EXHIBIT A

Marine Way Seawall and Docks – Scope of Services
For
Phase 1 - Alternative Development Phase
City of Delray Beach Project No. 2017-021

WGI is pleased to present to the City our response to the scope of services as outlined in the City of Delray Beach Request for Qualifications (RFQ) No. 2017-030. This scope of work and fee schedule represents the first phase of three phases for the Engineering Design and Construction Services for the Marine Way Seawall and Dock Project.

Scope of Services Description

WGI will coordinate with the City, subconsultants, residents, and stakeholders to provide up to three conceptual plans of the Marine Way corridor, which will include the following improvements: roadway to access the residential lots, new seawall, sidewalk, docks, underground utilities, lighting, signage, landscaping, and connection to the Atlantic Avenue bridge on the north and the City marina to the south. WGI will perform the following services and present three conceptual plans to the various stakeholders that will be amenable to the local residents, business owners, property owners, and the City Commission.

In addition, at the end of Phase 1 of the scope of services, we will present a design to the City that can be permitted and addresses the City's and local stakeholder's expectations. These services include investigations of property and riparian rights, property ownership, surveying, title search, drainage, stormwater pump feasibility, geotechnical studies, high tide and King Tide effects, structural analysis of the proposed seawall and docks, underground utilities, roadway design, Intracoastal Waterway setbacks and restrictions, navigational (docking) restrictions, and environmental permitting investigations and restrictions.

A. Project Management and Coordination

1. Coordinate all services to be provided to the City during the conceptual design and site analysis phases;
2. Coordinate all meetings with City staff, CRA, stakeholders, business owners, and local residential neighborhoods associations and organizations;
3. Present the project to the City Commission. This will assume a total of six public meetings before the City Commission to give updates on the progress of the concept plans and address questions;
4. Attend all meetings between the City staff and WGI's subconsultants;
5. Attend all public outreach meetings; and
6. Prepare and present a final report of the findings.

B. Survey and Property Ownership Services

1. Boundary and Topographic Survey
   a. Prepare survey calculation file and field package information;

b. Research public records for deeds, plats, and survey information;
c. Locate, check, reference, and establish horizontal and vertical control;
d. Locate existing plat and boundary monumentation;
e. Locate all visible improvements within project limits, including, but not limited to, pavement, curbs, driveways, parking, docks, piling, seawalls, building faces, sidewalks, signs, and visible utilities;
f. Locate all drainage and sewer manholes, including pipe sizes and invert elevations;
g. Perform quality level B utility designation and location of all underground utilities, and show on survey, including quality level C as-built data provided by the City;
h. Obtain finished floor elevations of all adjacent buildings;
i. Locate all trees, landscaping, vegetation limits, and mangroves;
j. Locate mean high water line elevation and plot on survey;
k. Locate wingwall, rip-rap, and sidewalk under Atlantic Avenue Bridge to Veterans Park;
l. Process, check, and review field information;
m. Boundary resolution by Professional Surveyor & Mapper;
n. Determine adjacent property owner's riparian rights;
o. Prepare boundary and topographic survey and project deliverables; and
p. Obtain final review and signature by Professional Surveyor & Mapper.

2. Title Review
   a. Coordinate and obtain title search from title company;
   b. Review title work and incorporate Schedule B-II (exceptions) into boundary and topographic survey;
   c. Plot all easements and encumbrances on survey and label accordingly; and
   d. Obtain final review and signature by Professional Surveyor and Mapper.

3. Hydrographic Survey
   a. Perform a hydrographic survey of the Intracoastal Waterway adjacent to the project limits to the centerline of the established channel; and
   b. Process hydrographic soundings and incorporate data into survey.

4. Drainage Analysis Survey
   a. Locate approximately 50 drainage structures throughout existing drainage basin as requested by engineers for drainage study;
   b. Obtain invert elevations and pipe sizes; and
   c. Prepare separate drainage exhibit for use in drainage analysis.

5. Deliverables
   a. Boundary and Topographic Survey – 4 sets signed and sealed, and digital CAD and PDF files.

Survey Notes

- Horizontal control will be based on the State Plane Coordinate System of 1983, Florida East Zone;
- Vertical control will be based on the North American Vertical Datum of 1988 (NAVD 88);
- Geophysical prospecting techniques, although highly reliable, are subject to outside interference which are beyond the control of WGI and may impede the effectiveness of the subsurface investigation. Soil conditions, utility material, size, depth, salt water, and conductivity may prevent location of some subsurface utilities. WGI utilizes state of the art equipment and methodology during all phases of a utility investigation, but no guarantee is hereby expressed that all utilities will be detected and located; and
- WGI will require access to subsurface infrastructure from the surface features for a successful investigation of the improvements. The subsurface investigation will be concluded at the sole discretion of WGI after determination of all resources, means, and methods have been exhausted.

C. Structural Engineering Analysis and Design

WGI will prepare up to three schemes for potential seawall options along Marine Way extending from the north end of the City Marina to the Atlantic Avenue bridge right-of-way.

1. Seawall Options

   Seawall Option #1 -WGI will place the wall adjacent to the existing roadway west of the existing mangrove hedge. The proposed wall will be placed to minimize impacts and mitigation requirements, and provide storm protection from rising tides and King Tide events. The wall will be designed to minimize impacts to the adjacent houses and restaurants.

   Seawall Option #2 - WGI will place the wall seaward of the existing wall and will design to provide storm protection from rising tides and King Tide events.

   The plans for both options will be developed to the 30% level, including preliminary engineering to identify size, length, and widths of components. The plans will be developed with sufficient information to begin the environmental permitting process and develop cost estimates.

2. Preliminary Dock Placement

   The plans will be developed to replace the existing docks with similar footprints.

   The plans will be developed to the 30% level with sufficient information to begin the environmental permitting process and develop cost estimates.

3. Stormwater Pump Station (Structural)

   Based on the stormwater basin study requirements and the pump station analysis, WGI will provide preliminary structural design of the pump station.

The plans will be developed to the 30% level with sufficient information to begin the environmental permitting process and develop cost estimates.

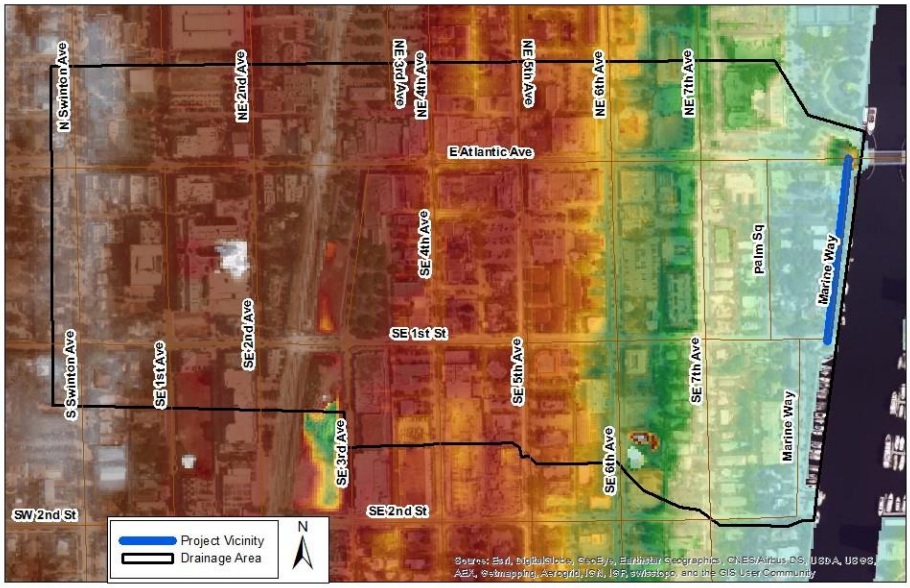
D. Environmental Permitting Review and Analysis

1. Review the topographic, boundary, and bathymetric surveys;
2. Perform site visit(s);
3. Perform a seagrass and mangrove survey within the limits of the project and prepare a written report of the findings;
4. Schedule and attend meetings with the regulatory agencies to discuss the proposed project (FDEP, ACOE, FIND, SFWMD & City);
5. Attend meetings with the City staff and design team;
6. Assist in the planning and preparation of the conceptual drawings; and
7. Prepare a written report of the findings.

E. Stormwater Analysis

WGI will provide conceptual-level stormwater evaluation and modeling support. This analysis includes a drainage area of up to 100 acres connected to the project area. Existing and proposed water quantity and quality conditions will be analyzed to support conceptual design and pre-permitting activities. Figure 1 shows the approximate drainage area to be analyzed.

Figure 1: Approximate Drainage Area to be Analyzed for Phase 1 of the Marine Way Project



Task 1: Stormwater Analyses to Support Phase 1- Alternative Development Phase

1. Data collection, review, and preparation

This task includes collection and review of existing available stormwater/water resources data. Data to be collected/reviewed may include:

a. Existing City stormwater atlas;

b. Survey data provided by the City contract to support the stormwater analysis for this project;
c. Soils data, land use data, rainfall, and other pertinent hydrologic data;
d. Groundwater data or models such as those publicly available through the South Florida Water Management District (SFWMD);
e. Existing geotechnical data or geotechnical data;
f. Tidal elevation conditions data for the Intracoastal Waterway;
g. Sea-level rise and climate change projections;
h. City's repetitive loss data for properties adjacent to the project area (to be used to evaluate the rainfall conditions and other hydrologic conditions that may be causative of the flooding issues observed along Marine Way project area); and
i. Florida Division of Emergency Management (FDEM) 2007 Light Detection and Ranging (LiDAR) datasets.

If needed, existing datasets such as AutoCAD survey or atlas files may be converted into ArcGIS geodatabase format standard by Consultant for use in stormwater evaluation/modeling.

Initially, FDEM 2007 LiDAR 10-foot DEM will be used to develop the modeling in Task 1. When the Palm Beach County 2017 LiDAR 5-foot DEM is made available (projected to be available late 2017), the model will be updated with the newer, more accurate LiDAR data.

2. Meetings and Project Coordination
   a. Attend up to two meetings with the Client and/or City to coordinate the project scenarios to be analyzed and other major aspects of the project.
   b. Coordinate with the Client to confirm project needs including the spatial locations where flows and flood stage estimates are required to support the project design and scenarios.

3. Hydrologic and Hydraulic Modeling
   a. Prepare a hydrologic and hydraulic analysis of the Marine Way project area and its contributing drainage area to determine current and future conditions flood protection level of service. An ICPR4 model will be provided that is suitable to evaluate existing conditions and capital improvement alternative conceptual design scenarios. The model will be structured to support any details to be added during the design and permitting of the selected scenario under the design phase (Phase 2) of the project.
   b. The analysis will determine flood stages and discharges to and from the project site under the following conditions:

      i. Current, existing conditions;
      ii. Future conditions including;

- King Tide events
- Sea-level rise conditions for a 50 to 75-year project life
- Land use conditions; and

iii. Proposed design scenarios conditions.

c. The accuracy of the analysis will be limited by the accuracy of the existing data. WGI will note any assumptions and will create a model including the following components:

i. Basins, links, and nodes representing the primary stormwater system and any overland flows and groundwater flows that may reach the project area. Up to 20 stormwater basins covering the approximately 100-acre drainage area may be included;

ii. In coordination with the City atlas, existing permit file information, survey, and proposed scenario and project information, significant features to be modeled may include:

§ ☐ Culverts
§ ☐ Manholes
§ ☐ Inlets/drop structures
§ ☐ Pump stations
§ ☐ Injection wells
§ ☐ Infiltration/exfiltration trenches

iii. Boundary conditions for the Intracoastal Waterway based on existing information and projections for normal tidal range, King Tide and future sea level rise conditions;

iv. Groundwater initial conditions based on existing model data obtained in Task 1.1; and

v. Design storms, including up to ten design storms, as necessary to complete the evaluation.

4. Water Quality Analysis
Evaluate water quality of runoff (and/or pumped) flows from the Marine Way project area and its contributing drainage area. Consultant will provide calculations to examine the water quality efficacy of various conceptual alternatives as requested by the Client. Approved SFWMD approaches for water quality analyses will be confirmed and then used by the Consultant. Consultant will also evaluate and address the implementation of Best Management Practices (BMPs) and water quality opportunities;

5. Environmental Resource Permit (ERP) Pre-Application Meeting
Schedule and attend a pre-application meeting with the SFWMD to discuss the project concept, preliminary analyses and the ERP permitting requirements. The

selected conceptual design scenarios will be discussed for thefinal design phase; and

6. Task 1 Technical Memorandum
   Prepare a Technical Memorandum to summarize the work completed under Tasks 1 to 5 above. This Memorandum will include the calculations, model input/output data, and figures as appendices. The deliverable will be structured such that it can be modified for Phase 2 to create the basis for the stormwater appendix that may be required for permitting activities.

F. Public Outreach and Neighborhood and Stakeholder Meetings (Marina District)

1. Create a Public involvement Plan (PIP) for approval by the City of Delray Beach to guide public outreach activities and to ensure that all involved have a clear understanding of the program's goals, objectives, and strategies;
2. The PIP will ensure that appropriate and meaningful input occurs during the planning, design, and construction phases and shall identify approaches to proactively engage a variety of stakeholders. The PIP process shall consist of four phases: planning, design, construction, and evaluation. The public outreach activities will vary accordingly in each phase;
3. Create a customized database of property owners from PAPA (for outreach tracking) of affected and interested City residents and businesses within the immediate vicinity, including, but not limited to, Palm Square and the Marina Historic District NOA and Deck 84;
4. Create a stakeholder database including public officials (state, county and municipal), key influencers/stakeholders in the City of Delray Beach, and local reporters/journalists (for outreach tracking as well);
5. Development of a micro-site website that links to the City's existing branded website;
6. Prepare materials for the neighborhood design charrettes including boards, aerials, drafting material, drawing tools, and comment cards;
7. Hold a two-part neighborhood design charrette to provide local attendees with project information and provide brainstorming sessions to generate ideas and receive feedback from the attendees;
8. Participate in grassroots community outreach with the surrounding neighborhood and businesses, including Deck 84, and create flyers, both electronic and paper, for distribution to affected residents and businesses to keep the community apprised of upcoming events;
9. Allocate time for one-on-one interviews with key stakeholders; and
10. Hold one public workshop at each of the City's advisory boards, the CRA, and the City Commission.

G. Stormwater Pump Analysis

Provide conceptual phase engineering services to the City related to improvements needed in the vicinity of Marine Way and the City Marina. The initial concept will analyze the addition of a pump station to provide positive drainage to the area. Conceptual services include preliminary pump station analysis.

1. Conduct on-site visit(s);
2. Review stormwater modeling report and data to identify conceptual pump station design assumptions;
3. Research information about tide elevations in the vicinity of the proposed pump station;
4. Review geotechnical investigation reports and data to identify any concerns related to pump station siting;
5. Review topographic survey information to identify any concerns related to pump station siting;
6. Develop conceptual pump station layout (includes alternatives review with City to determine owner preferences, and coordination with electrical and structural design engineers);
7. Prepare conceptual construction cost estimate for pump station;
8. Prepare a letter report based on preliminary findings as they pertain to the conceptual design of a pump station to serve the contributing drainage area; and
9. Review outfall backflow prevention devices (check valves) and incorporate them into the stormwater analysis and cost estimates.

H. Roadway and Utility Design and Analysis

1. Review the City's pavement assessment report and geotechnical report, included in this proposal, to determine the design section, location, and elevation of the roadway, sidewalk, and underground utilities;
2. Coordinate with the City's Utility Department on the relocation and reconstruction of the wastewater gravity mains within the Marine Way right-of-way;
3. Coordinate with the WGI design team to determine the best location, height, width, and depth of the proposed roadway, sidewalk, lighting, seawall, and docks;
4. Prepare three conceptual roadway cross sections including underground utilities;
5. Analyze the drainage collection system along Marine Way; and
6. Prepare preliminary cost estimates.

Engineering Services Schedule for Marine Way Seawall and Docks

Phase 1 Alternative Development Phase

City of Delray Beach Project No. 2017-021

Receive Signed Service Authorization from the City*	9/1/17
Project Kick-Off Meeting with City Staff, WGI and sub consultants	9/7/17

Deliverables:

Boundary, Topographic and Location Survey	9/15/17 – 10/30/17
Title Report Preparation	9/15/17 – 10/30/17
Geotechnical Cores and Report	9/15/17 – 10/15/17
Environmental Investigations & Meetings w/ regulatory Agencies	9/15/17 – 11/15/17
Stormwater Analysis	10/30/17 – 12/15/17
Pump Station Analysis	11/15/17 – 12/31/17
Roadway and Utility Conceptual Designs	11/01/17 – 12/31/17
Structural Analysis Seawall and Docks & Conceptual Designs	10/30/17 – 12/07/17
Public Outreach – (On-Going throughout the duration of the contract)	9/15/17 – 2/15/18
Final Conceptual Designs and Recommendations	1/07/18 – 1/31/18

*This schedule assumes WGI receives authorization on or before 9/07/17

MARINE WAY SEAWALL AND DOCKS

Prepared by: Brian J. LaMotte, PE
Date: (REVISED) July 5th, 2017
For: City of Delray Beach Project No. 2017-021

PHASE	TASK	TASK DESCRIPTION	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	Engineer	CADD Technician	Senior Environmental Scientist	Senior Professional Surveyor	Engineer Technician	Survey Technician	Designer	Senior Project Planner	Senior Planner	3 Man Field Crew	Administrative Assistant	Website designer	TOTAL	SUBTOTALS
			$ 210.00	$ 185.00	$ 170.00	$ 150.00	$ 140.00	$ 100.00	$ 180.00	$ 170.00	$ 125.00	$ 100.00	$ 100.00	$ 150.00	$ 130.00	$ 180.00	$ 70.00	$ 100.00		
1		***Project Management***																		
	a	Coordination with WGI Staff and Subconsultants			40		25												$ 10,300.00	
	b	Attend Meetings and Coordination with City Staff	8		40		25												$ 11,980.00	
	c	Attend Public Outreach Meetings	8		40		25												$ 11,980.00	
	d	Prepare Cost Estimates			8		40												$ 6,960.00	
	e	Attend City Commission Meetings	8		8														$ 3,040.00	
	f	Prepare Final Report of Findings	8														8		$ 2,240.00	
		Project Management	$ 5,040.00	$ -	$ 23,120.00	$ -	$ 16,100.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,500.00	$ 46,500.00
2		**Survey**																		
	a	Calculations/field setup								4		16				20	1		$ 5,950.00	
	b	1010 - Boundary Survey								16		24				25	1		$ 9,690.00	
	c	1020 - Topographic Survey								16		24				60	1		$ 15,990.00	
	d	1030 - Title Review		2						8		16					1		$ 3,400.00	
	e	1040 - Drainage Analysis Survey		2						8		16				60	1		$ 14,200.00	
	f	1050 - Tree Survey								2		4				8	1		$ 2,250.00	
	g	1051 - Hydrographic Survey								4		8				12	1		$ 3,710.00	
	h	1060 - SUE Survey								2		8				20			$ 4,740.00	
		Survey	$ -	$ 740.00	$ -	$ -	$ -	$ -	$ -	$ 10,200.00	$ -	$ 11,600.00	$ -	$ -	$ -	$ 36,900.00	$ 490.00	$ -	$ 59,930.00	$ 59,930.00
3		**Structural Design (Docks and seawall)**																		
	a	Seawall Option #1	2	8		12		16											$ 5,300.00	
	b	Seawall Option #2	2	8		12		16											$ 5,300.00	
	c	Preliminary Dock Placement	2	8		24		30											$ 8,500.00	
	d	Stormwater Pumping Station	2	4		8		16											$ 3,960.00	
		Structural Design (Docks and seawall)	$ 1,680.00	$ 5,180.00	$ -	$ 8,400.00	$ -	$ 7,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,060.00	$ 23,060.00
4		**Environmental**																		
	a	Review Survey							4										$ 720.00	
	b	Site Visit							4										$ 720.00	
	c	Meetings with Regulatory Agencies							16										$ 2,880.00	
	d	Meetings with City Staff							12										$ 2,160.00	
	e	Perform Seagrqass Survey and Mangrove Assessment							16										$ 2,880.00	
	e	Concept Drawings							8										$ 1,440.00	
		Environmental	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,800.00	$ 10,800.00
5		**Stormwater Management**																		
	a	Task 1: Stormwater Analyses to Support		6	54						40		40						$ 19,290.00	
	b	Phase 1: Alternative Development Phase		6	34						20		24						$ 11,790.00	
		Stormwater Management	$ -	$ 2,220.00	$ 14,960.00	$ -	$ -	$ -	$ -	$ -	$ 7,500.00	$ -	$ 6,400.00	$ -	$ -	$ -	$ -	$ -	$ 31,080.00	$ 31,080.00
6		**Public Outreach and Graphics**																		
	a	Create a Public Involvement Plan (PIP)												20					$ 3,000.00	
	b	Create a customized database of property owners												25					$ 3,750.00	
	c	Create a stakeholder database												16	25				$ 5,650.00	
	d	Develop a micro-site website																80	$ 8,000.00	
	e	Prepare concept plans for the neighborhood design charrettes													40				$ 5,200.00	
	f	Hold 2-part neighborhood design charrettes												20	20				$ 5,600.00	
	g	Grassroots community outreach w/ neighborhood and businesses												25	25				$ 7,000.00	
	h	One-on-one interviews with key stakeholders												20					$ 3,000.00	
	i	One public workshop at each of the City's advisory boards													20				$ 2,600.00	
		Public Outreach	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,900.00	$ 16,900.00	$ -	$ -	$ 8,000.00	$ 43,800.00	$ 43,800.00
7		**Pump Station Analysis**																		
	a	Conduct Site Visit		4	4														$ 1,420.00	
	b	Review SW Modeling Report		8	8														$ 2,840.00	
	c	Research Tide Elevations				4													$ 600.00	
	d	Review Geotech Report			2														$ 340.00	
	e	Review Topographic Survey			2														$ 340.00	
	f	Develop Conceptual PS Design		8	30	24													$ 10,180.00	
	g	Prepare Conceptual Construction Cost Estimate			2	4													$ 940.00	
	h	Prepare Letter Report			24														$ 4,080.00	
	i	Participate in Meetings with WGI		8	8														$ 2,840.00	
		Pump Station Analysis	$ -	$ 5,180.00	$ 13,600.00	$ 4,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,580.00	$ 23,580.00
8		**Roadway Design and Utility Analysis**																		
	a	Review geotechnical report and survey Information			2														$ 340.00	
	b	Coordinate with the City Utilities Department			8		4												$ 1,920.00	
	c	Prepare Preliminary Cross Sections of the Road	6		16		4	36											$ 8,140.00	
	d	Analyze the drainage system along Marine Way	4		24		12												$ 6,600.00	
	e	Prepare Cost Estimates	2		16		24												$ 6,500.00	
																			$ -	
		Roadway Design and Utility Analysis	$ 2,520.00	$ -	$ 11,220.00	$ -	$ 6,160.00	$ 3,600.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,500.00	$ 23,500.00
		Title Report (By others)																		$ 6,000.00
		Geotechnical Investigation (By others)																		$ 13,403.00
		Reimbursables																		$ 3,120.00
																			GRAND TOTAL	$ 284,773.00