

LA CONTE ENGINEERING
Civil Engineering Design & Consulting
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Martin County Board of County Commissioners
2401 S.E. Monterey Road
Stuart, Florida 34996

January 9, 2019

Attn: Nicholas Muzia, Project Manager
and Krysti Brotherton, Construction Contract & Grants Administrator

RE: Proposal for MacArthur Boulevard Improvements Design
Reference Agreement: RFQ # 2019-3089

PURPOSE & GOAL

The purpose of this proposed mitigation measure is to elevate and harden a portion of MacArthur Boulevard in Martin County, Florida, by elevating an existing low and vulnerable section, and protecting it with a sheet-pile wall. The improvements will protect the roadway from future washout as it is the only access and utility corridor for approximately 500 homes and a public beach.

The project is approved for funding through the Hazard Mitigation Grant Program (HMGP) DR-4283-64-R, as approved by the Florida Division of Emergency Management and the Federal Emergency Management Agency (FEMA). The project shall be designed to provide protection against a 100-year storm event.

This proposal is for the services needed to conduct Phase I of this grant funded project, which is identified as “the preliminary engineering designs and calculations, surveys, permitting, and notices”.

PROJECT OVERVIEW

As a Hazard Mitigation Grant Program project, Martin County proposes to elevate a portion of SE MacArthur Boulevard. The portion of the roadway is specifically located about 200 feet north of the intersection with SE S. Marina Way and continues north for approximately 1,100 feet.

In accordance with Phase 1 of the grant project, the services provided by this proposal are surveying, engineering, design and plans preparation, permitting and bidding support for the proposed project. Construction activities for this project have not yet been approved for grant funding but are anticipated for funding as Phase 2.

The project proposes to elevate above Base Flood Elevation (BFE) a portion of this coastal roadway, vulnerable to high seas and strong waves from storm surge. The roadway is adjacent to the beach and beach berm and provides the only vehicle access for residences and public facilities in the area. The project will include a sheet pile wall with a crest elevation for the 100-year return interval storm, an existing two-lane roadway and adjacent points of access (driveways and sidewalks) elevated to above the base flood elevation of 5.0 NAVD per the preliminary flood maps from FEMA for the entire project, and existing utilities to be relocated as necessary to address conflicts due to the proposed wall and roadway improvements.

Activities shall be completed in strict compliance with Federal, State and Local Rules and regulations.

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WORK COMPLETED

Team Assembly:

The first task was to bring together a highly qualified team of sub-consultants to complement our own staff and assure the overall success of the project. LaConte Engineering brings to the table qualified, established and well recognized consultants to cover every aspect of specialties required including Environmental and Coastal Permitting, Coastal Surveying, Coastal Structural Engineering, Geotechnical Engineers, and Landscape Architects.

Throughout this document, LaConte Engineering together with sub-consultants will be referred to as LaConte Engineering.

Preliminary Design Concepts:

LaConte Engineering has prepared the Preliminary Design Concepts, including a plan view of proposed road and walls, a preliminary profile showing the proposed elevated road grades and elevations, preliminary roadway and structural wall sections, and approximate limits of construction.

SCOPE OF SERVICES (Work to be Completed)

Task 1 – Team Kick-off Meeting with Client:

LaConte Engineering will have a kick-off meeting with the Client to accept the Preliminary Design Concepts and discuss other items such as but not limited to funding, project limits, utilities, drainage, access, permits, construction; schedule and submittals.

LaConte Engineering will assist the Client in coordinating with the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, the owner of the property at Bathtub Beach Reef Park, to request and maintain their involvement in this project, to authorize certain aspects of the project such as but not limited to co-applicant in permits as may be needed.

The Florida Department of Emergency Management, the recipient of the FEMA Hazard Mitigation Grant, will be invited to the kick-off meeting as Martin County's mitigation partner.

Task 2 – Survey, Geotechnical and Environmental investigations and Reports:

LaConte Engineering will prepare the actual field survey and coordinate the geotechnical investigations (their services separate from this agreement – see NOTE below) and environmental assessments. This task is essential to complete design and permitting.

- ☐ The Survey will be Geo-Referenced to available Martin County aerial photography (either 2017 or 2018 – to be determined).
- ☐ The available Martin County aerial photography will also be used as the base for other reports, including design plans and analysis documents, such as the Hydrologic and Hydraulic (H&H) Studies.

NOTE: LaConte Engineering has already qualified the scope and services required by our team's geotechnical engineer, however they will provide services separate from this agreement as they submitted a separate proposal to Martin County to allow them to begin as soon as possible and thereby expedite the overall project schedule.

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Task 3 – Permit Determination:

Also, upon the Client's acceptance of the Preliminary Design Concepts, LaConte Engineering will contact and as applicable coordinate pre-application meetings with the permitting agencies listed below to review the Preliminary Design Concepts, consider the appropriate permit application, and consider strategies to ensure compliance and potentially streamline permit issuance, or obtain a No Permit Required notification. The permitting agencies and applications anticipated to be considered are as follows:

- ☐ Florida Department of Environmental Protection (FDEP) – Coastal Construction Control Line (CCCL) permit
- ☐ South Florida Water Management District (WMD) – Environmental Resource Permit (ERP)
- ☐ Florida Department of Transportation (FOOT) – No Permit Required is anticipated
- ☐ United States Army Corps of Engineers (USACE) – No Permit Required is anticipated

Task 4 – Confirm Design Concepts:

LaConte Engineering will meet with the Client to review the Survey, Geotechnical and Environmental investigations and reports, permit agency findings, and approximate construction cost/time comparisons of paving & wall alternates to confirm the project Design Concepts based on the information available at that time.

Task 5 – Initial Public Outreach:

LaConte Engineering will present the Preliminary Design Concepts at an initial Public Meeting for affected residents arranged by the Client and anticipated to be hosted at Sailfish Point. LaConte Engineering will also join the Client in meeting with each of the 5 adjacent residents to review the individual rights of entry for driveways and frontage based on the Preliminary Design Concepts, as well as the bulkhead alignment alternatives with the one adjacent beachfront resident.

Task 6 – Project Design:

LaConte Engineering will perform design and analysis of all project components (alternates not included), shown on the Concept Plan (Sheet 1 of 5, attached) that was presented to Martin County on November 26, 2018, and prepare an all-inclusive set of Construction Plans for the project. The project design, at a minimum shall include the following:

- ☐ Hydrologic and Hydraulic (H&H) Studies
- ☐ Construction Plans
- ☐ Construction cost estimate
- ☐ Pre and Post Mitigation cost estimates and Mitigation effectiveness evaluations
- ☐ Consultation with the Floodplain Manager to ensure the project is in compliance with local floodplain ordinances/regulations

LaConte Engineering will provide 30% (see Task 4), 60% and 90% complete sets of plans to the Client for their review. LaConte Engineering will meet with the Client to consider their comments and adjust the design as necessary to continue preparation of the project plans at each stage. LaConte Engineering shall provide a 100% complete set of plans to the Client once all required permits are obtained.

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Task 7 – Final Public Outreach:

LaConte Engineering will present the Final Design from the 90% complete plans at the second and final Public Meeting for affected residents arranged by the Client and anticipated to be hosted at Sailfish Point. LaConte Engineering will also join the Client in meeting with each of the 5 adjacent residents to formalize individual rights of entry for driveways and frontage based on the Final Design from the 90% complete plans, as well as potentially presenting permit co-application forms with the one adjacent beachfront resident should the adopted bulkhead alignment extend on or through the resident's property.

Task 8 – Project Permitting

LaConte Engineering will prepare, submit and process the permit applications as determined in Task 3. The permit applications will be presented to the Client for review and acceptance, and LaConte Engineering will submit the executed permit applications once the appropriate plan design is sufficiently completed. LaConte Engineering will incorporate any additional requirements from the permit process into the design plans as may be applicable. LaConte Engineering will respond to one Request for Additional Information (RAI) for each permit application. Responding to additional RAI's will be considered Additional Services.

Also, within this task, to satisfy additional grant requirements for the Client, LaConte Engineering will obtain the following:

- ☐ Letter from the Floodplain Manager verifying the project is in compliance with local floodplain ordinances/regulations.
- ☐ Historical Preservation compliance with the following review documentation:
 - a) Color maps including topographical and aerial with the project location clearly marked.
 - b) Color photographs of any area with ground disturbance (electronic).
 - c) Indicate if project site is located within a designated historic district or historic neighborhood.
- ☐ Tribal Consultation for proposed ground disturbing activities with the following review documentation:
 - a) Color ground disturbance maps showing the full extent of the project footprint and depth of ground disturbance. Geographic latitude/longitude (decimal degree format) of the proposed construction areas and staging areas;
 - b) Previous and current use of proposed project area;
 - c) Any known site work or historic uses for the proposed location;
 - d) Any available studies that may have taken place on the property.

Task 9 – Post Design Services

LaConte Engineering will provide post design services as may be needed to support the Client during the construction bidding phase.

Additional Services – Services During Construction

LaConte Engineering can provide design services needed for the Alternate Bulkhead (Homeowner Co-Applicant), services during construction, or other services not included in this Scope of Services as change orders to this agreement.

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DELIVERABLES

As the products of the Scope of Services, LaConte Engineering will provide the following deliverables:

- ☐ Two sets of engineering Signed/Sealed final design (Construction Plans) and analysis, surveying, and Hydrologic and Hydraulic (H&H) Studies;
- ☐ Revised cost estimate for Phase II -construction (include Phase I costs), to implement the design project;
- ☐ Design documents shall provide a detailed description which includes specifics on project scope of work, depth and extent of ground disturbance at all construction locations of the project.
- ☐ Color maps including topographical, aerial, and ground disturbance.
- ☐ Color photographs of the project area and areas of ground disturbance.
- ☐ Copy of all environmental permits or applications; any obtained from the Florida Department of Environmental Protection (FDEP), and/or local Water Management District (WMD) shall be required. Any conditions for compliance shall be included in the final design plans, narrative and project implementation actions.
- ☐ Copy of the Florida Department of Transportation (FOOT) permit or No Permit Required notification, if applicable.
- ☐ Copy of the United States Army Corps of Engineers (USACE) permit or No Permit Required notification.
- ☐ Letter from the Floodplain Manager verifying the project is in compliance with local floodplain ordinances/regulations.

TIME OF SERVICE

These services will begin upon receipt of notice to proceed or purchase order from Martin County, with duration of services estimated at 7 months.

FEE SCHEDULE

The fees for these services are determined as follows:

A. Tasks 1 - 8

***Fixed Fee*\$245,000.**

B. Task 9

***Estimated Fee (Time & Expense Budget Estimate)* \$6,000.**

The hourly labor rates are according to the attached Rate Schedule.

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C. Fee Summary

The fees for these services are as follows:

<u>Scope of Services</u>	<u>Fee</u>	
Task 1 – 8	\$245,000	<i>Fixed Fee</i>
Task 9	\$6,000	<i>Estimated Fee</i>
LaConte Engineering	\$251,000	<i>Total Fee Budget</i>

All non-labor related project costs (including travel, lodging, and per diem) will be billed to the COUNTY at cost without mark-up. Invoices with hourly billing will be based on total hours of services provided with explanations shown. Invoices with fixed fee services will show progress billing based on percentage of work completed.

Respectfully submitted,


Patrick LaConte, PE CFM
LaConte Engineering

1/9/2019
Date: _____

WORK ESTIMATE

1/9/19

MacArthur Blvd. Improvement Project

Client Martin County BOCC
Project No. MC RFQ 2019-3089

Project Manager Patrick LaConte, PE

Martin County

Consultant Services			Total Hours	Estimated Manhours					
LaConte Engineering				Principal	PM/PLS/LA	Engineer	Desig / Tech	CAD	Admin.
	Task 1 Kick - off Meetings								
1	Meeting Coord. / Exhibits & Presentations		44	8	10	4	6	8	8
2	Meetings (Team, Client, FEMA)		38	10	8	12	0	0	8
3	Meeting records, Concept revs, Process/schedule updates		30	6	4	4	6	6	4
	HOURS		112	24	22	20	12	14	20
	BILLING RATE		\$106.25	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$11,900	\$3,600	\$2,750	\$2,200	\$1,200	\$1,050	\$1,100
	Task 2 Survey, Environmental Reports								
1	Meetings, determine limits/scope, review and coordination		42	12	16	0	2	0	12
2	Topographic Survey		208	8	62	8	32	86	12
3	Environmental Investigations & Report		30	10	12	0	0	8	0
	HOURS		280	30	90	8	34	94	24
	BILLING RATE		\$101.43	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$28,400	\$4,500	\$11,250	\$880	\$3,400	\$7,050	\$1,320
	Task 3 Permit Determination								
1	Meeting Coordination / Presentations		38	10	6	4	2	8	8
2	Meetings (FDEP, SFWMD, FDOT, ACOE)		42	14	12	12	0	0	4
3	Record of Meetings, Concept changes, Process / Schedule updates		30	6	6	4	2	4	8
	HOURS		110	30	24	20	4	12	20
	BILLING RATE		\$110.00	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$12,100	\$4,500	\$3,000	\$2,200	\$400	\$900	\$1,100
	Task 4 Confirm Design Concepts								
1	Review Survey, Investigations/Reports & Agency Findings		38	10	10	6	4	0	8
2	Update Concepts & Distribute		40	8	8	4	4	12	4
3	Finalize & distribute final Concept acceptance		30	6	8	2	4	6	4
	HOURS		108	24	26	12	12	18	16
	BILLING RATE		\$107.41	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$11,600	\$3,600	\$3,250	\$1,320	\$1,200	\$1,350	\$880
	Task 5 Initial Public Outreach								
1	Meeting Coord. / Exhibits & Presentations		34	8	8	2	2	2	12
2	Meetings (Public/SP, Driveways, Bulkhead)		37	10	7	8	9	0	3
3	Meeting records, Concept revs, Process/schedule updates		28	4	6	2	4	6	6
	HOURS		99	22	21	12	15	8	21
	BILLING RATE		\$106.06	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$10,500	\$3,300	\$2,625	\$1,320	\$1,500	\$600	\$1,155
	Task 6 Project Design								
1	Team (internal) design coordination and meetings		108	22	28	12	20	10	16
2	Design analysis/calculations (H&H, Structural, etc.)		374	40	66	88	60	116	4
3	Bulkhead Design		256	22	42	44	52	96	0
4	Road / Drainage / Utility Adjustments Design		228	30	58	40	40	60	0
5	Landscape Plans		110	10	36	0	14	42	8
6	Project Estimates		61	8	12	16	15	6	4
7	Mitigation Analysis		40	24	8	0	0	4	4
8	Floodplain Compliance		16	8	0	0	4	0	4
	HOURS		1,193	164	250	200	205	334	40
	BILLING RATE		\$105.28	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$125,600	\$24,600	\$31,250	\$22,000	\$20,500	\$25,050	\$2,200
	Task 7 Final Public Outreach								
1	Meeting Coord. / Exhibits & Presentations		42	10	8	4	4	4	12
2	Right of Entry Survey		58	20	0	6	8	18	6
3	Meetings (Public/SP, Driveways, Bulkhead)		34	8	8	6	8	0	4
4	Meeting records, Concept revs, Process/schedule updates		28	6	4	0	6	6	6
	HOURS		162	44	20	16	26	28	28
	BILLING RATE		\$105.56	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$17,100	\$6,600	\$2,500	\$1,760	\$2,600	\$2,100	\$1,540
	Task 8 Project Permitting								
1	Meetings / Coordination		28	8	4	4	4	4	4
2	FDEP CCCL Permit		104	42	0	6	36	14	6
3	SFWMD Permit		70	18	12	10	18	8	4
4	Firm Map, Hist Preservation & Tribal Consultation/Compliance		50	12	8	0	6	8	16
	HOURS		252	80	24	20	64	34	30
	BILLING RATE		\$110.32	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	sub-total		\$27,800	\$12,000	\$3,000	\$2,200	\$6,400	\$2,550	\$1,650
	TOTAL HOURS		2,316	418	477	308	372	542	199
	BILLING RATE		\$105.79	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	Sub-Total Task 1 - 8		\$245,000	\$62,700	\$59,625	\$33,880	\$37,200	\$40,650	\$10,945
	Task 9 Post Design Services								
1	Meetings / Coordination		24	10	6	0	0	0	8
2	Assist County with Bid as required		26	10	6	6	4	0	
	HOURS		50	20	12	6	4	0	8
	BILLING RATE		\$120.00	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	Sub-Total Task 9		\$6,000	\$3,000	\$1,500	\$660	\$400	\$0	\$440
	TOTAL HOURS		2,366	438	489	314	376	542	207
	BILLING RATE		\$106.09	\$150.00	\$125.00	\$110.00	\$100.00	\$75.00	\$55.00
	Total Task 1 - 9		\$251,000	\$65,700	\$61,125	\$34,540	\$37,600	\$40,650	\$11,385