

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R2146**

ATTACHMENT 3

I. TITLE PAGE

1. PROJECT TITLE: Titusville Causeway Multi-Trophic Shoreline Stabilization and Living Shoreline Resiliency Action Project

2. GRANTEE Contact Information:

Organization Name: Brevard County

Name of Authorized Signer: Frank Abbate

Title: County Manager

Address: 2725 Judge Fran Jamieson Way, Building C, 3rd Floor

City: Viera

Zip Code: 32940

Area Code and Telephone Number: 321-633-2001

E-mail Address: Frank.Abbate@brevardfl.gov

3. GRANT MANAGER Contact Information:

Organization Name: Brevard County

Name: Carolina Alvarez

Title: NPDES Coordinator

Address: 2725 Judge Fran Jamieson Way

City: Viera

Zip Code: 32940

Area Code and Telephone Number: 321-350-8405

E-mail Address: Carolina.Alvarez@brevardfl.gov

4. FISCAL AGENT Contact Information:

Organization Name: Natural Resources Management Department

Name: Tom Belflower

Title: Support Services Supervisor

Address: 2725 Judge Fran Jamieson Way, A217

City: Viera

Zip Code: 32940

Area Code and Telephone Number: 321-633-2019

E-mail Address: Tom.Belflower@brevardfl.gov

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5. FEID No. (a.k.a. Tax ID#): 59-6000523 Seq No. 008

DUNS No. 106520666

6. WORK PERFORMED BY: Sub-Contractor Only

7. SUBCONTRACTORS CONTACT INFORMATION: *(if applicable & known)*

Organization Name: DRMP, Inc.

Name: Chad Rischar

Title: Senior Environmental Scientist

Address: 706 SW 4th Avenue

City: Gainesville

Zip Code: 32601

Area Code and Telephone Number: 352-372-4318

E-mail Address: crischar@drmp.com

8. PROJECT LOCATION:

A. List of County(ies): Brevard County

B. List of City(ies)/Town(s)/Village(s): Titusville, FL

C. State Lands Lease Agreement Number(s): N/A

Provide lease agreement number(s) for any work that will be performed on State Lands. If work will not be on any state lands, please indicate N/A.

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II. WORK PLAN

- 9. PROJECT SUMMARY:** The shoreline along the south side of the Titusville Causeway in Brevard County has been subject to significant erosion that has caused several negative impacts to the Indian River Lagoon, local wildlife, and recreational users. The restoration of approximately 2,600 feet of shoreline will include planting seagrass, seeding clams, and the construction of Wave Attenuation Devices (WAD). WAD are a proven sustainable technology and the project as a whole will help protect the shoreline, increase sand accretion, reduce erosion, and enhance the ecosystem for wildlife.
- 10. PROJECT SCOPE OF WORK:** The project consists of a final design plan, shoreline planting plan, sea grass restoration planting plan, final permit authorizations if granted by the regulatory agencies, or other plan formulations for obtaining environmental permits and other project-related authorizations from the St. Johns River Water Management District (SJRWMD) and United States Army Corps of Engineers (USACE), and an estimate of anticipated costs in preparation for the construction of a breakwater using WAD. The cost must be certified by a Florida-registered Professional Engineer.

TASK 1 – Final Engineering Design

The design plans will be submitted for permit approval. The design plans will include approximately 2,600 linear feet of shoreline replenishment of the Titusville Causeway and Gator Creek Road. The volume of shoreline to be replenished will be calculated using topographic survey collected as part of this scope of work and comparing it to historic LiDAR data prior to the shoreline degradation. The data will be analyzed using Civil 3D and GIS 3D Analyst tools. A typical section and cross section will be developed in 50' increments to depict and calculate the total amount of fill to be constructed. The design plans will also include cross sections, coordinates and elevations for the breakwater location. The planting plan will include a detailed list of native and salt tolerant plant species to mitigate shoreline erosion and complement the overall restoration project. The planting plan will include typical sections, plant quantities and types, and a landscape rendering of the shoreline's desired vision. The seagrass restoration planting plan will include species, quantities, herbivory exclusion device placement density, and a cost estimate for the construction document bid tabulation. The seagrass planting plan will also include a proposed monitoring and operational maintenance schedule to ensure restoration success. Lastly, an adaptive management plan will be developed to ensure the seagrass restoration is successful.

TASK 2- Permit Authorizations and Agency Coordination

The Environmental Resource Permit (ERP) for the St. Johns River Water Management District (SJRWMD) will be prepared for submittal. Furthermore, an inventory of mangroves within the project will be included depicting the location and height of the existing mangroves. The ERP application will include GIS exhibits, seagrass survey reports conducted in 2019 and 2020, Ecological Assessment Report, UMAM analysis (if required), and all associated project documentation for submittal.

Per a preapplication meeting with the USACE this project has an identification number SAJ-2020-04865. A Standard General Permit will be required, in addition JAXBO Project Design Criteria (PDC) will need to be followed to the best of the project's capability. The JAXBO PDC checklist package must be completed as part of the USACE application submittal. Coordination with the U.S. Fish and Wildlife Service will be required due to the project area including sections of designated West Indian critical habitat and Essential Fish Habitat. The Florida Department of Environmental Protection (FDEP) will also require authorization due to the SSL location of the proposed project within the Indian River Lagoon. FDEP will require coordination with the State Lands office in advance of ERP submittals to the SJRWMD. In addition, the shoreline stabilization component will require coordination with FDEP regarding shoreline reclamation through the Division of State Lands.

It is anticipated that a project field meeting in advance of permit application submittals will be conducted with regulatory agency staff.

In addition, this task will also include public outreach and stakeholder engagement through virtual and/or in-person meetings. One public meeting is anticipated to inform interested parties of the project merits, engineering and design, WAD technology and representative projects completed at other locations.

11. PROJECT NEED AND BENEFIT:

- A. Explain the demonstrated need, which the project addresses.** The Titusville Causeway has been experiencing significant erosion for decades which has led to loss of a healthy shoreline for local wildlife such as birds and horseshoe crabs as well as for recreational users. The seagrass habitat has been lost as a result of wave action, sand erosion, and other changes to the local environmental and physical conditions. This project is necessary to finalize plans and obtain permit authorizations in order to prevent further deterioration of the shoreline. The sandy beach along the causeway serves the community for active recreation, rocket launch viewing, watersports, and supports ecotourism economic benefits. In addition, the project will incorporate design elements to protect critical habitat while improving the Causeway recreational values and the local economy by designing a long-term approach for coastline and community resiliency.
- B. Explain how the proposed project meets the purpose of one or more of the Goals and Priorities for FRCP.** The proposed project adapts the shoreline protection and management strategy for this shoreline transportation corridor, providing resilience to erosion, storm damage, and rising sea levels. The project design includes analysis of natural resource vulnerability over and above what is typically included in Peril of Flood analysis and develops a plan that addresses transportation, social and natural resource vulnerability.
- C. Discuss how the project is feasible and can be completed by the grant period deadline.** This project can be completed by the project deadline because the County and the Consultant have already completed a feasibility report and 60% of the design plans with a specific focus on coastal resilience including a multi-factor approach. In addition, pre-application meetings with the primary regulatory agencies have been conducted to determine the feasibility of obtaining permit authorizations in a timely manner. The County and its consultant are able to complete engineering design plans and submit permit applications within the Grant period deadline.
- D. Explain how this project is addressing social vulnerability or vulnerability of historic resources or stormwater management systems.** The south side of the Titusville causeway has been designated by the Florida Fish and Wildlife Conservation Commission as a critical habitat for horseshoe crabs. The restoration of the shoreline will promote habitat for spawning horseshoe crabs. The project purpose and design methodology will increase the resiliency conditions for water quality in the Indian River Lagoon through nutrient reduction and improved localized water quality through wave energy reduction, decreasing sediment resuspension and turbidity from an eroding shoreline. The WAD arrays may also develop into a nearshore reef structure providing marine habitat and life cycle functions for local aquatic organisms. A restored, healthy shoreline will also improve the causeway recreational values and support local ecotourism benefits.

- 12. DESCRIPTION OF PROJECT OUTCOMES:** Final engineering design plans, construction pay items, permit authorizations with state and federal regulatory agencies, cost for project monitoring and construction engineering inspection will bring the project into shovel ready status which is necessary in order to continue to obtain funding for project construction. The final design plans, sketches and permit authorizations will create a critical pathway to project construction and completion. Installation of the WAD arrays, restoration of the near shore seagrass meadows, and shoreline restoration completion will facilitate the long-term resiliency of the Titusville Causeway

and associated natural system functions. Furthermore, the completed project will protect the SR406 infrastructure from significant storm events, thus generating a coastal resilient system to serve as a gateway feature into Merritt Island National Wildlife Refuge (MINWR).

- 13. BUDGET SUMMARY:** Allowable budget categories and form of payment with the costs for this project are listed in the table below.

ALLOWABLE BUDGET SUMMARY

Budget Categories	Payment	Task 1	Task 2	Grant Amount Awarded
Salaries & Fringe	Reimbursement	\$0	\$0	\$0
Contractual Services	Reimbursement	\$49,012	\$49,140	\$98,152
GRANT AGREEMENT TOTAL		\$49,012	\$49,140	\$98,152

A. Describe how the project costs was determined:

The consultant developed a professional services labor estimate based on the services required for project completion. Labor rates were established in the 2019 continuing engineering services contract between DRMP, Inc. and Brevard County.

B. Other Project Funding Sources: N/A

C. CONTRACTUAL SERVICES:

CONTRACTUAL SERVICES BREAKDOWN

Company Name*	Task 1	Task 2	Total
DRMP, Inc.	\$49,012	\$49,140	\$98,152
Contractual Total by Tasks	\$49,012	\$49,140	\$98,152

*Upon a selected Sub-Contractor(s), the Grantee will Provide a signed certification statement giving a description of the procurement process that was utilized for the selection of the sub-contractors. The description must include:

- a. What procurement process was utilized
- b. Justification as to how & why you made your final selection.
- c. For competitively obtained Sub-Contractor also include:
 - i. A list of all entities that you received bids/quotes from,
 - ii. Names and addresses of those entities that provided bids/quotes,
 - iii. Actual amounts of the bids/quotes that were submitted.

- 14. PROJECT TIMELINE:** All tasks are to be completed and submitted no later than the task/deliverable due date listed in the table below. Requests for any change must be submitted prior to the current task/deliverable due date listed in the project timeline. Requests are to be sent via separate email to the Department's Grant Manager, with the details of the request being made and the reason for the request.

PROJECT TIMELINE

Task No.	Task Title	Deliverable Due Date	Task Amount
1	Final Engineering Design Plans	06/30/2021	\$49,012
2	Permit Authorizations and Agency Coordination	06/30/2021	\$49,140
Total			\$98,152

- 15. PERFORMANCE MEASURES:** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline. The Department's Grant Manager will review the task/deliverables to verify that they meet the specifications in the Grant Work Plan and this task description, to include any work being performed by any sub-contractor(s). Upon review and written acceptance by the Department's Grant Manager of all deliverables under this task, the Grantee may proceed with payment request submittal.
- 16. CONSEQUENCES FOR NON-PERFORMANCE:** The Department will reduce each Task Funding Amount by 5% for every day that the task/deliverable(s) is not received on the specified due date in the most recent Project Timeline, for the Agreement. Should a Change Order or Amendment be requested on the date of or after the most current task/deliverable due date, the 5% reduction of that Task Funding Amount will be imposed until the date of the requested change is received, via email by the Department.
- 17. PAYMENT REQUEST SCHEUDLE:** Grantee may submit a request for the Task Funding Amount to be paid using the Exhibit C, after all deliverables for that task have been approved by the Department. Request(s) for payment must include the Exhibit A showing 100% completion of that task and must be submitted within 45 days of the task/deliverable due date. Please refer to the [website Grants page](#) for "How to Request Payment", and "Checklist for Requesting Payment".

Or

Grantee may submit one request for the Grant Amount Awarded, by using the Exhibit C, after the project is 100% completed. The request for the Grant Amount Awarded, must include an Exhibit A showing 100% completion for all tasks, and must be submitted within 45 days of the last task/deliverable due date.

- 18. FUNDING SOURCE:** Grantee agrees to include on all publications, printed reports, audiovisuals (including videos, slides, and websites except that unless required under special terms of this Agreement, this requirement does not apply to audiovisuals produced as research instruments or for documenting experimentation or findings and which are not intended for presentation to the general public) or similar materials must include the DEP logo (which can be found on the Department's website at <https://floridadep.gov/resilience> or by contacting the Grant Manager for a copy) and the following statement on, the following language.

"This work was funded in part through a grant agreement from the Florida Department of Environmental Protection, Florida Resilient Coastlines Program, by a grant provided by the Office of Resilience and Coastal Protection. The views, statements, findings, conclusions and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the State of Florida or any of its subagencies."

The next printed line shall identify the month and year of the publication.

III. TASKS & DELIVERABLES

Task #1

- A. Title:** Final Engineering Design Plans
- B. Goal:** Final or Permit level engineering design and construction plans including the following:
- General Notes
 - Special Details
 - Typical Sections
 - Existing Conditions Survey
 - Breakwater and Shoreline Replenishment Plan Sheets
 - Planting Plan Sheets
 - Coordinate Tables for Breakwater Transects
 - Cross Sections
- C. Description:** The consultant will complete a plan set for applications to regulatory agencies. Once comments from the agencies have been obtained the plan set will be modified to attempt to obtain a final permit authorization. Once the permit authorizations from the regulatory agencies have been obtained a final engineering plan set will be developed.
- D. Deliverables:** The Grantee will submit all task/deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the task/deliverable due date listed in the Project Timeline.
- 1) Draft engineering plans ready for submittal to regulatory agencies
 - 2) Final plans after permit authorization received (if applicable)
 - 3) Construction bid documents (the documents may not be final if permits have not been obtained).
 - 4) Engineer's estimate of anticipated construction cost.

Task #2

- A. Title:** Permit Submittals and Agency Coordination
- B. Goal:** Submit permit application packages to SJRWMD and USACE, while coordinating with other involved agencies and stakeholders.
- C. Description:** Individual Environmental Resource Permit (ERP) application to the SJRWMD and anticipated Standard General Permit application to the USACE will be submitted. Any other agency that will need to be approached will be contacted and a permit application submitted for this project. Brevard County Publics Work may require a Right of Way permit for the work on the near shore restoration. At least one public workshop will be held to inform the public about the project actions and outcomes.
- D. Deliverables:** The Grantee will submit all task/deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the task/deliverable due date listed in the Project Timeline.
- 1) Copy of permit applications, regulatory agency meeting minutes, permit application correspondence, and site visits photographs.

- 2) Stakeholder presentation and other meeting materials/handouts
- 3) Brief summary report from each public workshop including attendee feedback and outcomes
- 4) Copies of all meeting announcements/advertisements
- 5) Agendas and attendance lists from each meeting indicating location, date, and time of the meeting
- 6) Copy of final permit if issued by the regulatory agencies. (if applicable)