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| PA-04-FL-4283-PW-00642(0) P | |
| Applicant Name: NASSAU (COUNTY) | Application Title: AIGMM01-South Amelia Island Shore Stabilization Project |
| Period of Performance Start: 10-08-2016 | Period of Performance End: 04-08-2018 |

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|----------------------------------|--------------|
| Bundle Reference # (Amendment #) | Date Awarded |
| | |

Subgrant Application - FEMA Form 90-91

Note: The Effective Cost Share for this application is 75%

| FEDERAL EMERGENCY MANAGEMENT AGENCY PROJECT WORKSHEET | | | | | |
|---|------|-------------|--|------------|----------|
| DISASTER | | PROJECT NO. | PA ID NO. | DATE | CATEGORY |
| FEMA | 4283 | AIGMM01 | 089-99089-00 | 08-16-2017 | G |
| - | DR | -FL | | | |
| APPLICANT: NASSAU (COUNTY) | | | WORK COMPLETE AS OF: 08-11-2017 : 0 % | | |
| Site 1 of 1 | | | | | |
| DAMAGED FACILITY: | | | COUNTY: Nassau | | |
| South Amelia Island Stabilization Project | | | | | |
| LOCATION: | | | LATITUDE: | LONGITUDE: | |
| Current Version: Project Location and Physical Setting | | | 30.525806 | -81.436366 | |
| Amelia Island is a sandy barrier island located in Nassau County in Northeastern Florida. The engineered beach project extends approximately 19,260 feet from FDEP R-monument R-59 (Burney Park) southward to R-79. | | | 30.56816 | -81.4434 | |
| R- 59 North End GPS: 30.568160; -81.443403 | | | | | |
| R-75+250 ft. South End GPS: 30.525806; -81.436366 | | | | | |
| Project length = 15,840 LF | | | | | |
| See Attached: AIGMM01 -1- Location Map | | | | | |
| DAMAGE DESCRIPTION AND DIMENSIONS: | | | | | |
| Current Version: During the declared incident period from October 3th and October 19th, Hurricane Matthew generated storm surge and wave action that caused beach and dune erosion in Nassau County, Florida. A major disaster, DR-4283-FL, was declared on October 8, 2016. | | | | | |
| PROJECT HISTORY: In 1993, Nassau County established the South Amelia Island Shore Stabilization Association, Inc. (SAISSA) to assist in project management to combat severe erosion on the shoreline of South Amelia Island. In 1994, Nassau County/SAISSA sponsored the design/construction of a 2,600,000 CY beach project along 3.2 miles of shoreline from R-59 to R-78. | | | | | |
| In 2002, Nassau County/SAISSA sponsored a 1,800,000 CY construction re-nourishment of the 1994 project, which was co-sponsored by the Florida Park Service. Phase 1 of this 2002 Project involved beach/dune construction from R-60 to R-79.5, which increased the project limits to include 3,420 LF of shoreline in the Amelia Island State Park. In 2003, Phase II of the Project involved construction of (3) rock structures to stabilize the severely eroded oceanfront shoreline within the State Park. | | | | | |
| In 2011, the South Amelia Island Shore Stabilization Project (Project) placed approximately 2,100,630 CY of beach quality sand from R-59.5 southward to R-77. This Engineered Beach Project includes both the beach berm and dune system within its design template, which involved beach construction by the placement of sand to a designed elevation, width, grain size, and slope. The Sand Source for this 2011 Project was a 141 acre off-shore borrow site east of R-77 – see project detail in attachments: AIGMM01-2- South Amelia Island 2011 Post-Construction-Report; AIGMM01 -3-SAI 2011 As-Built Certification with survey 260c11; AIGMM01-4-FDEP Permit 0187721-010-JC S | | | | | |

Amelia Island 18Feb11; AIGMM01-5- FDEP Permit 0187721-012-JN Minor Modification S Amelia Island 22Jun11; AIGMM01-6- FDEP Variance 0187721-011-BV S Amelia Island 22Feb11; and AIGMM01-7- USACE Permit SAJ-2001-3870-PRJ.

PROJECT MAINTENANCE: The Applicant's Project Maintenance Plan was developed by Olsen Associates, Inc. – see Attached: AIGMM01-8- SAISS-MSBU Beach Maintenance Plan 20Jul10. The Maintenance Plan for South Amelia Island Shore Stabilization Project involves: 1) annual monitoring of the engineered beach segments and rock stabilizing structures to track the physical performance of the beach fill; 2) conducting of post-storm surveys after significant storm events to document sand loss damage, track the location of lost sand or rock (if possible) to enable design guidance for post-storm repair efforts; 3) re-nourishment of the engineered beach/dune system is undertaken at intervals necessary to maintain the upper beach and dune system intact to prevent or limit wave overtopping and storm damage during small, intermediate and more severe storms; 4) results of the Applicant's ongoing physical monitoring program are used to evaluate, prepare and execute periodic re-nourishment of the engineered beach.

INCIDENT-RELATED DAMAGE TO SOUTH AMELIA ISLAND SHORE STABILIZATION PROJECT: Erosion damage to the engineered beach project was documented by comparison of the pre-storm project monitoring survey of May 2016 to the post-storm project design survey of March 2017. The survey transects were carried offshore beyond the typical depth of survey closure (-20 FT NAVD).

To account for natural background erosion along the length of the engineered beach from May 2016 to March 2017 surveys, the Applicant's Engineer of Record (Olsen and Associates, Inc. – EOR) analyzed annual monitoring survey data from August 2011 to May 2016 (4.8 years) to determine the average annual sand volume change, as measured from the dunes to -20 FT NAVD. The average, annual background sand erosion volume change rate was calculated to be -30,700 CY/YR (2,558.33 CY/MO) when measured to -20 FT NAVD (Olsen and Associates Inc., 2016a).

The Applicant's Engineer of Record (Olsen and Associates, Inc. – EOR) calculated Hurricane Matthew related-impact to the engineered beach nourishment project to be a net sand loss of -282,900 CY within the Project Limits R-59 to R-79.5, after subtracting 25,583 CY (10 months x 2,558.33 CY/MO = 25,583 CY) for background sand loss erosion calculated to have occurred during the non-incident period from May 2016 to March 2017.

Since the Project limits R-59 to R-79.5 involve shoreline legal responsibility for both Nassau County (Applicant) and the Amelia Island State Park (not a claimant for this Subgrantee Grant), the EOR calculated the Applicant's incident-related net sand loss to be -218,500 CY (-282,900 CY net sand loss on Project Limits R-59 to R-79.5 minus 64,400 CY net sand loss on Amelia Island State Park Property = -218,500 CY on owned property of the Applicant). To repair incident related sand loss damage to its engineered beach project, the Applicant will be required to place 218,500 CY of beach-compatible sand fill to restore the project area to its pre-Hurricane Matthew condition - see attached: AIGMM01-9-South Amelia Island Pre/Post-Storm Photos; AIGMM01-10-South Amelia Island Pre and Post-Storm Photos; and AIGMM01-11-South Amelia Island Hurricane Matthew Design Analyses 11Apr17.

SCOPE OF WORK:

Current Version:
WORK TO BE COMPLETED

The Applicant plans to repair Hurricane Matthew damage to the project area by placement of 218,500 CY of beach compatible sand between markers R-59 and R-75+250ft (15,840 LF). Sand placement will be to engineered beach/dune design template specifications for elevation, volume, sand grain size, location and slope equivalent to pre-Hurricane Matthew conditions.

The Applicant's EOR provided an opinion of probable cost to replace sand lost due to Hurricane Matthew storm damage from the South Amelia Island Shore Stabilization Project, Nassau County, FL. This "Opinion of Probable Cost" is based upon the All-In Unit Cost/CY of Sand Placement for recent, similar beach nourishment projects of 2,000,000 CY of beach compatible sand construction in Florida and the southeast U.S. within the last 12 to 24 months. This "Opinion of Probable Cost" assumes the incident related net sand loss will be replaced by the Applicant as part of a larger engineered beach sand fill re-nourishment project – see attached AIGMM01-11-South Amelia Island Hurricane Matthew Design Analyses 11Apr17 and AIGMM01-12-Nassau County South Amelia Island - Matthew Opinion of Probable Cost - 12Apr17.

Opinion of Probable Cost calculated by Applicant's Engineer of Record (based upon project costs of comparable projects):

Mobilization/Demobilization: \$3,500,000
Beach Fill Sand – In place (2,000,000 @ \$8 CY) : \$16,000,000
Turbidity Monitoring: \$60,000
Beach Tilling/Decompaction: \$30,000
Environmental Protection Monitoring: \$100,000
TOTAL COMPARABLE CONSTRUCTION PROJECT COST: \$19,690,000

ALL-IN CONSTRUCTION COST/CY: \$19,690,000 Construction Cost/2,000,000 CY Sand = 9.845 = \$9.85 CY

TOTAL COMPARABLE CONSTRUCTION PROJECT COST: \$19,690,000
EXPECTED ENGINEERING, PERMITTING, CONSTR. MGMT, OBSERVATION: \$19,690,000 Constr. Cost x .0741493 Estimated Contract Cost = 1,459,999.70 = \$1,460,000
ALL-IN SAND UNIT COST: \$10.58 (\$19,690,000 Construction Cost + \$1,460,000 Estimated Contract Cost = \$21,150,000/2,000,000 CY Sand = 10.575 = \$10.58)

HURRICANE MATTHEW ALL-IN SAND UNIT COST (Pro-rated as part of Large Beach Re-Nourishment Project): \$2,311,730 (218,500 CY Applicant Net Sand Loss x \$10.58/CY All-In Unit Cost/CY = \$2,311,730)

FEMA COST CODE 9001
WORK TO BE COMPLETED ESTIMATE: \$2,311,730

FEMA COST CODE 9903: NO Direct Administrative Costs

PROCUREMENT: The Applicant intends to follow its purchasing procedures to secure bids/award the Project - see attached AIGMM01-13-Purchasing Policy-Nassau County FL.

ENVIRONMENTAL COMPLIANCE: The original project was constructed under FDEP and USACOE permits – see attached: AIGMM01-4-FDEP Permit 0187721-010-JC S Amelia Island 18Feb11; AIGMM01-5- FDEP Permit 0187721-012-JN Minor Modification S Amelia Island 22Jun11; AIGMM01-6- FDEP Variance 0187721-011-BV S Amelia Island 22Feb11; and AIGMM01-7- USACE Permit SAJ-2001-3870-PRJ.

Permits/modifications for the Hurricane Matthew repair work have not been obtained, but have been budgeted in the engineer's estimate (see above) and will be obtained prior to initiation of this re-nourishment project.

Sand sources for the repair work have not been finalized yet, but the Applicant intends to solicit bids from contractors who will use beach-compatible sand from the Nassau Sound Offshore Borrow Area, which is an approved, offshore sand source previously used by the Applicant in 1994, 2002, and 2011 Projects – see AIGMM01 13 S Amelia Island Borrow Area Map and AIGMM01 14 S Amelia Island Borrow Area GPS Coordinates.

TOTAL PROJECT ESTIMATED WORK TO BE COMPLETED COST: \$2,311,730.00 (218,500 CY Applicant Net Sand Loss x \$10.58/CY All-In Unit Cost/CY = \$2,311,730)

STANDARD COMMENTS:

RECORD RETENTION: Complete records and cost documents for all approved work must be maintained for at least five years from the date of the Sub-recipient's Account Closeout. Project worksheets are subject to examination and audit by the State of Florida, and must reflect work related to disaster specific costs.

DIRECT ADMINISTRATIVE COSTS: The subgrantee has NOT requested Direct Administrative Costs (DAC) that are directly chargeable to this project. Associated eligible work is related administration of the PA project only and in accordance with 2 CFR 200.413. These costs are treated consistently and uniformly as direct costs in all federal awards and other subgrantee activities and are not included in any approved indirect cost rates.

HAZARD MITIGATION PROPOSAL: Hazard Mitigation under section 406 has been considered for this project and due to the type of work or project, effective mitigation is not feasible within the requirements of 44 CFR 206.226(c).

PROCUREMENT: The Applicant was advised by FEMA PAC and/or Project Specialist that in the seeking of proposals and letting of contracts for eligible work, the Applicant must comply with its Local, State and/or Federal procurement laws, regulations, and procedures as required by 2 CFR 317-326.

RECORD RETENTION: As described in 2 CFR 200.33 Subgrantee must maintain all work-related records for a period of three (3) years from Subgrantee closure (final payment), all records relative to this project worksheet are subject to examination and audit by the State, FEMA and the Comptroller General of the United States and must reflect work related to disaster specific costs.

RECORD RETENTION: Complete records and cost documents for all approved work must be maintained for at least five years from the date of the Sub-recipient's Account Closeout. Project worksheets are subject to examination and audit by the State of Florida, and must reflect work related to disaster specific costs.

PERMITS: Federal Funding is contingent upon acquiring all necessary Federal, State and Local permits. Noncompliance with this requirement may jeopardize the receipt of federal funds. The applicant is responsible for obtaining all required permits prior to the commencement of work.

ENVIRONMENTAL AND HISTORIC PRESERVATION: Applicant must comply with all applicable environmental and historic preservation laws. Federal funding is contingent upon acquiring all necessary Federal, State and Local permits. Noncompliance with this requirement may jeopardize the receipt of federal funds.

CHANGES TO SCOPE OF WORK DESCRIBED IN THIS PW/SA (SUBGRANT APPLICATION): The applicant shall comply with all applicable codes and standards in the completion of eligible work to repair or replace damaged public facilities. Any change to the approved scope of work on a Project Worksheet (PW/SA) must be reported and approved before work begins. Failure to report changes may jeopardize Federal and State funding. In the case of a change in scope of work, the applicant shall notify the Florida Division of Emergency Management program representative prior to starting work.

INSURANCE REVIEW: The applicant is aware that all projects are subject to an insurance review as stated in 44 C.F.R. Sections 206.252 and 206.253. If applicable, an insurance determination will be made either as anticipated proceeds or actual proceeds in accordance with the applicant's insurance policy which may affect the total amount of the project. Approval of this project may result in an obtain/maintain insurance requirement. The Subgrantee must comply with insurance reviewer terms and conditions upon receipt of sub-grant from the State.

COST BASIS FOR LABOR, EQUIPMENT AND MATERIALS: Costs used to formulate this project were based on:

- Unit Costs provided by Applicant
- Actual or Recent Contract costs
- Local material cost

AUDIT STATEMENT: All documentation related to this project worksheet is subject to audit and must reflect disaster related work and project specific cost. The applicant has been advised of responsibility to maintain supporting documentation (records). The type of records to be maintained is specified in FEMA policy 2 CFR Subpart F, Audit Requirements. Records must be maintained for three 3 years from the date the last project was completed or from the date final payment was received, whichever is later.

75% FEDERAL FUNDING: In accordance with 44 CFR 206.47(a) and current disaster declaration determinations, this project worksheet will be funded with the Federal Cost share at 75% of all eligible costs.

By accepting this grant the Applicant to the best of their ability acknowledges that all damages described within this Sub-grant Application and all associated costs being claimed were a direct result of the declared event, and in connection with the incident period for DR-4283 with the exception of requests for alternate or improved projects.

LARGE PROJECT ADJUSTMENT, ANY CATEGORY: When Subgrant Applications for Assistance (Project Worksheets) are written as Large Projects (\$121,800.00 or greater) not participating in the SRIA Alternative Procedures Pilot Program for Permanent Work "C fixed estimated cost, an adjustment must be made during the closeout process in order to match the actual eligible dollars spent. This will require a Change (Version) to be submitted in EMMIE to capture the over-run/under-run.

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| Does the Scope of Work change the pre-disaster conditions at the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Special Considerations included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Hazard Mitigation proposal included? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is there insurance coverage on this facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

PROJECT COST

| ITEM | CODE | NARRATIVE | QUANTITY/UNIT | UNIT PRICE | COST |
|----------------------------------|------|--------------------------------|--------------------------|-------------------|-----------------|
| | | *** Version 0 *** | | | |
| | | Work To Be Completed | | | |
| 1 | 9001 | Contract | 218500/LS | \$ 10.58 | \$ 2,311,730.00 |
| | | Other | | | |
| 2 | 9903 | No Direct Administrative Costs | 1/LS | \$ 0.00 | \$ 0.00 |
| | | | | TOTAL COST | \$ 2,311,730.00 |
| PREPARED BY RICHARD PORTER | | | TITLE Project Specialist | SIGNATURE | |
| APPLICANT REP. Justin Stankewitz | | | TITLE Budget Director | SIGNATURE | |

Justin Stankewitz
9/13/17