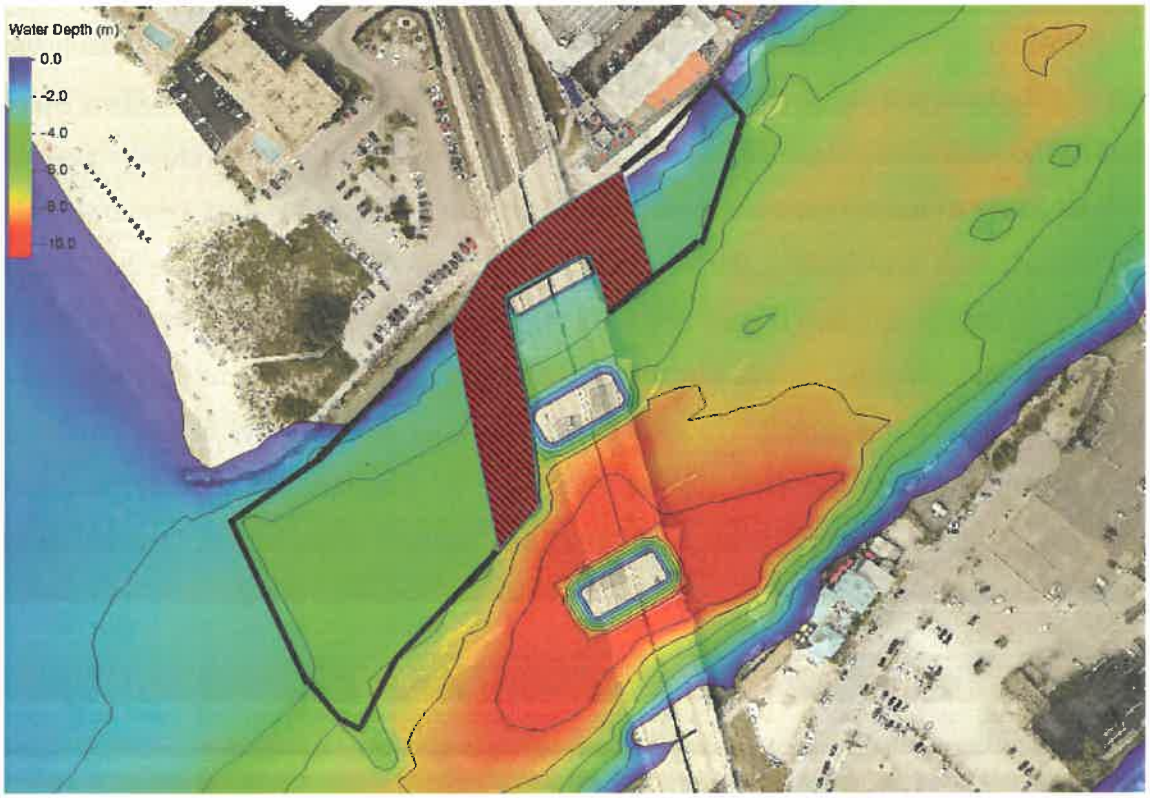

Figure 57. Plan view of the proposed local sand removal.

As apparent from the Johns Pass bathymetry shown in Figure 56, the deepest part of the channel, aka, channel gouge or thalweg, is not located in the middle of the channel. The channel thalweg extends at an oblique angle to the inlet orientation as marked by the two banks. Further inside the bay or at the bayside exit of the channel, the thalweg hugs the north bank, while near the seaward entrance the thalweg hugs the south bank (Figure 56). This particular thalweg orientation coincides in general with the strongest tidal current (Figure 39 and Figure 40) and provides valuable insight on erosion and deposition patterns. For example, the strong flow and corresponding deep channel along the southern side, i.e., the opposite side of the project area, marks the area with an erosional trend. While the relatively weak flow and shallow channel along the project site indicate a trend of sedimentation. In other words, the sedimentation in the project area is related to this particular orientation of the channel thalweg. This channel thalweg orientation has strong control regarding the overall flood and ebb flow patterns, subsequently the morphology of the adjacent beaches and the ebb shoal. It is essential that the mitigation alternatives for the local interior sedimentation should not have significant influences on this channel configuration which would trigger changes at adjacent beaches and the ebb shoal.

Removing the excess sand at the project site is proposed here as the main mitigation alternative. Larger-scale alternatives, e.g., those involving the entire inlet system or parts other than the sedimentation area, would significantly expand the scope of this project. It is the authors' opinion that local sand removal provides the most direct and reliable solution to the existing sedimentation problem. Based on the discussion and input from the TAC (Technical Advisory Committee) and the stakeholders, the following two categories of mitigation alternatives are proposed. Category 1, referred to as C1 in the following, would remove excess sand from the seaward edge of the boat basins to the tip of the north jetty. Category 2, referred to as C2, would not remove sand in the vicinity of the bridge. Five sand removal alternatives are examined within each category. In addition to the two categories, an additional mitigation alternative, C3, involving closing the gap between the bridge piling and the north bank, with the goal of blocking sand from reaching the marinas, is also examined. C3 does not include sand removal with the goal of focusing on the alternative of blocking sand from reaching the marinas. Overall, a total of 11 alternatives

are examined based on the present understanding of the sedimentation mechanisms and numerical modeling results.

Seventeen cross sections (Figure 56) are used to illustrate the detailed sand removal alternatives. The plots of the 17 cross sections are shown in Appendix IV. Cross sections 1 through 6 (Figures A21 and A22) are located landward of the area with sedimentation. No actions are proposed in this part of the channel. Cross sections 7, 8, 9 and 10 (Figure 56, Appendix IV A23 and A24) are located landward of the bridge and presently very shallow to being emergent along the north bank due to the sedimentation. Five sand removal alternatives are proposed at these four cross-sections (Appendix IV Figure A23 and A24) for both C1 and C2 categories. Cross sections 11, 12, 13 and 14 are located within 30 m (100 ft) of the bridge and with significant sand deposition between the shoreline and the north most bridge piling (Figure 56, Appendix IV A24 and A25). For the C1 category, the excess sand would be removed with five proposed alternatives as shown in Appendix IV, Figures A24 and A25. For the C2 category, no sand removal would be conducted at these locations due to their proximities to the bridge. The cross sections would remain the configuration as shown by the "Original Data" (Appendix IV Figures A24 and A25). For the C3 scenario, a barrier would be installed near the landward edge of the north most bridge piling, as proposed by a stakeholder, and no sand removal would be conducted at all the cross sections. Cross sections 15, 16 and 17 are located seaward of the bridge (Figures 58, Appendix IV A25 and A26). Although these cross sections are presently not experiencing excessive sedimentation, five sand removal alternatives are proposed for both C1 and C2 categories, with the goal of creating a sedimentation basin to buffer future incoming sand from the updrift beach and the channel margin linear bar.

The eleven alternatives in terms of actions at each cross section, i.e., sand removal (R) or no action (N A) are summarized in Table 3. In the following discussion, the left column of Table 3 is used to identify each alternative. "A1" corresponds to the least amount of sand removal and "A5" corresponds to the most aggressive sand removal. Detailed design of the dredge pit is shown in Appendix IV, Figures A23 through A26. The total volume of sand that would be removed for each alternative is summarized in Table 4, with C1-A5 removing the most sand at 23,700 cubic yards and C2-A1 removing least amount of sand at 2,900 cubic yards. Each alternative is evaluated based on the wave and current modeling and are discussed in the following section (5.3).

The sand removal alternatives as described above are based on the following considerations:

1) directly removing the excess sand in the vicinity of the marinas (Lines 7, 8, 9 and 10), and therefore, directly solving the present sedimentation issues,
2) applying extra caution at the bridge, by considering no action within 100 ft from the structure (C2 alternatives, Lines 11, 12, 13 and 14), to ensure that no negative impacts occur, and
3) creating a sedimentation basin near the entrance of the inlet (Lines 15, 16 and 17) to serve as a buffer for incoming sediment to prolong the life of the project.

Table 3. Actions at each cross section for the 11 proposed alternatives. "R" represents sand removal, and "NA" represents no action.

Alternatives	CS7	CS8	CS9	CS10	CS11	CS12	CS13	CS14	CS15	CS16	CS17
C1-A1	R	R	R	R	R	R	R	R	R	R	R
C1-A2	R	R	R	R	R	R	R	R	R	R	R
C1-A3	R	R	R	R	R	R	R	R	R	R	R
C1-A4	R	R	R	R	R	R	R	R	R	R	R
C1-A5	R	R	R	R	R	R	R	R	R	R	R
C2-A1	R	R	R	R	NA	NA	NA	NA	R	R	R
C2-A2	R	R	R	R	NA	NA	NA	NA	R	R	R
C2-A3	R	R	R	R	NA	NA	NA	NA	R	R	R
C2-A4	R	R	R	R	NA	NA	NA	NA	R	R	R
C2-A5	R	R	R	R	NA	NA	NA	NA	R	R	R
C3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4. Total volume of sand removed for each Alternative.

Alternatives	Total volume of sand removed	cubic yards	cubic meters
C1-A1		3,200	2,500
C1-A2		11,100	8,500
C1-A3		14,000	10,700
C1-A4		18,700	14,300
C1-A5		23,700	18,100
C2-A1		2,900	2,200
C2-A2		7,000	5,400
C2-A3		9,700	7,400
C2-A4		13,100	10,000
C2-A5		16,600	12,700
C3		0	0

5.3 Evaluation of the Eleven Alternatives

The eleven Alternatives were evaluated using the numerical model developed during this study based on the following criteria:

1) Influence on the tidal flow field locally and inlet wise, specifically:
    a. potential to alter the flow pattern through the entire inlet,
    b. changes in flow at the northern portion of the entrance,
    c. influence on bridge pilings, particularly increased scour potential, and
    d. changes in flow near the marinas.
2) Influence on the wave field locally and inlet wise, specifically:
    a. changes in wave conditions at the northern portion of the entrance,
    b. changes in wave conditions in the vicinity of the marinas, and
    c. potential to alter the wave field in the entire inlet.
3) Influence on the wave-current interaction locally and inlet wise, specifically:
    a. potential influence on flow conditions in the vicinity of the marinas, and
    b. potential influence on flow conditions at the northern portion of the entrance.

4) Potential for sand infilling in the future.

Since the sand removal alternatives are sequential, with option A1 removing the least amount of sand while A5 removes the most amount of sand, the influences on wave and current conditions are also sequential. In the following, results from seven out of the eleven cases are discussed, including C1-A1, C1-A3, C1-A5, C2-A1, C2-A3, C2-A5, and C3. Impacts from in-between cases such as C1-A2 can be estimated based on the adjacent cases such as C1-A1 and C1-A3. The in-between cases are still summarized here. The sand removal alternatives are discussed in comparison with the existing conditions. All the figures for the seven discussed alternatives are listed in Appendix V (Figures A27 through A46). The flow fields under existing conditions are shown and discussed in Figure 39 and Figure 40). The modeled wave fields under existing conditions are shown and discussed in Figure 51 through Figure 54.

5.3.1 Alternative C1-A1

Alternative C1-A1 involves modest sand removal of 3,200 cubic yards (Table 4). The main feature of this alternative is that the excessive intertidal and emerged sand at the project area would be removed (Appendix IV Figures A23 and A24). The slope of the northern side of the channel would be restored to roughly a linear trend at most of the cross sections, e.g., at Lines 8, 9, 10 and 12. At some of the cross sections, e.g., at Lines 7 and 11, the restored slope is gentler than the steep slope into the channel thalweg (deepest area). Appendix V Figure A27 illustrates the modification to the flow fields under a peak ebb and flood conditions by the modest C1-A1 alternative, as compared to the existing conditions (Figure 39 and Figure 40). Except at the project site, the tidal flow velocity in the main channel is not significantly influenced by this alternative, reducing flow mostly less than 0.05 m/s (or less than 3%). In other words, the C1-A1 alternative would have minimal influence on the overall flow pattern through Johns Pass for both ebbing and flooding tides.

The model shows the considerable flow velocity change at the project area, including both increasing and decreasing of up to 0.2 m/s, is caused by the cross-sectional area change due to the sand removal. The flow velocity increase occurred when an existing emerged area (with zero tidal

flow) was converted to a shallow area by the sand removal. While in most of the project area, the flow velocity decreased due to the increased cross-sectional area. These minor changes do not result in significant changes in sediment transport pattern or magnitude.

Due to the rather modest modification to the bathymetry by C1-A1, its influence on wave propagation is negligible at the project site, as well as over the entire inlet (Appendix V Figure A28). The small increase in wave height just seaward of the marinas was caused by the conversion of the emerged area (with zero wave height) to a very shallow water (with small wave height).

The modifications to the flow velocity can be examined in more detail at the six numerical stations (Appendix V Figure A29 and Table 5). In Appendix V Figure A29, the tide-only flow velocities under the existing condition are also included and compared with C1-A1 to examine the influence of the sand removal on the tidal flow (Table 5, top two rows). The contributions of wave-induced current on the flow are obtained through comparison with the C1-A1 tide only case (Table 5, lower six rows).

Since the sand removal occurs landward of Station 1, its influences at that location are small. Due to the relatively small bathymetry modification, the flow at Station 2 is also similar to the existing condition. Considerable changes in terms of percentages occurred at Stations 3 through 6 (Table 5). It is worth noting that the percentage changes are influenced by the magnitude of the flow. Appendix V Figure A29 shows that the overall magnitude changes are not significant.

Similar to the case under existing conditions, wave-generated currents have significant influence on the flow at the six locations. Generally, the wave forcing led to a decreased ebb velocity at all locations for all three wave cases (Table 5). The southerly and inlet-parallel incident waves resulted in an increased flood velocity at all stations while the northerly approaching wave led to decreased flood current at all stations except at station 1. The limited sand removal for alternative C1-A1 does not fundamentally change the sediment processes in the vicinity of the marina. However, the area will remain shallow water and can lead to active sediment re-distribution by breaking waves and the flood current. In addition, the small amount of sand may be replaced rather quickly under a favorable condition, e.g., energetic northerly wave over a flooding tide. For the above two reasons, Alternative C1-A1 is not recommended.

Table 5. Percent changes of current velocities at the six stations (see Figure 41 for locations) under three incident wave conditions for Alternative C1-A1. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-1%	5%	3%	13%	-36%	-7%
	ebb	3%	2%	21%	62%	-13%	18%
1.5 - 196.3	Flood	20%	74%	33%	5%	3%	7%
	ebb	-12%	-13%	-16%	-21%	-27%	-8%
2.2 - 218	Flood	40%	99%	44%	13%	8%	11%
	ebb	-30%	-30%	-31%	-33%	-44%	-16%
2.1 - 286	Flood	4%	-41%	-24%	-2%	-7%	-8%
	ebb	-38%	-28%	-27%	-30%	-38%	-15%

5.3.2 Alternative C1-A2

Alternative C1-A2 involves a modest sand removal of 11,100 cubic yards, or about 21% less than the amount of C1-A3 (Table 4). The project area would be considerably deepened (Appendix IV Figures A23 and A24). At Lines 7, 8, 9, and 10, a 2.7-m (8.9 ft) deep basin would be created, with a landward slope of 1:4. The landward edge of the sand removal is designed to be at 9 m (30 ft) from the seawall. The seaward edge of the dredged basin would intercept the main channel at 2.7 m (8.9 ft) depth. In the vicinity of the bridge, the same design as described above is proposed for Lines 11, 12, 14, and 15. Line 13 extends across the bridge piling. Due to the short distance between the seaward edge of the riprap and the bridge piling, the 1:4 slope would reach the bridge piling at about 2.7 m (8.9 ft) water depth. A 2-m (7 ft) buffer with no dredging is designed at the edge of the riprap. At Lines 16 and 17 (Appendix V Figure A26), a 3.5-m (11.5 ft) deep basin would be created.

The modeling results for C1-A2 are rather similar to that of C1-A3 (discussed in the following), but with a modestly lower magnitude. Also similar to C1-A3, the reduced flow velocity and wave height at the entrance and along the north jetty may lead to sand deposition in the designed sedimentation basin there. Alternative C1-A2 is not recommended because of the concern on the life span of the project, in addition to no apparent benefit for removing less sand than C1-A3.

5.3.3 Alternative C1-A3

Alternative C1-A3 involves a significant sand removal of 14,000 cubic yards, or nearly 4.4 times the amount of C1-A1 (Table 4). The project area would be substantially deepened (Appendix IV Figures A23 and A26). At Lines 7, 8, 9, and 10, a 3-m (10 ft) deep basin would be created, with a landward slope of 1:5. The landward edge of the sand removal is designed to be at 9 m (30 ft) from the seawall. The seaward edge of the dredged basin would intercept the main channel slope at 3 m (10 ft) depth. In the vicinity of the bridge, the same design as described above is proposed for Lines 11, 12, 14 and 15. Line 13 extends across the bridge piling (Appendix IV Figure A25). Due to the short distance between the seaward edge of the riprap and the bridge piling, the 1:5 slope would reach the bridge piling before reaching 3 m (10 ft) water depth. A 2-m (7 ft) buffer with no dredging designed at the edge of the riprap. At Lines 16 and 17 (Appendix IV Figure A26), a 4-m (13 ft) deep basin would be created.

Appendix V Figure A30 illustrates the modification to the flow fields under a peak ebb and flood conditions by the C1-A3 alternative, as compared to the existing conditions. Except at the project site, the model indicated that the tidal flow velocity in the main channel is not significantly influenced by this alternative, reducing flow less than 0.05 m/s (or less than 3%). In other words, the C1-A3 alternative would have minimal influence on the overall flow pattern through Johns Pass for both ebbing and flooding tides. Furthermore, the influences are mostly confined within the inlet channel landward of the tip or the north jetty, with a slight increase in ebb flow just seaward of the dredge pit.

Due to the substantial deepening of the project area, a decrease of the depth-averaged velocity occurred for both flood and ebb flows (Appendix V Figure A30). The localized increases in flow velocity, particularly during the peak ebb flow which occurs at a low tide water level, is caused by the conversion of an existing emerged area (with zero tidal flow) to a shallow area by sand removal similar to alternative C1-A1. These localized minor changes should not result in significant changes in sediment transport pattern or magnitude. The considerable decrease in ebb velocity at the inlet entrance and along the north jetty would result in reduced ebb flushing.

The substantial deepening by C1-A3 resulted in reduced wave height at the entrance (Appendix V Figure A31). The lower wave dissipation at the inlet mouth resulted in modestly higher waves landward of the bridge. The reduced wave height at the entrance, combined with weakened tidal flushing (Appendix V Figure A30) may promote sand deposition. The sedimentation basin at the mouth is designed to buffer the incoming sediment.

The modifications to the flow velocity can be examined in more detail at the six numerical stations (Appendix V Figure A32 and Table 6). Since the sand removal occurs landward of Station 1, its influences at that location are small. Due to the substantial deepening at Stations 2 and 3, a considerable decrease of depth-average flood and ebb velocities occurred (Table 6). Flow velocity at Station 4 increased significantly likely due to the spatial change in the flow field caused by the dredging. Appendix V Figure A32 shows that the overall magnitude changes are not significant, except at Stations 4 and 5. Overall, the wave forcing led to a decreased ebb velocity at all locations for all three wave cases (Table 6). The southerly and inlet-parallel incident waves resulted in an increased flood velocity at all stations, while the northerly approaching waves led to decreased flood currents at all stations except at station 1. As shown in Appendix V Figure A32, except the flood flow at Station 2, the overall influence of wave forcing on the current is modest. Alternative C1-A3 is recommended as an option with the lower limit in terms of sand volume removed.

Table 6. Percent changes of current velocities at the six stations (see Figure 41 for locations) under three incident wave conditions for Alternative C1-A3. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-3%	-52%	-21%	28%	-63%	-12%
	ebb	-2%	-21%	-25%	98%	-32%	18%
1.5 - 196.3	Flood	21%	153%	29%	4%	4%	8%
	ebb	-12%	-13%	-11%	-12%	-11%	-8%
2.2 - 218	Flood	41%	172%	28%	9%	11%	12%
	ebb	-28%	-28%	-21%	-22%	-20%	-16%
2.1 - 286	Flood	4%	-49%	-19%	-3%	-3%	-8%
	ebb	-41%	-30%	-23%	-21%	-20%	-15%

5.3.4 Alternative C1-A4

Alternative C1-A4 involves the second most sand removal of 18,700 cubic yards (Table 4). The project area would be substantially deepened (Appendix IV Figures A23 and A24). At Lines 7, 8, 9, and 10, a 3.5-m (11.5 ft) deep basin would be created, with a landward slope of 1:5. The landward edge of the sand removal is designed to be at 9 m (30 ft) from the seawall. The seaward edge of the dredged basin would intercept the main channel slope at 3.5 m (11.5 ft) depth. In the vicinity of the bridge, same design as described above is proposed for Lines 11, 12, 14 and 15. At Line 13, the sand removal design for C1-A4 is the same as for the other alternatives. At Lines 16 and 17 (Appendix IV Figure A26), a 4.5-m (14.8 ft) deep basin would be created.

The aggressive C1-A4 alternative would remove a substantial amount of sand from the tip of the north jetty to the marinas. The modeling results for C1-A4 fall in between C1-A3 and C1-A5 (discussed in the following). As compared to the existing conditions, this bathymetry change along the north side still does not have significant influence on the flow through the main channel. The considerably reduced flow velocity and wave height at the entrance and along the north jetty would lead to sand deposition in the designed sedimentation basin there. The processes that transport the sand landward, as evaluated at the six stations, are not enhanced by the sediment removal. The substantially deepened water would significantly reduce the sediment mobility. Alternative C1-A4 is recommended as an option between the minimum C1-A3 and maximum C1-A5 in terms of volume of sand to be removed.

5.3.5 Alternative C1-A5

Alternative C1-A5 involves the most sand removal of 23,700 cubic yards (Table 4). The project area would be substantially deepened (Appendix IV Figures A23 and A24). At Lines 7, 8, 9, and 10, a 4-m (13 ft) deep basin would be created, with a landward slope of 1:5. The landward edge of the sand removal is designed to be at 9 m (30 ft) from the seawall. The seaward edge of the dredged basin would intercept the main channel slope at 4 m (13 ft) depth. In the vicinity of the bridge, same design as described above is proposed for Lines 11, 12, 14 and 15. Line 13 design is the same as the previous alternatives. At Lines 16 and 17 (Appendix IV Figure A26), a 5-m (16.4 ft) deep basin would be created.

Appendix V Figure A33 illustrates the modification to the flow fields under a peak ebb and flood conditions by the C1-A5 alternative, as compared to the existing conditions. Model results show that, except at the project site, the tidal flow velocity in the main channel is still not significantly influenced by this alternative, although the flow-modification is more than the other alternatives. A slight increase in peak ebb velocity of about 0.1 m (or about 7%) occurred between the two main bridge pilings, in addition to an increase in the ebb flow just seaward of the dredge pit (Appendix V Figure A33 upper panel). These are caused by the slight modification of the ebb jet due to the substantial dredge pit. The influence on the flood flow is less than that on the ebb flow (Appendix V Figure A33 lower panel). Overall, the influences are mostly confined within the inlet channel landward of the tip or the north jetty.

At the project site, due to the substantial deepening of the project area, a significant decrease of the depth-averaged velocity occurred for both flood and ebb flows (Appendix V Figure A33). Similar to the other cases, the localized increases in flow velocity, particularly during the peak ebb which occurs at a low tide water level, is caused by the conversion of an existing emerged area (with zero tidal flow) to a shallow area by the sand removal. The substantial decrease in ebb velocity at the inlet entrance and along the north jetty would result in considerably reduced ebb flushing.

Due to the substantial deepening by C1-A5 alternative, it resulted in a considerably reduced wave height at the entrance (Appendix V Figure A34). The lower wave dissipation at the inlet mouth resulted in modestly higher wave landward of the bridge. The reduced wave height at the entrance, combined with weakened tidal flushing (Appendix V Figure A33) would promote sand deposition to a greater extent than the other alternatives. The considerably deeper sedimentation basin at the mouth is designed to buffer the potentially increased incoming sediment.

The modifications to the flow velocity can be examined in more detail at the six numerical stations (Appendix V Figure A35 and Table 7). Since the sand removal occurs landward of Station 1, its influences at that location are still limited with a 4% decrease on average ebb velocity and 8% on flood velocity. Due to the substantial deepening at Stations 2 and 3, the depth-averaged flood and ebb velocities decreased substantially (Table 7). Flow velocity at Station 4 increased significantly due to the spatial change in the flow field caused by the dredging. Except at Stations 1 and 6, a velocity decrease occurred at the rest locations. Overall, wave-generated currents have

significant influence on the flow at the six locations. Generally, the wave forcing led to a decreased ebb velocity at all locations for all three wave cases (Table 6). The southerly and inlet-parallel incident waves resulted in an increased flood velocity at all stations, while the northerly approaching wave led to decreased flood current at all stations except at stations 1 and 2. Alternative C1-A5 is recommended as an option with the upper limit in terms of sand volume removed.

Table 7. Percent changes of current velocities at the six stations (see Figure 41 for locations) under three incident wave conditions for Alternative C1-A5. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-8%	-85%	-46%	25%	-64%	-15%
	ebb	-4%	-36%	-56%	101%	-45%	0%
1.5 - 196.3	Flood	23%	464%	36%	4%	3%	9%
	ebb	-13%	-15%	-11%	-12%	-10%	-7%
2.2 - 218	Flood	45%	643%	50%	10%	12%	18%
	ebb	-33%	-34%	-18%	-24%	-20%	-16%
2.1 - 286	Flood	10%	38%	-13%	-2%	-2%	-7%
	ebb	-34%	-25%	-17%	-15%	-13%	-11%

5.3.6 Alternative C2-A1

Alternative C2-A1 involves the least amount of sand removal of 2,900 cubic yards (Table 4). Similar to C1-A1 discussed above, the main feature of this alternative is that the excessive intertidal and emerged sand at the project area would be removed (Appendix IV Figures A23 and A24). The slope of the northern side of the channel would be restored to roughly a linear trend at most of the cross sections, e.g., at Lines 8, 9, and 10. At some of the cross sections, e.g., at Line 7, the restored slope is gentler than the steep slope into the channel thalweg. The main difference between C2-A1 and C1-A1 is that no action would be taken within 100 ft from the bridge, i.e., at Lines 11, 12, 13 and 14.

For the C2-A1 alternative, the modeled wave and current fields are very similar to those of the C1-A1 case (Appendix V Figures A36 and A37). As compared to the existing conditions, this minor bathymetry change does not have significant influence on the flow and wave fields, except locally at where the emerged area is converted to shallow area. Alternative C2-A1 should not have significant influence on the inlet hydraulics and along the adjacent beaches. However, this limited sand removal does not fundamentally change the sediment processes in the vicinity of the marina, i.e., the present situation. The small amount of sand may be replaced rather quickly under a favorable condition. For the above two reasons, Alternative C2-A1 is not recommended.

5.3.7 Alternative C2-A2

Alternative C2-A2 would remove 7,000 cubic yards of the sand (Table 4). The modeling results are quite similar to those of C1-A2 and C2-A3 (discussed in the following) and are not repeated here. Alternative C2-A2 is not recommended by this study for similar reasons that C1-A2 and C2-A3 are not recommended.

5.3.8 Alternative C2-A3

Alternative C2-A3 involves a modest sand removal of 9,700 cubic yards (Table 4). The project area would be substantially deepened (Appendix IV Figures A23 and A24). At Lines 7, 8, 9, and 10, a 3-m (10 ft) deep basin would be created, with a landward slope of 1:5. The landward edge of the sand removal is designed to be at 9 m (30 ft) from the seawall. The seaward edge of the dredged basin would intercept the main channel slope at 3 m (10 ft) depth. In the vicinity of the bridge within 100 ft from the structure, no action would be taken at Lines 11, 12, 13 and 14. Sand removal at Line 15 is similar to that at Lines 7 through 10. At Lines 16 and 17 (Appendix IV Figure A26), a 4-m (13 ft) deep basin would be created.

The modeling results are illustrated in Appendix V Figure A38, A39 and A40, in addition to Table 8. Overall, the modeled flow field (Figure A38), wave field (Figure A39) and wave-current interaction (Figure A40 and Table 8) for alternative C2-A3 are similar to those for C1-A3 (Figures A30, A31 and A32) and are not repeated here. Not removing the sand within 100 ft from the structure would have minor influence on the overall flow field. The small changes in the vicinity of the bridge, particularly the two pilings to the north, would not alter the hydrodynamic and sediment-dynamic processes. No additional bridge piling scour or sedimentation are anticipated whether the sand in that area is removed or not. The excess sand in the vicinity of the

bridge is likely transported landward and deposited in the dredged basin, and therefore may reduce the lift span of the project. For this reason, alternative C2-A3 is not recommended.

Table 8. Percent changes of current velocities at the six stations (see Figure 44 for locations) under three incident wave conditions for Alternative C2-A3. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-4%	-56%	-42%	-3%	-7%	-38%
	ebb	-3%	-25%	-56%	-47%	-23%	6%
1.5 - 196.3	Flood	12%	275%	111%	24%	18%	29%
	ebb	-30%	-33%	-8%	74%	31%	-13%
2.2 - 218	Flood	35%	252%	92%	26%	19%	30%
	ebb	-39%	-43%	2%	135%	46%	-21%
2.1 - 286	Flood	8%	-46%	-31%	-2%	-6%	-5%
	ebb	-42%	-34%	-18%	-20%	-23%	-14%

5.3.9 Alternative C2-A4

Alternative C2-A4 would remove 13,100 cubic yards of the sand (Table 4). The modeling results are in between those of C2-A3 and C2-A5 (discussed in the following) and are not repeated here. Alternative C2-A4 is recommended only under the condition that no activities should occur within 100 ft from the bridge

5.3.10 Alternative C2-A5

Alternative C2-A5 would remove 16,600 cubic yards of the sand (Table 4). The modeling results for alternative C2-A5 are shown in Figures A41, A42, and A43, in addition to Table 9. Overall, the results are quite similar to those from alternative C1-A5 and are not repeated here. Similar to the case of C2-A3, the excess sand in the vicinity of the bridge may be re-distributed to the dredged areas, and therefore would reduce the life span of the project. Leaving the sand in place would not benefit the bridge in terms of hydrodynamic and sediment processes. Alternative

C2-A5 is recommended only under the condition that no activities should occur within 100 ft from the bridge.

Table 9. Percent changes of current velocities at the six stations (see Figure 44 for locations) under three incident wave conditions for Alternative C2-A5. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-8%	-85%	-55%	-3%	-7%	-39%
	ebb	-6%	-40%	-70%	-51%	-20%	-10%
1.5 - 196.3	Flood	23%	897%	112%	20%	16%	6%
	ebb	-27%	-32%	-21%	59%	12%	-8%
2.2 - 218	Flood	44%	1118%	191%	42%	38%	16%
	ebb	-42%	-28%	77%	206%	84%	-20%
2.1 - 286	Flood	19%	201%	-30%	-4%	-9%	-7%
	ebb	-48%	-45%	-36%	-6%	-30%	-16%

5.3.11 Alternative C3

Alternative C3 adopts a different approach from the local sand removal as discussed above. Instead of removing the excess sand in the project area, alternative C3 is designed to block the sand from reaching the marina area by artificially closing the gap between the north seawall and the north most bridge piling by installing a barrier there.

Closing the relatively narrow and presently shallow gap between the north seawall and the north most bridge piling has little influence on the overall flow field of Johns Pass except within the immediate vicinity of the closure (Figure A44). Because the tidal flow between the seawall and the north most bridge piling is blocked, the tidal flow velocity along the southside (inlet side) of the piling would increase slightly as caused by the reduction of the cross-sectional area. Closing the gap would also have minimal influence on the wave field, except at the immediate vicinity of the barrier (Figure A45). Waves are blocked directly landward (eastward) of the barrier, as illustrated by the wave-height reduction. A detailed examination of the flow conditions at the six locations reveals minimal changes, except at Stations 4 and 5 where the

flow is blocked (Figure A46 and Figure 41). Overall, closing the gap between the north seawall and the bridge piling has localized influences on current and wave conditions.

Alternative C3 is not recommended because it would not solve the existing sedimentation problem. If a considerable amount of sand is removed, e.g., with alternatives C1-A3, C1-A4, or C1-A5, there would not be a need to close the gap. Creating a sedimentation basin seaward of the bridge is more effective in preventing sand from reaching the marina facilities than a barrier directly adjacent to the facilities.

Table 10. Percent changes of current velocities at the six stations (see Figure 41 for locations) under three incident wave conditions for Alternative C3. The percent change was obtained by comparing with the tide-only case.

Input Wave conditions		Locations					
		1	2	3	4	5	6
Tide-only	Flood	-1%	-4%	-15%		-74%	13%
	ebb	-1%	-1%	-6%		-79%	-1%
1.5 - 196.3	Flood	19%	64%	28%		3%	4%
	ebb	-12%	-12%	-16%		-25%	-7%
2.2 - 218	Flood	39%	117%	61%		10%	11%
	ebb	-36%	-35%	-34%		-18%	-16%
2.1 - 286	Flood	10%	-23%	-19%		0%	-5%
	ebb	-34%	-21%	-20%		-33%	-11%

6.0 Conclusions

The sedimentation along the north bank of Johns Pass is driven by a natural process that occurs at many tidal inlets. The sand moving southward along Madeira Beach and from the shallow channel margin linear bar can be carried into the inlet by the flood tidal current. Sand accumulation occurs at locations within the channel where the ebb tidal current is not adequate to flush all the sand out of the inlet. This natural process is modified by various engineering activities at Johns Pass over the past 90 years. However, none of these engineering activities has fundamentally

changed the sand supply to the channel interior and the natural process that brings the sand into the channel.

It is proposed that local removal of the sand accumulation should be the main mitigation approach. A crucial consideration in designing and evaluating the alternatives is that local sand removal is the least likely to induce negative impacts at other parts of Johns Pass and along adjacent beaches. Three categories of mitigation measures are examined. Category 1 (C1) involves removal of excess sand from the seaward tip of the north jetty to the marina; five sand removal alternatives (C1-A1 to C1-A5) are examined. Category 2 (C2) involves removal of excess sand from the seaward tip of the north jetty to the marina, while excluding the area within 100 ft from the Johns Pass bridge; five sand removal alternatives (C2-A1 to C2-A5) are examined. Category 3 (C3) examines the option of blocking the sand from reaching the marinas by constructing a barrier between the north seawall and the north most bridge piling.

Based on the modeling results, the ten alternatives of C1 and C2 have negligible influence on the overall flow and wave fields within the Johns Pass channel. All eleven alternatives have minimal influence on the processes along the adjacent beaches. Alternative C3 is not recommended because it does not solve the existing sedimentation problem. Alternative C1-A3 which removes 14,000 cubic yards of sand is recommended as a lower limit of the mitigation measure. Alternative C1-A5 which removes 23,700 cubic yards of sand is recommended as an upper limit. Alternative C1-A4 removing 18,700 cubic yards of sand is recommended as a middle range for the mitigation. Based on the sedimentation rate estimated from existing bathymetry data, the three recommended alternatives, C1-A3, C1-A4, and C1-A5 should have a life span of 8, 11, and 14 years, respectively.

Estimating future rate of sedimentation constitutes a major limitation of this study. It is assumed that the sedimentation rate obtained during a short period of time, 2018 through 2020, can be applied to approximate future sedimentation at the project site. This assumption can be influenced by the unpredictable nature of storms and engineering activities.

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Appendices

Appendix I

Table 11. Engineering History at John's Pass (JP), Sand Key (SK), Treasure Island (TI), and Boca Ciega Bay. Large scale beach nourishment projects were conducted along Sand Key since 1988. A total of 9,311,000 cubic yards of sand were placed on Sand Key along a roughly 16 km (10 miles) of beach between 1988 and 2018 (Roberts and Wang, 2012). The south end of the Sand Key beach nourishment projects is about 3 miles north of Johns Pass.

Year	Project Description	Volume (yd^3)	Comments	Start Location	End Location	Reference
1848	JP breached by a hurricane					Mehta et al, 1976
1927	JP bridge (1st) and road on TI constructed					CTC, 1993
1934	Madeira Beach groin constructed		Two 150-foot groins constructed on VA beach at Madeira Beach			CTC, 1993
1945	Hurricane (June 19-27) destroyed TI seawall and upland homes					CTC, 1993
1950	Dredge and fill in the back bay 1940s - 1950's		much of the back bay was bulk-headed			CTC, 1993
1957	Madeira Beach groins constructed		37 timber concrete groins constructed			Pinellas County comprehensive plan
1960	JP dredged	94,000	dredge material placed on the southern flank of JP ebb shoal outer bar, later formed the O'Brien's lagoon (1968)			Dean and O'Brien, 1987; Loeb, 1994
1960	56 groins constructed on TI					Pinellas County comprehensive plan

Year	Project Description	Volume (yd^3)	Comments	Start Location	End Location	Reference
1961	North jetty constructed at JP		460 ft curved jetty constructed on north side of JP filled with 30,000 cy^3 of sand from JP channel			Pinellas County comprehensive plan; CTC, 1993
1961	JP dredged	30,000	placed on beach directly north of inlet			Dean and O'Brien, 1987
1964	Federal authorization of JP		under Section 107 of the 1960 River and Harbors Act			Elko et al., 2005; CTC, 1993
1966	Revetment along south bank of JP		920 ft along south bank of JP			CTC, 1993
1966	JP dredged	78,000	placed offshore			Dean and O'Brien, 1987; CTC, 1993
1966	UF COEL conducts current study at JP					COEL, 1966, 1969
1968	JP and TI revetment construction		Sunshine Beach	R126	R131	ACE, 2014; CTC, 1993
1968	O'Brien's Lagoon formed		1960 JP dredge material migrating onshore			CTC, 1993
1968	State establishes MHW on TI					
1969	New Bridge (2^{nd}) constructed across JP					CTC, 1993
1969	First nourishment of TI	790,000	material dredged from shore parallel-offshore pit 600 m offshore Sunset Beach, and BP	R133	R141	ACE 2014; CTC, 1993; CPE, 1992

Year	Project Description	Volume (yd^3)	Comments	Start Location	End Location	Reference
1971	TI Mid-Beach renourishment	75,000	part of the seaward sediment from O'Brien's lagoon (DEP SBMP, 2008)	R131	R133	ACE 2014; CPE 1992
1981	JP dredged	53,500	placed on Sunshine Beach			ACE 2014
1981	Sunshine Beach renourishment	53,500	Dredged from JP	R127	R130	ACE 2014:FDEP-BBCS, 2008
1985	Redington shores breakwater constructed			R101		ACE compilation, 2014
1987	North jetty re-constructed at JP					Pinellas County comp plan_ch-2; ACE 2014
1988	JP dredged	380,000	from channel and ebb shoal			Barnard, 1998
1988	Renourishment of Sand Key	300,000	Redington shores/North Redington Beach	R99	R107	Pinellas County, 2006; CTC 1993; Martin, 1992: Barnard, 1998
1990	Renourishment of Sand Key	1,300,000	Indian Rocks Beach/material dredged from offshore Mullet Key and Egmont Channel	R72	R85	Loeb, 1994
1991	JP dredged	56,000	placed on Sunshine Beach			ACE 2014; CTC 1993
1991	Sunshine Beach renourishment	56,000	material dredged from JP	R127	R129	Pinellas County comprehensive plan; ACE 2014
1992	Renourishment of Sand Key	850,000	Indian Shores/North Redington Beach	R85	R107	Pinellas County, 2006; Loeb, 1994
1999	Renourishment of Sand Key (1998-99)	2,612,000	Clearwater Beach to North Redington Beach	R56	R107	Pinellas County, 2006

Year	Project Description	Volume (yd^3)	Comments	Start Location	End Location	Reference
2000	JP and BP dredged	390,000	material placed on Sunshine and Sunset beaches; NOTE DEP 2008 reports 390,000 cy			ACE 2014
2000	Terminal structure constructed on south side of JP		Last hard structure at JP			Pinellas County comprehensive plan
2000	Sunshine Beach renourishment	40,000	material dredged from JP and BP	R126	R129	Pinellas County comprehensive plan; ACE 2014
2006	Renourishment of Sand Key	1,700,000	Sand from Egmont shoals	R56	R107	Roberts and Wang, 2012
2006	Sunshine Beach renourishment - emergency	77,970	emergency renourishment - material from west Egmont Shoals	R126	R128	Pinellas County comprehensive plan; ACE 2014
2010	JP Dredging	253,000	JP channel and ebb shoal			Pinellas County, 2010
2010	Renourishment of Sunshine Beach	127,260	JP ebb shoal	R126	R128	Pinellas County, 2010; ACE 2014
2006-2011	New JP bridge (3^{rd}) construction.		Same location as the 2^{nd} bridge, larger pilings			This study
2012	Renourishment of Sand Key beaches	1,250,000	offshore	R56	R107	
2014	Sunshine Beach renourishment	67,000	material dredged from East Egmont Shoal	R126	R128	ACE 2014
2018	JP Dredging	110,000	JP channel and ebb shoal			ACE 2014
2018	Renourishment of Sand Key beaches	1,293,000	Sand from Egmont shoal	R56	R107	This study
2018	Redington Beach berm restoration	6,400	Truck haul			This study

Year	Project Description	Volume (yd^3)	Comments	Start Location	End Location	Reference
2018	Renourishment of Sunshine and Sunset beaches	273,000	Material from JP and Egmont shoal			This study

Appendix II
Aerial Images

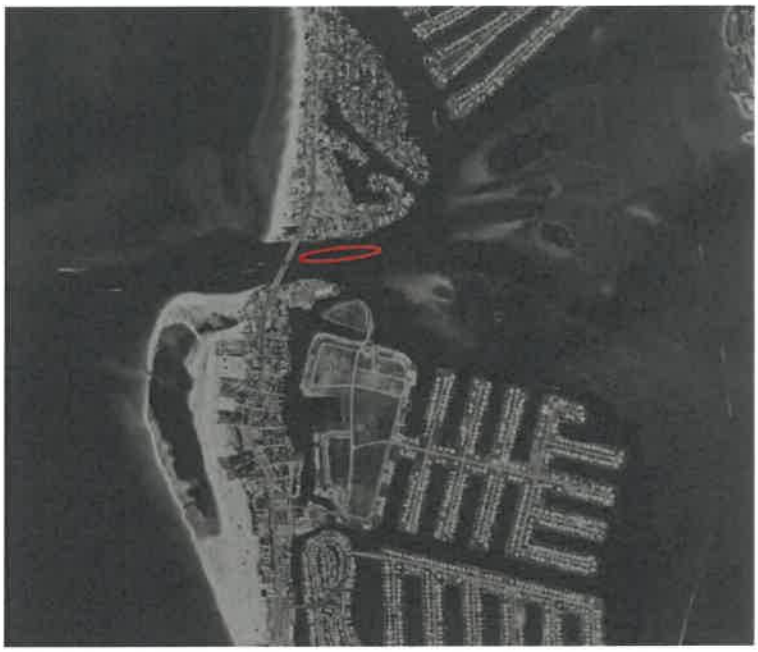


Figure A1. 1971 aerial photo of Johns Pass.

Figure A2. 1973 aerial photo of Johns Pass.

Figure A3. 1975 aerial photo of Johns Pass.

Figure A4. 1976 aerial photo of Johns Pass.

Figure A5. 1980 aerial photo of Johns Pass.

Figure A6. 1984 aerial photo of Johns Pass.

Figure A7. 1990 aerial photo of Johns Pass.

Figure A8. 1993 aerial photo of Johns Pass.

Figure A9. 2002 aerial photo of Johns Pass.

Figure A10. 2004 aerial photo of Johns Pass.

Figure A11. 2007 aerial photo of Johns Pass.

Figure A12. 2015 aerial photo of Johns Pass.

Figure A13. 2018 aerial photo of Johns Pass.

Figure A14. 2021 aerial photo of Johns Pass.

Appendix III
Modeled Wave-current Interaction

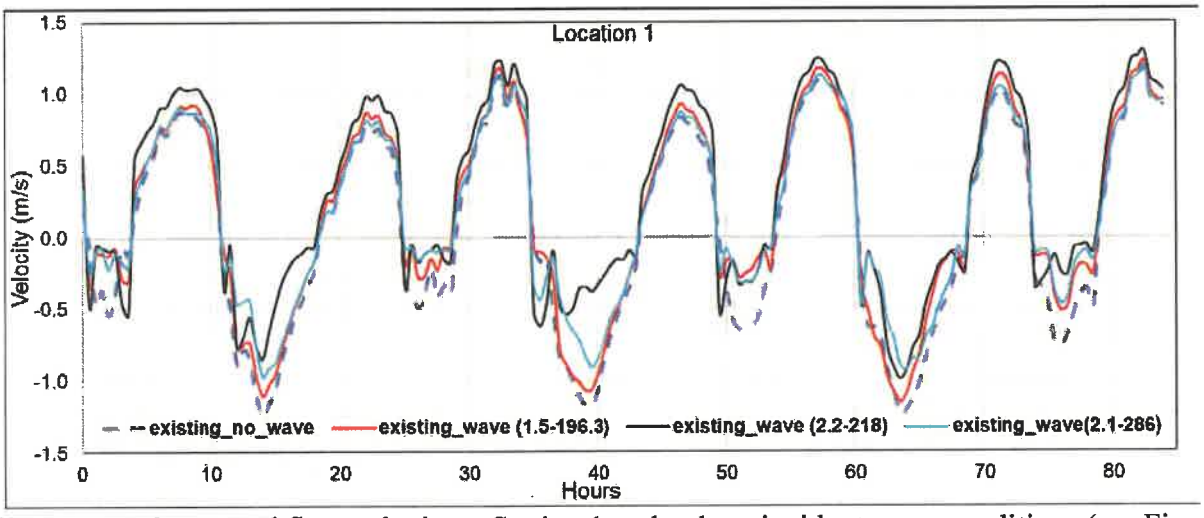


Figure A15. Computed flow velocity at Station 1 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

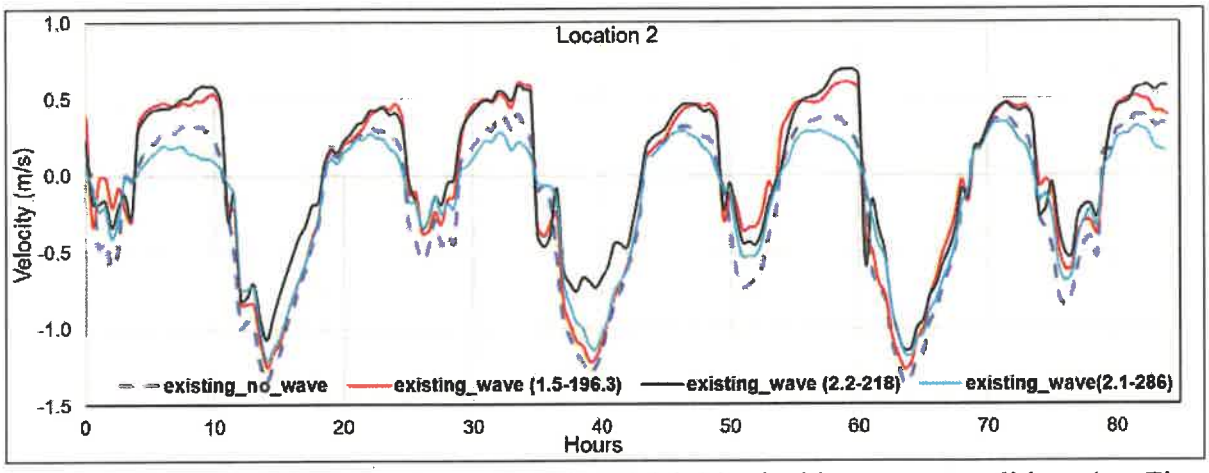


Figure A16. Computed flow velocity at Station 2 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

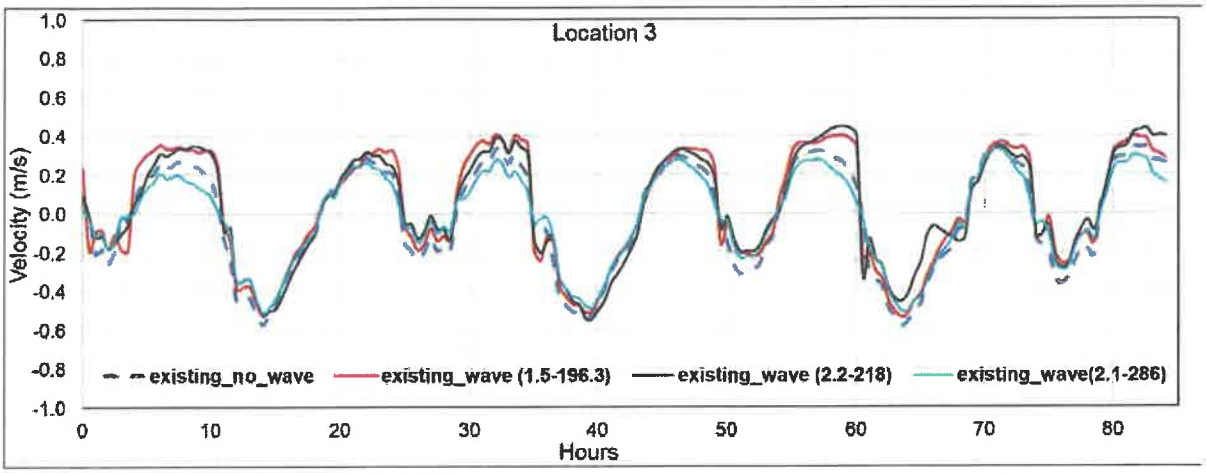


Figure A17. Computed flow velocity at Station 3 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

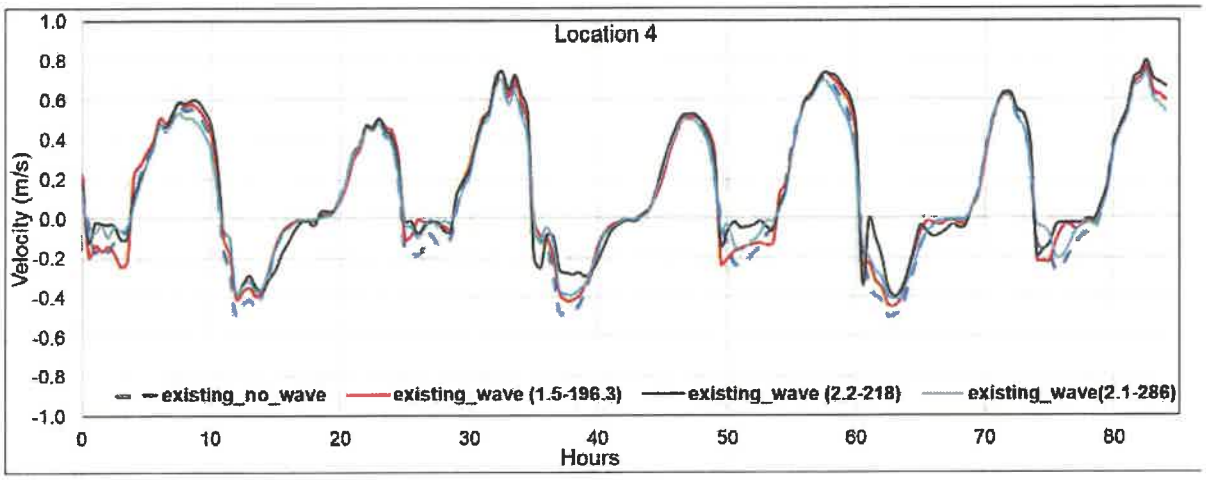


Figure A18. Computed flow velocity at Station 4 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

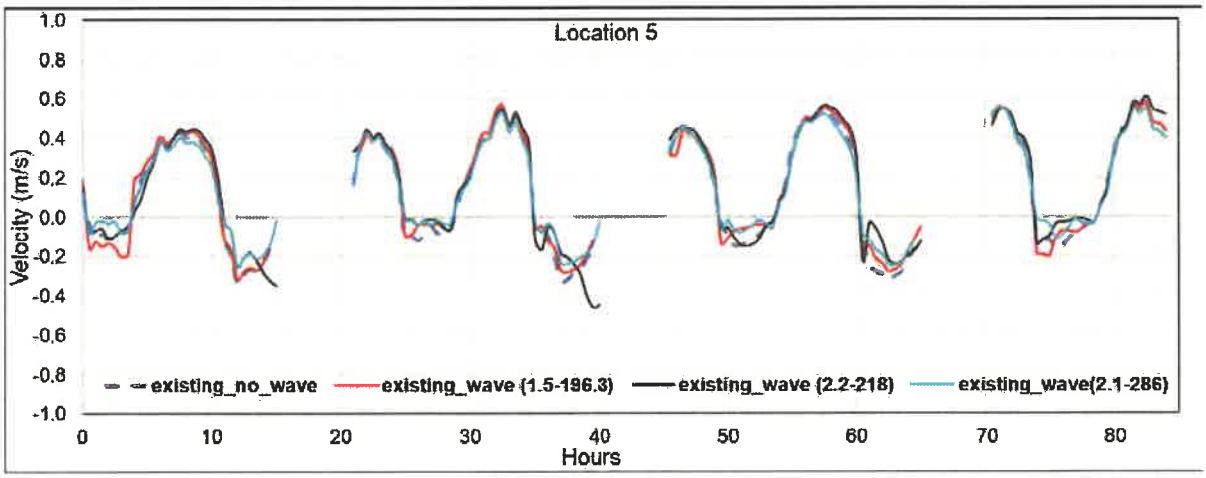


Figure A19. Computed flow velocity at Station 5 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

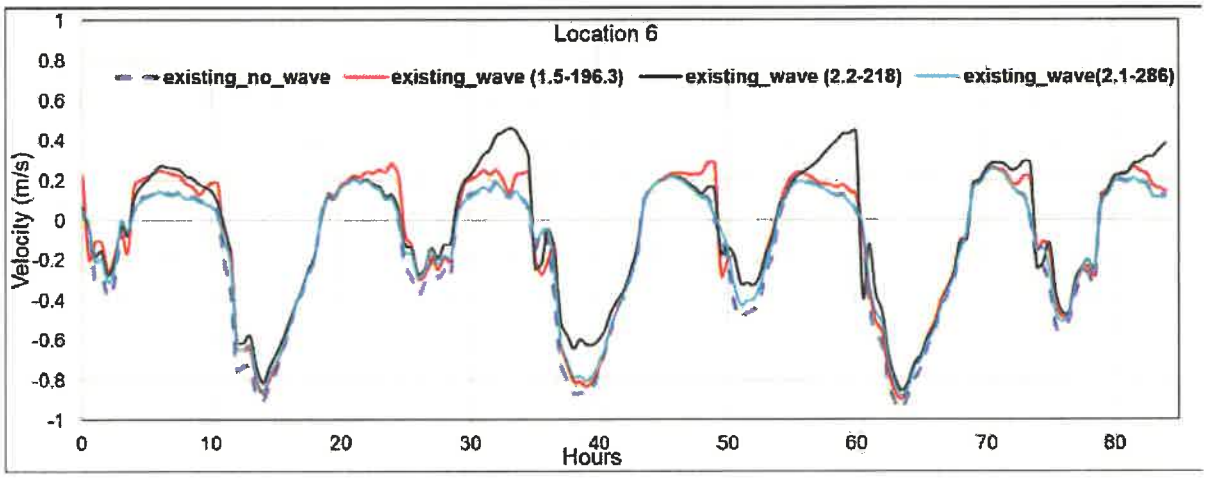


Figure A20. Computed flow velocity at Station 6 under three incident wave conditions (see Figure 41 for the location). Positive velocity represents flood current and negative represents ebb current.

Appendix IV
Johns Pass Cross Sections

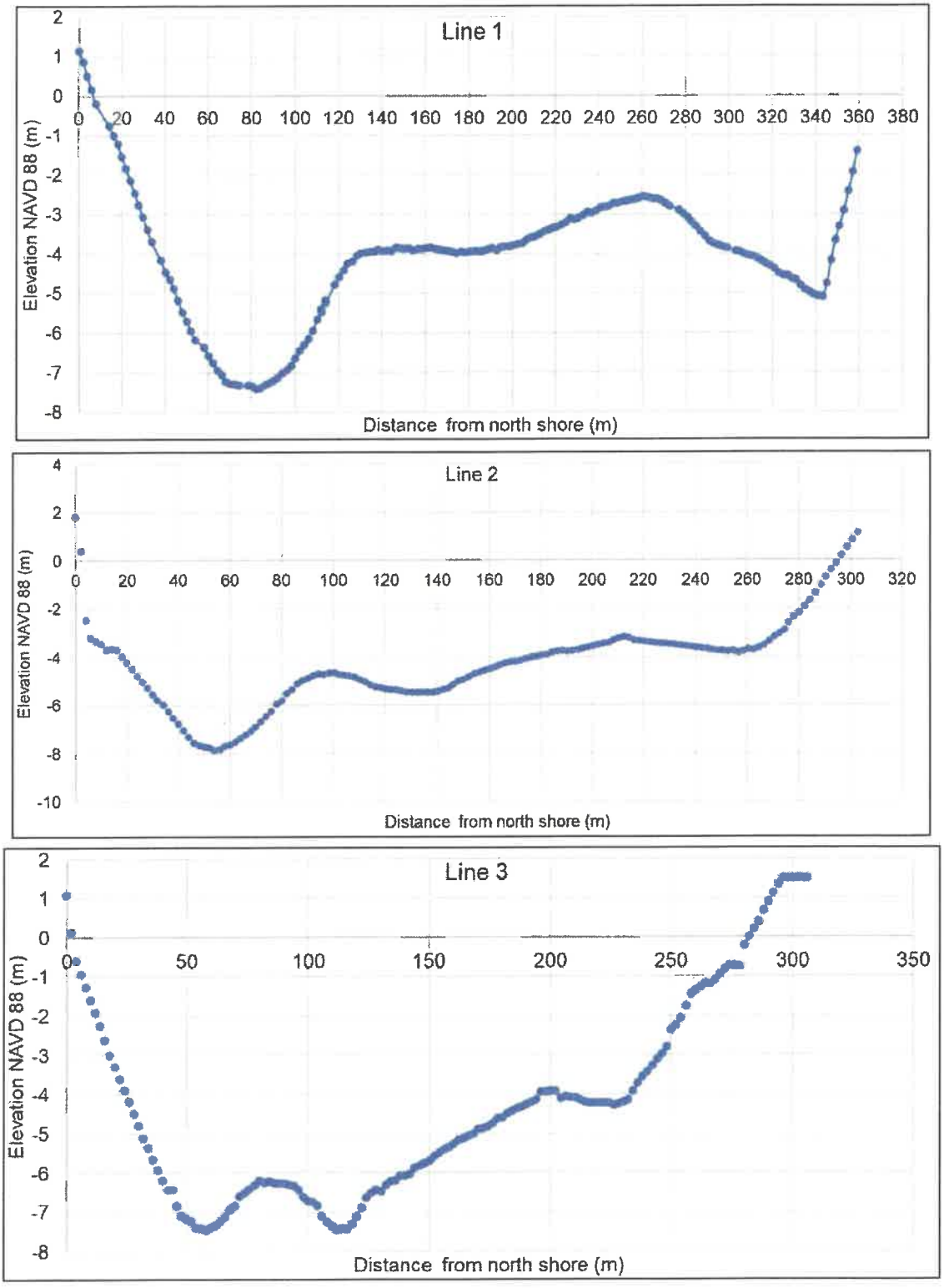


Figure A21. Cross sections 1, 2 and 3. Locations are shown in Figure 56.

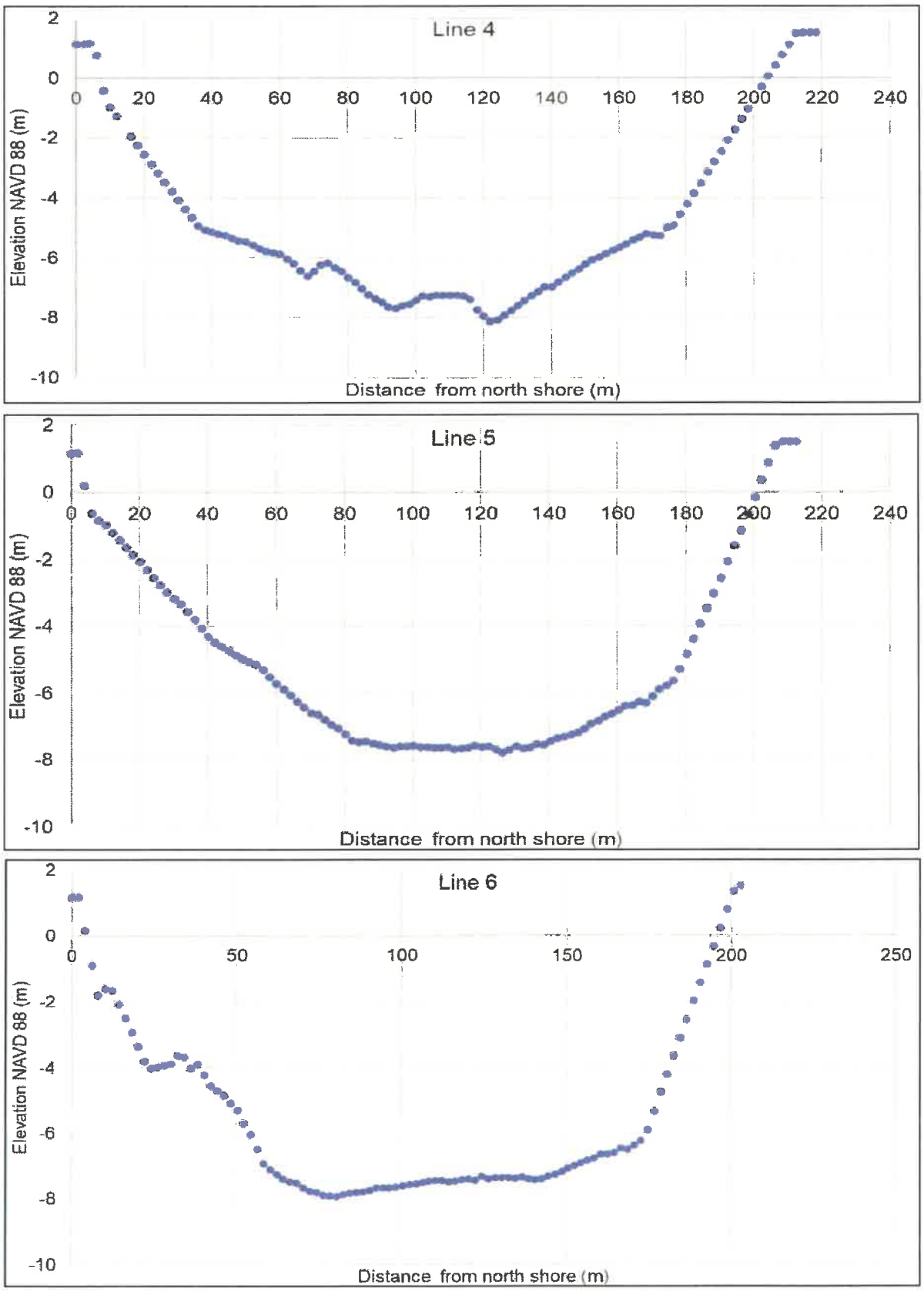


Figure 22. Cross sections 4, 5 and 6. Locations are shown in Figure 56.

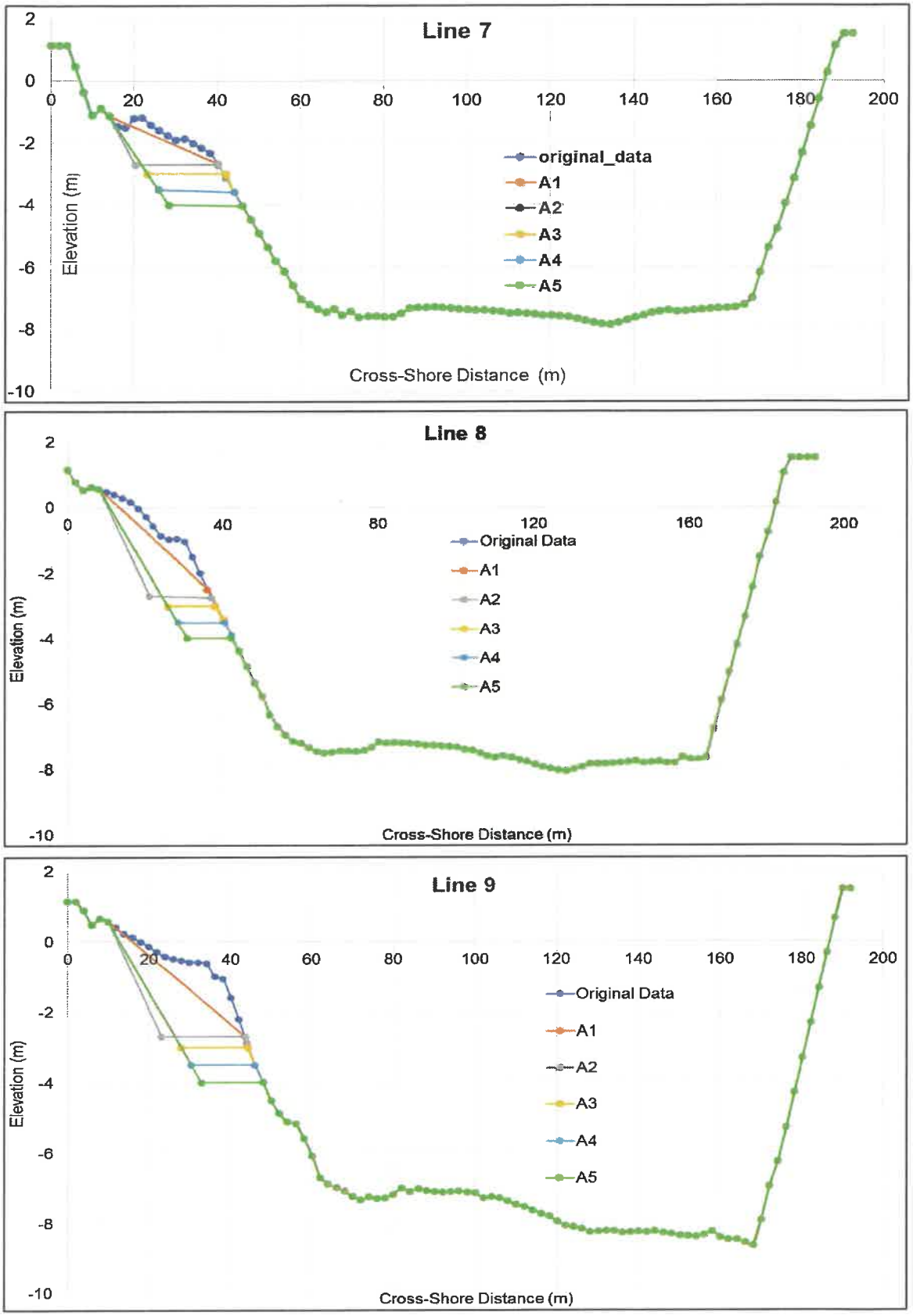


Figure 23. Cross sections 7, 8 and 9. Locations are shown in Figure 56.

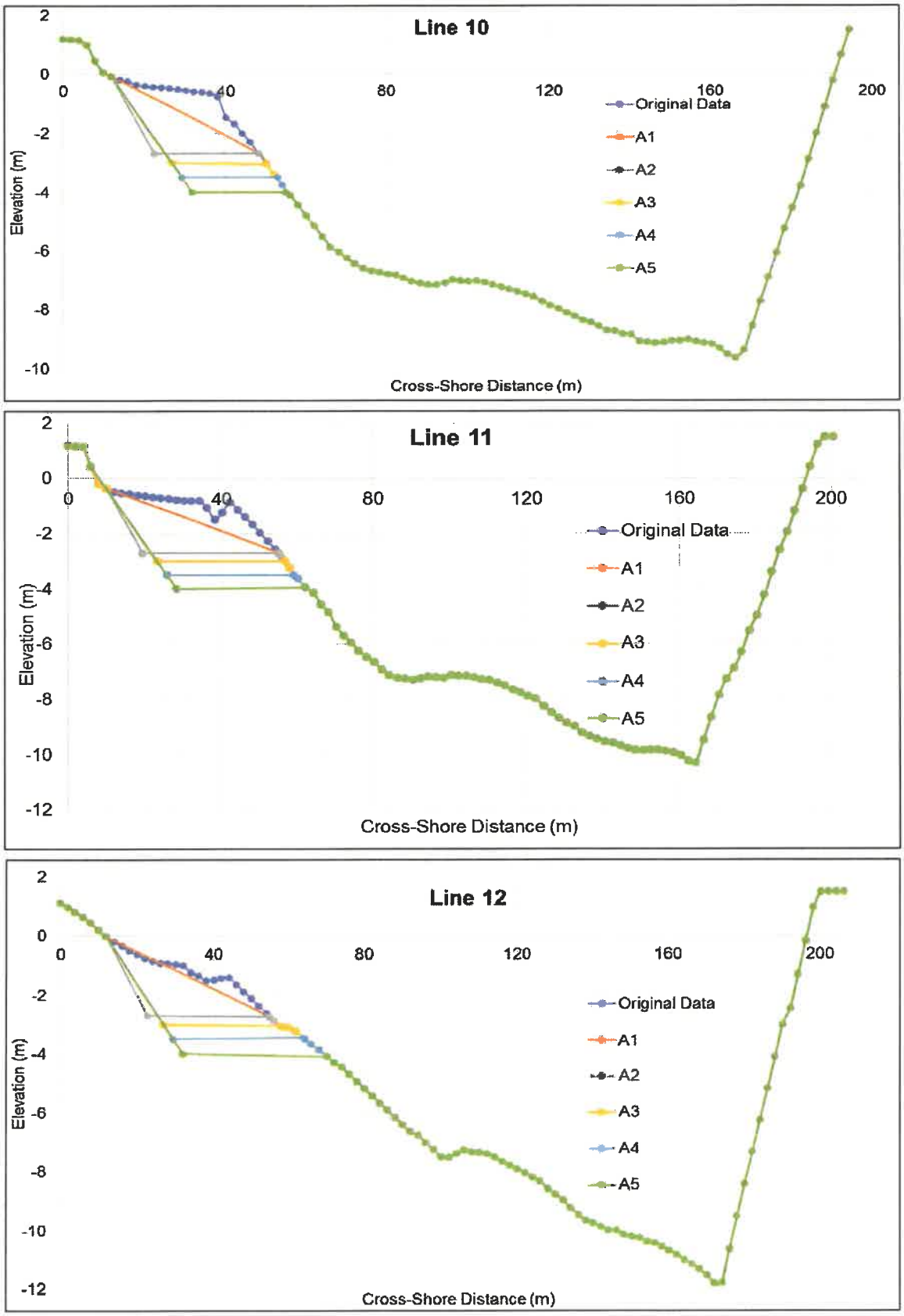


Figure A24. Cross sections 10, 11 and 12. Locations are shown in Figure 56.

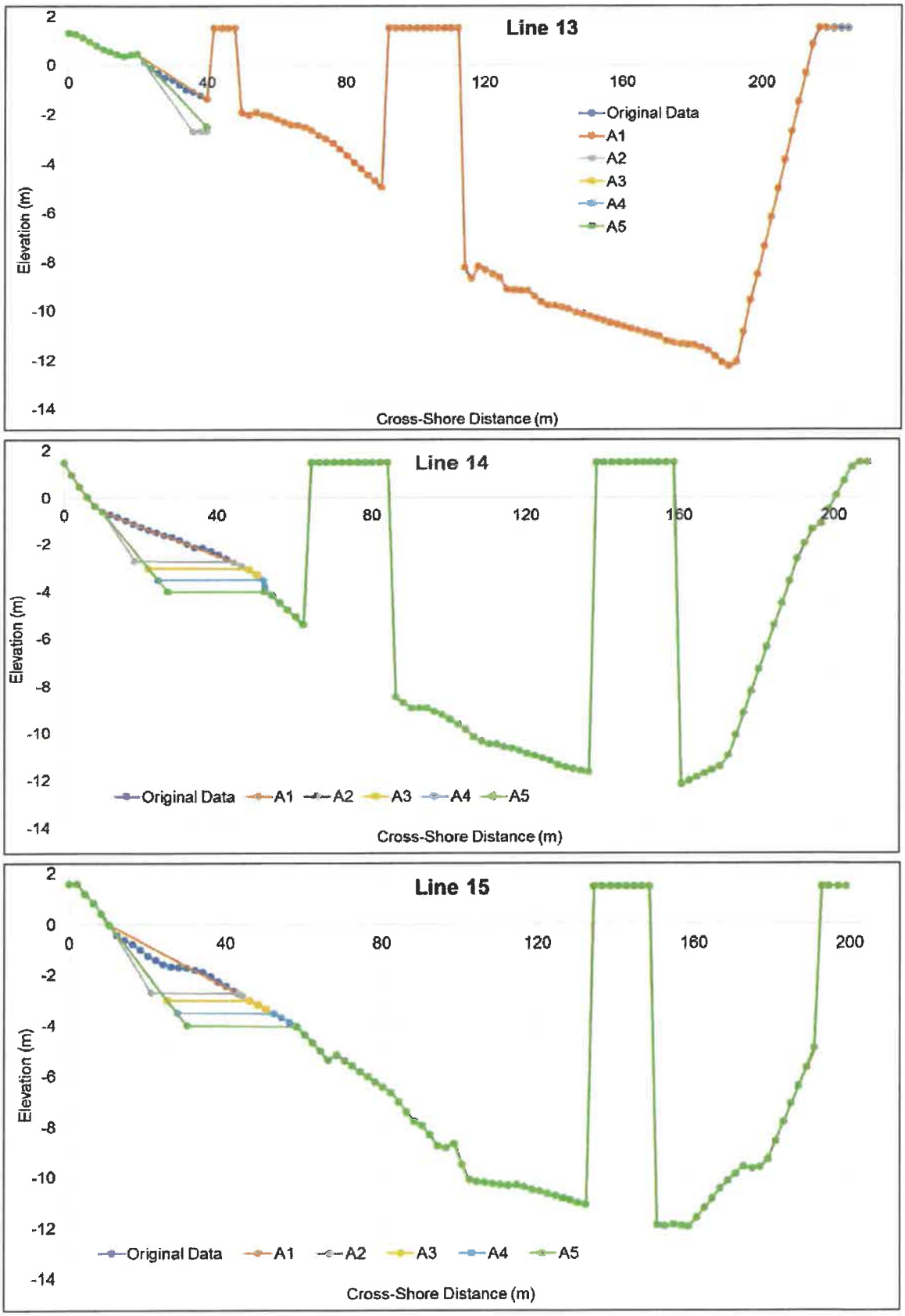


Figure A25. Cross sections 13, 14 and 15. Locations are shown in Figure 56.

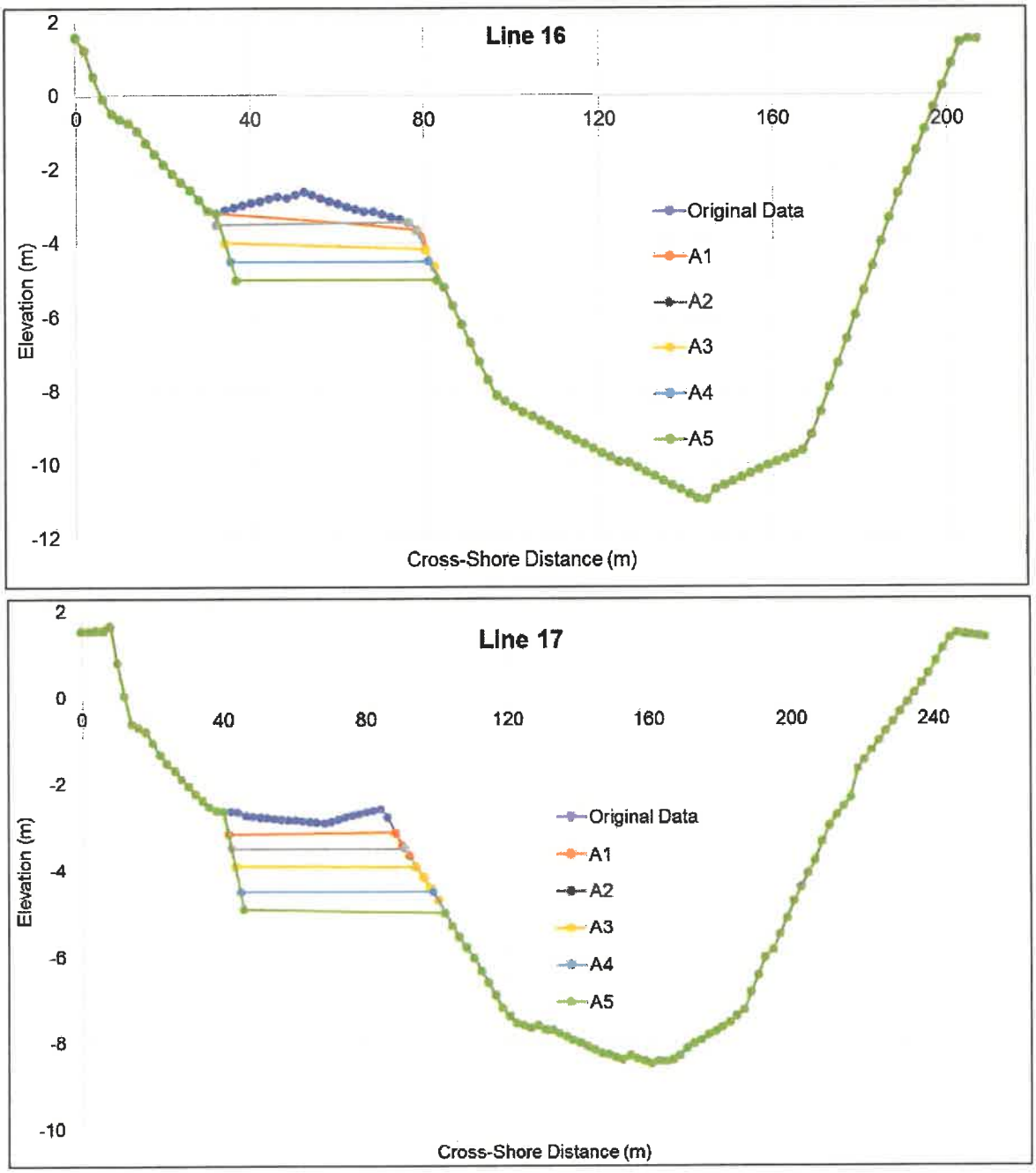


Figure A26. Cross sections 16 and 17. Locations are shown in Figure 56.

Appendix V
Modeling Results for the Proposed Mitigation Alternatives

Modeling Results for C1-A1

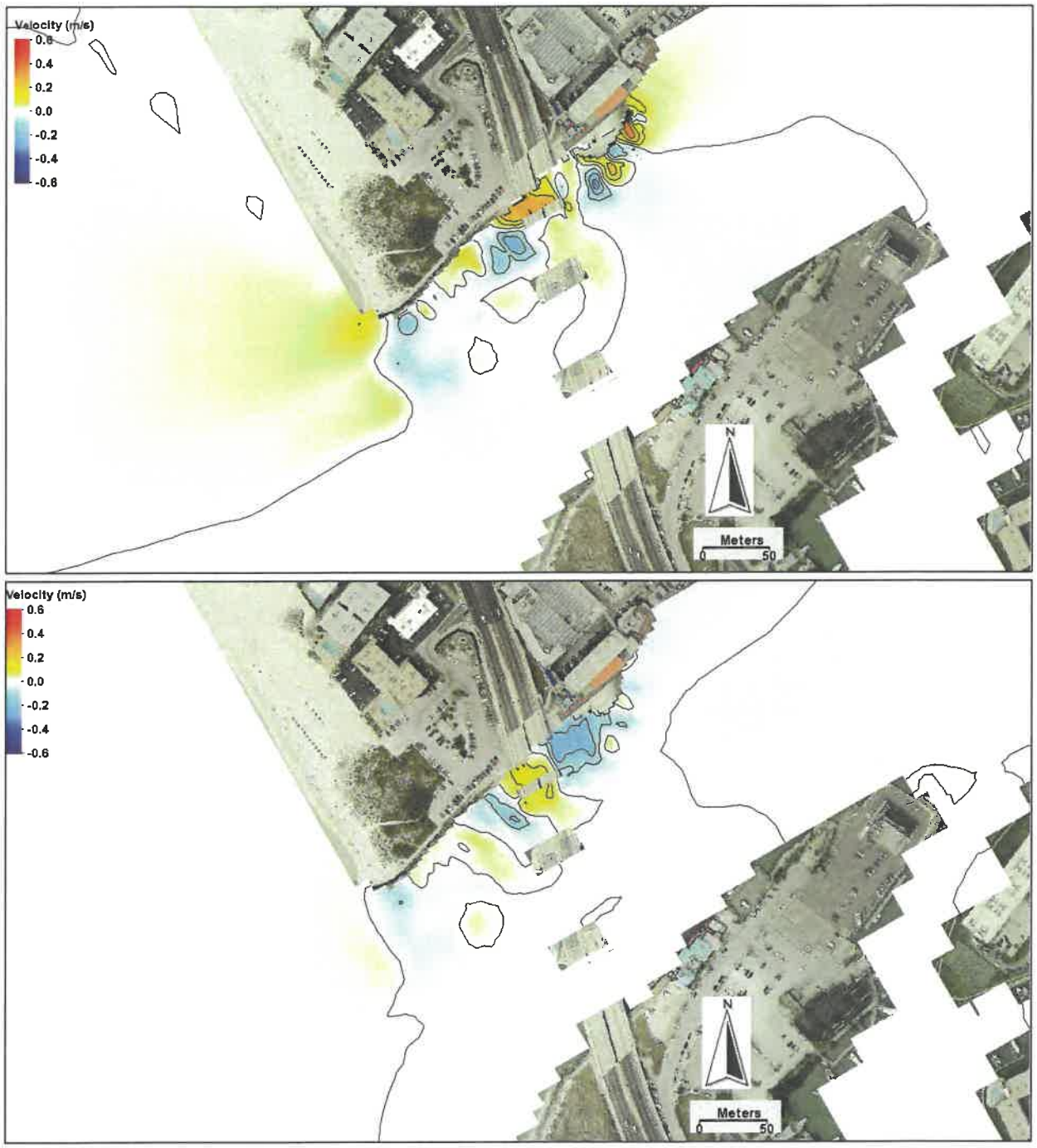


Figure A27. Difference map in velocity magnitude comparing C1-A1 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

Figure A28. Wave-height difference at high tide between C1-A1 and existing conditions. Positive values indicate higher waves for C1-A1. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

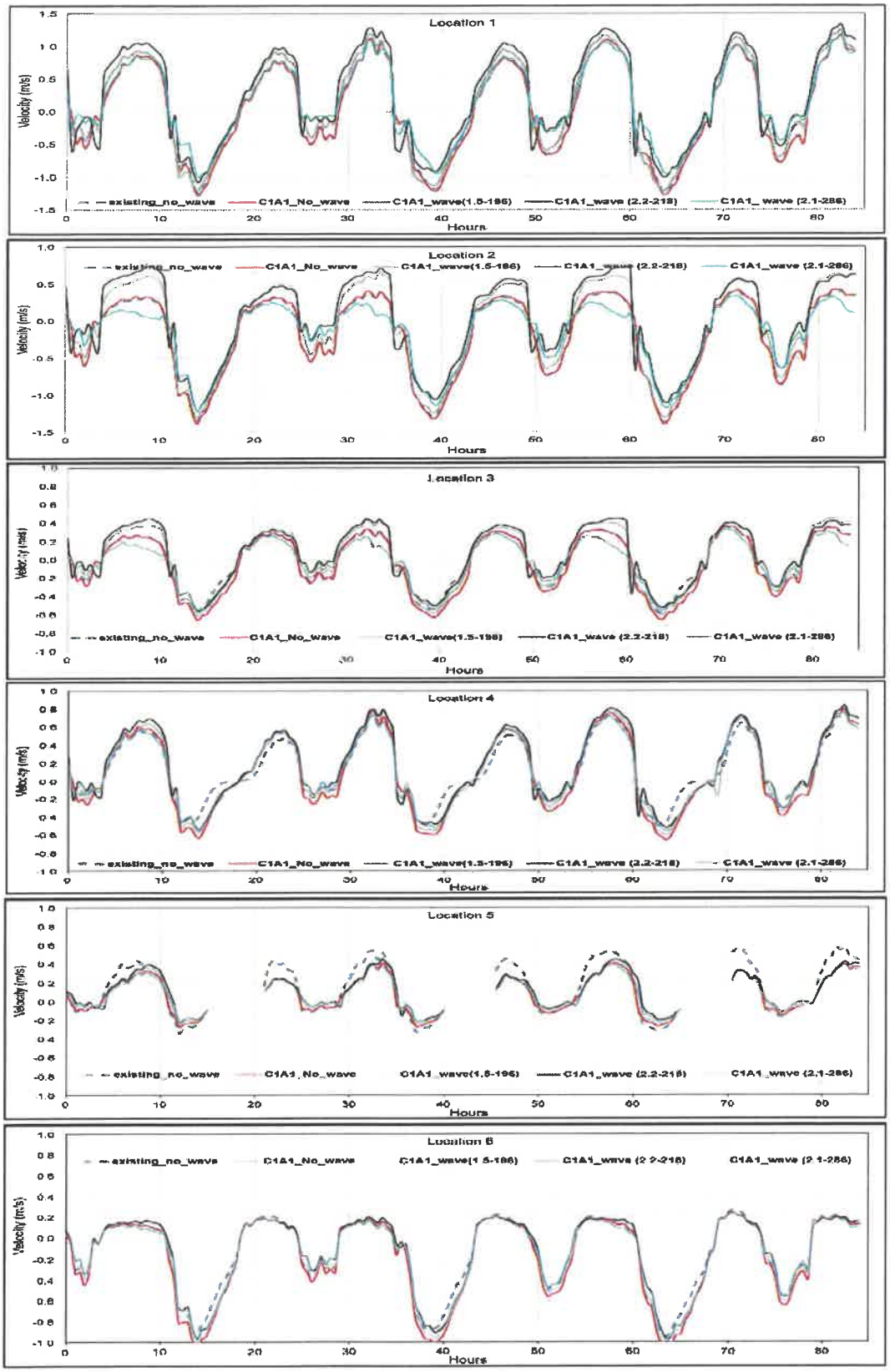


Figure A29. Wave-current interaction at the six locations for C1-A1 Alternative (see Figure 44 for the location). Positive velocity represents flood current, negative ebb current.

Modeling Results for C1-A3

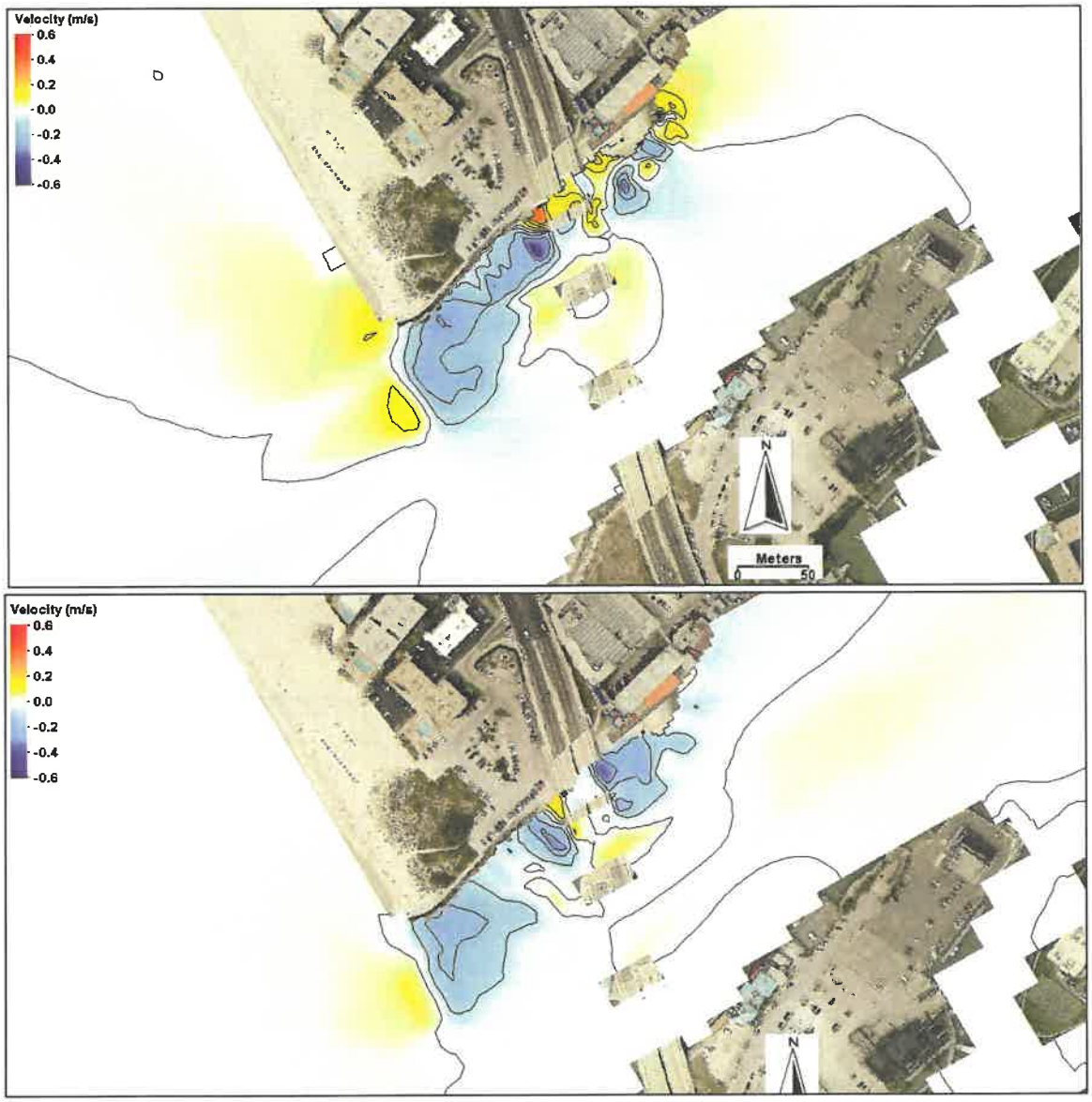


Figure A30. Difference map in velocity magnitude comparing C1-A3 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

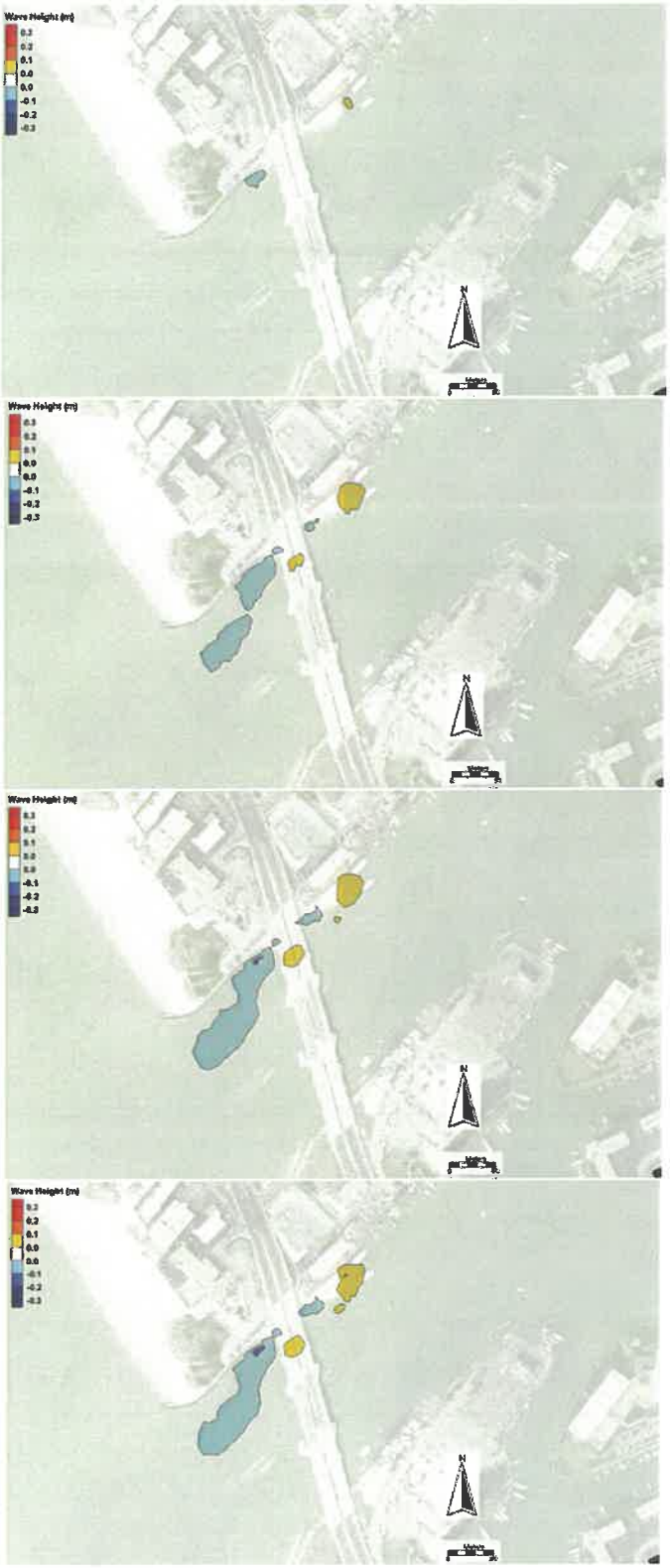


Figure A31. Wave-height difference at high tide between C1-A3 and existing conditions. Positive values indicate higher waves for C1-A3. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

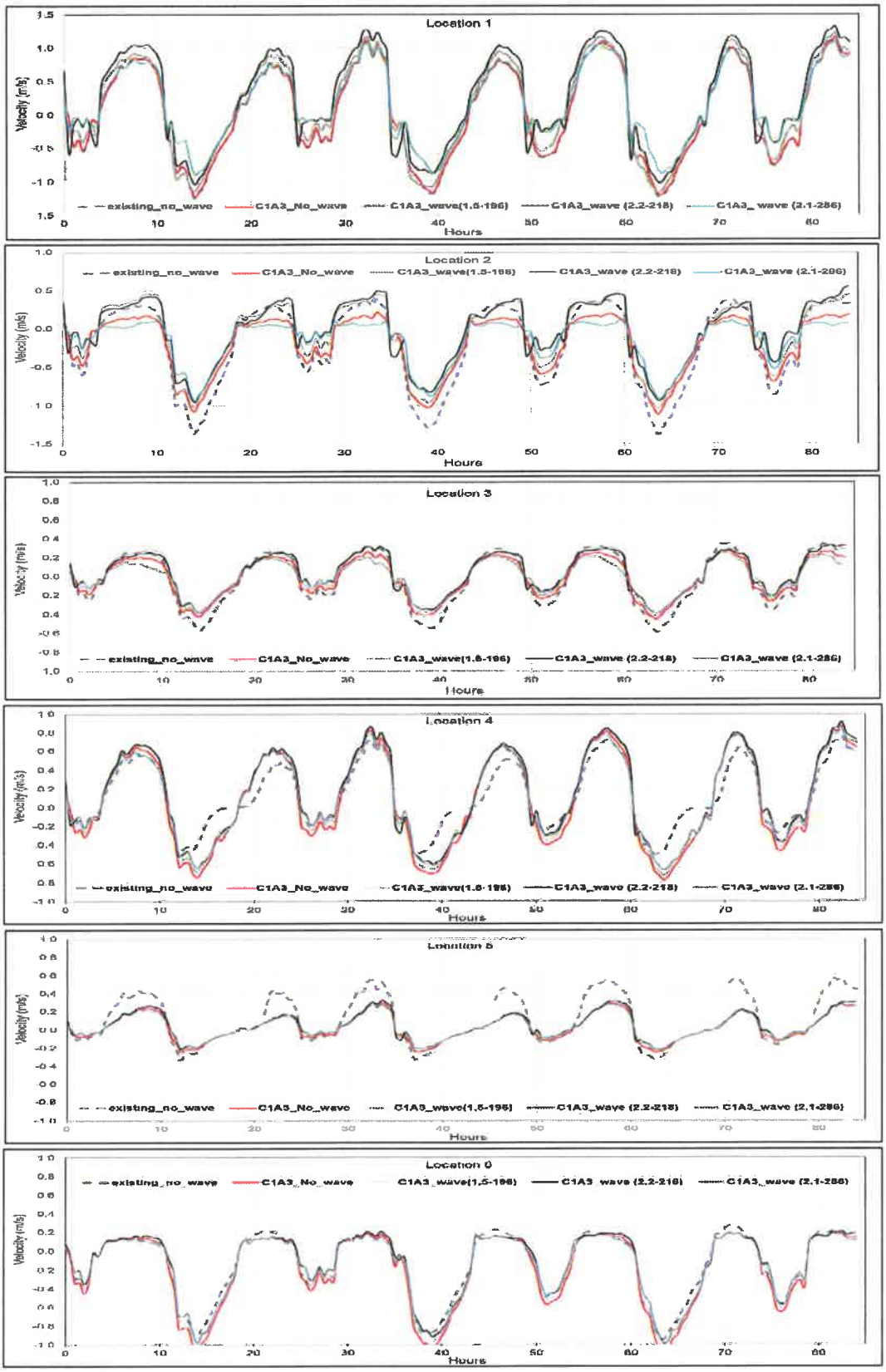


Figure A32. Wave-current interaction at the six locations for C1-A3 Alternative (see Figure 41 for the location). Positive velocity represents flood current, negative ebb current.

Modeling Results for C1-A5

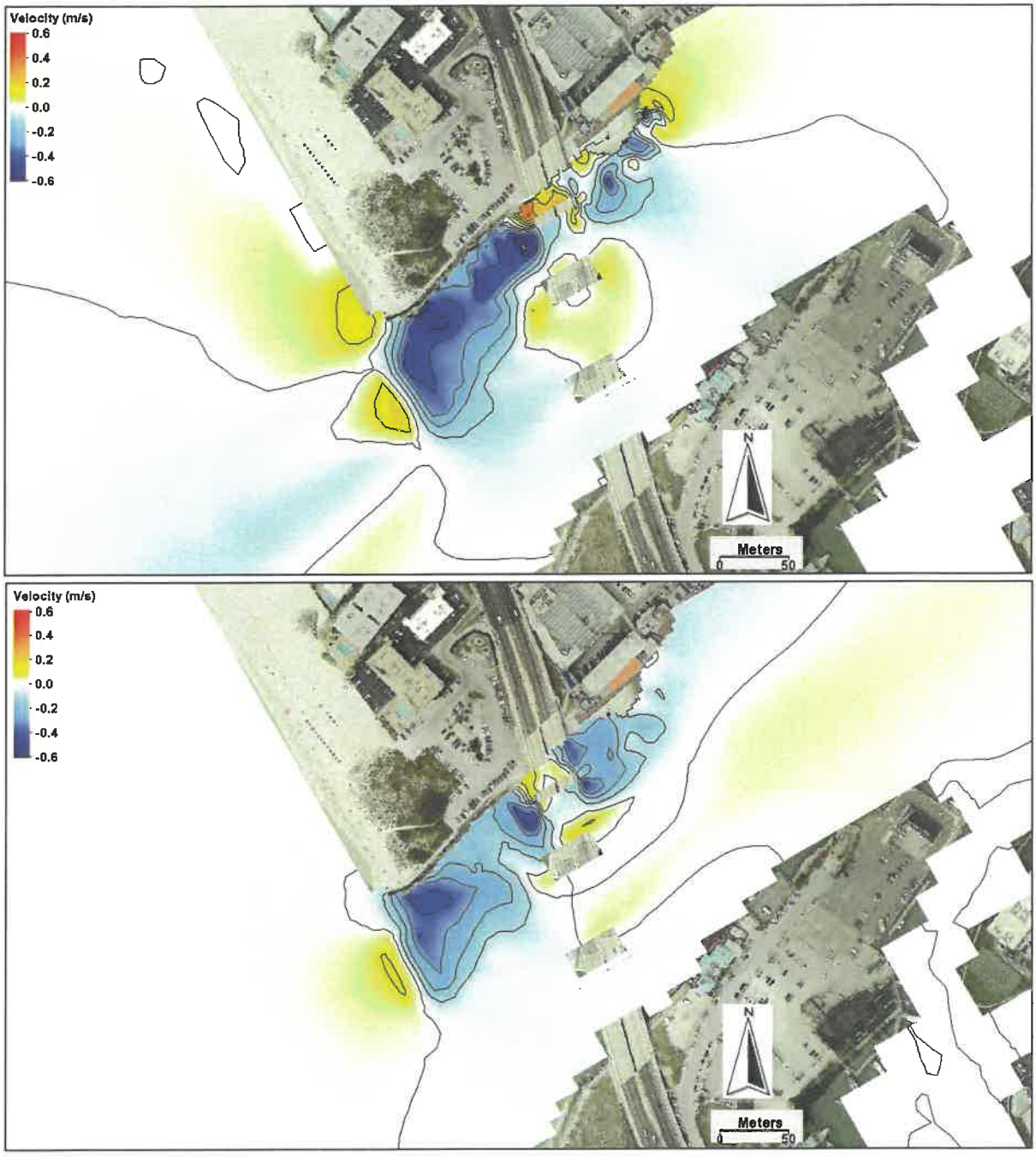


Figure A33. Difference map in velocity magnitude comparing C1-A5 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

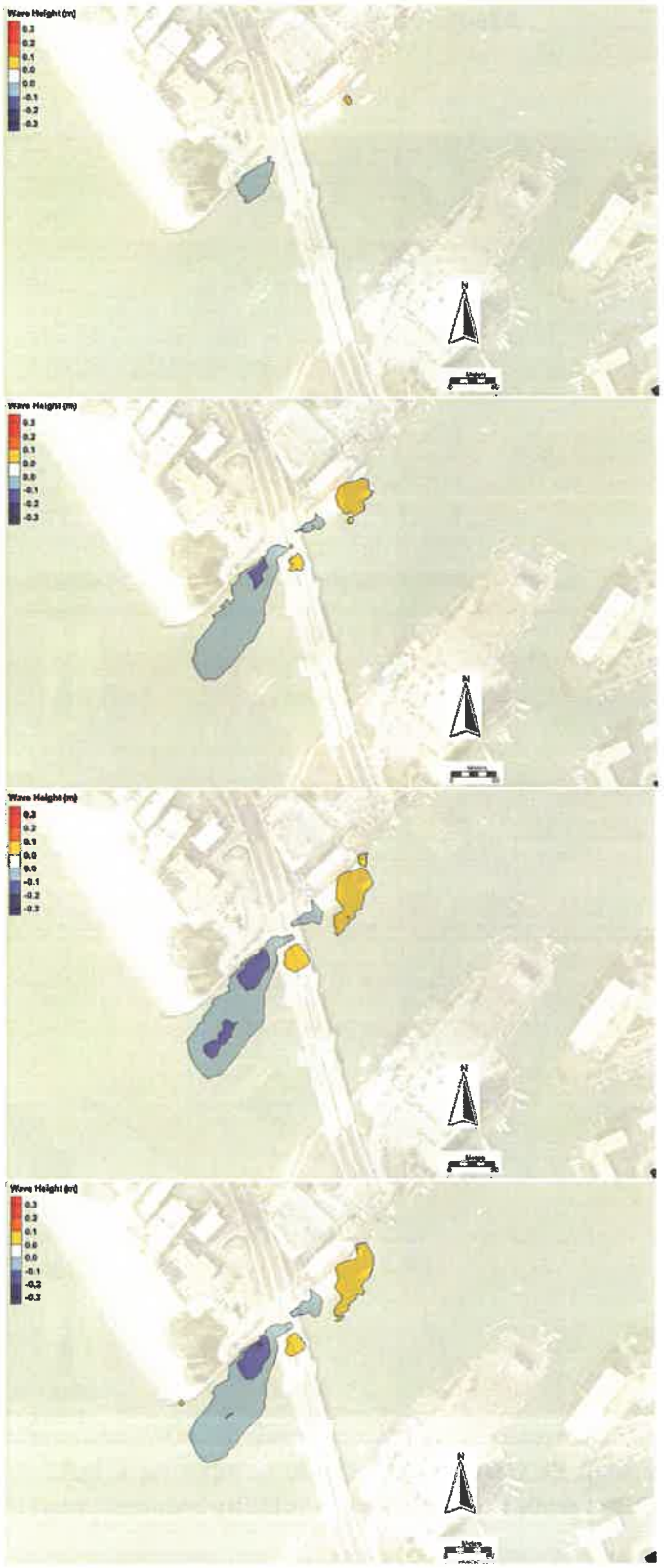


Figure A34. Wave-height difference at high tide between C1-A5 and existing conditions. Positive values indicate higher waves for C1-A5. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

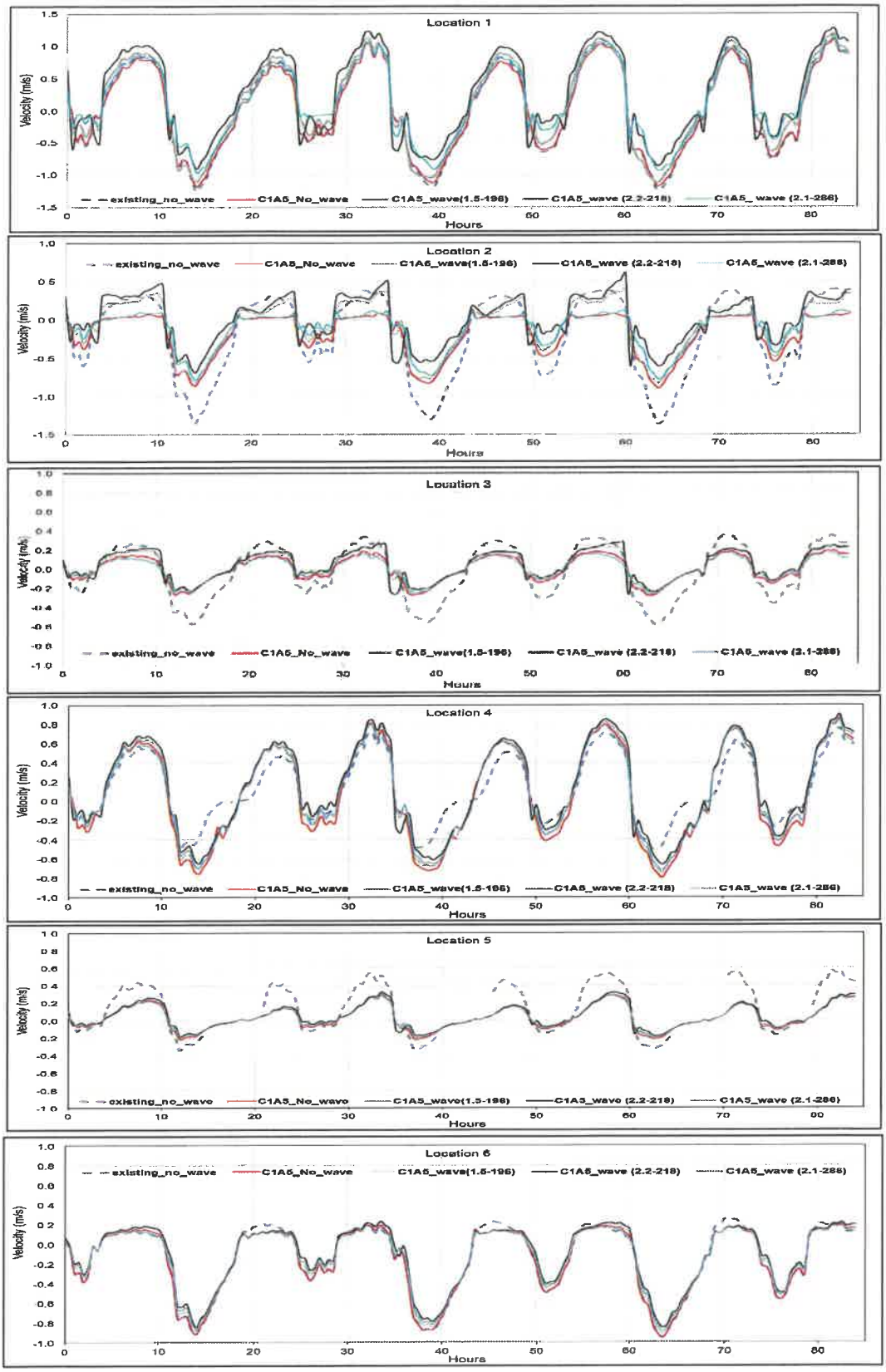


Figure A35. Wave-current interaction at the six locations for C1-A5 Alternative (see Figure 41 for the location). Positive velocity represents flood current, negative ebb current.

Modeling Results for C2-A1

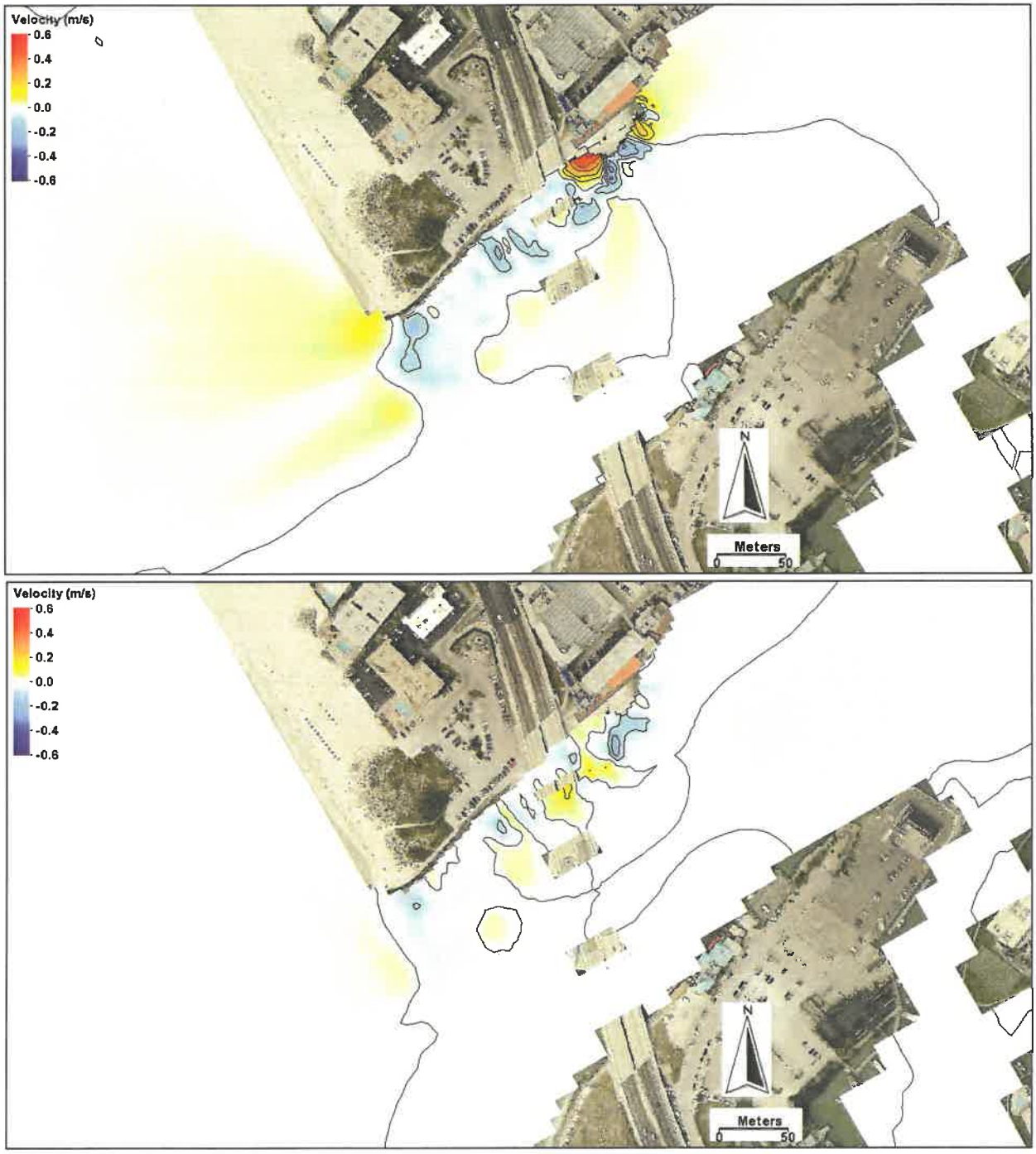


Figure A36. Difference map in velocity magnitude comparing C2-A1 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

Figure A37. Wave-height difference at high tide between C2-A1 and existing conditions. Positive values indicate higher waves for C2-A1. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

Modeling Results for C2-A3

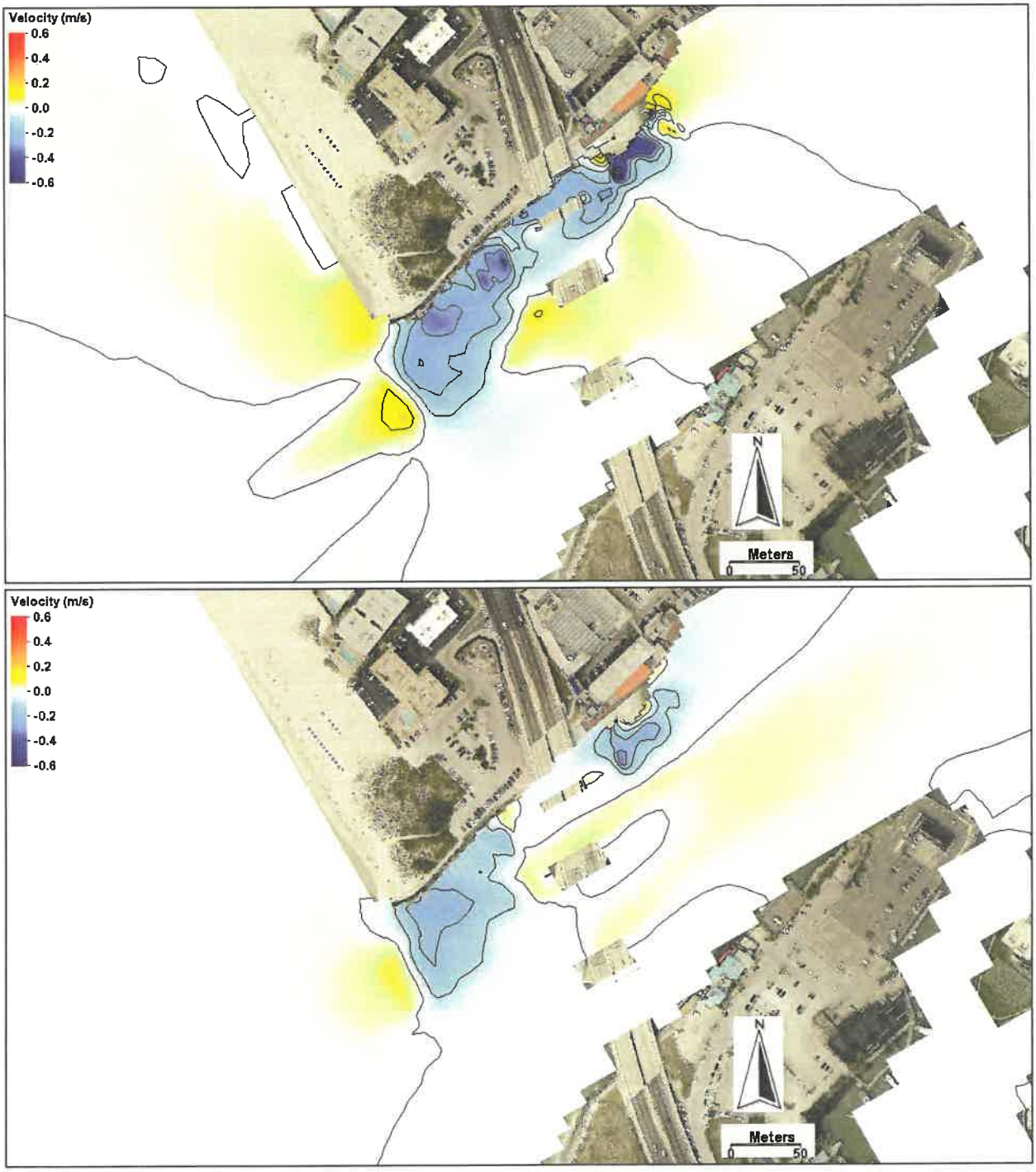


Figure A38. Difference map in velocity magnitude comparing C2-A3 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

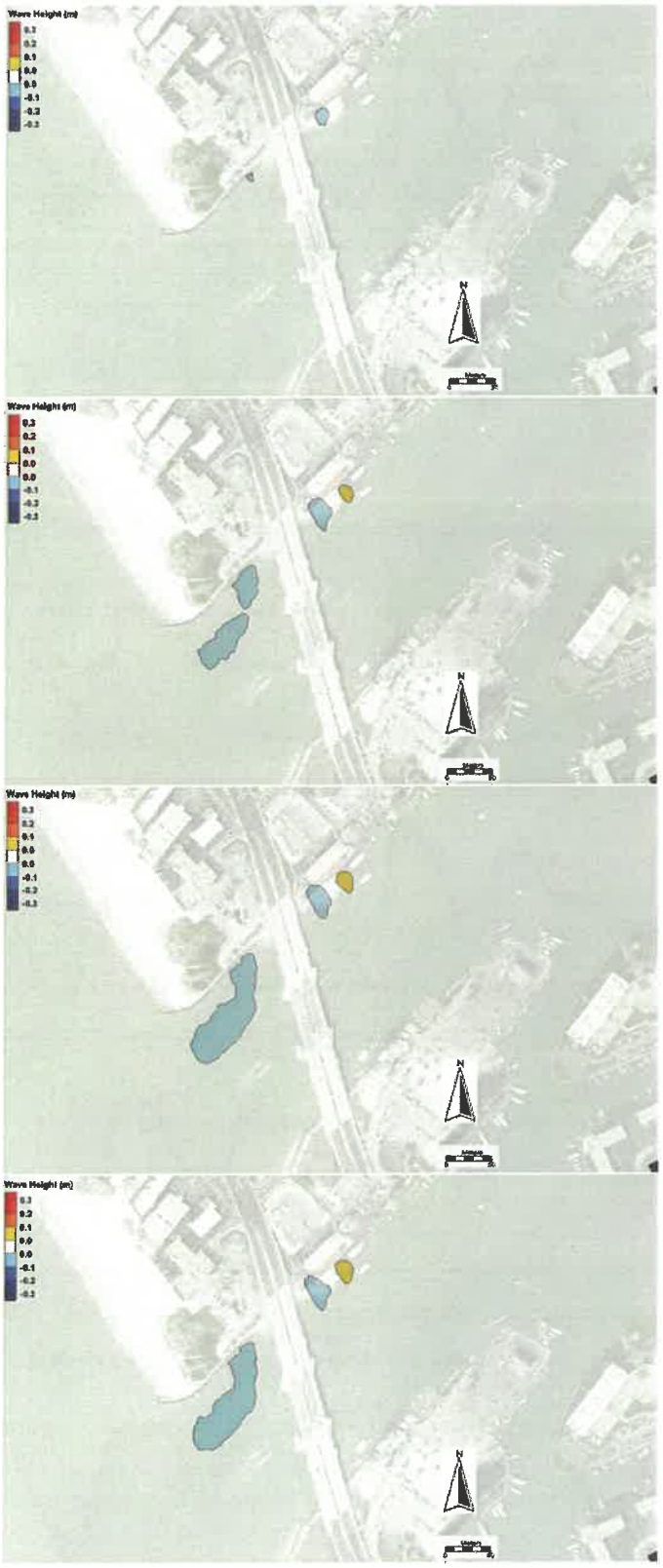


Figure A39. Wave-height difference at high tide between C2-A3 and existing conditions. Positive values indicate higher waves for C2-A3. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

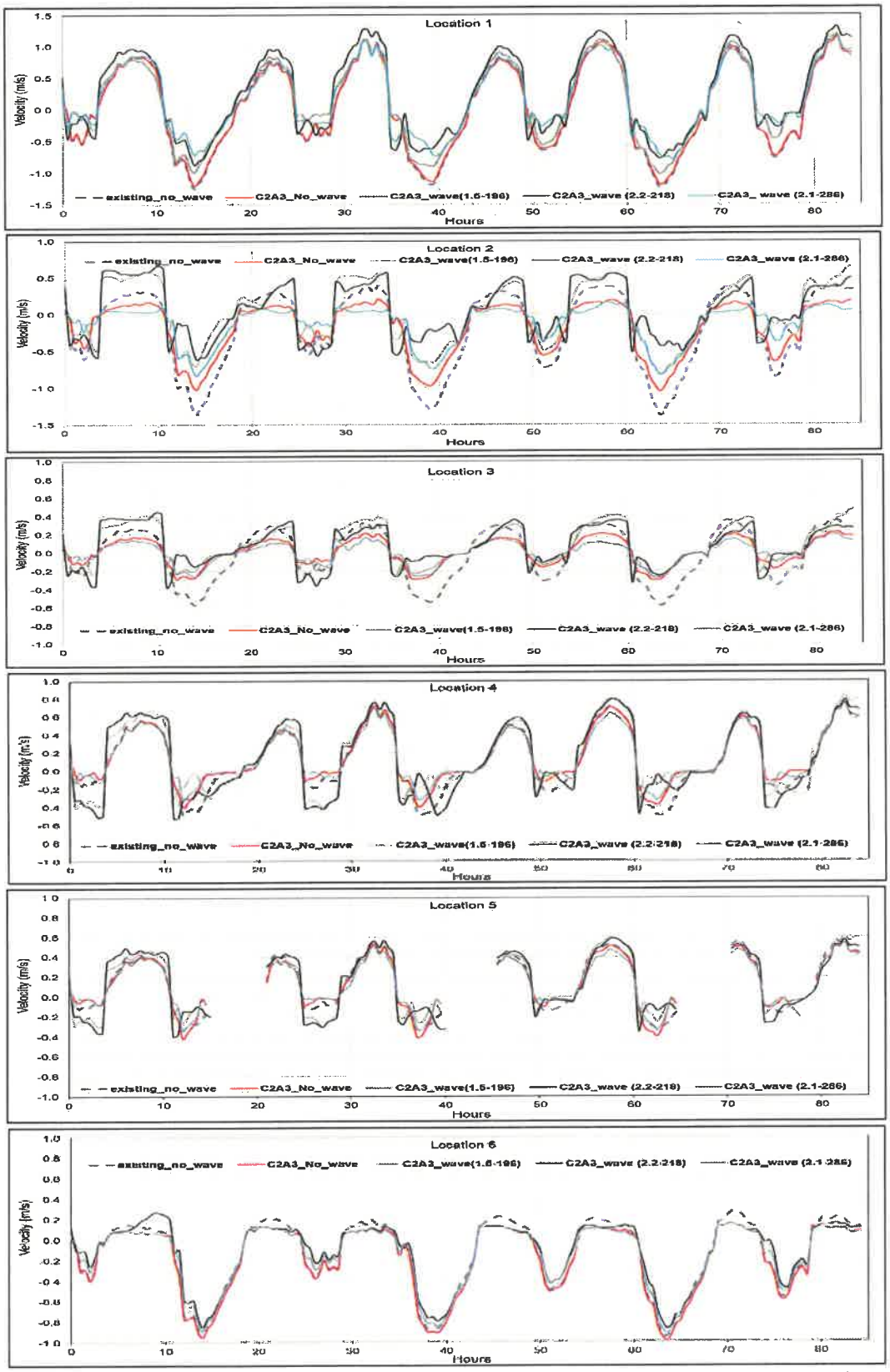


Figure A40. Wave-current interaction at the six locations for C2-A3 Alternative (see Figure 41 for the location). Positive velocity represents flood current, negative ebb current.

Modeling Results for C2-A5

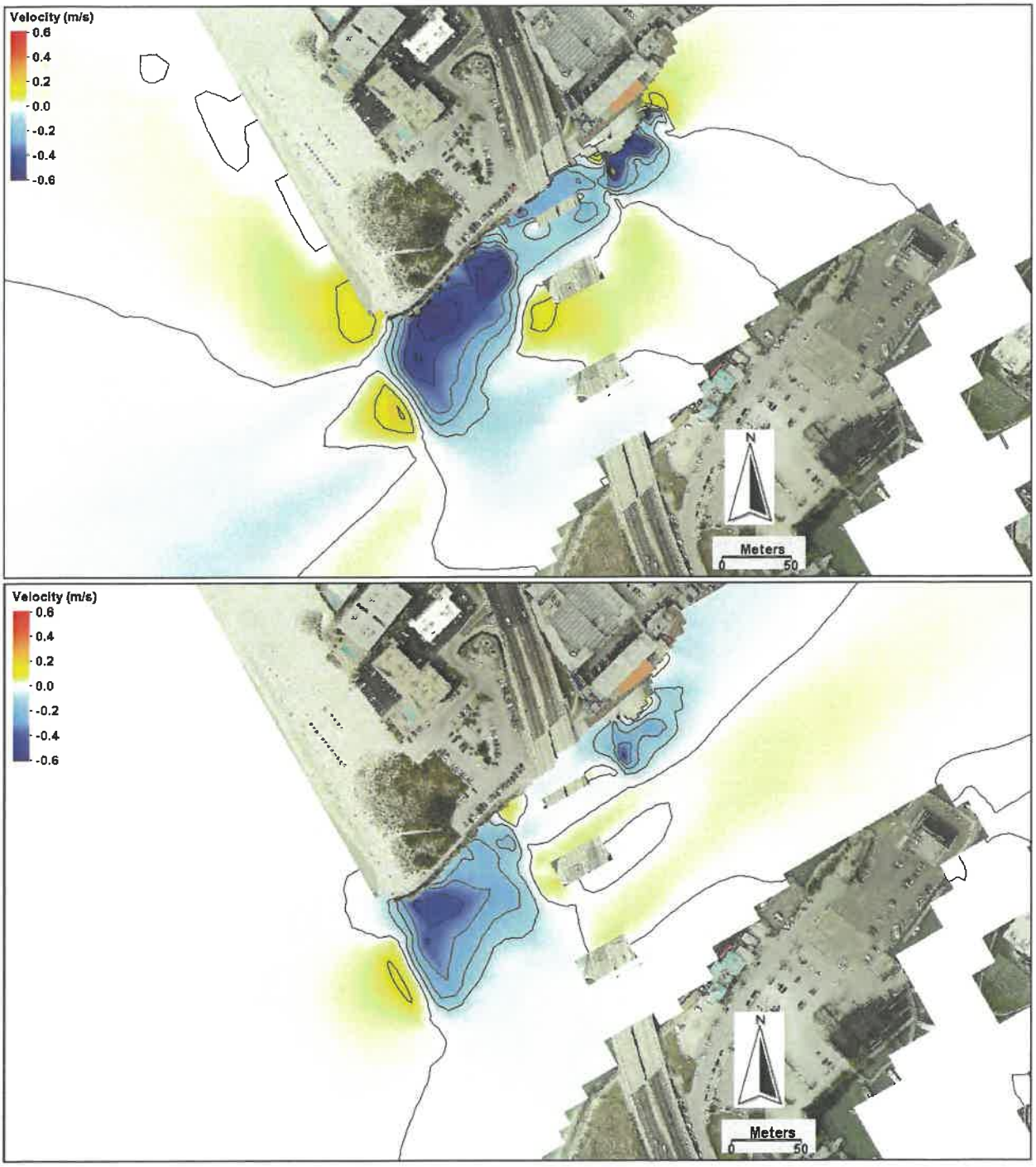


Figure A41. Difference map in velocity magnitude comparing C2-A5 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

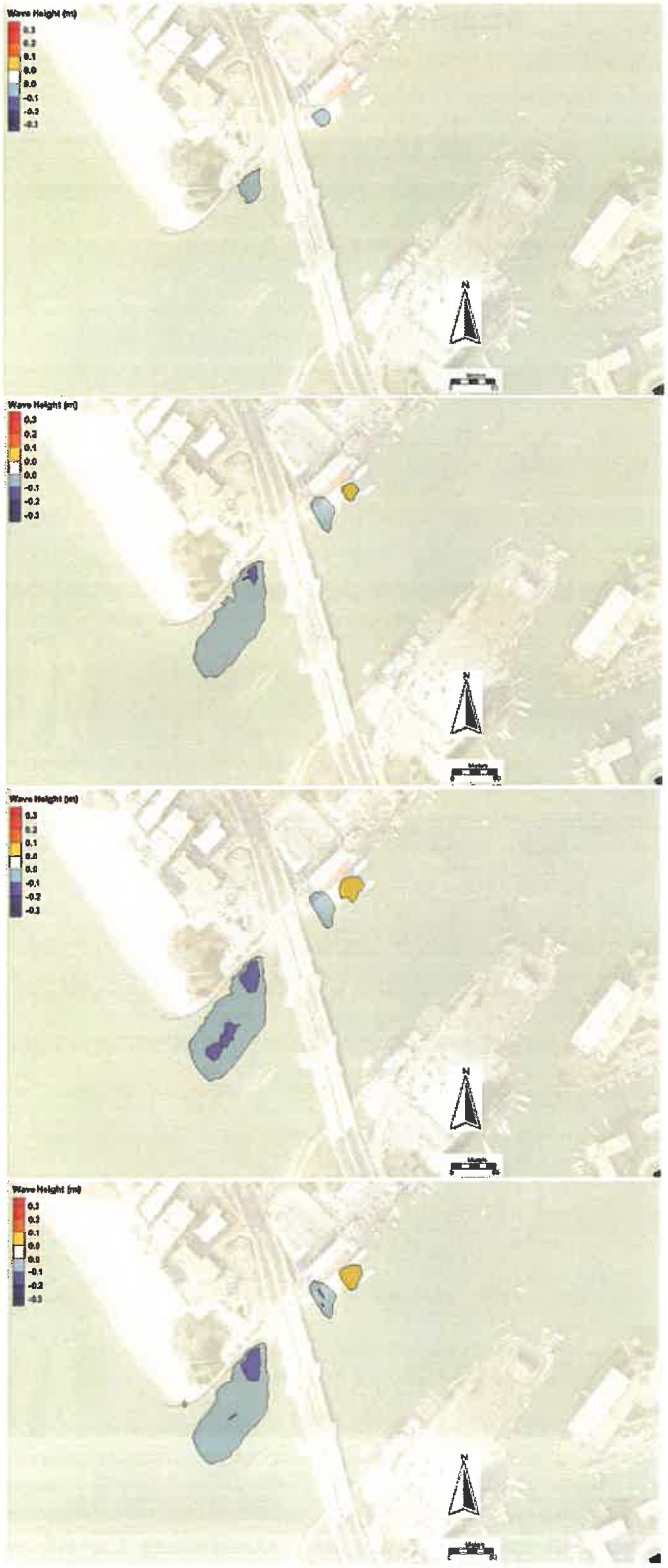


Figure A42. Wave-height difference at high tide between C2-A5 and existing conditions. Positive values indicate higher waves for C2-A5. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

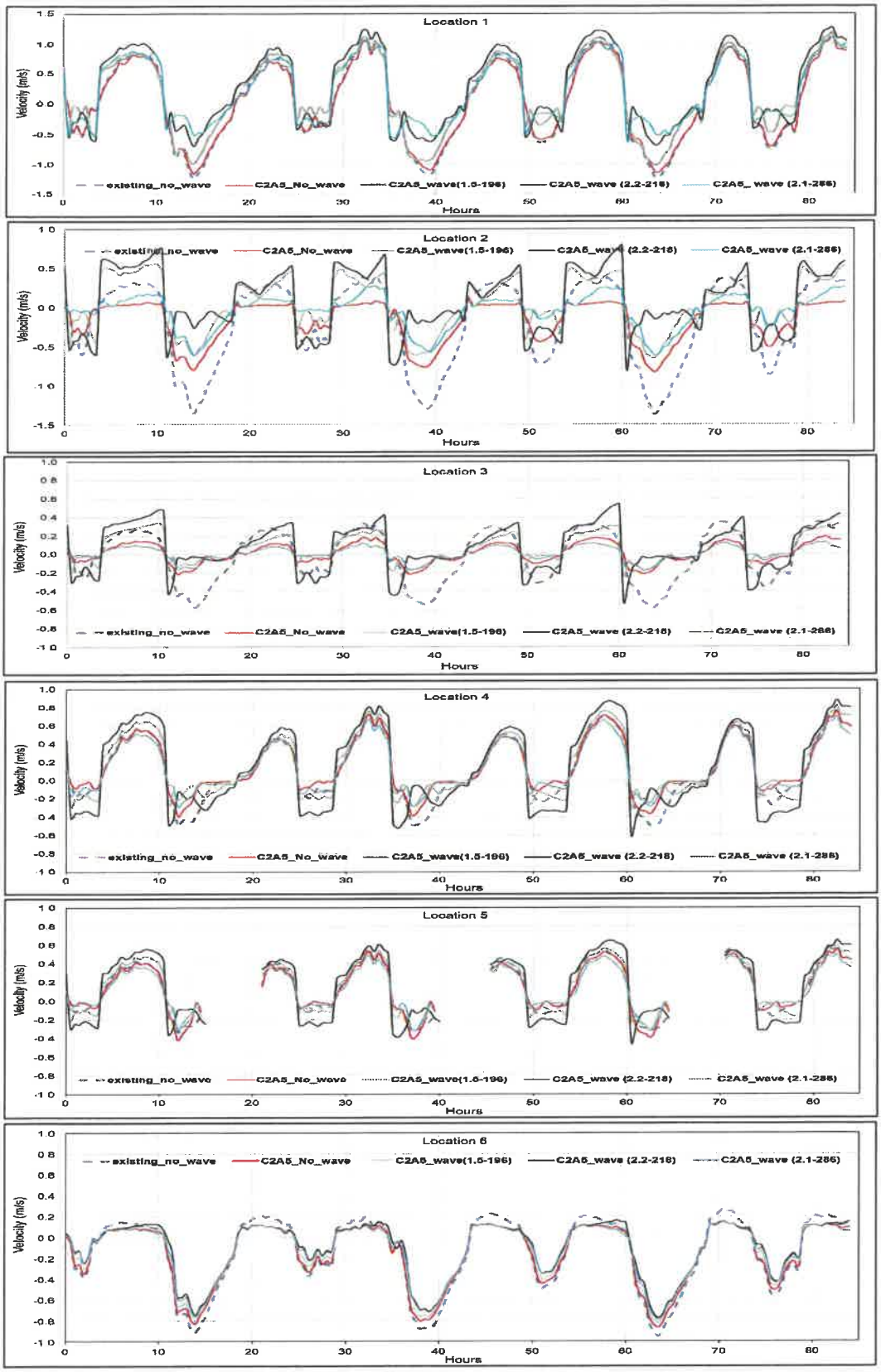


Figure A43. Wave-current interaction at the six locations for C2-A5 Alternative (see Figure 41 for the location). Positive velocity represents flood current, negative ebb current.

Modeling Results for C3

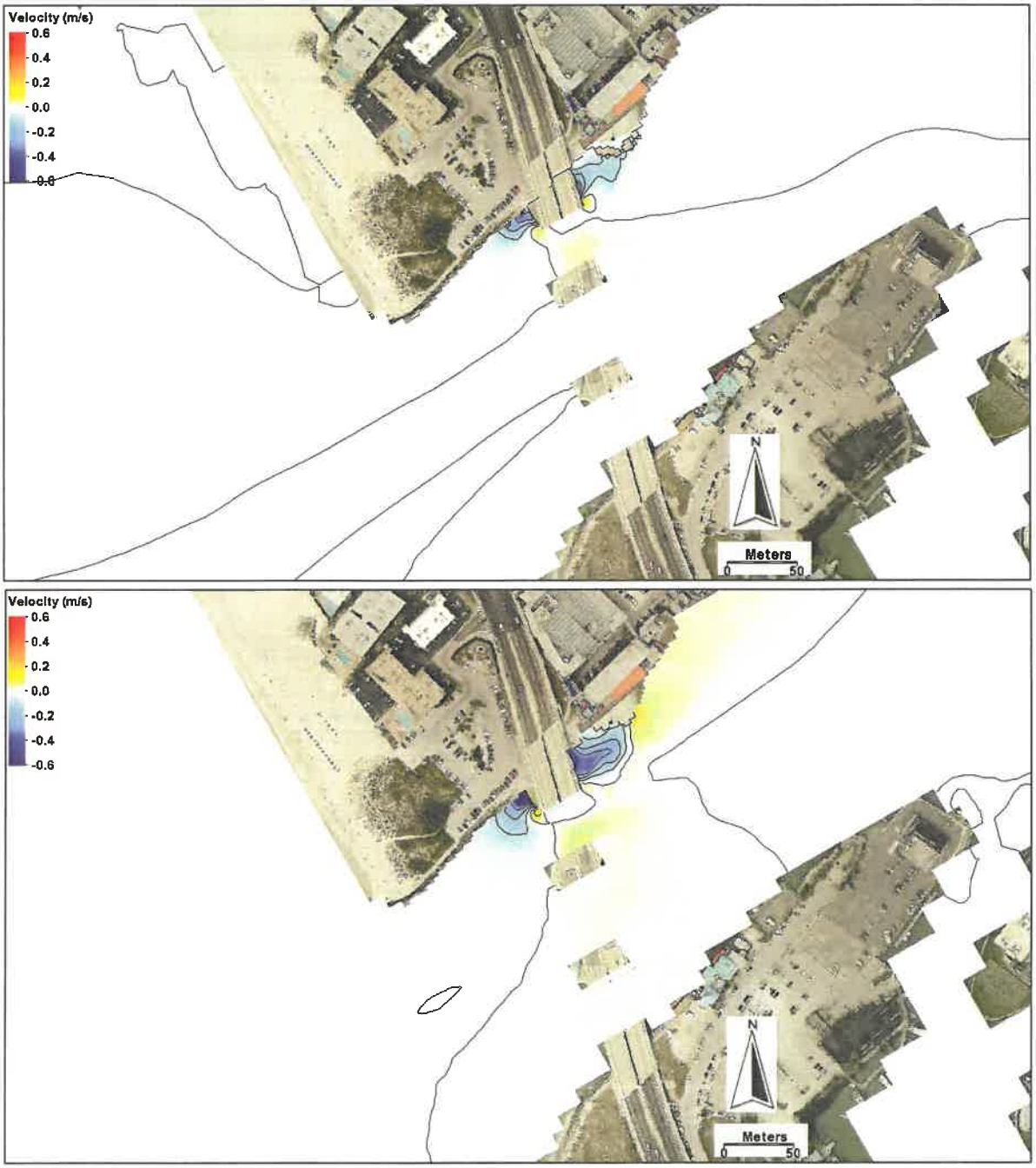


Figure A44. Difference map in velocity magnitude comparing C3 with existing condition. Upper: peak ebb. Lower: peak flood. Positive: velocity increase; negative: velocity decrease.

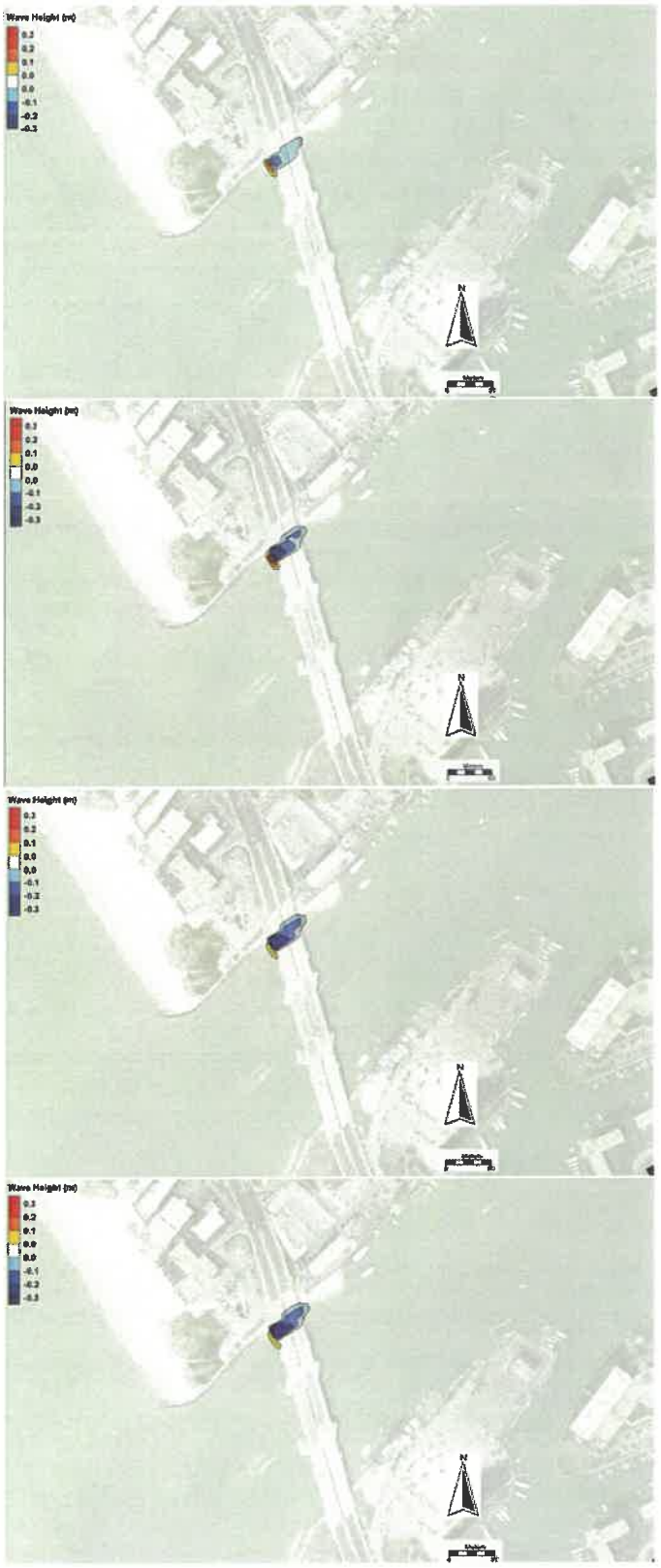


Figure A45. Wave-height difference at high tide between C3 and existing conditions. Positive values indicate higher waves for C2-A5. From top to bottom, incident wave angles are 173.25, 196.25, 218.75, and 286.25 degrees.

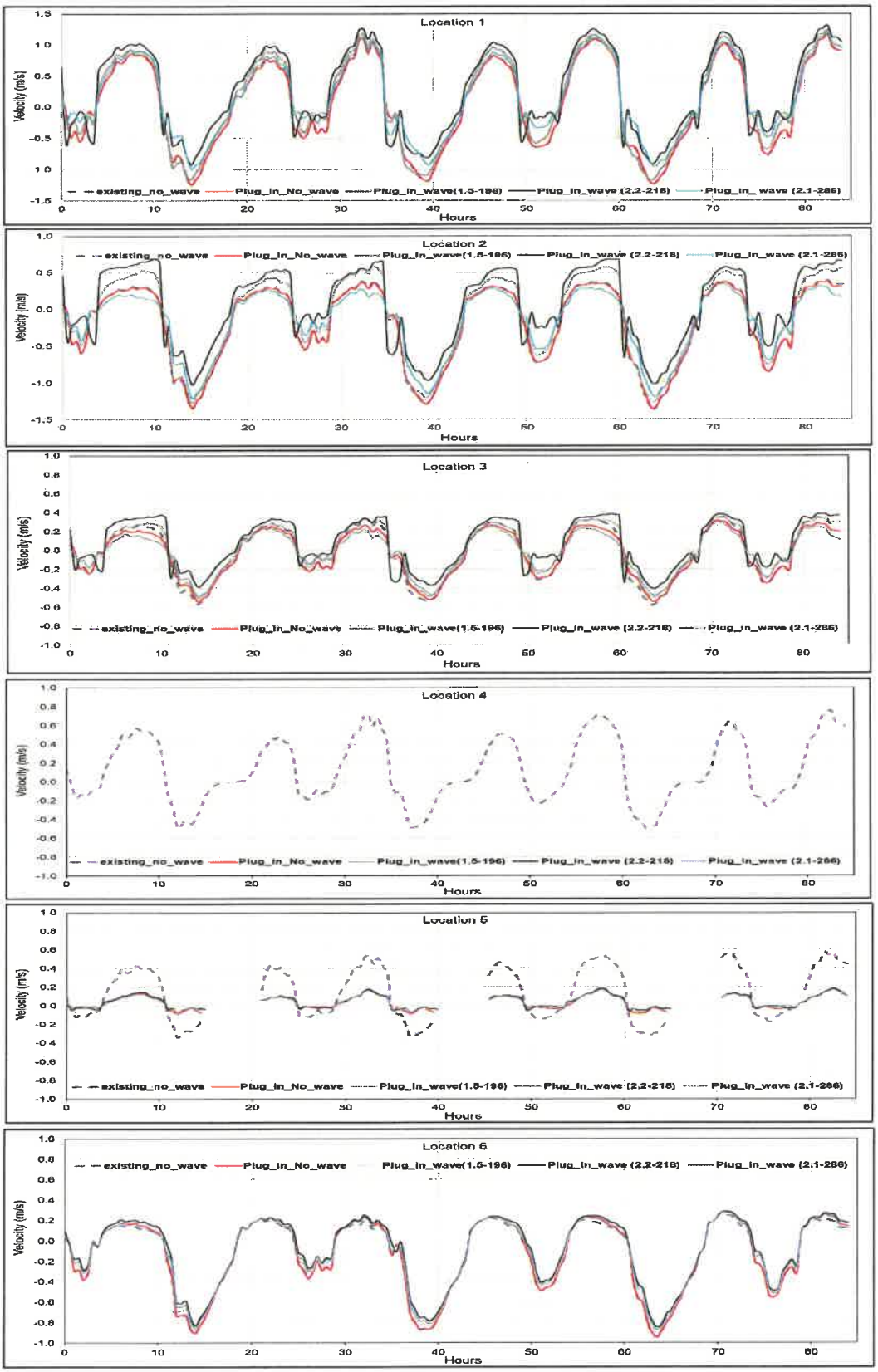


Figure A46. Wave-current interaction at the six locations for C3 Alternative (see Figure 41 for the location). Positive velocity represents flood current, negative ebb current.

Memorandum

Meeting Details: January 28, 2026 BOC Workshop Meeting

Prepared For: Mayor & Board of Commissioners

From: Marci Forbes, Community Development Director / Megan Wepfer, Public Works Director

Subject: Archibald Snack Shack Update

Background

Substructure Review

Following the November 25th, 2025 Board of Commissioners meeting, Notice to Proceed (NTP) for the sand removal was issued to Mail Contracting Corp. While efforts are still on-going to finalize the sand removal, enough sand had been extracted by January 9, 2026 to do a preliminary review of the substructure via the crawl space. The visual assessment allowed for "easy" access to 14 of the existing 45 piles, allowing for review of the top 20 to 26 inches of the pile. The substructure consists of the following:

- 45 10-inch piles (5 rows of 9) extending to unknown depths
- 5 bearer beams (5.75" x 9") running the length of the 9 piles
- 2" x 10" joists, 18" on center, running perpendicular to the bearer beams
- Subfloor consisting of ¾" wood subfloor topped with 5/8" cementitious board

The following was observed:

- Piles are treated with creosote
- Perimeter piles showed weathering cracks in the exposed top but no loss of capacity visible
- Interior piles showed similar wear to one another, with minimal splintering except one pile showed significant splintering and deterioration however, a corrugated pipe was discharging to this location and appears to have aided in expediting deterioration
- Bearer beams resting on top of the piles were in good condition, with no signs of capacity loss and good contact with the top of piles
- Joists were in overall good shape, with minimum splintering and good lapping
- Most all strapping showed signs of deterioration and will require replacement and/or additional strapping

In general, the substructure exhibited localized deterioration, rusted strapping and will require targeted repairs and reinforcement; however, it does not exhibit signs of systemic structural failure. With appropriate repairs, the substructure is capable of safely anchoring the superstructure.

Historical Designation

As previously discussed, the City Land Development Regulations (LDRs) do not include a process by which structures can be designated historical. Attached is a preliminary cost estimate of $54,000 provided by Kimley Horn to add this language to our LDRs. The city has been in contact with Kimley Horn to break the tasks out into a per meeting breakdown within the tasks to provide flexibility if we did not require all of the meetings. It is important to note, the ordinance, once adopted, will be applicable to the Snack Shack, and other qualifying structures in the future.

Fiscal Impact

The cost to update our LDRs is estimated not to exceed $54,000. The scope of work, from design to construction, will be fully developed in the coming months, taking into consideration the newly obtained substructure condition as well as applicable costs associated with the repairs being in line with the historical requirements.

Recommendation(s)

Staff is looking for recommendations from the Board of Commissioners on how to proceed.

Attachments

- KH – KH Cost Estimate for LDR Updates
- Snack Shack – Substructure Exhibit

Task 1-Drafting of the Historic Preservation Ordinance and Certification of Appropriateness (COA) process creation ($12,000)

Kimley-Horn will work with staff to draft an Historic Preservation Ordinance to allow for a voluntary historic local landmark process. This ordinance will attempt to follow the Certified Local Government (CLG) process in the event the City desires to comply with the State's CLG program. The ordinance will be composed of explain the application process, local landmark criteria, notice requirements, public hearing and COA processes.

Task 2-Review of Ordinance with City's Attorney and Staff ($10,000)

Kimley-Horn will work with the City's attorney on revisions to the ordinance. It is anticipated that there will be numerous revisions and virtual calls with staff, Kimley-Horn, and the City's attorney to complete the final draft of the ordinance that will then be presented to the public. This task will be limited to four (4) revisions and four (4) virtual meetings.

Task 3-Public Workshop (optional or can be completed by Staff) ($7,000)

If requested, Kimley-Horn will host one (1) Public Workshop to present the new ordinance and application process to the public. The Public Workshop will be scheduled for two hours in length, with one additional hour reserved for Kimley Horn to prepare with the City. Kimley-Horn will send two professionals to attend the workshop. The City will be responsible for securing the location of the meeting and for public notice.

Kimley-Horn will prepare presentation boards for the Public Workshop. The draft of the boards will be shared with the City for their review and comment. Kimley Horn will update the boards and print them for use during the Public Workshop.

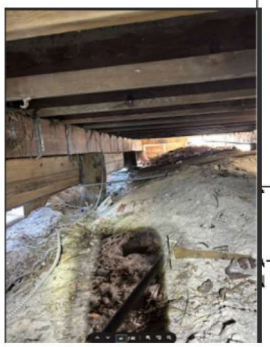
Task 4- Public Hearings (optional for KH or can be completed by Staff) ($15,000)

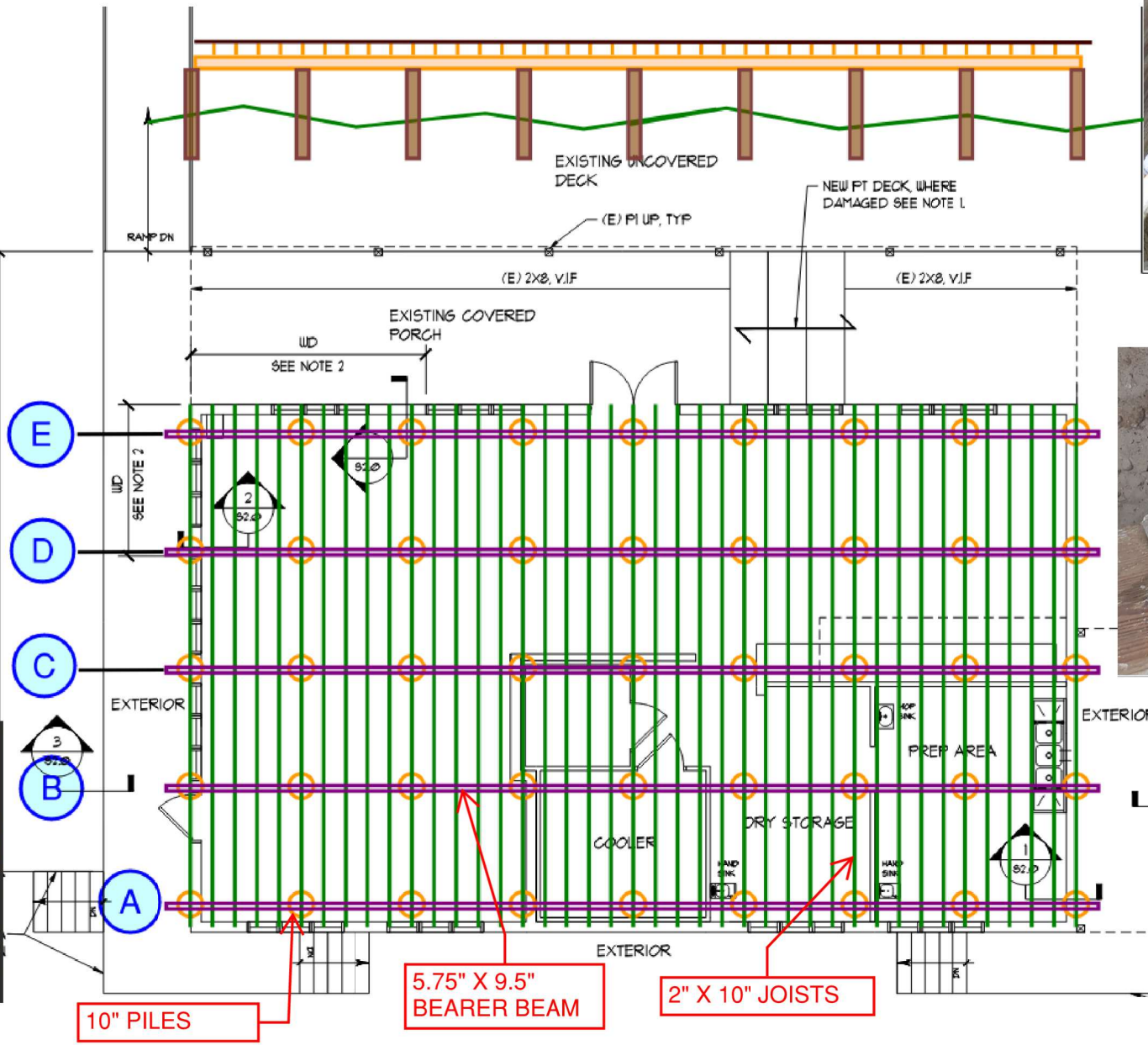
If requested, Kimley-Horn will attend the three (3) required public hearings for the adoption of the new ordinance. Kimley-Horn will also create a PowerPoint presentation for use at the hearings (if requested). Additional hearings or workshops can be completed on an hourly basis as requested by the City.

Task 5-Training for Staff and LPA as the Historic Preservation Board (optional but recommended) ($10,000)

If requested, Kimley-Horn will create a training program for staff and the City's Local Planning Agency (LPA) to serve as the newly created Historic Preservation Board. The LPA will require training to understand the new Historic Preservation ordinance and the new processes for designating local landmarks. This training program will include the explanation of staff and the LPA's role in the landmark process and how to objectively review landmark applications pursuant to the new ordinance. In addition, this training will include the new COA application process training. One (1) Kimley-Horn staff member will attend the staff and LPA training session in-person for up to four (4) hours. The City will be responsible for securing the location of the meeting and for public notice.

SNACK SHACK - SUBSTRUCTURE EXHIBIT W/ PICTURES





Memorandum

Meeting Details: January 28, 2026

Prepared For: Mayor & Board of Commissioners

From: Megan Wepfer, Public Works Director

Subject: Tom & Kitty Stuart Park Bathroom and post storm update

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Background

As part of the recovery and redevelopment effort, staff has been working with the project engineer to develop a revised site plan that elevates the new restroom facility to comply with FEMA floodplain requirements. Based on the preliminary design, the anticipated finished ground elevation for the restroom will be approximately 9.3 feet.

To address the structural requirements associated with elevating the restroom, the City has contracted with an additional structural engineer to design the structural components necessary to support the elevated facility. This work is currently underway; however, final structural details and associated costs are pending completion of the revised site plan and confirmation of final elevation requirements.

Staff is also coordinating with LB Foster, which supplies CXT Flush Restrooms. These facilities are precast concrete restroom buildings that are constructed offsite and delivered for installation using a crane. The proposed restroom will include two ADA-compliant stalls and a central plumbing chase, consistent with accessibility standards and operational needs.

With the exception of the restroom area, the majority of Tom & Kitty Stuart Park is expected to remain relatively unchanged. Due to the elevated design of the restroom, an ADA-compliant access ramp will be required, along with a set of stairs to meet applicable building code requirements. As a result, the restroom footprint will differ slightly from the previous configuration. This revised footprint will impact two small golf cart parking spaces and one compact vehicle parking space. While it is not staff's intention to remove parking, this layout represents the most feasible option to meet FEMA, ADA, and building code requirements while maintaining safe access to the restroom facility.

At this time, staff has not yet received a final cost for the restroom building inclusive of all associated expenses. The total cost remains dependent on the finalized building elevation and the extent of required dry floodproofing measures, including potential flood panels or floodproof doors, which were identified late in the design process. While staff is currently awaiting final pricing to ensure compliance with all

FEMA and City regulations, the estimated total project cost is approximately $200,000, plus or minus depending on final floodproofing requirements.

The estimated lead time for delivery of the restroom facility is approximately five (5) months from the issuance of a purchase order. Once the structural design and site plan revisions are finalized, staff intends to place the associated site and parking lot improvement plans out to public bid and return to the Board with the cost to repair and replace all damaged sections of the parking lot.

There is a high likelihood that Tom & Kitty Stuart Park will be reopened to the public prior to the arrival and installation of the new restroom facility, unless otherwise directed by the Board of Commissioners and City administration.

Staff will continue to coordinate with the design team and vendors and will provide the Board with updated information and cost at the February 4, 2026 Board of Commissioners regular meeting.

Fiscal Impact

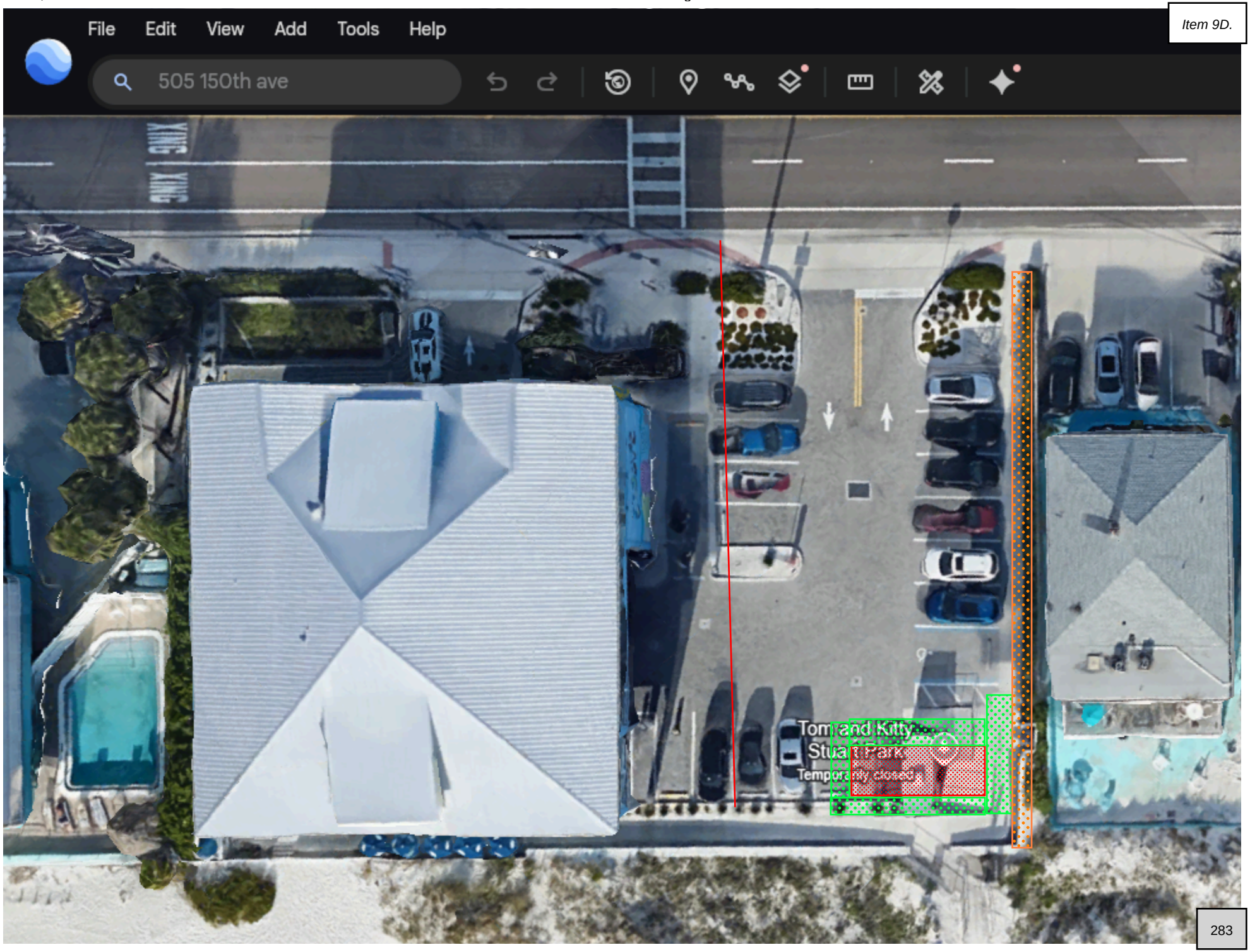
Based on preliminary information, the restroom is currently estimated at $200,000.00, inclusive of anticipated floodproofing requirements. The restroom will be procured through a piggyback agreement using Sourcewell Contract #052725-CXT. Staff anticipates having finalized pricing and contract documentation available for Board consideration at the February regular meeting.

Recommendation(s)

Staff recommends the Board of Commissioners direct staff to proceed with procurement of the elevated restroom facility through Sourcewell Contract #052725-CXT pending final pricing which will be provided for final approval at February 4, 2026 BOC meeting.

Attachments

- Arial with approximate new restroom layout
- Denali Drawings
- Denali Picture with standard option and no additional add ons.


File
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505 150th ave
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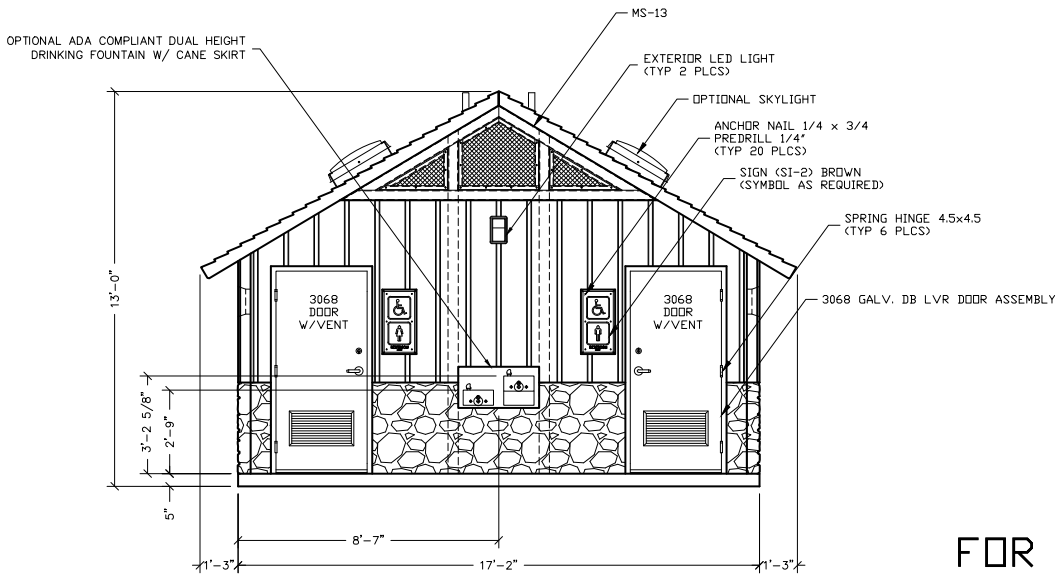
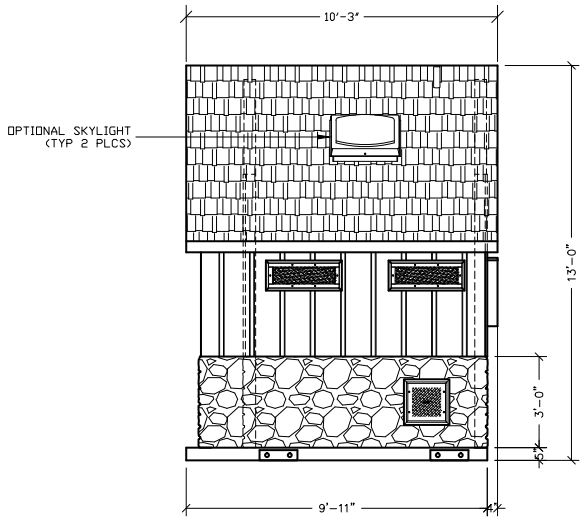
KING

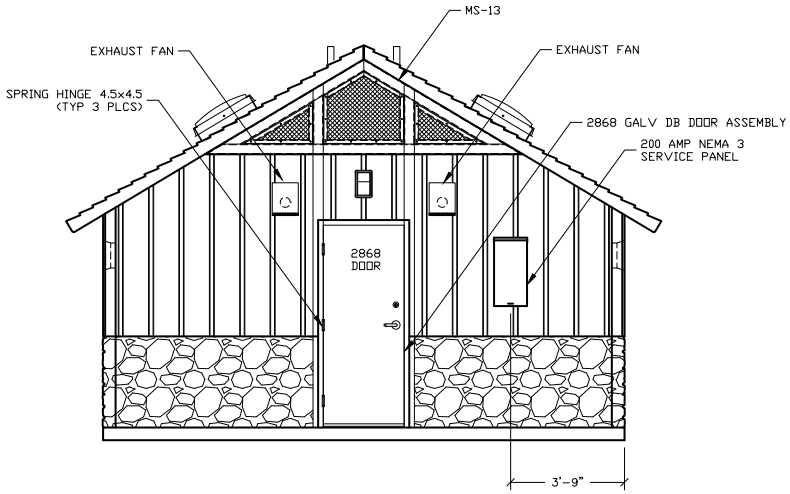


FRONT ELEVATION

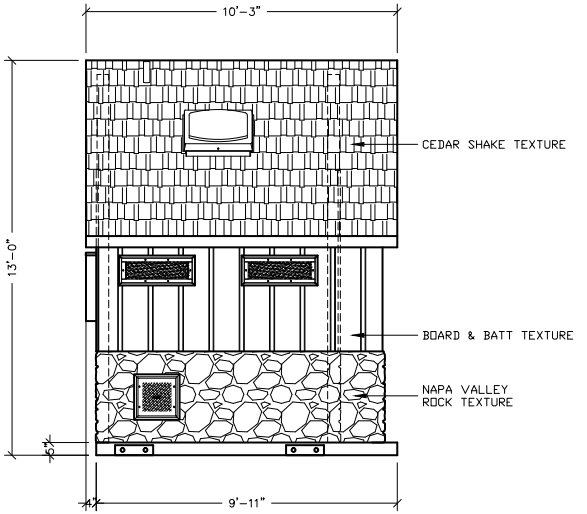


RIGHT SIDE ELEVATION

FOR REFERENCE ONLY



REAR ELEVATION



LEFT SIDE ELEVATION

EMBEDDED MATERIALS	
ITEM	QTY
SPRING HINGE 4.5x4.5	9
3068 DOOR ASSEMBLY	2
21068 DOOR ASSEMBLY	1
ANCHOR NAIL 1/4x3/4	20
MS-13	2

CU. FT. CONC.	SQ. FT. W.W.F.

APPROXIMATE WEIGHT

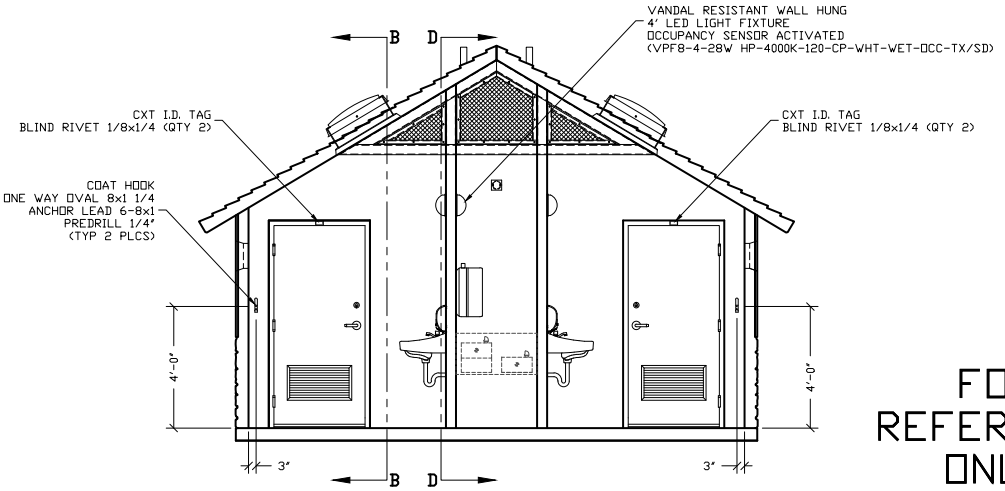
3808 N. Sullivan Bldg. #7 Spokane, WA 99216
CXT®
Precast Products
901 N. Highway 77 Hillsboro, TX 76645

PROJECT TITLE
DENALI
CXT STANDARD BUILDING

REV.	DESCRIPTION	APPROVAL	DATE
SCALE	1/4"=1'-0"	DATE	04-30-16
DRAWN		FILE NO.	PD-DN02
CHECKED		PLOT	48

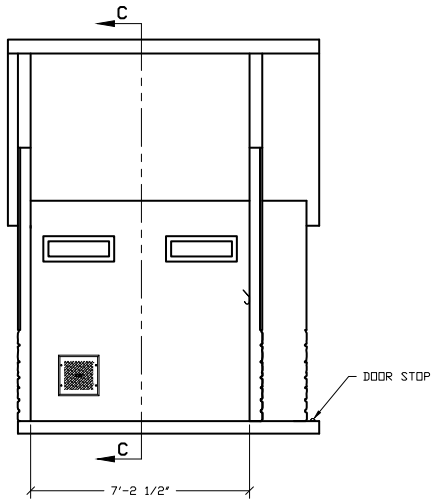
BUILDING ELEVATIONS

DWG NO.	SHEET	REV.
DN-02		

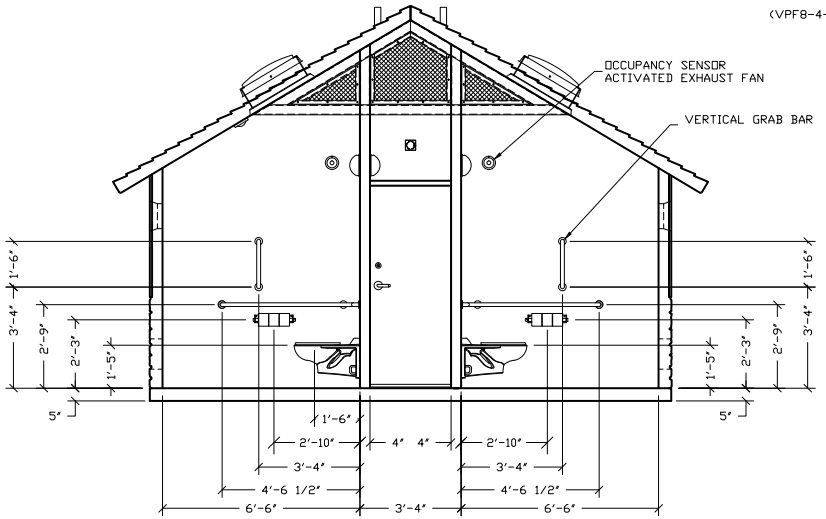


SECTION A – A

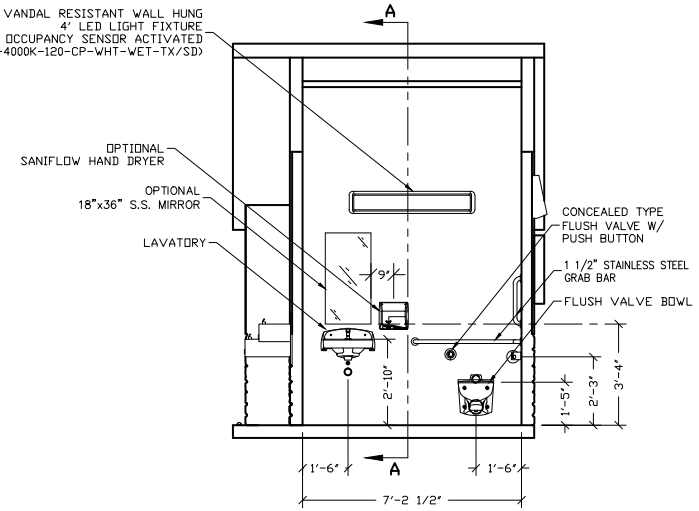
FOR REFERENCE ONLY



SECTION B – B



SECTION C – C



SECTION D – D

EMBEDDED MATERIALS	
ITEM	QTY
BLIND RIVET 1/8x1/4	4
GRAB BAR	2
VERTICAL GRAB BAR	2
COAT HOOK	2
DOOR STOP	2
ONE WAY OVAL 8x1 1/4	4
ANCHOR LEAD 6-8x1	4
CXT I.D. TAG	2
ANCHOR NAIL 1/4x1	12
ANCHOR NAIL 1/4x3/4	8
ANCHOR NAIL 3/16x7/8	18

CU. FT. CONC.	SQ. FT. W.W.F.

APPROXIMATE WEIGHT

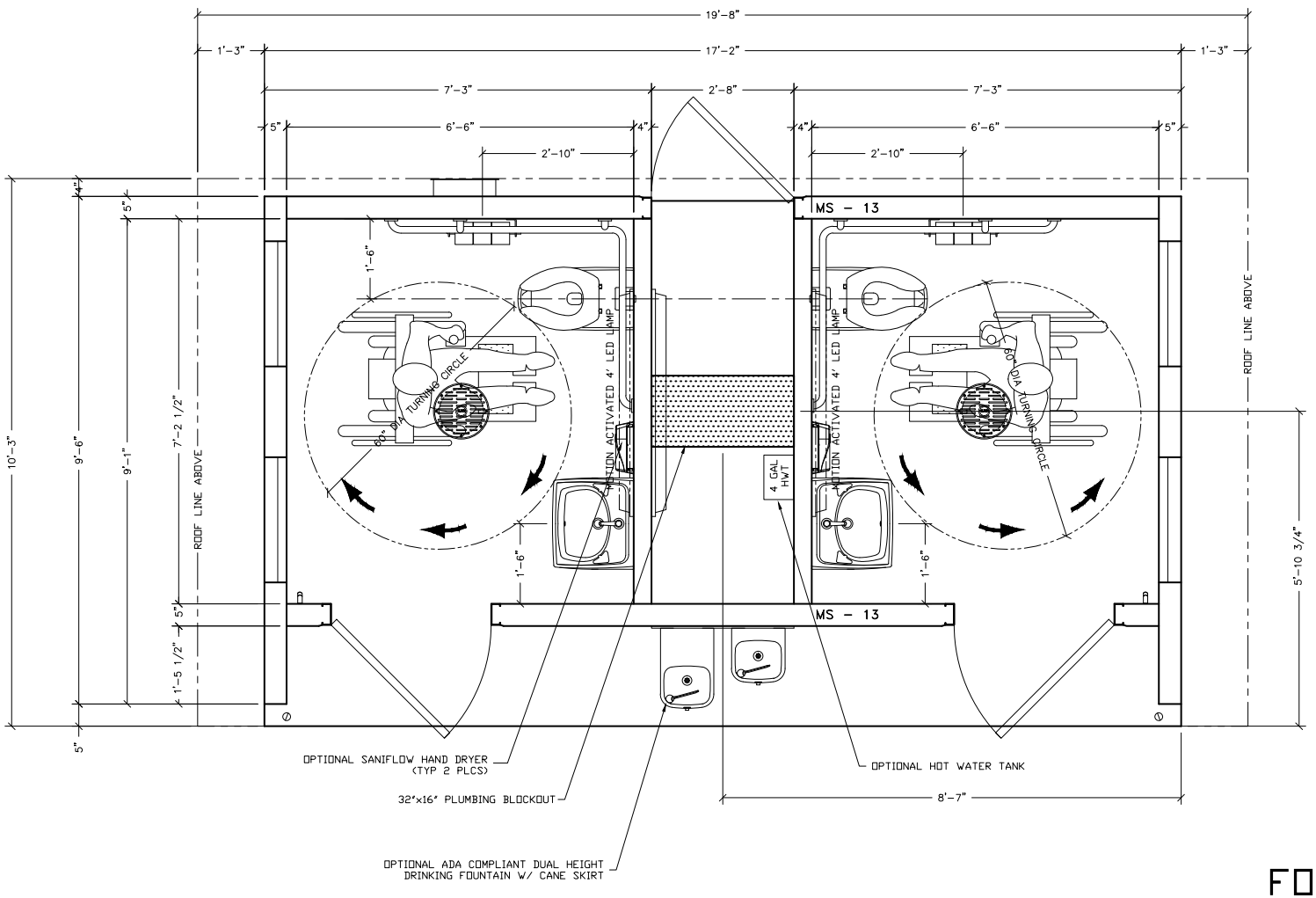
3808 N. Sullivan Bldg. #7 Spokane, WA 99216
CXT
Precast Products
901 N. Highway 77 Hillsboro, TX 76645

PROJECT TITLE
DENALI
CXT STANDARD BUILDING

REV.	DESCRIPTION	APPROVAL	DATE
SCALE	1/4"=1'-0"	DATE	04-30-16
DRAWN		FILE NO.	PD-DN03
CHECKED		PLOT	48

INTERIOR ELEVATIONS

DWG NO.	SHEET	REV.
DN-03		



FOR REFERENCE ONLY

3808 N. Sullivan Bldg. #7 Spokane, WA 99216
CXT
Precast Products
901 N. Highway 77 Hillsboro, TX 76645

PROJECT TITLE
DENALI
CXT STANDARD BUILDING

REV.	DESCRIPTION	APPROVAL	DATE
SCALE	1/2"=1'-0"	DATE	04-30-16
DRAWN		FILE NO.	PD-DN04
CHECKED		PLOT	24

FLOOR PLAN

DWG NO.	SHEET	REV.
DN-04		

SAMPLE PICTURE- Exterior on City Restroom will be stucco and will not have the any vents below 6ft

Memorandum

Meeting Details: January 28, 2026

Prepared For: Mayor & Board of Commissioners

From: Megan Wepfer, Public Works Director

Subject: 2026 Ford F550 4X4 Dump Truck Purchase

Background

The Public Works Administration is requesting approval to purchase a 2026 Ford F-550 Regular Cab 4x4 equipped with a 3–4-yard dump body featuring 16-inch drop-down sides, a manual tarp, a 22-inch tailgate, and a factory tow package. This vehicle will be procured utilizing a piggyback agreement from the Florida Sheriffs Association competitively awarded contract, FSA25-VEH23.0, which satisfies procurement requirements and provides favorable pricing.

The proposed vehicle will replace an existing 2009 Ford F-350 dump truck that has been in service for several years and is showing signs of reaching the end of its useful life, including increased maintenance needs and reduced reliability.

The requested dump truck will be utilized for a variety of operational needs, including removal of debris from the beach, support of landscaping activities such as rock, shell, and dirt installation, and delivery of landscaping materials to parks and other public spaces to support beautification efforts. This vehicle will serve multiple departments, provide shared operational support and improve efficiency across city operations.

Fiscal Impact

Funding for this purchase has been approved in the FY26 Budget in the amount of $125,000 and will be paid from the Public Works Administration Capital Equipment account.

Recommendation(s)

Staff recommend the Board of Commissioners approve the purchase of a 2026 Ford F-550 Regular Cab 4x4 dump truck from Palmetto Ford of Miami through a piggyback of the Florida Sheriffs Association Bid No. FSA25-VEH23.0. for $90,780.00

Attachments

- Palmetto Ford of Miami Quote

Palmetto Ford of Miami

7245 NW 36 Street Miami, Florida 33166
305-470-1334 Direct / 305-972-7133 Mobile
crodgers@palmettofordtrucks.com

FLORIDA SHERIFFS ASSOCIATION PRICE SHEET

Bid / Contract #: FSA25-VEH23.0

Purchaser:	CITY OF MADEIRA BEACH	Date:	01/19/2026
Address:	300 MUNICIPAL DRIVE	Phone:	727-543-8154
City:	MADEIRA BEACH, FL. 33708		MAGEN WEPFER
			mwepfer@madeirabeachfl.com

Base Model:	SPEC # 38 2026 FORD F550 REGUALR CAB 4X4 - F5H (18,000 GVWR)	Price:	**$63,349.00**
Inc.	AM/FM RADIO, AIR CONDITIONING		
Exterior / Interior Color:	(Z) WHITE / (AS) MEDIUM DARK SLATE VINYL		
Delivery Info:	ESTIMATED AT 2 WEEKS FROM RECEIPT OF PURCHASE ORDER		
Option #	99T - 6.7L V8 DIESEL ENGINE	Price:	$0.00
Option #	44G - FORD 10-SPEED AUTOMATIC TRANSMISSION W/ PTO PROVISION	Price:	$0.00
Option #	STD - POWER GROUP, LOCKS, WINDOWS, MIRRORS	Price:	$0.00
Option #	STD - REMOTE KEYLESS ENTRY - (2) TWO KEY FOBS	Price:	$0.00
Option #	STD - TRAILER TOW MIRRORS	Price:	$0.00
Option #	18B - FACTORY CAB PLATFORM STEPS	Price:	$317.00
Option #	41H - ENGINE BLOCK HEATER	Price:	$248.00
Option #	41P - SKID PLATES	Price:	$149.00
Option #	76C - FACTORY BACK UP ALARM	Price:	$228.00
Option #	86M - DUAL BATTERIES, STD W/ 99T DIESEL ENGINE	Price:	$0.00
Option #	872I - FACTORY BACK UP CAMERA KIT AND INSTALLATION	Price:	$738.00
Option #	CA84 - 84" CAB TO AXLE	Price:	$173.00
Option #	DSIP - DEALER STOCK INVNETORY PURCHASE - 1FDUF5HT9REG02693	Price:	$2,500.00
Option #	DUMP-11/3YD - KNAPHEIDE 11' 3-4 YARD DUMP, 16" SIDES, 6" SIDE BOARDS,	Price:	$20,328.00
Option #	ELECTRIC HOIST, 22" TAILGATE	Price:	$0.00
Option #	DUMP-11/3YD - OPTION - 16" DROP DOWN SIDES IN LIEU OF FIXED SIDES	Price:	$1,398.00
Option #	DUMP-11/3YD - OPTION - MANUAL TARP	Price:	$1,375.00
Option #	TOWPKG - TOW PACKAGE, RECEIVER, 7-WAY PLUG, 2" BALL, PIN AND CLIP	Price:	$1,477.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Option #		Price:	$0.00
Notes:	PALMETTO FORD PRICE ADJUSTMENT FOR NEW 2024 STOCK PURCHASE		-$1,500.00
Notes:	WITH TWO WEEK DELIVERY FROM TIME OF RECEIPT OF PURCHASE ORDER		
	Total Price of Base Unit and all Selected Options:		**$90,780.00**

MEMORANDUM

TO: Honorable Mayor and Board of Commissioners

VIA: Chief Clint Belk, Acting City Manager

FROM: Jay Hatch, Recreation Director

DATE: January 28, 2026

RE: Madeira Beach Youth Baseball and Softball – Contract Renewal

Background

The City of Madeira Beach and Madeira Beach Youth Baseball and Softball Boosters, Inc., now operating as **MB Sports Group, Inc.**, seek to renew and formalize their existing agreement for the continued use of the Madeira Beach Recreation Complex. As the longstanding home of Madeira Beach Youth Baseball and Softball (formerly Gulf Beaches Little League), the complex has served as the league's primary facility since its inception.

The City and the League have maintained a positive and cooperative relationship over many years, working together to provide high-quality youth athletic programming that benefits the Madeira Beach community. This contract renewal is intended to preserve that successful partnership, formally recognize the organization's name change, clarify mutual responsibilities, and ensure the long-term sustainability of youth baseball and softball at the Madeira Beach Recreation Complex.

Fiscal Impact

Madeira Beach Youth Baseball and Softball would pay $2,500 per season, spring and fall, for the of the facilities. Additionally, the League would pay $10 a player per season, up to 250 registered players for the utilization of the fields.

Recommendation

Staff Recommends approval of the proposed contract with MB Sports Group, Inc..

Attachments

MB Sports Group, Inc. Draft Contract

AGREEMENT FOR THE USE OF RECREATION FACILITIES AT THE MADEIRA BEACH RECREATION COMPLEX BY MB SPORTS GROUP, INC

The City of Madeira Beach, FL, a Florida municipal corporation, hereinafter referred to as "City" and MB Sports Group, Inc, hereinafter referred to as "League" agree as follows:

The City does hereby agree to the use of the recreational facilities by the League as described below:

1. Non-exclusive use of baseball/softball fields 1, 2, and 3, located at the Madeira Beach Recreation Complex, 200 Rex Place, Madeira Beach FL 33708, as described below.

2. This agreement shall be in effect beginning on the date of the execution of this agreement, _____, _____, 2026 and ending December 31st, 2026. The City or the League may cancel this Agreement at will, without cause, and in its sole discretion upon thirty (30) days written notice to the League.

3. This agreement is specifically conditioned upon the League continuing to run its program in accordance with rules and regulations of Babe Ruth League, Inc and the League Charter, in such a manner that the League's activities are open to all eligible youth who wish to participate, regardless of ability, sex, race, or religion. In the event that the League changes this policy, this agreement shall be subject to immediate cancellation at the discretion of the City.

4. The League agrees to and will at all times agree to protect, indemnify, save, and hold harmless the City of Madeira Beach, its employees, agents, representatives, elected officials, charter officials, successors, volunteers, and assigns from all liability, and claims, demands, damages, and costs of every kind and nature, including all attorney's fees at trial, or appellate levels resulting from or in any manner arising out of or in connection with activities of volunteers, or employees, or resulting from or in any manner arising out of or in connection with the use of the City's recreational facilities by the League. The League shall, upon request from the City, defend and satisfy any and all claims arising from its use of the premises.

5. The City agrees to:

    a. Mow and maintain the conditions of the baseball and softball fields.
    b. Provide field availability & blackout schedules at least one (2) months in advance.
    c. Assume payment of all water, wastewater, stormwater, and sanitation utilities for the complex and concession stand.
    d. Provide dumpsters, trash cans, and recycle cans.
    e. Respond to maintenance requests within a timely manner, upon reporting by the League. Maintenance requests will be evaluated and scheduled and only be performed if deemed necessary by the Recreation Department.
    f. Promote League registration though social media as submitted to the Recreation Department. Proper images and registration links must be provided by the League.
    g. Promote the League on the City Website.
    h. Provide meeting space, as determined by the City, once a month at no charge. Scheduling is not automatic and will depend on availability. Cancelling or rescheduling must be done 24 hours prior to the reservation via emailing the Recreation Director or designated City

contact. Staff recommends scheduling of monthly meetings be set on a particular day/date each month to ease with scheduling and consistency.

i. Provide field lighting as necessary for player safety.
j. Line the fields for games which correlate to the schedule provided by the League. The City will line and prep the ball fields for games scheduled Monday – Friday. The City will provide chalk for the fields to be lined by the League during any scheduled weekend activity.

6. The League Agrees to:
   a. League shall pay the City $2,500.00 per season – Fall and Spring – for supplies field maintenance for league activities. Including but not limited to chalk, paint, turface, clay, etc.
   b. League shall pay the City $10.00 per participant each season – Fall and Spring – and provide a roster of participants to the City up to a maximum of 250 participants.
   c. League shall pay a $1000.00 damage deposit each calendar year to be held by the City in a non-interest bearing account. Costs may be assessed against the damage deposit as described below.
   d. Upon request, provide the City with high-resolution facility images and a logo for cross-marketing initiatives.
   e. Notify the City of opening ceremonies and other opportunities for Board of Commissioners awareness and participation.
   f. The League is responsible for monitoring and maintaining restrooms during League use. The League will pay $25.00 per hour for additional cleaning required for failure to monitor and maintain restrooms during use. Reimbursement will be withdrawn from the damage deposit provided to the city.
   g. Maintain the grounds, which include playing fields and areas outside the playing fields free of paper and debris accruing from the operation of the League concession stand or League activity. Remove debris and trash from the Site at the conclusion of each game/practice. Also, collect all litter in the immediate area (Bleachers, concession stand, dugouts, and picnic shelters) at the conclusion of each day's League games and place collected materials into dumpers/trash cans provided by the City. The League will pay the City $25.00 per hour for trash and debris left by League activities that require pick up by City staff. The fee will be charged after (two) written warnings have been issued during the agreement period. Reimbursement will be withdrawn from the damage deposit provided to the city.
   h. Ensure that field lights are turned off by 10:00pm daily. Use of maintenance equipment is prohibited between 10:00pm and 7:00pm unless approved by the Recreation Director or designated appointee.
   i. Provide a roster listing all participants names and addresses no later than the first scheduled game of each season. List shall be provided to the Recreation Department.
   j. Perform background checks for all volunteers in accordance with the State of Florida requirements.
   k. In the event of heavy rainfall, the Recreation Director or his designee shall determine the playability of the fields. Should either of those contacts be unavailable, the League President shall determine the playability of the fields. If damage to a playing field shall result from the use of the field following the League President's decision to utilize the

field, the League shall be financially responsible for the repair of the fields. The League shall not add or remove any materials to any playing field for any reason.

l. Obtain written approval from the City Manager prior to any physical improvements or additions are made to any facility covered by this agreement. All existing and future improvements become the property of the City.

m. Obtain prior approval (minimum of 30 days prior to any event) from the Recreation Director or his designee, for the use of said facilities for any tournaments, clinics, or special events to be held by the League. Rental/use of facilities to others is expressly prohibited. All use of facilities will be scheduled through the Recreation Director. League will be permitted one event per season at no charge. Additional events will be billed at $10 per hour per field. Any special event must receive approval from the City per the Special Event Permit process.

n. Provide a detailed Income Statement within 45 days of the end of the fiscal year to the Recreation Director or designated City contact person. Should the City determine the League is not financially sound and able to meet all its obligations, the City may terminate this agreement immediately.

o. The League will not provide any programs for adult teams at any time.

p. The League represents and warrants that it has inspected or caused to be inspected the Site, including all facilities, utilities, and improvements thereon, and that they are all acceptable "as is" and appropriate for its operation.

q. The League must receive prior written approval from the Recreation Director or his designee to utilize any outside vendor or subcontractor. All food venders must pass inspection by the City of Madeira Beach and its Fire Marshall.

r. At the completion of each season, all of the League's equipment will be removed from all fields and adjacent areas.

s. The League has first right of refusal for the sales of banners to be placed on the backstop of the ball field fences, behind home plate, between the 1st base dugout and the 3rd base dugout. This area excludes City branded signed that is currently located in the area. The League will be responsible for the production of the banners and will provide the City 20% of the revenue from banner sales.

7. Concession Stand

a. In the event that the League operates a concession facility or in any way distributes or sells food, beverages, candy , or foodstuffs of any description, the League agrees to fully indemnify and hold the City harmless from any claim or cost arising from the provision of foodstuffs.

b. The League shall have the non-exclusive use of the concession stand located at the Recreation Complex.

c. The League shall pay $100 per month for use of the concession stand during the dates of use which are described below.

d. The League shall operate and maintain concession facilities in accordance with specifications established by the State Sanitary Code and Pinellas County Health Department. League must obtain and keep current all required licenses and permits and provide the Recreation Department with copies annually. No grilling, cooking, or frying is

allowed inside the concession building with the exception of a microwave, hot dog griller, or popcorn machine. No outside frying is allowed within the park unless in an approved area designated by the Recreation Department and Fire Department. Disposal of grease or oil into the concession drains is prohibited.

e. The League understands that private tournaments and events have the right to choose concession vendors at their discretion and that the League is not permitted to open concession services during these times unless the tournament or evert organizer agrees to such services by the League in writing.

8. Field Usage
    a. The League shall have the non-exclusive use of baseball/softball 1, 2, and 3 located in the Madeira Beach Recreation Complex, in accordance with the days/dates noted below. All use of facilities will be scheduled through the Recreation Department. Field allocation will be determined by the Recreation Director or his designee, which, when approved by the City will not be modified without fourteen (14) days written notice to the League or as mutually agreed upon, unless necessary field maintenance exists in which twenty-four (24) hours written notice will be provided. In the event a field is deemed unplayable for any reason, prior notice will be provided as soon as possible and will not require a minimum amount of time.
    b. At all other times, scheduling for the use of the fields will be based on availability through the Recreation Department to include post-season activities, tournaments, and All-Stars.
    c. No entity other than the City shall use or remove League-owned equipment or fixtures without League approval.
    d. The League has the right to the use of baseball/softball fields 1, 2, and 3, Monday – Friday between 5:00pm -11:00pm and 8:00am – 8:00pm on Saturdays and Sundays, during the months of February – June and September – November. Additional use may be requested in January and August outside of planned/scheduled field maintenance. Any and all field use must be scheduled ahead of time and agreed upon by city staff and the league.
    e. Once the league schedule has been completed and approved by the City and the League, changes in scheduling for games, practices, special events or otherwise must be agreed upon by both parties.

9. The City reserves the right at all times to schedule special events and rental tournaments with 30 days' notice.

10. The League shall provide a point of contact at contract signing consisting of the name, phone number, and email address. This point of contact shall be the direct line of communication between the League and City.

11. The League is hereby authorized and instructed to make, keep and maintain reasonable rules and regulations regarding the use of the facility by members of the League, and the League agrees to keep said premises in as good condition as it is currently. Ordinary wear, tear, and damage by the elements are expected. No soft toss against field fencing is permitted.

12. The League, at its expense, shall keep in force during the term of this agreement insurance from a company licensed in the State of Florida. The required insurance shall be evidenced by a certificate of insurance that must be submitted to and approved by the City Manager prior to the effective date of this agreement. The City of Madeira Beach shall be named as an additional insured under the policy, and the City shall be provided with a thirty (30) day notice in the event of cancellation, non-renewal, or adverse change to the policy. The League shall provide, on forms no more restrictive than the latest edition of those filed by the Insurance Services Office, Comprehensive General Liability Insurance with a minimum limit of $1,000,000.00 per occurrence combined single limit to include:

    Premises – Operations

    1. Independent – Contractors
    2. Products-Completed
    3. Broad Form Contractual
    4. Personal Insurance

    Failure to comply with this requirement shall subject this agreement to immediate cancellation.

13. The League is responsible for the payment of all payroll taxes, sales taxes, and worker's compensation claims. The League is also responsible for the collection and remittance of appropriate sales taxes to the State of Florida Department of Revenue.

14. This agreement may not be assigned or transferred in any manner by the League, and any such assignment or transfer is expressly prohibited.

15. This agreement shall be binding upon the parties hereto.

16. Any previously existing oral or written agreements between the parties shall be terminated as of the date of this agreement and shall be deemed hereafter null and void and have no further force and effect whatever.

17. If either party deems it necessary to litigate in order to enforce the provisions of this agreement, the prevailing party shall be entitled to recover attorney's fees and costs.

18. The venue shall be Pinellas County, Florida.

MEMORANDUM

TO: Honorable Mayor and Board of Commissioners

VIA: Chief Clint Belk, Acting City Manager

FROM: Jay Hatch, Recreation Director

DATE: January 28, 2026

RE: Tampa Bay Markets, Inc – Relocation Request

Background

Tampa Bay Markets, Inc., the Market Manager for the Madeira Beach Market, has requested approval to relocate the Market from its current location at the Madeira Beach City Hall parking lot to Archibald Park for the upcoming season. The request is based on limited visibility and pedestrian traffic at the current location, as well as ongoing construction activity along Madeira Way and a lack of participating business interest within John's Pass Village. Collectively, these factors have impacted market performance and vendor participation and are largely attributable to current timing and surrounding area conditions.

Fiscal Impact

Relocation of the Madeira Beach Market to Archibald Park would require the temporary use of approximately 36 parking spaces during market hours. Based on the current parking rate of $4 per hour over a four-hour market window, the potential parking revenue impact is estimated at **$576 per market day**, assuming full utilization of the affected spaces.

Recommendation

Staff seeks direction from the City Commission regarding the proposed request and any conditions deemed appropriate by the Commission.

MEMORANDUM

TO: Honorable Mayor and Board of Commissioners

VIA: Chief Clint Belk, Acting City Manager

FROM: Jay Hatch, Recreation Director

DATE: January 28, 2026

RE: Awarding of RFP 25-17 – City of Madeira Beach Fireworks Displays

Background

On December 19, 2025, the City of Madeira Beach released Request for Proposals (RFP) 25-17 seeking qualified fireworks production companies to provide fireworks displays for City-sponsored events throughout 2026. The RFP requested proposals for multiple display dates, including May 1, July 4, and December 11, 2026, with the option for an initial term and up to two (2) one-year renewals.

Two (2) proposals were received by the January 9, 2026 deadline and were evaluated by staff in accordance with the evaluation criteria outlined in the RFP. Proposals were reviewed based on display design and variety, proposed cost schedule, event operations plan, and cancellation/rescheduling terms, with the understanding that cost is a consideration but that the City's objective is to maximize overall value and visual impact within the established budget limits.

Following staff evaluation, Master Pyro Display LLC received the highest overall score and was determined to be the most responsible and responsive proposer. Master Pyro's proposal demonstrated a strong ability to maximize the City's budget through increased display length, shell variety, and overall visual impact, while meeting all operational, safety, and permitting requirements of the RFP. In addition, staff has previously worked with Master Pyro Display LLC and has been very satisfied with the quality of the displays, communication, and overall execution, which further increased staff's level of comfort in the recommendation.

Based on the evaluation results and prior performance, staff recommends approval to authorize negotiation and finalization of a contract with Master Pyro Display LLC for fireworks displays on May 1, July 4, and December 11, 2026, for an initial term with two (2) one-year renewal options, subject to final contract terms and approval by the City Attorney.

Fiscal Impact

Funding for the fireworks displays on May 1, July 4, and December 11, 2026 is included in the adopted FY 2026 budget in the amount of $50,000 for City-sponsored fireworks events. The proposed award authorizes staff to negotiate and finalize a contract with Master Pyro Display LLC and will not exceed the budgeted amount. No additional fiscal impact is anticipated. The contract will be for an initial term with up to two (2) one-year renewal options, subject to future budget appropriations and Board approval.

Recommendation

Staff recommends approval to authorize staff to negotiate and finalize a contract with Master Pyro Display LLC for fireworks displays on May 1, July 4, and December 11, 2026, for an initial term with up to two (2) one-year renewal options, subject to final contract terms and review by the City Attorney.

Attachment

Request for Proposal (RFP) 25-17 – City of Madeira Beach Fireworks Displays
Proposal Response – Master Pyro Display LLC
Proposal Response – North Florida Pyrotechnics
RFP Scoring and Evaluation Summary

Request for Proposal #25-17

City of Madeira Beach Fireworks Displays

Proposals due by January 9, 2026
At 10:00am: City Hall
300 Municipal Drive
Madeira Beach, FL 33708

CONTACT:
Jay Hatch, Recreation Director
Phone: (727)392-0665
Email: jhatch@madeirabeachfl.gov

REQUEST FOR PROPOSAL

Notice is hereby given that the City of Madeira Beach will be accepting sealed Proposals for City of Madeira Beach Fireworks Displays.

Sealed Proposals clearly labeled Request for Proposal for City of Madeira Beach Fireworks Displays will be received until 10:00 AM on January 9th at City of Madeira Beach City Hall.

The City of Madeira Beach reserves the right to reject or accept any Proposal or to waive any irregularities in any Proposal deemed to be in the best interest of the City of Madeira Beach.

INTRODUCTION

The City of Madeira Beach is requesting Proposals from qualified and professional fireworks production companies for the purposes of providing multiple fireworks displays for City-sponsored events throughout 2026.

Selected contract shall be effective immediately upon approval for the 2026 display date with the option for two (2), one (1) year renewals.

Vendors are required to submit written Proposals that present the vendor's qualifications and understanding of the work to be performed. The vendor's Proposal should be prepared simply and economically and should provide all the information it considers pertinent to its qualifications for the specifications listed herein.

The Proposal must be submitted via mail or in person no later than 10:00am on January 9th, 2026, directly to the City Hall at the following address:

City of Madeira Beach
Attn: Jay Hatch
Re: Request for Proposal for City of Madeira Beach Fireworks Displays
300 Municipal Dr
Madeira Beach, FL 33708

NOTIFICATION: The City utilizes the following methods for notification and distribution of solicitation opportunities:

- City of Madeira Beach website www.madeirabeachfl.gov
- Demand Star

PART A

ADDENDA: Any interpretations, corrections, or changes to this REQUEST FOR PROPOSAL will be made by addenda. Sole issuing authority shall be vested in the Recreation Department. Addenda will be posted and available through the City notification methods shown above.

SUBMISSION: Sealed Proposals and all copies must be received on or before the Due Date and Time (local time) at the City Hall Lobby reception desk located at 300 Municipal Dr., Madeira Beach, Florida, 33708. Proposals must be presented in a sealed container unless otherwise indicated. All Proposals must be clearly marked "RFP #25-17 - CITY OF MADEIRA BEACH FIREWORKS DISPLAYS". The number of this REQUEST FOR PROPOSAL must appear on all correspondence, or inquiries, pertaining to this Proposal. The Proposer's name, return address, the Proposal number, Proposal title, Due Date and Time must be noted on the outside of the sealed container. Included in the sealed container shall be:

- One (1) unbound original clearly identifying Proposer and marked "ORIGINAL".
- Five (5) bound copies clearly identifying Proposer and marked "COPY"
- One (1) USB Electronic copy

LATE PROPOSALS: Proposals received at the City of Madeira Beach City Hall after the Due Date and Time shall be considered non-responsive. It is the sole responsibility of Proposer to ensure its Proposal is received by the City by the Due Date and Time. The City is not responsible for the lateness due to weather conditions, delivery service, or any other reasons.

PROPOSAL OPENINGS: All Proposals submitted before the Due Date and Time shall be publicly opened by the Recreation Director at the City Hall Building, located at 300 Municipal Dr. Madeira Beach, FL.

SCHEDULE: A summary schedule of the major activities associated with this solicitation is presented below. The City, at its sole discretion, may modify this schedule as the City deems appropriate.

ACTIVITY	DATE
Advertisement for Proposal	December 19, 2025
Deadline for Delivery of Questions	January 2, 2026 – 12:00PM
Answers posted by	January 2, 2026 – 5:00PM
Proposal Opening	January 9, 2026 - 10:00AM
Commission Award of Contract*	TBD

*Tentative and subject to change

MEETING LOCATIONS:

- **City Hall -** located at 300 Municipal Dr. Madeira Beach, FL 33708
- **POINT OF CONTACT:** For information concerning procedures for responding to this Request for Proposal, contact the Recreation Director via email at jhatch@madeirabeachfl.gov . Such contact shall be for clarification purposes only.

QUESTIONS: Each Proposer must examine this Proposal, which incorporates all its addenda, instructions, special conditions, and attachments to determine if the requirements are clearly stated. All questions concerning this Proposal, such as discrepancies, omissions and exceptions to any term or condition of the REQUEST FOR PROPOSAL documents, including the Sample Agreement, should be submitted in writing. Questions of a material nature must be received prior to the Deadline for Delivery of Questions specified in the schedule.

Failure of the Proposer to examine all pertinent documents shall not entitle the Proposer to any relief from the conditions imposed in the Agreement.

SPECIAL TERMS AND CONDITIONS

Addenda, Changes, and Interpretations

Requests for clarification, modification, interpretation, or changes must be received prior to the Deadline for Delivery of Questions. Requests received after the Deadline may not be addressed.

Additionally, all questions received, and responses given will be provided via an addendum to this REQUEST FOR PROPOSAL and uploaded to the City Website and DemandStar.

All addenda are a part of the REQUEST FOR PROPOSAL solicitation documents and each Proposer will be bound by such addenda. It is the responsibility of each Proposer to read and comprehend all addenda issued. Failure of any Proposer to acknowledge an issued addendum in its Response will not relieve the Proposer from any obligation contained therein.

Selection of Proposal

Prior to contract award, any Proposer may be required to show that the company has the necessary facilities, equipment, ability, and financial resources to perform the work specified in a satisfactory manner and within the time specified. In addition, the company must have experience in work of the same or similar nature, and can provide references, which will satisfy the City. The City may conduct such investigations as the City deems necessary to establish the responsibility, qualifications, and financial ability of Proposal, suppliers and individuals, or entities to perform the Work in accordance with the Contract Documents. In evaluating whether a Proposer is responsible, the City will consider the qualifications of the Proposer and may consider the qualifications and experience suppliers proposed for those portions of the Work for which the identified suppliers must be submitted as provided in the Proposal Documents. The City will also consider whether the Proposer is of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the City. City, at its sole discretion, may select the Proposer that it believes is appropriately qualified, responsible, and responsive.

Lobbying

Lobbying is prohibited in all City of Madeira Beach competitive selection processes and contract awards including but not limited to, requests for qualifications, Proposals, or Proposals the award of purchasing contracts of any type. The purpose of this prohibition is to protect the integrity of the procurement process by shielding it from undue influences prior to the contract award, a Proposal protest being resolved, or the competitive selection process being otherwise concluded. The prospective Proposer may contact the City's main office as specified on page 1 of this Request for Proposal, to address situations such as clarifications relating to the procurement process or Proposer protest.

Lobbying of evaluation committee members, city government employees, or elected officials regarding Request for Proposals, request for qualifications, invitations to Proposal, purchasing contracts, or Proposal protests, by the Proposer/protestor any member of the Proposer's/protestor's staff, any agent or representative of the Proposer/protestor, or any person employed by any legal entity affiliated with or representing a Proposer/protestor, is strictly prohibited from the date of the advertisement, or on a date otherwise established by the Board of Commissioners, until either an award is final, any protest is finally resolved, or the competitive selection process is otherwise concluded. Any lobbying activities in violation of this section or on behalf of a Proposer/protestor will result in the disqualification or rejection of the

Proposal, quotation, statement of qualification, Proposal or contract, and may lead to debarment of the Proposer or Proposer/protestor.

For purposes of this provision, lobbying means influencing or attempting to influence action or non-action, and/or attempting to obtain the goodwill of persons specified in this section involved in the selection, ranking, or contract award in connection with any Request for Proposal, request for quotation, requests for qualification, Proposal or purchasing contract through direct or indirect oral or written communication. The final award of a purchasing contract will be the effective date of the purchasing contract.

Any evaluation committee member, city government employee or elected official who has been lobbied must immediately report the lobbying activity to the City Manager.

Binding Offer

A submitted Proposal made pursuant to the Request for Proposals will be considered a binding offer to perform the required services, assuming the terms of an agreement between the parties is satisfactorily negotiated. Each Proposal must be signed by a Person who is legally authorized to bind the Proposer to the Proposal. The submission of a Proposal will be taken as a prima facie evidence that the proposer has fully familiarized itself with the contents of this Request for Proposals. Proposals will be in force for a period of one hundred and eighty (180) days from the date of the public Proposal opening.

The City's Acceptance or Rejection of Proposals.

The City may:

- Reject any and all Proposals that fail to satisfy the requirements and specifications in this REQUEST FOR PROPOSAL
- Accept the Proposal, which is the highest rated, responsive proposer.
- Waive minor irregularities in any Proposal
- Issue addenda or otherwise revise the requirements in this REQUEST FOR PROPOSAL
- Reject all Proposals, with or without cause
- Issue requests for new Proposals
- The City concludes that collusion existed among two or more Proposers
- Cancel this Request for Proposal

Proposer's Costs

The City shall not be liable for any costs incurred by Proposers in responding to this RFP.

Anti-Collusion:

Proposer certifies that its Proposal is made without prior understanding, agreement, or connection with any other corporation, firm or person submitting a Proposal for the same materials, services, supplies, or equipment and is in all respects fair and without collusion or fraud.

Any such violation may result in Agreement cancellation, return of materials or discontinuation of services and the possible removal of Proposer from participation in future City solicitations for a specified period.

The City reserves the right to disqualify a Proposer during any phase of the competitive solicitation process and terminate for cause any resulting contract upon evidence of collusion with intent to defraud on the part of the Proposer.

Notification of Public Entity Crimes
Pursuant to Section 287.133, Florida Statutes, you are hereby notified that a person or affiliate who has been placed on the convicted providers list following a conviction for a public entity crime may not submit a Proposal on a contract to provide any goods or services to a public entity; may not submit a Proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit Proposals on leases or real property to a public entity; may not be awarded or perform work as a provider, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted providers list.

Specifications:
The specifications contained in the Scope of Services may include items that are considered minimum, mandatory, or required. If any Proposer is unable to meet or exceed these items and feels that the specifications are overly restrictive, the Proposer must notify the Purchasing Department prior to the Deadline for Delivery of Written Questions. If no such notification is received prior to the Deadline for Delivery of Written Questions, the City will consider the specifications to be acceptable to all Proposers.

Proposal Firm for Acceptance:
Proposer warrants that by virtue of submitting a Proposal, the Proposal and the prices quoted in the Proposal will be firm for acceptance by the City for a period of one hundred fifty days from the Due Date and Time.

Communications:
Only written communications from Proposer, which are signed by a person authorized to bind the Proposer will be recognized by the City as duly authorized expressions on behalf of Proposer.

PART B:

SCOPE OF SERVICES:

The City of Madeira Beach is requesting Proposals from qualified and professional fireworks production companies for the purpose of providing multiple fireworks displays for City-sponsored events throughout 2026. All displays shall be fired electronically, and the proposer shall be responsible for the supply, delivery, set-up, firing, breakdown, and disposal of all fireworks materials.

The City is seeking Proposals for the following display dates, budgets, and start times:

- May 1, 2026 – Fireworks display with a budget not to exceed $5,000, beginning at approximately 9:00 PM, launched from the City pier located at 200 Rex Place, Madeira Beach, with a required fallout zone of 190 feet.
- July 3 and July 4, 2026 – Independence Day fireworks displays with a budget not to exceed $35,000, beginning at approximately 9:00 PM each evening. Proposals must include both land-based and barge-based firing options for these dates.
- December 11, 2026 – Fireworks display with a budget not to exceed $5,000, beginning at approximately 9:00 PM, launched from the City pier located at 200 Rex Place, Madeira Beach, with a required fallout zone of 190 feet.

Proposers are encouraged to submit displays that maximize visual impact and overall value within the identified budgets by offering a strong variety of color, shell size, display length, and overall effect. Display length and variety will be considered as part of the evaluation criteria and reflected in the Proposed Cost Schedule (Exhibit A).

For the July 3 and July 4 Independence Day displays, proposers shall include pricing and operational details for both firing methods, subject to the following minimum fallout requirements:

- Land-based displays: minimum fallout zone of 350 feet in diameter
- Barge-based displays: minimum fallout zone of 700 feet in diameter

For pier-based displays at 200 Rex Place, a minimum fallout zone of 190 feet shall be maintained.

If a barge or other non-permanent floating structure is proposed, all associated costs shall be listed separately and shall be in addition to the fireworks display budget identified above. While barge-based firing is preferred by the City for the Independence Day displays, it is not required provided the proposer can safely meet all fallout and safety requirements for a land-based option.
Proposals shall include detailed terms for cancellation and/or rescheduling of each fireworks display.

Indemnification: Due to the inherent dangers in major fireworks displays, the winning Proposer must, and by accepting the work agrees to, indemnify and hold harmless the City, its officers, and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent

caused by the negligence, recklessness, or intentional wrongful misconduct of the Proposer and persons employed or utilized by the Proposer in the performance of the contract.

Such Proposer indemnification shall not be limited to the amount of comprehensive general liability insurance which it otherwise carries for the event. Nothing contained herein is intended nor shall it be construed to waive the City's rights and immunities under the common law or Florida Statutes § 768.28, as amended. This obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party described in this section.

Proposer shall pay all claims, losses, liens, settlements or judgments of any nature whatsoever, excluding only those in which the damages arose out of the sole negligence of the City or a third party, in connection with the foregoing indemnifications, including, but not limited to, reasonable attorney's fees and costs to defend all claims or suits in the name of the City when applicable.

A. GENERAL INFORMATION

a. Time of Display – Display will begin at approximately 9:00 PM on the selected date. Start times may be adjusted by the City in anticipation of inclement weather or as mutually agreed upon by the selected Proposer and the City.
b. Date of Display – The City is seeking Proposals for May 1, 2026, July 3 & July 4, 2026, and December 11, 2026 in order to maximize value within the budget.

B. LENGTH OF DISPLAY

a. The length of the display shall be a minimum of 20 minutes for the Independence Day displays. Shorter display durations may be proposed for the May 1 and December 11 events consistent with the event budget. Proposer's are requested to indicate in their Proposal how long the display shall last. Shells must be launched at a moderate rate, at a minimum of eight to ten second's or shorter.

C. SHELLS

a. Proposer must offer a variety of shell types. Shells must have different functions, patterns of break, colors, and sizes. Proposer must provide a list of types of shells offered with the Proposal.
b. Proposer shall deliver all required equipment, mortar tubes, racks, shells ,etc. to the launch size. The display must be electronically fired.
c. The City of Madeira Beach Fire Chief and/or Fire Marshal reserves the right to inspect and count the shells and compare the actual inventory at the site to the material list submitted as part of the final accepted bid Proposal.
d. Proposer shall be responsible for sufficient electrical cables to ensure fireworks will be set up in the safest manner possible. A shooter's box shall be utilized and proposer shall provide licensed pyrotechnician and assistants with the required protective gear as per NFPA 1123.

D. INCLEMENT WEATHER

a. Display will be fired in all weather conditions. The exception may be torrential rain, severe lightning, and sustained winds of 15MPH or greater. If a barge is being utilized and significant

weather or rough water hazards exist, the City and Proposer may mutually agree to delay or cancel the display.

b. If the display is cancelled due to inclement weather, the City will either:
    i. Reschedule the display for the following evening.
    ii. Not reschedule the display.

E. CANCELLATION/POSTPONEMENT POLICY

a. Proposer shall identify on the Proposed Cost Schedule (Exhibit A) any and all payment requirements the proposer expects the City to pay in the event the Proposer has delivered and set up the display and: (1) The display is cancelled and is not rescheduled (fireworks are not utilized); or (2) the display is postponed until the following evening.

F. FIRING FROM A BARGE

a. If applicable, fireworks may be fired from a barge, supplied by the proposer, offshore of the Madeira Beach Recreation Center located at 200 Rex Place, Madeira Beach FL 33708. Barge pricing is not required for pier-based displays.
b. Proposer shall coordinate with the City of Madeira Beach for staging set up and removal of the Fireworks.
c. Barge may arrive in the City of Madeira Beach no more than three (3) days prior to the date of the fireworks display date and must be removed no more than three (3) days after the fireworks display date, unless written approval is provided by the City.
d. On the day of the display, the barge shall be moved to its firing location which is approximately 1,000ft north of the Madeira Beach Recreation Center (200 Rex Place, Madeira Beach FL 33708)
e. Barge shall be at the designated firing location no later than one hour prior to display start time.
f. The budget identified for each display is for FIREWORKS ONLY. Proposer must include, in the Proposal, the cost for the barge and any other associated costs for firing off a barge structure.

G. CLEAN UP

a. The proposer shall be responsible for all set up, tear down, and clean up. The firing location and the staging areas must be restored to their original condition following the display. The proposer must sweep the launch site and locate, identify, and remove any unexploded shells.

H. SAFETY STANDARDS

a. All fireworks shall be performed according to the National Fire Protection Association Code for the Outdoor Display of Fireworks, NFPA Standard 1123.
    i. Proposer must perform all work in strict accordance with all applicable Federal, State, and Local laws and regulations.
    ii. With prior arrangements, the City will provide overnight security, if needed, for fireworks the night before the display and the additional night if the display is postponed for the following evening.

I. LICENSES AND INSURANCE

a. Valid Federal Explosives License issued by the BATFE – Mandatory
b. Proposer is responsible for all permits and licenses as required by Federal, State, and Local Authorities

c. Proposer must provide copies of all permits and licenses to the City of Madeira Beach Fire Chief, Fire Marshal, or designee at least two weeks prior to ANY display.
d. Liability Insurance in the amount of $5,000,000. City of Madeira Beach shall be listed as additional insured under the certificate of insurance.

J. AGENCY NOTIFICATIONS

a. Proposer will notify all agencies of fireworks display as necessary, i.e. Coast Guard, FAA, etc.
b. The City of Madeira Beach will coordinate with Pinellas County Sheriff's Office and the Madeira Beach Fire Department to ensure proper safety clearance of fall out zone.

PART C:

PROPOSAL RESPONSE REQUIREMENTS

The information each proposer provides will be used to determine the most qualified proposer and those with the perceived ability to perform the scope of services as stated in the Request for Proposals, which may best meet the overall needs of the City.

An evaluation of responding firms will be conducted for the purposes of clarification of both the firm's ability and prospective benefit to the City. For more information refer to Section D: Evaluation of Proposals.

Information to be Submitted

The information identified in this section must be contained within your Proposal. The contents of each Proposal must be **separated** and **arranged with tabs and must be organized in the same order and following the same format as listed below,** identifying the response to each specific item.

Section 1: MINIMUM QUALIFICATIONS

Each Proposer shall submit information and documentation requested that confirms it meets the following qualification requirement(s):

a. Proposer must have been in business for a minimum of three (3) years. All Proposers must be qualified and licensed under the laws, rules, and regulations of the State of Florida to perform the work required by these contract documents. **Documentation is required.**
b. Proposers must provide a written statement of assurance of proposer's ability to meet the insurance and performance requirements set out in this RFP if selected for award.
c. Proposers must certify they maintain a drug-free workplace program compliant with the standards set forth in Florida Statutes § 440.102. **Documentation is required. Form C**

Section 2: EXECUTIVE SUMMARY

An executive summary must be provided that includes a statement of interest in providing the fireworks display for the City of Madeira Beach pursuant to the RFP. Proposer should introduce its company, highlighting its background and achievements earned while providing services that are subject of this RFP.

Provide a statement of the proposer's understanding of the services and responsibilities required and a narrative description of the proposed approach to ensure that the services are performed in a manner that upholds or exceeds the City's high standards and levels of customer satisfaction.

Provide a statement of organization which includes the following information:

- Legal name, including DBA (if any), for the contract
- State of organization of incorporation
- Ownership structure of the proposer
- Contact information for corporate headquarter to include address, phone number and email address
- Contact information for local office to include address, phone number and email address
- Years in business
- List of officers, owners, and/or partners to include name, address, and phone number.

Executive summary should not exceed five (5) pages total.

Section 3: BUSINESS ETHICS

Disclose and circumstances where the conduct of the proposer, or any officer, partner, major shareholder (greater than five percent (5%) interest, or other related party is currently being investigated by any governmental, administrative, or law enforcement entity or agency. Also disclose any adverse decision against the proposer or such related parties (including, but not limited to judgments entered by any court, whether state or federal), or settlement with any such legal or administrative body in the past five years.

If proposer or any related parties have other business interests or relations that may cause, or appear to cause, a conflict of interest in its business with the City the details of such conflicts must be stated here. If no conflicts exist that fact should also be stated here.

Proposer must disclose whether it has been convicted of a public entity crime in its history and provide relevant dates and details concerning the conviction.

Proposer must disclose if it has ever been terminated from a contract.

Section 4: EXPERIENCE AND PAST PERFORMANCE

Provide a summary of the proposer's experience providing fireworks display services. Include the total number of years in business.

Provide information about the proposer's background providing services similar in complexity and scope to those detailed in the RFP.

The City reserves the right to discuss past performance with the companies and/or contacts provided and will give consideration to the feedback received. Proposer's response to this Section must not exceed five (5) pages.

Section 5: REFERENCES

Please list three (3) client references. For each reference include contact name, title, address, current telephone number and email address. Also include a brief description of the services provided, the start date for the agreement, and the total dollar value of the contract.

Section 6: EVENT OPERATIONS PLAN

Each respondent shall demonstrate its capacity to deliver professional pyrotechnics. Proposer shall outline methodology and logistics needed to meet the goals outlined in the RFP. This should include a planned delivery schedule and timeline for the event.

Section 7: COMMITMENT TO EVENT BUDGET

Proposer shall provide a total base fee per display date. Each proposer shall include shall explain the methods and process it will utilize to ensure the project is within budget and that the City of Madeira Beach will be receiving maximized value with the budgeted amount.

Section 8: REQUIRED FORMS

Proposer must submit attached forms:

- Form A: Acknowledgement of Addenda
- Form B: Public Entity Crimes
- Form C: Drug-Free Workplace

[Remainder of page intentionally left blank]

PART D:

EVALUATION OF PROPOSALS
Proposal Evaluation

The City's Staff Evaluation Committee will meet to review the Proposals at one or more publicly noticed meetings, as it deems necessary. The Staff Evaluation Committee's selection will be based on its review and evaluation of the Proposals received.

CRITERIA	VALUE
DISPLAY DESIGN & VARIETY	20 Points
PROPOSED COST SCHEDULE	35 Points
EVENT OPERATIONS PLAN	35 Points
PROPOSED TERMS FOR CANCELLATION/RESCHEDULE	10 Points
TOTAL	100 Points

While cost is a significant factor in the evaluation process, the City reserves the right to award to the proposer whose submission represents the best overall value to the City of Madeira Beach, considering all evaluation criteria set forth in this Request for Proposals.

At the conclusion if its evaluations, the Staff Evaluation Committee will establish at a public meeting, by consensus, a recommendation and order of preference to the Board of Commissioners.

Ranking of Proposals

The Staff Evaluation Committee will determine from the Proposals and subsequent investigation as necessary, the proposer(s) whose Proposal best meets the City's requirements.

PART E:
NEGOTIATION OF THE AGREEMENT
General

The successful proposers Proposal will serve as the basis for negotiating an agreement. Upon submission, all Proposals become the property of the City which will have the right to use any or all ideas presented in any Proposal submitted in response to this Request for Proposals, whether the Proposal is accepted or not.

Negotiation
The Staff Evaluation Committee will make recommendations to the Board of Commissioners of those proposers it determines are best qualified to perform services, if any. Upon approval of the recommendations, the successful proposer(s) may be invited to enter negotiations. These negotiations are generally relative to the scope of services to be performed and the associated costs.

Award
Award of any resulting agreement is subject to the approval of the Board of Commissioners.

Form A- Acknowledgement of Addenda

The Proposer hereby acknowledges the receipt of the following addenda, which were issued by the City and incorporated into and made part of this RFP. It is the sole responsibility of the Proposer to ensure that all addenda have been received and receipt of each has been acknowledged. Failure to submit acknowledgement of each addendum issued may result in the Proposer being deemed non-responsive.

ADDENDA NUMBER	ADDENDA DATE

Signature of Proposer's Agent Title

Printed Name Date

Form B - Public Entity Crimes

NOTIFICATION OF PUBLIC ENTITY CRIMES LAW

Pursuant to Section 287.133, *Florida Statutes*, you are hereby notified that a person or affiliate who has been placed on the convicted providers list following a conviction for a public entity crime may not submit a Proposal on a contract to provide any goods or services to a public entity; may not submit a Proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit Proposals on leases or real property to a public entity; may not be awarded or perform work as a provider, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted providers list.

Acknowledged by:

Firm Name

Signature Date

Printed Name and Title

Form C- Drug – Free Workplace

Proposers must certified that they maintain a drug-free workplace program compliant with the standards set forth in Florida Statutes § 440.102

As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

1) This firm publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2) This firm informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3) This firm gives each employee engaged in providing the commodities or contractual services that are under Proposal a copy of the statement specified in subsection (1).
4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under Proposal, the employee will abide by the terms of the statement and will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5) This firm imposes a sanction on or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

Acknowledged by:

Firm Name

Signature Date

Printed Name and Title

Exhibit A: Page 1 of 4

Proposed Cost Schedule: May 1, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller		
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: _____	Total Cost:	$
8			
Please provide proposed cancellation/postponement terms:			

Exhibit A: Page 2 of 4

Proposed Cost Schedule: July 3, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller		
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: _____	Total Cost:	$
8			
Please include all associated costs for barge display (If applicable):			
9	Item:		Cost:
A			$
B			$
C			$
10	Total Barge Cost:		$
Please provide proposed cancellation/postponement terms:			

Exhibit A: Page 3 of 4

Proposed Cost Schedule: July 4, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller		
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: _____	Total Cost:	$
8			
Please include all associated costs for barge display (If applicable):			
9	Item:		Cost:
A			$
B			$
C			$
10	Total Barge Cost:		$
Please provide proposed cancellation/postponement terms:			

Exhibit A: Page 4 of 4

Proposed Cost Schedule: December 11, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller		
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: _____	Total Cost:	$
8			
Please provide proposed cancellation/postponement terms:			

RESPONSE CHECKLIST

A responsive Proposer means a Proposer that has submitted a Proposal that conforms in all material respects to the requirements in the RFP The City will determine whether each Proposer correctly submitted all of the necessary forms and documents. The purpose of this checklist is to assist Proposers in completing their Proposals and ensuring that all required forms and information is submitted**. Do not include checklist with your Proposal submittal.**

Part C

- Section 1: Minimum Qualifications
- Section 2: Executive Summary
- Section 3: Business Ethics
- Section 4: Experience and Past Performance
- Section 5: References
- Section 6: Event Operations Plan
- Section 7: Commitment to Event Budget
- Section 8: Required Forms
    - Acknowledgement of Addenda
    - Public Entity Crimes
    - Drug-Free Workplace

Exhibit A: **Cost Schedule**

- Completed and included in packet.

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

PROFESSIONAL FIREWORKS DISPLAYS POWERED BY

FINALE FIREWORKS

COBRA
Wireless Firing Systems

Request For Proposal #25-17

THE CITY OF MADEIRA BEACH, FL

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

December, 26th

City of Madeira Beach

300 Municipal Dr
Madeira Beach, FL 33708

To Whom It May Concern,

We extend our gratitude for considering Master Pyro Display in your Request for Proposal for City of Madeira Beach Fireworks Displays. We express excitement about the opportunity to provide your guests with world-class pyrotechnics, like we have being doing for our our customers since the company was founded 5 years ago.

The cost quoted for each production covers all local and state permits, a certificate of insurance, shipping, labor, and workman's compensation, product design, choreography find post-show cleanup. We possess the necessary expertise and resources to create a spectacular display from concept to clean up.

We guarantee the use of only approved products at your show site and assure you of the highest standards of safety and entertainment value through our experienced technicians. As with all our displays, your complete satisfaction is our guarantee.

We appreciate your consideration of our services and look forward to working with you to create an unforgettable event.

Sincerely

BRIIAN ACOSTA, MGR
MASTER PYRO DISPLAY LLC
844-927-2412
www.masterpyrodisplay.com

MASTER PYRO DISPLAY
We Paint the Sky for you

U.S. Department of Justice
Bureau of Alcohol, Tobacco, Firearms and Explosives

Federal Explosives License/Permit
(18 U.S.C. Chapter 40)

Item 10C.

In accordance with the provisions of Title XI, Organized Crime Control Act of 1970, and the regulations issued thereunder (27 CFR Part 555), you may engage in the activity specified in this license or permit within the limitations of Chapter 40, Title 18, United States Code and the regulations issued thereunder, until the expiration date shown. **THIS LICENSE IS NOT TRANSFERABLE UNDER 27 CFR 555.53.** See "WARNINGS" and "NOTICES" on reverse.

Direct ATF Correspondence To	ATF - Chief, FELC 244 Needy Road Martinsburg, WV 25405-9431	License/Permit Number	**1-FL-031-54-8D-01283**
Chief, Federal Explosives Licensing Center (FELC)	Mama Howard	Expiration Date	**April 1, 2028**

Name
MASTER PYRO DISPLAY LLC

Premises Address (Changes? Notify the FELC at least 10 days before the move.)
5310 PHILIPS HWY
JACKSONVILLE, FL 32207-

Type of License or Permit
54-USER OF EXPLOSIVES

Purchasing Certification Statement

The licensee or permittee named above shall use a copy of this license or permit to assist a transferor of explosives to verify the identity and the licensed status of the licensee or permittee as provided by 27 CFR Part 555. The signature on each copy must be an original signature. A faxed, scanned or e-mailed copy of the license or permit with a signature intended to be an original signature is acceptable. The signature must be that of the Federal Explosives Licensee (FEL) or a responsible person of the FEL. I certify that this is a true copy of a license or permit issued to the licensee or permittee named above to engage in the business or operations specified above under "Type of License or Permit."

Mailing Address (Changes? Notify the FELC of any changes.)

MASTER PYRO DISPLAY LLC
3332 VICTORIA PARK RD
JACKSONVILLE, FL 32216-

Licensee/Permittee Responsible Person Signature	Position/Title	Printed Name	Date
	MGR	BRIAN ACOSTA	3-11-2025

Previous Edition is Obsolete MASTER PYRO DISPLAY LLC:5310 PHILIPS HWY:32207:1-FL-031-54-8D-01283:April 1, 2028:54-USER OF EXPLOSIVES

ATF Form 5400.14/5400.15 Part I
Revised September 2011

Federal Explosives License (FEL) Customer Service Information

Federal Explosives Licensing Center (FELC)
244 Needy Road
Martinsburg, WV 25405-9431

Toll-free Telephone Number: (877) 283-3352
Fax Number: (304) 616-4401
E-mail: FELC@atf.gov

ATF Homepage: www.atf.gov

Change of Address *(27 CFR 555.54(a)(1))*. Licensees or permittees may during the term of their current license or permit remove their business or operations to a new location at which they intend regularly to carry on such business or operations. The licensee or permittee is required to give notification of the new location of the business or operations not less than 10 days prior to such removal with the Chief, Federal Explosives Licensing Center. The license or permit will be valid for the remainder of the term of the original license or permit. **(The Chief, FELC, shall, if the licensee or permittee is not qualified, refer the request for amended license or permit to the Director of Industry Operations for denial in accordance with § 555.54.)**

Right of Succession *(27 CFR 555.59)*. (a) Certain persons other than the licensee or permittee may secure the right to carry on the same explosive materials business or operations at the same address shown on, and for the remainder of the term of, a current license or permit. Such persons are: (1) The surviving spouse or child, or executor, administrator, or other legal representative of a deceased licensee or permittee; and (2) A receiver or trustee in bankruptcy, or an assignee for benefit of creditors. (b) In order to secure the right provided by this section, the person or persons continuing the business or operations shall furnish the license or permit for for that business or operations for endorsement of such succession to the Chief, FELC, within 30 days from the date on which the successor begins to carry on the business or operations.

(Continued on reverse side)

Cut Here ✂

Federal Explosives License/Permit (FEL) Information Card

License/Permit Name: **MASTER PYRO DISPLAY LLC**

Business Name:

License/Permit Number: **1-FL-031-54-8D-01283**

License/Permit Type: **54-USER OF EXPLOSIVES**

Expiration: **April 1, 2028**

Please Note: Not Valid for the Sale or Other Disposition of Explosives.

State of Florida
Department of State

I certify from the records of this office that MASTER PYRO DISPLAY LLC is a limited liability company organized under the laws of the State of Florida, filed on October 13, 2021, effective October 14, 2021.

The document number of this limited liability company is L21000447276.

I further certify that said limited liability company has paid all fees due this office through December 31, 2025, that its most recent annual report was filed on February 5, 2025, and that its status is active.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Eighteenth day of May, 2025

Secretary of State

Tracking Number: 8843550444CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

This letter express Master Pyro Display LLC's understanding of the City's objectives and work requirements in providing the requested services. Our organization is committed to meeting these objectives and requirements to the best of our abilities.

Our proposed approach for addressing the required services will involve a comprehensive strategy that is tailored to the unique needs and preferences of the City. Our team will work closely with your organization to identify and prioritize key objectives, and we will develop a customized plan of action to meet those objectives within the required time frame.

Our team of experienced professionals is equipped to handle the full range of services required by the City, including planning, design, execution, and cleanup. We recognize the importance of adhering to the City's schedule for providing the work, and we will make every effort to ensure that the requested services are delivered in a timely and efficient manner.

During the last years we have handle many displays for all sizes of events, from land based site to multiple floating platforms and sport stadiums. We are proud to say that, so far, we have 100% retention of our customers, a history of zero safety issues and insurance claims, and our clientele portfolios keep doubling every year.

Our company is focused on changing the vision of pyrotechnic shows by incorporating a powerful set of high-end, state-of-the-art firing system technology. Regardless of the size or budget of any show, we aim to enhance overall results while prioritizing the safety of both the crew and the audience.

Master Pyro Display has been in the business of providing exceptional pyrotechnic entertainment for three consecutive years. Our commitment to delivering the best entertainment value and ensuring the highest possible safety standards for both our clients and technicians are our top priorities.

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

We offer stock materials to fit any budget and manufacture custom effects to cater to the unique needs of our clients. Throughout our history, we have produced awe-inspiring large aerial displays and musical accompaniments. Our in-house music editing facilities are fully equipped to create customized musical scores from commercially available music.

Master Pyro Display is proud to present an extensive range of fireworks products sourced from various parts of the world, including Japan, China, Spain, Italy and Mexico. Our unique blend of imported and domestically manufactured items enables us to create the most captivating and entertaining fireworks displays that are available anywhere.

At Master Pyro Display, we take pride in offering the best products and services in the industry. Our team of experts utilizes their extensive knowledge and expertise to ensure that our customers receive the highest level of satisfaction. We are committed to providing an exceptional experience for our customers and guarantee that our displays will leave them with unforgettable memories.

MASTER PYRO DISPLAY LLC is a sole proprietorship LLC registered in Florida. The company was founded on October 13, 2021, and has been in business since then.

The principal address is 5310 Philips Highway, Jacksonville, FL 32207, and the phone number is 844-927-2412.

The mailing address is 3332 Victoria Park Road, Jacksonville, FL 32216.

MASTER PYRO DISPLAY LLC is owned and managed by Briian Acosta. With residencial address, 3332 Victoria Park Road, Jacksonville, FL 32216, and phone number is 904-566-8762.

In summary, we are confident in our ability to meet the City's objectives and requirements for the requested services. We look forward to the opportunity to put our proposed approach into action and to provide you with the highest quality of service possible.

Thank you for your consideration.

Sincerely,

BRIIAN ACOSTA
OWNER/MANAGER
MASTER PYRO DISPLAY LLC
844-927-2412
www.masterpyrodisplay.com

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

PUBLIC CRIMES AND DRUG FREE STATEMENT

At our company, we are committed to upholding stringent ethical and moral standards in every aspect of our operations. This includes, but is not limited to, maintaining a alcohol and drug-free workplace environment. We ensure full compliance with all applicable laws and regulations at the local, state, federal, and county levels.

Furthermore, this statement serves to certify that neither the proposer nor any of our company officers have ever been subjected to investigation by any governmental, administrative, or law enforcement agencies.

Additionally, I affirm that Master Pyro Display LLC has never faced contract termination or failed to fulfill any contractual obligations or agreements. We strive to maintain a reputation built on reliability and integrity.

BRIIAN ACOSTA, MGR
MASTER PYRO DISPLAY LLC
844-927-2412

Since founded back in 2021 , **Master Pyro Display LLC** specializes in delivering world-class aerial entertainment. We provide turnkey solutions—from initial site design and permitting to choreographed execution—ensuring every display is a breathtaking, safe, and memorable event.

Core Capabilities

- **Precision Choreography:** State-of-the-art electronic firing systems synced to custom soundtracks and 3d show simulations.
- **Regulatory Excellence:** Seamless coordination with FAA, USCG, and local Fire Marshals.
- **Safety Record:** A 100% safety-first culture with comprehensive insurance coverage.
- **Diverse Venue Expertise:** Experience launching from barges, stadium rooftops, and urban parks.

Past Performance & Key Clients

We are proud to have served a wide variety of municipal and private entities across Florida, ranging from high-capacity professional sports venues to community-focused holiday celebrations.

Client / Entity	Event Scope	Location
MLB: The Atlanta Braves	Professional stadium displays & seasonal celebrations	North Port, FL
City of North Port	Annual Independence Day and municipal festivities	North Port, FL
City of Lake City	Large-scale community Independence Day fireworks displays	Lake City, FL

Client / Entity	Event Scope	Location
City of Marco Island	Coastal/Beachfront Independence Day Celebration display	Marco Island, FL
City of Starke	Traditional holiday Independence Day celebration and civic celebrations	Starke, FL
City of Keystone Heights	Independence Days Celebration displays	Keystone Heights, FL
Post St. Johns Community Foundation	Private foundation events and Independence Day Celebration	St. Johns, FL

Project Highlights

- **Professional Sports Partnerships:** Our ongoing work with **The Atlanta Braves** (MLB) involves high-intensity, precision-timed displays that require strict adherence to stadium safety protocols and high-definition visual impact for thousands of spectators.
- **Municipal Holiday Celebrations:** We serve as the primary pyrotechnic partner for various Florida cities, managing complex logistics for **Independence Day** and **New Year's Eve** events that draw significant tourism and local crowds.
- **Waterfront & Coastal Mastery:** Our work in **Marco Island** and **Crystal River** demonstrates our ability to execute complex launches over water, managing environmental considerations and maritime safety regulations flawlessly.

Commitment to Quality: Every display listed above was executed with a focus on "The Wow Factor" while maintaining a perfect safety record, ensuring that city officials and private stakeholders can provide entertainment with total peace of mind.

MASTER PYRO DISPLAY

WE PAINT THE SKY FOR YOU

PROFESSIONAL EXPERIENCE

ABOUT

MASTER PYRO DISPLAY LLC was founded in October 2021 by the experienced pirotechnitian Briian Acosta, with the purpose of revolutionizing the market by offering exceptional fully computerized fireworks displays, introducing the safest state of the art technology of the industry.

CONTACT

5310 Philips Hwy
Jacksonville Fl 32207
masterpyrollc@gmail.com
844.927.2412

Some of our clients.....

. City of Crystal River, FL
• City of Keystone Highs, FL
• City of Debary, FL
• City of Noth Port, FL
• Post St Johns Community Foundation
. MLB The Atlanta Braves
• City of Starke, FL
• City of Lake City FL
• City of Marco Island, FL

OUR SERVICES

• Cities events and holidays celebrations
• Corporated events
• Weddings and Parties
• Fully scripted and synchronized Pyromusicals

SAFETY IS OUR PRIORITY

Display will be shot in strict accordance with NFPA 1123,
and only high quality professional products are used
All our technitians are regulary trained and ATF certified

"As part of our business transparency policy, we make all customer's contact information available upon request. We can also provide you with the contact information of Fire Marshals and Fire Inspectors we have worked with before, for references about our work ethics and professionalism."

REFERENCE 1

City Of North Port

Company Name

Shelby Mendelson, CPRP Recreation Manager

Contact Name and Title

Office: 941-429-x3561 Cell: 941-374-7160

Phone Number

smendelson@northportfl.gov

Email Address

Duration of Contract or Business Relationship:

3 Year **CONTRACT AMOUNT $35,000.00**

We are the Exclusive Pyrotechnics Provider for the Venice Symphony Orchestra and the MLB Atlanta Braves at the same location

Description: Land based Independence' s Day fireworks display synchronized with music

REFERENCE 2

City Of Marco island

Company Name

Samantha Malloy, CPRP ,Manager of Parks, Culture, & Recreation

Contact Name and Title

Office: 239-389-3917

Phone Number

smalloy@cityofmarcoisland.com

Email Address

Duration of Contract or Business Relationship:

3 Year **CONTRACT AMOUNT $83,000.00**

Description: Independence' s Day fireworks display on barge 1000ft from the coastline

REFERENCES

REFERENCE 3

Port St. John Community Foundation
Company Name

Randy Rodriguez , Senior Director
Contact Name and Title

321-863-7499
Phone Number

happenings1@bellsouth.net
Email Address

Duration of Contract or Business Relationship:

5 Years **CONTRACT AMOUNT $22,000.00**

Description: Land based Independence' s Day fireworks display, scheduled 1st Saturday of July every year, synchronized with music.

REFERENCE 4

Cit of Lake City
Company Name

Kimi D. Roberts, Board of County Commissioners office – staff
Contact Name and Title

386-758-1390
Phone Number

kroberts@columbiacountyfla.com
Email Address

Duration of Contract or Business Relationship:

1 Years **CONTRACT AMOUNT $34,000.00**

Description: Land based Independence' s Day fireworks display synchronized with music

MASTER PYRO DISPLAY LLC.

Federally Licensed certified & Fully Insured

Professional Fireworks Displays

OPERATIONS PLAN FOR

INDEPENDENCE DAY CELEBRATION

Event Setup and Execution Plan

1. The crew is scheduled to arrive on the day prior to the event at approximately 9:00 AM.

2. The initial phase will involve preparation and setup, ensuring the stability of racks and maintaining appropriate distances between various mortar sizes. Additionally, necessary weather preparations will be implemented.

3. The fireworks setup is expected to be completed by approximately 7:00 PM. A preliminary computer test of the display will be conducted, and any potential wiring issues must be addressed. A call will be made to the sponsor to inform them of our readiness.

4. On the morning of the event, it is essential to reinspect all setups. A second computer test will be conducted to ensure that ignitors continuity has not been affected by adverse weather conditions or high humidity. Any identified issues will be resolved immediately. By 7:00 PM, barges should be securely anchored at the designated shooting location. A third and final computer test will be executed.

5. By 8:30 PM, the system will be armed and prepared for the display. The launch will occur at 9:00 PM, contingent upon the authorization from the sponsor. Following the completion of the display, a cooling down period of approximately 30 minutes will be allowed to mitigate accidental dub shells firing risks.

6. The cleanup and breakdown of the entire setup should be completed within a time frame not exceeding two hours.

7. The crew is anticipated to depart from the venue no later than 11:30 PM.

Turn Key Clear Pricing:

At Master Pyro Display, the price you pay for your fireworks display covers everything necessary, except for your own advertising and event preparations and barge rental. We don't have any hidden costs and the display price includes the following:

- All shipping costs for fireworks, equipment, and tools. Including removal of any unused pyrotechnics.
- Digital 3D custom show design.
- All travel costs for our display personnel
- All product (fireworks/ pyrotechnics)
- All materials/ equipment
- All required rental equipment and consumable materials
- All safety/ PPE - as required under NFPA 1123
- N.F.P.A. approved mortars/ racks
- All electronic firing equipment
- All required insurance certificates.
- All permits conforming with all regulations required by the N.F.P.A., B.A.T.F.E., F.A.A.and any other Municipal, State or Federal law or regulation.
- Post show clean-up and site re-inspection

Our Internal Budget Management Plan:

Master Pyro Display is proud to offer an extensive range of fireworks products sourced from various parts of the world, including Japan, China, Spain, Italy, and Mexico. Our unique blend of imported and domestically manufactured items allows us to create the most captivating and entertaining fireworks displays available anywhere. By ensuring the best possible prices and stocking enough product for approximately three years' worth of contracts, we guarantee that our clients will always receive the maximum value for their investment.

We have also secured fixed-price contracts with suppliers to reduce surprises related to sudden tariffs or shipment costs.

In all cases Master Pyro Display is fully committed to absorbing any additional expenses that may arise from the previously mentioned matters. This commitment reflects our dedication to providing exceptional service and ensuring a successful partnership.

Negotiation
The Staff Evaluation Committee will make recommendations to the Board of Commissioners of those proposers it determines are best qualified to perform services, if any. Upon approval of the recommendations, the successful proposer(s) may be invited to enter negotiations. These negotiations are generally relative to the scope of services to be performed and the associated costs.

Award
Award of any resulting agreement is subject to the approval of the Board of Commissioners.

Form A- Acknowledgement of Addenda

The Proposer hereby acknowledges the receipt of the following addenda, which were issued by the City and incorporated into and made part of this RFP. It is the sole responsibility of the Proposer to ensure that all addenda have been received and receipt of each has been acknowledged. Failure to submit acknowledgement of each addendum issued may result in the Proposer being deemed non-responsive.

ADDENDA NUMBER	ADDENDA DATE
1	01/02/2026

Signature of Proposer's Agent

MANAGER

Title

BRIIAN ACOSTA

01/06/2026

Printed Name

Date

Form B - Public Entity Crimes

NOTIFICATION OF PUBLIC ENTITY CRIMES LAW

Pursuant to Section 287.133, *Florida Statutes*, you are hereby notified that a person or affiliate who has been placed on the convicted providers list following a conviction for a public entity crime may not submit a Proposal on a contract to provide any goods or services to a public entity; may not submit a Proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit Proposals on leases or real property to a public entity; may not be awarded or perform work as a provider, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted providers list.

Acknowledged by:

MASTER PYRO DISPLAY LLC

Firm Name

Signature

12/25/2025

Date

BRIIAN ACOSTA, MANAGER

Printed Name and Title

Form C- Drug – Free Workplace

Proposers must certified that they maintain a drug-free workplace program compliant with the standards set forth in Florida Statutes § 440.102

As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

1) This firm publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2) This firm informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3) This firm gives each employee engaged in providing the commodities or contractual services that are under Proposal a copy of the statement specified in subsection (1).
4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under Proposal, the employee will abide by the terms of the statement and will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5) This firm imposes a sanction on or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

Acknowledged by:

MASTER PYRO DISPLAY LLC

Firm Name

Signature

12/25/2025

Date

BRIIAN ACOSTA, MANAGER

Printed Name and Title

THE CITY OF MADEIRA BEACH, FLORIDA

JULY 3rd, 4th, 2026-28 DISPLAY SYNOPSIS

COST OF SHOW FOR JULY 4th $35000
COST OF SHOW FOR JULY 3rd $33000 ($2000 discount , DUE TO COMPANY SAVING ON LOGISTICS)

OPENING BARRAGE

100—2.5”shells
10 – 3” Shells assorted colors chained
10 – 3” Shells salute report
30 – 4” Shells assorted colors
10– 5” Shell fancy effect
2– Multi color and effects professional repeaters 100 shots each

TOTAL of 360 shots DURATION 1-1.5 MIN

MAIN BODY AERIAL DISPLAY

170 – 3” Shells assorted colors and effects
258 --4” Shells assorted colors and effects
150 --5” Shells assorted colors and effects
20 -- 6" Shells assorted colors and effects
3-- 8"Shell assorted colors and effects
204 Shot of our famous night time smoke
19 shots rainbow fanned slices
2 – 300 shots professional repeaters
15 – prolevel comets assorted colors
15 – prolevel mines assorted colors

TOTAL of 1454 shots DURATION 20-22 MIN

GRAND FINALE

240 – 2.5” Finale color and report
120 – 3” Finale color and report
2 – 4” Shells assorted
20 –5“ Super Brocade shells
4-- 6" Super Brocade shells
8-- 8" Finale Brocade Shell
2 – 49 salute repeaters
3 – 100 shots finale repeaters with report
20 – 4” waterfall special shells for event closing

TOTAL of 812 shots DURATION 1-1.5 MIN

A GRAND TOTAL OF 2626 SHOTS WILL BE USED FOR AND ESTIMATED SHOW DURATION OF 22-25 MIN

THE CITY OF MADEIRA BEACH, FLORIDA

May 1st, December 11th, 2026-2028 at 200 REX PL

DISPLAY SYNOPSIS

COST OF SHOW $5000

OPENING BARRAGE

30—2.5” SHELLS
40-- 1”-1.75” 1.4G pro shells
2-- 15/30mm 100 shots repeaters
100 special effects shots in mixed repeaters

TOTAL of 370 shots DURATION 1 MIN

MAIN BODY AERIAL DISPLAY

60-- 1”-1.75” 1.4G pro shells
40—2.5” SHELLS
4-- 15/30mm 100 shots repeaters
865 special effects shots in mixed repeaters

TOTAL of 1265 shots DURATION 8 MIN

GRAND FINALE

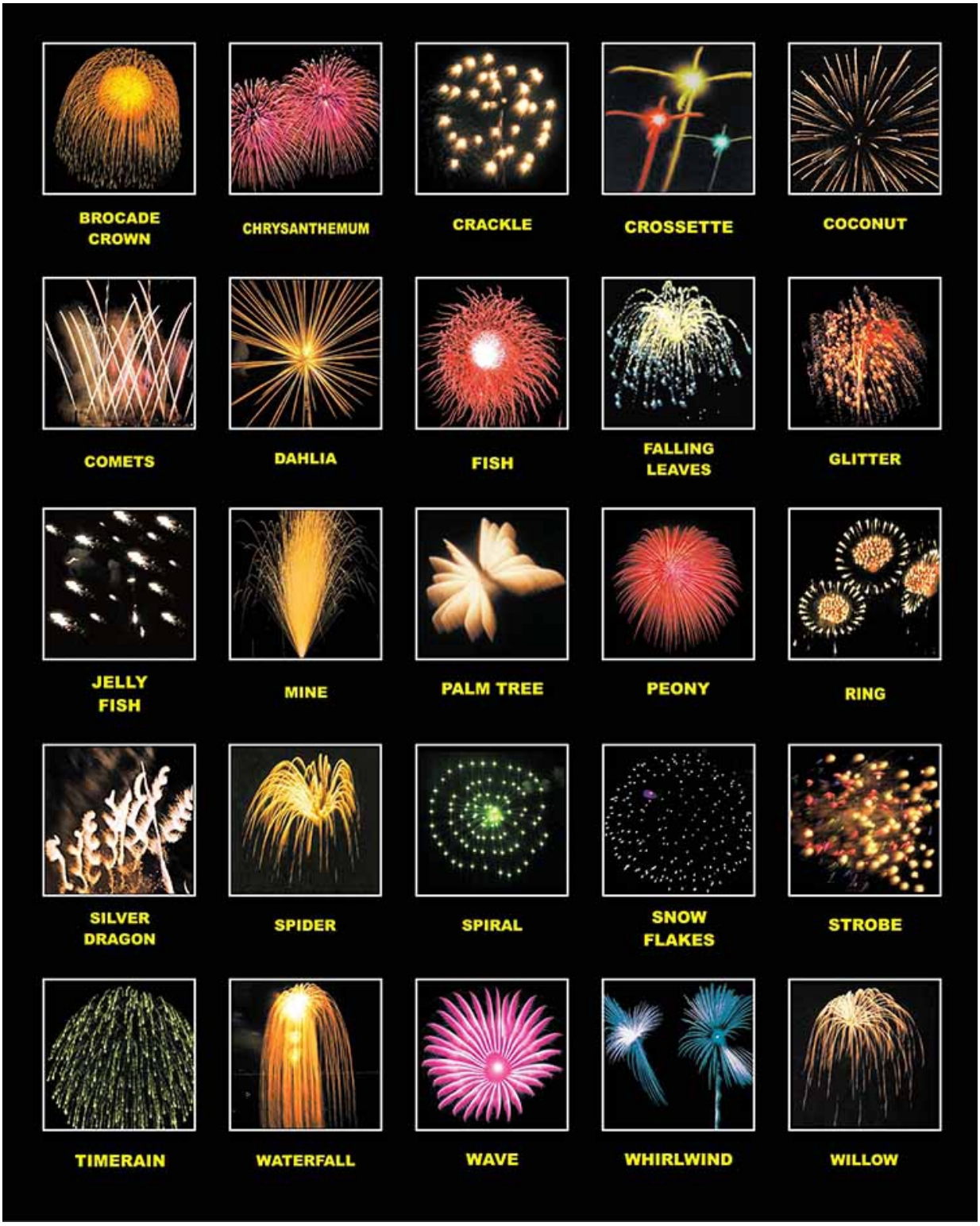
30—2.5” SHELLS
40-- 1”-1.75” 1.4G pro shells
3-- 15/30mm 100 shots repeaters
100 special effects shots in mixed repeaters
30—1.75”loud salutes shells
10– 1.5” waterfall special shells for event closing

TOTAL of 510 shots DURATION 1 MIN

GRAND TOTAL SHOTS COUNT :2145
ESTIMASTED SHOW DURATION:10 MIN

ALL ITEMS USED WILL BE CATEGORY 1.4G AND 1.3G PROFESSIONAL FOR ALL ITEMS SIZES

Only high quality imported product will be used during this display. This is an example of the patterns we will be using at your show.



Display will be designed in a layered effect format, the medium and high level effect will cover more of the sky from the audience perspective.

SHOW IS DESIGNED WITH STATE OF THE ART FINALE 3D SOFTWARE AND WILL BE REMOTLY FIRED WITH OUR PROFESSIONAL WIRELESS COBRA FIRING SYSTEM

Pyromusical scripting will be offered at no cost to the costumer only if the desired music file is provided by the City of MADEIRA BEACH to Master Pyro Display LLC at least 30 days before the show date, or if Master Pyro Display LLC is allowed to choose and use music tracks at its will.

Please be advise that converting the show to pyromusical may modify the display lenght in about +/ 1 mins, but shells count remain the same. MASTER PYRO DISPLAY LLC might provide sound system depending on availability, As of today PA system can be provided , May 1st and December 11th.

MASTER PYRO DISPLAY LLC WILL PROVIDE

All shipping costs for fireworks, equipment, and tools. Including removal of any unused pyrotechnics.
Premiere show design with FINALE 3D
All product (fireworks/ pyrotechnic products)
All materials/ equipment
All required rental equipment and consumable materials
All safety/ PPE as required under NFPA 1123
N.F.P.A. approved mortars/ racks
Cobra digital wireless firing equipment
All required insurance
Off site storage and daily delivery and removal of ALL explosive materials.
No explosive materials will be stored on city property.
After show clean up

Exhibit A: Page 1 of 4

Proposed Cost Schedule: May 1, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller	2145 shells, max size allowed by NFPA1123 is 2.5"	100
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: 10 MINUTES	Total Cost:	$ 5000.00
8			

Please provide proposed cancellation/postponement terms:

There is No charge for cancelling or posponing the display at least 24 hours before the event day.

Posponing fee aplied for the event day : 10%

Cancelation fee aplied for the event day : 10%

Exhibit A: Page 2 of 4

Proposed Cost Schedule: July 3, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller	650	55%
2	4"	310	27%
3	5"	180	15%
4	6"	24	2%
5	7"		
6	8" or larger	(4) 8" SHELLS	1%
7	Display Length: 22-25 MINUTES	Total Cost:	$ 33,000.00
8	(1470) effects packed in repeaters, like waterfalls, horsetails,spinners, mines, comets and whistlers		PRICE INCLUDED
Please include all associated costs for barge display (If applicable):			
9	Item:		Cost:
A			$
B			$
C			$
10	Total Barge Cost:		$

Please provide proposed cancellation/postponement terms:

There is No charge for cancelling or posponing the display at least 48 hours before the event day.

Posponing fee aplied the event day : 10%

Cancelation fee aplied for the event day : 10%

NOTES:
Pricing includes a $2000 discount for doing the show on the July 3rd, due to company saving on logistics, salaries and transportation services.

For the land based display option where fallout area is limited to 350ft, the 6" and 8" shells should be replaced by 5" which is the bigger size allowed by NFPA1123

Exhibit A: Page 3 of 4

Proposed Cost Schedule: July 4, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller	650	55%
2	4"	310	27%
3	5"	180	15%
4	6"	24	2%
5	7"		
6	8" or larger	4 8" SHELLS	1%
7	Display Length: 22-25 MINUTES	Total Cost:	$ 35,000.00
8	(1470) effects packed in repeaters, like waterfalls, horsetails,spinners, mines, comets and whistlers		PRICE INCLUDED
Please include all associated costs for barge display (If applicable):			
9	Item:		Cost:
A			$
B			$
C			$
10	Total Barge Cost:		$

Please provide proposed cancellation/postponement terms:

There is No charge for cancelling or posponing the display at least 48 hours before the event day.

Posponing fee aplied the event day : 10%

Cancelation fee aplied for the event day : 10%

For the land based display option where fallout area is limited to 350ft, the 6" and 8" shells should be replaced by 5" which is the bigger size allowed by NFPA1123

Exhibit A: Page 4 of 4

Proposed Cost Schedule: December 11, 2026

Item	Shell Size	Total Number of Shells by Size	Shell % by size
1	3" or smaller	2145 shells, max size allowed by NFPA1123 is 2.5"	100%
2	4"		
3	5"		
4	6"		
5	7"		
6	8" or larger		
7	Display Length: 10 MINUTES	Total Cost:	$ 5000.00
8			

Please provide proposed cancellation/postponement terms:

There is No charge for cancelling or posponing the display at least 24 hours before the event day
.
Posponing fee aplied for the event day : 10%

Cancelation fee aplied for the event day : 10%

Jay Ha

RFP 25-17 Scoring Sheets

Company Name: MASTER PYRO LLC

Category	Max	Score
Display Design & Variety	20	19
Proposed Cost Schedule	35	33
Event Operations Plan	35	32
Cancellation/Reschedule	10	7
Total	100	91

Notes:

Maximizes budget value. Maximizes ~~the~~ larger assortment of shells. Solid list of govenment experience. More understanding of request.

Company Name: North Florida Pyrotechnics

Category	Max	Score
Display Design & Variety	20	16
Proposed Cost Schedule	35	30
Event Operations Plan	35	33
Cancellation/Reschedule	10	9
Total	100	88

Notes:

Barge included. Not necessarily required. Lower budgetted amount.

Company Name: _____

Category	Max	Score
Display Design & Variety	20	
Proposed Cost Schedule	35	
Event Operations Plan	35	
Cancellation/Reschedule	10	
Total	100	

Notes:

Max Michalski

RFP 25-17 Scoring Sheets

Company Name: Master Pyro LLC

Category	Max	Score
Display Design & Variety	20	19
Proposed Cost Schedule	35	32
Event Operations Plan	35	30
Cancellation/Reschedule	10	8
Total	100	89

Notes:
Large Assortment of shells. Prior experience with Governments. Provided all required documents.

Company Name: _____

Category	Max	Score
Display Design & Variety	20	14
Proposed Cost Schedule	35	30
Event Operations Plan	35	33
Cancellation/Reschedule	10	9
Total	100	86

Notes:
Included Barge in quote. No Government refrences No licenses included in Proposal.

Company Name: _____

Category	Max	Score
Display Design & Variety	20	
Proposed Cost Schedule	35	
Event Operations Plan	35	
Cancellation/Reschedule	10	
Total	100	

Notes:

North Florida Pyrotechnics
1212 Blanding Blvd. #10
Orange Park, Florida 32065

*Madeira Beach Display Proposals RFP #25-17

*Effects list for each display date

*Display Durations-

*Total Price for Each Display-

*July 3rd, 4th. Has two separate options-

*All Displays will be scripted using Finale 3D and electronically fired using Cobra Pyrotechnics Command center utilizing 6.1 software.

Proposed Aerial Display May 1st 2026 Fired off City Pier

Grand Opening
#36 2.5" Assorted Color Shells to include the following effects
#12 Red Chrysanthemum
#12 White Peoney
#12 Blue Peoney

Body of Display
#240 2.5” Assorted Color Shells to include the following assorted effects
Red Chrys.
Silver Strobe Chrys. to Cyan
Magenta to Crackling
Aqua to Crackling Flower
Green Dragon Eggs
Silver Willow
Red Willow
Red to Sea Blue
Orange to Popping Flower
Violet and Lime Chrys.
Brocade Crown to Gold
Jellyfish
Gold Willow
Cyan to Orange
Aqua and Pink Peoney
Green Wave Chrys.
Orange Popping Flower
Lime Peoney
Green Strobe
Blue Willow

Finale- 2.5” Display Shells
#144 Red, to White, Peoney
#72 Color Chrys to Thunder

Total Shells #492

May 1st Display Duration 11:15

Proposed Price for May 1st $4500.00

Proposed Aerial Display July 3rd. or 4th. 2026 Fired from an anchored Barge 700’ in front of 200 Rex Place Madeira Beach.

Grand Opening of Proposed Display
4- 6" Red to white chrysanthemum display shells Body of Proposed Display
4" Display Shells- #432 Assorted Shells
6" Display Shells -#108 Assorted
Shells Red Peoney
White Peoney
Horsetail Pistil

Brocade
Nishiki
Brocade
KamuroRed to
White Peoney
Blue Peoney
Dragon
Eggs Blue
Thunder
Silverwav
wave
Cyan to Orange
Peoney Aqua to Pink
Peoney
Red to Green
Chrysanthemum Gold
Coconut Tree
Blue to
Crackling Red
Willow Green
Willow
Orange to Popping
Flower Brocade
Crown to Gold
Finale of Proposed
Display
3" Blue Thunder to Color Chry-#144
4" Red, White, Blue Display Shells -#720
6" Red to White Chry.#27
Total Shells Per Category
Opening -#4
Body-#540
Finale- #891

Total Shell Count #1435 Shells

July 3rd or 4th Display Duration 22:40

Proposed Display for July 3rd. $30,000.00 w/ Barge

Proposed Display for July 4th $32,000.00 w/ Barge

Proposed Display for July 3rd. $26,000.00 Land Based Show Supplementing 6" Display Shells with 4" Display shells with same Effect due to smaller fallout radius.

Proposed Display for July 4th $28,000.00 Land Based Show Supplementing 6" Display Shells with 4" Display shells with same Effect due to smaller fallout radius.

Proposed Aerial Display Fired off City Pier December 11th. 2026

Grand Opening of Display

#60 Red to Green Peoney

Body of Display
#240 2.5" Assorted Color Shells to include the following assorted effects
- Red Chrys.
- Silver Strobe Chrys. to Cyan
- Magenta to Crackling
- Aqua to Crackling Flower
- Green Dragon Eggs
- Silver Willow
- Red Willow
- Red to Sea Blue
- Orange to Popping Flower
- Violet and Lime Chrys.
- Brocade Crown to Gold
- Jellyfish
- Gold Willow
- Cyan to Orange
- Aqua and Pink Peoney
- Green Wave Chrys.
- Orange Popping Flower
- Lime Peoney
- Green Strobe
- Blue Willow

Finale- 2.5" Display Shells
#144 Red Strobe,, Green Strobe, White Strobe
#72 Color Chrys to Thunder

Total Shells #516
Proposed Price for December 11th 2026 $4,250.00
Total Display Duration 12:00