

TASK ORDER 9-22 ENGINEERING
ENGINEERING SERVICES FOR DESIGN OF PAVEMENT AND RIGHT OF WAY
IMPROVEMENTS TO SOUTH STREET

This TASK ORDER 9-22 ENG is issued under the terms and conditions of the AGREEMENT TO FURNISH GENERAL ENGINEERING SERVICES TO THE CITY OF KEY WEST ("AGREEMENT") between the City of Key West ("CITY") and CH2M HILL Engineers, Inc. ("CONSULTANT") dated November 3, 2017 which is incorporated herein by this reference.

A. SCOPE OF SERVICES

Specific services which the CONSULTANT agrees to furnish are summarized on the attached statement entitled TASK ORDER 9-22 ENG "SCOPE OF SERVICES." The "Scope of Services" defines the work effort anticipated for the Task Order.

This Task Order, when executed, shall be incorporated in and shall become an integral part of the November 3, 2017, Master Agreement.

B. TIME OF COMPLETION

Work under this Task Order will begin immediately following acceptance and completed expeditiously subject to coordination with the City of Key West staff. Work may be performed at any time as requested by the CITY within 9 months after the date of execution of this Task Order, at which time the Task Order will expire.

C. COMPENSATION

Compensation for the labor portions of TASK ORDER 9-22 ENG, Task A and C will be on a lump sum fee basis as stipulated in Article 5, Paragraph 5.1 of the AGREEMENT. Compensation for the labor portion of Task B, subconsultants and all expenses will be on a Cost Reimbursable-Per Diem basis as stipulated in Article 5, Paragraph 5.2.1 of the AGREEMENT. The estimated compensation is shown on the attached statement entitled TASK ORDER 9-22 ENG COMPENSATION.

D. ACCEPTANCE

By signature, the parties each accept the provisions of this TASK ORDER 9-22 ENG and authorize the CONSULTANT to proceed at the direction of the CITY's representative in accordance with the "SCOPE OF SERVICES." Start date for this project will be no later than two (2) days after execution of this authorization.

For CH2M HILL Engineers, Inc.

For CITY OF KEY WEST

By: _____

By: _____

Diana Francois, P.E.
Manager of Projects

Patti McLaughlin
City Manager

Krystal H. Burns 10/11/22

Dated the ____ day of _____, 2022

Krystal H. Burns, P.E.
Key West Technical Lead

ATTEST: _____

TASK ORDER 9-22 ENGINEERING
ENGINEERING SERVICES FOR DESIGN OF PAVEMENT AND RIGHT OF WAY
IMPROVEMENTS TO SOUTH STREET AND REYNOLDS STREET

SCOPE OF SERVICES

Project Description

Using the Pavement Assessment document completed August 2019, the City of Key West (CITY) is taking a systematic approach to roadway and right of way improvements. The City has tasked Jacobs with developing design documents for constructing improvements to the following:

- South Street from Whitehead St. to Reynolds St. (~2,550 ft),
- Reynolds Street from United St. to South St. (~500 ft),

Improvements to South Street and Reynolds Street will include:

- Pavement Design – full and partial mill & pave as warranted, itemizing & correcting any trench failures
- Pavement Marking – will match limits of mill & pave and replace existing crosswalks
- Signing – recommend if existing panels should be replaced, and identify proposed signs for potential bike lane and parking area changes
- Sidewalks and Curb Ramps – upgrade pedestrian facilities to ADA compliance within existing Right of Way
- Bike Lanes – consistent with the bike lane improvements on United Street (Task Order 1-22) provide bike lane improvements to South Street and Reynolds Street including signing continuity as needed on Whitehead Street
- Landscaping – provide existing tree/palm inventory and condition and depict landscaping improvements on United Street only

Drainage Improvements:

- Drainage Analysis – document existing conditions and identify stormwater improvement alternatives for South Street specifically between Whitehead and Simonton including at least two distinct alternatives to address the roadway and sidewalk flooding with consideration of the high water table and recommendations from the 2021 Sea Level Rise Study
- Drainage Implementation – implement the preferred stormwater improvement alternative

Purpose

The CITY has requested that the CONSULTANT provide engineering services for the design of roadway improvements to South Street from Whitehead Street to Reynolds Street including the sidestreets Whitehead Street and Reynolds Street from United St. to South St. This Task Order describes the CONSULTANT's Scope of Services. Specific activities to be performed under this Task Order include:

- Roadway pavement cores and laboratory analysis to determine resilient modulus, existing pavement layers and pavement condition

- Arborist to visit the project site to provide recommendations for existing tree preservation and replacement based on health and form
- Preparation of Conceptual Bid Ready Document packages for South Street, Reynolds Street and Whitehead Street

Scope of Services

The following tasks describe the activities to be performed and the work products to be prepared by the CONSULTANT.

Task A – Roadway Design

This task details the activities related to the Roadway Improvements design. During this task, the CONSULTANT will provide the following:

- Project Kick-off Meeting and Site Visit
 - Meeting to be attended virtually by CONSULTANT’s Project and Design Managers. In-person site visits will occur prior to 60% Design. CONSULTANT will walk the alignments with City Staff.
- Subconsultants
 - Pavement cores to be obtained and analyzed by a professional geotechnical engineering subconsultant
 - Table of existing tree/palm condition to be obtained by an ISA Certified Arborist
- CITY to provide
 - Survey of project area
 - Proposed tree/palm specimen choices
- Documentation of Design Criteria & Standards:
 - Florida Greenbook (FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways), Americans With Disabilities Act (ADA) Standards for Accessible Design, Manual on Uniform Traffic Control Devices (FHWA’s MUTCD)
 - 25 mph Design Speed, based on 2017 Speed Study and 20 mph Posted Speed
 - Traffic Data for Pavement Design will be extrapolated from 2017 Speed Study
 - 2021 City of Key West - Sea Level Rise Study: Recommendations for Minimum Design Criteria
- Project limits of Milling & Resurfacing (M & R):
 - M & R limits to include existing striped pedestrian crossings on side streets (approx. 25 ft. from South Street edge of travel)
 - Upgrade signage and side streets within M & R limits as needed.
- Pavement Design:
 - The following pavement designs are anticipated:
 - South Street – full and partial depth milling & resurfacing as field conditions warrant.

- Milling detail to adjust height of curb reveal, as needed
 - Side streets – functional milling & resurfacing, top layer only
- Signing & Pavement Marking:
 - Identify existing signs to be replaced based on loss of reflectivity and/or compliance with MUTCD
 - New post-mounted signs as needed for new bike lanes and parking modifications
- Sidewalk and Curb Ramps:
 - Coordinate with CITY Planner & Urban Forester to identify tree roots that may need trimming to prevent sidewalk vertical displacement.
 - Preference is to hold back of sidewalk elevations
 - Special Details will be provided for non-standard curb ramps (where applicable)
 - Curb, sidewalk and ramp tie-in elevations for standard curb ramps will be presented in table format
- Temporary Traffic Control:
 - Provide plan notes to contractor and basic phasing with references to FDOT Standard Plans
- Utility Coordination:
 - Based on site visit and available As-Built Plans provided by the CITY, identify potential conflicts with utilities, and label locations in Plans for Contractor's awareness.
 - Agencies anticipated: CITY sewer/solid waste/stormwater, Florida Keys Aqueduct Authority, Keys Energy Services
- *Exclusions to scope:*
 - *No signalization upgrades or adjustments to timing;*
 - *No lighting analyses or upgrades;*
 - *No milling and resurfacing on Whitehead Street;*
 - *No irrigation design or upgrades;*
 - *No 3D deliverables.*

Task B – Drainage Design

This task details the anticipated activities related to the analysis and design of Drainage Improvements. As a result of the uncertainty about the extent of changes required, this task will be compensated as a Cost Reimbursable-Per Diem basis which allows flexibility in the development of alternatives. During this task, the CONSULTANT will provide the following:

- Drainage Analysis:
 - Preliminary Analysis: The intersection of South and Simonton requires consideration of drainage facilities. Drainage is provided by an existing gravity drainage well. With time, sea level rise will reduce the drainage capacity of the well. To avoid modifying South after this project is complete, the CONSULTANT will assess potential

resilience solutions at this location. Improvements may involve additional discharge wells, connecting a new overflow box to the Duval Street stormwater pipe, and/or pavement overbuild. Analysis will include alternatives to improve sidewalk flooding.

- Deliverable includes conceptual drainage improvements (~ 30%) and one pre-application meeting to coordinate with SFWMD to identify permitting requirements. A summary memorandum will be prepared with recommendations.
- Consider replacement of inlets (tops) with deeper throats around the Whitehead, Duval, and Simonton intersections; depending on available space and considering pedestrian access.
- Drainage Implementation:
 - Conceptual Bid Set design of the selected drainage solution to be included with the design documents for the entire project
 - Permit application assistance. The Conceptual Bid Set drawings will be used for permitting.
 - Assumes drainage pipelines, inlets, and boxes are to be designed for South between Simonton and Duval Streets. Whitehead and Duval will primarily be inlet modifications.

Design Excludes: pump stations and associated electrical and mechanical components.

Task C – Landscape Design

This task details the activities related to the Landscaping Improvements design. During this task, the CONSULTANT will provide the following:

- Landscape Analysis:
 - The CONSULTANT will provide a Table of existing tree/palm inventory including the species, size, and provide condition based on a site visit by an ISA Certified Arborist and will be included in the Landscape Architecture set.
 - Coordinate design with Planning, Urban Forester, and HARC representative(s) to identify design requirements as well as tree roots that may need cutting to prevent sidewalk popping.
 - Proposed specimen choices to be provided by the CITY.
 - All efforts will be made to preserve and protect existing established landscape in good health and form, provided they do not interfere with current ADA requirements and standard Line of Sight requirements, or contain invasive or undesirable species. Trees that are deemed to be of historic or heritage value will be prioritized. A Tree Protection Plan and details will be included in the Landscape Architecture set.
- Landscape Implementation:
 - Provide for bid Planting Notes and Details and relevant Specifications

Deliverables

The deliverables for the Roadway Improvements Design will include:

- Kickoff meeting Agenda and Minutes (Submitted Digitally, .pdf)
- Design Meeting Minutes – assume several critical design meetings will be held in advance of the formal submittals by phone with City Staff and the CONSULTANT’s Project Manager and design staff as needed.
- Supporting Design Documents to be provided as soon as available will include
 - Geotechnical Findings Report (by Subconsultant)
 - Table of existing tree inventory and condition (by Arborist)
 - Survey (by CITY)
- Preliminary Striping/Conceptual Bid Set/Bid Set design documents, submitted digitally for City Staff review
 - **Preliminary Striping Submittal** will include
 - Typical Sections and striping plan with landscape opportunities
 - Bidding Tabulation with list of anticipated pay items; no quantities
 - Design Documentation - with AutoTURN exhibits at signalized intersections using WB-40 Design Vehicle
 - Drainage Technical Memo identifying at least two distinct conceptual alternatives for stormwater improvements to South Street to improve intersection flooding as well as sidewalk flooding. The preferred alternative will be refined and included in the Conceptual Bid Set.
 - **Conceptual Bid Set Submittal** will include Construction Plans and:
 - Amendment to United Street Specifications – provide new South Street Specifications, if needed
 - Bidding Tabulation updated with quantities
 - Pavement Design Report based on Geotechnical Findings Report
 - **Bid Set Submittal**
will update Conceptual Bid Set with CITY Comments

Assumptions

The scope and fee for this Task Order are based on the following assumptions:

- CONSULTANT will reasonably rely upon the accuracy, and completeness of the information/data provided by the Client or other third parties.
- Survey of project area to be provided by the CITY and will include full width Right of Way Survey to develop existing topography and map existing utilities.
- All meetings will be virtual. An in-person EOR site visit and an in-person arborist site visit will occur prior to Bid Set Design.

- Monthly progress meetings and submittal review meetings will be attended via conference call.
- The design will be based on the federal, state, and local codes and standards in effect at the start of the project. Any changes in these codes may necessitate a change in scope.
- Providing Construction/Cost Estimates - In providing opinions of cost, financial analyses, economic feasibility projections, for the project, Jacobs has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, Jacobs makes no warranty that Client's actual project costs, financial aspects, economic feasibility, will not vary from Jacobs' opinions, analyses, projections, or estimates and Jacobs shall have no liability for such variances.
- In soils, foundation, groundwater, utilities, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost.
- The CONSULTANT's Bid Set Specifications from United Street will be appended with additional Specification Sections as needed.
- Legal, easement, or plat surveys are not included in the scope of work. If additional property is required it shall be the responsibility of the City to obtain.
- The following drawings are assumed to be included in the Bid Set, and are the basis for the labor compensation estimate:
 - 1 Key Sheet
 - 1 Signature Sheet
 - 2 Summary of Pay Items
 - 1 Drainage Map show basin boundaries
 - 4 Typical Section includes paving details
 - 1 Project Layout
 - 6 Roadway Plan
 - 1 Special Profile on South Street
 - 7 Intersection Layout/Detail - use detail on Plan Sheet where needed
 - 30 Driveway Profiles
 - 3 Drainage Details
 - 2 Roadway Soil Survey from Geotech
 - 1 Stormwater Pollution Prevention Plan
 - 2 Temporary Traffic Control Plans
 - 2 Utility Adjustments
 - 5 Landscape Plan
 - 1 Tree Protection Detail
 - 2 Planting Details
 - 6 Signing Plans
 - 5 Pavement Marking Plans
 - 4 SPM - Keysheet, EOR, Quantities, special details

4 Summary of Quantities

- An ERP is required for drainage improvements. Assume a General Permit for minor modification of existing City drainage facilities.
- A dewatering permit is sometimes required if the SFWMD determines that they need the application prior to issuing the ERP. A draft dewater permit will be prepared for the design package, at a minimum. It is preferred that the contractor finalizes the application and applies since the schedule and pumping (methods) may be undetermined. If SFWMD requires a permit application prior to the ERP issuance, the CONSULTANT will make assumptions and apply.
- A permit fee allowance of \$3,500 is in the budget (Task B - cost reimbursable).

Obligations of the CITY

To assist meeting schedule and budget estimates contained in this proposal, the CITY will provide the following:

- Prompt review and comment on all deliverables (within 10 working days of receipt).
- Access to any required facilities.
- Provide recent contractor bids to be used for unit costs.
- Attendance of key personnel at meeting as requested.
- Execution of permit applications.

Additional Services

The CONSULTANT will, as directed, provide additional services that are related to the project but not included within this Scope of Services. These and other services can be provided, if desired by the CITY, as an amendment to the Task Order. Work will begin for the Additional Services after receipt of a written notice to proceed from the CITY. Additional services may include the following:

- Bid Phase Services
- Construction Phase Services

Compensation

The estimated compensation for TASK ORDER 9-22 ENG, is shown on Attachment A, entitled TASK ORDER 9-22 ENG, COMPENSATION.

Task A	\$72,147
Task B	\$44,532
Task C	\$10,812
Geotechnical Costs	\$11,540
Arborist Costs	\$5,520
TO 9-22 Total	\$144,551

Completion Dates

The estimated time of completion for TASK ORDER 9-22 ENG is shown in the following table.

Task	Proposed Dates
NTP; Site visit	Kickoff meeting within 10 days after NTP EOR and Arborist site visit will occur prior to 30% Design
Submit Preliminary Scroll Plot & Drainage Report and mobilize Geotechnical Sub;	4 week duration / (4 weeks after NTP)
Submit Conceptual Bid Set	5 week duration / (* 9 weeks after NTP)
Submit Bid Set Permitting Coordination	3 week duration / (12 weeks after NTP)

* requires receipt of Survey from the CITY

ATTACHMENT A
TASK ORDER 9-22 ENG, COMPENSATION

Task Order 9-22

Title	Engineer 7	Engineer 6	Engineer 5	Engineer 4	Engineer 2	Technician 6	Technician 5	Technician 3	Clerical / Office	Subtask Labor Total	Expenses	Travel	Task/Line Item Subtotal
Rate	\$243.88	\$223.66	\$204.71	\$176.92	\$132.68	\$141.52	\$128.90	\$99.82	\$80.87				
Task A - Roadway and Signing & Pavement Marking Design for South Street Construction Plans													
Project Site Visit Kick-Off Meeting				8				2		\$1,615	\$100	\$1,000	\$2,715
Project-Design Meetings Monthly Contract Supervision	4			16			4	8		\$5,120			\$5,120
Data Collection/ Organization Design Criteria & Standards		1		4				4		\$1,331			\$1,331
Typical Sections Two mainline (2) + Sidewalk Details + 2 sidestreets (2)				6				16		\$2,659			\$2,659
Scroll Plot of Preliminary Striping + Landscape Opportunity Sketches + Review Meeting			2	12		8		20	2	\$5,823	\$0		\$5,823
Pavement Design Report + 1 Update		2		24				12	2	\$6,053			\$6,053
Roadway Design Documentation - Line of Sight, AutoTurn, ADA compliance, Driveways + 1 update (Bid Set)				12				30		\$5,118			\$5,118
Signing and Pavement Marking Analysis coordination with Parking Director conformance with MUTCD				30		18				\$7,855			\$7,855
Conceptual Bid Set Plan Production includes Design Meetings (excludes Drainage and Landscape)	4	4	4	36		16		60		\$17,312	\$100		\$17,412
Conceptual Bid Set Review Meeting				4				2		\$907			\$907
Engineer's Estimate & Specifications		2		12				8	2	\$3,531			\$3,531
Bid Set Document Production includes Internal Quality Control (excludes Drainage and Landscape)	8	2	4	32	8	7		26		\$13,526	\$100		\$13,626
Task A Hours Subtotal	16	11	10	196	8	49	4	188	6	488	---	---	--
Task A Fee Subtotal	\$3,902	\$2,460	\$2,047	\$34,676	\$1,061	\$6,934	\$516	\$18,766	\$485	\$70,847	\$300	\$1,000	\$72,147

Task Order 9-22													
Title	Engineer 7	Engineer 6	Engineer 5	Engineer 4	Engineer 2	Technician 6	Technician 5	Technician 3	Clerical / Office	Subtask Labor Total	Expenses	Travel	Task/Line Item Subtotal
Rate	\$243.88	\$223.66	\$204.71	\$176.92	\$132.68	\$141.52	\$128.90	\$99.82	\$80.87				
Title	Engineer 7	Engineer 6	Engineer 5	Engineer 4	Engineer 2	Technician 6	Technician 5	Technician 3	Clerical / Office	Subtask Labor Total	Expenses	Travel	
Task B - Drainage Analysis and Design for South Street Construction Plans													
Drainage Analysis identify resilience solutions	20			10	36			8		\$12,222			\$12,222
Report with Conceptual alternatives	10			2	20			2	2	\$5,808			\$5,808
Pre-Permitting Coordination	4				2					\$1,241			\$1,241
Conceptual Bid Set Plan Production only Drainage	12		10		20			32		\$10,822			\$10,822
Permitting Coordination	8				16					\$4,074	\$3,500		\$7,574
Bid Set Document Production only Drainage	10		8		12			12		\$6,866			\$6,866
Task B Hours Subtotal	64	0	18	12	106	0	0	54	2	256	---	---	--
Task B Fee Subtotal	\$15,608	\$0	\$3,685	\$2,123	\$14,064	\$0	\$0	\$5,390	\$162	\$41,032	\$3,500	\$0	\$44,532
Task C - Landscape Design for South Street Construction Plans													
Review of Landscape Opportunity Design				4						\$708			\$708
Conceptual Bid Set Plan Production only Landscape		2		14	10			20		\$6,247			\$6,247
Coordination with Urban Forester, HARC representatives				2	2					\$619			\$619
Bid Set Document Production only Landscape		2		6	4			12		\$3,237			\$3,237
Task C Hours Subtotal	0	4	0	26	16	0	0	32	0	78	---	---	--
Task C Fee Subtotal	\$0	\$895	\$0	\$4,600	\$2,123	\$0	\$0	\$3,194	\$0	\$10,812	\$0	\$0	\$10,812
Subconsultant Fee - Geotech											\$11,540		\$11,540
Supplier Fee - Arborist											\$5,520		\$5,520
Total Hours by Per Diem Rate	80	15	28	234	130	49	4	274	8	822	---	---	--
Total Fee Estimate by Per Diem Rate	\$19,510	\$3,355	\$5,732	\$41,399	\$17,248	\$6,934	\$516	\$27,350	\$647	\$122,691	\$20,860	\$1,000	\$144,551
Task Order 9-22 Total Labor										\$122,691			

EXHIBIT A
TASK ORDER 9-22 ENG

SURVEY LIMITS
FOR MILLING AND RESURFACING DESIGN



AVIROM & ASSOCIATES, INC.